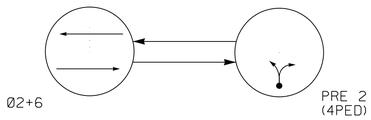
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-5783 | Sig 6.0 |

# 2 Phase Semi-Actuated w/ Emergency Vehicle Preemption (Isolated)

## PHASING DIAGRAM




PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

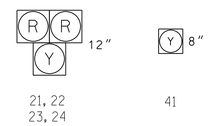
## TABLE OF OPERATION

| SIGNAL FACE | PHASE | | | | | |
|---|---|---|---|---|---|---|
| | Ø2+6 DARK | ACTIVATION | STEADY YELLOW | STEADY RED | Ø4 EVP 2 | FLASH |
| 21, 22 | DRK | FY | Y | R | FR* | Y |
| 23, 24 | DRK | FY | Y | R | FR* | Y |
| 41,42 | DRK | DRK | DRK | DRK | FY | DRK |

* - Alternating Flash
Y - Steady Yellow
FY - Flashing Yellow
R - Steady Red
FR - Flashing Red
DRK - Dark

## SIGNAL FACE I.D.

All Heads L.E.D.




## MAXTIME PREEMPTION CHART

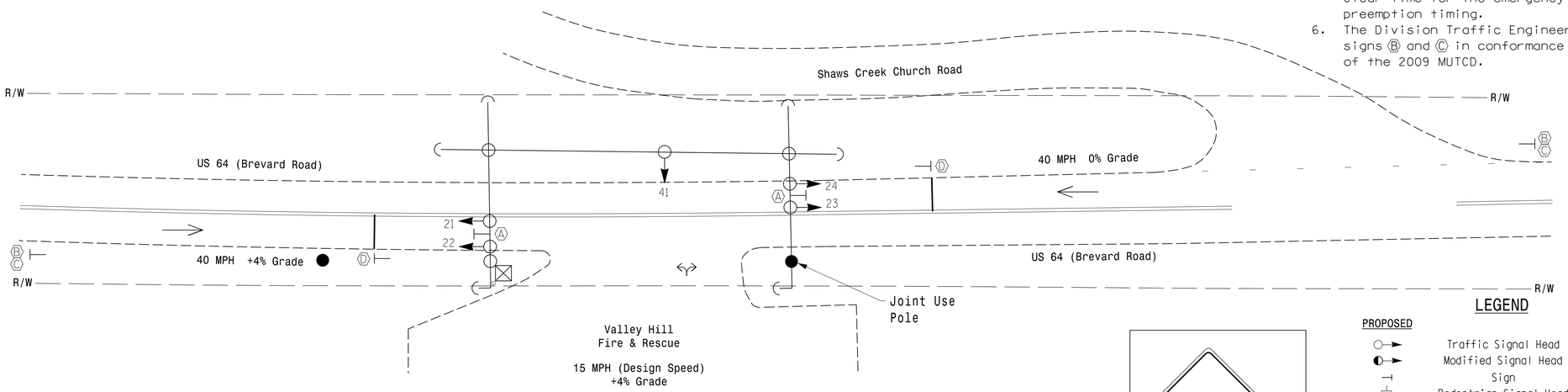
| FUNCTION | PRE 2 |
|---|---|
| Type | EMERG VEH |
| Exit Phases | 2 |
| Delay | ** |
| Max Presence | 120 |
| Enter Min Green | 1 |
| Enter Walk | 255 * |
| Enter Ped Clear | 255 * |
| Enter Yellow Change | 25.5 * |
| Enter Red Clear | 25.5 * |
| Track Green | – |
| Track Yellow Change | 25.5 * |
| Track Red Clear | 25.5 * |
| Dwell Green | 0 |
| Exit Min Green | 255 * |
| Exit Yellow Change | 25.5 * |
| Exit Red Clear | 25.5 * |
| Dwell Extend Time | – |
| Exit Type | EXIT PHASES |
| Ped Clear Through Yellow | – |
| Require All Red Entry | – |

* Directs controller to use default phase timing.

** See Note 5.

## NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
4. Locate emergency vehicle preemption switch in Valley Hill Fire & Rescue Station #4. Route necessary cabling from controller cabinet to pushbutton switch via paved trench. Coordinate actual location with fire station personnel.
5. The Division Traffic Engineer will determine the Delay before Preempt and the phase 4 Ped Clear time for the emergency vehicle preemption timing.
6. The Division Traffic Engineer shall locate signs Ⓑ and Ⓒ in conformance with section 2C of the 2009 MUTCD.



