STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	SR-5001CD	1	

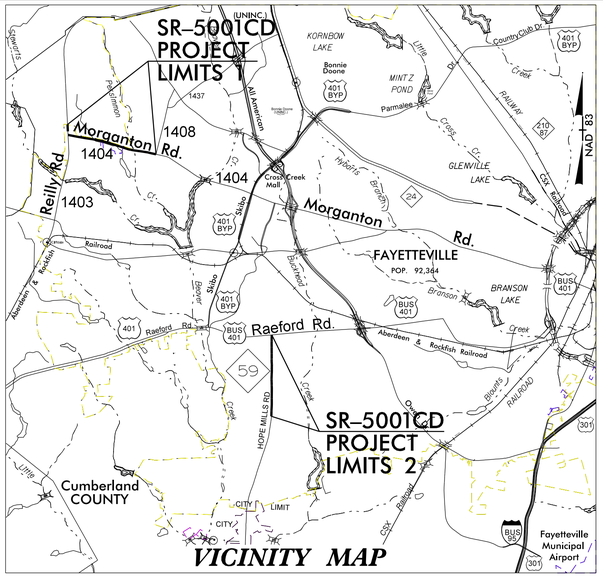
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
40924.1.F41	SRS-0620(29)	PE
40924.3.F80	SRS-0620(29)	CONSTRUCTION

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY

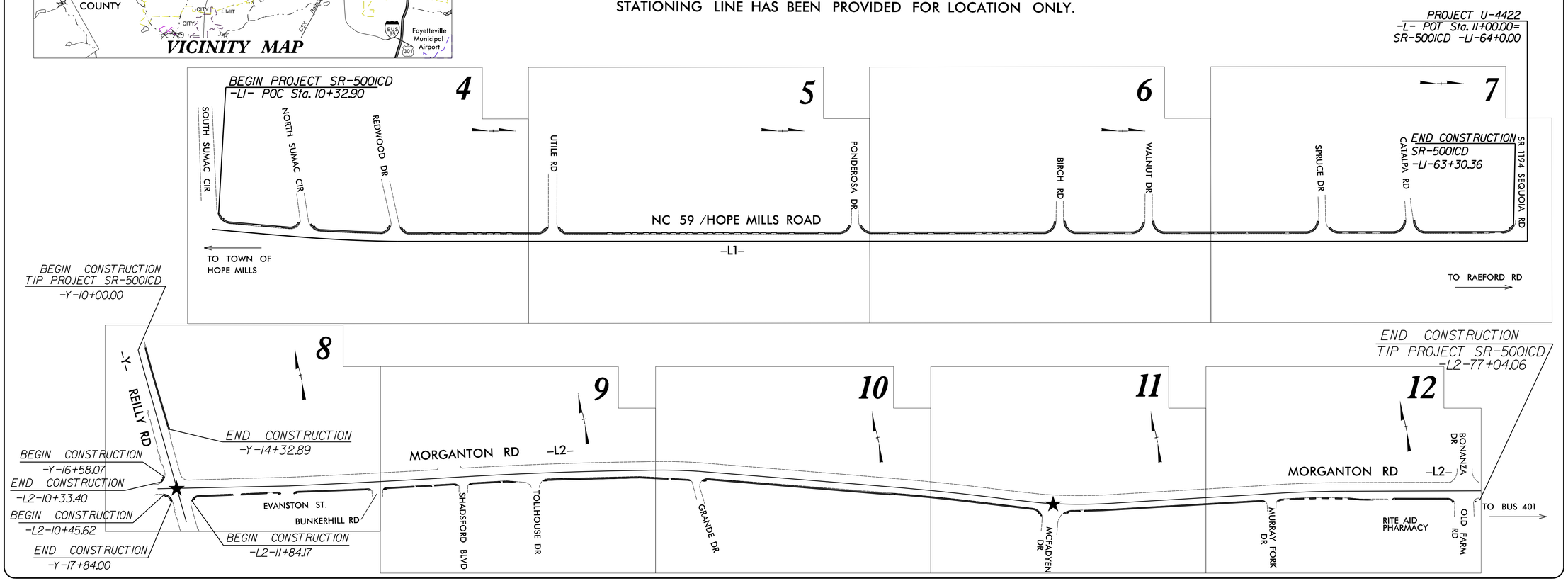
LOCATION: NC 59 (HOPE MILLS RD) FROM SR 1270 (SOUTH SUMAC CIR.) TO SR 1194 (SEQUOIA RD) AND SR 1404 (MORGANTON ROAD) FROM SR 1403 (REILLY RD) TO SR 1408 (BONANZA DR)

TYPE OF WORK: PAVING, SIDEWALK, SIGNALS AND PAVEMENT MARKINGS



VICINITY MAP

NOTE: ALL STATIONS ON THIS PROJECT ARE APPROXIMATE BECAUSE THERE IS NO HORIZONTAL OR VERTICAL CONTROL. A STATIONING LINE HAS BEEN PROVIDED FOR LOCATION ONLY.



PROJECT: 40924.3.F80

GRAPHIC SCALES	DESIGN DATA	PROJECT LENGTH	
50 25 0 50 100 PLANS	ADT 2010 = 29,000 ADT 2030 = 46,000 V = 45 MPH	LENGTH ROADWAY PROJECT = 2.25 MILES	

Prepared in the Office of:
DIVISION OF HIGHWAYS
431 TRANSPORTATION DR., FAYETTEVILLE NC,28301

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: N/A

LETTING DATE: MARCH 20, 2015

SEAN MATUSZEWSKI
PROJECT ENGINEER

RICK HANDLIN
PROJECT DESIGN ENGINEER

09/08/99
18-FEB-2015 09:25
H:\DOC\Projects\SR-5001CD Fayetteville Sidewalk (safe routes to school)\Roadway\Title Sht_ Typ Sht_ Sum Sht\SR-5001CD_rdy_tsh.dgn
$$$$USERNAME$$$$

12/05/11

PROJECT REFERENCE NO.	SHEET NO.
SR-5001CD	1B

Note: Not to Scale

****S.U.E. = Subsurface Utility Engineering***

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

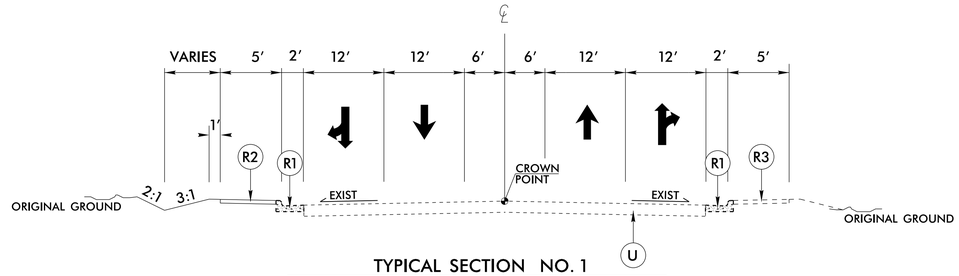
- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

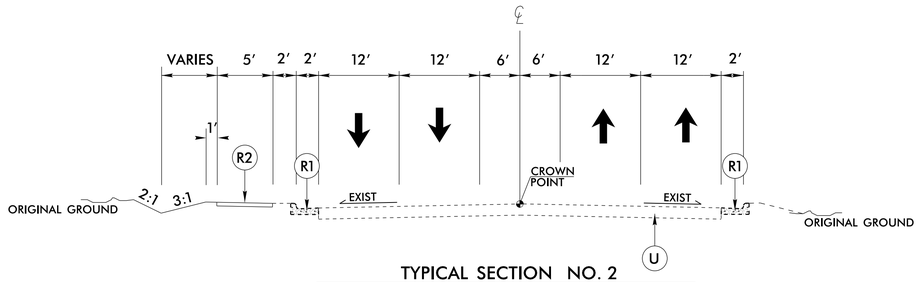
MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.



TYPICAL SECTION NO. 1

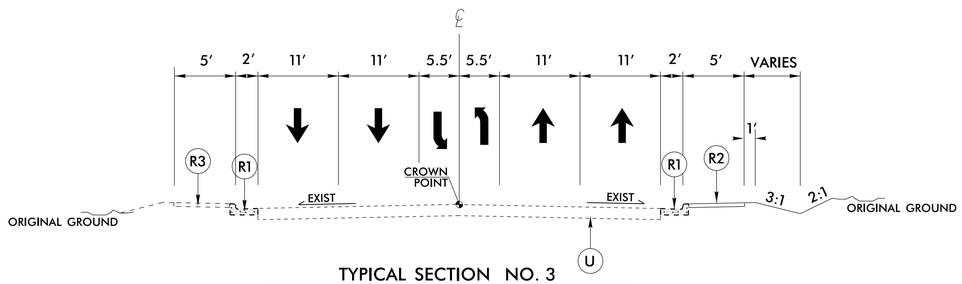
–L1– STA. 10+32.90 TO STA –L1– 63+30.36



TYPICAL SECTION NO. 2

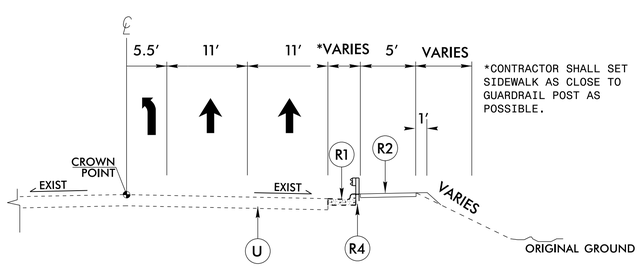
–Y– STA. 10+00.00 TO STA –Y– 14+32.89

–Y– STA. 16+58.07 TO STA –Y– 17+84.00



TYPICAL SECTION NO. 3

–L2– STA. 10+33.40 TO STA –L2– 77+04.06

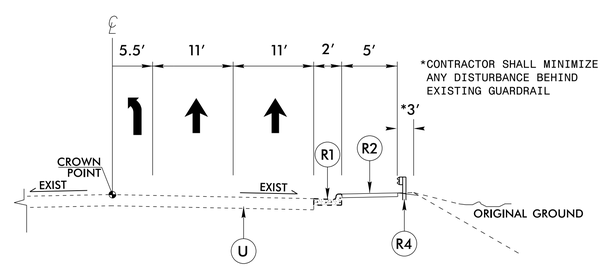


TYPICAL SECTION NO. 4

–L2– STA. 38+10.00 TO STA –L2– 42+90.00

–L2– STA. 43+23.00 TO STA –L2– 44+88.00

–L2– STA. 45+20.00 TO STA –L2– 51+60.00



TYPICAL SECTION NO. 5

–L2– STA. 58+23.00 TO STA –L2– 63+40.00

NOTE*

CONTRACTOR SHALL MILL 1.5" OF ASPHALT AND REPLACE WITH 1.5" OF ASHPALT SURFACE COURSE TYPE S9.5B AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. AT TWO LOCATIONS ON SR 1004 (MORGANTON RD.).
1) INTERSECTION OF MORGANTON
AND
2) REILLY AND INTERSECTION OF MORGANTON AND MCFAYDEN.
3) SEE SHEET 8 & 11 FOR MILLING AND PAVING LIMITS.

