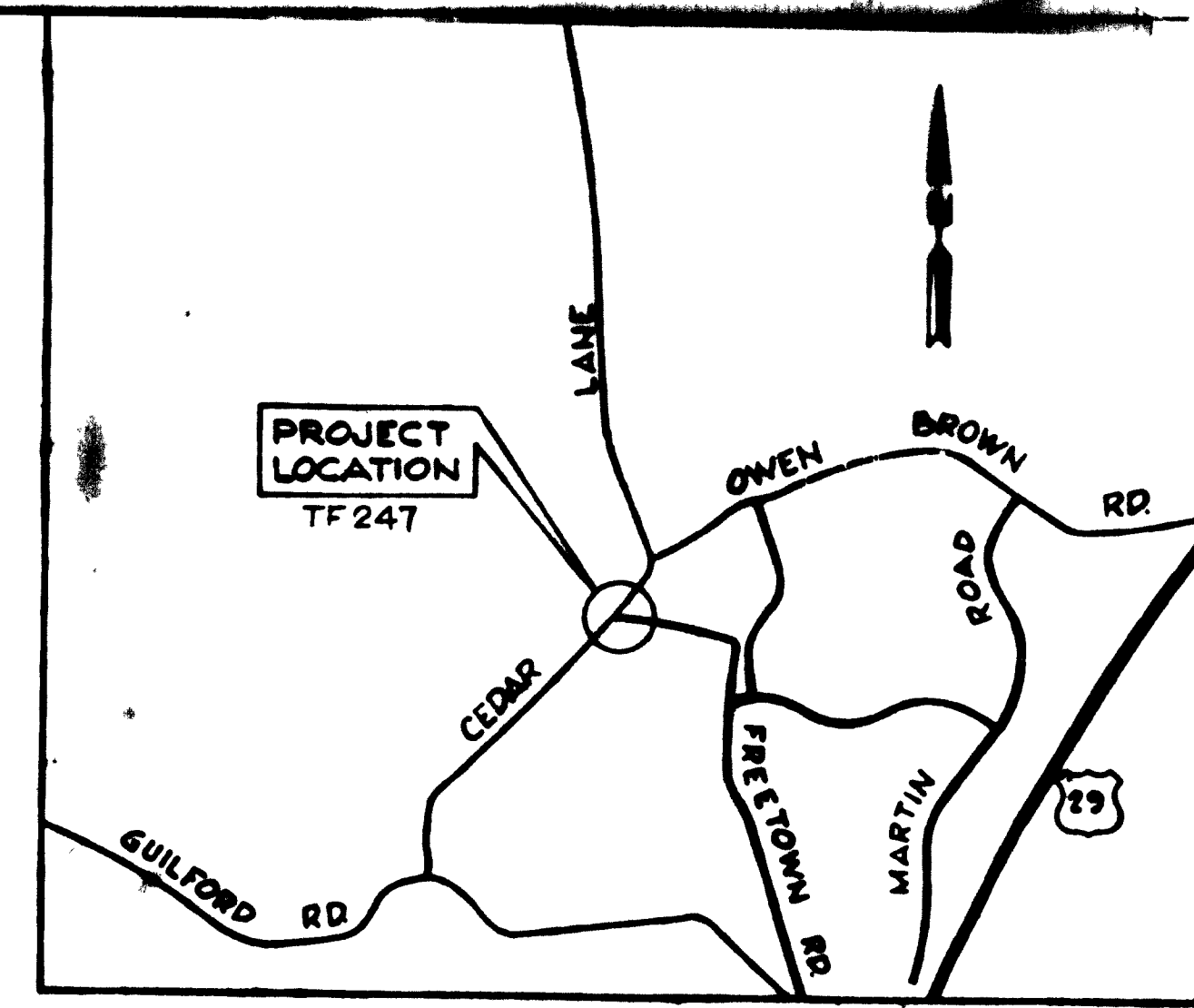


PHASE AND SEQUENCE DIAGRAM	Traffic Signal Head						Min Green	Passage	Yellow	Red Clear	Max I	Seconds Per Actuation	Time Before Actuation	Time Before Recalling	Min Cycle	Recall	Memory
	1,2	3,4	5,6	7,8	9	10											
	Phase A	R	G, G	G	R	R	5	2		25							
	Phase A Clear	R	Y, G	G	R	R		3									
	Phase B	G	G	G	R	R	8 PHASE GROUNDED THROUGH COORDINATING RELAY										OFF
	Phase B Clear	Y	Y	Y	R	R		3	60								
	Phase C	R	R	R	G	G	10	3									OFF
	Phase C Clear	R	R	R	Y	Y		3									
	All Red	R	R	R	R	R				2							
	Flash	Y	Y	Y	R	R											

LEGEND

- PROPOSED**
- Steel Pole
 - Mast Arm
 - Signal Head
 - Sign
 - Handbox
 - Underground Signal Wire
 - Existing Power Line
 - Vehicular Loop Detector
 - Control Cabinet
 - Meter Box
 - Stop Bar
 - Luminaire and Support
 - Existing Interconnect Conduit
-



VICINITY MAP
SCALE: 1" = 2000'

GENERAL NOTES

1. The utilities shown on the construction plan are schematic only and are not to be considered complete. The contractor shall be responsible for notifying all utility companies prior to construction so that all utilities can be located in the field. The contractor shall locate existing utilities a minimum of two (2) weeks in advance of the construction operations in the vicinity of the utilities. Any damage incurred by the contractor shall be repaired immediately at the contractor's expense.

