LOG OF BORING Signal Pole A

Hurt & Proffitt, Inc.
2524 Langhorne Road
Lynchburg, VA 24501
Telephone: (434) 847-7796
Fax: (434) 847-0047
http://www.HandP.com

CLIENT: City of Lynchburg
PROJECT: Intersection Survey
LOCATION: Campbell Avenue and Mayflower Drive
Lynchburg, Virginia

PROJECT NO. 20120644

DRILLING DETAILS:
Drilled by S. Osbeck using CME-45C and Continuous Flight Hollow Stem Augers. Boring completed 4/22/2013.

SURFACE ELEVATION: 817.0
BORING DEPTH (ft): 35.50
PROPOSED SUBGRADE ELEVATION:

GROUNDWATER DEPTH AT COMPLETION (ft):
GROUNDWATER DEPTH AFTER 24 HRS (ft):

ELEVATION (feet)	SOIL SYMBOL	DEPTH (feet)	SAMPLES	BLOW COUNT	PERCENT RECOVERY / R.Q.D.	N-value	MOISTURE CONTENT (%)	LIQUID LIMIT (LL)	PLASTIC LIMIT (PL)	PLASTICITY INDEX (PI)	MINUS NO. 200 SIEVE (%)	DESCRIPTION OF STRATUM
												6 inches of Topsoil
815		2										**FILL:** Reddish Brown Elastic Silt, contains crushed stone and cinders, moist
		3		2 2 2		4						
		5		2 1 2		3						
		6										Reddish Brown fine Sandy SILT (ML), micaceous, moist
810		7		2 2 3		5						
		9										Olive Brown fine Silty SAND (SM), micaceous, moist
		10		2 3 4		7						
805		12										
		14										Olive Gray
		15		4 6 8		14						
800		17										
		19										Reddish Brown fine Sandy SILT (ML), micaceous, moist
		20		2 2 3		5						
795		22										
		24										Olive Brown fine to medium Silty SAND (SM), vertical relict structure, moist
		25		4 9 18		27						
790		27										
		29										Olive Yellow, fine, contains manganese staining
		30		2 4 7		11						
785		32										
		34										
		35		3 4 7		11						
												Boring Terminated at 35.5 feet.

N - Standard Penetration Test Resistance (ASTM D 1586)
R.Q.D. - Rock Quality Designation

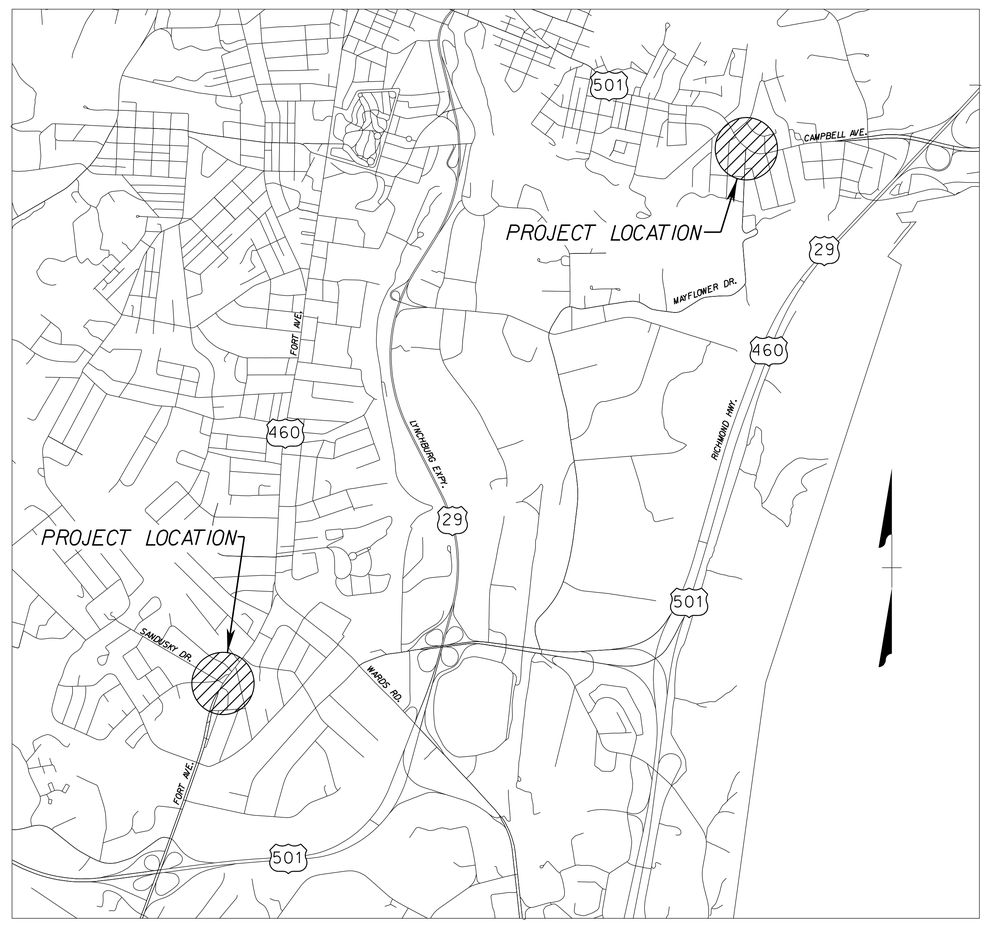
NOTES:
Cave-in at 17.5 feet

TRAFFIC SIGNALIZATION PLAN

CITY OF LYNCHBURG
SIGNAL DESIGN FOR INTERSECTION
OF MAYFLOWER AVE.& CAMPBELL AVE.
SANDUSKY DR.& FORT AVE.

INDEX OF SHEETS

SHEET NUMBER	TITLE
1	COVER SHEET
2	TOPOGRAPHICAL SURVEY (MAYFLOWER AVE.& CAMPBELL AVE.)
3	TOPOGRAPHICAL SURVEY (SANDUSKY DR.& FORT AVE.)
4	GENERAL NOTES
5	QUANTITIES
6	TRAFFIC SIGNAL PLAN (MAYFLOWER AVE.& CAMPBELL AVE.)
7	TRAFFIC SIGNAL PLAN (SANDUSKY DR.& FORT AVE.)
8	SIGNAL POLE BASE PLATE AND FOUNDATION



VICINITY MAP

NOT TO SCALE

OFFICE REVIEW SUMMARY

	35%	60%	90%	100%
PROJECT MANAGER: JH	■	■	■	■
PROJECT Q/A QIC: RMG	■	■	■	■
PROJECT ENGINEER: -	■	■	■	■
DRAFTSMAN: MAD				
DRAFTSMAN: -				

COMMONWEALTH OF VIRGINIA
R. MICHAEL GREENWOOD
Lic. No.019876
PROFESSIONAL ENGINEER

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277 DENDIX ROAD
SUITE 200
VIRGINIA BEACH, VIRGINIA
(757) 499-4224
WWW.URSCORP.COM

CITY OF LYNCHBURG
SIGNAL DESIGN FOR INTERSECTION
OF MAYFLOWER AVE.& CAMPBELL AVE.

TOPOGRAPHICAL SURVEY

PROJECT REVISIONS

DATE

ISSUE DATE:

SHEET

1

SHEET 1 OF 8

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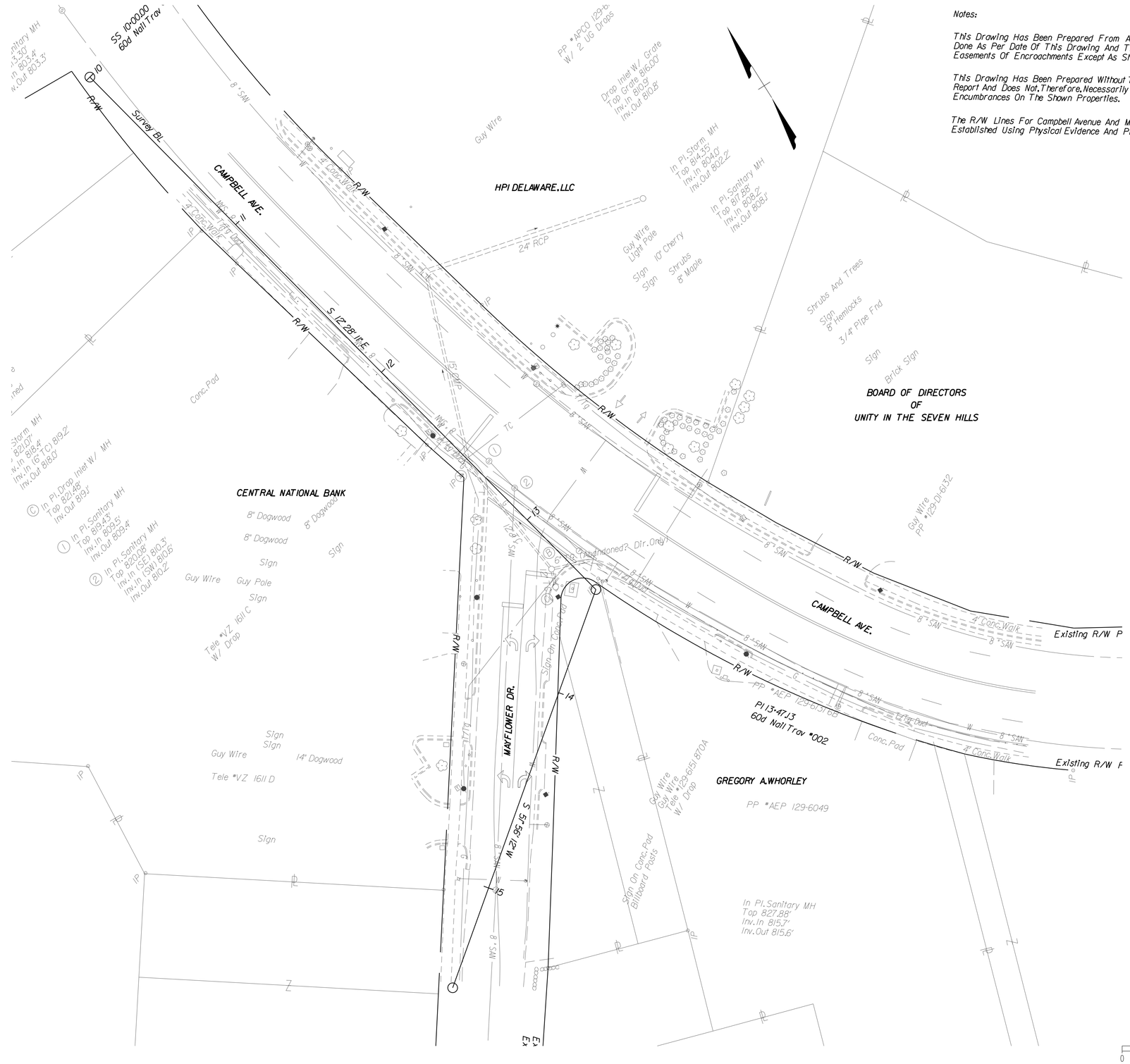
- Water Line
- Water Line Duct
- Water Valve
- Water Meter
- Water Manhole
- Fire Hydrant
- Underground Television Cable
- Underground Television Cable Duct
- Fiber Optic Cable Television
- Television Hand Hole
- Television Pedestal
- TV Manhole
- Underground Telephone Cable
- Underground Telephone Cable Duct
- Telephone Fiber Optic
- Underground Fiber Optic
- Underground Fiber Optic Duct
- Fiber Optic Marker
- Telephone Pedestal
- Telephone Manhole
- Telephone Pole
- Telephone Hand Hole
- Underground Traffic Control
- Underground Traffic Control Duct
- Traffic Control Fiber Optic
- Traffic Control Hand Hole
- Traffic Control Manhole
- Traffic Signal Pole
- Underground Power Cable
- Underground Power Cable Duct
- Power Pole
- Electric Box
- Electric Manhole
- Combination Pole
- Light Pole
- Electric Meter
- Electric Hand Hole
- Gas Line
- Gas Line Duct
- Gas Manhole
- Gas Valve
- Gas Meter
- Gas Well
- Sanitary Force Main
- Gravity Sewer
- Sanitary Manhole
- Sewer Clean Out
- Storm Manhole
- Rail Road Signal / Gate
- Rail Road Telephone Pole
- Utility End Point
- Vacuum Sewer
- Fuel Line (above or below ground)
- Chemical Line (above or below ground)
- Unknown Utility Line
- (DATUR) Depicted According To Utility Records
- (AATUR) Abandoned According To Utility Records
- (AAIFI) Abandoned According To Field Inspection



