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DESIGN REFERE

I. Design the

DESIGN REQUIREMENTS

- requirements.

- the followina:

- NCC 750 N.

	ГЛ		1	PROJECT REFERENCE NO.		SHEET NO			
METAL POLE No. 3							Sig. 7.4		
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	MAST ARM LOADING SCHEDULE								
	loading symbol	DESCRIPTION	AREA	SIZE	WEIGHT				
	Street Name	STREET NAME SIGN RIGID MOUNTED	16.0 S.F.	24.0″ X 96.0″	36 LBS				
		RIGID MOUNTED SIGNAL HEAD 12"-3 SECTION-WITH BACKPLATE	9.3 S.F.	25.5″ X 52.5″	60 LBS				
	1	SIGN RIGID MOUNTED	5.0 S.F.	24.0″ X 30.0″	11 LBS				
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		NOTES							
EI	NCE MATERI	AL							
		gnalstructure and foundation in ac 3 AASHTO "Standard Specifications f				s for Hi	ghway		

• The 6th Edition 2013 AASHTO "Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, including all of the latest interim revisions. • The 2018 NCDOT "Standard Specifications for Roads and Structures." The latest addenda to the specifications can be found in the traffic signal project special provisions.

• The 2018 NCDOT Roadway Standard Drawings. • The traffic signal project plans and special provisions.

• The NCDOT "MetalPole Standards" located at the following NCDOT website:

https://connect.ncdot.gov/resources/safety/Pages/ITS-Design-Resources.aspx

2. Design the traffic signalstructure using the loading conditions shown in the elevation views. These are anticipated worst case "design loads" and may not represent the actual loads that will be applied at the time of the installation. The contractor should refer to the traffic signal plans for the actual loads that will be applied at the time of the installation. 3. Design all signal supports using stress ratios that do not exceed 0.9.

4. The camber design for the mast arm deflection should provide an appearance of a low pitched arch where the tip or the free end of the mast arm does not deflect below horizontal when fully loaded.

5. A clamp-type bolted mast arm-to-pole connection may be used instead of the welded ring stiffened box connection shown as long as the connection meets all of the design

6. Design base plate with 8 anchor bolt holes. Provide 2 inch x 60 inch anchor bolts. 7. The mast arm attachment height (H1) shown is based on the following design assumptions: a. Mast arm slope and deflection are not considered in determining the arm attachment height as they are assumed to offset each other.

b. Signalheads are rigidly mounted and vertically centered on the mast arm.

c. The roadway clearance height for design is as shown in the elevation views.

d. The top of the pole base plate is 0.75 feet above the ground elevation.

e. Refer to the Elevation Data Chart for the elevation differences between the proposed foundation ground leveland the high point of the roadway.

8. The pole manufacturer will determine the total height (H2) of each pole using the greater of

• Mast arm attachment height (H1) plus 2 feet, or

• H1 plus 1/2 of the total height of the mast arm attachment assembly plus 1 foot. 9. If pole location adjustments are required, the contractor must gain approval from the Engineer as this may affect the mast arm lengths and arm attachment heights. The contractor may contact the SignalDesign Section Senior StructuralEngineer for assistance at (919) 814-5000.

10. The contractor is responsible for verifying that the mast arm length shown will allow proper positioning of the signalheads over the roadway.

11. The contractor is responsible for providing soil penetration testing data (SPT) to the pole manufacturer so site specific foundations can be designed.

All metal poles and arms should be Black in color and Fluted in design as specified in the project special provisions. Obtain approval from the Engineer prior to pole fabrication.

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LOCOLOGICAL CONSCIENCE OF THE	SR 1009 (S. Main Street) at US 29 SB Ramps			SEAL OFESSION SEAL 045256		
A TRANSPORT		lford County	High Point	A AND WEEK A		
Design Sect	PLAN DATE: June 20		Thompson	NOAN A FHR		
Greenfield Pkwy.Garner.NC 27529	PREPARED BY: BA Leh	nan REVIEWED BY:		DocuSigned by:		
SCALE O N / A	REVISIONS	() 	IIT. DATE	Brendan Lehan Signature Date SIG. INVENTORY NO. 07-1585		