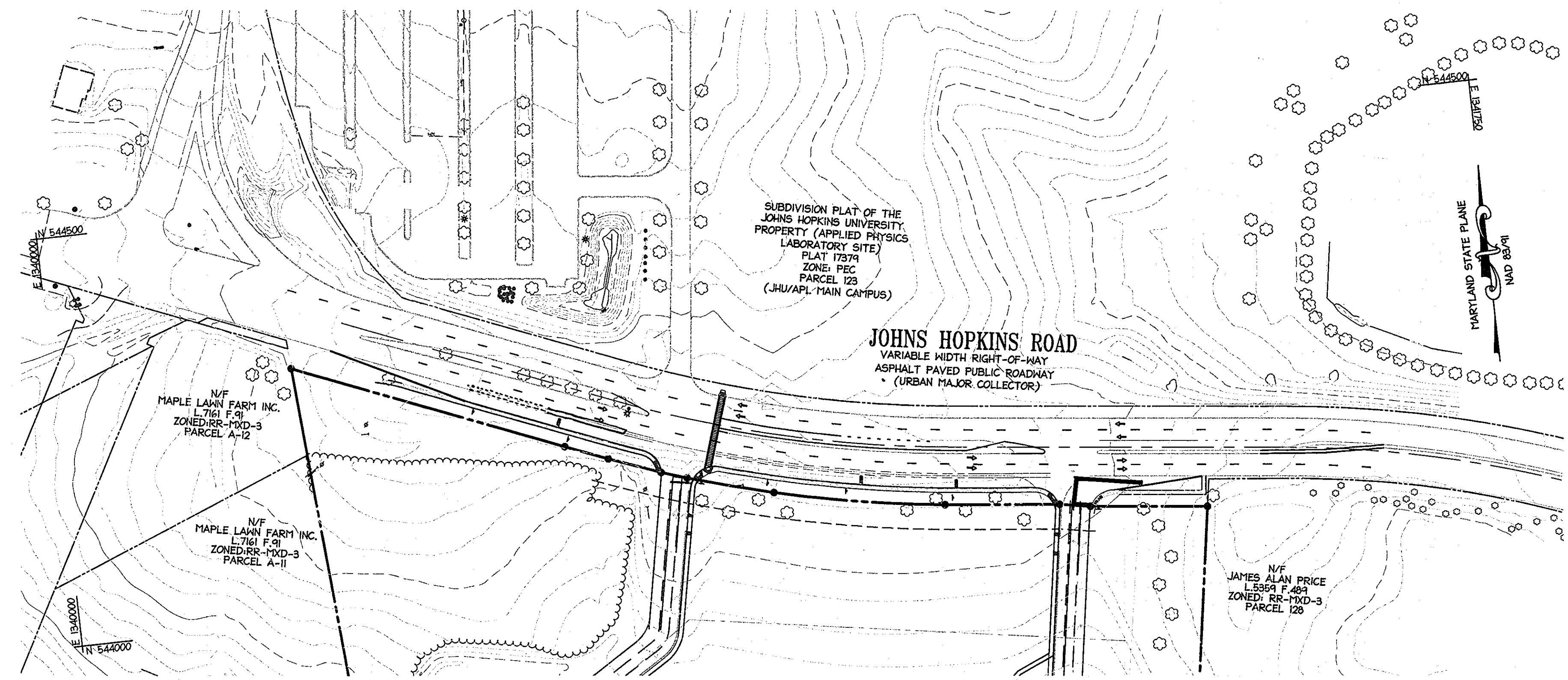


GENERAL NOTES

- THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY DESIGN STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOL. IV "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION" FOR WORK IN THE COUNTY RIGHT-OF-WAY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE BASED ON HOWARD COUNTY RECORDS. ALL EXISTING UNDERGROUND UTILITIES TO BE FIELD VERIFIED. UTILITIES CONTRACTOR SHALL VERIFY THE SIZE AND LOCATIONS OF ALL UNDERGROUND UTILITIES AND TEST PIT ALL UTILITIES, INCLUDING PROPOSED TIE IN LOCATIONS, AT LEAST 5 DAYS PRIOR TO STARTING ANY WORK ON THESE DRAWINGS. DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER IN ADVANCE OF CONSTRUCTION START.
- ALL EXISTING UNDERGROUND UTILITIES TO BE FIELD VERIFIED. UTILITIES CONTRACTOR SHALL VERIFY THE SIZE AND LOCATIONS OF ALL UNDERGROUND UTILITIES AND TEST PIT ALL UTILITIES, INCLUDING PROPOSED TIE IN LOCATIONS, AT LEAST 5 DAYS PRIOR TO STARTING ANY WORK ON THESE DRAWINGS. DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER IN ADVANCE OF CONSTRUCTION START.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM AERIAL PHOTOGRAMMETRY DATED APRIL 9, 2005, WITH ONE-FOOT CONTOUR INTERVALS PREPARED BY HRA DATED NOVEMBER 23, 2005. THIS TOPOGRAPHY WAS SUPPLEMENTED BY FIELD RUN SURVEY WITH TWO-FOOT CONTOUR INTERVALS BY christopher consultants, ltd. DATED NOVEMBER 2005.
- BASED ON HRA SURVEY MARYLAND COORDINATE SYSTEM NAD 83/11 ESTABLISHED BY GPS AND PREVIOUS TRAVERSE RUNS, NAV 88 ESTABLISHED ELEVATIONS SHOWN CONVENTIONAL METHODS.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE STATE HIGHWAY ADMINISTRATION (SHA).
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK. THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS/BUREAU OF HIGHWAYS AT (410) 313-2450 AT LEAST FIVE (5) WORKING DAYS BEFORE ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING WATER AND SEWER MAINS.
- THIS SITE IS LOCATED IN THE HAMMOND BRANCH WATERSHED.
- PER FENHA MAP# 2400440038B DATED DECEMBER 04, 1986, THIS SITE IS LOCATED WITHIN THE 100 YR FLOODPLAIN. HOWEVER THE WORK TAKING PLACE ON THIS SITE IS APPROXIMATELY 1523 FEET AWAY FROM AND APPROXIMATELY 32 FEET ABOVE THE FLOODPLAIN LIMITS. THE WORK ON THIS SITE WILL NOT REQUIRE FEMA FLOODPLAIN REVISIONS. A NON-CRITICAL FLOODPLAIN STUDY HAS BEEN SUBMITTED TO DED FOR REVIEW AND WAS APPROVED AS PART OF THE PRELIMINARY EQUIVALENT SKETCH PLAN APPROVAL.
- THERE ARE NO KNOWN CEMETERIES OR BURIAL GROUNDS ON THIS SITE. HOWEVER, UPON DISCOVERY OF ANY EVIDENCE OF BURIAL OR GRAVES, THE DEVELOPER WILL BE SUBJECT TO SECTION 16.1605 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
- THE SUBJECT PROPERTY IS ZONED PEC (PLANNED EMPLOYMENT CENTER) PER THE COMPREHENSIVE ZONING PLAN (02/02/2004) AND THE COMP LITE ZONING REGULATION AMENDMENTS EFFECTIVE JULY 28, 2006.
- THIS SITE IS SUBJECT TO DEVELOPMENT CRITERIA FOR STORMWATER MANAGEMENT. THE STORMWATER MANAGEMENT FOR THESE ROAD IMPROVEMENTS HAS BEEN INCLUDED IN SDP-09-047. PER THAT PLAN WATER QUALITY MANAGEMENT WHICH WILL BE PROVIDED IN AN EXTENDED DETENTION WET POND (P-3) AND THROUGH THE USE OF VARIOUS SWP CREEPS. RECHARGE WILL BE PROVIDED IN ACCORDANCE WITH THE 2000 FIDE DESIGN REQUIREMENTS. CHANNEL PROTECTION WILL BE PROVIDED IN THE POND. ALL FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED. 10 TO 4 100 YR MANAGEMENT ARE NOT REQUIRED AS POND DISCHARGES TO ESTABLISHED FLOODPLAIN. THEREFORE, NO ADDITIONAL MEASURES WILL BE PROVIDED AS PART OF THIS PLAN.
- THE FOREST CONSERVATION FOR THESE ROAD IMPROVEMENTS HAVE BEEN INCLUDED IN SDP-09-047. THEREFORE, NO ADDITIONAL CONSERVATION MEASURES ARE REQUIRED.
- UNLESS OTHERWISE NOTED, DIMENSIONS FROM CURB ARE MEASURED AT FACE OF CURB.
- THE TRAFFIC STUDY WAS PREPARED BY HRA, ON OCTOBER 8, 2008.
- NO NOISE STUDY IS REQUIRED FOR THIS SITE.
- FOREST STAND DELINEATION WAS PREPARED BY CPJ ENVIRONMENTAL SERVICES.
- PREVIOUS/ ASSOCIATED CASE FILES:
 WP-09-038 - APPROVED NOVEMBER 10, 2008 TO WAIVE SECTION 16.155(c)(1) FOR WAIVER OF SITE DEVELOPMENT PLAN REQUIREMENT TO REMOVE EXISTING BUILDINGS AND PREPARE THE SITE FOR NEW CONSTRUCTION ON THE SUBJECT PROPERTY PRIOR TO THE ISSUANCE OF A GRADING PERMIT.
 SDP-09-060 APPROVED 1/20/1999 FOR THE CONSTRUCTION OF THE EXISTING BUILDING AND FACILITIES ON THE SUBJECT SITE.
 SP-09-007 PRELIMINARY EQUIVALENT SKETCH WAS APPROVED ON MAY 14, 2009 TO ESTABLISH SETBACKS, FOREST CONSERVATION REQUIREMENTS, FLOODPLAIN AND STORMWATER MANAGEMENT APPROVAL.
 WATER AND SEWER CONTRACT NUMBER 24-464-D WAS APPROVED ON 9/8/09 BY THE HOWARD COUNTY DEPARTMENT OF PLANNING AND PUBLIC WORKS AND THE DEPARTMENT OF PLANNING AND ZONING TO PROVIDE WATER AND SEWER SERVICE TO THE SITE.
 SDP-09-027 *each complete on 10/1/09* FOR THE CONSTRUCTION OF THE SOUTH CAMPUS INCLUDING THE SEDIMENT CONTROL, STORMWATER MANAGEMENT, FOREST CONSERVATION, LANDSCAPE AND FLOODPLAIN DELINEATION FOR THE SOUTH CAMPUS AS WELL AS THESE ROAD IMPROVEMENTS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING ON THESE PLANS:
 -MISS UTILITY 1-800-257-7777
 -HOWARD COUNTY DPWT, BUREAU OF UTILITIES (410) 313-4900
 -BALTIMORE GAS AND ELECTRIC COMPANY CONTRACTOR SERVICES (410) 850-4620
 -BALTIMORE GAS AND ELECTRIC COMPANY UNDERGROUND DAMAGE CONTROL (410) 787-9068
 -VERIZON 1-800-446-5266
- CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS AS NECESSARY TO GRADE THE SITE AND COMPLETE ANY REQUIRED EXCAVATIONS.
- christopher consultants, ltd. SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION, MEANS, METHODS, TECHNIQUES, OR PROCEDURES, UTILIZED BY THE CONTRACTOR, NOR FOR THE SAFETY OF PUBLIC OR CONTRACTOR'S EMPLOYEES, NOR FOR THE FAILURE OF THE CONTRACTOR TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND STANDARD CONSTRUCTION PRACTICES.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES WHICH ARE TO REMAIN FREE FROM DAMAGE AND MAINTAIN UNINTERRUPTED SERVICE TO ALL USERS. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OR SUBCONTRACTOR'S ACTIONS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- SCALING OF THESE PLANS IS DISCOURAGED UNLESS DIRECTED BY THE ENGINEER. IN THE EVENT OF A DISCREPANCY BETWEEN THE SCALED AND THE FIGURED DIMENSIONS, THE FIGURED DIMENSIONS SHALL BE HELD.
- T.B.R. = TO BE REMOVED
- PROVIDE SIGNAGE ON THE BUILDING AND AT THE STREET IDENTIFYING THE BUILDING ADDRESS; IDENTIFY EACH SEPARATE SUITE BY LETTER.
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- TREES WITH MATURE HEIGHTS GREATER THAN 28' SHALL NOT BE PLANTED WITHIN 20' OF EITHER SIDE OF THE UTILITY POLE LINES. TREES WITH MATURE HEIGHTS GREATER THAN 40' SHALL NOT BE PLACED WITHIN 40' OF THE UTILITY POLE LINES. TREES PLANTED OR RETAINED TO COMPLY WITH THE FOREST CONSERVATION PLAN OR OTHER PERPETUAL EASEMENT REQUIREMENTS SHALL MET THE ABOVE CONDITIONS. BGE SHALL HAVE THE PERPETUAL RIGHT TO TRIM OR REMOVE ANY PROTECTED TREES IF IN THE SOLE OPINION OF BGE, THE TREE OR TREES ARE ENDANGERING THE OVERHEAD ELECTRIC FACILITIES.
- NO GRADING, REMOVAL OF VEGETATION COVER OR TREES, PAVING, FOREST CONSERVATION EASEMENT AREAS, STREAMS, 100 YR FLOODPLAIN AND THEIR BUFFERS AND/OR NEH STRUCTURES SHALL BE PERMITTED WITHIN THE EXISTING WETLANDS AND WETLAND BUFFERS.
- STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURES AND POLES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (2006), SECTION 5.5.A. A MINIMUM OF 20" SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.

ROAD IMPROVEMENT PLAN

JHU/APL - SOUTH CAMPUS
 11101 JOHNS HOPKINS ROAD
 LAUREL MARYLAND 20723-2608



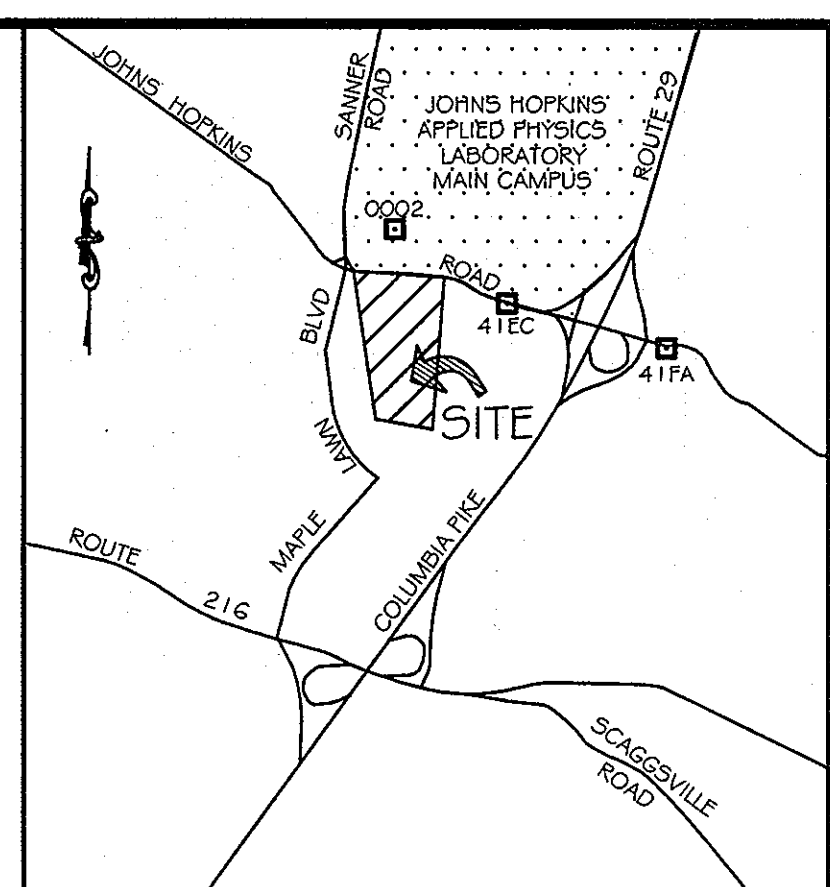
OVERALL ROAD IMPROVEMENT PLAN
 SCALE: 1" = 100'

LEGEND

- EXISTING CONTOURS
- EXISTING STORM DRAIN
- EXISTING SANITARY SEWER
- EXISTING PROPERTY LINE
- TREELINE
- SETBACK LINES
- FLOODPLAIN
- STREAM
- PROPOSED SIDEWALK HATCH
- PROPOSED CONTOUR
- PROPOSED STORM DRAIN
- PROPOSED SANITARY SEWER
- PROPOSED WATER
- FOREST CONSERVATION EASEMENT
- PROPOSED PAVEMENT
- PROPOSED STREET LIGHT
- PROPOSED PARTIAL SURFACE OVERLAY
- PROPOSED LANE USAGE
- PROPOSED PAVEMENT MARKINGS
- PROPOSED LANE USAGE