Notes:

This Drawing Has Been Prepared From An Actual Field Survey Done As Per Date Of This Drawing And There Are No Visible Easements Of Encroachments Except As Shown.

This Drawing Has Been Prepared Without The Benefit Of A Title Report And Does Not, Therefore, Necessarily Indicate All Encumbrances On The Shown Properties.

The R/W Lines For Campbell Avenue And Mayflower Drive Were Established Using Physical Evidence And Plats Of Record.

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35% 60% 90%	100%	
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DRAFTSMAN: -		

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CITY OF LYNCHBURG
SIGNAL DESIGN FOR INTERSECTION
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TOPOGRAPHICAL SURVEY

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SHEET
2

SHEET 2 OF 8

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W	Water Line
W Duct	Water Line Duct
	Water Valve
	Water Meter
	Water Manhole
	Fire Hydrant
CATV	Underground Television Cable
CATV Duct	Underground Television Cable Duct
CAFO	Fiber Optic Cable Television
	Television Hand Hole
	Television Pedestal
	TV Manhole
T/Tg	Underground Telephone Cable
T/Tg Duct	Underground Telephone Cable Duct
TFO	Telephone Fiber Optic
FO	Underground Fiber Optic
FO Duct	Underground Fiber Optic Duct
	Fiber Optic Marker
	Telephone Pedestal
	Telephone Manhole
	Telephone Pole
	Telephone Hand Hole
TC	Underground Traffic Control
TC Duct	Underground Traffic Control Duct
TCFO	Traffic Control Fiber Optic
	Traffic Control Hand Hole
	Traffic Control Manhole
	Traffic Signal Pole
E	Underground Power Cable
E Duct	Underground Power Cable Duct
	Power Pole
	Electric Box
	Electric Manhole
	Combination Pole
	Light Pole
	Electric Meter
	Electric Hand Hole
G	Gas Line
G Duct	Gas Line Duct
	Gas Manhole
	Gas Valve
	Gas Meter
	Gas Well
SFM	Sanitary Force Main
S	Gravity Sewer
	Sanitary Manhole
	Sewer Clean Out
	Storm Manhole
	Rail Road Signal / Gate
	Rail Road Telephone Pole
	Utility End Point
VS	Vacuum Sewer
FUEL	Fuel Line (above or below ground)
CHEM	Chemical Line (above or below ground)
Unk	Unknown Utility Line
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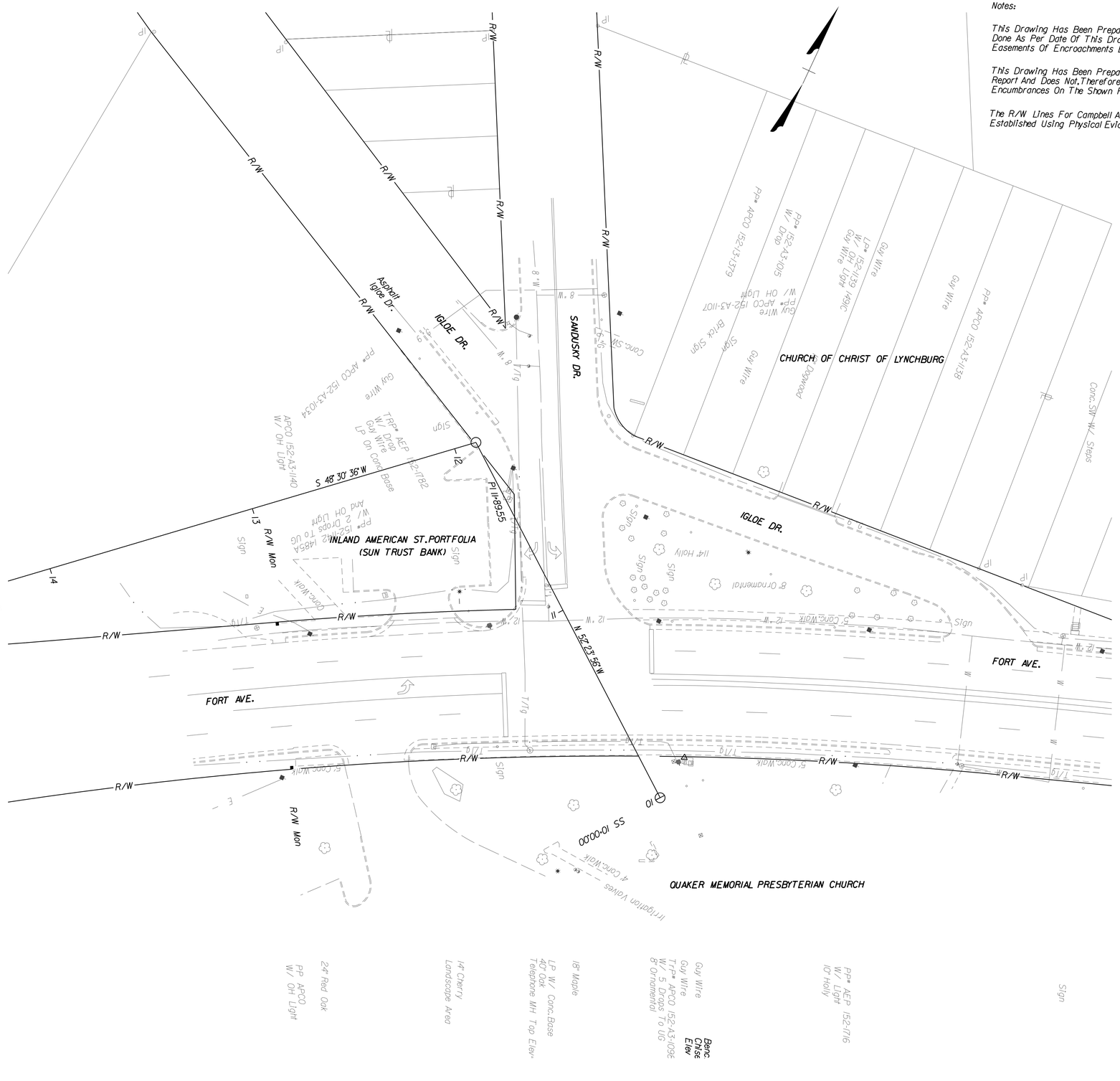

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SCALE
0 25' 50'

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PROJECT ENGINEER:	-	
35% 60% 90%	100%	
DRAFTSMAN: MAD		
DRAFTSMAN: -		

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CITY OF LYNCHBURG
SIGNAL DESIGN FOR INTERSECTION
OF FORT AVE.& SANDUSKY DR.

TOPOGRAPHICAL SURVEY

PROJECT REVISIONS	DATE

ISSUE DATE:

SHEET
3

SHEET 3 OF 8

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GENERAL NOTES

1. ALL ITEMS PERTAINING TO THIS PROJECT SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH THE 2008 EDITION OF VDOT ROAD BRIDGE STANDARDS AND REVISIONS.THE 2007 VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS AND REVISIONS.THE CITY OF LYNCHBURG TRAFFIC SIGNAL STANDARD SPECIFICATIONS AND REVISIONS.THE LATEST EDITION OF THE MUTCD AND REVISIONS AND THE LATEST EDITION OF THE CITY OF LYNCHBURG DEPARTMENT OF PUBLIC WORKS DIVISION OF TRANSPORTATION SPECIFICATIONS AND REVISIONS FOR TRAFFIC CONTROL DEVICES.
   THE CONTRACTOR SHALL REFER TO THE CITY OF LYNCHBURG'S "PROJECT SPECIAL PROVISIONS" DOCUMENT FOR THE ADVANCED TRAFFIC MANAGEMENT SYSTEMS (ATMS),FOR CLARIFICATION AND REQUIREMENTS FOR MATERIALS TO BE PROVIDED UNDER THIS CONTRACT. CONSTRUCTION AND INSTALLATION SHALL BE AS STATED IN THE "PROJECT SPECIAL PROVISIONS" UNLESS OTHERWISE STATED AND DOCUMENTED BY THE ENGINEER.