PAVEMENT SCHEDULE

R1	EXISTING 2'-6" CONCRETE CURB AND GUTTER.
R2	4" CONCRETE SIDEWALK
R3	EXISTING CONCRETE SIDEWALK
R4	EXIST. GUARDRAIL
U	EXIST. PAVEMENT

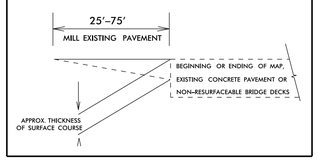
MILLING AT PAVEMENT TIE-INS

NOTES TO CONTRACTOR

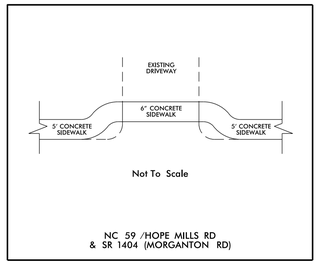
For surface mixes over 1" in thickness, mill the existing pavement in accordance with the following sketch as directed by the Engineer.

Locations shall include ties into existing concrete pavement, at bridge approaches where the bridge will not be resurfaced, and at the beginning and ending point of each resurfacing map.

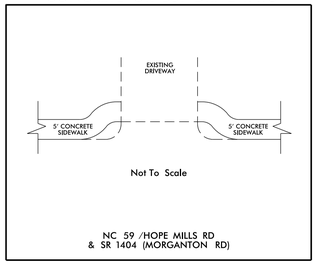
Perform the work in accordance with Section 607 of the January 2012 North Carolina Department of Transportation Standard Specifications for Roads and Structures. Resurfacing will be accomplished at the same time as the milling operation.



DETAIL FOR SIDEWALK @ EXISTING SOIL OR GRAVEL DRIVEWAYS



DETAIL FOR SIDEWALK @ EXISTING CONCRETE OR BST DRIVEWAYS



PROJECT NOTES

1. The Contractor shall not work on both sides of the road simultaneously within the same area.
2. Ingress and egress shall be maintained to all businesses and dwellings on the project.
3. At the end of each workday, the Contractor shall be required to backfill any area adjacent to existing travelway that has been graded but no base material placed.
4. A minimum of two-way, two-lane traffic (plus all existing left and right turn lanes) shall be maintained during periods of construction inactivity.
5. The Contractor shall not be allowed to stop traffic for more than 5 minutes at a time in any one direction.
6. During periods of construction inactivity, the difference in elevation between lanes shall not exceed 1½ inches.
7. Access to police and fire station, fire hydrants, and hospitals shall be maintained at all times.
8. During periods of construction inactivity, place drums 3' from existing edge of pavement (travelway) as directed by the Engineer.
9. Channelizing devices in work areas shall be spaced not greater than 100' on center in tangent areas, 45' on center in tapers, and 10' on center in radii, and shall be set 3' off the edge of travelway, unless otherwise indicated on plans.
9. Contractor will be responsible for relocating any existing signs after construction.

CONTRACTOR SHALL COORDINATE WITH LOCAL TRAFFIC SERVICES UNIT FOR PROPOSED SIGNAL DESIGN AND PLACEMENT OF ALL PAVEMENT MARKINGS.

FOR SIGNAL WORK, CONTACT FRANK WEST 910-486-1452, 28 DAYS PRIOR TO PLACEMENT.

FOR PAVEMENT MARKING, CONTACT KENT LANGDON 910-486-1452, 14 DAYS PRIOR TO FINAL PLACEMENT.

6/2/99
25-FEB-2015 13:56
R:\DOC_PROJECTS\SR-5001CD Fayetteville Sidewalk (safe routes to school)\Roadway\Title Sht. Typ Sht. Sum Sht\SR-5001CD_rdy_typ_2.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
SR-5001CD	4

NOTES:

1– ALL STATIONS ON THIS PROJECT ARE APPROXIMATE BECAUSE THERE IS NO HORIZONTAL OR VERTICAL CONTROL. A STATIONING LINE AS BEEN PROVIDED FOR LOCATION ONLY.

2– CONTRACTOR SHALL INSTALL CONCRETE SIDEWALK AROUND UTILITY POLES AND MAIL BOXES AS REQUIRED. CONTRACTOR SHALL PLACE SIGNS TO PROVIDE PEDESTRIANS ACCESS TO SIDEWALKS.

3– CONTRACTOR SHALL TIE ALL SIDEWALKS TO EXISTING CURB CUTS AS APPLIES.

4– C0NTRACTOR SHALL PLACE 6" PROPOSED CONCRETE SIDEWALK AS INDICATED ON THE PLANS AND PARALLEL TO THE BACK OF CONCRETE APRONS.

MATCHLINE STA 23+00.00
SEE SHEET 5

REVISIONS

8/17/99

24-MAR-2015 10:09
H:\DDC\Projects\SR-5001CD Fayetteville Sidewalk (safe routes to school)\Roadway\Proj\SR-5001CD Hope Mills Road\SR-5001CD Rdy psh 4.dgn
jnbutler AT D6CAD265843

PROJECT REFERENCE NO.	SHEET NO.
SR-5001CD	5

NOTES:

1– ALL STATIONS ON THIS PROJECT ARE APPROXIMATE BECAUSE THERE IS NO HORIZONTAL OR VERTICAL CONTROL. A STATIONING LINE AS BEEN PROVIDED FOR LOCATION ONLY.

2– CONTRACTOR SHALL INSTALL CONCRETE SIDEWALK AROUND UTILITY POLES AND MAIL BOXES AS REQUIRED. CONTRACTOR SHALL PLACE SIGNS TO PROVIDE PEDESTRIANS ACCESS TO SIDEWALKS.

3– CONTRACTOR SHALL TIE ALL SIDEWALKS TO EXISTING CURB CUTS AS APPLIES.

4– C0NTRACTOR SHALL PLACE 6" PROPOSED CONCRETE SIDEWALK AS INDICATED ON THE PLANS AND PARALLEL TO THE BACK OF CONCRETE APRONS.

MATCHLINE STA 23+00.00
SEE SHEET 4

MATCHLINE STA 37+00.00
SEE SHEET 6

REVISIONS

8/17/99

24-MAR-2015 10:29
H:\DDC\Projects\SR-5001CD Fayetteville Sidewalk (safe routes to school)\Roadway\Proj\SR-5001CD Hope Mills Road\SR-5001CD Rdy psh 5.dgn
Jobutler AT D6CAD265843

PROJECT REFERENCE NO.	SHEET NO.
SR-5001CD	6

NOTES:

1– ALL STATIONS ON THIS PROJECT ARE APPROXIMATE BECAUSE THERE IS NO HORIZONTAL OR VERTICAL CONTROL. A STATIONING LINE AS BEEN PROVIDED FOR LOCATION ONLY.

2– CONTRACTOR SHALL INSTALL CONCRETE SIDEWALK AROUND UTILITY POLES AND MAIL BOXES AS REQUIRED. CONTRACTOR SHALL PLACE SIGNS TO PROVIDE PEDESTRIANS ACCESS TO SIDEWALKS.

3– CONTRACTOR SHALL TIE ALL SIDEWALKS TO EXISTING CURB CUTS AS APPLIES.

4– C0NTRACTOR SHALL PLACE 6" PROPOSED CONCRETE SIDEWALK AS INDICATED ON THE PLANS AND PARALLEL TO THE BACK OF CONCRETE APRONS.