CONTROLLER AND ACCESSORIES

- NEMA eight phase modular controller with solid state circuitry and digital timing, similar to the Crouse-Hinds DM 400 Series Digital Controller unit, equivalent manufactured by Econolite Control Products, Inc., Eagle Signal Corporation or approved equal.
 - Equipped with four (4) vehicular actuated modules.
 - Equipped with four (4) vehicular actuated module with volume density controls.
 - Vehicular actuated phase modules shall be capable of the following functions: Minimum Green, Passage Time, Yellow, All Red Clearance, Dual Maximum, Pedestrian Timing, Recall and Memory.
 - Vehicular actuated phase module with volume density controls shall be capable of the following functions: Minimum Green, Passage Time, Yellow, All Red Clearance, Dual Maximum, Pedestrian Timing, Seconds Per Actuation, Time to Reduce, Time Before Reduction, Minimum Green Recall and Memory.
- Eight phase signal overlap capability.
- Conflict Monitor and Solid State load switches
- Solid State flasher and switch accessible through police door panel.
- Ground mounted traffic controller cabinet large enough to accommodate the above control equipment and detector amplifiers. The cabinet shall also contain a relay to ground the non-actuated phase and be connected (through the interconnect cable) to the B phase yellow terminal of the intersection of Cedar Lane and Owen Brown Road. The presence of voltage on the B phase yellow will release the ground from the non-actuated phase of Cedar Lane and Freetown Road. The cabinet shall be furnished with a thermostatically controlled cabinet vent fan.
- Finish of the cabinet shall be all-weather bronze paint.
- A tamper proof meter box shall be mounted on the outside of the controller cabinet for electric connection by the utility company.
- Install 3'x4'x5" concrete slab in front of the controller cabinet.

UNDERGROUND WIRING

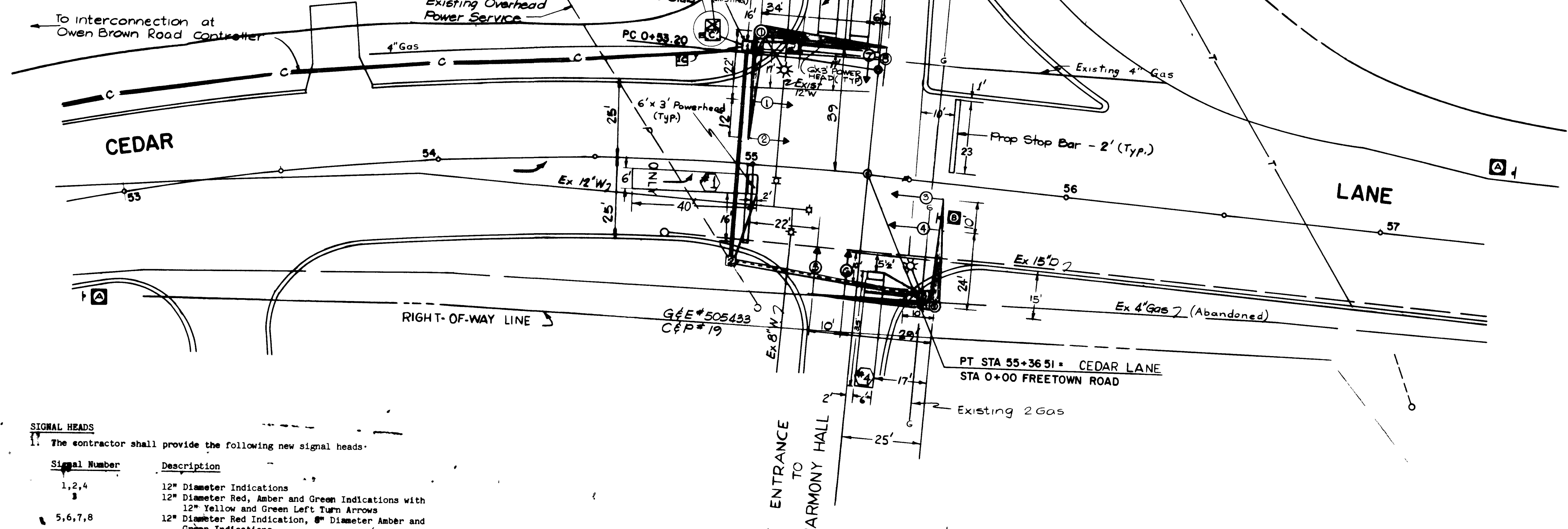
- Underground wiring shall be placed in 2-inch steel conduit, as shown on the Contract Drawings.

