



May 5, 2026

Matthew L. Homsher, Secretary
Pennsylvania Public Utility Commission
PO Box 3265
Harrisburg, PA 17105-3265

Re: Lehigh County
South Whitehall Township
SR 0309, Section 14M
DOT # 591-374K
PUC No. A-2025-3055038
ECMS # 102312

Dear Secretary Homsher:

In accordance with ordering paragraph number 3 of the PUC Secretarial Letter at Docket No. A-2025-3055038 dated March 6, 2026, please find attached for your approval one half-size copy of the final signed Drawings for Construction of State Route 0309, Section 14M in Lehigh County, consisting of sheets 1,2,6,8,9,10,11,166,167 and 194 of 222. Also attached to the set of construction drawings are the following half-size "Also" plans.

1. Traffic Signal Construction Plan consisting of sheets 4 through 11 of 26.

The Department of Transportation hereby avers that a complete set of the aforesaid final Drawings for Construction and "Also" plans are being sent to the following parties of record in accordance with the attached Certificate of Service.

We respectfully request the approval of these plans and the subsequent issuance of a PUC Order. Should you have any questions or concerns, please feel free to contact Rodney Rehnert at (610) 871- 4562.

Sincerely,

Rodney O. Rehnert
Rodney O. Rehnert
District Grade Crossing Administrator
Engineering District 5-0
Department of Transportation

Attachments

cc: Parties of Record
M. J. Chappell, PE - Chief, Right-of-Way and Utilities Section, 7th Floor, CKB
Robert J. Kopacz, Office of Chief Counsel, 9th Floor, CKB
W. M. Sinick, PE - Supervisor, Rail Safety Engineering Section, PUC, 3rd Floor, CKB

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Application of the Department of Transportation of the Commonwealth of Pennsylvania for approval to modify the public at grade crossing by adding traffic signal pre-emption timing at the intersections adjacent to the crossing where State Route 0309 crosses the track(s) of Norfolk Southern Railway, DOT Number 591 374 K in South Whitehall Township, Lehigh County and the allocation of costs incident thereto.

Application
Docket No. A-2025-3055038

Electronically Filed

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a true copy of the foregoing document upon the participants listed below, in accordance with the requirements of 52 Pa. Code § 1.54, by:

Electronic Mail:

D. Shawn Starling
Norfolk Southern Railway
650 W. Peachtree St. NW
Box 45
Atlanta, GA 30308
Douglas.Starling@nscorp.com

Cherita R. Hunter-Jones
Norfolk Southern Corp.
650 W. Peachtree St. NW
Box 45
Atlanta, GA 30308
Cherita.Hunter@nscorp.com

Phil Armstrong, County Executive
Lehigh County
17 S. Seventh Street
Allentown, PA 18101-2400
philArmstrong@lehighcounty.org

Diane Kelly, President
South Whitehall Township Supervisors
4444 Walbert Ave
Allentown, PA 18104
kellyd@southwhitehall.com

Mike Greenawalt
PPL Electric
Two North Ninth Street
Allentown, PA 18101-1179
mvgreenawalt@pplweb.com

Chris Atkinson
Verizon
900 Race Street, 6th Floor
Philadelphia, PA 19107
chris.j.atkinson@verizon.com

Ben Flurer
Service Electric
1045 Hamilton Street
Allentown, PA 18101
constructionoh@sectv.com

Tim Steward
UGI
2121 City Line Road
Bethlehem, PA 18017-2150
tsteward@ugi.com

Dated this 5th Day of May, 2026

Rodney O. Rehnert
1002 Hamilton Street
Allentown, PA 18101
(610) 871-4562
rrehnert@pa.gov

PLAN PREPARATION

DESIGNER: CDR MAGUIRE ENGINEERING
3500 WINCHESTER RD. SUITE 300
ALLENTOWN, PA 18104

DISTRICT	COUNTY	TOWNSHIP	BOROUGH	ROUTE	SECTION	TOTAL SHEETS
5-0	LEHIGH	NORTH WHITEHALL		0309	14M	222
		SOUTH WHITEHALL				

ECMS NO. 102312

COMMONWEALTH OF PENNSYLVANIA



DEPARTMENT OF TRANSPORTATION

DRAWINGS FOR CONSTRUCTION OF

STATE ROUTE 0309 SECTION 14M IN LEHIGH COUNTY

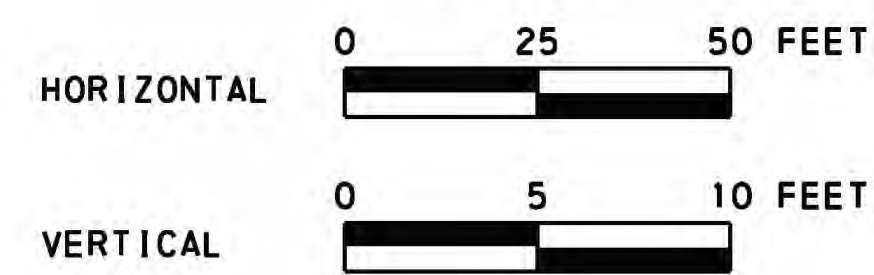
FROM STA 393+28.00 TO STA 567+22.00 LENGTH 16969.00 FT 3.214 MI
FROM SEG Q260 OFFSET 1700 TO SEG Q280 OFFSET 0980 NORTHBOUND
FROM SEG Q261 OFFSET 1696 TO SEG Q281 OFFSET 0980 SOUTHBOUND
FROM SEG Q284 OFFSET 0000 TO SEG Q340 OFFSET 0155

PUC APPLICATION DOCKET NUMBER A-2025-3055038

ALSO INCLUDED:

TRAFFIC CONTROL PLAN	122 SHEETS
SIGNING PLAN	40 SHEETS
PAVEMENT MARKING PLAN	42 SHEETS
EROSION AND SEDIMENT POLLUTION CONTROL PLAN	89 SHEETS
TRAFFIC SIGNAL PLAN	26 SHEETS
POST CONSTRUCTION STORMWATER MANAGEMENT PLAN	47 SHEETS
STRUCTURE PLANS	
S-40225	4 SHEETS
S-43398	13 SHEETS
CROSS SECTIONS	182 SHEETS
EXISTING STRUCTURE PLANS	
S-18959	16 SHEETS

SCALE




DESIGN DESIGNATION

SR 0309
HIGHWAY CLASSIFICATION - URBAN PRINCIPAL ARTERIAL
DESIGN SPEED - VARIES 35 - 45 MPH
PAVEMENT WIDTH - VARIES 3-11' LANES TO 2-12' LANES
SHOULDER WIDTH - 8'

TRAFFIC DATA
CURRENT YEAR A. D. T. - 22,753 (2026)
DESIGN YEAR A. D. T. - 25,115 (2048)
DHV - 2,701
D - 55%
T - 11.0%

File: pw\cdrmaguire-pw.bennley.com\cdrmaguire-pw-01\Documents\Projects\01221\MAKADGN\HIGHWAY\01221-SR0309-TITLE.dgn
 Model: Roadway Title Sheet 4/25/2026 8:30:09 PM By: brad.newhard

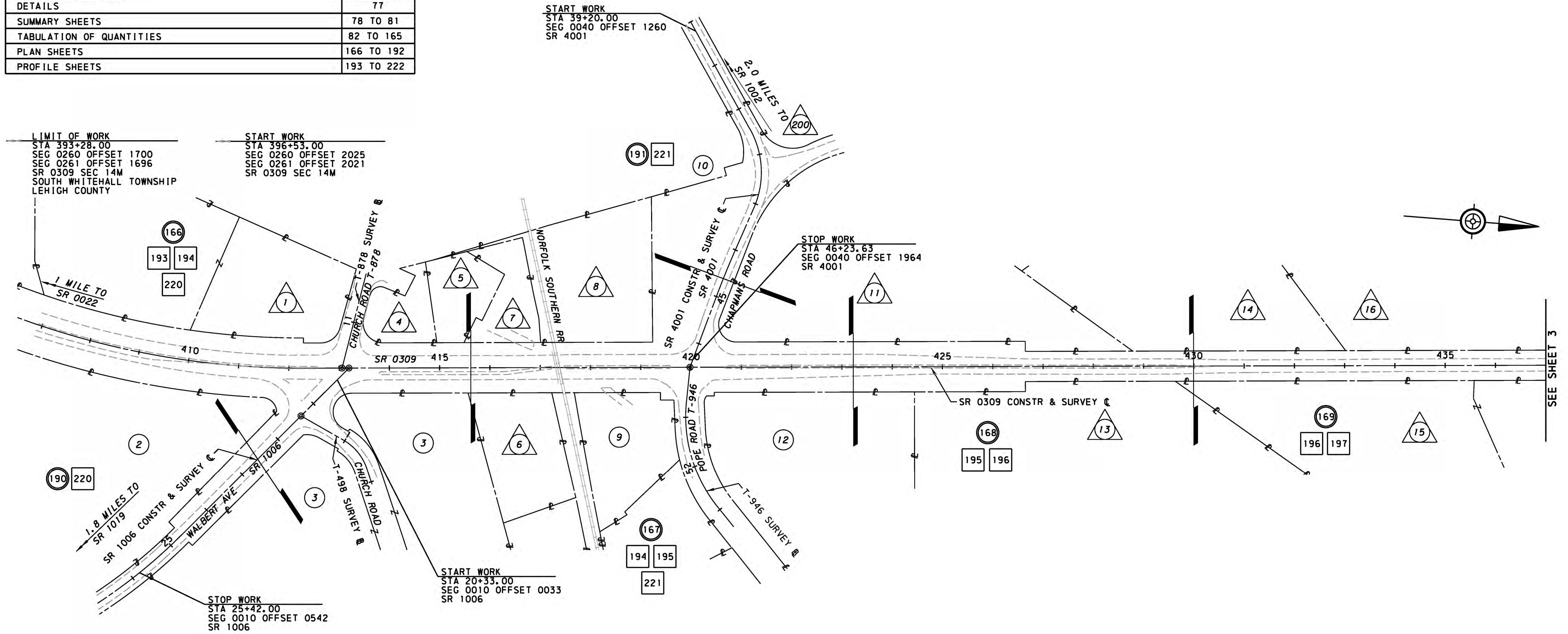
PREPARED BY: CDR MAGUIRE ENGINEERING 3500 WINCHESTER RD. SUITE 300 ALLENTOWN, PA  Brad A. Newhard REGISTERED PROFESSIONAL ENGINEER	RECOMMENDED Christopher J. Kufro DATE: _____ <small>Digitally signed by Christopher J. Kufro Date: 2026.05.04 07:43:05 -04'00'</small> DISTRICT EXECUTIVE
	RECOMMENDED _____ DATE: _____ DEPUTY SECRETARY
APPROVED _____ DATE: _____ SECRETARY OF TRANSPORTATION (ON BEHALF OF THE GOVERNOR AS WELL AS THE SECRETARY)	

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
5-0	LEHIGH	0309	14M	2 OF 222
SOUTH WHITEHALL TOWNSHIP				
REVISION NUMBER	REVISIONS	DATE	BY	

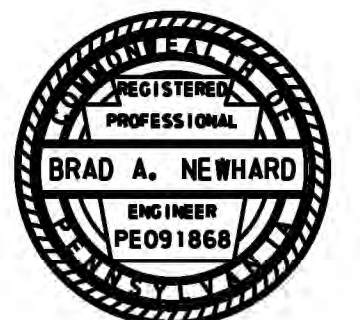
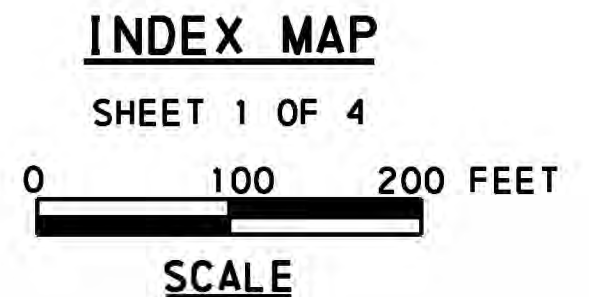
SHEET INDEX BLOCK	
DESCRIPTION	SHEET
TITLE SHEET	1
INDEX MAP	2 TO 7
LOCATION MAP & GENERAL NOTES	8
SUMMARY OF PROJECT COORDINATES	9
TYPICAL SECTIONS	10 TO 25
INTERSECTION DETAILS	26 TO 42
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PROFILE SHEETS	193 TO 222

TABULATION OF SEGMENT EQUALITIES

SEGMENT 0270 OFFSET 0000 = STATION 412+97
 SEGMENT 0271 OFFSET 0000 = STATION 412+99
 SEGMENT 0280 OFFSET 0000 = STATION 419+98
 SEGMENT 0281 OFFSET 0000 = STATION 419+98
 SEGMENT 0284 OFFSET 0000 = STATION 429+78
 SEGMENT 0290 OFFSET 0000 = STATION 439+78
 SEGMENT 0300 OFFSET 0000 = STATION 466+83
 SEGMENT 0310 OFFSET 0000 = STATION 493+30
 SEGMENT 0320 OFFSET 0000 = STATION 517+89
 SEGMENT 0330 OFFSET 0000 = STATION 543+45
 SEGMENT 0340 OFFSET 0000 = STATION 565+67



- LEGEND**
- PLAN
 - PROFILE
 - PARCEL IDENTIFICATION NUMBER
 - PARCEL IDENTIFICATION NUMBER-NO TAKE



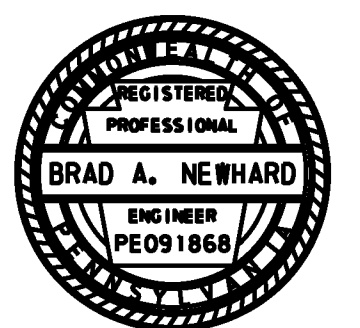
FOR LIST OF PROPERTY OWNERS, SEE SHEETS 6 & 7

Files: pw\cadr\maguire-pw-bentley.com\cadr\maguire-pw-01\Documents\Projects\01221\AKA\DNV\HWAY\01221-SR0309-INDEX MAP.dgn
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 By: brad.newhard

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
5-0	LEHIGH	0309	14M	6 OF 222
NORTH WHITEHALL AND SOUTH WHITEHALL TOWNSHIPS				
REVISION NUMBER	REVISIONS	DATE	BY	

LIST OF PROPERTY OWNERS

- | | | | |
|--|---|--|---|
| <p>1 M&F ASSOCIATES LLC</p> <p>2 THE TOWNSHIP OF SOUTH WHITEHALL, A MUNICIPAL CORPORATION</p> <p>3 JORDAN UNITED CHURCH OF CHRIST, A PENNSYLVANIA NONPROFIT CORPORATION</p> <p>4 SCF RC FUNDING IV LLC</p> <p>5 JUNIE HONORE</p> <p>6 JORDAN UNITED CHURCH OF CHRIST, A PENNSYLVANIA NONPROFIT CORPORATION</p> <p>7 JOSEPH J. & LYNN MURPHY</p> <p>8 PENNSYLVANIA LINES LLC C/O NORFOLK SOUTHERN RAILWAY COMPANY</p> <p>9 RICHARD M. WISSER & LINDA A. WISSER, CO-TRUSTEES OF "THE WISSER FAMILY TRUST DATED OCTOBER 5, 2016"</p> <p>10 PIERCE HARDY LIMITED PARTNERSHIP, A PENNSYLVANIA LIMITED PARTNERSHIP</p> <p>11 LANDSTON EQUITIES, LLC, A PENNSYLVANIA LIMITED LIABILITY COMPANY</p> <p>12 1825 RT 309 ALLENTOWN LLC, A PENNSYLVANIA LIMITED LIABILITY COMPANY</p> <p>13 SS ALLENTOWN LLC</p> <p>14 ANNA M. KERN</p> <p>15 VES HOLDINGS, LLC</p> <p>16 HERSHEY CREAMERY CO.</p> <p>17 DANIEL S. HECKMAN AND STEPHANY HECKMAN, AS TENANTS BY THE ENTIRETY</p> <p>18 LEE A. GOLDSTEIN</p> <p>19 ROBIN & TERESA A. GABLE</p> <p>20 ANDREW JOHN & VIRGINIA M. PORCINO</p> <p>21 PATRICE A. KERSCHNER</p> <p>22 THEODORE J. LOPSONZSKI & LYNN K. LOPSONZSKI, H/W</p> <p>23 DOUGLAS F. & CONNIE L. RABOLD</p> | <p>24 ISMAEL RODRIGUEZ, ET AL</p> <p>25 WOLFGANG DIRNBECK, INDIVIDUALLY</p> <p>26 DEAN E. HARTMAN</p> <p>27 CESAR ABOU RJAILI</p> <p>28 DOMINIC J. CINO</p> <p>29 PARIS SEKULSKI, A SINGLE MAN</p> <p>30 DAVID L. & THERESA C. SHELLHAMER</p> <p>31 KYLE R. HENNINGER & ANGELA M. BEERS</p> <p>32 NORA HADEED</p> <p>33 KATHY REHRIG</p> <p>34 RICHARD I. LUDWIG & MARC S. LUDWIG</p> <p>35 CRISTIAN A. FISHER</p> <p>36 PAULINE REINHARD</p> <p>37 JOSEPH SETTON</p> <p>38 LEHIGH LAND DEVELOPERS, LLC, A PENNSYLVANIA LIMITED LIABILITY COMPANY</p> <p>39 DAVID M. JAINDL</p> <p>40 DAVID M. JAINDL</p> <p>41 JAINDL FARMS LLC</p> <p>42 RACHEL FRITZINGER</p> <p>43 ERIC S. & STEPHANIE L. DORMAN</p> <p>44 ANDREW DILLE</p> <p>45 ROBERT S. KERECEZ</p> <p>46 LUIS & JACKLYN CARDOSO-GARCIA</p> | <p>47 JONATHAN GRAVATT</p> <p>48 DONALD M. & YVETTE M. KHUNS TRUSTEES</p> <p>49 DANIEL J. KEIM</p> <p>50 MICHAEL J. & YVONNE MILLS</p> <p>51 JOSE LUIS FIGUEROA JR.</p> <p>52 GLENN R. E. & MARIBETH STETTLER</p> <p>53 ERIC C. & SHERYL K. HAMSHER</p> <p>54 MICHAEL & TINA MILLER</p> <p>55 GLENN R. E. & MARIBETH STETTLER</p> <p>56 JOHN A. HUDOCK & AMANDA HUDOCK-STAVER</p> <p>57 PETER & ROSEANN CILIBERTI III</p> <p>58 DARYL K. MILLER</p> <p>59 WILLIAM D. KRESSLER</p> <p>60 WILLIAM D. KRESSLER</p> <p>61 KENNETH K. MUTH & LINDA A. MUTH, HUSBAND & WIFE</p> <p>62 JDL ENTERPRISES UNLIMITED, L.P., A LIMITED PARTNERSHIP</p> <p>63 BRUCE A. STEVENSON & MARTHA W. STEVENSON</p> <p>64 STEVENSON CONTRACTING LLC</p> <p>65 309 PARK MART, LLC A PENNSYLVANIA LIMITED LIABILITY COMPANY</p> <p>66 BINH TONG</p> <p>67 PARKLAND SCHOOL DISTRICT, A LOCAL GOVERNMENT UNIT</p> <p>68 RICHARD U. & BEVERLY A. ALTEMOS</p> <p>69 GODS BIBLE HOLINESS CHURCH</p> | <p>70 ISIDORO GONCALVES</p> <p>71 MATTHEW S. WOODSIDE</p> <p>72 KNOWLES LLC</p> <p>73 MICHAEL & MONICA GROFF</p> <p>74 DOUGLAS P. GRAMMES & SAMUEL R. GRAMMES</p> <p>75 STERLING R. GEIGER, TRUSTEE UNDER THE RALPH L. GEIGER & CLARA R. GEIGER IRRECOVABLE TRUST AGREEMENT</p> <p>76 SERIOJA & LEE ANN MACIUJEC</p> <p>77 LUCAS J. WEHR</p> <p>78 JORDAN T. LONG</p> <p>79 GERALD H. & NANCY L. RESH</p> <p>80 BRUCE L. & VIRGINIA E. PETERS</p> <p>81 DAVID H. & JEAN E. ADAM</p> <p>82 SHAUN E. McCARTNEY</p> <p>83 ANDREW CHAPKOVICH & M. HUNSINGER</p> <p>84 HEATHER HAUSMAN</p> <p>85 GREGORY RICHARDSON</p> <p>86 JEFFERY & TARA BENDER</p> <p>87 BENJAMIN LONG</p> <p>88 BENJAMIN LONG</p> <p>89 BIH REAL ESTATE, LLC</p> <p>90 CHRISTOPHER M. QUINN</p> <p>91 B LONG PROPERTIES LLC</p> <p>92 HARRY F. & MARGARET A. SMITH</p> |
|--|---|--|---|