NO.	SHEET INDEX	TITLE
1	COVER SHEET	
2	ROAD IMPROVEMENT PLAN	
3	ROAD IMPROVEMENT PLAN	
4	ROAD IMPROVEMENT DETAIL SHEET	
5	MAINTENANCE OF TRAFFIC PLAN	
6	SIGNING & PAVEMENT MARKING PLAN	
7	SIGNAL DESIGN PLAN	
8	SIGNAL DETAILS PLAN	
9	SEDIMENT CONTROL PLAN	
10	SEDIMENT CONTROL PLAN	
11	SEDIMENT CONTROL DETAILS	
12	SEDIMENT CONTROL DETAILS	
13	STREET LIGHT PLAN	

ADDRESS CHART	
PARCEL NO.	ADDRESS
300	11101 JOHNS HOPKINS ROAD



VICINITY MAP ADC# 20807184
 SCALE 1"=2000'
 HOWARD COUNTY MAP PAGE 19 - GRID A-3 & B-3

BENCHMARK
 HORIZONTAL: MARYLAND NAD83 (ADJ 1991)
 VERTICAL: NAVD83
 GEODETIC SURVEY CONTROL: 0002
 NORTHING: 544036.517
 EASTING: 1342628.327
 ELEVATION: 444.825
 GEODETIC SURVEY CONTROL: 41EC
 NORTHING: 549588.817
 EASTING: 1342628.740
 ELEVATION: 430.262
 GEODETIC SURVEY CONTROL: 41FA
 NORTHING: 549104.896
 EASTING: 1344797.491
 ELEVATION: 407.532

MISS UTILITY
 Service Protection Center
 CALL TOLL FREE
 1-800-257-7777

APPROVED: DEPARTMENT OF PUBLIC WORKS
Walter J. ...
 Chief, Bureau of Highways
 Date: 10-23-09

APPROVED: DEPARTMENT OF PLANNING AND ZONING
...
 Chief, Development Engineering Division
 Date: 10/28/09

APPROVED: DEPARTMENT OF LAND DEVELOPMENT
...
 Chief, Division of Land Development
 Date: 10/28/09

JOHNS HOPKINS UNIVERSITY
 APPLIED PHYSICS LABORATORY
 1100 JOHNS HOPKINS ROAD
 LAUREL, MARYLAND 20723-6009
 ATTN: JAMES LOESCH, P.E., CFM
 PHONE: 443.778.5834 FAX 443.778.6122

christopher consultants
 engineering · surveying · land planning
 christopher consultants, inc.
 7172 Columbia Gateway Drive Suite 100, Columbia, MD 21046-2990
 410.972.8800 · faxes 201.861.0148 · fax 410.972.8803

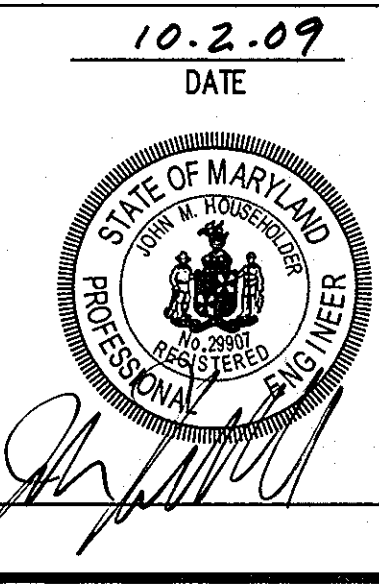
PERMIT INFORMATION CHART				
PROJECT NAME:	LOT/PARCEL NO.	CENSUS TRACT		
JHU/APL SOUTH CAMPUS	300	6051.02		
DEED REF.:	GRID NO.:	ZONE:	TAX MAP:	ELECTION DISTRICT:
L10412, F.396	22	PEC	41	5th
TITLE:				
COVER SHEET				
DESIGN: SJ	SCALE: AS SHOWN	PROJECT: 08A901.00		
DRAWN: SSA	DATE: AUGUST, 2009			
CHECKED: JMH	APPROVED: JMH	01 of 13		

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY CONSERVATION DISTRICT.
...
 DATE: 10/15/09

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY CONSERVATION DISTRICT.
 JOHN M. HOUSEHOLDER
 SIGNATURE OF ENGINEER
 DATE: 10-2-09

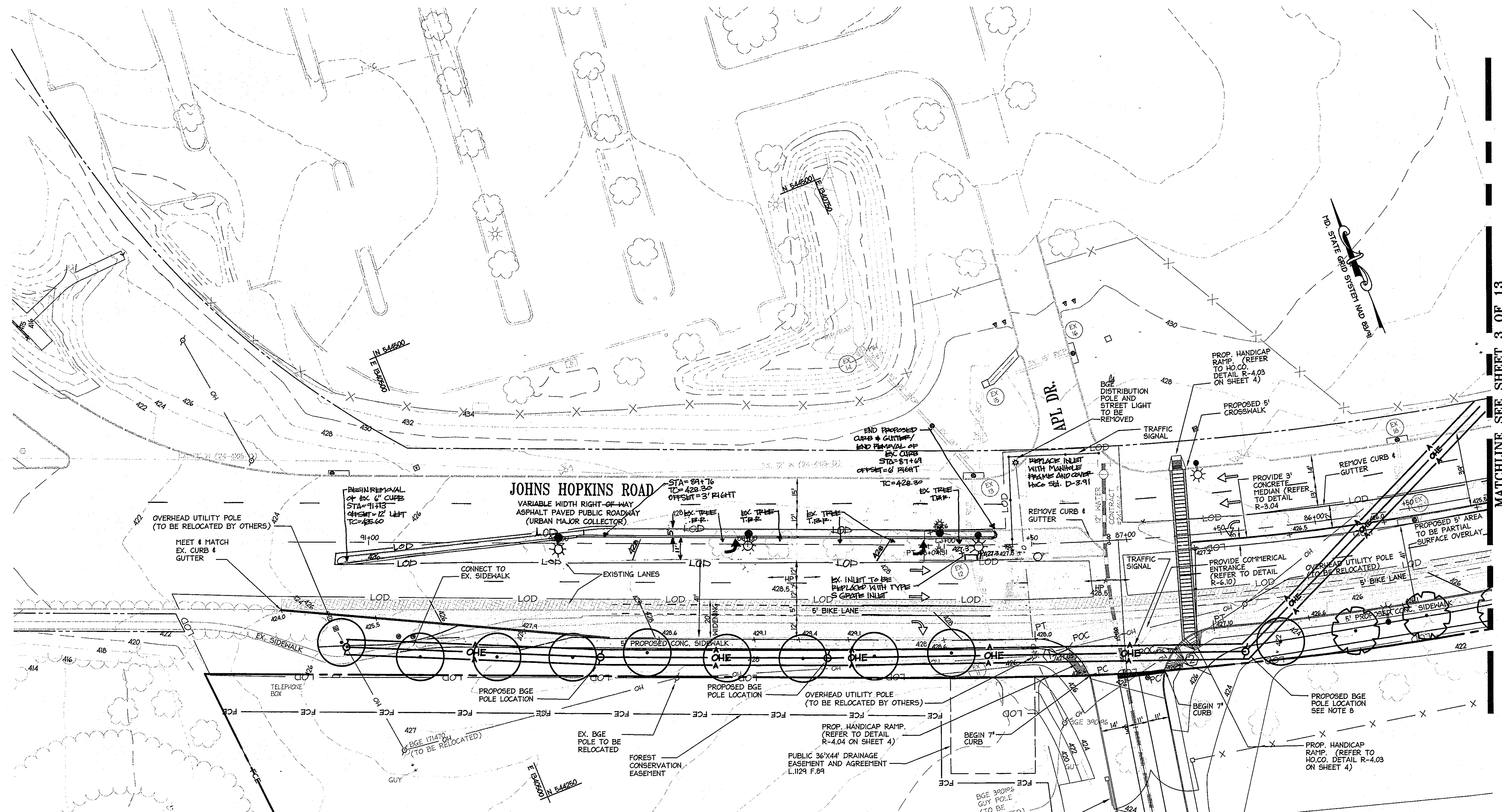
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE IN ACCORDANCE WITH THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY CONSERVATION DISTRICT.
 Richard T. ...
 SIGNATURE OF DEVELOPER
 DATE: 10/2/09