MATCHLINE STA 37+00.00
SEE SHEET 5

MATCHLINE STA 51+00.00
SEE SHEET 7

REVISIONS

8/17/99

24-MAR-2015 10:28
H:\DDC\Projects\SR-5001CD Fayetteville Sidewalk (safe routes to school)\Roadway\Proj\SR-5001CD Hope Mills Road\SR-5001CD_Rdy_psh_6.dgn
jnbutler AT D6CAD265843

PROJECT REFERENCE NO.	SHEET NO.
SR-5001CD	7

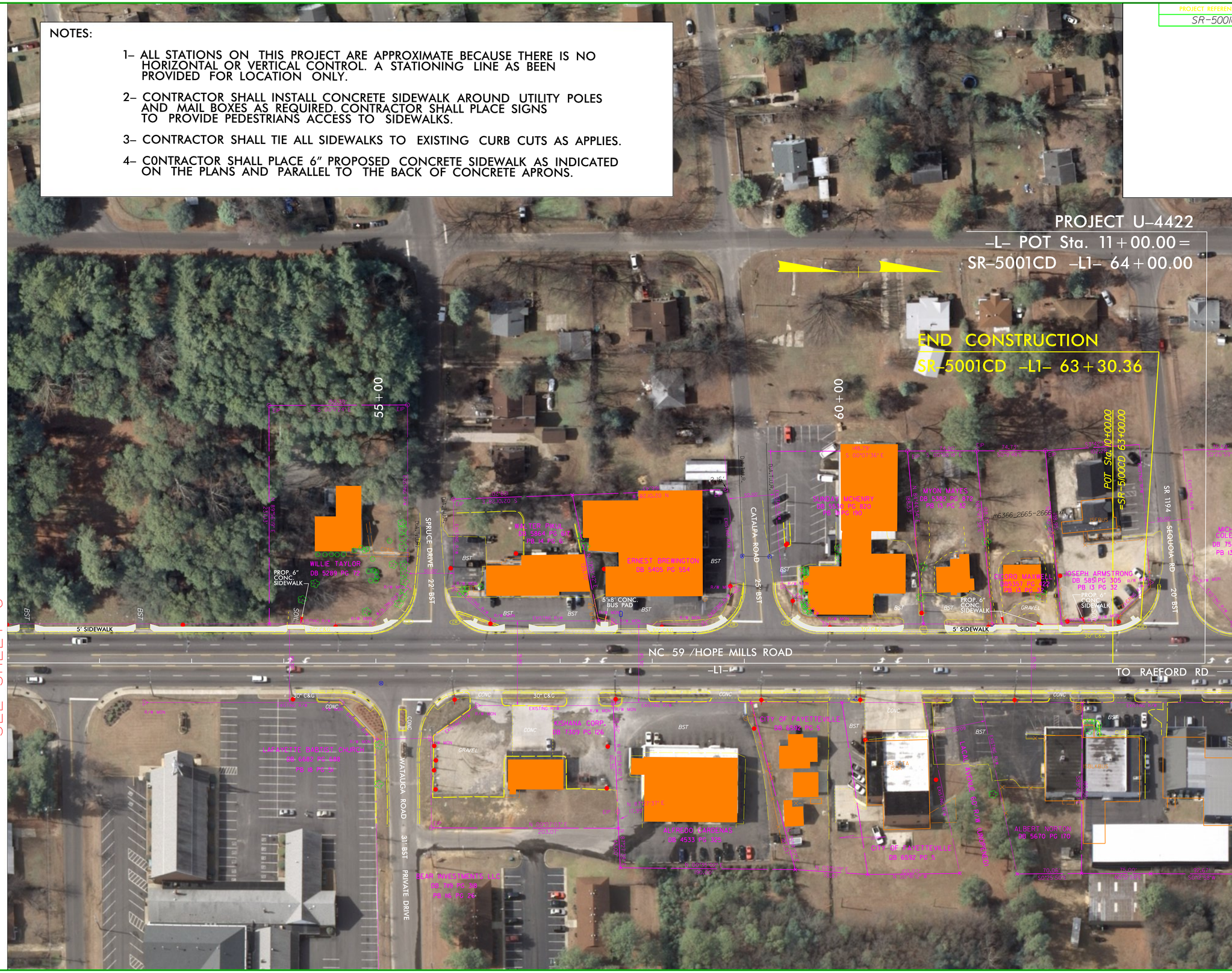
NOTES:

1– ALL STATIONS ON THIS PROJECT ARE APPROXIMATE BECAUSE THERE IS NO HORIZONTAL OR VERTICAL CONTROL. A STATIONING LINE AS BEEN PROVIDED FOR LOCATION ONLY.

2– CONTRACTOR SHALL INSTALL CONCRETE SIDEWALK AROUND UTILITY POLES AND MAIL BOXES AS REQUIRED. CONTRACTOR SHALL PLACE SIGNS TO PROVIDE PEDESTRIANS ACCESS TO SIDEWALKS.

3– CONTRACTOR SHALL TIE ALL SIDEWALKS TO EXISTING CURB CUTS AS APPLIES.

4– C0NTRACTOR SHALL PLACE 6" PROPOSED CONCRETE SIDEWALK AS INDICATED ON THE PLANS AND PARALLEL TO THE BACK OF CONCRETE APRONS.



MATCHLINE STA 51+00.00
SEE SHEET 6

REVISIONS

8/17/99

24-MAR-2015 10:31
H:\DDC\Projects\SR-5001CD Fayetteville Sidewalk (safe routes to school)\Roadway\Proj\SR-5001CD Hope Mills Road\SR-5001CD Rdy psh 7.dgn
jnbutler AT D6CAD265843

PROJECT REFERENCE NO.	SHEET NO.
SR-5001CD	8

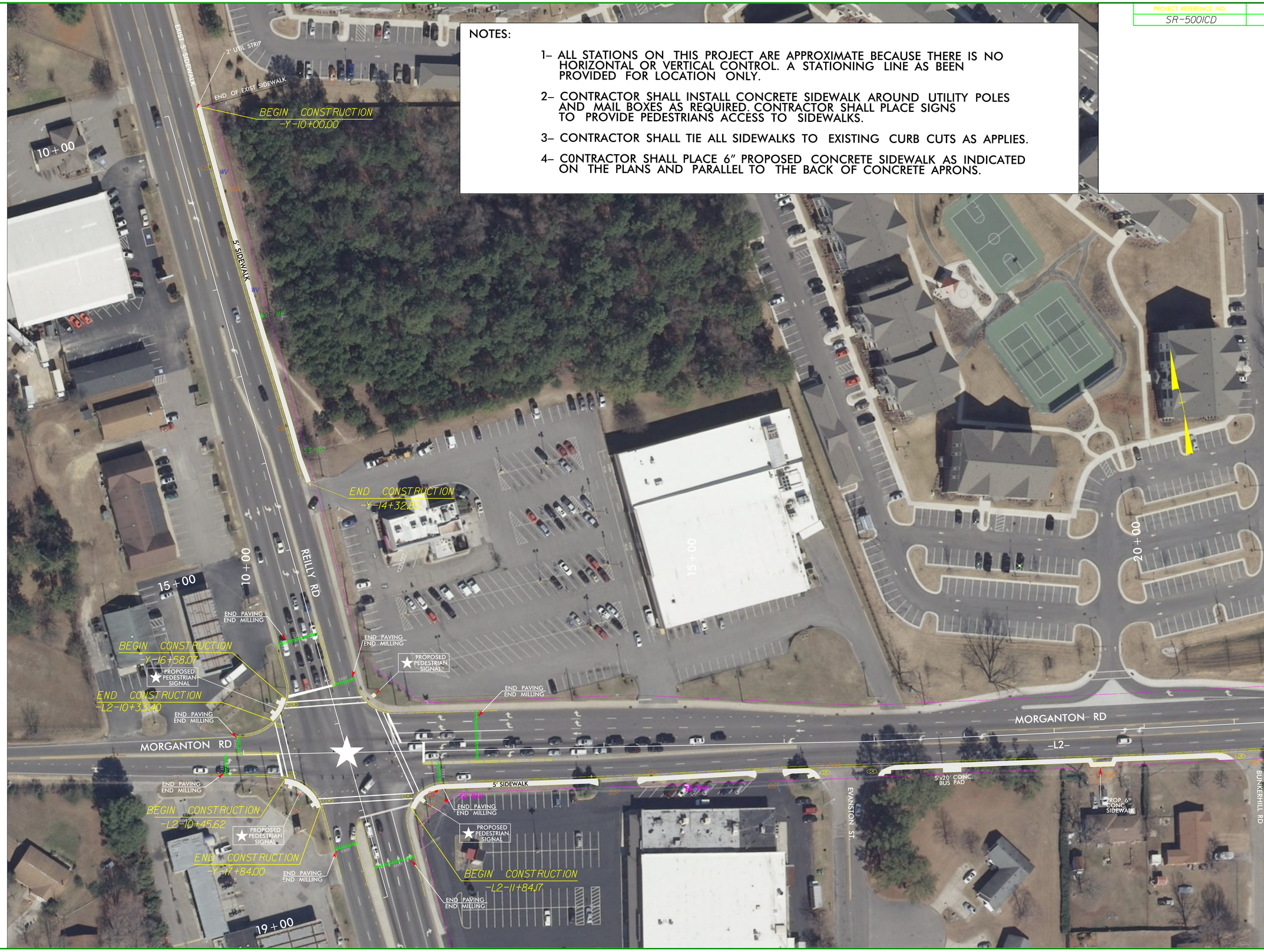
NOTES:

1– ALL STATIONS ON THIS PROJECT ARE APPROXIMATE BECAUSE THERE IS NO HORIZONTAL OR VERTICAL CONTROL. A STATIONING LINE AS BEEN PROVIDED FOR LOCATION ONLY.

2– CONTRACTOR SHALL INSTALL CONCRETE SIDEWALK AROUND UTILITY POLES AND MAIL BOXES AS REQUIRED. CONTRACTOR SHALL PLACE SIGNS TO PROVIDE PEDESTRIANS ACCESS TO SIDEWALKS.

3– CONTRACTOR SHALL TIE ALL SIDEWALKS TO EXISTING CURB CUTS AS APPLIES.

4– C0NTRACTOR SHALL PLACE 6" PROPOSED CONCRETE SIDEWALK AS INDICATED ON THE PLANS AND PARALLEL TO THE BACK OF CONCRETE APRONS.



REVISIONS

8/17/99

24-MAR-2015 10:34
H:\DOT\Projects\SR-5001CD Fayetteville Sidewalk (safe routes to school)\Roadway\Proj\SR-5001CD Morganton Road\SR-5001CD_Rdy_psh_8.dgn
Routes
Al Duncan\26343

PROJECT REFERENCE NO.	SHEET NO.
SR-5001CD	9

NOTES:

1– ALL STATIONS ON THIS PROJECT ARE APPROXIMATE BECAUSE THERE IS NO HORIZONTAL OR VERTICAL CONTROL. A STATIONING LINE AS BEEN PROVIDED FOR LOCATION ONLY.