LIST OF PUBLIC UTILITIES

PPL ELECTRIC UTILITIES CORP. (PPL)
827 HAUSMAN ROAD, LEHSC-2
ALLENTOWN, PA 18101
ATTN: CLARISSA MOORE
PHONE: (484) 705-3277

UGI UTILITIES (UGI)
2121 CITY LINE ROAD
BETHLEHEM, PA 18017
ATTN: JASON KELLY
PHONE: (201) 895-3281

IRONTON TELEPHONE COMPANY (ITC)
4242 MAUCH CHUNK RD
COPLAY, PA 18037
ATTN: PAUL RIZZO
PHONE: (610) 737-4958

SOUTH WHITEHALL TOWNSHIP (SWT)
AUTHORITY - WATER
1605 N. CEDAR CREST BLVD
ALLENTOWN, PA 18104
ATTN: HERB BENDER
PHONE: (610) 398-0401

VERIZON PENNSYLVANIA (VER)
230 DOVE DRIVE
HONEY BROOK, PA 19344
ATTN: DAVID DEHAVEN
PHONE: (267) 896-4937

SERVICE ELECTRIC CABLE TV (SECTV)
AND COMMUNICATIONS INC.
2260 AVENUE
BETHLEHEM, PA 18017
ATTN: BEN FLURER
PHONE: (484) 619-5749

ASTOUND BUSINESS SOLUTIONS (ASTOUND)
5508 NOR BATH BLVD
NORTHAMPTON, PA 18067
ATTN: LARRY MCGINNIS
PHONE: (610) 972-7873

CROWN CASTLE INTERNATIONAL INC. (CCII)
300 BARR HARBOR DRIVE
CONSHOHOCKEN, PA 19428
ATTN: DAVID HAYWARD
PHONE: (610) 635-3234

FIRSTLIGHT FIBER INC. (FFI)
41 STATE STREET
ALBANY, NY 12207
ATTN: DAVID MCLUCKIE
PHONE: (717) 938-4541

ZAYO GROUP HOLDINGS INC. (ZAYO)
400 CENTENNIAL PARKWAY, SUITE 200
LOUISVILLE, CO 80027
ATTN: BILL PRICE
EMAIL: BPRICE@NEXTMILETECH.COM

LUMEN (LUMEN)
5095 RITTER ROAD, SUITE 101
MECHANICSBURG, PA 17055
ATTN: RICHARD WILLIAMS
PHONE: (717) 928-9234

BUCKEYE PARTNERS (BUCKEYE)
5131 BUCKEYE ROAD
EMMAUS, PA 18049
ATTN: BRIAN YARKO
PHONE: (484) 633-7420

ENERGY TRANSFER/SUNOCO
ATTN: JOHN RUSZKAY
PHONE: (610) 670-3286

LIST OF PA ONE CALLS

THE PA ONE CALL NOTIFICATIONS PERFORMED DURING PROJECT DEVELOPMENT ARE AS FOLLOWS:
PA ONE CALL PHONE NUMBER: 1-800-222-6470

-PRELIMINARY DESIGN SERIAL NO. 20231291187 ON 05/09/2025 FOR NORTH WHITEHALL TOWNSHIP
-PRELIMINARY DESIGN SERIAL NO. 20231291188 ON 05/09/2025 FOR SOUTH WHITEHALL TOWNSHIP

-FINAL DESIGN SERIAL NO. 20260060595 ON 01/06/2026 FOR NORTH WHITEHALL TOWNSHIP
-FINAL DESIGN SERIAL NO. 20260060594 ON 01/06/2026 FOR SOUTH WHITEHALL TOWNSHIP

BASED ON PA STATE PLANE COORDINATE SYSTEM
SOUTH ZONE - NAD83 (2011)

RTE	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
SR 4006 SURVEY B	130+00.00	POT	485540.1715	2566838.7701	N64°12'35"E
	130+45.67	PC	485560.0416	2566879.8910	N64°12'35"E
	130+69.53	PI	485570.4239	2566901.3772	N60°33'54"E
	130+93.38	PT	485582.1510	2566922.1598	N60°33'54"E
	130+20.00	POT	485634.5479	2567015.0166	

NOTE: FOUR (4) PLACE COORDINATES ARE USED FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO (2) PLACES.

BASED ON PA STATE PLANE COORDINATE SYSTEM
SOUTH ZONE - NAD83 (2011)

RTE	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
T-674 SURVEY B	140+00.00	POT	485540.1715	2566838.7701	S64°12'35"W
	141+87.53	POT	485458.5813	2566669.9195	

NOTE: FOUR (4) PLACE COORDINATES ARE USED FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO (2) PLACES.

BASED ON PA STATE PLANE COORDINATE SYSTEM
SOUTH ZONE - NAD83 (2011)

RTE	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
T-498 SURVEY B	0+00.00	POT	473077.0891	2574115.0012	N31°48'35"W
	0+96.86	PC	473159.4010	2574063.9462	N31°48'35"W
	1+36.39	PI	473192.9931	2574043.1103	N10°13'02"E
	1+72.34	PT	473231.8962	2574050.1234	N10°13'02"E
	2+00.00	POT	473259.1161	2574055.0295	

NOTE: FOUR (4) PLACE COORDINATES ARE USED FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO (2) PLACES.

BASED ON PA STATE PLANE COORDINATE SYSTEM
SOUTH ZONE - NAD83 (2011)

RTE	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
T-878 SURVEY B	10+00.00	POT	472890.6048	2573866.1174	N42°54'01"E
	11+93.70	POT	473032.4975	2573997.9740	

NOTE: FOUR (4) PLACE COORDINATES ARE USED FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO (2) PLACES.

BASED ON PA STATE PLANE COORDINATE SYSTEM
SOUTH ZONE - NAD83 (2011)

RTE	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
T-559 SURVEY B	3+50.00	POT	475872.0186	2570815.4046	
	6+00.00	POT	475834.1548	2570568.2886	S81°17'19"W

NOTE: FOUR (4) PLACE COORDINATES ARE USED FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO (2) PLACES.

BASED ON PA STATE PLANE COORDINATE SYSTEM
SOUTH ZONE - NAD83 (2011)

RTE	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
T-946 SURVEY B	50+00.00	POT	473361.5815	2573389.0978	N34°23'25"E
	50+68.56	PC	473418.1579	2573427.8223	N34°23'25"E
	51+87.16	PI	473516.0253	2573494.8090	N10°22'53"W
	52+93.56	PT	473632.6809	2573473.4378	N10°22'53"W
	53+43.56	POT	473681.8624	2573464.4278	

NOTE: FOUR (4) PLACE COORDINATES ARE USED FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO (2) PLACES.

SUMMARY OF PROJECT COORDINATES

BASED ON PA STATE PLANE COORDINATE SYSTEM
SOUTH ZONE - NAD83 (2011)

RTE	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
SR 0309 CONSTR & SURVEY C	402+00.00	POT	472264.3486	2574765.8970	N28°57'05"W
	402+96.04	PC	472348.3891	2574719.4057	N28°57'05"W
	407+75.65	PI	472768.0573	2574487.2453	N61°36'35"W
	412+29.14	PT	472996.0965	2574065.3236	N61°36'35"W
	413+19.48	POT	473039.0526	2573985.8456	N61°36'35"W
	419+97.81	POT	473361.5815	2573389.0978	N61°36'35"W
	441+06.79	PC	474364.3478	2571533.7646	N61°36'35"W
	450+01.49	PI	474789.7525	2570746.6744	N4°17'35"W
	457+44.41	PT	475681.9377	2570679.6988	N4°17'35"W
	464+32.47	PC	476368.0692	2570628.1914	N4°17'35"W
	465+74.75	PI	476509.9420	2570617.5411	N8°33'33"W
	467+16.89	PT	476650.6294	2570596.3664	N8°33'33"W
	472+43.82	PC	477171.6941	2570517.9413	N8°33'33"W
	473+58.53	PI	477285.1288	2570500.8684	N10°51'12"W
	474+73.21	PT	477397.7893	2570479.2687	N10°51'12"W
	485+93.48	PC	478498.0180	2570268.3292	N10°51'12"W
	486+86.26	PI	478589.1365	2570250.8597	N16°24'56"W
	487+78.89	PT	478678.1327	2570224.6404	N16°24'56"W
	490+25.15	PC	478914.3556	2570155.0466	N16°24'56"W
	491+52.94	PI	479036.9336	2570118.9338	N6°13'10"W
	492+80.05	PT	479163.9684	2570105.0895	N6°13'10"W
	496+72.11	PC	479553.7235	2570062.6140	N6°13'10"W
	498+79.51	PI	479759.9032	2570040.1423	N10°21'59"W
	500+86.73	PT	479963.9201	2570002.8310	N10°21'59"W
	505+92.28	PC	480461.2143	2569911.8623	N10°21'59"W
	507+62.28	PI	480628.4366	2569881.2728	N28°54'08"W
	509+29.30	PT	480777.2605	2569799.1118	N28°54'08"W
	518+00.04	POT	481539.5403	2569378.2729	N28°54'08"W
	520+14.39	PC	481727.1954	2569274.6724	N28°54'08"W
	522+17.23	PI	481904.7669	2569176.6388	N26°52'27"W
524+20.02	PT	482085.6966	2569084.9510	N26°52'27"W	
538+08.38	PC	483324.1216	2568457.3673	N26°52'27"W	
540+14.04	PI	483507.4967	2568364.2571	N35°07'55"W	
542+19.00	PT	483675.6914	2568245.9081	N35°07'55"W	
553+76.22	PC	484622.1022	2567579.9732	N35°07'55"W	
554+95.95	PI	484719.6901	2567511.3061	N39°54'08"W	
556+14.73	PT	484811.2297	2567434.7614	N39°54'08"W	
560+95.38	PC	485179.9501	2567126.4402	N39°54'08"W	
562+90.53	PI	485329.6621	2567001.2521	N37°39'46"W	
564+85.64	PT	485484.1513	2566882.0094	N37°39'46"W	
567+75.00	POT	485713.2158	2566705.2056		

NOTE: FOUR (4) PLACE COORDINATES ARE USED FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO (2) PLACES.

BASED ON PA STATE PLANE COORDINATE SYSTEM
SOUTH ZONE - NAD83 (2011)

RTE	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
SR 1006 CONSTR & SURVEY C	20+00.00	POT	473039.0526	2573985.8456	N73°35'25"E
	24+71.93	PC	473172.3747	2574438.5505	N73°35'25"E
	26+55.98	PI	473224.3705	2574615.1058	S86°31'31"E
	28+36.33	PT	473213.2153	2574798.8200	

NOTE: FOUR (4) PLACE COORDINATES ARE USED FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO (2) PLACES.

BASED ON PA STATE PLANE COORDINATE SYSTEM
SOUTH ZONE - NAD83 (2011)

RTE	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
SR 4001 CONSTR & SURVEY C	41+00.00	POT	472956.6553	2573058.5230	N00°24'02"W
	41+47.62	PC	473004.2772	2573058.1900	N00°24'02"W
	42+34.31	PI	473090.9623	2573057.5841	N52°18'11"E
	43+08.60	PT	473143.9703	2573126.1758	N52°18'11"E
	43+98.97	PC	473199.2337	2573197.6861	N52°18'11"E
	44+50.49	PI	473230.7383	2573238.4527	N49°01'26"E
	45+01.99	PT	473264.5231	2573277.3504	N49°01'26"E
	46+50.00	POT	473361.5815	2573389.0978	

NOTE: FOUR (4) PLACE COORDINATES ARE USED FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO (2) PLACES.

DISTRICT	COUNTY	ROUTE	SECTION	SHEET	
5-0	LEHIGH	0309	14M	9 OF 222	
NORTH WHITEHALL AND SOUTH WHITEHALL TOWNSHIPS					
REVISION NUMBER	REVISIONS			DATE	BY

BASED ON PA STATE PLANE COORDINATE SYSTEM
SOUTH ZONE - NAD83 (2011)

RTE	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
SR 4002 SURVEY B	60+00.00	POT	474390.3573	2570972.6574	N56°03'49"E
	63+20.00	POT	474569.0047	2571238.1477	

NOTE: FOUR (4) PLACE COORDINATES ARE USED FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO (2) PLACES.

BASED ON PA STATE PLANE COORDINATE SYSTEM
SOUTH ZONE - NAD83 (2011)

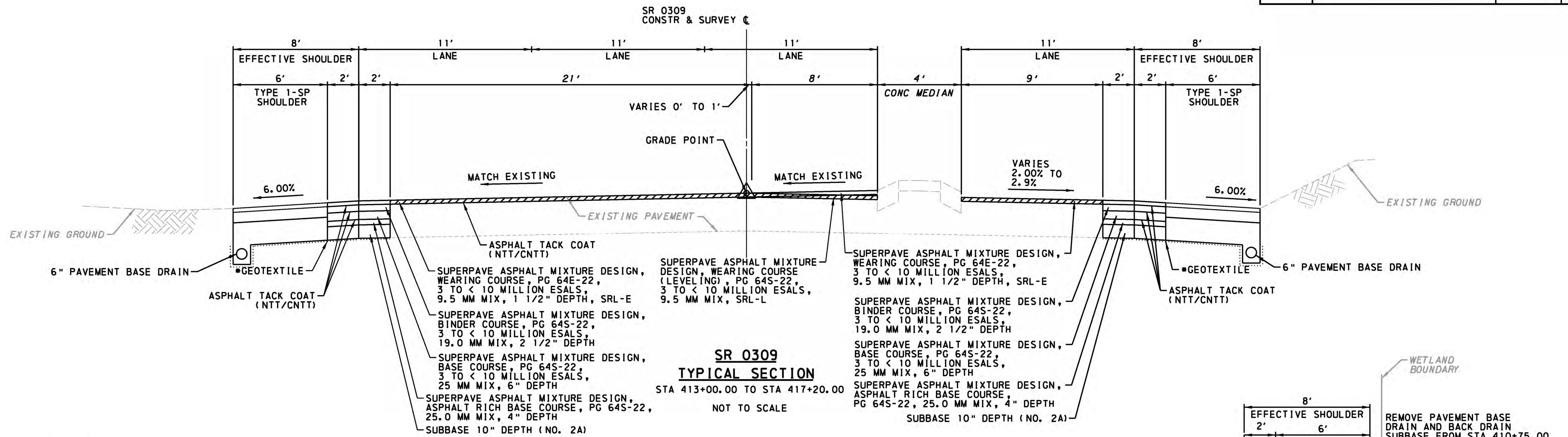
RTE	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
T-593 SURVEY B	90+00.00	POT	479195.2587	2570101.6795	N83°46'50"E
	90+46.17	PC	479200.2609	2570147.5797	N83°46'50"E
	91+04.12	PI	479206.5393	2570205.1902	S81°32'35"E
	91+61.44	PT	479198.0167	2570262.5116	S81°32'35"E
	93+00.00	POT	479177.6393	2570399.5643	

NOTE: FOUR (4) PLACE COORDINATES ARE USED FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO (2) PLACES.