2. FOR WORK WITHIN THE CITY OF LYNCHBURG'S RIGHT OF WAY,CONTACT THE FOLLOWING.

   MR.NUMAN FRANKLIN
   THE PUBLIC WORKS DEPARTMENT
   ADMINISTRATION BUILDING
   900 CHURCH STREET
   LYNCHBURG,VA 24501
   (434) 455-3931

3. PRIOR TO BEGINNING WORK THE CONTRACTOR SHALL CONTACT "MISS UTILITY OF VIRGINIA" (1-800-552-7001) IN ORDER TO DETERMINE THE EXTENT AND LOCATION OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT LIMITS.UTILITY COMPANIES SHALL BE NOTIFIED THROUGH "MISS UTILITY OF VIRGINIA" 48 HOURS IN ADVANCE OF ANY EXCAVATION WITHIN THE PROXIMITY OF THEIR UTILITIES.THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING,AT HIS OWN EXPENSE ANY EXISTING UTILITIES,PAVEMENT, CONCRETE ITEMS, PIPES,ETC.,THAT ARE DAMAGED DURING CONSTRUCTION.

4. CONTRACTOR SHALL PROVIDE AND SUBMIT A TRAFFIC CONTROL PLAN TO THE CITY TRAFFIC ENGINEER FOR APPROVAL 2 WEEKS PRIOR TO CONSTRUCTION.THE CONTRACTOR SHALL FURNISH ALL LABOR,MATERIALS,TOOLS, AND EQUIPMENT TO PERFORM ALL WORK AND SERVICES NECESSARY FOR OR INCIDENTAL TO THE COMPLETION OF ALL SIGNALS AS SHOWN ON THE PLANS AND AS SPECIFIED IN THE CONTRACT DOCUMENTS.CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SIGNING, DELINEATION, PAVEMENT MARKINGS AND ANY OTHER TRAFFIC CONTROL DEVICES NECESSARY TO PERFORM ALL WORK.UPON COMPLETION OF THE WORK THE CONTRACTOR SHALL IMMEDIATELY REMOVE ALL SUCH TEMPORARY TRAFFIC CONTROL DEVICES.

5. THE TRAFFIC CONTROLLER ASSEMBLY SHALL BE FULLY COMPATIBLE WITH THE CITY OF LYNCHBURG TRAFFIC MANAGEMENT SYSTEM.THE TRAFFIC CONTROLLER ASSEMBLY SHALL UPLOAD AND DOWNLOAD TIMING PLANS, REPORT STATUS OF OPERATION AND MAINTAIN SIGNAL TIMING PLANS AND SPECIAL EVENTS FROM THE CITY'S SMART TRAFFIC CENTER AT THEIR DISCRETION.

6. TRAFFIC EQUIPMENT SALVAGED AS A PART OF THIS PROJECT SHALL BE DELIVERED TO TRAFFIC OPERATIONS DURING NORMAL WORKING HOURS. CALL THE ADAM FICK AT (434) 455-4466, 48 HOURS IN ADVANCE OF DELIVERING SALVAGED EQUIPMENT.THE DELIVERY ADDRESS IS 1700 MEMORIAL AVENUE,LYNCHBURG,VA 24501.

7. DISCREPANCIES BETWEEN DRAWING AND CONTRACT SPECIFICATIONS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY FOR CLARIFICATION.

8. SIGNAL POLE FOUNDATIONS SHALL BE IN ACCORDANCE WITH THE STD. PF-1,EXCEPT FOR FOUNDATION SIZE AND REBAR SIZE WHICH WILL BE DESIGNED BY THE CONTRACTOR'S ENGINEER FOR CONTRACTOR SUPPLIED SIGNAL POLES.FOUNDATIONS WILL HAVE 1 ADDITIONAL 2" SPARE CONDUIT STUBBED AND CAPPED OFF FOR LUMINAIRE LIGHTING.CITY SUPPLIED SIGNAL POLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH FOUNDATIONS PROVIDED IN THESE PLANS.

9. SIGNAL POLE FOUNDATION LOCATIONS SHALL BE WITHIN 1' OF THE STATIONING SHOWN IN THE SIGNAL POLE LEGEND.THE CONTRACTOR WILL BE RESPONSIBLE FOR STAKING AND VERIFYING WITH TEST HOLE BORES ALL FOUNDATION LOCATIONS BEFORE ORDERING ANY MAST ARM STRUCTURAL ASSEMBLIES.THE LOCATION OF THE SIGNAL POLE FOUNDATIONS SHALL BE STAKED BY THE CONTRACTOR AND FIELD VERIFIED WITH THE ENGINEER PRIOR TO DIGGING THE FOUNDATIONS.

10. SIGNAL POLES SHALL BE IN ACCORDANCE WITH ST'D. MP-1. MAST ARM LENGTHS SHALL BE AS NOTED ON THE PLANS.

11. PEDESTAL POLES AND FOUNDATIONS SHALL BE IN ACCORDANCE WITH ST'D.PF-2.PEDESTAL POLES SHALL BE WIRED IN ACCORDANCE WITH ST'D.WD-4.

12. MAST ARMS SHALL BE FIELD DRILLED TO ENSURE PROPER LOCATION OF SIGNAL HEADS.

13. THE CONTROLLER CABINET FOUNDATION SHALL BE A CF-1 IN ACCORDANCE WITH THE PLANS AND SPECIAL PROVISIONS.THE LOCATION OF THE CABINET FOUNDATION SHALL BE FIELD VERIFIED WITH THE ENGINEER PRIOR TO INSTALLATION.

14. ALL SIGNAL HEADS AND PEDESTRIAN HEADS SHALL BE BLACK POLY.

15. MAST ARM SIGNALS SHALL BE MOUNTED IN ACCORDANCE WITH ST'D.SM-3. ALL BOLTS, NUTS AND WASHERS SHALL BE STAINLESS STEEL.

16. ALL SIGNAL HEADS TO HAVE FULL TUNNEL VISORS.

17. ALL PERMANENT SIGNAL HEAD DISPLAYS AND ALL PEDESTRIAN SIGNAL DISPLAYS SHALL BE LED PER CITY OF LYNCHBURG STANDARDS AND SPECIFICATIONS.

18. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED IN ACCORDANCE WITH ST'D. SMB-3 (ONE WAY).

19. NEW TRAFFIC SIGNAL HEADS AND OVERHEAD TRAFFIC SIGNAL SIGNS NOT IN USE SHALL BE COVERED WITH A DURABLE NON-TRANSPARENT COVER UPON INSTALLATION.THE CONTRACTOR SHALL MAINTAIN THE COVERS UNTIL THE TRAFFIC SIGNAL IS PLACED INTO OPERATION.

21. ALL TRAFFIC SIGNAL HEADS MOUNTED ON PEDESTRIAN POLES SHALL BE MOUNTED IN ACCORDANCE WITH SMB-1.

22. ALL PEDESTRIAN PUSH BUTTONS SHALL BE MOUNTED IN ACCORDANCE WITH ST'D PA-2.PEDESTRIAN SIGNALS SHALL BE DIRECTED TO FACE THE CROSSWALK TO WHICH IT APPLIES AND BE VISIBLE TO A PEDESTRIAN STANDING AT THE BEGINNING OF THE CROSSWALK ON EACH CORNER.

23. ALL PEDESTRIAN SIGNALS SHALL BE IN ACCORDANCE WITH STANDARD SP-9.

24. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED SUCH THAT THE LOWEST POINT ON THE SMB-3 MOUNTING BRACKET IS NOT LESS THAN 8' OR GREATER THAN 10' ABOVE THE FINISHED SIDEWALK ELEVATION.

25. THE CONTRACTOR SHALL SUBMIT AS-BUILT PLANS TO THE CITY OF LYNCHBURG TRAFFIC ENGINEER WITHIN TEN DAYS OF PROJECT COMPLETION.THE AS-BUILT PLANS SHALL BE PROVIDED TO THE CITY IN BOTH HARD COPY AND ELECTRONIC FORMAT.

26. (M)-DENOTES METAL CONDUIT.(VDC)-DENOTES VIDEO DETECTION CABLE.(EPDC)-DENOTES EMERGENCY PREEMPTION DETECTION CABLE.

27. THE CONTRACTOR SHALL LABEL ALL SPARE WIRES IN THE CONTROLLER CABINET. IN ACCORDANCE WITH SECTION 700.04(g) OF THE ROAD AND BRIDGE SPECIFICATIONS.

28. ALL JUNCTION BOXES SHALL BE ST'D JB-S2 UNLESS OTHERWISE NOTED AND THEIR LOCATION FIELD VERIFIED WITH THE ENGINEER PRIOR TO INSTALLATION.

29. JUNCTION BOX COVERS SHALL HAVE THE LETTERS "TRAF" CAST INTO THE TOP SURFACE DEPRESSION FOR ALL TRAFFIC SIGNAL RELATED JUNCTION BOXES CONTAINING CABLE WITH LESS THAN 50 VOLTS. ALL OTHER JUNCTION BOXES SHALL HAVE THE LETTERS "ELEC" CAST IN THE TOP SURFACE DEPRESSION.

30. ELECTRICAL SERVICE SHALL BE METERED AND SHALL BE INSTALLED IN ACCORDANCE WITH VDOT SE-3 TYPE B AND SE-5.THE CONTRACTOR SHALL COORDINATE SIGNAL ELECTRICAL SERVICE LOCATION WITH AEP PRIOR TO CONSTRUCTION.

31. A #8 EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN ALL NON-METALLIC CONDUIT. THE COST OF THE GROUNDING CONDUCTOR SHALL BE INCLUDED IN THE BID PRICE FOR ALL NON-METALLIC CONDUIT.

32. A JB-S3 JUNCTION BOX SHALL BE FIELD LOCATED NEAR THE CONTROLLER WITH A GROUND ROD AND A 2" CONDUIT FOR THE INSTALLATION OF THE ELECTRICAL SERVICE GROUNDING ELECTRODE.THE COST OF THE JB-2 SHALL BE INCLUDED IN THE BID PRICE FOR THIS ITEM.

33. ALL UNDERGROUND CONDUIT SHALL BE INSTALLED IN ACCORDANCE WITH VDOT STANDARD ECI-1.

34. ALL UNUSED WIRES IN THE SIGNAL HEADS SHALL BE CAPPED INDIVIDUALLY WITH CRIMP TYPE CAPS.

35. CONDUITS SHOWN ON THESE PLANS ARE DIAGRAMMATIC. ACTUAL CONDUIT RUNS SHALL CONFORM TO THE FIELD CONDITIONS.

36. ALL UNDERGROUND CONDUITS SHALL BE SLOPED TO DRAIN TO JUNCTION BOXES OR MANHOLES.IF THIS CANNOT BE ACCOMPLISHED, THEY SHALL BE PROVIDED WITH DRAINAGE TEES AT THE LOW POINTS OF CONDUIT RUNS.

37. CABLES AND CONDUCTORS IN ALL JUNCTION BOXES, MANHOLES, AND ALL EQUIPMENT ENCLOSURES SHALL BE PROVIDED WITH INDIVIDUAL TAGS (SAMPLES OF TAGS AND MARKINGS SHALL BE SUBMITTED FOR APPROVAL).