2– CONTRACTOR SHALL INSTALL CONCRETE SIDEWALK AROUND UTILITY POLES AND MAIL BOXES AS REQUIRED. CONTRACTOR SHALL PLACE SIGNS TO PROVIDE PEDESTRIANS ACCESS TO SIDEWALKS.

3– CONTRACTOR SHALL TIE ALL SIDEWALKS TO EXISTING CURB CUTS AS APPLIES.

4– CONTRACTOR SHALL PLACE 6" PROPOSED CONCRETE SIDEWALK AS INDICATED ON THE PLANS AND PARALLEL TO THE BACK OF CONCRETE APRONS.

MATCHLINE STA 21+38.32
SEE SHEET 8

MATCHLINE STA 35+39.71
SEE SHEET 10

REVISIONS

8/17/99

24-MAR-2015 10:36
H:\DDC\Projects\SR-5001CD Fayetteville Sidewalk (safe routes to school)\Roadway\Proj\SR-5001CD Morganton Road\SR-5001CD_Rdy_psh_9.dgn
jnbutler AT D6CAD265843

PROJECT REFERENCE NO.	SHEET NO.
SR-5001CD	10

NOTES:

1– ALL STATIONS ON THIS PROJECT ARE APPROXIMATE BECAUSE THERE IS NO HORIZONTAL OR VERTICAL CONTROL. A STATIONING LINE AS BEEN PROVIDED FOR LOCATION ONLY.

2– CONTRACTOR SHALL INSTALL CONCRETE SIDEWALK AROUND UTILITY POLES AND MAIL BOXES AS REQUIRED. CONTRACTOR SHALL PLACE SIGNS TO PROVIDE PEDESTRIANS ACCESS TO SIDEWALKS.

3– CONTRACTOR SHALL TIE ALL SIDEWALKS TO EXISTING CURB CUTS AS APPLIES.

4– CONTRACTOR SHALL PLACE 6" PROPOSED CONCRETE SIDEWALK AS INDICATED ON THE PLANS AND PARALLEL TO THE BACK OF CONCRETE APRONS.

MATCHLINE STA 35+39.71
SEE SHEET 9

MATCHLINE STA 49+43.83
SEE SHEET 11

REVISIONS

8/17/99

24-MAR-2015 10:39
H:\DDC\Projects\SR-5001CD Fayetteville Sidewalk (safe routes to school)\Roadway\Proj\SR-5001CD Morganton Road\SR-5001CD_Rdy_psh_10.dgn
Inbuilder AT D6CAD265843

PROJECT REFERENCE NO.	SHEET NO.
SR-5001CD	11

NOTES:

1– ALL STATIONS ON THIS PROJECT ARE APPROXIMATE BECAUSE THERE IS NO HORIZONTAL OR VERTICAL CONTROL. A STATIONING LINE AS BEEN PROVIDED FOR LOCATION ONLY.

2– CONTRACTOR SHALL INSTALL CONCRETE SIDEWALK AROUND UTILITY POLES AND MAIL BOXES AS REQUIRED. CONTRACTOR SHALL PLACE SIGNS TO PROVIDE PEDESTRIANS ACCESS TO SIDEWALKS.

3– CONTRACTOR SHALL TIE ALL SIDEWALKS TO EXISTING CURB CUTS AS APPLIES.

4– CONTRACTOR SHALL PLACE 6" PROPOSED CONCRETE SIDEWALK AS INDICATED ON THE PLANS AND PARALLEL TO THE BACK OF CONCRETE APRONS.

MATCHLINE STA 49+43.83
SEE SHEET 10

MATCHLINE STA 63+48.53
SEE SHEET 12

REVISIONS

8/17/99

24-MAR-2015 10:39
H:\DOC\Projects\SR-5001CD Fayetteville Sidewalk (safe routes to school)\Roadway\Proj\SR-5001CD Morganton Road\SR-5001CD_Rdy_psh_11.dgn
inbuller AT D6CAD265843

PROJECT REFERENCE NO.	SHEET NO.
SR-5001CD	12

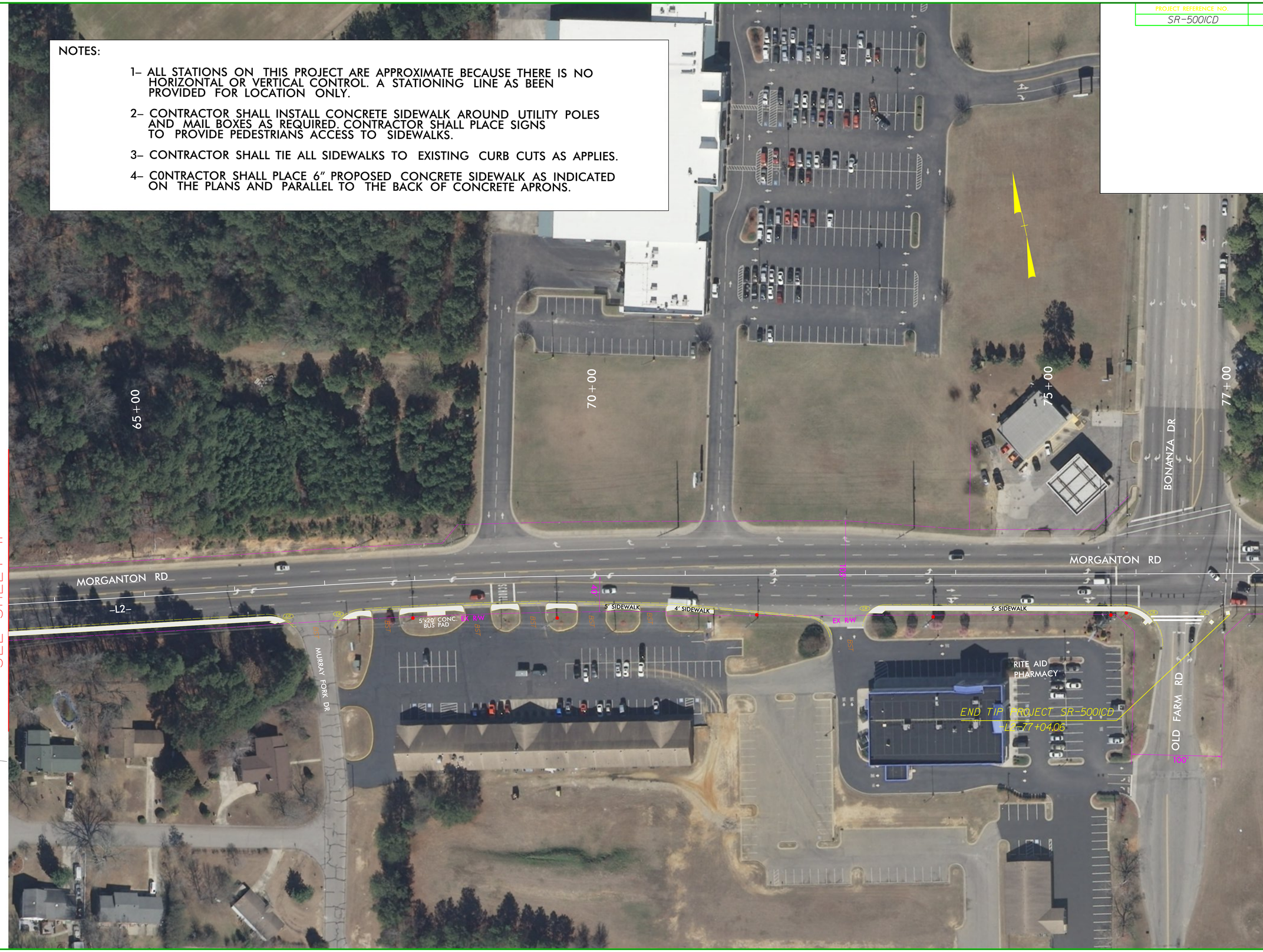
NOTES:

1– ALL STATIONS ON THIS PROJECT ARE APPROXIMATE BECAUSE THERE IS NO HORIZONTAL OR VERTICAL CONTROL. A STATIONING LINE AS BEEN PROVIDED FOR LOCATION ONLY.

2– CONTRACTOR SHALL INSTALL CONCRETE SIDEWALK AROUND UTILITY POLES AND MAIL BOXES AS REQUIRED. CONTRACTOR SHALL PLACE SIGNS TO PROVIDE PEDESTRIANS ACCESS TO SIDEWALKS.

3– CONTRACTOR SHALL TIE ALL SIDEWALKS TO EXISTING CURB CUTS AS APPLIES.

4– CONTRACTOR SHALL PLACE 6" PROPOSED CONCRETE SIDEWALK AS INDICATED ON THE PLANS AND PARALLEL TO THE BACK OF CONCRETE APRONS.