BASED ON PA STATE PLANE COORDINATE SYSTEM
SOUTH ZONE - NAD83 (2011)

RTE	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
SR 4003 CONSTR & SURVEY C	117+00.00	POT	481485.9399	2569083.1575	N78°07'20"E
	117+99.08	PI*	481506.3330	2569180.1171	N80°29'12"E
	120+00.00	POT	481539.5403	2569378.2729	N80°29'12"E
	120+69.60	PC	481551.0437	2569446.9163	N80°29'12"E
	121+25.78	PI	481560.3283	2569502.3196	S86°17'58"E
	121+81.45	PT	481556.7026	2569558.3784	S86°17'58"E
	122+73.73	PC	481550.7471	2569650.4596	S86°17'58"E
	123+05.12	PI	481548.7210	2569681.7	

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
5-0	LEHIGH	0309	14M	10 OF 222
NORTH WHITEHALL AND SOUTH WHITEHALL TOWNSHIPS				
REVISION NUMBER	REVISIONS	DATE	BY	

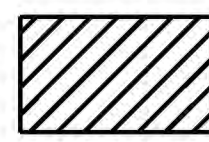


**SR 0309
TYPICAL SECTION**

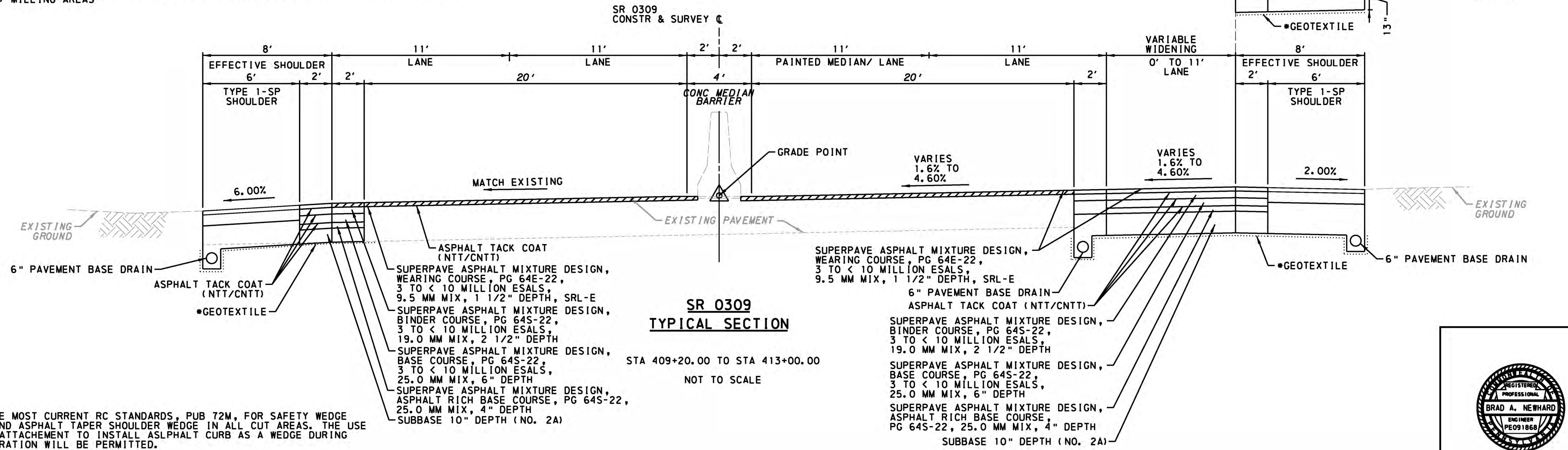
STA 413+00.00 TO STA 417+20.00
NOT TO SCALE

NOTES:

- * GEOTEXTILE, CLASS 1 (AROUND PAVEMENT BASE DRAIN)
- * GEOTEXTILE, CLASS 4, TYPE A (UNDER SUBBASE FOR LANES/SHOULDERS)



PROFILE MILLING OF ASPHALT PAVEMENT TO A MAXIMUM DEPTH OF 2 1/4" PROVIDE A SUPERPAVE ASPHALT MIXTURE DESIGN, WEARING COURSE (SCRATCH), PG 64S-22, 3 TO < 10 MILLION ESALS, 9.5 MM MIX, SRL-L FOR ALL PROFILE MILLING AREAS

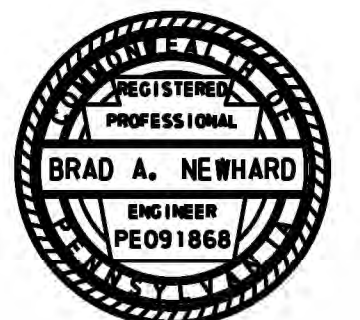


**SR 0309
TYPICAL SECTION**

STA 409+20.00 TO STA 413+00.00
NOT TO SCALE

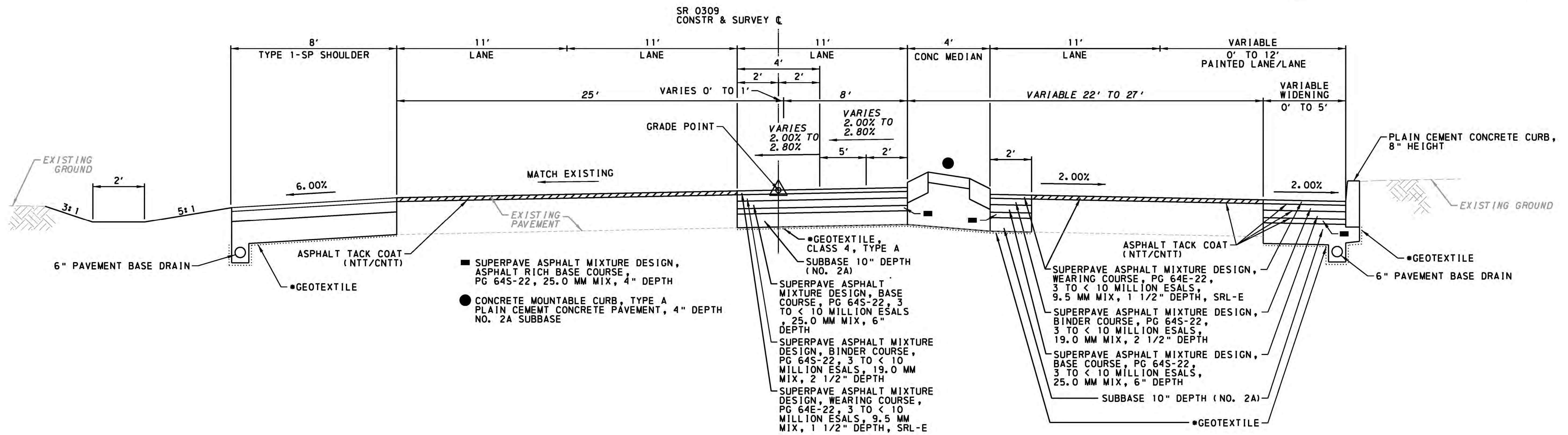
NOTES:

REFER TO THE MOST CURRENT RC STANDARDS, PUB 72M, FOR SAFETY WEDGE DETAILING AND ASPHALT TAPER SHOULDER WEDGE IN ALL CUT AREAS. THE USE OF A PAVER ATTACHMENT TO INSTALL ASPHALT CURB AS A WEDGE DURING WEARING OPERATION WILL BE PERMITTED.



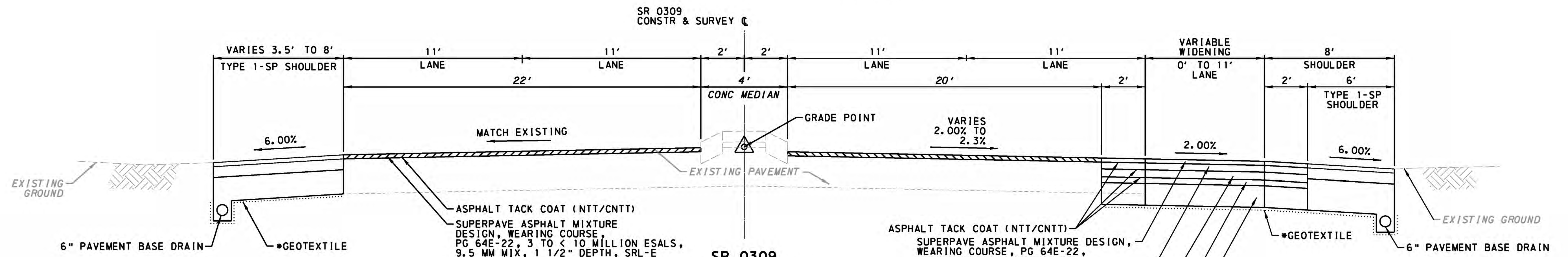
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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
5-0	LEHIGH	0309	14M	11 OF 222
NORTH WHITEHALL AND SOUTH WHITEHALL TOWNSHIPS				
REVISION NUMBER	REVISIONS	DATE	BY	



**SR 0309
TYPICAL SECTION**

STA 420+00.00 TO STA 422+00.00
NOT TO SCALE

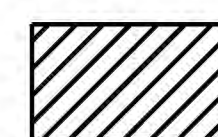


**SR 0309
TYPICAL SECTION**

STA 417+20.00 TO STA 420+00.00
NOT TO SCALE

NOTES:

- GEOTEXTILE, CLASS 1 (AROUND PAVEMENT BASE DRAIN)
- GEOTEXTILE, CLASS 4, TYPE A (UNDER SUBBASE FOR LANES/SHOULDERS)



PROFILE MILLING OF ASPHALT PAVEMENT TO A MAXIMUM DEPTH OF 2 1/4" PROVIDE A SUPERPAVE ASPHALT MIXTURE DESIGN, WEARING COURSE (SCRATCH), PG 64S-22, 3 TO < 10 MILLION ESALS, 9.5 MM MIX, SRL-L FOR ALL PROFILE MILLING AREAS

REFER TO THE MOST CURRENT RC STANDARDS, PUB 72M, FOR SAFETY WEDGE DETAILING AND ASPHALT TAPER SHOULDER WEDGE IN ALL CUT AREAS. THE USE OF A PAVER ATTACHMENT TO INSTALL ASPHALT CURB AS A WEDGE DURING WEARING OPERATION WILL BE PERMITTED.

- ASPHALT TACK COAT (NTT/CNTT)
- SUPERPAVE ASPHALT MIXTURE DESIGN, WEARING COURSE, PG 64E-22, 3 TO < 10 MILLION ESALS, 9.5 MM MIX, 1 1/2" DEPTH, SRL-E
- SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, PG 64S-22, 3 TO < 10 MILLION ESALS, 19.0 MM MIX, 2 1/2" DEPTH
- SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 3 TO < 10 MILLION ESALS, 25.0 MM MIX, 6" DEPTH
- SUPERPAVE ASPHALT MIXTURE DESIGN, ASPHALT RICH BASE COURSE, PG 64S-22, 25.0 MM MIX, 4" DEPTH
- SUBBASE 10" DEPTH (NO. 2A)
- GEOTEXTILE



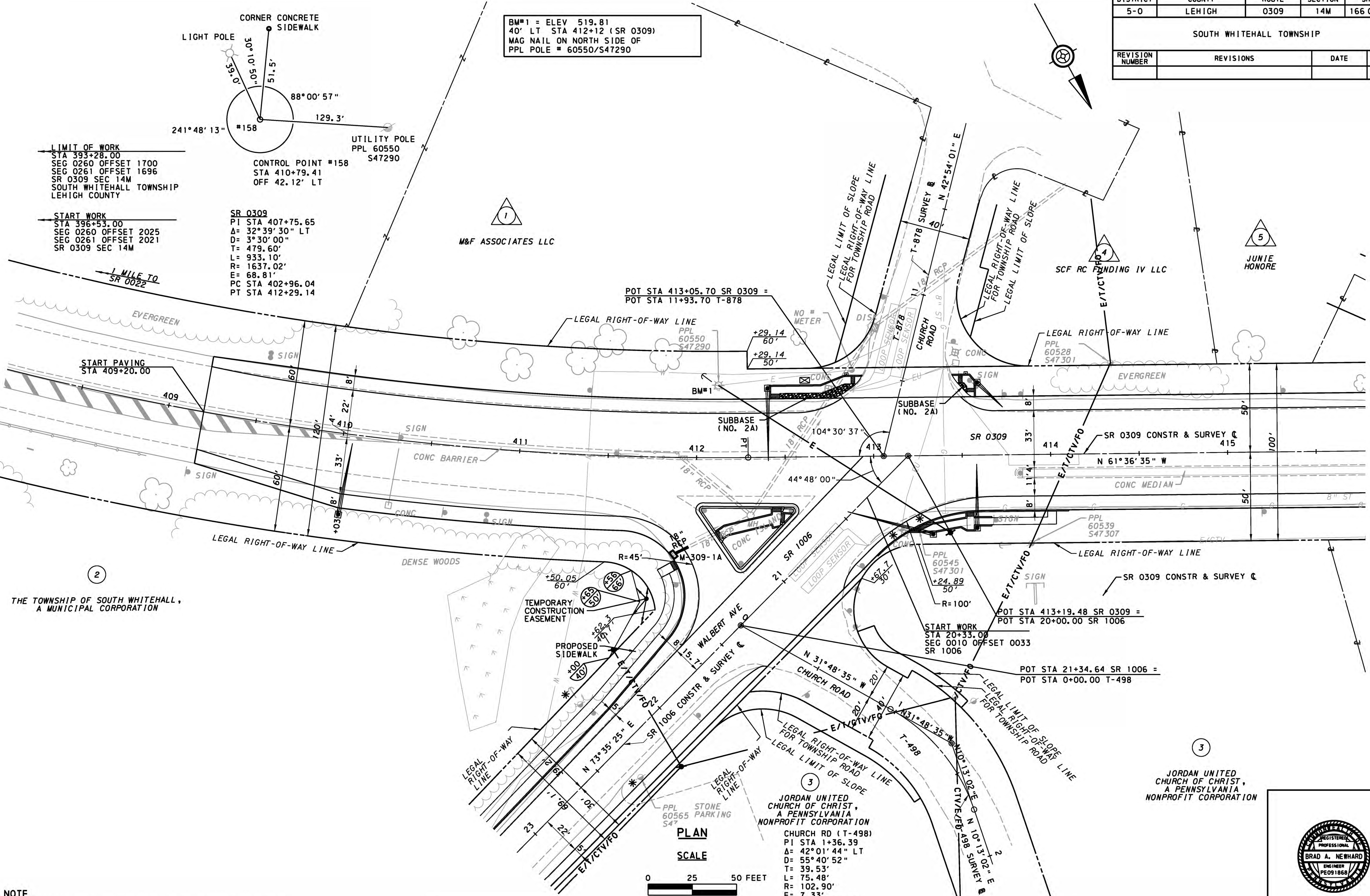
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
5-0	LEHIGH	0309	14M	166 OF 222
SOUTH WHITEHALL TOWNSHIP				
REVISION NUMBER	REVISIONS	DATE	BY	

BM#1 = ELEV 519.81
 40' LT STA 412+12 (SR 0309)
 MAG NAIL ON NORTH SIDE OF
 PPL POLE # 60550/S47290

LIMIT OF WORK
 STA 393+28.00
 SEG 0260 OFFSET 1700
 SEG 0261 OFFSET 1696
 SR 0309 SEC 14M
 SOUTH WHITEHALL TOWNSHIP
 LEHIGH COUNTY

START WORK
 STA 396+53.00
 SEG 0260 OFFSET 2025
 SEG 0261 OFFSET 2021
 SR 0309 SEC 14M

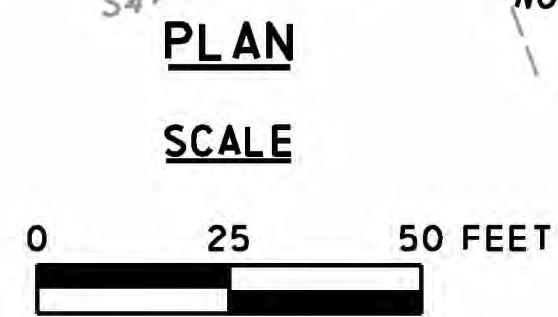
SR 0309
 PI STA 407+75.65
 $\Delta = 32^\circ 39' 30''$ LT
 $D = 3^\circ 30' 00''$
 $T = 479.60'$
 $L = 933.10'$
 $R = 1637.02'$
 $E = 68.81'$
 PC STA 402+96.04
 PT STA 412+29.14



THE TOWNSHIP OF SOUTH WHITEHALL,
 A MUNICIPAL CORPORATION

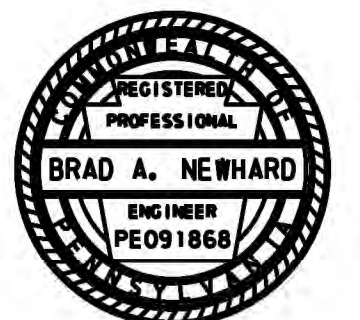
NOTE
 * UTILITY POLE OR GUY WIRE TO BE REMOVED BY OTHERS

SEE SHEET 190



JORDAN UNITED CHURCH OF CHRIST, A PENNSYLVANIA NONPROFIT CORPORATION
 CHURCH RD (T-498)
 PI STA 1+36.39
 $\Delta = 42^\circ 01' 44''$ LT
 $D = 55^\circ 40' 52''$
 $T = 39.53'$
 $L = 75.48'$
 $R = 102.90'$
 $E = 7.33'$
 PC STA 0+96.86
 PT STA 1+72.34

JORDAN UNITED CHURCH OF CHRIST,
 A PENNSYLVANIA NONPROFIT CORPORATION



FOR PROFILE, SEE SHEETS 193, 194 & 220 SURVEY BOOK NO 24968, 24969 & 25053

Files: pw\cadr\maguire-pw-bentley.com\cadr\maguire-pw-01\Documents\Projects\01221\AKA\DNV\HIGHWAY\01221-SR0309-PLAN.dgn
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SEE SHEET 167