LOOPS AND DETECTORS

- The following new loops shall be installed:

Number	Dimensions	Phase
1	6' x 40'	C
2	6' x 40'	C
3	6' x 40'	C
4	6' x 35'	C

- Loops to be installed with 6' x 3' powerhead for detection of small vehicles.
- Loop 1 shall be wired to a standard detector.
- Loops 2, 3 and 4 shall be wired in parallel to a standard detector.
- All wiring shall be in accordance with manufacturer's recommendations for correct operation.
- All loops shall operate in presence mode.
- Standard detectors shall be Sarnaco 215B/MS, equivalent as manufactured by Crouse-Hinds, Econolite Control Products, Inc. or approved equal.



SIGNAL HEADS

- The contractor shall provide the following new signal heads:

Signal Number	Description
1, 2, 4	12" Diameter Indications
3	12" Diameter Red, Amber and Green Indications with 12" Yellow and Green Left Turn Arrows
5, 6, 7, 8	12" Diameter Red Indication, 8" Diameter Amber and Green Indications

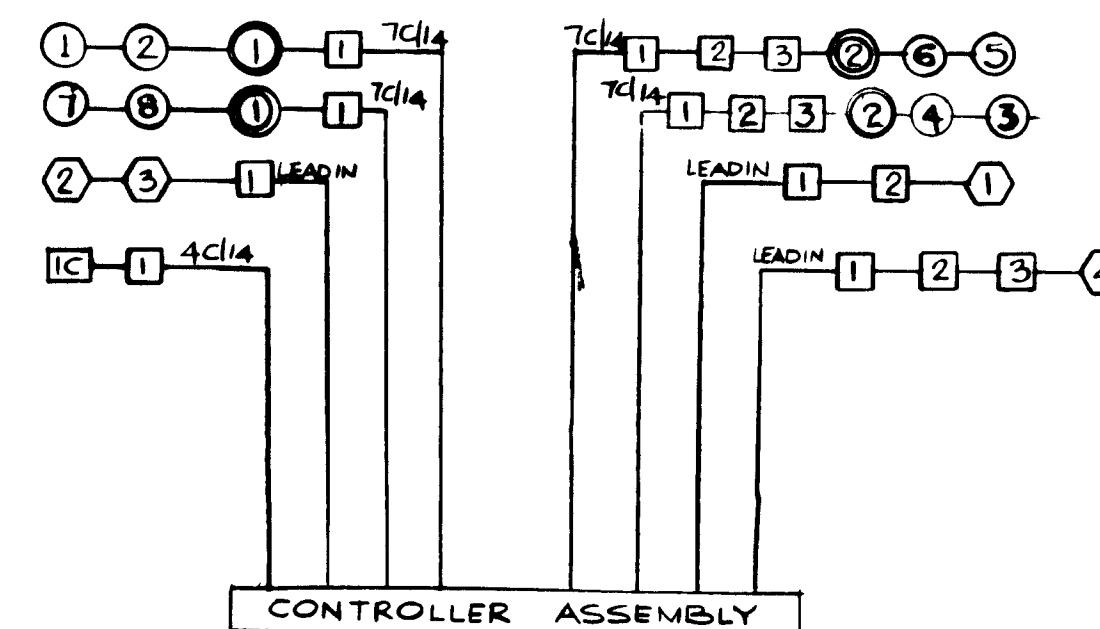
POLES

- The contractor shall provide the following new signal poles:

- Two (2) twin arm support poles with 90° angle of separation, each having one (1) 18-foot luminair arm.
- Style and appearance shall be equivalent to Union Metal Design No. 50300. Finish shall be bronze paint.
- Pole Number Description:
 - 1 34' Armspread supporting 2 signal heads
 - 2 40' Armspread supporting 2 signal heads
 - 3 40' Armspread supporting 2 signal heads
 - 4 40' Armspread supporting 2 signal heads
- Mast arms shall be mounted on the signal poles so that the bottom of the signal head housing is not less than 16 feet nor more than 19 feet clear above the ground surface using the "ASTRO-BRAC" adjustable signal bracket.

MARKINGS

- The Contractor shall install 200' of double yellow centerline striping (400 L.F. 4" stripe) and the four stop bars in accordance with Howard County and Maryland SHA Specifications.



SIGN SCHEDULE

SIGN NO	DESCRIPTION	SIZE WxH	QTY
A	W3-3 Signal Ahead	36 x 36	2
B	R1-2C Yield When Turning on green	36 x 48	1

SCALE - 1" = 20 FT

DEPARTMENT OF PUBLIC WORKS

HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* DATE: 3/28/85
 Chief, Bureau of Engineering: *[Signature]* DATE: 3/25/85
 Chief - Roads, Bridges & Storm Drainage Division

DANIEL CONSULTANTS INC.

8950 ROUTE 108 E
COLUMBIA, MARYLAND

DES CB

DRN CM

CHK MD

DATE: 3-7-85

PLAN
CONSTRUCTION OF TRAFFIC
SIGNAL AND EQUIPMENT LIST

CEDAR LANE AT FREETOWN ROAD
CAPITAL PROJECT T-7022
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 1 OF 1

CEDAFREE

746