MATCHLINE STA 63+48.53
SEE SHEET 11

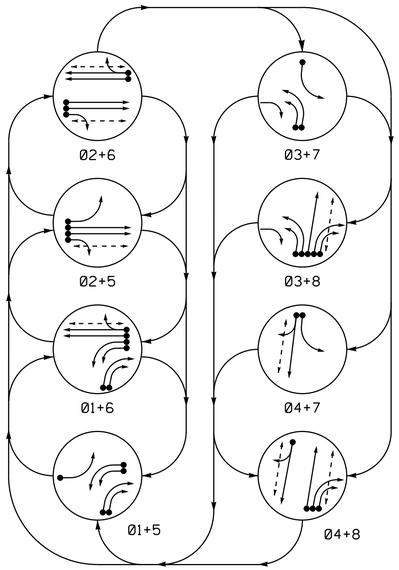
REVISIONS

8/17/99

24-MAR-2015 10:40
H:\DOC\Projects\SR-5001CD Fayetteville Sidewalk (safe routes to school)\Roadway\Proj\SR-5001CD Morganton Road\SR-5001CD_Rdy_psh_12.dgn
jnbutler AT 06CAD265843

PROJECT REFERENCE NO.	SHEET NO.
SR-5001CD	Sig. 1.0

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

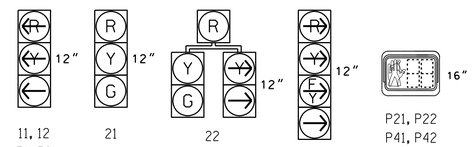
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE 01+5	01+6	02+5	02+6	03+7	03+8	04+7	04+8	FLASH
11,12	—	—	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
21	R	R	G	G	R	R	R	R	Y
22	R	R	G	G	R	R	R	R	Y
31,32	~~R~~	~~R~~	~~R~~	~~R~~	—	—	~~R~~	~~R~~	~~R~~
41,42	R	R	R	R	R	R	G	G	R
51	—	~~R~~	—	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
61,62	R	G	R	G	R	R	R	R	Y
71	~~R~~	~~R~~	~~R~~	~~R~~	—	~~R~~	—	~~R~~	~~R~~
81,82	R	R	R	R	R	G	R	G	R
83,84	→	→	~~R~~	~~R~~	~~R~~	F Y	R	F Y	~~R~~
P21,P22	DW	DW	W	W	DW	DW	DW	DW	DRK
P41,P42	DW	DW	DW	DW	DW	DW	W	W	DRK
P61,P62	DW	W	DW	W	DW	DW	DW	DW	DRK
P81,P82	DW	DW	DW	DW	DW	W	DW	W	DRK

SIGNAL FACE I.D.

All Heads L.E.D.



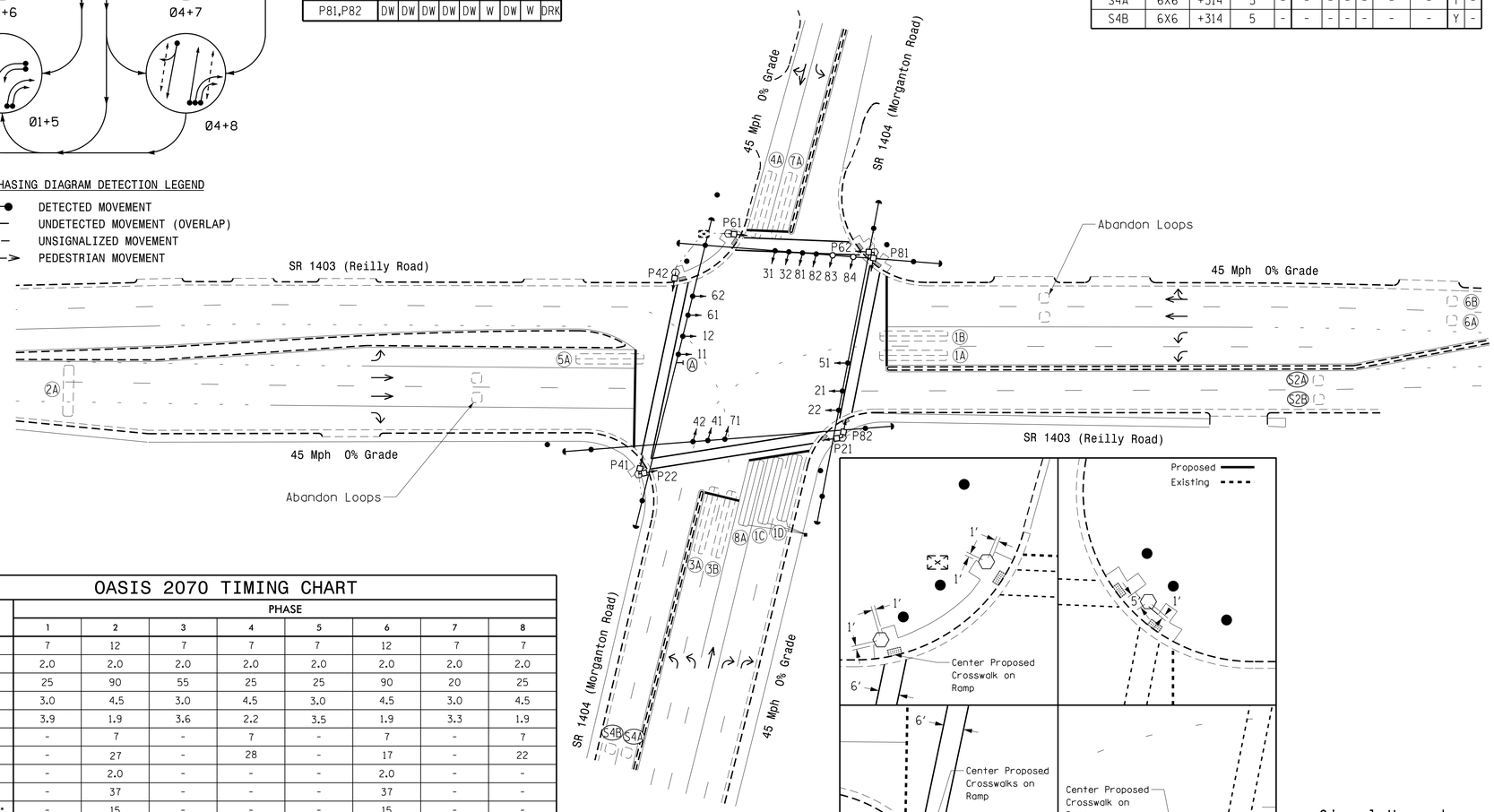
OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

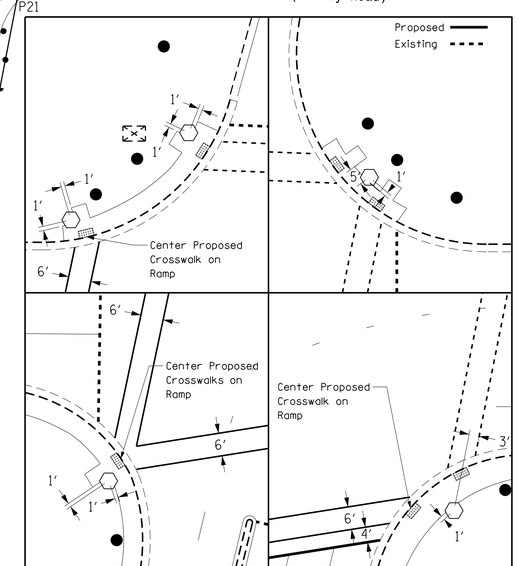
INDUCTIVE LOOPS					DETECTOR PROGRAMMING						
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
1A	6X40	+5	2-4-2	-	1	Y	Y	-	-	-	-	-
1B	6X40	+5	2-4-2	-	1	Y	Y	-	-	-	-	-
1C	6X40	0	2-4-2	Y	1	Y	Y	-	-	15	-	-
1D	6X40	0	2-4-2	Y	1	Y	Y	-	-	15	-	-
2A	6X30	330	2	-	2	Y	Y	-	-	-	-	-
3A	6X40	+5	2-4-2	-	3	Y	Y	-	-	-	-	-
3B	6X40	+5	2-4-2	-	3	Y	Y	-	-	-	-	-
4A	6X40	+5	2-4-2	-	4	Y	Y	-	-	-	-	-
5A	6X40	+5	2-4-2	-	5	Y	Y	-	-	-	-	-
6A,6B	6X6	330	5	-	6	Y	Y	-	-	-	-	-
7A	6X40	+5	2-4-2	-	7	Y	Y	-	-	-	-	-
8A	6X40	0	2-4-2	Y	8	Y	Y	-	-	-	-	-
S2A	6X6	+400	5	-	-	-	-	-	-	-	Y	-
S2B	6X6	+400	5	-	-	-	-	-	-	-	Y	-
S4A	6X6	+314	5	-	-	-	-	-	-	-	Y	-
S4B	6X6	+314	5	-	-	-	-	-	-	-	Y	-

8 Phase
Fully Actuated
Fayetteville City System

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 and/or phase 5 may be lagged.
4. Phase 3 and/or phase 7 may be lagged.
5. Set all detector units to presence mode.
6. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
7. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
8. In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
9. Consult sheets P1-P3 for guidance if modifications are required for pedestals.
10. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.





CROSSWALK AND PEDESTAL LOCATIONS

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Type II Signal Pedestal	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	
	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	

OASIS 2070 TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Min Green 1 *	7	12	7	7	7	12	7	7
Extension 1 *	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Max Green 1 *	25	90	55	25	25	90	20	25
Yellow Clearance	3.0	4.5	3.0	4.5	3.0	4.5	3.0	4.5
Red Clearance	3.9	1.9	3.6	2.2	3.5	1.9	3.3	1.9
Walk 1 *	-	7	-	7	-	7	-	7
Don't Walk 1	-	27	-	28	-	17	-	22
Seconds Per Actuation *	-	2.0	-	-	-	2.0	-	-
Max Variable Initial *	-	37	-	-	-	37	-	-
Time Before Reduction *	-	15	-	-	-	15	-	-
Time To Reduce *	-	45	-	-	-	45	-	-
Minimum Gap	-	3.5	-	-	-	3.5	-	-
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL	-	-
Vehicle Call Memory	-	YELLOW	-	-	-	YELLOW	-	-
Dual Entry	-	-	-	ON	-	-	-	ON
Simultaneous Gap	ON	ON	ON	ON	ON	ON	ON	ON

* 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.