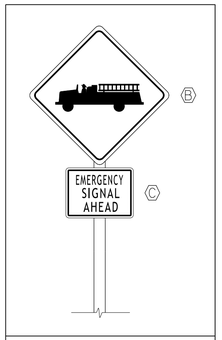




Figure 1

## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | Traffic Signal Head | |
| | Modified Signal Head | N/A |
| | Sign | |
| | Pedestrian Signal Head With Push Button & Sign | |
| | Signal Pole with Guy | |
| | Signal Pole with Sidewalk Guy | |
| | Inductive Loop Detector | |
| | Controller & Cabinet | |
| | Junction Box | |
| | 2-in Underground Conduit | |
| N/A | Right of Way | |
| | Directional Arrow | |
| Ⓐ | "EMERGENCY SIGNAL STOP ON FLASHING RED" Sign (R10-14A) | Ⓐ |
| Ⓑ | Emergency Vehicle Sign (W11-8) (See Figure 1) | Ⓑ |
| Ⓒ | "EMERGENCY SIGNAL AHEAD" Sign (W11-12P) (See Figure 1) | Ⓒ |
| Ⓓ | "STOP HERE ON FLASHING RED" Sign (R10-14b) | Ⓓ |

## MAXTIME TIMING CHART

| FEATURE | PHASE 2 | PHASE 4 | PHASE 6 |
|---|---|---|---|
| Walk * | – | 0 | – |
| Ped Clear * | – | ** | – |
| Min Green | 10 | 7 | 10 |
| Passage * | – | – | – |
| Max 1 * | 30 | 30 | 30 |
| Yellow Change | 4.2 | 3.0 | 4.2 |
| Red Clear | 3.6 | 3.6 | 3.6 |
| Added Initial * | – | – | – |
| Maximum Initial * | – | – | – |
| Time Before Reduction * | – | – | – |
| Time To Reduce * | – | – | – |
| Minimum Gap | – | – | – |
| Advance Walk | – | – | – |
| Pre Clearance | 5.0 | – | 5.0 |
| Non Lock Detector | – | – | – |
| Vehicle Recall | MIN RECALL | – | MIN RECALL |
| Dual Entry | – | – | – |

Serves as Preempt Dwell Time

Serves as Steady Yellow Clearance Time

Serves as All Red Clearance Time

Serves as Flashing Yellow Interval

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

** See Note 5.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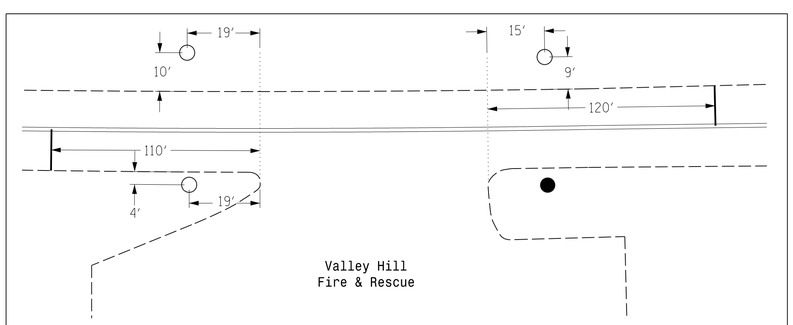


PROPOSED POLE AND STOPBAR LOCATIONS

New Installation

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared for the Offices of:
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

# US 64 (Brevard Road) at Valley Hill Fire & Rescue

Division 14 Henderson County Laurel Park

| | | | |
|---|---|---|---|
| PLAN DATE: | October 2023 | REVIEWED BY: | JB Voso |
| PREPARED BY: | KG Eudy | REVIEWED BY: | |

SCALE 0 20 1"=20'

| REVISIONS | INIT. | DATE |
|---|---|---|
| | | |

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022599 ENGINEER JAMES B. VOSO
DocuSigned by: James Voso 140FD6037BE041F
4/1/2024
DATE

SIG. INVENTORY NO. 14-1304


2:21:16 PM
2/5/2024
jbvoso
U-5783 US 64 Widening (U-5783)#06 U:\5783\Traffic\Signals\Design\Signals\14-1304 (Fire Station)\U5783_14130A.dgn