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
 SIGNATURE OF ENGINEER
 JOHN M. HOUSEHOLDER
 MD LICENSE NUMBER: 29907
 EXPIRATION DATE: 1-27-2010
 DATE: 10-2-09

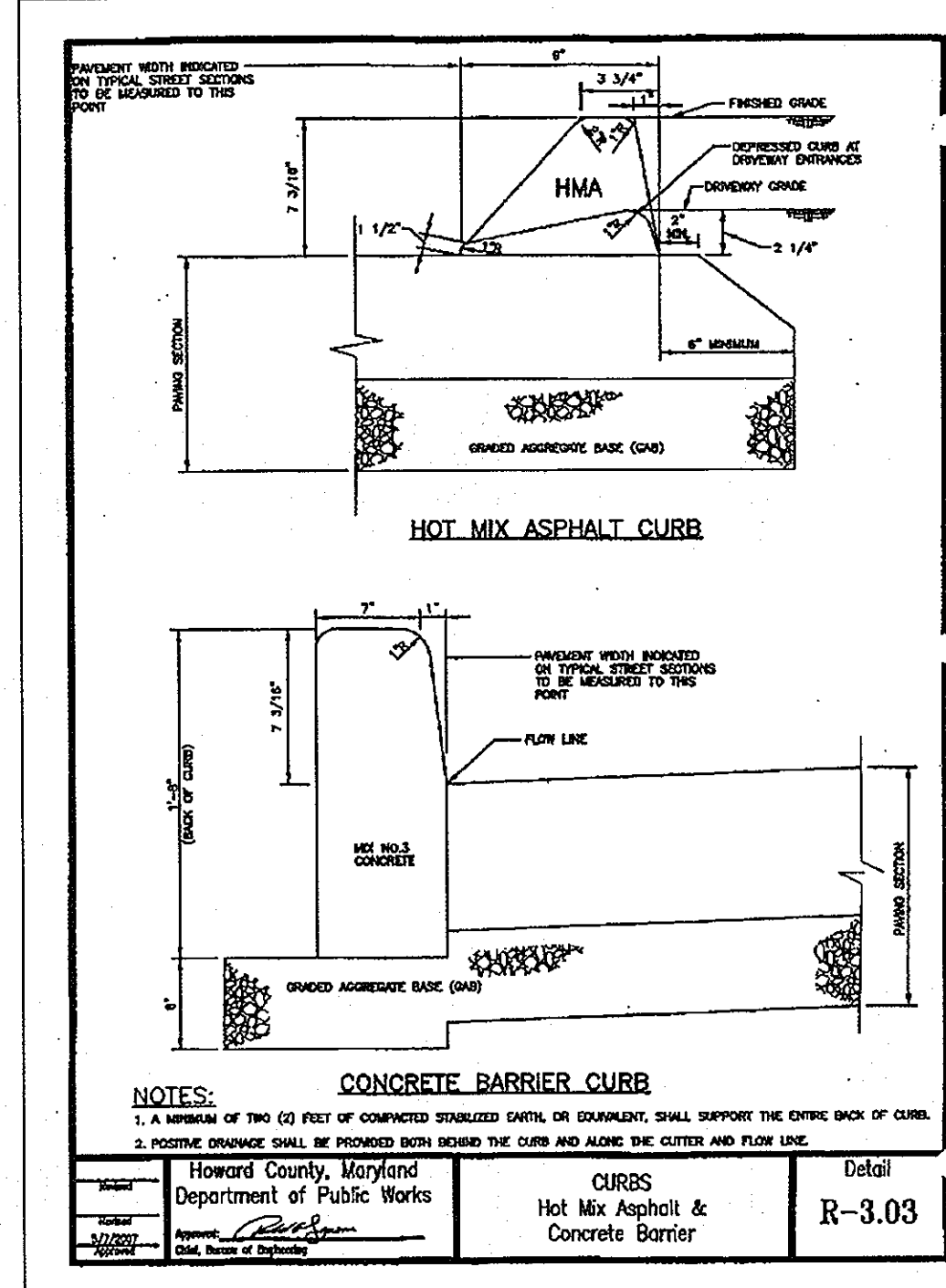


LEGEND

EXISTING CONTOURS	324
EXISTING STORM DRAIN	EX 12" RCP
EXISTING SANITARY SEWER	EX 8" SAN
EXISTING FENCE	
PROPERTY LINE	
TREELINE	
SETBACK LINES	
PROPOSED SIDEWALK HATCH	
PROPOSED CONTOUR	400
PROPOSED STORM DRAIN	
PROPOSED SANITARY SEWER	
PROPOSED WATER	
FOREST CONSERVATION EASEMENT	FCE
PROPOSED PAVEMENT	
PROPOSED STREET LIGHT	
PROPOSED PARTIAL SURFACE OVERLAY	
PROPOSED LANE USAGE	
PROPOSED PAVEMENT MARKINGS	
PROPOSED LANE USAGE	
PROPOSED AERIAL LINE	A
PROPOSED STREET TREE > 25' TALL TILIA CORDATA 'GREENSPIRE' - GREENSPIRE LITTLELEAF LINDEN	
PROPOSED STREET TREE < 25' TALL ACER GRISEUM - PAPERBARK MAPLE	
EX TREE TO REMAIN AS STREET TREE	
TBR = TO BE REMOVED	
NIC = NOT IN CONTRACT	



MATCHLINE SEE SHEET 3 OF 13



- NOTE (FOR SHEETS 2 AND 3)**
- UNLESS OTHERWISE NOTED, TREES ARE TYPICALLY 40' APART ON CENTER. THE FINAL BGE LIGHT POLES WILL DICTATE TRUE LOCATION.
 - THIS PLAN IS FOR STREET TREE INSTALLATION WITHIN THE STREET RIGHT-OF-WAY. REFER TO THE SITE AND/OR LANDSCAPE PLAN OF SDP-09-047 FOR THE LOCATION OR PROPOSED TREES OUTSIDE OF THE RIGHT-OF-WAY.
 - REFER TO SDP-09-047 FOR ONSITE LIGHTING.
 - THE ROAD WIDENING SHALL BE DONE IN ACCORDANCE WITH HOCO DETAIL R-08.
 - CONTRACTOR TO COORDINATE WITH OWNER ON THE FINAL CONSTRUCTION OF NEW BGE POLES.
 - CONTRACTOR TO COORDINATE WITH OWNER OF RELOCATION OF EXISTING BGE POLES.
 - CONTRACTOR TO COORDINATE ELECTRIC SERVICE TO TRAFFIC SIGNALS.
 - BGE POLES TO BE PLACED TO ALLOW FOR TRAFFIC SIGNAL POLE TO BE INSTALLED AS SHOWN ON SHEET 7 OF 13.
 - CONTRACTOR TO MODIFY EX. STORM DRAIN STRUCTURE I7 TO ACCOMMODATE FIELD CONDITION, OR REPLACE STRUCTURE.
 - ALL SPOT SHOTS ARE TOP OF CURB ELEVATIONS.
 - CONTRACTOR TO ENSURE POSITIVE DRAINAGE TO STORM SYSTEM ON ALL NEW PAVING.
 - STREET LIGHT LOCATION SHOWN ARE APPROXIMATE. REFER TO SHEET 13 FOR EXACT LOCATION.
 - ADJUST EX. STRUCTURE I25 & I26 TO NEW MEDIAN LOCATION AND EXTEND EXISTING PIPES WITH SIMILAR SIZE PIPE OR REPLACE IN KIND.