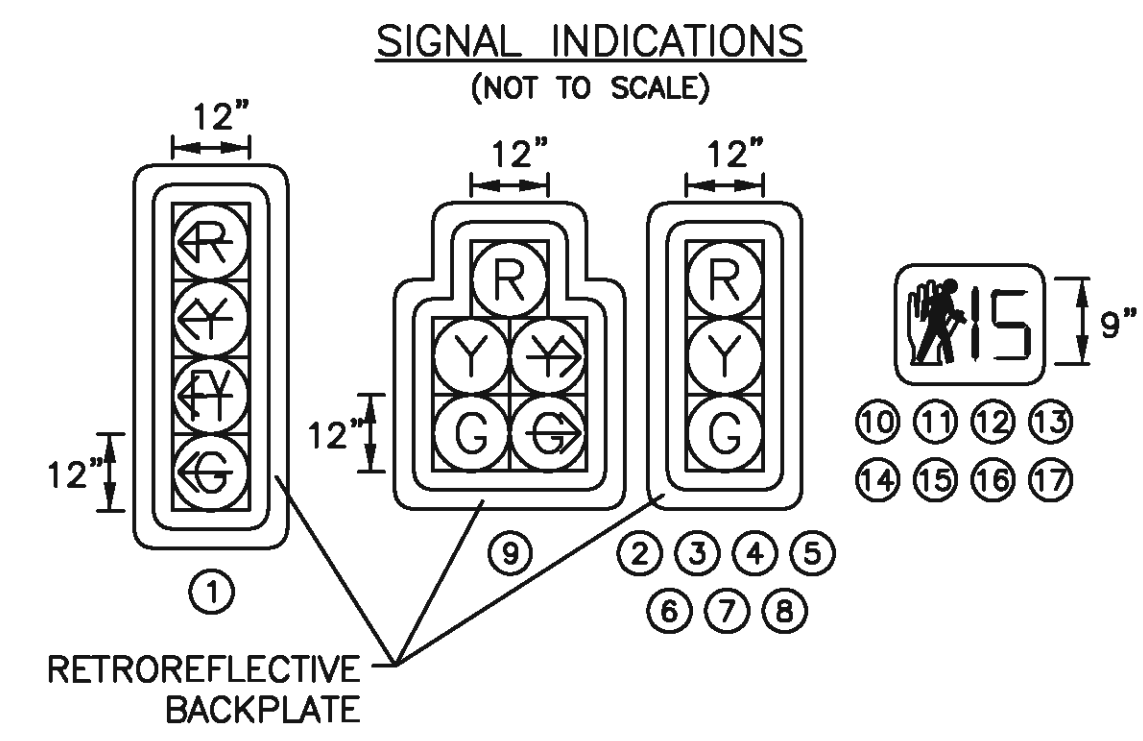
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
5-0	LEHIGH	0309	14M	4 OF 26
SOUTH WHITEHALL TOWNSHIP				
REVISION NUMBER	REVISIONS	DATE	BY	APPD

TRAFFIC SIGNAL CONSTRUCTION PLAN

P			Q		
← Walbert Ave Church Rd →			← Church Rd Walbert Ave →		
SPACE	5.7	SPACE	5.0	SPACE	5.0
R	7.3	ARROW	8.2	C	5.7
o	7.4	SPACE	6.0	h	5.9
u	7.3	W	8.6	u	5.8
t	4.7	a	5.7	r	4.1
e	7.0	i	3.3	c	5.0
SPACE	6.0	b	5.8	h	5.9
3	6.2	e	5.6	SPACE	6.0
0	7.6	R	4.1	R	5.8
9	7.0	t	3.8	d	5.8
SPACE	5.8	SPACE	6.0	SPACE	6.0
TOTAL	= 72.0	A	6.1	ARROW	8.2
		v	5.1	SPACE	14.8
		e	5.6	TOTAL	= 84.0
		SPACE	5.1		
		TOTAL	= 84.0		

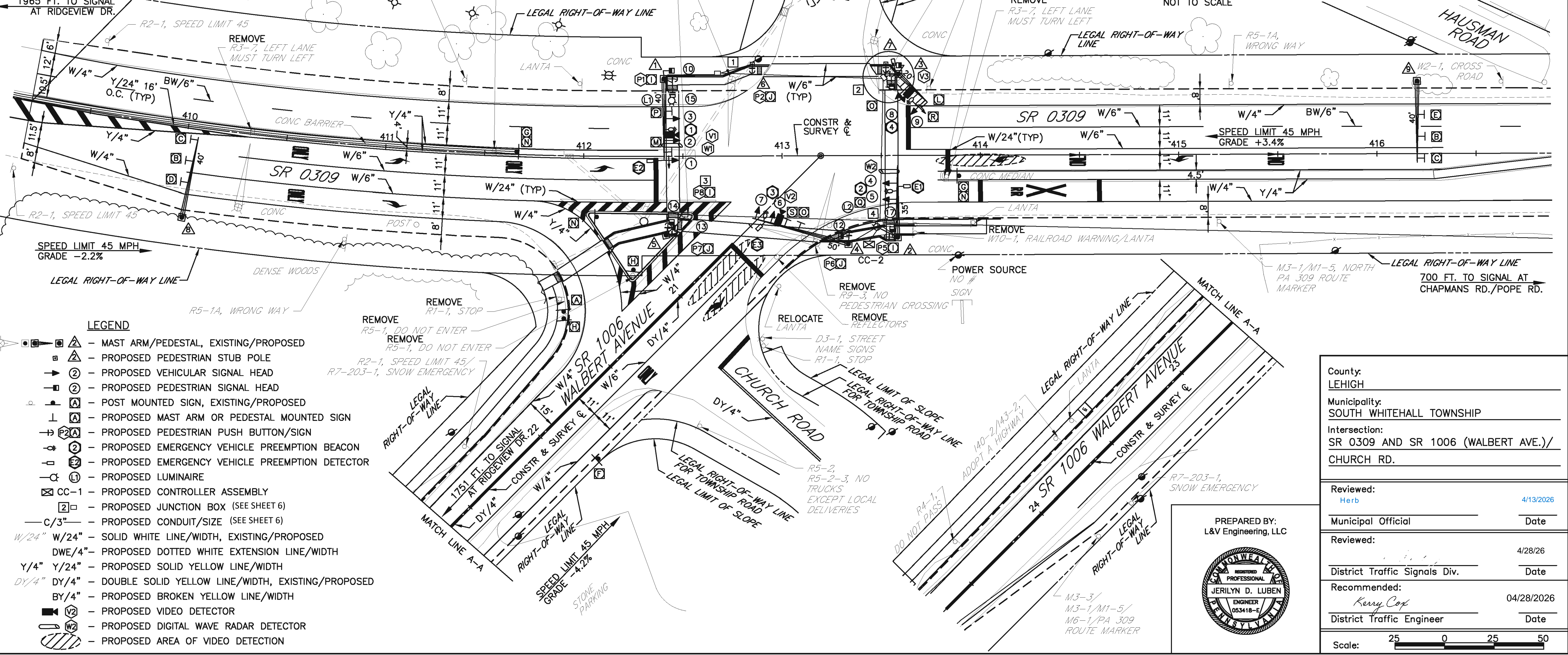
OVERHEAD STREET NAME SIGNS (NOT TO SCALE)

SIGNS SHALL BE WHITE LEGEND AND BORDER ON GREEN BACKGROUND. 8" CLEARVIEW 3-W FONT LETTERING, LEGEND, BORDER AND BACKGROUND SHALL BE CLASS II REFLECTIVE MATERIAL WITH 0.8 INCH BORDER AND 2.5 INCH RADIUS ON CORNERS. ALL DIMENSIONS SHOWN IN INCHES. SIGNS P AND Q LETTER SPACING TO BE REDUCED 20%.



LIMIT OF WORK
 STA 393+28.00
 SEG 0260 OFFSET 1700
 SEG 0261 OFFSET 1696
 SR 0309 SEC 14M
 SOUTH WHITEHALL TOWNSHIP
 LEHIGH COUNTY

START WORK
 STA 396+53.00
 SEG 0260 OFFSET 2025
 SEG 0261 OFFSET 2021
 SR 0309 SEC 14M

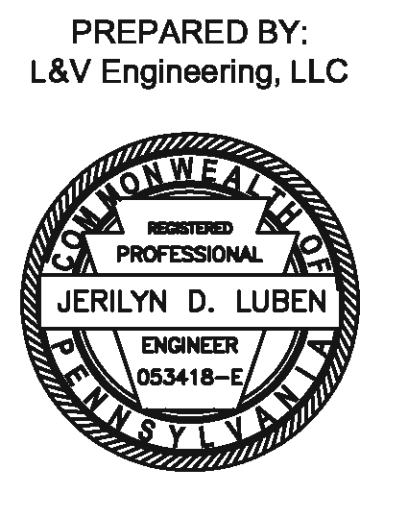


LEGEND

- ▲ - MAST ARM/PEDESTAL, EXISTING/PROPOSED
- ▣ - PROPOSED PEDESTRIAN STUB POLE
- ➔ - PROPOSED VEHICULAR SIGNAL HEAD
- ⊙ - PROPOSED PEDESTRIAN SIGNAL HEAD
- ⊠ - POST MOUNTED SIGN, EXISTING/PROPOSED
- ⊡ - PROPOSED MAST ARM OR PEDESTAL MOUNTED SIGN
- ➔⊠ - PROPOSED PEDESTRIAN PUSH BUTTON/SIGN
- ⊙⊡ - PROPOSED EMERGENCY VEHICLE PREEMPTION BEACON
- ⊙⊡ - PROPOSED EMERGENCY VEHICLE PREEMPTION DETECTOR
- ⊙ - PROPOSED LUMINAIRE
- ⊠ - PROPOSED CONTROLLER ASSEMBLY
- ⊡ - PROPOSED JUNCTION BOX (SEE SHEET 6)
- C/3" - PROPOSED CONDUIT/SIZE (SEE SHEET 6)
- W/24" - SOLID WHITE LINE/WIDTH, EXISTING/PROPOSED
- DWE/4" - PROPOSED DOTTED WHITE EXTENSION LINE/WIDTH
- Y/24" - PROPOSED SOLID YELLOW LINE/WIDTH
- DY/4" - DOUBLE SOLID YELLOW LINE/WIDTH, EXISTING/PROPOSED
- BY/4" - PROPOSED BROKEN YELLOW LINE/WIDTH
- ⊠ - PROPOSED VIDEO DETECTOR
- ⊡ - PROPOSED DIGITAL WAVE RADAR DETECTOR
- ⊡ - PROPOSED AREA OF VIDEO DETECTION

County: LEHIGH
 Municipality: SOUTH WHITEHALL TOWNSHIP
 Intersection: SR 0309 AND SR 1006 (WALBERT AVE.) / CHURCH RD.

Reviewed:	Herb	4/13/2026
Municipal Official:		Date
Reviewed:		4/28/26
District Traffic Signals Div.:		Date
Recommended:	Kerry Cop	04/28/2026
District Traffic Engineer:		Date



PHASING, TIMING, AND COLOR SEQUENCE CHART

PHASE	2+5				2+6				4+8				EMERGENCY FLASHING OPERATION
SIGNALS	1	2	3	4	5	6	7	8	9	10	11	12	
1	←	←	←	←	←	←	←	←	←	←	←	←	←
2,3	G	G	G	G	G	G	Y	R	R	R	R	R	R
4,5	R	R	R	R	G	G	Y	R	R	R	R	R	R
6,7	R	R	R	R	R	R	R	R	G	G	Y	R	R
8	R	R	R	R	R	R	R	R	G	G	Y	R	R
9	R	R	R	R	R	R	R	R	G	G	Y	R	R
10,11	M	FH	H	H	M	FH	H	H	H	H	H	H	OFF
12,13	H	H	H	H	M	FH	H	H	H	H	H	H	OFF
14,15	H	H	H	H	H	H	H	H	M	FH	H	H	OFF
16,17	H	H	H	H	H	H	H	H	M	FH	H	H	OFF
Ⓜ Ⓢ	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
FIXED			5.0	4.0			5.0	4.0			5.0	4.0	
MINIMUM	7				15				7				
PASSAGE	3				1				3				
PROGRAM 1	16				67				17				
PROGRAM 2	16				52				22				
MAX 1	7				51				11				
PEDESTRIAN Ⓜ	7	16			7	21			7	19			
MEMORY	NON-LOCKING		MIN RECALL		NON-LOCKING								

PHASING NOTES

- ① PHASE 2+5 TO FOLLOW PHASE 4+8 ONLY
- ② UPON PEDESTRIAN ACTUATION ONLY, OTHERWISE H AT ALL TIMES
- ③ TIMING MAY BE STARTED IN THIS PHASE AND BE COMPLETED IN PHASE 2+6
- ④ M IF FOLLOWED BY PHASE 2+6

SIGN TABULATION**				
SYMBOL	SERIES	DESCRIPTION	SIZE (IN.)	QTY.
A	R1-1	STOP	30 X 30	1
B	R3-5A	STRAIGHT-THROUGH	30 X 36	2
C	R3-5L	LEFT TURN	30 X 36	2
D	R3-5R	RIGHT TURN	30 X 36	1
E	R3-6SR	OPTIONAL RIGHT TURN	30 X 36	1
F	R3-7R	RIGHT LANE MUST TURN RIGHT	30 X 30	1
G	R4-7	KEEP RIGHT	24 X 30	2
H	R5-1	DO NOT ENTER	30 X 30	2
I	R10-3E	EDUC. PUSH BUTTON FOR WALK SIGNAL W/COUNTDOWN TIMER (L)	9 X 15	4
J	R10-3E	EDUC. PUSH BUTTON FOR WALK SIGNAL W/COUNTDOWN TIMER (R)	9 X 15	4
K	R10-6AL	STOP HERE ON RED (LEFT)	24 X 30	1
L	R10-10R	RIGHT TURN SIGNAL	30 X 36	1
M	R10-12A	LEFT TURN YIELD ON FLASHING YELLOW ARROW	30 X 36	1
N	OM1-3	OBJECT MARKER	18 X 18	3
O	D3-4*	Route 309	72 X 16	2
P	D3-5*	↔ Walbert Ave/Church Rd ↔	84 X 28	1
Q	D3-5*	↔ Church Rd/Walbert Ave ↔	84 X 28	1
R	R3-1***	NO RIGHT TURN	30 X 30	1
S	R3-2***	NO LEFT TURN	30 X 30	1

* OVERHEAD STREET NAME SIGNS TO BE STRUCTURE-MOUNTED FLAT SHEET ALUMINUM WITH STIFFENERS. OVERHEAD STREET NAME SIGNS TO CONSIST OF WHITE LEGEND AND BORDER ON GREEN BACKGROUND.
 ** ALL SIGNS TO UTILIZE REFLECTORIZED TYPE III, IV, VI, VII, VIII, IX OR X SHEETING FOR LEGEND, BORDER AND BACKGROUND.
 *** LED BLANK-OUT SIGN

WEEKLY PROGRAM CHART

EVENT	DAY OF WEEK							TIME			CYCLE (SEC)	OFFSET (SEC)	COMMENTS
	M	T	W	T	F	S	S	HR	MIN	SEC			
1	X	X	X	X	X	X	X	06	00	00	100	32	PROGRAM 1
2	X	X	X	X	X	X	X	14	00	00	90	19	PROGRAM 2
3	X	X	X	X	X	X	X	20	00	00			MAX 1

SYSTEM NOTES:

- SIGNAL SYSTEM LIMITS:
- SR 0309 AND RIDGEVIEW DRIVE
 - SR 0309 AND SR 1006 (WALBERT AVENUE)/ CHURCH ROAD
 - SR 0309 AND SR 4001 (CHAPMANS ROAD)/ POPE ROAD

1. TIME BASED COORDINATION ACCOMPLISHED USING GPS TIME OF DAY CLOCK. FIBER OPTIC INTERCONNECT BETWEEN WALBERT AVENUE AND CHAPMANS ROAD IS TO PROVIDE PEER-TO-PEER COMMUNICATION FOR THE PURPOSE OF INITIATING RAIL PREEMPTION.

2. OFFSET TO BE REFERENCED FROM THE BEGINNING OF YELLOW FOR SR 0309, PHASE 2+6, INTERVAL 7 AT THIS INTERSECTION.

ADVANCE DILEMMA ZONE DETECTION SYSTEM NOTES

- EST. TIME OF ARRIVAL: 2.5 SEC TO 5.5 SEC
- RANGE OF PROTECTION: MIN 100 - MAX 500 FEET FROM STOP BAR
- MIN. SPEED BOUNDARY: 30 MPH
- ZONE MAY BE ADJUSTED FOR FIELD CONDITIONS

DENSITY ZONE NOTES

- RANGE OF DETECTION: 0 - 100 FEET FROM STOP BAR
- MIN. SPEED BOUNDARY: 5 MPH
- ZONE MAY BE ADJUSTED FOR FIELD CONDITIONS

CONSTRUCTION NOTES:

- REPLACE ALL TRAFFIC SIGNAL EQUIPMENT
- ALL UTILITY INSTALLATIONS OR RELOCATIONS THAT ARE REQUIRED IN CONJUNCTION WITH THIS PROJECT CAN BE INSTALLED OR RELOCATED AS PART OF THE PROJECT PROVIDED THE CONSTRUCTION IS PERFORMED BY THE PROJECT CONTRACTOR OR PROJECT CONTRACTOR'S SUB-CONTRACTOR. HOWEVER, THE UTILITY MUST SUBMIT AN APPLICATION FOR-RELOCATION OR RELOCATION TO NS PIPE AND WIRE FOR APPROPRIATE HANDLING FOR LICENSE AGREEMENT AND APPLICABLE FEES. FOR UTILITY APPLICATIONS GO TO: [HTTPS://WWW.NORFOLKSOUTHERN.COM/EN/RAIL-DEVELOPMENT-PROPERTY/NS-PROPERTY/PROJECTS-ON-NS-PROPERTY](https://www.norfolksouthern.com/en/rail-development-property/ns-property/projects-on-ns-property)
- NORFOLK SOUTHERN FORCES WILL PERFORM ANY WORK REQUIRED AT THE AT-GRADE CROSSINGS TO 2'-0" BEYOND THE OUTSIDE EDGE OF EACH RAIL AT SPONSOR'S EXPENSE.
- THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH NORFOLK SOUTHERN SIGNAL'S DEPARTMENT. NORFOLK SOUTHERN FORCES WILL COMPLETE ALL SIGNAL RELATED INSTALLATION WORK DURING CONSTRUCTION.