Signal Upgrade

Prepared in the Offices of:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1403 (Reilly Road)
at
SR 1404 (Morganton Road)

Division 06 Cumberland County Fayetteville

PLAN DATE:	June 2014	REVIEWED BY:	JPG
PREPARED BY:	EMM/JPG	REVIEWED BY:	

SCALE 0 40 1"=40'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 029904 ENGINEER JASON P. GALLOWAY

DocuSigned by: Jason Galloway F700E5A9A4A7DE... 8/29/2014
SIGNATURE DATE

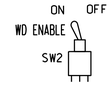
SIG. INVENTORY NO. 06-0369

29-AUG-2014 08:56
S:\TISG\ITS\Signals\Signal Design Section\Eastern Region\Div-06\06-0369\06369_sig_dsn_201408.dgn
emminshaw

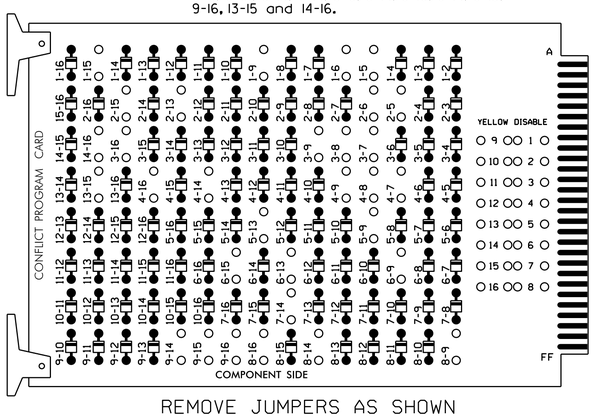
PROJECT REFERENCE NO.	SHEET NO.
SR-5001CD	Sig. 1.1

EDI MODEL 2010ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

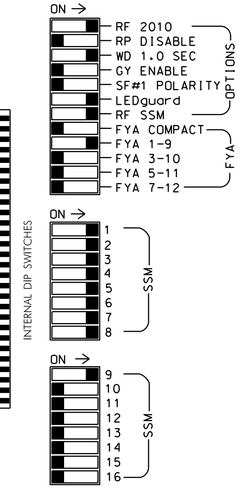
(remove jumpers and set switches as shown)



REMOVE DIODE JUMPERS 1-5, 1-6, 1-9, 1-15, 2-5, 2-6, 2-13, 2-15, 3-7, 3-8, 3-9, 3-16, 4-7, 4-8, 4-9, 4-14, 4-16, 5-9, 5-13, 6-9, 6-13, 6-15, 7-14, 8-9, 8-14, 8-16, 9-14, 9-15, 9-16, 13-15 and 14-16.



REMOVE JUMPERS AS SHOWN



NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Make sure jumpers SEL2-SEL5 are present on the monitor board.

■ = DENOTES POSITION OF SWITCH

* IMPORTANT! 2010ECL-NC conflict monitor required for FYA operation.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans
2. Ensure that Red Enable is active at all times during normal operation To prevent Red Failures on used monitor channels, tie unused red monitor inputs 10,11,12,13,14,15 & 16 to load switch AC+ per the cabinet manucturer's instructions.
3. Program phases 4 and 8 for Dual Entry.
4. Enable Simultaneous Gap-Out for all phases.
5. Program phases 2 and 6 for Variable Initial and Gap Reduction.
6. Program phases 2 and 6 for Start Up In Green.
7. Program phases 2, 4, 6 and 8 for 'STARTUP PED CALL'.
8. Program phases 2 and 6 for Yellow Flash, and overlap 1 as Wag Overlaps.
9. The cabinet and controller are part of the Fayetteville City System.

EQUIPMENT INFORMATION

CONTROLLER.....2070L
CABINET.....332 W/ AUX
SOFTWARE.....ECONOLITE OASIS
CABINET MOUNT.....BASE
OUTPUT FILE POSITIONS...18 (12-STD; 6-AUX)
LOAD SWITCHES USED.....S1,S2,S2P,S3,S4,S4P,S5
S6,S6P,S7,S8,S8P,S9
PHASES USED.....1,2,2 PED,3,4,4 PED,5,6,6 PED,7,8,8 PED
OVERLAP "A".....1+8
OVERLAP "B".....NOT USED
OVERLAP "C".....NOT USED
OVERLAP "D".....NOT USED

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1		S2	S2P	S3		S4	S4P	S5	S6	S6P	S7	S8	S8P	S9	S10	S11	S12	S13	S14
PHASE	1		2	2 PED	3		4	4 PED	5	6	6 PED	7	8	8 PED	★★ OLA	OLB	SPARE	OLC	OLD	SPARE
SIGNAL HEAD NO.	11,12	★ 83,84	21,22	P21, P22	31,32	22	41,42	P41, P42	51	61,62	P61, P62	71	81,82	P81, P82	★ 83,84	NU	NU	NU	NU	NU
RED			128				101			134			107							
YELLOW			129				102			135			108							
GREEN			130				103			136			109							
RED ARROW	125				116				131			122			A121					
YELLOW ARROW	126				117	117			132			123			A122					
FLASHING YELLOW ARROW															A123					
GREEN ARROW	127	127			118	118			133			124								
✋				113				104			119			110						
🚶				115				106			121			112						

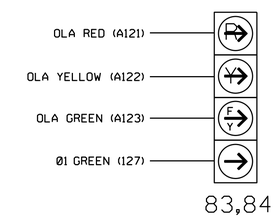
NU = Not Used

* Denotes install load resistor. See load resistor installation detail this sheet.

★ See pictorial of head wiring in detail below.

★★ Flash Note: Wire Overlap A to Flash on Flasher Unit #2, Circuit#1.

4 SECTION FYA PPLT SIGNAL WIRING DETAIL



NOTE

1. The sequence display for these signals require special logic programming. See sheet 2 for programming instructions.

INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	Ø 1	Ø 2	SYS. DET.	SLOT	Ø 3	Ø 4	SLOT	SLOT	Ø 1	SLOT	SLOT	Ø2 PED	Ø6 PED	FS
		1A	2A	S2A		3A	4A			1C			DC ISOLATOR	DC ISOLATOR	DC ISOLATOR
	L	Ø 1	NOT USED	SYS. DET.	EMPTY	Ø 3	Ø 7	EMPTY	EMPTY	Ø 1	EMPTY	EMPTY	Ø4 PED	Ø8 PED	ST
		1B		S2B		3B	7A			1D			DC ISOLATOR	DC ISOLATOR	DC ISOLATOR
FILE "J"	U	SLOT	Ø 6	SYS. DET.	SLOT	SLOT	Ø 8	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT
		EMPTY	6A,6B	S4A	EMPTY	EMPTY	8A	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY
	L		NOT USED	SYS. DET.			Ø 5								
				S4B			5A								

EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
1A	TB2-1,2	I1U	56	18	1	1	Y	Y			
1B	TB2-3,4	I1L	56	18	1	1	Y	Y			
1C	TB6-9,10	I9U	60	22	11	1	Y	Y			15
1D	TB6-11,12	I9L	62	24	13	1	Y	Y			15
2A	TB2-5,6	I2U	39	1	2	2	Y	Y			
3A	TB4-5,6	I5U	58	20	3	3	Y	Y			
3B	TB4-7,8	I5L	58	20	3	3	Y	Y			
4A	TB4-9,10	I6U	41	3	4	4	Y	Y			
5A	TB5-11,12	J6L	46	8	18	5	Y	Y			
6A,6B	TB3-5,6	J2U	40	2	6	6	Y	Y			
7A	TB4-11,12	I6L	45	7	14	7	Y	Y			
8A	TB5-9,10	J6U	42	4	8	8	Y	Y			
*S2A	TB2-9,10	I3U	63	25	32	SYS					
*S2B	TB2-11,12	I3L	76	38	42	SYS					
*S4A	TB3-9,10	J3U	64	26	36	SYS					
*S4B	TB3-11,12	J3L	77	39	46	SYS					
PED PUSH BUTTONS											
P21,P22	TB8-4,6	I12U	67	29	PED 2	2 PED					
P41,P42	TB8-5,6	I12L	69	31	PED 4	4 PED					
P61,P62	TB8-7,9	I13U	68	30	PED 6	6 PED					
P81,P82	TB8-8,9	I13L	70	32	PED 8	8 PED					

NOTE:
INSTALL DC ISOLATORS IN INPUT FILE SLOTS I12 AND I13.

* System detector only. Remove the vehicle phase assigned to this detector in the default programming.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

COUNTDOWN PEDESTRIAN SIGNAL OPERATION

Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-0369
DESIGNED: June 2014
SEALED: 8/29/14
REVISED: N/A

Electrical Detail - Sheet 1 of 2

ELECTRICAL AND PROGRAMMING DETAILS FOR:

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

SR 1403 (Reilly Road)
at
SR 1404 (Morganton Road)

Division 6 Cumberland County Fayetteville

PLAN DATE:	August 2014	REVIEWED BY:	T. Joyce
PREPARED BY:	B. Simmons	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022013 ENGINEER GEORGE C. BROWN

DocuSigned by: George C. Brown 9/4/2014
F12601ED0BEB434...
DATE

SIG. INVENTORY NO. 06-0369

04-SEP-2014 08:06
S:*TISSGUI\TIS Signals\Workgroups\Sig Mon\Simmons\Working Folder\Electrical Details\Division 06\06369_sm_ele_xxx.dgn
bsimmons

PROJECT REFERENCE NO.	SHEET NO.
SR-5001CD	Sig. 1.2

LOGICAL I/O PROCESSOR PROGRAMMING DETAIL
TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE

(program controller as shown below)

1. From Main Menu press '2' (PHASE CONTROL), then '1' (PHASE CONTROL FUNCTIONS). Scroll to the bottom of the menu and Enable ACT Logic Commands 1, 2 and 3.

2. From Main Menu press '6' (OUTPUTS), then '3' (LOGICAL I/O PROCESSOR).

```
LOGICAL I/O COMMAND #1  (+/-COMMAND#)
IF  ACTIVE PHASE       #1  IS ON
AND RED CLEAR ON PHASE #1  IS ON

                 ↓
          SCROLL DOWN
THEN:
SET OUTPUT  ASSIGNMENT #50 ON
SET OUTPUT  ASSIGNMENT #51 OFF
```

NOTE: Logic for Phase 1 RED Clear (Heads 83,84).