FILLET TABLE

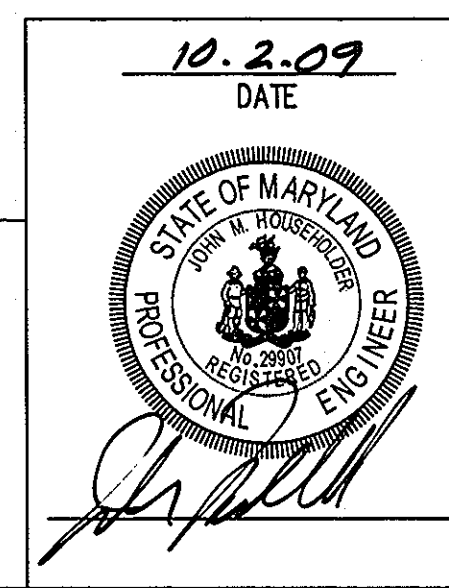
DRIVEWAY ENTRANCE #	STATIONING	OFFSET DRIVEWAY CL	ELEVATION OF TOC
FILLET ① RADIUS = 30'	PT 0+49.44	46.99' OFFSET WEST	428.70
	POC 0+55.72	29.63' OFFSET WEST	427.70
	PC 0+70.10	19.56' OFFSET WEST	426.60
FILLET ② RADIUS = 30'	PT 0+49.38	47.40' OFFSET EAST	428.00
	POC 0+59.81	26.29' OFFSET EAST	427.00
	PC 0+72.08	19.61' OFFSET EAST	426.21

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

John M. Loesch
SIGNATURE OF ENGINEER
JOHN M. LOESCH, P.E., CFM
MD LICENSE NUMBER: 29907
EXPIRATION DATE: 1-27-2010

10.2.09
DATE



APPROVED: DEPARTMENT OF PUBLIC WORKS
John M. Loesch
 Chief, Bureau of Highways
 Date: 10-27-09

APPROVED: DEPARTMENT OF PLANNING AND ZONING
John M. Loesch
 Chief, Development Engineering Division
 Date: 10/28/09

John M. Loesch
 Chief, Division of Land Development
 Date: 10-28-09

Date	No.	Revision Description
AUG 29 10	1	ADD LEFT-TURN BY ON WESTBOUND JOHNS HOPKINS RD AT INTERSECTION WITH APL DR.

JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
 1100 JOHNS HOPKINS ROAD
 LAUREL, MARYLAND 20723-6099
 ATTN: JAMES LOESCH, P.E., CFM
 PHONE: 443.778.5934 FAX: 443.778.6122

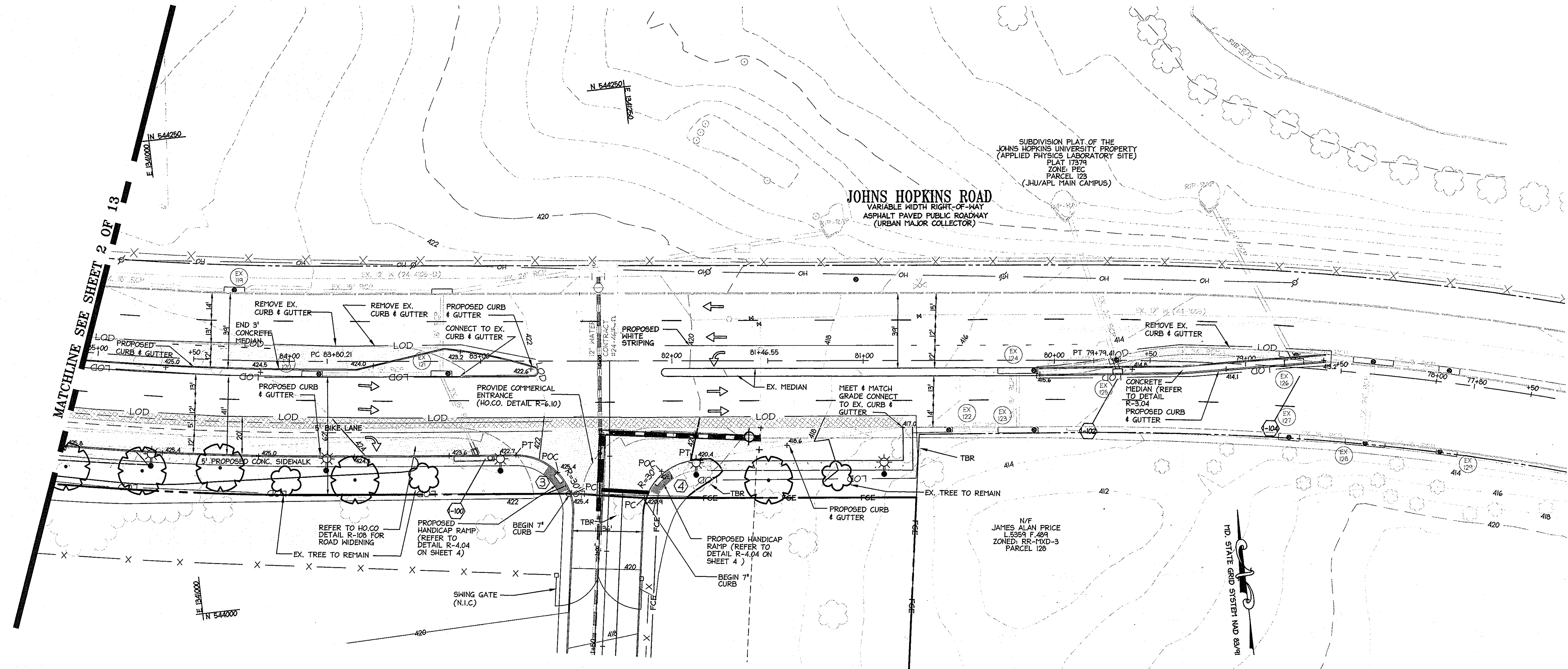
christopher consultants
 engineering · surveying · land planning
 christopher consultants, inc.
 7172 colvin rd gateway drive suite 103 · columbia, md 21046-2900
 410.872.8800 · mco 301.851.0148 · fax 410.872.8803

PERMIT INFORMATION CHART

PROJECT NAME: JHU/APL SOUTH CAMPUS	LOT/PARCEL NO. 300	CENSUS TRACT 6051.02
DEED REF. L10412, F.396	GRID NO. / ZONE 22 PEC	TAX MAP 41
ELECTION DISTRICT 5th		