NOTE: LICENSE AGREEMENT MUST BE EXECUTED PRIOR TO UTILITY BEING INSTALLED OR RELOCATED.

EMERGENCY VEHICLE PREEMPTION PHASING, TIMING, AND COLOR SEQUENCE CHART

PHASE	2+5			6			4			8		
SIGNALS	13	14	15	16	17	18	19	20	21	22	23	24
1	←	←	←	←	←	←	←	←	←	←	←	←
2,3	G	Y	R	R	R	R	R	R	R	R	R	R
4,5	R	R	R	G	Y	R	R	R	R	R	R	R
6,7	R	R	R	R	R	R	G	Y	R	R	R	R
8	R	R	R	R	R	R	R	R	R	G	Y	R
9	R	R	R	R	R	R	R	R	R	G	Y	R
10,11	H	H	H	H	H	H	H	H	H	H	H	H
12,13	H	H	H	H	H	H	H	H	H	H	H	H
14,15	H	H	H	H	H	H	H	H	H	H	H	H
16,17	H	H	H	H	H	H	H	H	H	H	H	H
Ⓜ Ⓢ	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
FIXED	**	5.0	4.0	**	5.0	4.0	**	5.0	4.0	**	5.0	4.0

** FOR DURATION OF PREEMPTION

EMERGENCY VEHICLE PREEMPTION OPERATION NOTE

Ⓜ SIGNALS TO INDICATE G WHEN RETURNING TO NORMAL OPERATION

EMERGENCY VEHICLE PREEMPTION NOTES

THE CONTROLLER SHALL BE EQUIPPED WITH EMERGENCY VEHICLE PREEMPTION FOR THE NORTHBOUND AND SOUTHBOUND APPROACHES OF ROUTE 309, THE WESTBOUND APPROACH OF WALBERT AVENUE, AND THE EASTBOUND APPROACH OF CHURCH ROAD WITH AN INDICATOR LIGHT FOR EACH APPROACH. THE INDICATOR LIGHT SHALL CONSIST OF A FLASHING WHITE LIGHT AND, IT SHALL FLASH FOR THE APPROPRIATE APPROACH DURING THE GREEN INTERVAL IN THE PREEMPTION PHASE TO CONFIRM THAT THE EMERGENCY VEHICLE HAS CONTROL OF THE INTERSECTION.

THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, SHALL IMMEDIATELY TERMINATE ALL GREEN INDICATIONS, EXCEPT THE GREEN INDICATIONS FOR THE PHASE GOVERNED BY THE APPROACHING EMERGENCY VEHICLE, FOLLOWED BY SELECTIVE CLEARANCES DEPENDENT UPON THE PHASE IN WHICH THE PREEMPTION OCCURS. THE GREEN INDICATIONS FOR THE PREEMPTED APPROACH SHALL REMAIN GREEN FOR THE DURATION OF SIGNAL PREEMPTION WITH RED INDICATIONS DISPLAYED FOR ALL OTHER APPROACHES.

THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, DURING ANY CLEARANCE INTERVAL SHALL TIME OUT ALL YELLOW AND RED INTERVALS, FOLLOWED BY THE GREEN INTERVAL OF THE PREEMPTION PHASE GOVERNED BY THE APPROACHING EMERGENCY VEHICLE.

IF THE SIGNALS HAVE BEEN ACTUATED BY A PEDESTRIAN PUSH BUTTON, AND THE SIGNAL IS SUBSEQUENTLY PREEMPTED BY AN APPROACHING EMERGENCY VEHICLE, THE PEDESTRIAN WALK (WALKING PERSON) INTERVAL SHALL TERMINATE IMMEDIATELY, FOLLOWED BY THE PEDESTRIAN CLEARANCE INTERVAL. THIS INTERVAL SHALL TIME OUT, FOLLOWED BY THE APPROPRIATE SELECTIVE CLEARANCES, BEFORE GOING INTO EMERGENCY VEHICLE PREEMPTION.

IF THE SIGNALS ARE FLASHING WHEN ACTIVATED BY AN EMERGENCY VEHICLE, ALL SIGNALS SHALL REMAIN FLASHING.

WHEN RETURNING TO NORMAL OPERATION GO TO PHASE 2+6 INTERVAL 5.

RAILROAD PREEMPTION SHALL TAKE PRECEDENCE OVER EMERGENCY VEHICLE PREEMPTION. EMERGENCY VEHICLES SHALL BE SERVED ON A "FIRST COME, FIRST SERVED" BASIS, UNLESS ANOTHER MODE OPERATION IS APPROVED BY PENNDOT. NO OTHER TYPES OR CLASSES OF VEHICLES SHALL BE PERMITTED TO PREEMPT THE TRAFFIC SIGNAL UNLESS APPROVED BY PENNDOT.

IF THE PREEMPTION EQUIPMENT HAS ENCODING CAPABILITIES FOR VEHICLE IDENTIFICATION AND THERE IS THE NEED TO ALLOW PREEMPTION BY EMERGENCY VEHICLES FROM NEARBY MUNICIPALITIES WITH DIFFERENT EMITTERS, IT IS RECOMMENDED TO HAVE THE ZERO "00" FEATURE ON TO GIVE UNCODED EMITTERS THE ABILITY TO ACTIVATE THE EMERGENCY VEHICLE PREEMPTION.

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
5-0	LEHIGH	0309	14M	5 OF 26
SOUTH WHITEHALL TOWNSHIP				
REVISION NUMBER	REVISIONS	DATE	BY	APPD

TRAFFIC SIGNAL CONSTRUCTION PLAN RAILROAD PREEMPTION PHASING, TIMING, AND COLOR SEQUENCE CHART

PHASE	2+5						4+8					
SIGNALS	25	26	27	28	29	30						
1	←	←	←	←	←	←						
2,3	G	Y	R	R	R	R						
4,5	R	R	R	R	R	R						
6,7	R	R	R	G	Y	R						
8	R	R	R	R	G	Y	R					
9	R	R	R	R	G	Y	R					
10,11	H	H	H	H	H	H						
12,13	H	H	H	H	H	H						
14,15	H	H	H	H	H	H						
16,17	H	H	H	H	H	H						
Ⓜ Ⓢ	ON	ON	ON	ON	ON	ON						
FIXED	50	5.0	4.0	***	5.0	4.0						

*** FOR DURATION OF RAILROAD PREEMPTION

RAILROAD PREEMPTION NOTES

UPON ACTIVATION OF RAILROAD PREEMPTION, THE CONTROLLER WILL TERMINATE THE GREEN, MAN, OR FLASHING HAND INTERVAL OF THE CURRENT PHASE AND PROVIDE THE APPROPRIATE VEHICULAR CLEARANCE INTERVALS FOR THAT PHASE.

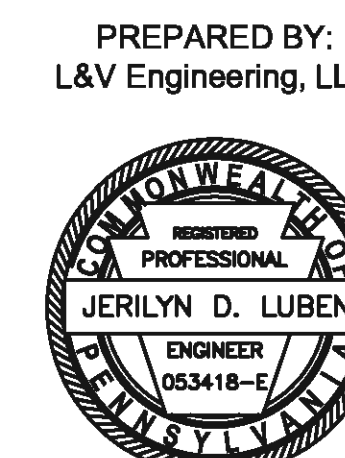
IF RAILROAD PREEMPTION OCCURS DURING INTERVALS 1 OR 2, SIGNAL 1 IS TO REMAIN ←; AND SIGNALS 2 AND 3 ARE TO REMAIN GREEN.

SIGNAL TO RETURN TO PHASE 2+6 INTERVAL 1 UPON COMPLETION OF RAILROAD PREEMPTION.

IF RAILROAD PREEMPTION OCCURS DURING EMERGENCY FLASH OPERATION, THE SIGNALS SHALL REMAIN FLASHING.

RAILROAD PREEMPTION SHALL TAKE PRECEDENCE OVER EMERGENCY VEHICLE PREEMPTION.

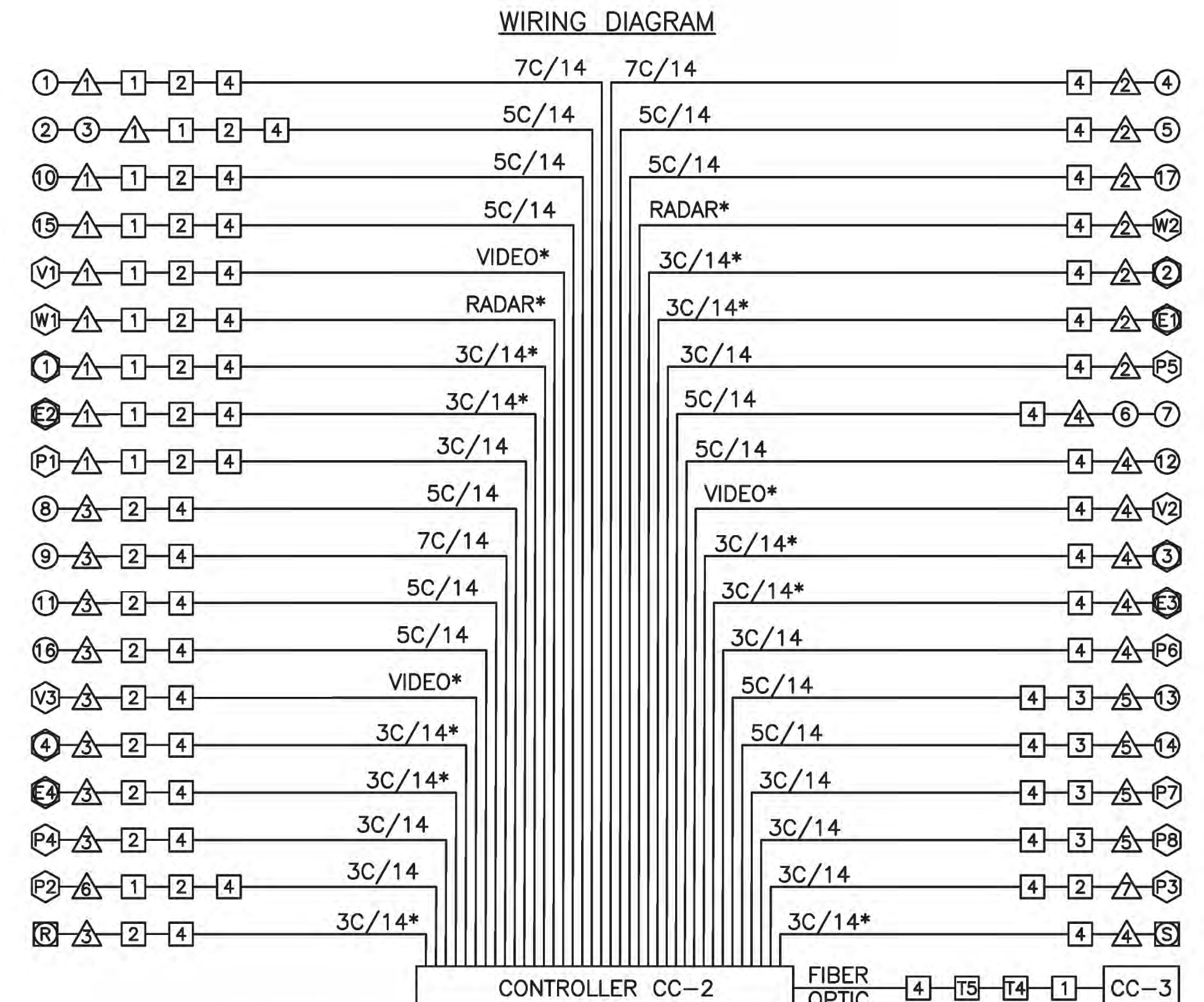
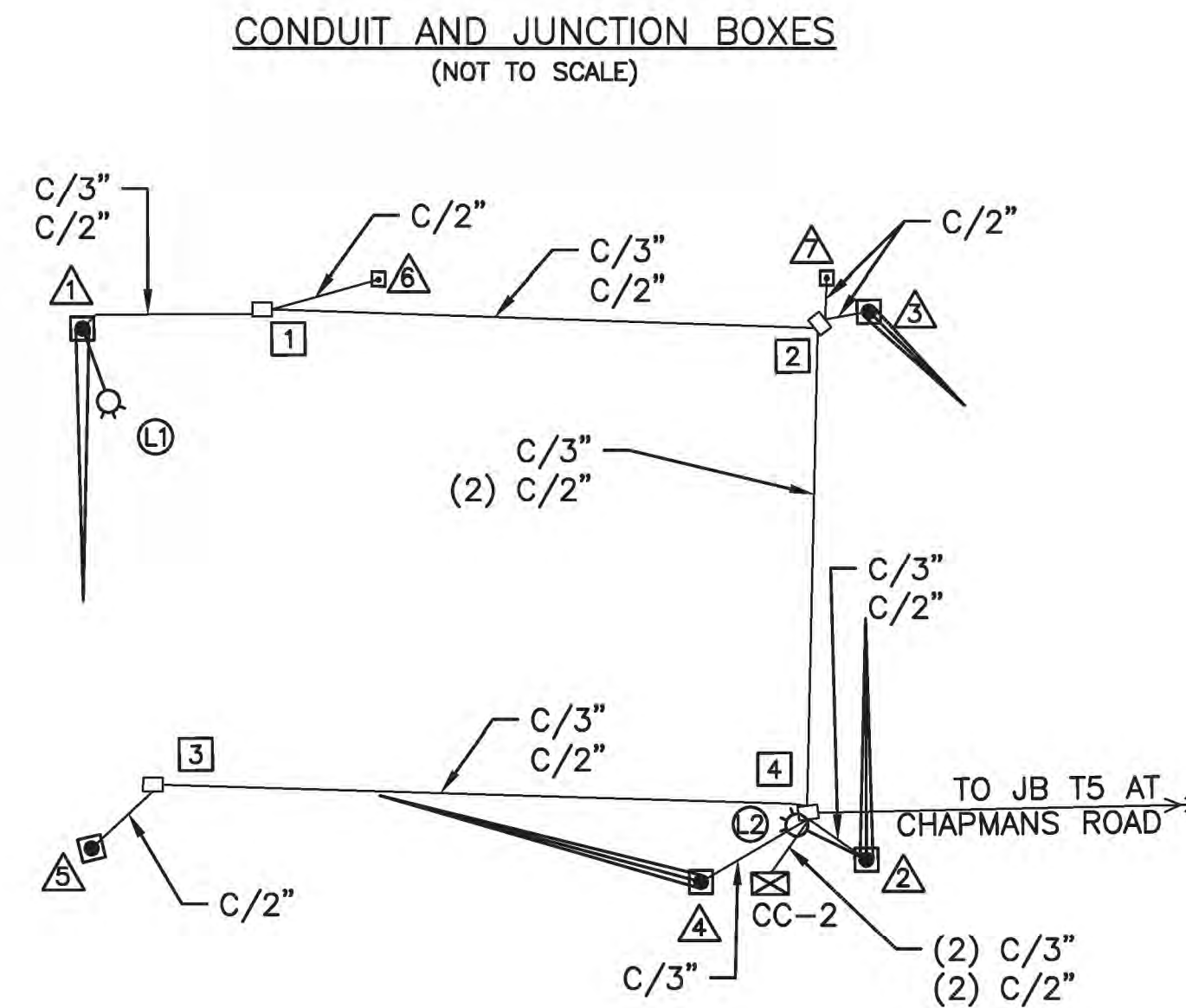
County:	LEHIGH
Municipality:	SOUTH WHITEHALL TOWNSHIP
Intersection:	SR 0309 AND SR 1006 (WALBERT AVE.)/ CHURCH RD.
Reviewed:	Herb Bender 4/13/2026
Municipal Official:	Date
Reviewed:	4/28/26
District Traffic Signals Div.:	Date
Recommended:	04/28/2026
District Traffic Engineer:	Kerry Cop Date



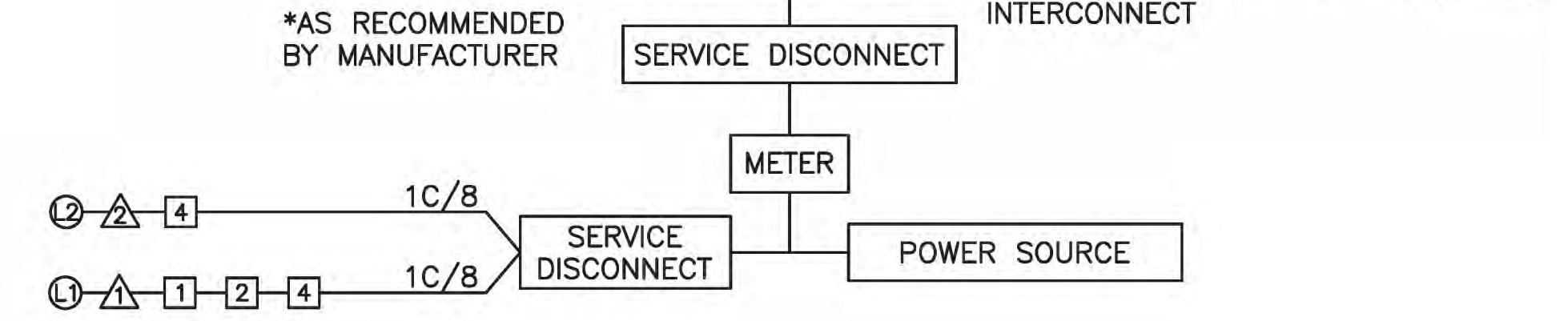
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
5-0	LEHIGH	0309	14M	6 OF 26
SOUTH WHITEHALL TOWNSHIP				
REVISION NUMBER	REVISIONS	DATE	BY	APPD

