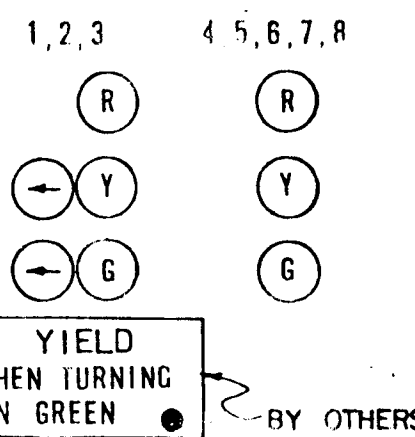


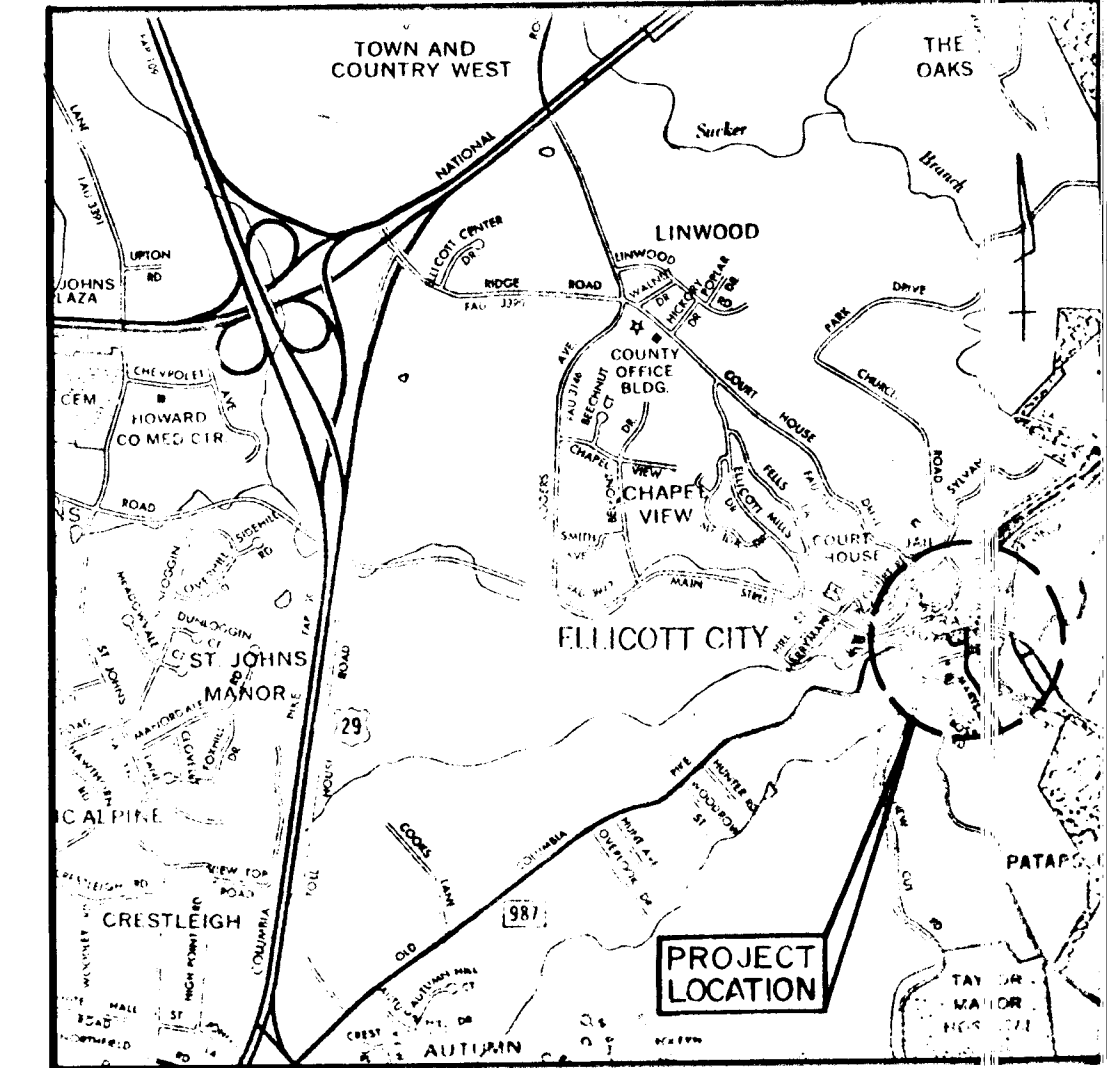