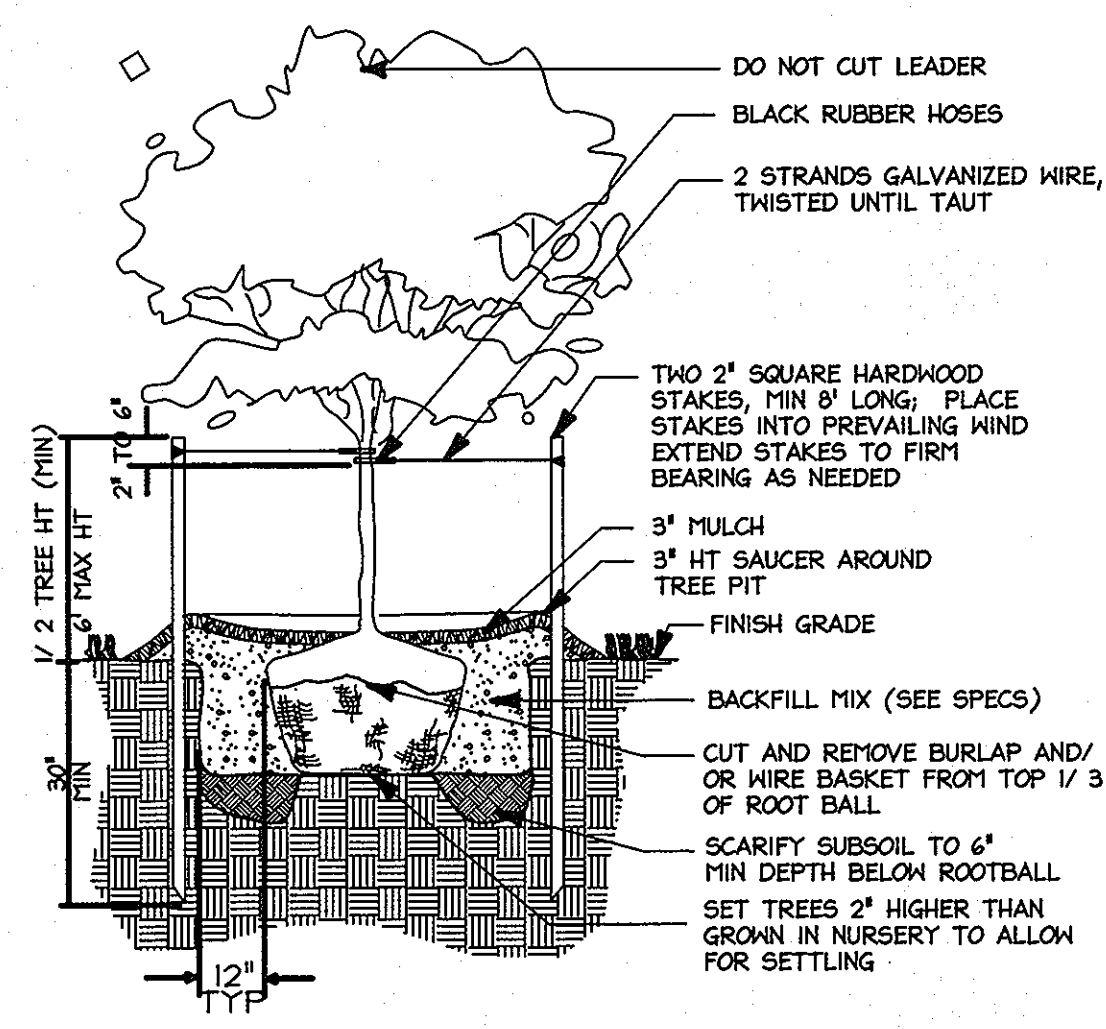
TITLE: ROAD IMPROVEMENT PLAN

DESIGN: SJ	SCALE: 1" = 30'	PROJECT: 08A901.00
DRAWN: SSA	DATE: AUGUST, 2009	
CHECKED: JMH	APPROVED: JMH	02 OF 13



LEGEND

- EXISTING CONTOURS -324
- EXISTING STORM DRAIN EX. 12" RCP
- EXISTING SANITARY SEWER EX. 8" SAN
- PROPERTY LINE
- TREELINE
- SETBACK LINES
- PROPOSED SIDEWALK HATCH
- PROPOSED CONTOUR 400
- PROPOSED STORM DRAIN
- PROPOSED SANITARY SEWER
- PROPOSED WATER
- FOREST CONSERVATION EASEMENT
- PROPOSED PAVEMENT
- PROPOSED STREET LIGHT
- PROPOSED PARTIAL SURFACE OVERLAY
- PROPOSED LANE USAGE
- PROPOSED PAVEMENT MARKINGS
- PROPOSED LANE USAGE
- PROPOSED AERIAL LINE
- PROPOSED STREET TREE > 25' TALL
TILIA CORDATA 'GREENSPIRE' -
GREENSPIRE LITTLELEAF LINDEN
- PROPOSED STREET TREE < 25' TALL
ACER GRISEUM - PAPERBARK MAPLE
- EX TREE TO REMAIN AS STREET TREE
- TBR = TO BE REMOVED
- NIC = NOT IN CONTRACT



FILLET TABLE

DRIVEWAY ENTRANCE #2	STATIONING	OFFSET DRIVEWAY CL	ELEVATION OF TOC
FILLET #3 RADIUS = 30'	PT 0+49.53	40.05' OFFSET WEST	422.70
	POC 0+58.70	27.16' OFFSET WEST	421.90
	PC 0+70.51	20.01' OFFSET WEST	421.16
FILLET #4 RADIUS = 30'	PT 0+51.94	47.16' OFFSET EAST	420.40
	POC 0+60.40	26.49' OFFSET EAST	421.10
	PC 0+71.36	19.39' OFFSET EAST	420.90

PLANT LIST (FOR JOHNS HOPKINS ROAD)

QTY.	SYMBOL	SCIENTIFIC NAME	COMMON NAME	SIZE	SPACING/COMMENTS
7		TILIA CORDATA 'GREENSPIRE'	GREENSPIRE LITTLELEAF LINDEN	2 1/2-3' CAL	B&B, STRONG CENTRAL LEADER
10		ACER GRISEUM	PAPERBARK MAPLE	1 1/2-2' CAL	B&B

STREET TREE NOTE

- UNLESS OTHERWISE NOTED, TREES ARE TYPICALLY 40' APART ON CENTER.
- THIS PLAN IS FOR STREET TREE INSTALLATION WITHIN THE STREET RIGHT-OF-WAY. REFER TO THE SITE AND/OR LANDSCAPE PLAN ON SDP-01-047 FOR THE LOCATION OR PROPOSED TREES OUTSIDE OF THE RIGHT-OF-WAY.

APPROVED: DEPARTMENT OF PUBLIC WORKS
Wade A. Mahall
 Chief, Bureau of Highways 10-23-09
 Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING
John W. Williams
 Chief, Development Engineering Division 10/28/09
 Date

Robert J. Schuler
 Chief, Division of Land Development 10-28-09
 Date

JOHNS HOPKINS UNIVERSITY
 APPLIED PHYSICS LABORATORY
 1100 JOHNS HOPKINS ROAD
 LAUREL, MARYLAND 20723-6099
 ATTN: JAMES LOESCH, P.E., CFM
 PHONE 443.778.5134 FAX 443.778.6122

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 engineering · surveying · land planning
 christopher consultants, llc
 7173 colombo gateway drive, suite 100, colombo, md 21046-2999
 410.571.8600 · fax: 410.571.8104 · www.cconsultants.com

PERMIT INFORMATION CHART

PROJECT NAME: SHU/APL SOUTH CAMPUS	LOT/PARCEL NO. 300	CENSUS TRACT 6051.02
DEED REF. L10412, F.396	GRID NO. 22 ZONE PEC	TAX MAP 41 ELECTION DISTRICT 5th
TITLE: ROAD IMPROVEMENT PLAN		
DESIGN: SJ	SCALE: 1" = 30'	PROJECT: 08A901.00
DRAWN: SSA	DATE: AUGUST, 2009	03 OF 13
CHECKED: JMH	APPROVED: JMH	

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

John M. Householder
 SIGNATURE OF ENGINEER
 JOHN M. HOUSEHOLDER
 MD LICENSE NUMBER: 29907
 EXPIRATION DATE: 1-27-2010

10-2-09
 DATE

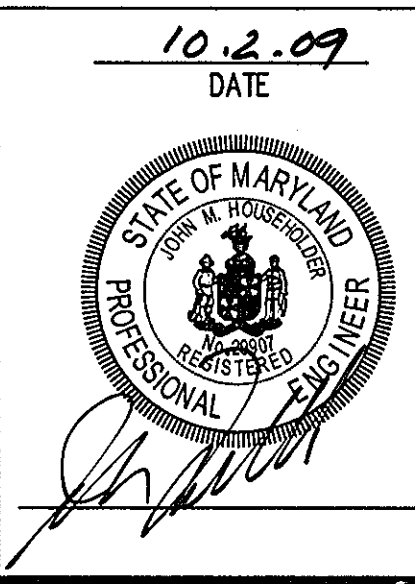


Table 405.2—Allowable Ramp Dimensions for Construction in Existing Sites, Buildings, and Facilities

Slope	Maximum Rise
Steeper than 1:10 but not steeper than 1:8	3 inches (75 mm)
Steeper than 1:12 but not steeper than 1:10	6 inches (150 mm)

A slope steeper than 1:8 shall not be permitted.

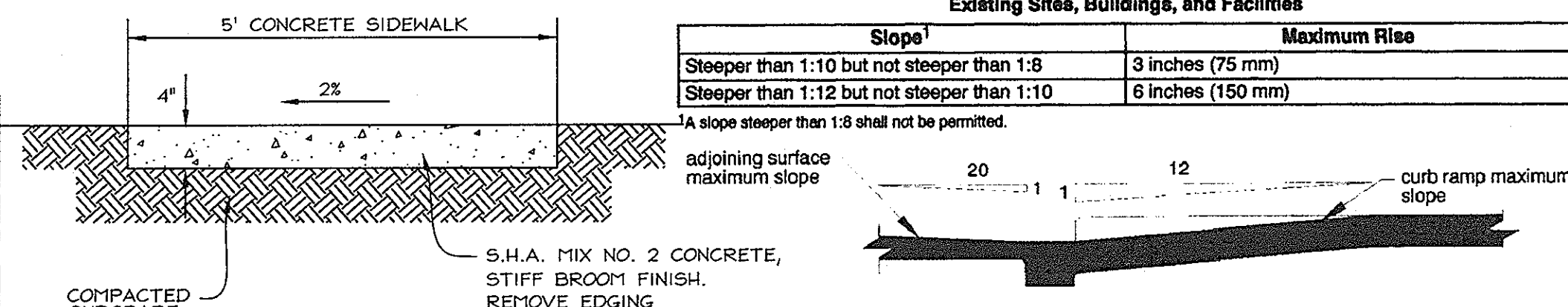
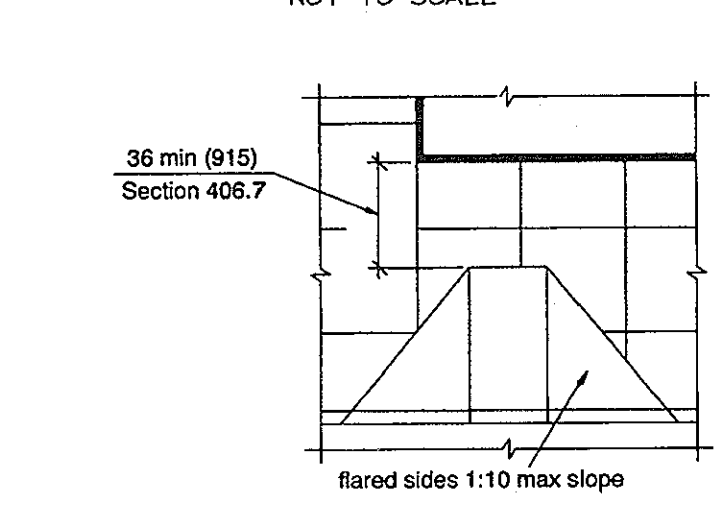