38. CONDUCTORS IN JUNCTION BOXES, MANHOLES, AND ALL EQUIPMENT ENCLOSURES SHALL BE NEATLY ARRANGED AND LACED WITH APPROVED CABLE TIES.

39. AREAS AROUND CABINETS, JUNCTION BOXES, AND MANHOLES ON SLOPES SHALL BE GRADED AS APPROVED BY THE ENGINEER.

40. THE CONTRACTOR SHALL BE RESPONSIBLE TO RETURN ALL DISTURBED AREAS,LANDSCAPING (TREES, SHRUBS, FLOWERS, ETC.) AND FENCING TO THEIR ORIGINAL STATE AT THE COMPLETION OF ALL WORK. DISTURBED AREAS SHALL BE SEEDED IN ACCORDANCE WITH SECTION 603 AND SECTION 605 OF THE SPECIFICATIONS, AND ALL COST FOR THIS ITEM SHALL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS.NO SEPARATE MEASUREMENT WILL BE MADE.

41. ALL TRAFFIC SIGNAL CABLE SHALL BE NUMBER 14 AWG, UNLESS OTHERWISE SPECIFIED. A CONTINUOUS WIRE (NO SPLICES) SHALL BE RUN BETWEEN THE CONTROLLER CABINET AND THE TERMINAL IN THE SIGNAL HEAD.

46. SIGNAL INSTALLATIONS SHALL NOT BE PLACED INTO FULL COLOR OPERATION WITHOUT PRIOR NOTIFICATION AND APPROVAL OF LYNCHBURG'S CITY TRAFFIC ENGINEERING OFFICE. A MINIMUM OF 48 HOUR ADVANCE NOTICE REQUIRED.

47. NO NEW TRAFFIC SIGNAL OPERATION IS TO BE PLACED INTO FLASHING OPERATION UNTIL THE LOCATION IS 100% COMPLETE. THIS INCLUDES ALL PAVEMENT MARKINGS. NOTIFY LYNCHBURG STC OFFICE 48 HOURS PRIOR TO PLACING TRAFFIC SIGNAL INTO FLASHING OPERATION.

48. MAINTENANCE OF THE SIGNALIZED INTERSECTIONS HARDWARE AND EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, SIGNAL TIMING AND SOFTWARE OPERATIONS SHALL BE CONTROLLED BY THE CITY OF LYNCHBURG.

49. THE CONTROLLER SHALL REST IN PHASE 2 AND 6 MINIMUM GREEN INTERVAL AND SHALL RESTART IN PHASE 2 AND 6 MINIMUM GREEN INTERVAL.

50. CONTRACTOR SHALL PROVIDE ALL RELATED HARDWARE AND SOFTWARE REQUIRED TO PROVIDE FULLY OPERATIONAL VIDEO DETECTION SYSTEM.THE VIDEO DETECTION FOR TRAVEL LANES SHALL BE DETERMINED DURING CONSTRUCTION.CONTACT TRAFFIC ENGINEERING FOR CAMERA ALIGNMENT. ALL VIDEO DETECTION ZONES SHALL BE COORDINATED AND CONFIRMED BY THE ENGINEER.

51. PEDESTRIAN PUSHBUTTONS,SHALL CONFORM TO THE CITY OF LYNCHBURG SPECIFICATIONS.

52. SIGNAL POLES,MAST ARMS AND CONCRETE FOUNDATIONS FOR CONTRACTOR SUPPLIED SIGNAL POLES SHALL BE DESIGNED TO ACCOMMODATE A 5-SECTION SIGNAL HEAD 4' FROM THE TIP (FREE END) OF THE ARM. THE SUPERLOADING OF THE STRUCTURE IS TO ACCOMMODATE FUTURE SIGNAL HEAD MODIFICATION FOR THE LEFT TURN PHASE FROM A 3-SECTION HEAD TO A 5-SECTION HEAD.

53. THE CONTRACTOR SHALL CONTACT THE ENGINEER AND THE CITY OF LYNCHBURG,DIVISION OF TRANSPORTATION TWO WEEKS PRIOR TO THE SCHEDULING OF ANY WORK REQUIRING CITY OF LYNCHBURG PERSONNEL AND/OR COORDINATION WITH THE CITY OF LYNCHBURG. AND 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY WORK.

54. FOR CITY SUPPLIED SIGNAL POLES,AFTER FABRICATION.THE EXISTING POLES AND ARM AND THE NEW POLE AND ARMS SHALL BE CLEANED AND PAINTED IN ACCORDANCE WITH SECTION 700 OF THE VDOT ROAD AND BRIDGE SPECIFICATIONS. THE COLOR SHALL MATCH VALMONT F264CY WITH A FLAT FINISH OR APPROVED EQUAL.

55. FOR CONTRACTOR SUPPLIED SIGNAL POLES THE POLE COLOR SHALL MATCH VALMONT F264CY WITH A FLAT FINISH OR APPROVED EQUAL.

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CITY OF LYNCHBURG
SIGNAL DESIGN FOR INTERSECTION
OF MAYFLOWER AVE.& CAMPBELL AVE.

GENERAL NOTES

PROJECT REVISIONS | DATE

ISSUE DATE:

SHEET
4

SUMMARY OF QUANTITIES

TRAFFIC SIGNALIZATION

SHEET NO.	(6) INSTALL CONTROLLER	ELECTRICAL SERVICE SE-3 TYPE A	ELECTRICAL SERVICE SE-5	TRAFFIC SIGNAL HEAD ASSEMBLY,3 SECTION 12",SM-3	TRAFFIC SIGNAL HEAD ASSEMBLY,5 SECTION 12",SM-3	PEDESTRIAN SIGNAL HEAD ASSEMBLY,SP-8 SMB-3	PEDESTRIAN PUSHBUTTON PA-2	PEDESTAL POLE, PF-2,10'	CONCRETE FOUNDATION, SIGNAL POLE,PF-1	CONCRETE FOUNDATION, PEDESTAL POLE,PF-2	CONCRETE FOUNDATION, CF-1	SIGNAL POLE MP-1,COMB.LUM TWO ARMS 22' & 35'	(5) INSTALL SIGNAL POLE MP-1, TWO ARMS 40' & 48'	(4) INSTALL SIGNAL POLE MP-1, ONE ARM 40'	(4) INSTALL SIGNAL POLE MP-1, ONE ARM 35'	(4) INSTALL SIGNAL POLE MP-1, ONE ARM 22'	EMERGENCY PREEMPTION DETECTOR CABLE	THERMAL DETECTION SIAMESE CABLE	INSTALL EMERGENCY (3-WAY) PREEMPTION DETECTOR W/CONFIRMATION LIGHT	INSTALL EMERGENCY (2-WAY) PREEMPTION DETECTOR WITH CONFIRMATION LIGHT	(7) THERMAL SENSOR DETECTOR	(9) THERMAL DETECTION SYSTEM	3/6 CONDUCTOR CABLE	14/2 CONDUCTOR CABLE	14/5 CONDUCTOR CABLE	14/7 CONDUCTOR CABLE	JUNCTION BOX JB-S1	JUNCTION BOX JB-S2	JUNCTION BOX JB-S3		ELECTRICAL SERVICE GROUNDING ELECTRODES 10'	TRENCH EXCAVATION EC-1	(8) UNINTERUPTIBLE POWER SUPPLY SYSTEM	1 1/4" GRS CONDUIT	3" PVC CONDUIT	4" METAL PIPE SLEEVE,BORED		(1) REMOVE/ SALVAGE EXISTING TRAFFIC SIGNAL EQUIPMENT			
	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	L.F.	L.F.	EA.	EA.	EA.	EA.	L.F.	L.F.	L.F.	L.F.	EA.	EA.	EA.		EA.	L.F.	EA.	L.F.	L.F.	L.F.		L.S.			
6	1		1	7	1	4	4	1	3	1	1	1		1	1		284	433		1	4	1	27	574	1,546	77	4		1		5	70	1	9	168	258		1			
7	1	1		6	1	4	4	2	2	2	1		1			1	375	353	1		3	1	33	365	1,118	129	3	1	1		5	122	1	11	119	276		1			
TOTALS	2	1	1	13	2	8	8	3	5	3	2	1	1	1	1	1	659	786	1	1	7	2	60	939	2,664	206	7	1	2		10	192	2	20	287	534		2			

PAVEMENT MARKINGS,MARKERS,SIGN PANELS AND MISCELLANEOUS ITEMS

SHEET NO.	TYPE B,CLASS I PAVEMENT LINE MARKING,6"	TYPE B,CLASS I PAVEMENT LINE MARKING,12"	TYPE B,CLASS I PAVEMENT LINE MARKING,24"				ERADICATION OF EXISTING PAVEMENT MARKINGS				SIGN PANEL							HYDRAULIC CEMENT CONCRETE SIDEWALK (4")	CG-12 DETECTABLE WARNING SURFACE	MAINTAINANCE OF TRAFFIC
	L.F.	L.F.	L.F.				L.F.				S.F.							S.Y.	S.Y.	L.S.
6	150	216	21				150				61							36.5	3.09	1
7	150	216	51				288				61							67.68	8.30	1
TOTAL	300	432	72				438				122							104.18	11.39	2

(1) REMOVE/SALVAGE EXISTING TRAFFIC SIGNAL EQUIPMENT-

THIS PAY ITEM SHALL BE FULL COMPENSATION TO DISMANTLE AND REMOVE ALL EXISTING TRAFFIC SIGNAL EQUIPMENT AND RELATED OVERHEAD MOUNTED TRAFFIC SIGNAL SIGNS THAT ARE NOT TO BE REUSED WITH THE PROJECT AND SHALL BE RETURNED TO THE CITY TRAFFIC CONTROL SHOP LOCATED AT 1700 MEMORIAL AVE. AND FOR ALL LABOR,TOOLS,MATERIALS,EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

(2) INSTALL EMERGENCY PREEMPTION (_-WAY) DETECTOR W/ CONFIRMATION LIGHT-

THIS PAY ITEM SHALL INCLUDE THE DISMANTLING,REMOVAL, RELOCATION AND INSTALLATION OF THE EXISTING EMERGENCY PREEMPTION SYSTEM TO THE NEW SIGNAL.THE COST SHALL INCLUDE NEW MAST ARM BRACKETS FOR MOUNTING THE OPTICAL DETECTORS,AS WELL AS ALL LABOR, TOOLS,MATERIALS,EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

(3) SIGNAL POLE MP-1,COMB.LUMIN.TWO ARMS 22' & 35'-

THIS PAY ITEM SHALL INCLUDE THE DESIGN AND INSTALLATION OF A NEW SIGNAL POLE AND FOUNDATION.SOIL BORING DATA MAY BE OBTAIN FROM THE CITY FOR THE FOUNDATION DESIGN.