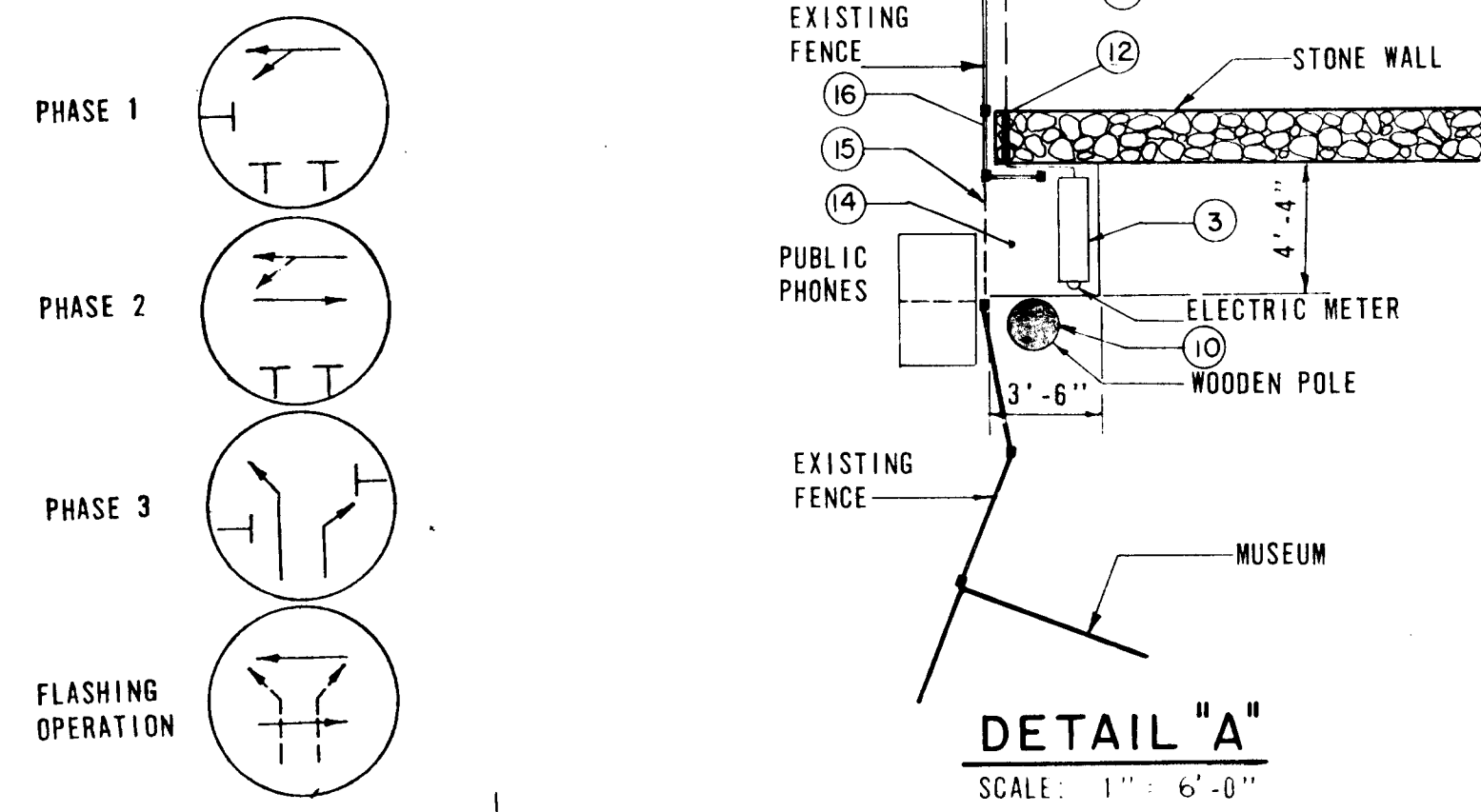
**CONSTRUCTION DETAILS**