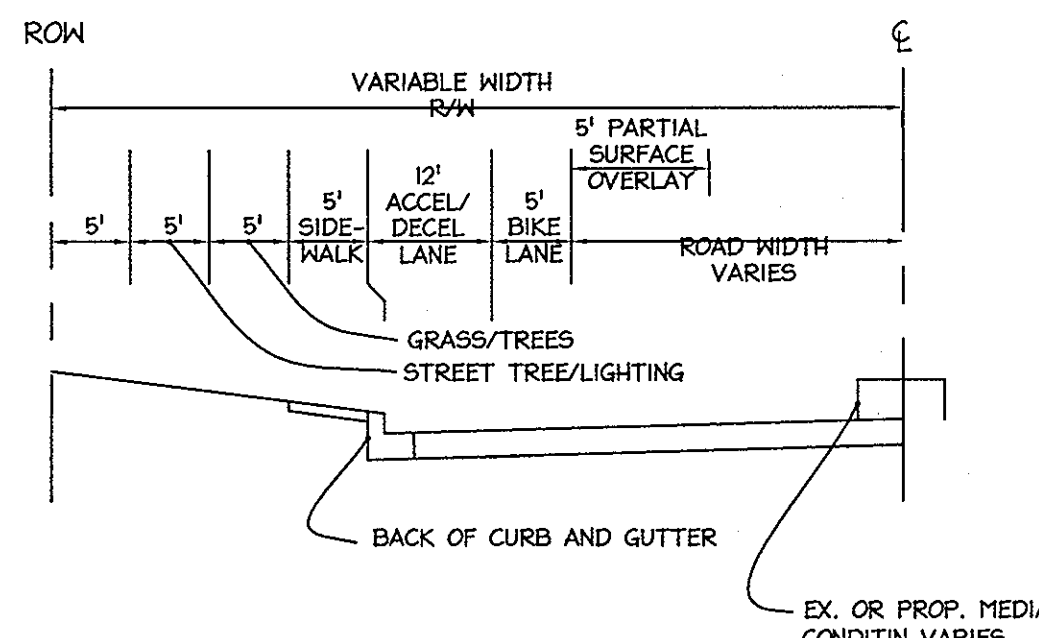
Fig. 406.2 Counter Slope of Surfaces Adjacent to Curb Ramps

- NOTES:
1. PROVIDE LONGITUDINAL EXPANSION JOINTS AT 15' O.C. (MAX.)
 2. PROVIDE CONTRACTION (DUMPT) JOINT AT 5' INTERVALS BETWEEN EXPANSION JOINTS.
 3. SIDEWALK TO BE SCRIBED IN 5' MAX. SQUARES.
 4. SEE HOWARD COUNTY STANDARD DETAIL R-3.05 FOR MORE INFORMATION.

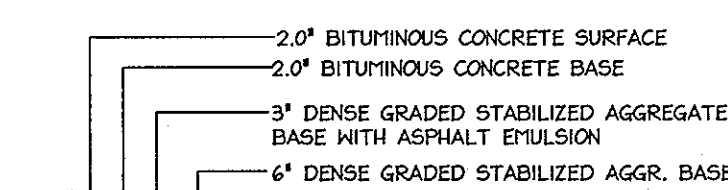
Fig. 406.3 Sides of Curb Ramps



NOTE: ANSI STANDARD DETAILS PROVIDED TO SUPPLEMENT H.O.C.O. AND SHS DETAILS AND ENSURE THAT ADA REGULATIONS ARE MET. WHERE CONFLICTS ARISE ANSI STANDARDS DICATE.