(4) INSTALL SIGNAL POLE MP-1,ONE ARM

THIS PAY ITEM SHALL INCLUDE THE TRANSPORTATION, FABRICATION (SEE SHEET 8) AND INSTALLATION OF THE EXISTING SIGNAL POLE.THE COST SHALL INCLUDE TRANSPORTATION OF THE POLES FROM 1700 MEMORIAL AVENUE TO THE FABRICATOR AND TO THE SITE,AS WELL AS ALL LABOR,TOOLS,MATERIALS,EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

(5) INSTALL SIGNAL POLE MP-1,TWO ARM

THIS PAY ITEM SHALL INCLUDE THE TRANSPORTATION, FABRICATION (SEE SHEET 8) AND INSTALLATION OF THE EXISTING SIGNAL POLE.THE COST SHALL INCLUDE TRANSPORTATION OF THE POLES FROM 1700 MEMORIAL AVENUE TO THE FABRICATOR AND TO THE SITE,AS WELL AS ALL LABOR,TOOLS,MATERIALS,EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

(6) INSTALL CONTROLLER

THIS PAY ITEM SHALL INCLUDE THE TRANSPORTATION AND INSTALLATION OF THE CITY SUPPLIED CONTROLLER AND CABINET.THE COST SHALL INCLUDE TRANSPORTATION OF THE CABINET AND CONTROLLER FROM 1700 MEMORIAL AVENUE TO THE SITE,AS WELL AS ALL LABOR,TOOLS, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

(7) THERMAL SENSOR DETECTOR

THIS PAY ITEM SHALL INCLUDE TRANSPORTATION,FURNISHING AND INSTALLATION OF THE THERMAL SENSOR DETECTOR.THE THERMAL SENSOR DETECTOR SHALL BE A FLIR MODEL FC 334T AND SHALL INCLUDE MOUNTING BRACKETS.THE COST SHALL INCLUDE ALL LABOR,TOOLS,MATERIALS,EQUIPMENT,AND INCIDENTIALS NECESSARY TO COMPLETE THE WORK.

(8) UNINTERRUPTED POWER SUPPLY SYSTEM

THIS PAY ITEM SHALL INCLUDE TRANSPORTATION,FURNISHING AND INSTALLATION OF THE UNINTERRUPTED POWER SUPPLY SYSTEM (UPS).THE UPS SHALL BE A CLARY,MODEL SPI250LE AND SHALL INCLUDE (4) FOUR 12 VOLT 51 AMP HOUR BATTERIES, BATTERY CABLE,AND UPS BATTERY CABINET.THE COST SHALL INCLUDE ALL LABOR,TOOLS,MATERIALS,EQUIPMENT,AND INCIDENTIALS NECESSARY TO COMPLETE THE WORK.

(9) THERMAL DETECTION SYSTEM

THIS PAY ITEM SHALL INCLUDE TRANSPORTATION,FURNISHING AND INSTALLATION OF THE THERMAL DETECTION SYSTEM. THE THERMAL DETECTION SYSTEM SHALL BE A TRAFICON MODEL VIP 3DJS PROCESSOR AND SHALL INCLUDE A PROGRAMMING KEYPAD, PROGRAMMING MONITOR, THERMAL SENSOR INTERFACE PANEL AND Y-CABLE. THE COST SHALL INCLUDE ALL LABOR, TOOLS, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

SCALE
0 25' 50'

OFFICE REVIEW SUMMARY
PROJECT MANAGER: JH 35% 60% 90% 100%
PROJECT Q/A Q/C: RMG 35% 60% 90% 100%
PROJECT ENGINEER: - 35% 60% 90% 100%
DRAFTSMAN: MAD
DRAFTSMAN: -

COMMONWEALTH OF VIRGINIA
J. MICHAEL GREENWOOD
Lic. No.019876
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CITY OF LYNCHBURG
SIGNAL DESIGN FOR INTERSECTION
OF MAYFLOWER AVE.& CAMPBELL AVE.

QUANTITIES

PROJECT REVISIONS | DATE

ISSUE DATE:

SHEET
5
SHEET 5 OF 8

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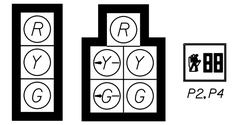
LEGEND

PLAN ITEM	PLAN SYMBOL PROPOSED	PLAN SYMBOL EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted in Signal Pole Legend)		
Span Wire		
Traffic Signal Head w/backplate		
Traffic Signal Sign		
Emergency Vehicle Pre-emption (EVP) Sensor w/Conf.Light		
Emergency Vehicle Pre-emption (EVP) Sensor		
Confirmation Light		
Junction Box (St'd.JB-S2)		
Video Detection Zone (VDZ) Size as noted on plans		
Conduit		
Electrical Service Disconnect/ Meter (TYPE SE-3)		SW
Electrical Service Disconnect/ Meter (TYPE SE-5)		
Controller Cabinet & Foundation Std.CF-4 With UPS		
Pole Mounted Controller Cabinet		
Pedestrian Signal Head		
Pedestrian Pushbutton & Sign	P.B.	
CAMERA		

SIGNALS



ALL 12" STANDARD SIGNAL HEADS WITH LED SIGNAL LAMPS. BACKPLATES AND TUNNEL VISORS ARE REQUIRED ON ALL SIGNAL HEADS UNLESS NOTED OTHERWISE.

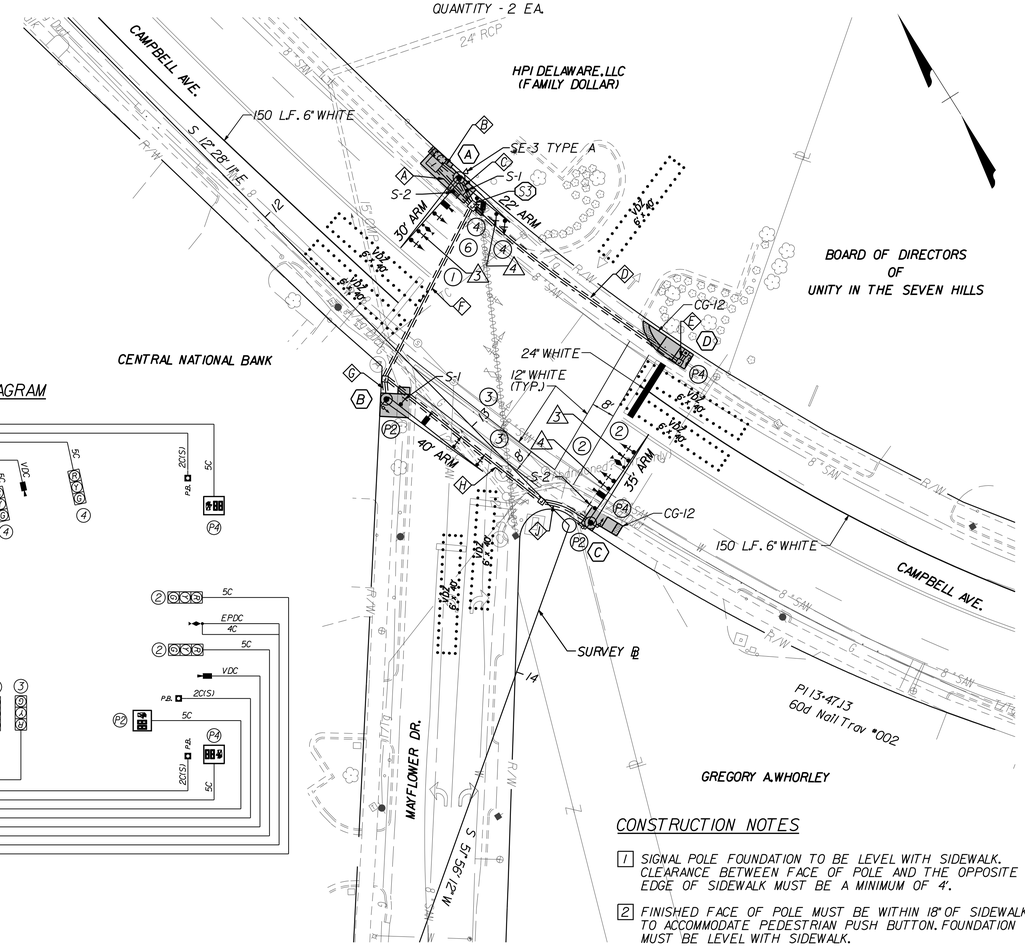
PROPOSED SIGNS

CAMPBELL AVE
S-1
(98" x 18")
QUANTITY - 2 EA.

MAYFLOWER DR
S-2
(96" x 18")
QUANTITY - 2 EA.

SIGNS MOUNTED ON MAST ARMS SHALL BE MOUNTED AS PER SMD-2

ALL OVERHEAD SIGNS SHALL BE SUPPLIED AND INSTALLED BY SIGNAL CONTRACTOR



Signal Pole Legend

(ALL DIMENSIONS ARE TO FACE OF FLANGE PLATE)

(A) SIGNAL POLE MP-1 COMBIMATION LUMINAIRE TWO ARM
(CONTRACTOR SUPPLIED)
56.3' LT. STA J2+36.5 SURVEY ⅊
22' ARM 0° ANGLE TO SURVEY ⅊
SIGNAL PLACEMENT: 9.21'
VIDEO CAMERA: 11'
SIGN PLACEMENT: 5'.17'
30' ARM 90° ANGLE TO SURVEY ⅊
SIGNAL PLACEMENT: 14'.26'
EVP: 19'
VIDEO CAMERA: 10'
SIGN PLACEMENT: 10'.23'
12' LUMINAIRE ARM 90° ANGLE TO SURVEY ⅊

(B) SIGNAL POLE MP-1
(CITY SUPPLIED)
14' RT. STA J2+73 SURVEY ⅊
40' ARM 0° ANGLE TO SURVEY ⅊
VIDEO CAMERA: 14'
SIGNAL PLACEMENT: 27'.38'
SIGN PLACEMENT: 5'

(C) SIGNAL POLE MP-1
(CITY SUPPLIED)
7.3' LT. STA J3+47 SURVEY ⅊
30' ARM 270° ANGLE TO SURVEY ⅊
SIGNAL PLACEMENT: 16'.28'
EVP: 21'
VIDEO CAMERA: 10'
SIGN PLACEMENT: 5'.12.24'

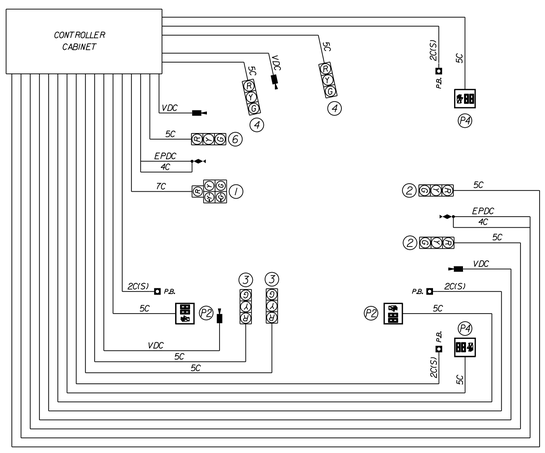
(D) PEDESTAL POLE PF-2.8'
(CONTRACTOR SUPPLIED)
69' LT. STA J3+33 SURVEY ⅊

COLOR SEQUENCE CHART

SIGNAL	PHASES 1	2	3	4	6	COMBINATIONS 1-6	2-6		FLASH
1	→G					→G			
2		G					G		Y
3			G						
4				G					
6					G	G	G		Y
P2	DW	W	DW	DW	DW	DW	W		BLANK
P4	DW	DW	DW	W	DW	DW	DW		BLANK

Empty box denotes Red Indication.

