

PHASE AND SEQUENCE DIAGRAM	TRAFFIC SIGNAL HEADS			Min Green	Passage Yellow	Red Clearance MAX 1	Recall	Memory
	1,2,3,4	5,6	7,8					
	G	R	R	12	5	26	OFF	ON
	Y,R	R	R		3	2		
	R	R	G Arrow	12	1		27	OFF
	R	R	Y Arrow		4	2		
	R	G	G	6	1	10	OFF	OFF
	R	Y,R	Y,R		4	2		
	Y	R	R					

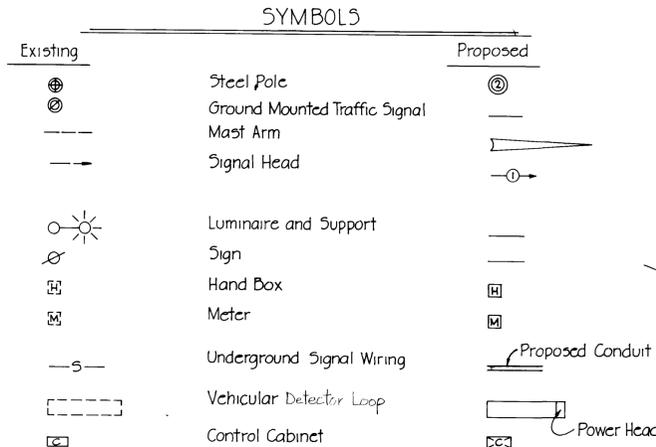
GENERAL NOTES

- All highway marking shall be the responsibility of the Division of Traffic Engineering of the Bureau of Engineering, Department of Public Works, of Howard County, Maryland, and is not to be considered a part of this contract.
- 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.
 - The Contractor shall locate 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.
 - 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" - 234-5691
 Baltimore Gas & Electric Company - Underground Gas Distribution Engineering "Damage Control" - 234-5533
 Chesapeake and Potomac Telephone Co. - 725-9976
 State Highway Administration - 531-5533
- Clear all utilities by a minimum of 6". Clear all poles 2'-0" minimum or 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.
- 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.
- All disturbed areas shall be properly restored in accordance with the Contract Specifications.
- The existing traffic signal system shall be maintained and remain operational during the entire construction period of the new signal system. The contractor shall schedule the work such that the time between the total shut down of the existing signal heads and the turn on of the new signal system shall not be more than 1 calendar day. All new signal heads shall be securely wrapped and/or bagged in burlap, when not in use.
- The reconstruction of the center median islands shall be coordinated with the removal of the existing traffic signal system and installation of the new traffic signal system.

EQUIPMENT LIST

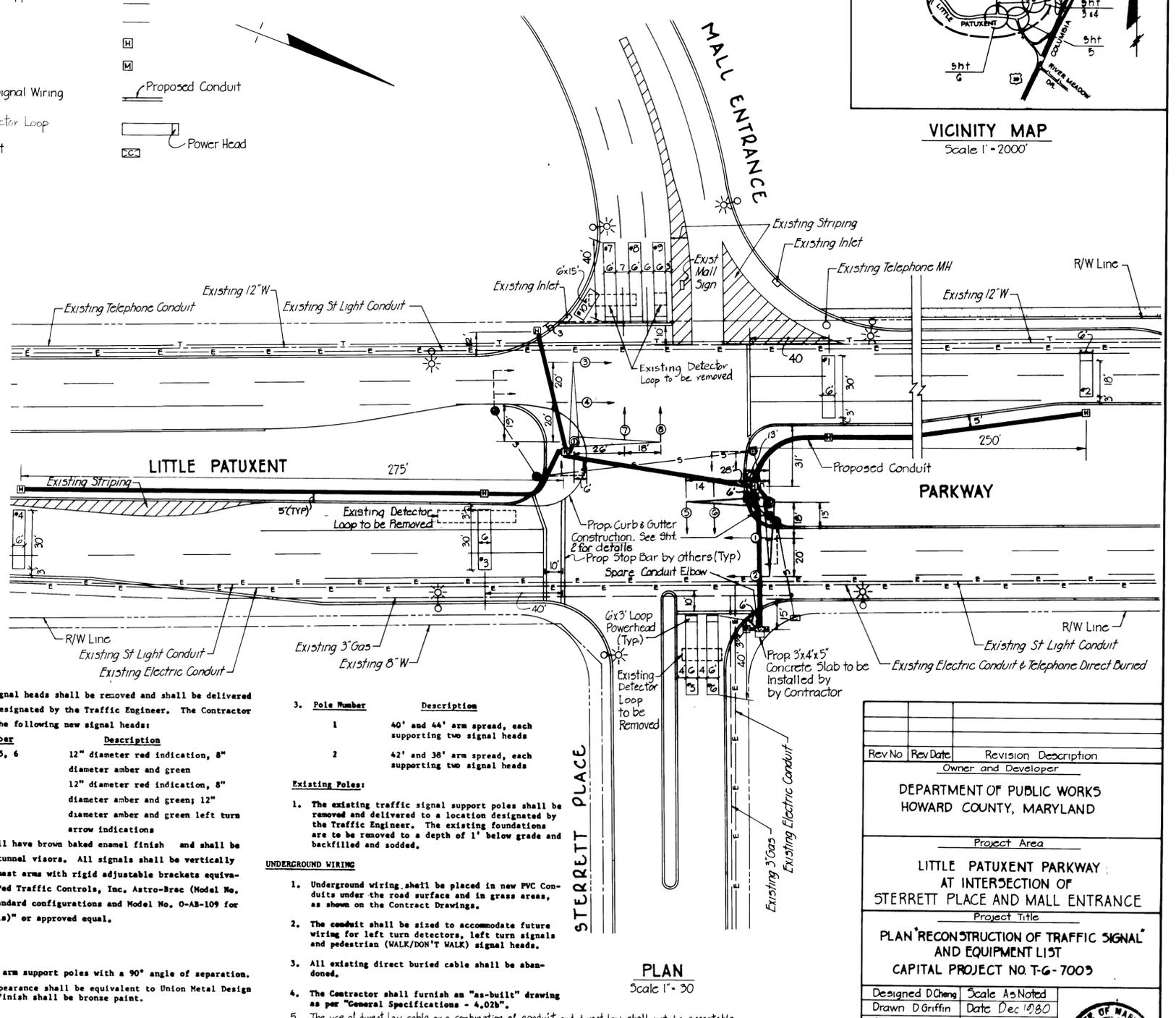
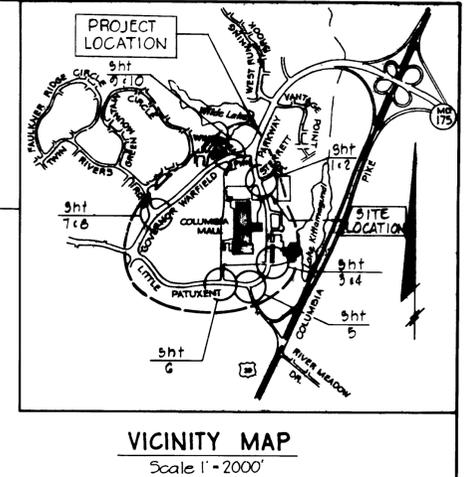
- CONTROLLER AND ACCESSORIES**
- NEHA three phase modular thumbwheel programmable controller with solid state circuitry and digital timing, equivalent to the Crouse Hinds DM-400 Series Digital Controller unit, equivalent manufactured by Eagle Signal Corporation or Econolite, or approved equal. The controller shall be capable of expansion to four phase operation.
 - Equipped with three (3) vehicular actuated phase modules.
 - Vehicular actuated phase modules shall be capable of the following functions: Min. Green, Passage Time, Yellow, All Red Clearance, Dual Maximum, Pedestrian Timing, Recall and Memory.
 - Four phase signal overlap capability.
 - Conflict Monitor and Solid State load switches.
 - Solid State flasher and switch accessible through police door panel.
 - Manual operating control and manual switch accessible through police door panel.
 - External logic for operation of calling detectors which respond to vehicular actuations during the amber and red cycle of an associated phase.
 - Ground mounted traffic controller cabinet large enough to accommodate the above control equipment, detectors, and any future coordination equipment. A 2" spare conduit elbow for future interconnection shall be provided in the controller cabinet foundation and plugged 2' ± beyond the foundation. The cabinet shall be furnished with a thermostatically controlled cabinet vent fan.
 - Finish of the cabinet shall be all-weather bronze paint.
 - The existing controller and equipment shall be removed and delivered to a location designated by the Traffic Engineer. The existing concrete base shall be removed, and the area back-filled and sodded.
- LOOPS AND DETECTORS**
- The existing loops, as indicated on the Contract Drawings, shall be removed. The following new loops shall be installed:

Number	Dimensions	Phase
1, 3	6' x 30'	A
2	6' x 18'	A
4	6' x 30'	A
5, 6	6' x 40'*	C
7, 8, 9	6' x 40'*	B
10	6' x 15'	B
 - *Loops to be installed with 6' x 3' powerhead for detection of small vehicles.
 - Loops 1 and 3 shall be wired to a common standard detector and shall operate as "calling detectors" for Phase A.
 - Loops 2 and 4 shall be wired to a common standard detector.
 - Loops 8 and 9 shall be wired to a common standard detector.
 - Loops 7 and 10 shall be wired to a common delayed timer vehicle loop detector.
 - Loop 5 shall be wired to a standard detector.
 - Loop 6 shall be wired to a delayed timer vehicle loop detector.
 - All wiring shall be in accordance with Manufacturer's recommendations for correct operation.
 - Loops 1, 2, 3 and 4 shall operate in pulse mode. Loops 5, 6, 7, 8, 9 and 10 shall operate in presence mode.
 - Delayed Timers shall be set at 10 seconds for Loops 6, 7 and 10.
 - Delayed Timer vehicle loop detectors shall be Sarasota 235T/MS or approved equal. Standard detectors shall be Sarasota 215B/MS or approved equal.



INDEX OF SHEETS

Sht. No.	Title
1.	Signals - Little Patuxent Parkway at Sterrett Place
2.	Geometric Modifications - Little Patuxent Parkway at Sterrett Place
3.	Signals - Little Patuxent Parkway at Rouse and Mall Entrance
4.	Geometric Modifications - Little Patuxent Parkway at Rouse and Mall Entrance
5.	Signals - Little Patuxent Parkway at South Entrance
6.	Signals - Little Patuxent Parkway at Pavilion Mall Entrance
7.	Signals - Governor Warfield Parkway at Twin Rivers Road
8.	Geometric Modifications - Governor Warfield Parkway at Windstream Drive
9.	Signals - Governor Warfield Parkway at Windstream Drive
10.	Geometric Modifications - Governor Warfield Parkway at Windstream Drive



PLAN
Scale 1" = 30'

Rev No	Rev Date	Revision Description
		Owner and Developer

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Project Area
LITTLE PATUXENT PARKWAY
AT INTERSECTION OF
STERRETT PLACE AND MALL ENTRANCE

Project Title
PLAN RECONSTRUCTION OF TRAFFIC SIGNAL
AND EQUIPMENT LIST
CAPITAL PROJECT NO. T-G-7003

Designed D.Cheng	Scale As Noted
Drawn D.Griffin	Date Dec 1980
Checked K.Evans	Sheet 1 of 10

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