1. Install 11" pedestal and signals as shown (Note: One 2" 90° Elbow).
2. Install 11" pedestal and signals as shown (Note: Two 2" 90° Elbows).
3. Install base mounted cabinet and controller with all necessary equipment (Note: One 2" 90° Elbow and One 3" 90° Elbow) Mount Electric Meter on cabinet.
4. Install Handbox.
5. Install 3" galvanized electrical conduit attached to culvert.
6. Install 1" galvanized electrical conduit sleeve for detector wire.
7. Install 2" polyvinyl chloride electrical conduit.
8. Install 2" galvanized electrical conduit.
9. Install 4" polyvinyl chloride electrical conduit.
10. Install 2" galvanized elbow to surface next to pole for power feed.
11. Install loop detector wire and connect to handbox.
12. Install 3" galvanized conduit thru 2" stone wall of culvert.
13. Replace entire sidewalk slab back from curb to undisturbed contraction or construction joint on southeast corner.
14. Construct 4' x 3' 6" concrete pad for control cabinet.
15. Remove approximately 5' of fence.
16. Install two new fence posts, and reinstall two short sections of removed or new (Contractor's option) fence.

**SIGNALS**



Aerial C&P and T.V. Cables on north side of Main Street must be raised by owners at County's expense.



**VICINITY MAP**  
SCALE: 1" = 2000'

**MAIN STREET**

**MARYLAND AVE.**

**PHASE CHART**

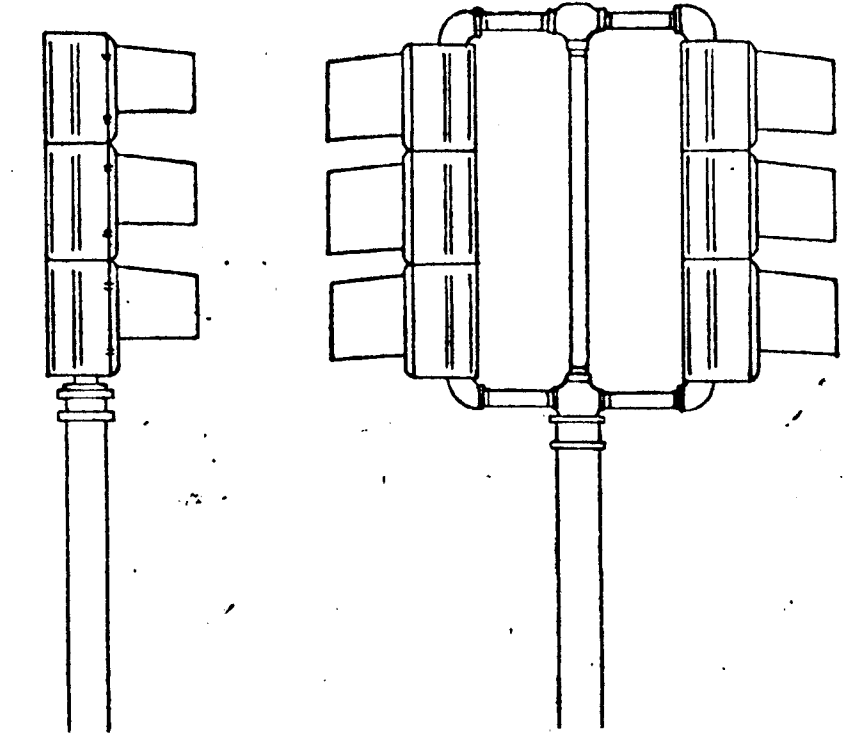
	1	2	3	4	5	6	7	8	
DISPLAY	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	MOVEMENT
PHASE 1	G1G	G1G	G1G	R	R	R	R	R	→
PHASE 1 CHANGE	Y1G	Y1G	Y1G	R	R	R	R	R	→
PHASE 2	G	G	G	G	G	G	R	R	→
PHASE 2 CHANGE	Y	Y	Y	Y	Y	Y	Y	Y	→
PHASE 3	R	R	R	R	R	R	G	G	→
PHASE 3 CHANGE	R	R	R	R	R	R	Y	Y	→
FLASHING OPERATION	FL. Y	FL. Y	FL. Y	FL. Y	FL. Y	FL. Y	FL. R	FL. R	→

NOTE: G1 = GREEN ARROW  
Y1 = YELLOW ARROW

**GENERAL NOTES**

1. All highway marking and signing shall be the responsibility of the Division of Traffic Engineering of the Bureau of Engineering Department of Public Works, of Howard County, Maryland and shall not be considered part of this contract.
2. a. Approximate location of existing utilities is shown. The Contractor shall take all necessary precautions to protect existing utilities and to maintain uninterrupted service. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer by the Contractor at the Contractor's expense.  
b. Contractor shall locate and mark the location of all existing utilities a minimum of two weeks in advance of construction operations in vicinity of utilities. Cost shall be included in the unit prices bid for excavation and backfill for traffic signal appurtenances.  
c. Contractor shall notify the following utilities or agencies at least five (5) days before starting work shown on these plans:  
- Miss Utility (Collect) 1-559-0100  
- Baltimore Gas & Electric Company - Underground Electric Distribution Engineering "Damage Control" - 214-5591  
- Baltimore Gas & Electric Company - Underground Gas Distribution Engineering "Damage Control" - 234-5533  
- Chesapeake and Potomac Telephone Co. - 752-9976  
- Traffic Division - 992-2072  
- Howard County Cable T.V. - 461-1156  
d. The Contractor's work shall clear all utilities by a minimum of 6" and clear all poles by a minimum of 2'-0" or the Contractor shall tunnel, as required. Cost for tunneling or bracing at poles shall be included in the unit prices bid for excavation and backfill for traffic signal appurtenances.
3. All materials and workmanship employed under this contract shall conform with the "GENERAL SPECIFICATIONS FOR INSTALLATION OF AND EQUIPMENT FOR TRAFFIC SIGNALS FOR HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS" dated October 7, 1974; revised February 18, 1976, and included in the contract specifications.
4. All disturbed areas shall be properly restored in accordance with the Contract Specifications.
5. All new signal heads shall be securely wrapped and/or bagged in burlap, prior to signal being placed in service.