WIRING DIAGRAM



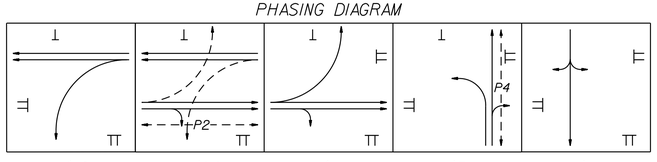
CABLE AND CONDUIT LEGEND

* (A) 2-3" PVC CONDUIT - 1-14/7c, 11-14/5c, 2-14/4c, 4-14/2c(S), 4-VDC, 2-EPDC, 1-#8 EGC
(B) 1¼" (GRS) - 3 #6 CONDUCTOR, 1-EGC (ELEC.SERVICE)
(C) 1-3" PVC CONDUIT - 1-14/7c, 3-14/5c, 2-VDC, 1-#8 EGC
(D) 1-3" BORED - 1-14/5c, 1-14/2c(S), 1-#8 EGC
(E) 1-3" PVC CONDUIT - 1-14/5c, 1-14/2c(S), 1-#8 EGC
(F) 1-4" BORED CONDUIT - 7-14/5c, 1-14/4c, 3-14/2c(S), 2-VDC, 1-EPDC, 1-#8 EGC, 1-4" BORED CONDUIT (SPARE)
(G) 1-3" PVC CONDUIT - 3-14/5c, 1-14/2c(S), 1-VDC, 1-#8 EGC
(H) 1-4" BORED CONDUIT - 4-14/5c, 1-14/4c, 2-14/2c(S), 1-VDC, 1-EPDC, 1-#8 EGC, 1-4" BORED CONDUIT (SPARE)
(J) 1-3" PVC CONDUIT - 4-14/5c, 1-14/4c, 2-14/2c(S), 1-VDC, 1-EPDC, 1-#8 EGC

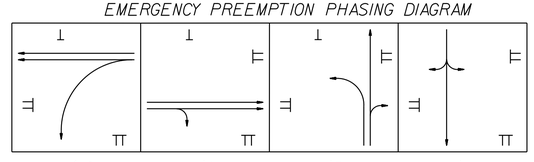
VDC - VIDEO DETECTION CABLE
EPDC - EMERGENCY PREEMPTION DETECTOR CABLE

* CONDUIT SYSTEM SHALL BE BONDED IN ACCORDANCE WITH SECTION 700 OF THE VDOT ROAD & BRIDGE SPECIFICATIONS. EQUIPMENT GROUNDING CONDUCTORS (EGC) NOTED IN THE CABLE AND CONDUIT LEGEND ARE REQUIRED ONLY IF NEEDED TO PROVIDE A BONDED SYSTEM.

PHASING DIAGRAM



EMERGENCY PREEMPTION PHASING DIAGRAM



CONSTRUCTION NOTES

1. SIGNAL POLE FOUNDATION TO BE LEVEL WITH SIDEWALK. CLEARANCE BETWEEN FACE OF POLE AND THE OPPOSITE EDGE OF SIDEWALK MUST BE A MINIMUM OF 4'.
2. FINISHED FACE OF POLE MUST BE WITHIN 18" OF SIDEWALK TO ACCOMMODATE PEDESTRIAN PUSH BUTTON. FOUNDATION MUST BE LEVEL WITH SIDEWALK.
3. CONFLICTS BETWEEN PROPOSED CONDUITS AND EXISTING UTILITIES MAY EXIST. CONTACT "MISS UTILITY" PRIOR TO ANY EXCAVATION.
4. CONTRACTOR SHALL REMOVE ALL EXISTING SPANWIRE ASSEMBLY AND CONTROLLER.
5. ALL EXISTING LUMINAIRE ARMS SHALL REMAIN IN PLACE AND OPERATIONAL.
6. THE LOCATION OF ALL SIGNAL POLES ARE APPROXIMATE AND MAY NEED TO BE FIELD ADJUSTED BASED ON THE DETERMINED LOCATION OF THE FOOTING IN CONJUNCTION WITH THE EXISTING R/W. CONTRACTOR SHALL CLEAR A LOCATION FOR EACH POLE IN CLOSE PROXIMITY TO THE LOCATION AS SHOWN. CONTRACTOR SHALL CONTACT THE CITY TRAFFIC ENGINEER TO APPROVE THE FINAL LOCATION.
7. CONTRACTOR SHALL WIDEN THE SIDEWALK AS APPLICABLE TO ACHIEVE A CLEAR WALKING DISTANCE OF 4' (FOOT) MINIMUM ADJACENT TO THE POLE. (TYP. FOR ALL POLE LOCATIONS).
8. CONTRACTOR SHALL ERADICATE ALL EXISTING CONFLICTING PAVEMENT MARKING.
9. COMBINATION LUMINAIRE MAST ARM POLES SHALL BE DESIGNED TO ACCOMMODATE LIGHTING LUMINAIRE MOUNTED 28.5' ABOVE ROADWAY SURFACE.

JUNCTION BOX LEGEND

ALL JUNCTION BOXES SHALL CONFORM TO ST'D.JB-S2 UNLESS OTHERWISE NOTED ON THE PLANS.
(S3) DENOTES ST'D.JB-S3

48 HOURS
BEFORE YOU DIG
CALL TOLL FREE
1-800-552-7001
MISS UTILITY OF VIRGINIA

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

SCALE
0 25' 50'

OFFICE REVIEW SUMMARY

PROJECT MANAGER:	JH	35% 60% 90% 100%	
PROJECT Q/A QIC:	RMG	35% 60% 90% 100%	
PROJECT ENGINEER:	-	35% 60% 90% 100%	
DRAFTSMAN:	MAD		
DRAFTSMAN:	-		

COMMONWEALTH OF VIRGINIA
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CITY OF LYNCHBURG
SIGNAL DESIGN FOR INTERSECTION
OF MAYFLOWER AVE. & CAMPBELL AVE.

TRAFFIC SIGNAL PLAN

PROJECT REVISIONS	DATE

ISSUE DATE:

SHEET
6
SHEET 6 OF 8

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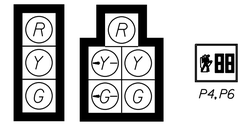
LEGEND

PLAN ITEM	PLAN SYMBOL PROPOSED	PLAN SYMBOL EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted In Signal Pole Legend)		
Span Wire		
Traffic Signal Head w/backplate		
Traffic Signal Sign		
Emergency Vehicle Pre-emption (EVP) Sensor w/Conf. Light		
Emergency Vehicle Pre-emption (EVP) Sensor		
Confirmation Light		
Junction Box (St'd.JB-S2)		
Video Detection Zone (VDZ) Size as noted on plans		
Conduit		
Electrical Service Disconnect/ Meter (TYPE SE-3)		SM
Electrical Service Disconnect/ Meter (TYPE SE-5)		
Controller Cabinet & Foundation Std.CF-4 With UPS		
Pole Mounted Controller Cabinet		
Pedestrian Signal Head		
Pedestrian Pushbutton & Sign	P.B.	
CAMERA		

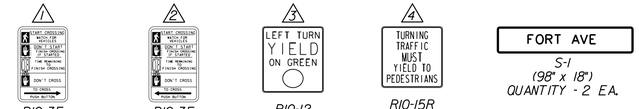
SIGNALS



ALL 12" STANDARD SIGNAL HEADS WITH LED SIGNAL LAMPS.

BACKPLATES AND TUNNEL VISORS ARE REQUIRED ON ALL SIGNAL HEADS UNLESS NOTED OTHERWISE.

PROPOSED SIGNS



1. R10-3E (9" x 15") QUANTITY - 2 EA.
2. R10-3E (9" x 15") QUANTITY - 2 EA.
3. R10-12 30" x 36"
4. R10-15R 30" x 30"

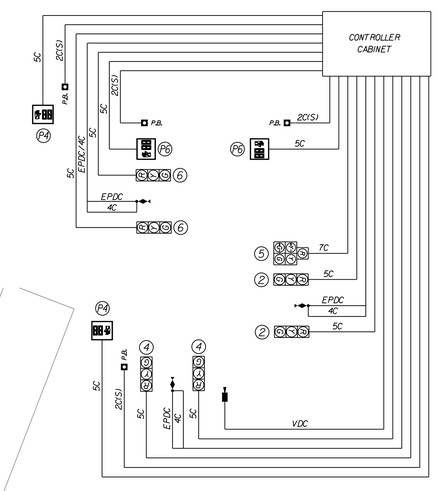
FORT AVE
S-1 (98" x 18") QUANTITY - 2 EA.

SANDUSKY DR
S-2 (96" x 18") QUANTITY - 2 EA.