TRAFFIC SIGNAL CONSTRUCTION PLAN

TRENCH, CONDUIT, JUNCTION BOX, ELECTRICAL ITEMS														
DESCRIPTION	AWG 8 UNDERGROUND CABLE, COPPER, 1 CONDUCTOR	2" WATERTIGHT FLEXIBLE GALVANIZED STEEL CONDUIT	2 INCH CONDUIT	3 INCH CONDUIT	TRENCH AND BACKFILL, TYPE I	TRENCH AND BACKFILL, TYPE II	TRENCH AND BACKFILL, TYPE III	SIGNAL CABLE, 14 AWG, 3 CONDUCTOR	SIGNAL CABLE, 14 AWG, 5 CONDUCTOR	SIGNAL CABLE, 14 AWG, 7 CONDUCTOR	JUNCTION BOX, JB-27	ELECTRICAL SERVICE, TYPE C WITH LUMINAIRES	FIBER OPTIC CABLE (FOR INFORMATION ONLY)	
LOCATION	ITEM NUMBER	UNIT	LF	LF	LF	LF	LF	LF	LF	LF	LF	EACH	EACH	
JUNCTION BOX 1											1			
JUNCTION BOX 2											1			
JUNCTION BOX 3											1			
JUNCTION BOX 4											1			
JB T4 TO JB 4			369			369							375	
JB 4 TO JB 3				94	94			94						
JB 2 TO JB 4				142	71			71						
JB 2 TO JB 1				82	82			82						
JB 1 TO POLE 1				24	24	24								
JB 4 TO POLE 2				11	11	11								
JB 2 TO POLE 3				7		7								
JB 4 TO POLE 4					19	19								
JB 3 TO POLE 5				13			13							
JB 1 TO POLE 6				17		17								
JB 2 TO POLE 7				7		7								
L1 TO CC-2	245													
L2 TO CC-2	67													
POLE 1 TO CC-2								223	737	280				
POLE 2 TO CC-2								45	132	89				
POLE 3 TO CC-2								118	390	153				
POLE 4 TO CC-2								53	187					
POLE 5 TO CC-2								294	306					
POLE 6 TO CC-2								216						
POLE 7 TO CC-2								118						
JB 4 TO CC-2		10	20	20	10								51	
CC-2 ELECTRICAL SERVICE			90		45							1		
TOTAL		312	379	507	321	509	13	247	1067	1752	522	4	1	426



DETECTORS				
ITEM NUMBER	DESCRIPTION	LOCATION	SENSOR NUMBER	QTY.
0956 0500	PEDESTRIAN PUSH BUTTON	POLE Δ	P1	1
0956 0500	PEDESTRIAN PUSH BUTTON	POLE Δ	P2	1
0956 0500	PEDESTRIAN PUSH BUTTON	POLE Δ	P3	1
0956 0500	PEDESTRIAN PUSH BUTTON	POLE Δ	P4	1
0956 0500	PEDESTRIAN PUSH BUTTON	POLE Δ	P5	1
0956 0500	PEDESTRIAN PUSH BUTTON	POLE Δ	P6	1
0956 0500	PEDESTRIAN PUSH BUTTON	POLE Δ	P7	1
0956 0500	PEDESTRIAN PUSH BUTTON	POLE Δ	P8	1
	TOTAL			8



- LEGEND**
- Δ - MAST ARM/PEDESTAL
 - $\text{\textcircled{2}}$ - VEHICULAR/PEDESTRIAN SIGNAL HEAD
 - $\text{\textcircled{P2}}$ - PEDESTRIAN PUSH BUTTON
 - $\text{\textcircled{2}}$ - FAIL-SAFE INDICATOR
 - $\text{\textcircled{E2}}$ - OPTICAL PREEMPTION DETECTOR
 - $\text{\textcircled{2}}$ - JUNCTION BOX
 - $\text{\textcircled{V2}}$ - VIDEO DETECTOR
 - $\text{\textcircled{W2}}$ - DIGITAL WAVE RADAR DETECTOR
 - $\text{\textcircled{L}}$ - LUMINAIRE
 - $\text{\textcircled{O}}$ - LED BLANK-OUT SIGN

PREPARED BY:
L&V Engineering, LLC

County: LEHIGH
Municipality: SOUTH WHITEHALL TOWNSHIP
Intersection: SR 0309 AND SR 1006 (WALBERT AVE.)/
CHURCH RD.

SIGNS

SYMBOL	SERIES	DESCRIPTION	SIZE (IN.)	QTY.	POST MOUNTED SIGNS, TYPE B		POST MOUNTED SIGNS, TYPE F		LED BLANK-OUT SIGN	STRUCTURE MOUNTED FLAT SHEET ALUMINUM SIGNS WITH STIFFENERS	STRUCTURE MOUNTED FLAT SHEET ALUMINUM SIGNS	
					0931 0001 SF	0935 0001 SF	0935 0350 EACH	0936 0010 SF				0936 0200 SF
A	R1-1	STOP	30 X 30	1	6.3							
B	R3-5A	STRAIGHT-THROUGH	30 X 36	2						15.0		
C	R3-5L	LEFT TURN	30 X 36	2						15.0		
D	R3-5R	RIGHT TURN	30 X 36	1						7.5		
E	R3-6SR	OPTIONAL RIGHT TURN	30 X 36	1						7.5		
F	R3-7R	RIGHT LANE MUST TURN RIGHT	30 X 30	1	6.3							
G	R4-7	KEEP RIGHT	24 X 30	2	10.0							
H	R5-1	DO NOT ENTER	30 X 30	2	12.5							
I	R10-3E	EDUC. PUSH BUTTON FOR WALK SIGNAL W/COUNTDOWN TIMER (L)	9 X 15	4		*						
J	R10-3E	EDUC. PUSH BUTTON FOR WALK SIGNAL W/COUNTDOWN TIMER (R)	9 X 15	4		*						
K	R10-6AL	STOP HERE ON RED (LEFT)	24 X 30	1	5.0							
L	R10-10R	RIGHT TURN SIGNAL	30 X 36	1						7.5		
M	R10-12A	LEFT TURN YIELD ON FLASHING YELLOW ARROW	30 X 36	1						7.5		
N	OM1-3	OBJECT MARKER	18 X 18	3	2.3	4.5						
O	D3-4	Route 309	72 X 16	2						16.0		
P	D3-5	← Walbert Ave/Church Rd →	84 X 28	1						16.3		
Q	D3-5	← Church Rd/Walbert Ave →	84 X 28	1						16.3		
R	R3-1	NO RIGHT TURN	30 X 30	1					1			
S	R3-2	NO LEFT TURN	30 X 30	1					1			
					TOTAL	42.4	4.5	2	48.6	60.0		
					CALL	43	5	2	49	60		

* INCLUDED WITH ITEM NUMBER 0956-0500

TRAFFIC SIGNAL CONSTRUCTION PLAN

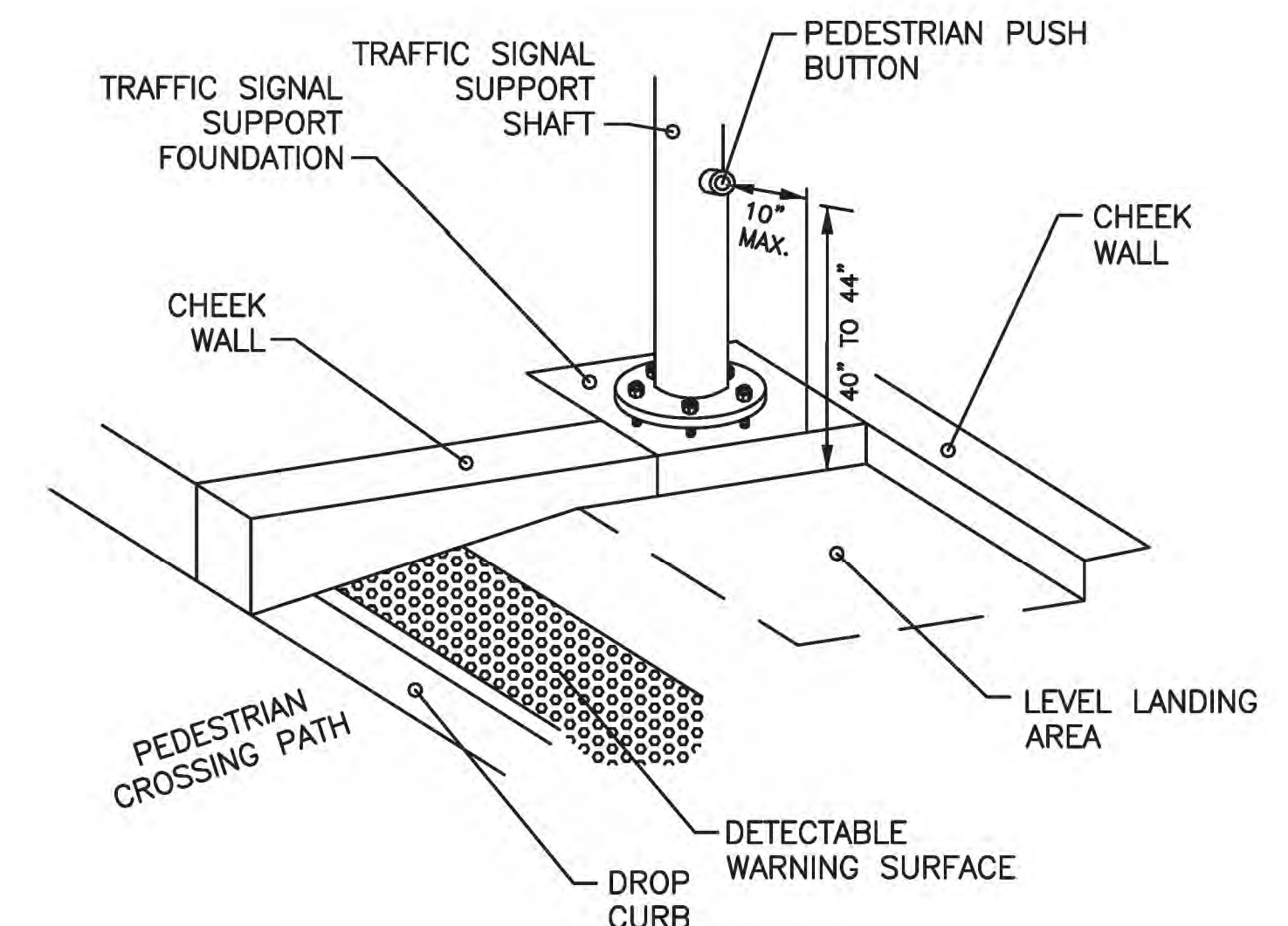
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
5-0	LEHIGH	0309	14M	7 OF 26
SOUTH WHITEHALL TOWNSHIP				
REVISION NUMBER	REVISIONS	DATE	BY	APPD

MISCELLANEOUS

ITEM NUMBER	DESCRIPTION	QTY.	LOCATION	REMARKS
0910 2828	250-WATT HIGH PRESSURE SODIUM LUMINAIRE, ARM MOUNT	2		
0952 1000	TIME CLOCK	1	CC-2	TIME CLOCK, GPS
0952 1070	ADVANCED TRANSPORTATION CONTROLLER UNIT ASSEMBLY, TYPE 1 MOUNTING	1	CC-2	
0954 0600	UNINTERRUPTIBLE POWER SUPPLY (UPS)	1	CC-2	
0955 3208	VEHICULAR SIGNAL HEAD, THREE 12" SECTIONS	7	SIGNALS ② ③ ④ ⑤ ⑥ ⑦ ⑧	
0955 3209	VEHICULAR SIGNAL HEAD, FOUR 12" SECTIONS	1	SIGNAL ①	FLASHING YELLOW ARROW
0955 3210	VEHICULAR SIGNAL HEAD, FIVE 12" SECTIONS	1	SIGNAL ⑨	RIGHT TURN SIGNAL
0955 3722	LED COUNTDOWN PEDESTRIAN SIGNAL HEAD, TYPE A	8	SIGNALS ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰	
0956 0611	RADAR AND VIDEO DETECTION SYSTEM	1	CC-2	
0956 0801	OPTICAL PREEMPTION SYSTEM	1	CC-2	

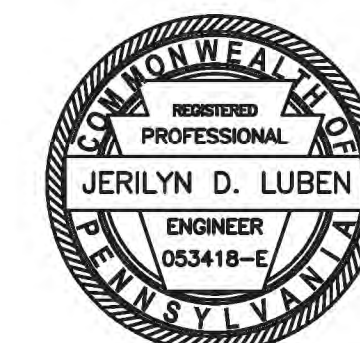
TRAFFIC SIGNAL SUPPORTS^Δ

STRUCTURE NUMBER	ITEM NUMBER UNIT	DESCRIPTION	QTY.	ROUTE	STATION	SIDE	OFFSET (FT)	MAST ARM																PEDESTAL		
								SIGNALS								SIGNALS								W	H	N
								H	K	M	N	O	P	Q	R	S	T	U	Y							
Δ	0951 2240	TRAFFIC SIGNAL SUPPORT, 40' MAST ARM WITH LUMINAIRE ARM (30' MOUNTING HEIGHT), POWDER COATED	1	SR 0309	412+41	LT	39	17	10	40	30	19				38					15	0'				
Δ	0951 2235	TRAFFIC SIGNAL SUPPORT, 35' MAST ARM WITH LUMINAIRE ARM (30' MOUNTING HEIGHT), POWDER COATED	1	SR 0309	413+58	RT	41	17	10	27	19										15	0'				
Δ	0951 0220	TRAFFIC SIGNAL SUPPORT, 20' MAST ARM, POWDER COATED	1	SR 0309	413+59	LT	41	17	10	18	7					16					3	45'				
Δ	0951 0250	TRAFFIC SIGNAL SUPPORT, 50' MAST ARM, POWDER COATED	1	SR 0309	413+33	RT	44	17	10	48	40					33					25	75'				
Δ	0951 4102	TRAFFIC SIGNAL SUPPORT, 10' PEDESTAL, POWDER COATED	1	SR 0309	412+42	RT	39															10	8			
Δ	0951 4118	PEDESTRIAN STUB POLE, TYPE E, POWDER COATED	1	SR 0309	412+85	LT	46																			
Δ	0951 4118	PEDESTRIAN STUB POLE, TYPE E, POWDER COATED	1	SR 0309	413+53	LT	47																			
Δ	0951 0240	TRAFFIC SIGNAL SUPPORT, 40' MAST ARM, POWDER COATED	1	SR 0309	410+03	RT	46	17								38	27	16			5'					
Δ	0951 0240	TRAFFIC SIGNAL SUPPORT, 40' MAST ARM, POWDER COATED	1	SR 0309	416+20	LT	36	17								38	27	16			0'					



CHEEK WALL TO TRAFFIC SIGNAL SUPPORT DETAIL (NOT TO SCALE)

PREPARED BY:
L&V Engineering, LLC



County: LEHIGH
Municipality: SOUTH WHITEHALL TOWNSHIP
Intersection: SR 0309 AND SR 1006 (WALBERT AVE.)/
CHURCH RD.

Δ - REFER TO TRAFFIC STANDARDS (TC-8800 SERIES) SIGNALS, FOR LETTER DESIGNATIONS VERTICAL POLES AND MAST ARMS TO BE DESIGNED BY MANUFACTURER TO ADEQUATELY SUPPORT LOADS AS SHOWN ON THE PLAN OR MAXIMUM LOAD REQUIREMENTS ESTABLISHED BY AASHTO SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, WHICHEVER IS GREATER.

EMERGENCY VEHICLE PREEMPTION PHASING, TIMING, AND COLOR SEQUENCE CHART

PHASE	2			6			4			8		
SIGNALS	9	10	11	12	13	14	15	16	17	18	19	20
1,2	G	Y [Ⓞ]	R [Ⓞ]	R	R	R	R	R	R	R	R	R
3	R	R	R	G	Y [Ⓞ]	R [Ⓞ]	R	R	R	R	R	R
4	R	R	R	G	Y [Ⓞ]	R [Ⓞ]	R	R	R	R	R	R
5,6,7	R	R	R	R	R	R	G	Y	R	R	R	R
8,9	R	R	R	R	R	R	R	R	R	G	Y	R
10,11	H	H	H	H	H	H	H	H	H	H	H	H
12,13	H	H	H	H	H	H	H	H	H	H	H	H
14,15	H	H	H	H	H	H	H	H	H	H	H	H
Ⓞ Ⓞ	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
FIXED	**	5.0	4.0	**	5.0	4.0	**	4.0	4.0	**	4.0	4.0

** FOR DURATION OF EMERGENCY VEHICLE PREEMPTION
EMERGENCY VEHICLE PREEMPTION OPERATION NOTE
 Ⓞ SIGNALS TO INDICATE G WHEN RETURNING TO NORMAL OPERATION

EMERGENCY VEHICLE PREEMPTION NOTES

THE CONTROLLER SHALL BE EQUIPPED WITH EMERGENCY VEHICLE PREEMPTION FOR THE NORTHBOUND AND SOUTHBOUND APPROACHES OF ROUTE 309, THE WESTBOUND APPROACH OF POPE ROAD, AND THE EASTBOUND APPROACH OF CHAPMANS ROAD WITH AN INDICATOR LIGHT FOR EACH APPROACH. THE INDICATOR LIGHT SHALL CONSIST OF A FLASHING WHITE LIGHT AND, IT SHALL FLASH FOR THE APPROPRIATE APPROACH DURING THE GREEN INTERVAL IN THE PREEMPTION PHASE TO CONFIRM THAT THE EMERGENCY VEHICLE HAS CONTROL OF THE INTERSECTION.

THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, SHALL IMMEDIATELY TERMINATE ALL GREEN INDICATIONS, EXCEPT THE GREEN INDICATIONS FOR THE PHASE GOVERNED BY THE APPROACHING EMERGENCY VEHICLE, FOLLOWED BY SELECTIVE CLEARANCES DEPENDENT UPON THE PHASE IN WHICH THE PREEMPTION OCCURS. THE GREEN INDICATIONS FOR THE PREEMPTED APPROACH SHALL REMAIN GREEN FOR THE DURATION OF SIGNAL PREEMPTION WITH RED INDICATIONS DISPLAYED FOR ALL OTHER APPROACHES.

THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, DURING ANY CLEARANCE INTERVAL SHALL TIME OUT ALL YELLOW AND RED INTERVALS, FOLLOWED BY THE GREEN INTERVAL OF THE PREEMPTION PHASE GOVERNED BY THE APPROACHING EMERGENCY VEHICLE.

IF THE SIGNALS HAVE BEEN ACTUATED BY A PEDESTRIAN PUSH BUTTON, AND THE SIGNAL IS SUBSEQUENTLY PREEMPTED BY AN APPROACHING EMERGENCY VEHICLE, THE PEDESTRIAN WALK (WALKING PERSON) INTERVAL SHALL TERMINATE IMMEDIATELY, FOLLOWED BY THE PEDESTRIAN CLEARANCE INTERVAL. THIS INTERVAL SHALL TIME OUT, FOLLOWED BY THE APPROPRIATE SELECTIVE CLEARANCES, BEFORE GOING INTO EMERGENCY VEHICLE PREEMPTION.

IF THE SIGNALS ARE FLASHING WHEN ACTIVATED BY AN EMERGENCY VEHICLE, ALL SIGNALS SHALL REMAIN FLASHING.

WHEN RETURNING TO NORMAL OPERATION GO TO PHASE 2+6 INTERVAL 1.

RAILROAD PREEMPTION SHALL TAKE PRECEDENCE OVER EMERGENCY VEHICLE PREEMPTION. EMERGENCY VEHICLES SHALL BE SERVED ON A "FIRST COME, FIRST SERVED" BASIS, UNLESS ANOTHER MODE OPERATION IS APPROVED BY PENNDOT. NO OTHER TYPES OR CLASSES OF VEHICLES SHALL BE PERMITTED TO PREEMPT THE TRAFFIC SIGNAL UNLESS APPROVED BY PENNDOT.

IF THE PREEMPTION EQUIPMENT HAS ENCODING CAPABILITIES FOR VEHICLE IDENTIFICATION AND THERE IS THE NEED TO ALLOW PREEMPTION BY EMERGENCY VEHICLES FROM NEARBY MUNICIPALITIES WITH DIFFERENT EMITTERS, IT IS RECOMMENDED TO HAVE THE ZERO "00" FEATURE ON TO GIVE UNCODED EMITTERS THE ABILITY TO ACTIVATE THE EMERGENCY VEHICLE PREEMPTION.

RAILROAD PREEMPTION PHASING, TIMING, AND COLOR SEQUENCE CHART

PHASE	6			4+8		
SIGNALS	21	22	23	24	25	26
1,2	R	R	R	R	R	R
3	G	Y	R	R	R	R
4	G	Y	R	R	R	R
5,6,7	R	R	R	G	Y	R
8,9	R	R	R	G	Y	R
10,11	H	H	H	H	H	H
12,13	H	H	H	H	H	H
14,15	H	H	H	H	H	H
Ⓞ Ⓞ	ON	ON	ON	ON	ON	ON
FIXED	50	5.0	4.0	***	4.0	4.0

*** FOR DURATION OF RAILROAD PREEMPTION

RAILROAD PREEMPTION NOTES

UPON ACTIVATION OF RAILROAD PREEMPTION, THE CONTROLLER WILL TERMINATE THE GREEN, MAN, OR FLASHING HAND INTERVAL OF THE CURRENT PHASE AND PROVIDE THE APPROPRIATE VEHICULAR CLEARANCE INTERVALS FOR THAT PHASE.

IF RAILROAD PREEMPTION OCCURS DURING INTERVALS 1 OR 2, SIGNALS 3 AND 4 ARE TO REMAIN GREEN.

SIGNAL TO RETURN TO PHASE 2+6 INTERVAL 1 UPON COMPLETION OF RAILROAD PREEMPTION.

IF RAILROAD PREEMPTION OCCURS DURING EMERGENCY FLASH OPERATION, THE SIGNALS SHALL REMAIN FLASHING.

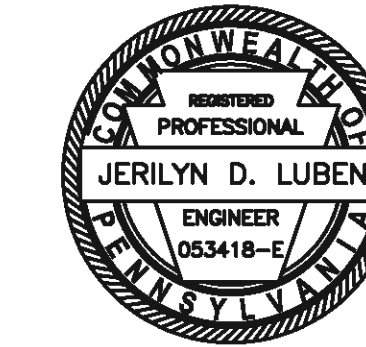
RAILROAD PREEMPTION SHALL TAKE PRECEDENCE OVER EMERGENCY VEHICLE PREEMPTION.

CONSTRUCTION NOTES:

- REPLACE ALL TRAFFIC SIGNAL EQUIPMENT
- ALL UTILITY INSTALLATIONS OR RELOCATIONS THAT ARE REQUIRED IN CONJUNCTION WITH THIS PROJECT CAN BE INSTALLED OR RELOCATED AS PART OF THE PROJECT PROVIDED THE CONSTRUCTION IS PERFORMED BY THE PROJECT CONTRACTOR OR PROJECT CONTRACTOR'S SUB-CONTRACTOR. HOWEVER, THE UTILITY MUST SUBMIT AN APPLICATION FOR THE INSTALLATION OR RELOCATION TO NS PIPE AND WIRE FOR APPROPRIATE HANDLING FOR LICENSE AGREEMENT AND APPLICABLE FEES. FOR UTILITY APPLICATIONS GO TO:
[HTTPS://WWW.NORFOLKSOUTHERN.COM/EN/RAIL-DEVELOPMENT-PROPERTY/NS-PROPERTY/PROJECTS-ON-NS-PROPERTY](https://www.norfolksouthern.com/en/rail-development-property/ns-property/projects-on-ns-property)
- NORFOLK SOUTHERN FORCES WILL PERFORM ANY WORK REQUIRED AT THE AT-GRADE CROSSINGS TO 2'-0" BEYOND THE OUTSIDE EDGE OF EACH RAIL AT SPONSOR'S EXPENSE.
- THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH NORFOLK SOUTHERN SIGNAL'S DEPARTMENT. NORFOLK SOUTHERN FORCES WILL COMPLETE ALL SIGNAL RELATED INSTALLATION WORK DURING CONSTRUCTION.

NOTE: LICENSE AGREEMENT MUST BE EXECUTED PRIOR TO UTILITY BEING INSTALLED OR RELOCATED.

PREPARED BY:
L&V Engineering, LLC

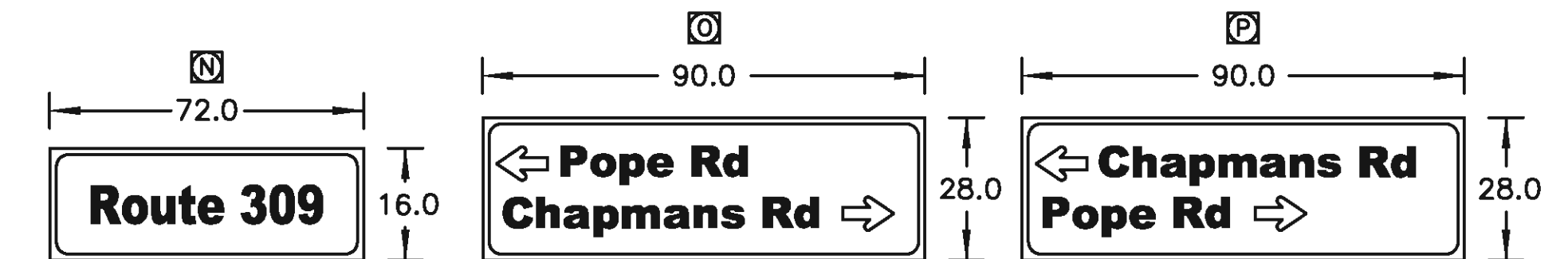


DISTRICT	COUNTY	ROUTE	SECTION	SHEET
5-0	LEHIGH	0309	14M	9 OF 26
SOUTH WHITEHALL TOWNSHIP				
REVISION NUMBER	REVISIONS	DATE	BY	APPD

TRAFFIC SIGNAL CONSTRUCTION PLAN

OVERHEAD STREET NAME SIGNS
(NOT TO SCALE)

SIGNS SHALL BE WHITE LEGEND AND BORDER ON GREEN BACKGROUND. 8" CLEARVIEW 3-W FONT LETTERING, LEGEND, BORDER AND BACKGROUND SHALL BE CLASS II REFLECTIVE MATERIAL WITH 0.8 INCH BORDER AND 2.5 INCH RADIUS ON CORNERS. ALL DIMENSIONS SHOWN IN INCHES. SIGNS O AND P LETTER SPACING TO BE REDUCED 20%.



SPACE	5.7	SPACE	5.1	SPACE	5.1	SPACE	5.1	SPACE	5.1
R	7.3	ARROW	8.2	C	5.7	ARROW	8.2	P	5.8
o	7.4	SPACE	6.0	h	5.9	SPACE	6.0	o	5.9
u	7.3	P	5.8	a	5.7	C	5.7	p	5.8
t	4.7	o	5.9	p	5.8	h	5.9	e	5.6
e	7.0	p	5.8	m	8.5	a	5.7	SPACE	6.0
SPACE	6.0	e	5.6	a	5.7	p	5.8	R	5.8
3	6.2	SPACE	6.0	n	5.9	m	8.5	d	5.8
0	7.6	R	5.8	s	4.8	a	5.7	SPACE	6.0
9	7.0	d	5.8	SPACE	6.0	n	5.9	ARROW	8.2
SPACE	5.8	SPACE	30.0	R	5.8	s	4.8	SPACE	30.0
TOTAL	72.0	d	5.8	SPACE	6.0	R	5.8	TOTAL	90.0
		ARROW	8.2	SPACE	6.0	d	5.8		
		SPACE	5.1	ARROW	8.2	SPACE	5.1		
		TOTAL	90.0	SPACE	5.1	TOTAL	90.0		

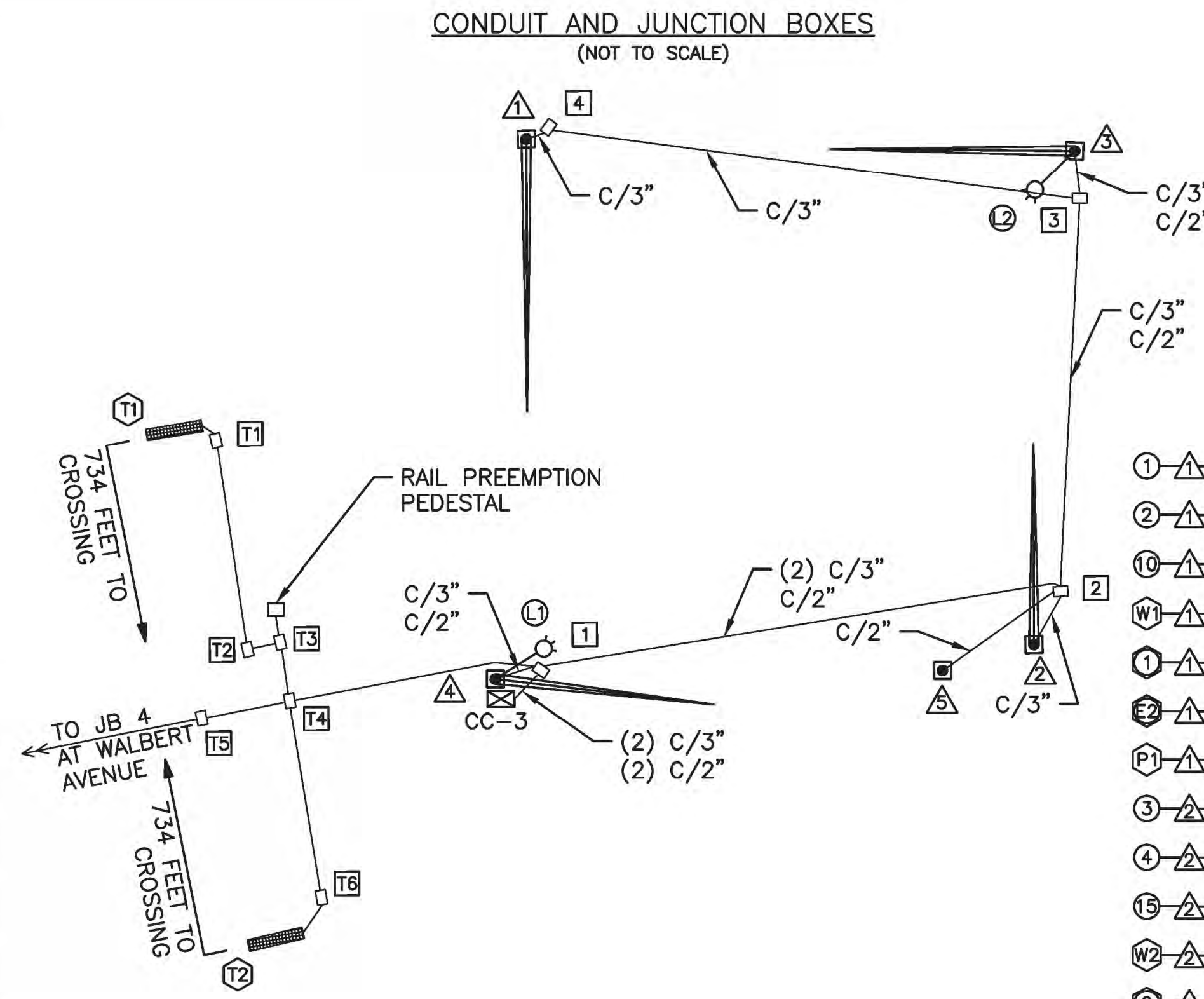
SIGN TABULATION**				
SYMBOL	SERIES	DESCRIPTION	SIZE (IN.)	QTY.
Ⓐ	R3-5A	STRAIGHT-THROUGH	30 X 36	2
Ⓞ	R3-5L	LEFT TURN	30 X 36	2
Ⓞ	R3-5R	RIGHT TURN	30 X 36	1
Ⓞ	R3-6SR	OPTIONAL RIGHT TURN	30 X 36	1
Ⓞ	R3-7R	RIGHT LANE MUST TURN RIGHT	30 X 30	2
Ⓞ	R4-7	KEEP RIGHT	24 X 30	2
Ⓞ	R9-3	NO PEDESTRIAN CROSSING	18 X 18	2
Ⓞ	R9-3BPL	USE CROSSWALK PLAQUE, LEFT	18 X 12	1
Ⓞ	R9-3BPR	USE CROSSWALK PLAQUE, RIGHT	18 X 12	1
Ⓞ	R10-3E	EDUC. PUSH BUTTON FOR WALK SIGNAL W/COUNTDOWN TIMER (L)	9 X 15	3
Ⓞ	R10-3E	EDUC. PUSH BUTTON FOR WALK SIGNAL W/COUNTDOWN TIMER (R)	9 X 15	3
Ⓞ	R10-6AL	STOP HERE ON RED (LEFT)	24 X 30	1
Ⓞ	OM1-3	OBJECT MARKER	18 X 18	2
Ⓞ	D3-4*	Route 309	72 X 16	2
Ⓞ	D3-5*	← Pope Rd/Chapmans Rd →	90 X 28	1
Ⓞ	D3-5*	← Chapmans Rd/Pope Rd →	90 X 28	1
Ⓞ	R3-1***	NO RIGHT TURN	30 X 30	1
Ⓞ	R3-2***	NO LEFT TURN	30 X 30	1

* OVERHEAD STREET NAME SIGNS TO BE STRUCTURE-MOUNTED FLAT SHEET ALUMINUM WITH STIFFENERS. OVERHEAD STREET NAME SIGNS TO CONSIST OF WHITE LEGEND AND BORDER ON GREEN BACKGROUND.
 ** ALL SIGNS TO UTILIZE REFLECTORIZED TYPE III, IV, VI, VII, VIII, IX OR X SHEETING FOR LEGEND, BORDER AND BACKGROUND.
 *** LED BLANK-OUT SIGN

County:	LEHIGH
Municipality:	SOUTH WHITEHALL TOWNSHIP
Intersection:	SR 0309 AND SR 4001 (CHAPMANS RD.)/ POPE RD.
Reviewed:	Herb Bender 4/13/2026
Municipal Official:	Date
Reviewed:	4/28/26
District Traffic Signals Div.:	Date
Recommended:	Kerry Cox 04/28/2026
District Traffic Engineer:	Date