**POST TOP MOUNTED**



**EQUIPMENT LIST**

- LOOPS AND DETECTORS**
1. The following new loops shall be installed:
 

Number	Dimensions	Phase
1	6' x 16'	3
2	6' x 6'	1
  2. All wiring shall be in accordance with manufacturer's recommendations for correct operation.
  3. The loop shall operate in presence mode.
  4. Delayed timer vehicle loop detector shall be Sarasota 235/288 or approved equal.
  - Not connected under this contract: deliver one detector amplifier to engineer.
- SIGNAL HEADS**
1. The Contractor shall provide the following new signal heads:
 

Signal Number	Dimensions
1, 2, 3	12" diameter red, amber, green, amber arrow, and green arrow
4, 5, 6, 7, 8	12" diameter red, amber, and green
  2. All signals shall have bronze baked enamel finish and shall be furnished with tunnel visors. All signals shall be vertically mounted on the pedestal pole with rigid adjustable brackets.
- POLES**
1. Four (4) 12" pedestals with mounting assembly for two (2) multi-section heads (12" indications) on each pole.
  2. Finish shall be all-weather bronze paint.
- UNDERGROUND WIRING**
1. Underground wiring shall be placed in new conduits under the sidewalk or road surface as shown on the Contract Drawings.
  2. The conduit shall be sized to accommodate the addition of future wiring for detectors, vehicular signals, and pedestrian (WALK/DON'T WALK) signal heads.
  3. The use of direct lay cable or a combination of conduit and direct lay cable shall not be acceptable.
  4. The Contractor shall furnish an "as-built" drawing as per "General Specifications - 4.02b".

- CONTROLLER AND ACCESSORIES**
1. NEMA four phase controller capable of expansion to eight phase operation installed in base mounted cabinet with termination facilities for incorporation of Time Based Coordination.
    - a. Each phase shall be callable by vehicular detectors or pedestrian push buttons; each phase shall also be callable by phase recall or extendable by recall extension.
    - b. Each phase shall include the following function: Minimum Green, Passage Time, Yellow, All Red Clearance, Pedestrian Timing, Recall and Memory.
    - c. The controller shall be capable of expansion to eight phase signal overlap operation.
  2. Conflict Monitor and solid state load switches.
  3. Solid State flasher switch accessible through police door panel.
  4. Manual operating control and manual switch accessible through police door panel.
  5. Ground mounted traffic controller cabinet large enough to accommodate the above control equipment, detectors, and any future coordination equipment. A 2" spare conduit shall be provided for future interconnection shall be provided on the west side of the controller cabinet foundation and plugged 2" beyond the foundation. The cabinet shall be furnished with a thermostatically controlled cabinet vent fan.
  6. Finish of the cabinet shall be all-weather bronze paint.
  7. Electric service shall be installed by the contractor in a manner satisfactory to the Baltimore Gas and Electric Company.

DEPARTMENT OF PUBLIC WORKS

HOWARD COUNTY, MARYLAND  
 Director of Public Works DATE: 2/9/82  
 Chief-Bureau of Engineering DATE: 2/9/82  
 Chief Roads, Bridges, Storm Drainage Division DATE: 2/9/82

**KIDDE CONSULTANTS, INC.**  
 ENGINEERS • ARCHITECTS • PLANNERS  
 BALTIMORE, MARYLAND

**TRAFFIC SIGNAL PLAN**

**MAIN STREET & MARYLAND AVE.**  
 CAPITAL PROJECT C-0176  
 HOWARD COUNTY MARYLAND

SCALE: 1" = 20'  
 N.C.I.I. DESIGNED BY: V.V.  
 DRAFTED BY: J.W.E.  
 DATE: 2-9-82  
 CHECKED BY:

C1077A01