PRESS '+'

```
LOGICAL I/O COMMAND #2  (+/-COMMAND#)
IF  ACTIVE PHASE       #1  IS ON

                 ↓
          SCROLL DOWN
THEN:
SET OUTPUT  ASSIGNMENT #52 OFF
```

NOTE: Logic for Switching Flashing Yellow Arrow "OFF" during Phase 1 (Heads 83,84).

PRESS '+'

```
LOGICAL I/O COMMAND #3  (+/-COMMAND#)
IF  YELLOW ON PHASE    #1  IS ON

                 ↓
          SCROLL DOWN
THEN:
SET OUTPUT  ASSIGNMENT #51 ON
```

NOTE: Logic for Yellow Arrow Clearance from Phase 1 (Heads 83,84).

LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE

OUTPUT 50 = Overlap A Red
OUTPUT 51 = Overlap A Yellow
OUTPUT 52 = Overlap A Green

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

From Main Menu press '8' (OVERLAPS), then '1' (VEHICLE OVERLAP SETTINGS).

```
PAGE 1: VEHICLE OVERLAP 'A' SETTINGS
PHASE:          ¦123456789101112131415 16
VEH OVL PARENTS:¦X       X
VEH OVL NOT VEH:¦
VEH OVL NOT PED:¦
VEH OVL GRN EXT:¦
STARTUP COLOR: _ RED  _ YELLOW  _ GREEN
FLASH COLORS:  _ RED  _ YELLOW  X GREEN
SELECT VEHICLE OVERLAP OPTIONS:   (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...N
GREEN EXTENSION (0-255 SEC).........0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)..0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)....0
```

← NOTICE GREEN FLASH

OVERLAP PROGRAMMING COMPLETE

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-0369
DESIGNED: June 2014
SEALED: 8/29/14
REVISED: N/A

Electrical Detail - Sheet 2 of 2

ELECTRICAL AND PROGRAMMING DETAILS FOR:

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

SR 1403 (Reilly Road)
at
SR 1404 (Morganton Road)

Division 6 Cumberland County Fayetteville

PLAN DATE:	August 2014	REVIEWED BY:	T. Joyce
PREPARED BY:	B. Simmons	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022013 ENGINEER GEORGE C. BROWN

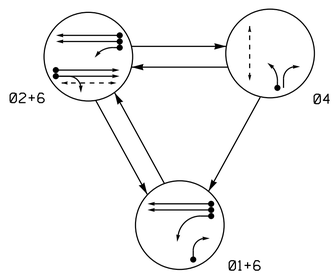
DocuSigned by: George C. Brown 9/4/2014
F12601ED0BEB434... DATE

SIG. INVENTORY NO. 06-0369

04-SEP-2014 08:06
S:\ITSSU\ITS Signals\Workgroups\Sig Man\Simmons\Working Folder\Electrical Details\Division 06\060369_sm_ele_xxx.dgn
bsimmons

PROJECT REFERENCE NO.	SHEET NO.
SR-5001CD	Sig. 2.0

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

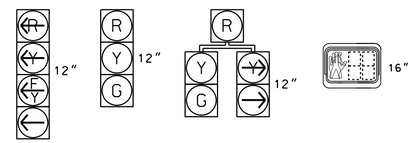
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE Ø1+6	PHASE Ø2+6	PHASE Ø4	FLASH
11	←	~~F Y~~	~~R~~	~~Y~~
21,22	R	G	R	Y
41	R	R	G	R
42	R	R	G	R
61,62	G	G	R	Y
P21,P22	DW	W	DW	DRK
P41,P42	DW	DW	W	DRK

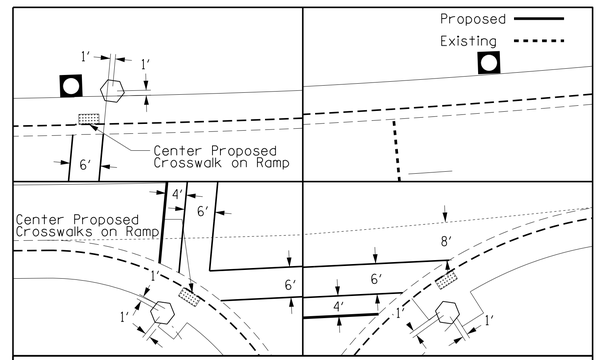
SIGNAL FACE I.D.

All Heads L.E.D.



OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

INDUCTIVE LOOPS					DETECTOR PROGRAMMING						
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
1A	6X40	+5	2-4-2	-	1	Y	Y	-	-	15	-	-
					6	Y	Y	Y	-	3	-	-
2A	6X6	286	5	-	2	Y	Y	-	-	-	-	-
2B	6X6	286	5	-	2	Y	Y	-	-	-	-	-
4A	6X30	+5	2	-	4	Y	Y	-	-	-	-	-
4B	6X30X25	+5	1	-	1	Y	Y	-	-	15	-	-
6A	6X6	300	5	-	6	Y	Y	-	-	-	-	-
6B	6X6	300	5	-	6	Y	Y	-	-	-	-	-

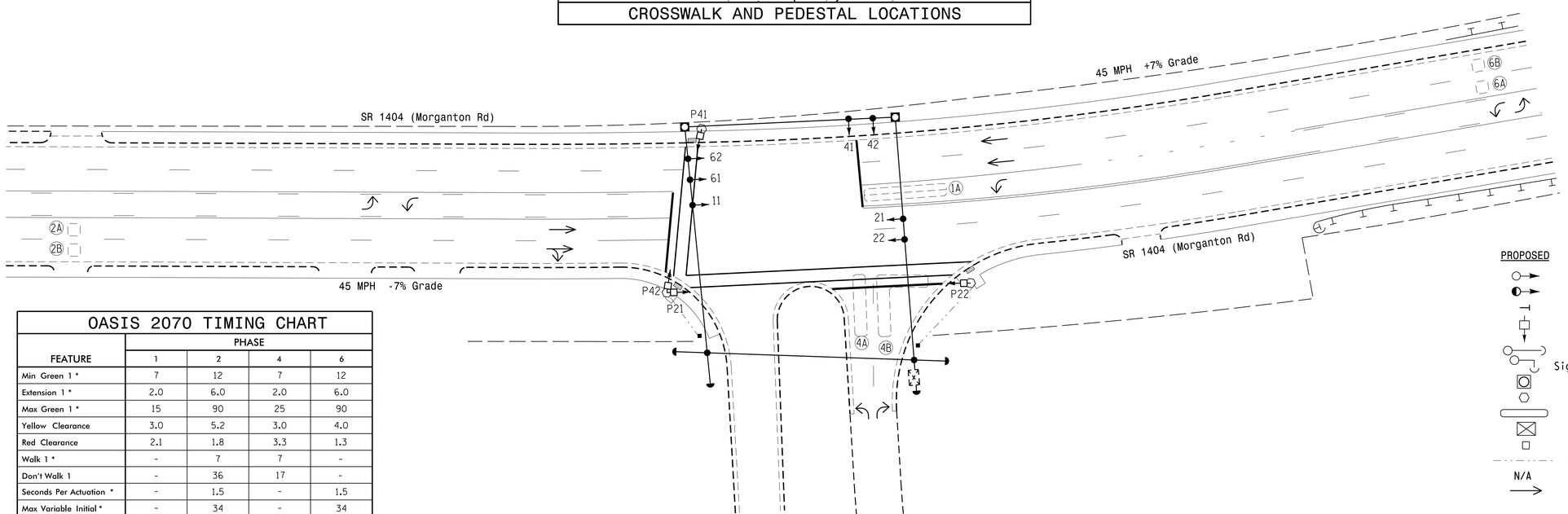


CROSSWALK AND PEDESTAL LOCATIONS

3 Phase
Fully Actuated
Fayetteville City System

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 and/or phase 5 may be lagged.
4. Set all detector units to presence mode.
5. In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
6. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
7. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
8. Consult sheets P1-P3 for guidance if modifications are required for pedestals.
9. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.



OASIS 2070 TIMING CHART

FEATURE	PHASE 1	PHASE 2	PHASE 4	PHASE 6
Min Green 1 *	7	12	7	12
Extension 1 *	2.0	6.0	2.0	6.0
Max Green 1 *	15	90	25	90
Yellow Clearance	3.0	5.2	3.0	4.0
Red Clearance	2.1	1.8	3.3	1.3
Walk 1 *	-	7	7	-
Don't Walk 1	-	36	17	-
Seconds Per Actuation *	-	1.5	-	1.5
Max Variable Initial *	-	34	-	34
Time Before Reduction *	-	15	-	15
Time To Reduce *	-	45	-	45
Minimum Gap	-	3.0	-	3.0
Recall Mode	-	MIN RECALL	-	MIN RECALL
Vehicle Call Memory	-	YELLOW	-	YELLOW
Dual Entry	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON

* 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.