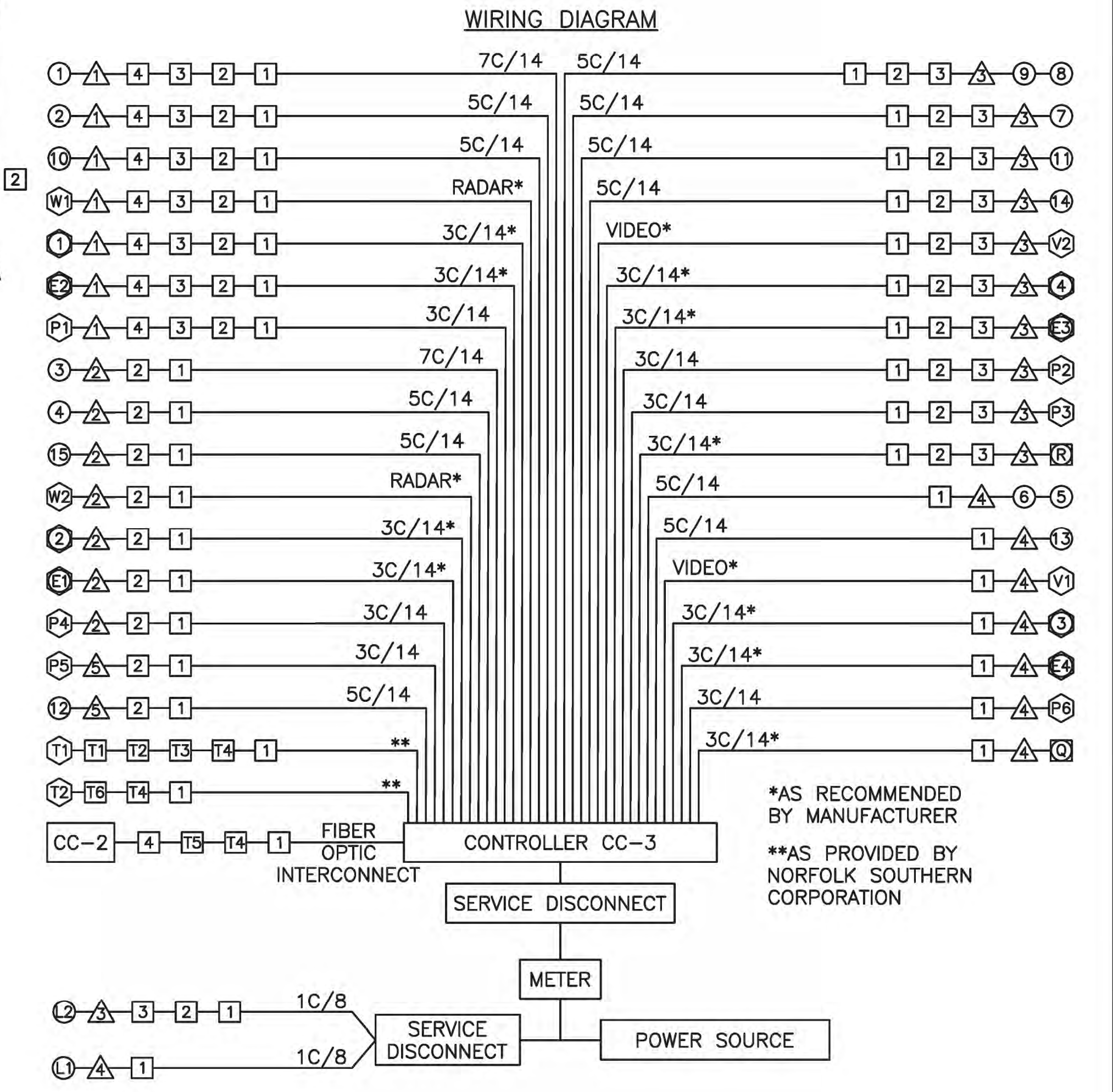
TRENCH, CONDUIT, JUNCTION BOX, ELECTRICAL ITEMS

DESCRIPTION	LOCATION	ITEM NUMBER	UNIT	0910 4116	0910 5305	0954 0012	0954 0013	0954 0151	0954 0153	0954 0201	0954 0202	0954 0203	0954 0302	4954 0403	FOR INFORMATION ONLY
AWG 8 UNDERGROUND CABLE, COPPER, 1 CONDUCTOR															
2" WATERTIGHT FLEXIBLE GALVANIZED STEEL CONDUIT															
2 INCH CONDUIT															
3 INCH CONDUIT															
TRENCH AND BACKFILL, TYPE I															
TRENCH AND BACKFILL, TYPE III															
SIGNAL CABLE, 14 AWG, 3 CONDUCTOR															
SIGNAL CABLE, 14 AWG, 5 CONDUCTOR															
SIGNAL CABLE, 14 AWG, 7 CONDUCTOR															
JUNCTION BOX, JB-27															
ELECTRICAL SERVICE, TYPE C WITH LUMINAIRES															
FIBER OPTIC CABLE (FOR INFORMATION ONLY)															
JUNCTION BOX 1															
JUNCTION BOX 2															
JUNCTION BOX 3															
JUNCTION BOX 4															
JUNCTION BOX T4															
JUNCTION BOX T5															
JB T5 TO JB T4				46				46							46
JB T4 TO JB 1				190				190							196
JB 4 TO JB 3							108		108						
JB 3 TO JB 2						79	79		79						
JB 2 TO JB 1						106	212		106						
JB 4 TO POLE 1							4		4						
JB 2 TO POLE 2							12		12						
JB 3 TO POLE 3							9		9						
JB 1 TO POLE 4							9		9						
JB 2 TO POLE 5							28		28						
L1 TO CC-3				62											
L2 TO CC-3				259											
POLE 1 TO CC-3										346	752	411			
POLE 2 TO CC-3										155	354	204			
POLE 3 TO CC-3										474	1101				
POLE 4 TO CC-3										40	156				
POLE 5 TO CC-3										171	177				
JB 1 TO CC-3															12
CC-3 ELECTRICAL SERVICE															
TOTAL				321	243	341	447	353	293	1186	2540	615	6	1	254



DISTRICT	COUNTY	ROUTE	SECTION	SHEET
5-0	LEHIGH	0309	14M	10 OF 26
SOUTH WHITEHALL TOWNSHIP				
REVISION NUMBER	REVISIONS	DATE	BY	APPD

TRAFFIC SIGNAL CONSTRUCTION PLAN



*AS RECOMMENDED BY MANUFACTURER
 **AS PROVIDED BY NORFOLK SOUTHERN CORPORATION

DETECTORS				
ITEM NUMBER	DESCRIPTION	LOCATION	SENSOR NUMBER	QTY.
0956 0500 EACH	PEDESTRIAN PUSH BUTTON	POLE Δ 1	P1	1
0956 0500 EACH	PEDESTRIAN PUSH BUTTON	POLE Δ 2	P2	1
0956 0500 EACH	PEDESTRIAN PUSH BUTTON	POLE Δ 3	P3	1
0956 0500 EACH	PEDESTRIAN PUSH BUTTON	POLE Δ 4	P4	1
0956 0500 EACH	PEDESTRIAN PUSH BUTTON	POLE Δ 5	P5	1
0956 0500 EACH	PEDESTRIAN PUSH BUTTON	POLE Δ 6	P6	1
TOTAL				6

- LEGEND
- Δ - MAST ARM/PEDESTAL
 - $\text{\textcircled{2}}$ - VEHICULAR/PEDESTRIAN SIGNAL HEAD
 - $\text{\textcircled{P2}}$ - PEDESTRIAN PUSH BUTTON
 - $\text{\textcircled{E2}}$ - FAIL-SAFE INDICATOR
 - $\text{\textcircled{E2}}$ - OPTICAL PREEMPTION DETECTOR
 - $\text{\textcircled{V2}}$ - VIDEO DETECTOR
 - $\text{\textcircled{W2}}$ - DIGITAL WAVE RADAR DETECTOR
 - $\text{\textcircled{L}}$ - LUMINAIRE
 - $\text{\textcircled{O}}$ - LED BLANK-OUT SIGN
 - $\text{\textcircled{T2}}$ - RAILROAD SENSOR
 - $\text{\textcircled{2}}$ - JUNCTION BOX
 - $\text{\textcircled{T2}}$ - RAILROAD PREEMPTION JUNCTION BOX

PREPARED BY:
 L&V Engineering, LLC

County: LEHIGH
 Municipality: SOUTH WHITEHALL TOWNSHIP
 Intersection: SR 0309 AND SR 4001 (CHAPMANS RD.)/
 POPE RD.

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
5-0	LEHIGH	0309	14M	11 OF 26
SOUTH WHITEHALL TOWNSHIP				
REVISION NUMBER	REVISIONS	DATE	BY	APPD

TRAFFIC SIGNAL CONSTRUCTION PLAN

SIGNS															
SYMBOL	SERIES	DESCRIPTION	SIZE (IN.)	QTY.	POST MOUNTED SIGNS, TYPE B		POST MOUNTED SIGNS, TYPE F		LED BLANK-OUT SIGN		STRUCTURE MOUNTED FLAT SHEET ALUMINIUM SIGNS WITH STIFFENERS		STRUCTURE MOUNTED FLAT SHEET ALUMINIUM SIGNS		
					0931 0001	SF	0935 0001	SF	0935 0350	EACH	0936 0010	SF	0936 0200	SF	
Ⓐ	R3-5A	STRAIGHT-THROUGH	30 X 36	2										15.0	
Ⓑ	R3-5L	LEFT TURN	30 X 36	2										15.0	
Ⓒ	R3-5R	RIGHT TURN	30 X 36	1										7.5	
Ⓓ	R3-6SR	OPTIONAL RIGHT TURN	30 X 36	1										7.5	
Ⓔ	R3-7R	RIGHT LANE MUST TURN RIGHT	30 X 30	2	12.5										
Ⓕ	R4-7	KEEP RIGHT	24 X 30	2	10.0										
Ⓖ	R9-3	NO PEDESTRIAN CROSSING	18 X 18	2			4.5								
Ⓗ	R9-3BPL	USE CROSSWALK PLAQUE, LEFT	18 X 12	1			1.5								
Ⓘ	R9-3BPR	USE CROSSWALK PLAQUE, RIGHT	18 X 12	1			1.5								
Ⓚ	R10-3E	EDUC. PUSH BUTTON FOR WALK SIGNAL W/COUNTDOWN TIMER (L)	9 X 15	3			*								
Ⓛ	R10-3E	EDUC. PUSH BUTTON FOR WALK SIGNAL W/COUNTDOWN TIMER (R)	9 X 15	3			*								
Ⓛ	R10-6AL	STOP HERE ON RED (LEFT)	24 X 30	1	5.0										
Ⓜ	OM1-3	OBJECT MARKER	18 X 18	2			4.5								
Ⓝ	D3-4	Route 309	72 X 16	2								16.0			
Ⓞ	D3-5	↔ Pope Rd/Chapmans Rd ↔	90 X 28	1								17.5			
Ⓟ	D3-5	↔ Chapmans Rd/Pope Rd ↔	90 X 28	1								17.5			
Ⓠ	R3-1	NO RIGHT TURN	30 X 30	1						1					
Ⓡ	R3-2	NO LEFT TURN	30 X 30	1						1					
TOTAL					27.5	12.0	2	51.0	45.0						
CALL					28	12	2	51	45						

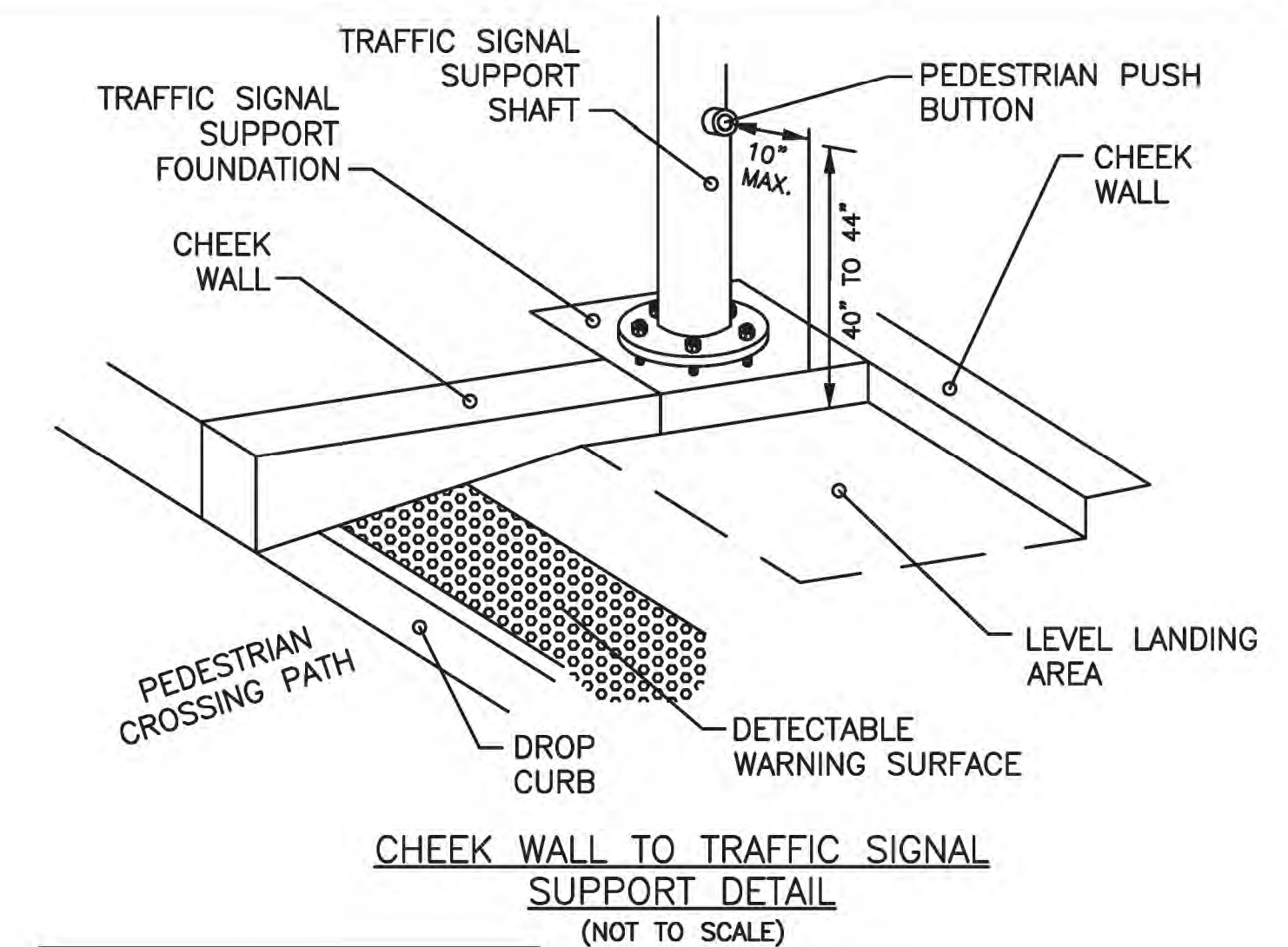
* INCLUDED WITH ITEM NUMBER 0956-0500

MISCELLANEOUS				
ITEM NUMBER	DESCRIPTION	QTY.	LOCATION	REMARKS
0910 2828 EACH	250-WATT HIGH PRESSURE SODIUM LUMINAIRE, ARM MOUNT	2		
0952 1000 EACH	TIME CLOCK	1	CC-3	TIME CLOCK, GPS
0952 1070 EACH	ADVANCED TRANSPORTATION CONTROLLER UNIT ASSEMBLY, TYPE 1 MOUNTING	1	CC-3	
0953 0404 LS	FIBER OPTIC COMMUNICATIONS SYSTEM	1	CC-2 AND CC-3	
0953 0800 EACH	RAILROAD INTERCONNECT	1	CC-3	
0954 0600 EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS)	1	CC-3	
0955 3208 EACH	VEHICULAR SIGNAL HEAD, THREE 12" SECTIONS	8	SIGNALS ① ② ④ ⑤ ⑥ ⑦ ⑧ ⑨	
0955 3209 EACH	VEHICULAR SIGNAL HEAD, FOUR 12" SECTIONS	1	SIGNAL ③	LEFT TURN SIGNAL
0955 3722 EACH	LED COUNTDOWN PEDESTRIAN SIGNAL HEAD, TYPE A	6	SIGNALS ⑩ ⑪ ⑫ ⑬ ⑭ ⑮	
0956 0611 EACH	RADAR AND VIDEO DETECTION SYSTEM	1	CC-3	
0956 0801 EACH	OPTICAL PREEMPTION SYSTEM	1	CC-3	

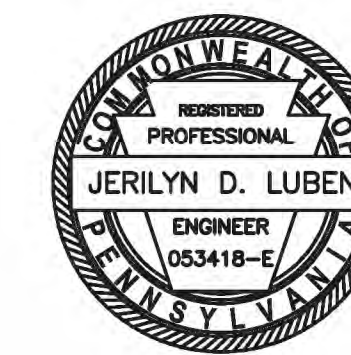
TRAFFIC SIGNAL SUPPORTS ^Δ																						
STRUCTURE NUMBER	ITEM NUMBER UNIT	DESCRIPTION	QTY.	ROUTE	STATION	SIDE	OFFSET (FT)	MAST ARM												PEDESTAL		
								H	K	SIGNALS					SIGNS					W	H	N
										M	N	O	P	Q	R	S	T	U	Y			
△	0951 0255 EACH	TRAFFIC SIGNAL SUPPORT, 55' MAST ARM, POWDER COATED	1	SR 0309	419+52	LT	56	17	10	48	37							30	0'			
△	0951 0240 EACH	TRAFFIC SIGNAL SUPPORT, 40' MAST ARM, POWDER COATED	1	SR 0309	420+56	RT	48	17	10	32	22							18	0'			
△	0951 2250 EACH	TRAFFIC SIGNAL SUPPORT, 50' MAST ARM WITH LUMINAIRE ARM (30' MOUNTING HEIGHT), POWDER COATED	1	SR 0309	420+65	LT	53	17	10	50	47	42				48		19	90'			
△	0951 2245 EACH	TRAFFIC SIGNAL SUPPORT, 45' MAST ARM WITH LUMINAIRE ARM (30' MOUNTING HEIGHT), POWDER COATED	1	SR 0309	419+46	RT	54	17	10	43	31				25		17	96'				
△	0951 4102 EACH	TRAFFIC SIGNAL SUPPORT, 10' PEDESTAL, POWDER COATED	1	SR 0309	420+28	RT	53												10	8		
△	0951 0240 EACH	TRAFFIC SIGNAL SUPPORT, 40' MAST ARM, POWDER COATED	1	SR 0309	418+52	RT	46	17							39	28	17		0'			
△	0951 0250 EACH	TRAFFIC SIGNAL SUPPORT, 50' MAST ARM, POWDER COATED	1	SR 0309	423+31	LT	43	17							46	35	24		0'			

△ - REFER TO TRAFFIC STANDARDS (TC-8800 SERIES) SIGNALS, FOR LETTER DESIGNATIONS

VERTICAL POLES AND MAST ARMS TO BE DESIGNED BY MANUFACTURER TO ADEQUATELY SUPPORT LOADS AS SHOWN ON THE PLAN OR MAXIMUM LOAD REQUIREMENTS ESTABLISHED BY AASHTO SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, WHICHEVER IS GREATER.



PREPARED BY:
L&V Engineering, LLC



County:
LEHIGH

Municipality:
SOUTH WHITEHALL TOWNSHIP

Intersection:
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POPE RD.