SIGNS MOUNTED ON MAST ARMS SHALL BE MOUNTED AS PER SMD-2

ALL OVERHEAD SIGNS SHALL BE SUPPLIED AND INSTALLED BY SIGNAL CONTRACTOR

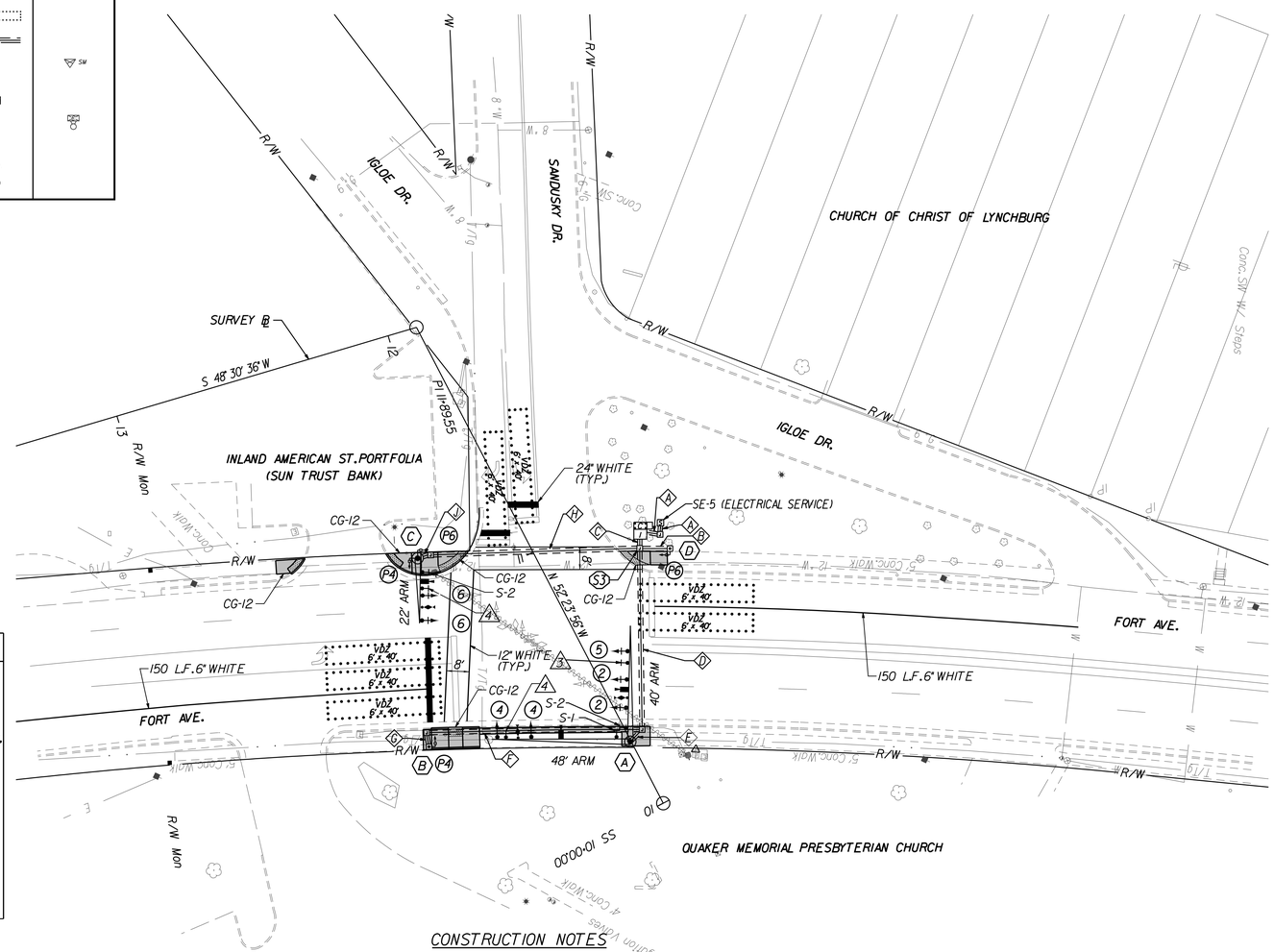
WIRING DIAGRAM



COLOR SEQUENCE CHART

SIGNAL	PHASES 2	4	5	6	COMBINATIONS 2-5	2-6		FLASH
2	G				G	G		Y
4		G						
5			→G		→G			
6				G		G		Y
P4	DW	W	DW	DW	DW	DW		BLANK
P6	DW	DW	DW	W	DW	W		BLANK

Empty box denotes Red Indication.



Signal Pole Legend

(ALL DIMENSIONS ARE TO FACE OF FLANGE PLATE)

(A) SIGNAL POLE MP-1 TWO ARM
(CITY SUPPLIED)
0.5' LT. STA 10+24.6 SURVEY ⓡ
40' ARM 270° ANGLE TO FORT AVE.
SIGNAL PLACEMENT: 11', 21', 31'
EVP: 14'
VIDEO CAMERA: 18'
SIGN PLACEMENT: 5', 27'
48' ARM 180° ANGLE TO FORT AVE.
SIGNAL PLACEMENT: 34', 46'
EVP: 40'
VIDEO CAMERA: 24'
SIGN PLACEMENT: 5'

(B) PEDESTAL POLE PF-2.8'
(CONTRACTOR SUPPLIED)
64.3' LT. STA 10+56 SURVEY ⓡ

(C) SIGNAL POLE MP-1
(CITY SUPPLIED)
37.2' LT. STA 11+16.8 SURVEY ⓡ
22' ARM 90° ANGLE TO FORT AVE.
SIGNAL PLACEMENT: 13', 21'
EVP: 18'
VIDEO CAMERA: 8'
SIGN PLACEMENT: 5'

(D) PEDESTAL POLE PF-2.8'
(CONTRACTOR SUPPLIED)
43.5' RT. STA 10+79 SURVEY ⓡ

CABLE AND CONDUIT LEGEND

* (A) 1 1/4" (GRS) - 3 #6 CONDUCTOR, 1-EGC (ELEC. SERVICE)
(B) 1-3" PVC CONDUIT - 1-14/5c, 1-14/2c(S), 1-#8 EGC
(C) 2-3" PVC CONDUIT - 1-14/7c, 10-14/5c, 3-14/4c, 4-14/2c(S), 3-VDC, 3-EPDC, 1-#8 EGC
(D) 1-4" BORED CONDUIT - 1-14/7c, 5-14/5c, 2-14/4c, 1-14/2c(S), 2-VDC, 2-EPDC, 1-#8 EGC, 1-4" BORED CONDUIT (SPARE)
(E) 1-3" PVC CONDUIT - 1-14/7c, 4-14/5c, 2-14/4c, 2-EPDC, 2-VDC, 1-#8 EGC
(F) 1-3" PVC CONDUIT - 1-14/5c, 1-14/2c(S), 1-#8 EGC
(G) 1-3" PVC CONDUIT - 1-14/5c, 1-14/2c(S), 1-#8 EGC
(H) 1-4" BORED CONDUIT - 4-14/5c, 1-14/4c, 2-14/2c(S), 1-VDC, 1-EPDC, 1-#8 EGC, 1-4" BORED CONDUIT (SPARE)
(J) 1-3" PVC CONDUIT - 4-14/5c, 1-14/4c, 2-14/2c(S), 1-VDC, 1-EPDC, 1-#8 EGC

VDC - VIDEO DETECTION CABLE
EPDC - EMERGENCY PREEMPTION DETECTOR CABLE

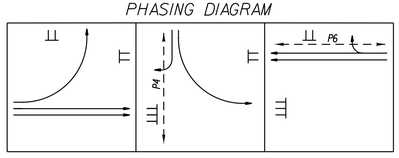
* CONDUIT SYSTEM SHALL BE BONDED IN ACCORDANCE WITH SECTION 700 OF THE VDOT ROAD & BRIDGE SPECIFICATIONS. EQUIPMENT GROUNDING CONDUCTORS (EGC) NOTED IN THE CABLE AND CONDUIT LEGEND ARE REQUIRED ONLY IF NEEDED TO PROVIDE A BONDED SYSTEM.

JUNCTION BOX LEGEND

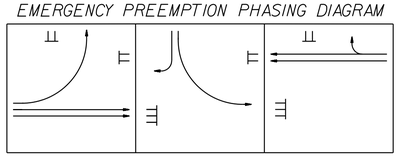
ALL JUNCTION BOXES SHALL CONFORM TO ST'D.JB-S2 UNLESS OTHERWISE NOTED ON THE PLANS.

(S3) DENOTES ST'D.JB-S3

PHASING DIAGRAM



EMERGENCY PREEMPTION PHASING DIAGRAM



CONSTRUCTION NOTES

1. SIGNAL POLE FOUNDATION TO BE LEVEL WITH SIDEWALK. CLEARANCE BETWEEN FACE OF POLE AND THE OPPOSITE EDGE OF SIDEWALK MUST BE A MINIMUM OF 4'.
2. FINISHED FACE OF POLE MUST BE WITHIN 18" OF SIDEWALK TO ACCOMMODATE PEDESTRIAN PUSH BUTTON. FOUNDATION MUST BE LEVEL WITH SIDEWALK.
3. CONFLICTS BETWEEN PROPOSED CONDUITS AND EXISTING UTILITIES MAY EXIST. CONTACT "MISS UTILITY" PRIOR TO ANY EXCAVATION.
4. CONTRACTOR SHALL REMOVE ALL EXISTING SPANWIRE ASSEMBLY AND CONTROLLER.
5. ALL EXISTING LUMINAIRE ARMS SHALL REMAIN IN PLACE AND OPERATIONAL.
6. THE LOCATION OF ALL SIGNAL POLES ARE APPROXIMATE AND MAY NEED TO BE FIELD ADJUSTED BASED ON THE DETERMINED LOCATION OF THE FOOTING IN CONJUNCTION WITH THE EXISTING R/W. CONTRACTOR SHALL CLEAR A LOCATION FOR EACH POLE IN CLOSE PROXIMITY TO THE LOCATION AS SHOWN. CONTRACTOR SHALL CONTACT THE CITY TRAFFIC ENGINEER TO APPROVE THE FINAL LOCATION.
7. CONTRACTOR SHALL WIDEN THE SIDEWALK AS APPLICABLE TO ACHIEVE A CLEAR WALKING DISTANCE OF 4' (FOOT) MINIMUM ADJACENT TO THE POLE. (TYP. FOR ALL POLE LOCATIONS).
8. CONTRACTOR SHALL ERADICATE ALL EXISTING CONFLICTING PAVEMENT MARKING.

48 HOURS
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PRELIMINARY PLANS
NOT FOR CONSTRUCTION

SCALE 0 25' 50'

OFFICE REVIEW SUMMARY
PROJECT MANAGER: JH
35% 60% 90% 100%
PROJECT Q/A QIC: RMG
35% 60% 90% 100%
PROJECT ENGINEER: -
35% 60% 90% 100%
DRAFTSMAN: MAD
DRAFTSMAN: -

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CITY OF LYNCHBURG
SIGNAL DESIGN FOR INTERSECTION
OF FORT AVE. & SANDUSKY DR.