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Metal Strain Pole	
	Type II Signal Pedestal	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	

Signal Upgrade

Prepared in 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

SCALE 0 30 1"=30'

SR 1404 (Morganton Rd)
at
SR 2783 (McFayden Dr)

Division 6 Cumberland County Fayetteville

PLAN DATE:	August 2014	REVIEWED BY:	JPG
PREPARED BY:	EMM/JPG	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 029904 ENGINEER JASON P. GALLOWAY

DocuSigned by: Jason Galloway SIGNATURE F700EA7D4B1B410... 8/29/2014 DATE

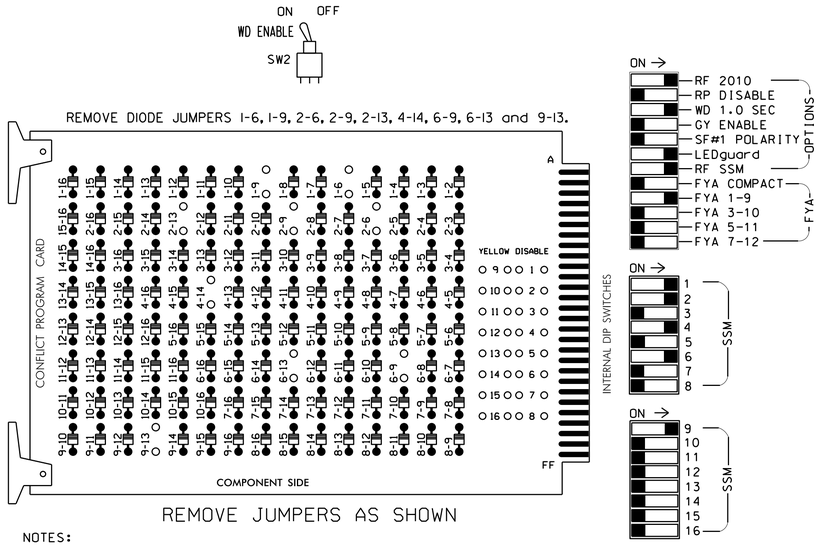
SIG. INVENTORY NO. 06-0573

25-SEP-2014 14:01
S:\TTSAG\413 Signals\Signal Design Section\Eastern Region\Div-06\06-0573\06-0573_sig_dsn_2014.dgn
emmishow

PROJECT REFERENCE NO.	SHEET NO.
SR-5001CD	Sig. 2.1

EDI MODEL 2010ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE JUMPERS AS SHOWN

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Make sure jumpers SEL2-SEL5 are present on the monitor board.

■ = DENOTES POSITION OF SWITCH

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans
2. Ensure that Red Enable is active at all times during normal operation To prevent Red Failures on used monitor channels, tie unused red monitor inputs 3,5,7, 8,10,11,12,13,14,15 & 16 to load switch AC+ per the cabinet manucturer's instructions.
3. Enable Simultaneous Gap-Out for all phases.
4. Program phases 2 and 6 for Variable Initial and Gap Reduction.
5. Program phases 2 and 6 for Start Up In Green.
6. Program phases 2 and 4 for 'STARTUP PED CALL'.
7. Program phases 2 and 6 for Yellow Flash, and overlap 1 as Wag Overlaps.
8. The cabinet and controller are part of the Fayetteville City System.

EQUIPMENT INFORMATION

CONTROLLER.....2070L
CABINET.....332 /W/ AUX
SOFTWARE.....ECONOLITE OASIS
CABINET MOUNT.....BASE
OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
LOAD SWITCHES USED.....S1,S2,S2P,S4,S4P,S6,S9
PHASES USED.....1,2,2 PED,4,4 PED,6
OVERLAP "A".....1+2
OVERLAP "B".....NOT USED
OVERLAP "C".....NOT USED
OVERLAP "D".....NOT USED

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1		S2	S2P	S3	S4	S4P	S5	S6	S6P	S7	S8	S8P	S9	S10	S11	S12	S13	S14
PHASE	1		2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED	OLA	OLB	SPARE	OLC	OLD	SPARE
SIGNAL HEAD NO.	11★	42	21,22	P21, P22	NU	41,42	P41, P42	NU	61,62	NU	NU	NU	NU	11★	NU	NU	NU	NU	NU
RED		✳	128			101			134										
YELLOW			129			102			135										
GREEN			130			103			136										
RED ARROW														A121					
YELLOW ARROW		126												A122					
FLASHING YELLOW ARROW														A123					
GREEN ARROW	127	127																	
✋				113			104												
🚶				115			106												

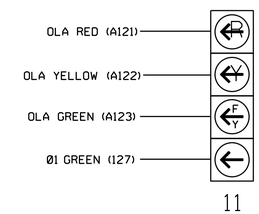
NU = Not Used

✳ Denotes install load resistor. See load resistor installation detail this sheet.

★ See pictorial of head wiring in detail below.

4 SECTION FYA PPLT SIGNAL WIRING DETAIL

(wire signal heads as shown)



NOTE

1. The sequence display for this signal requires special logic programming. See sheet 2 of 2 for programming instructions.

INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	Ø1	Ø2	SLOT	SLOT	SLOT	Ø4	SLOT	SLOT	SLOT	SLOT	SLOT	Ø2 PED DC ISOLATOR	SLOT	FS DC ISOLATOR
		1A	2A				4A						Ø4 PED DC ISOLATOR		ST DC ISOLATOR
	L	NOT USED	Ø2	EMPTY	EMPTY	EMPTY	Ø1	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY		EMPTY	
			2B				4B								
FILE "J"	U	SLOT	Ø6	SLOT	WIRED INPUT ⊗	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT
			6A												
	L	EMPTY	Ø6	EMPTY		EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY
			6B												

EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
ST = STOP TIME

⊗ Wired Input - Do not populate slot with detector card

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
1A[1]	TB2-1,2	I1U	56	18	1	1	Y	Y			15
	-	J4U	48	10	26	6	Y	Y	Y		3
2A	TB2-5,6	I2U	39	1	2	2	Y	Y			
2B	TB2-7,8	I2L	43	5	12	2	Y	Y			
4A	TB4-9,10	I6U	41	3	4	4	Y	Y			
4B	TB4-11,12	I6L	45	7	14	1	Y	Y			15
6A	TB3-5,6	J2U	40	2	6	6	Y	Y			
6B	TB3-7,8	J2L	44	6	16	6	Y	Y			
PED PUSH BUTTONS											
P21,P22	TB8-4,6	I12U	67	29	PED 2	2 PED					
P41,P42	TB8-5,6	I12L	69	31	PED 4	4 PED					

NOTE:
INSTALL DC ISOLATOR IN INPUT FILE SLOT I12.

[1] Add jumper from I1-W to J4-W, on rear of input file.

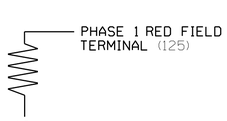
INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)

ACCEPTABLE VALUES

VALUE (ohms)	WATTAGE
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



COUNTDOWN PEDESTRIAN SIGNAL OPERATION

Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-0573
DESIGNED: August 2014
SEALED: 8/29/14
REVISED: N/A

Electrical Detail - Sheet 1 of 2

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:
Transportation Mobility and Safety Division
Signals Management Section

750 N.Greenfield Pkwy,Garner,NC 27529

SR 1404 (Morganton Rd)
at
SR 2783 (McFayden Dr)

Division 6 Cumberland County Fayetteville

PLAN DATE:	August 2014	REVIEWED BY:	T. Joyce
PREPARED BY:	B. Simmons	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022013 ENGINEER GEORGE C. BROWN

DocuSigned by: George C. Brown 9/2/2014
F12601ED8BEB434...
DATE

SIG. INVENTORY NO. 06-0573

02-SEP-2014 12:02
S:★TISASIM\TIS Signals★Workgroups★Sig Mgmt★Simmons★Working Folder★Electrical Details★Division 06★060573_sm.ele.xxx.dgn
bsimmons

PROJECT REFERENCE NO.	SHEET NO.
SR-5001CD	Sig. 2.2

LOGICAL I/O PROCESSOR PROGRAMMING DETAIL TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE

(program controller as shown below)

1. FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS). SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1, 2 and 3.

2. FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).

```
LOGICAL I/O COMMAND #1  (+/-COMMAND#)
IF  ACTIVE PHASE        #1  IS ON
AND RED CLEAR ON PHASE #1  IS ON

                 SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #50 ON
SET OUTPUT  ASSIGNMENT #51 OFF
```

NOTE: LOGIC FOR PHASE 1 RED CLEAR WHEN TRANSITIONING FROM PHASE 1 TO PHASE 2 (HEAD 11).

PRESS '+'

```
LOGICAL I/O COMMAND #2  (+/-COMMAND#)
IF  ACTIVE PHASE        #1  IS ON

                 SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #52 OFF
```

NOTE: LOGIC FOR SWITCHING FLASHING YELLOW ARROW "OFF" DURING PHASE 1 (HEAD 11).

PRESS '+'

```
LOGICAL I/O COMMAND #3  (+/-COMMAND#)
IF  YELLOW ON PHASE     #1  IS ON

                 SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #51 ON
```

NOTE: LOGIC FOR YELLOW ARROW CLEARANCE FROM PHASE 1 (HEAD 11).

PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE

OUTPUT 50 = Overlap A Red

OUTPUT 51 = Overlap A Yellow

OUTPUT 52 = Overlap A Green

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).

```
 PAGE 1: VEHICLE OVERLAP 'A' SETTINGS
 PHASE:          ¦123456789101112131415 16
VEH OVL PARENTS:¦XX
VEH OVL NOT VEH:¦
VEH OVL NOT PED:¦
VEH OVL GRN EXT:¦
STARTUP COLOR: _ RED  _ YELLOW  _ GREEN
FLASH COLORS:  _ RED  _ YELLOW  X GREEN
SELECT VEHICLE OVERLAP OPTIONS:   (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC).........0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)..0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)....0
```

NOTICE GREEN FLASH

OVERLAP PROGRAMMING COMPLETE

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-0573
DESIGNED: August 2014
SEALED: 8/29/14
REVISED: N/A

Electrical Detail - Sheet 2 of 2

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:

Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
Signals Management Section

750 N.Greenfield Pkwy,Garner,NC 27529

SR 1404 (Morganton Rd)
at
SR 2783 (McFayden Dr)

Division 6 Cumberland County Fayetteville

PLAN DATE:	August 2014	REVIEWED BY:	T. Joyce
PREPARED BY:	B. Simmons	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022013 ENGINEER GEORGE C. BROWN

DocuSigned by: George C. Brown 9/2/2014
F12601ED0BEB434...
DATE

SIG. INVENTORY NO. 06-0573

02-SEP-2014 12:03
S:\NTSCAD\ITS Signals\Workgroups\Sig Man\Simmons\Working Folder\Electrical Details\Division 06\060573_sm_ele_xxx.dgn
bsimmons