TRAFFIC SIGNAL PLAN

PROJECT REVISIONS	DATE

ISSUE DATE:

SHEET 7

SHEET 7 OF 8

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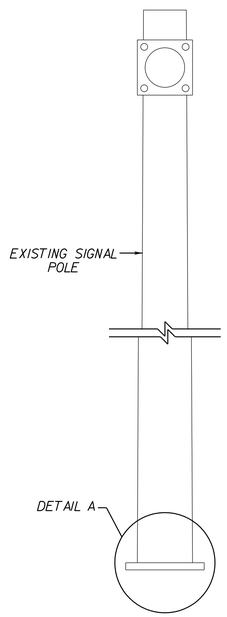
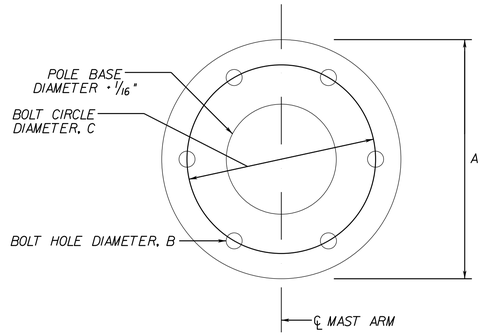
NOTES:

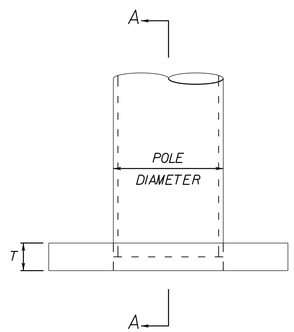
1. SPECIFICATIONS:
   CONSTRUCTION - VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) ROAD AND BRIDGE SPECIFICATIONS, 2007
   DESIGN - AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, 1994
   STANDARDS - VDOT ROAD AND BRIDGE STANDARDS, 2008
2. MATERIAL:
   STRUCTURAL STEEL - ASTM A709, GRADE 50
   HIGH STRENGTH BOLTS - ASTM A325, NUTS ASTM A563, GRADE DH, FLAT WASHERS ASTM F436
   ANCHOR BOLTS - AASHTO M314, GRADE 55
   CONCRETE - CLASS A3 (3000 PSI COMPRESSIVE STRENGTH AT 28 DAYS) AIR ENTRAINED
   REINFORCING STEEL - ASTM A615, GRADE 60
3. THE A325 BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153
4. FABRICATION AND WELDING SHALL CONFORM TO SECTION 700 OF THE VDOT ROAD AND BRIDGE SPECIFICATIONS.
5. ALL STEEL FABRICATING AND WELDING SHALL BE PERFORMED IN AN AISC CATEGORY CBR SHOP.
6. BEFORE FABRICATING THE NEW BASE PLATE, AND AFTER CUTTING THE EXISTING BASE PLATE OFF THE EXISTING POLE, THE DIAMETER OF THE BASE OF THE POLE SHALL BE VERIFIED.
7. THE DRILLED SHAFT FOUNDATION SHALL BE CAST AGAINST UNDISTURBED SOIL.
8. ANY REQUIRED CONDUIT LAYOUT IS NOT SHOWN; SEE VDOT ROAD AND BRIDGE STANDARD PF-1.
9. ANY REQUIRED GROUNDING ROD PROVISIONS ARE NOT SHOWN; SEE VDOT ROAD AND BRIDGE STANDARD PF-1.
10. CONTRACTOR SHALL COORDINATE ANCHOR BOLT PLACEMENT WITH HOLE LOCATIONS IN BASE PLATE AND ARM ORIENTATION.
11. THE NEW BASE PLATE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123.
12. THE PEACH COLORED PAINT SHALL BE REMOVED FROM THE EXISTING POLE AND SIGNAL ARM.
13. EXISTING POLES AND SIGNAL ARMS THAT DO NOT HAVE END COVERS SHALL HAVE END COVERS FABRICATED AND SECURED WITH THREE CAP SCREWS. SEE VDOT ROAD AND BRIDGE STANDARD MP-1.



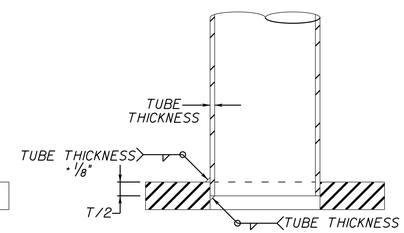
EXISTING SIGNAL POLE
Scale: 3/4" = 1'-0"



PLAN

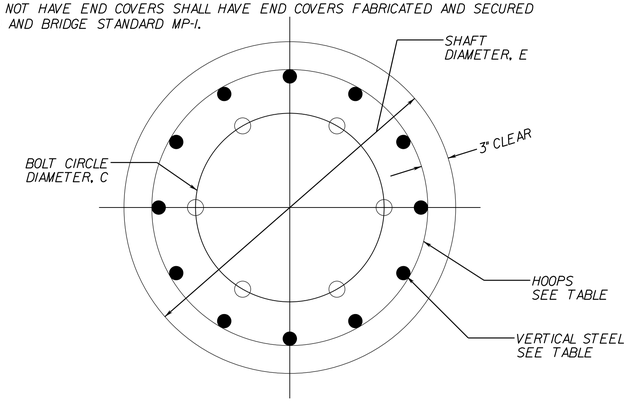


ELEVATION

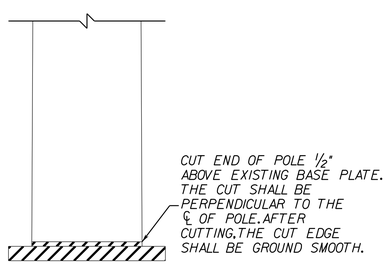


SECTION A-A

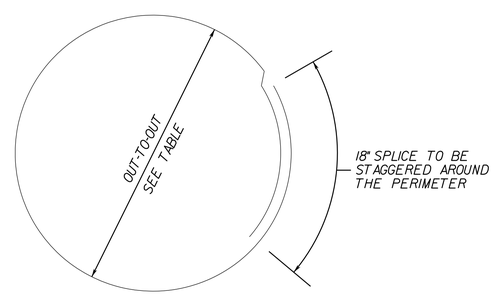
NEW BASE PLATE DETAILS
Scale: 1 1/2" = 1'-0"



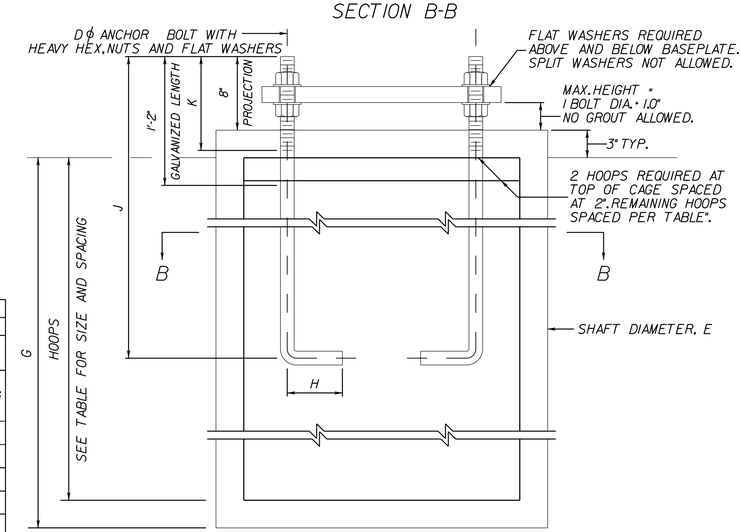
SECTION B-B



DETAIL A
Scale: 1 1/2" = 1'-0"



TRANSVERSE HOOP



DRILLED SHAFT FOUNDATION
Scale: 1 1/2" = 1'-0"

SIGNAL LOCATION	EXISTING POLE AND ARM IDENTIFICATION	SIGNAL ARM			BASE PLATE				ANCHOR BOLT				DRILLED SHAFT FOUNDATION				
															REINFORCING STEEL		
		LENGTH	NUMBER OF BOLTS REQUIRED	BOLT SIZE	DIA.	THICKNESS	BOLT CIRCLE DIA.	BOLT HOLE DIA.	DIA.	LENGTH	THREAD LENGTH	HOOK LENGTH	SHAFT DIA.	EMBEDMENT DEPTH	VERTICAL	TRANSVERSE HOOPS	
					A	T	C	B	D	J	K	H	E	G	QTY/SIZE	OUT-TO-OUT DIA.	QTY / SIZE / SPACING
		(FT.)	#	(IN.)	(IN.)	(IN.)	(IN.)	(IN.)	(IN.)	(IN.)	(IN.)	(IN.)	(IN.)	(FT.)		(in.)	
INTERSECTION AT FORT AVE. AND SANDUSKY DR.																	
STA. 10+24.6 0.5' LT	20500	40 / 48	4 / 4	*	24	2	17	1.75	1.5	78	10	6	30	13	12 / #8	24	27 / #4 / 6"
STA. 11+16.8 27.2' LT	PEACH	22	4	*	22	1.5	16.5	1.75	1.5	78	10	6	30	12	12 / #8	24	25 / #4 / 6"
INTERSECTION AT CAMPBELL AVE. AND MAYFLOWER DR.																	
STA. 12+72 14' RT	68335	40	4	*	22	1.5	16.5	1.75	1.5	78	10	6	30	12	12 / #8	24	25 / #4 / 6"
STA. 13+47 7.3' LT	68355	35	4	*	22	1.5	16.5	1.75	1.5	78	10	6	30	12	12 / #8	24	25 / #4 / 6"

* SIZE OF A325 BOLTS SHALL BE DETERMINED BASED ON THE EXISTING ARM CONNECTION DETAILS

OFFICE REVIEW SUMMARY
PROJECT MANAGER: - JEH
35% ■ 60% ■ 90% ■ 100%
PROJECT Q/A QC: -
35% ■ 60% ■ 90% ■ 100%
PROJECT ENGINEER: -
35% ■ 60% ■ 90% ■ 100%
DRAFTSMAN: - CZH
DRAFTSMAN: -

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CITY OF LYNCHBURG
SIGNAL DESIGN FOR INTERSECTIONS
OF MAYFLOWER AVE. & CAMPBELL AVE.
AND FORT AVE. & SANDUSKY DR.

BASE PLATE AND FOUNDATION

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PROJECT REVISIONS
DATE

ISSUE DATE:

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8
SHEET 8 OF 8