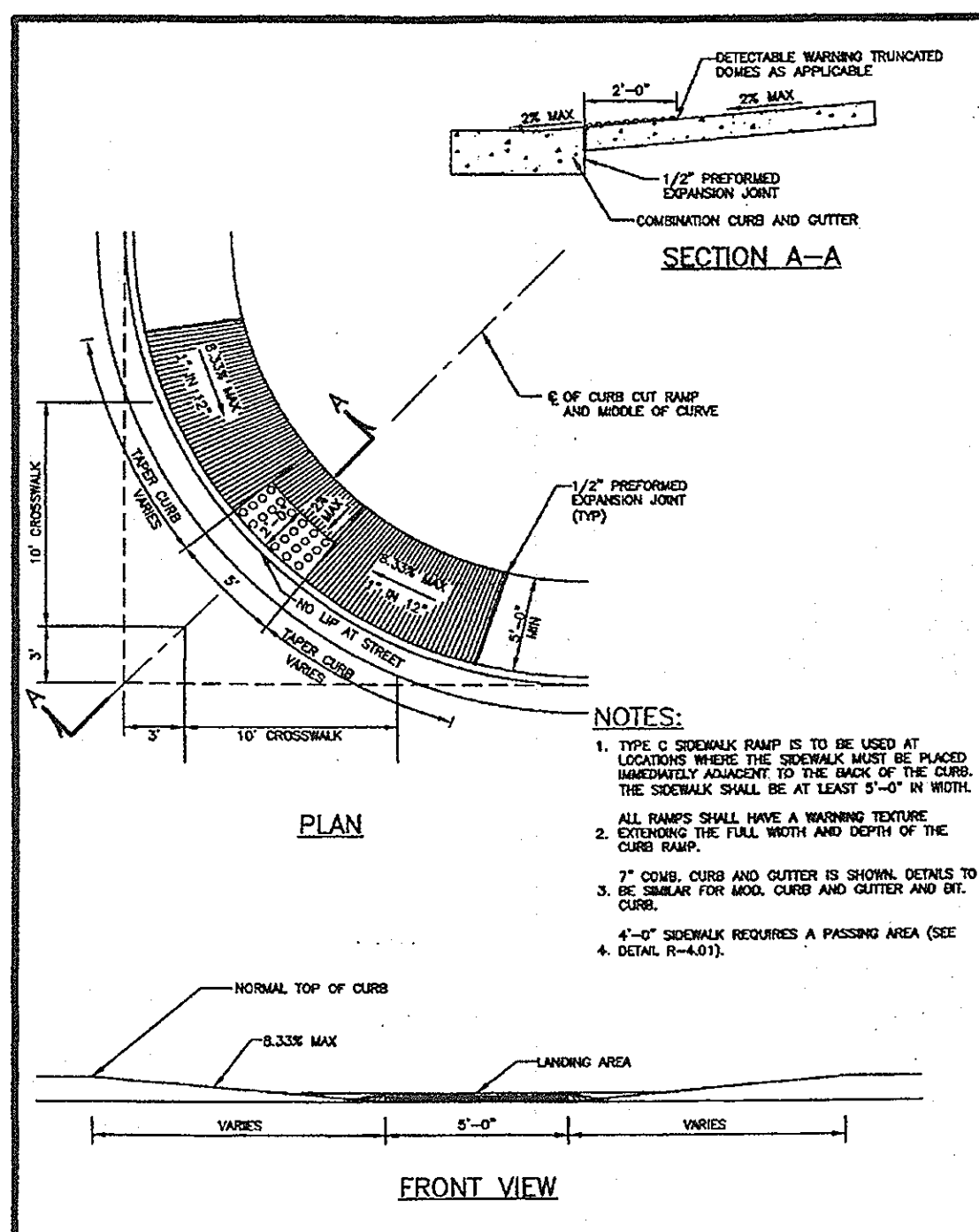


CLOSED ROAD SECTION NOT TO SCALE



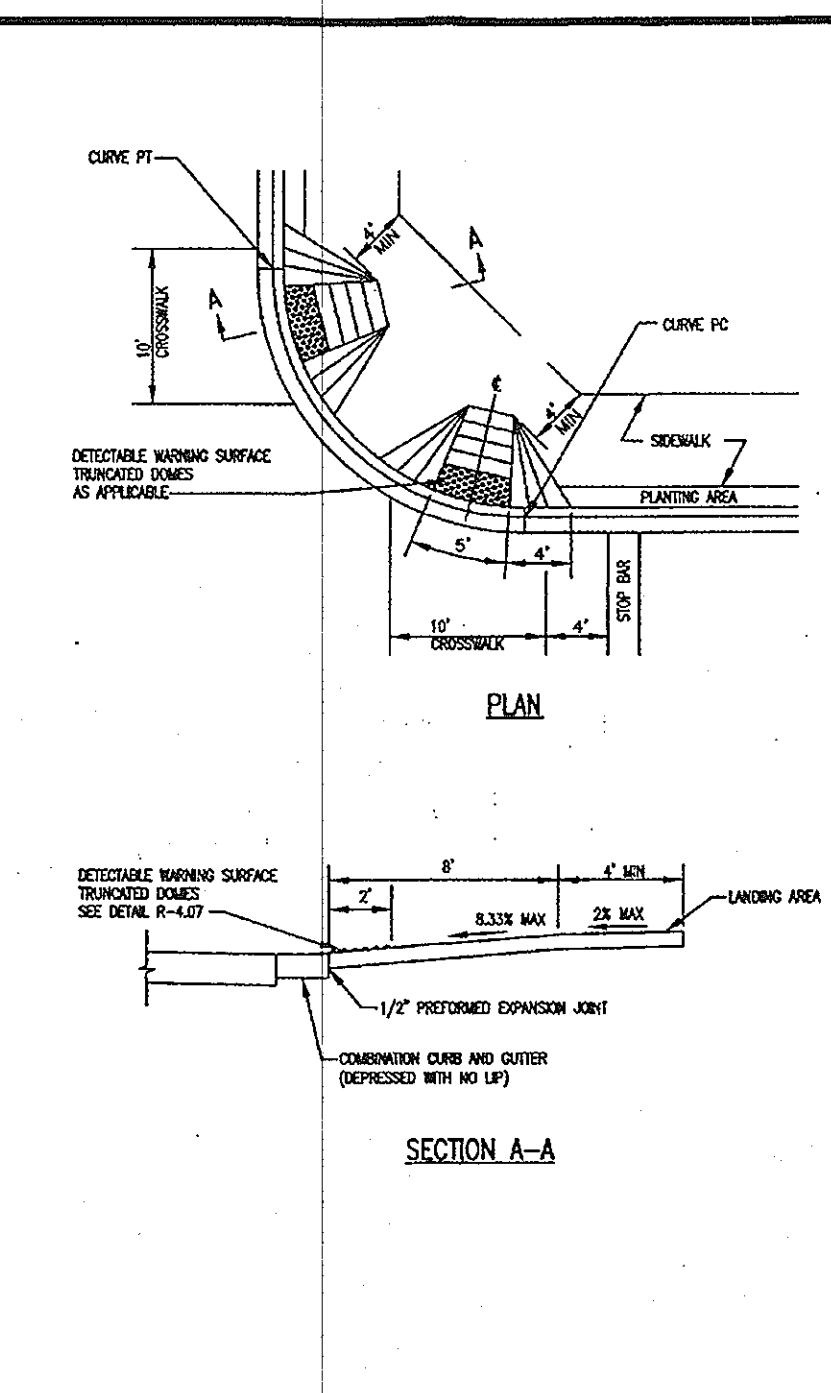
EXISTING JOHNS HOPKINS ROAD TYPICAL PAVING SECTION NOT TO SCALE

NOTE: CROSSLOPE OF OVERLAY TO VARY WITH EXISTING SITE CONDITIONS. CONTRACTOR TO ENSURE POSITIVE DRAINAGE TO STORM SYSTEM. CONTRACTOR TO CORE EX. PAVEMENT AND MATCH PAVEMENT SECTION



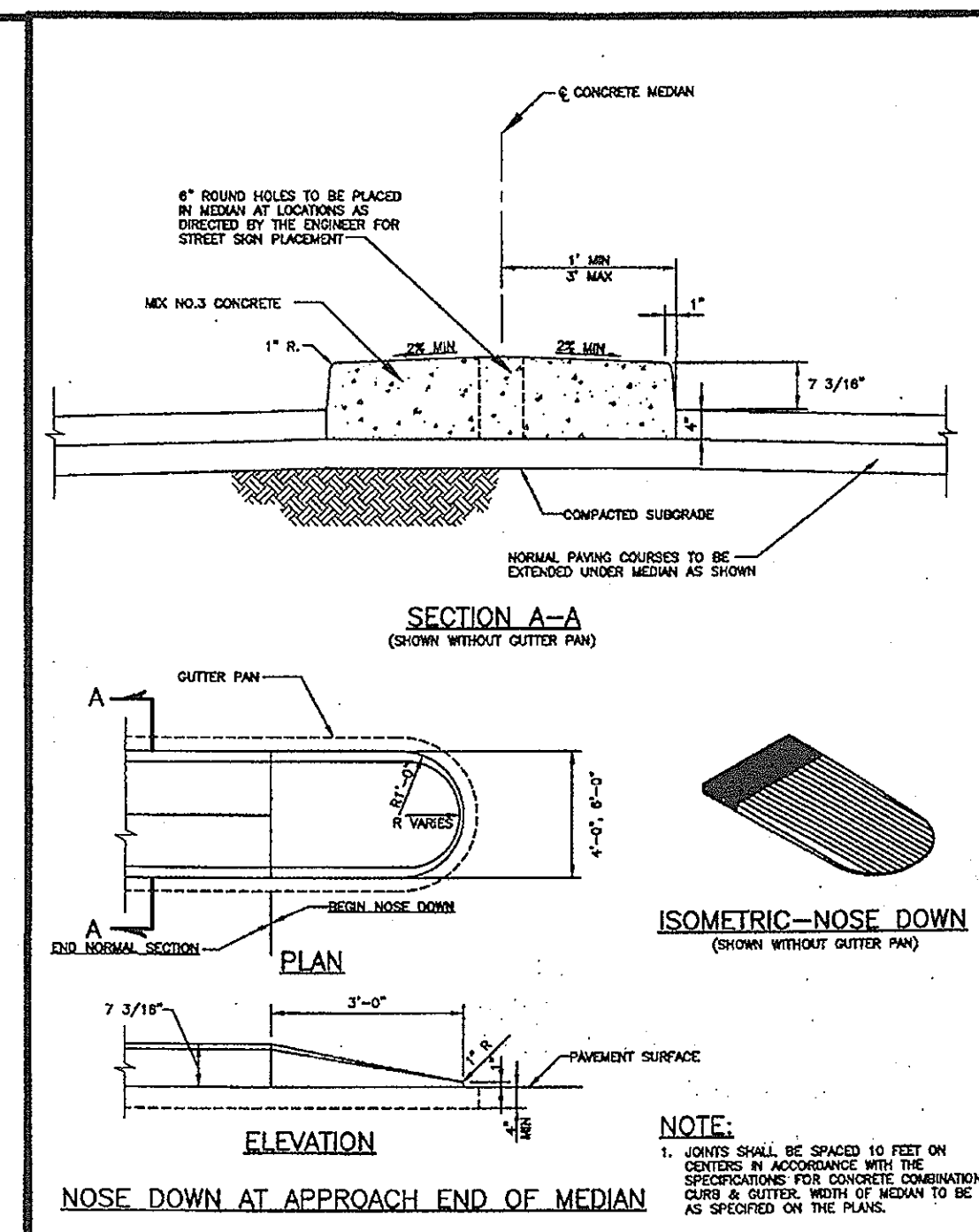
NOTES:

1. TYPE C SIDEWALK RAMP IS TO BE USED AT LOCATIONS WHERE THE SIDEWALK MUST BE PLACED IMMEDIATELY ADJACENT TO THE BACK OF THE CURB. THE SIDEWALK SHALL BE AT LEAST 3'-0\"/>



PLAN

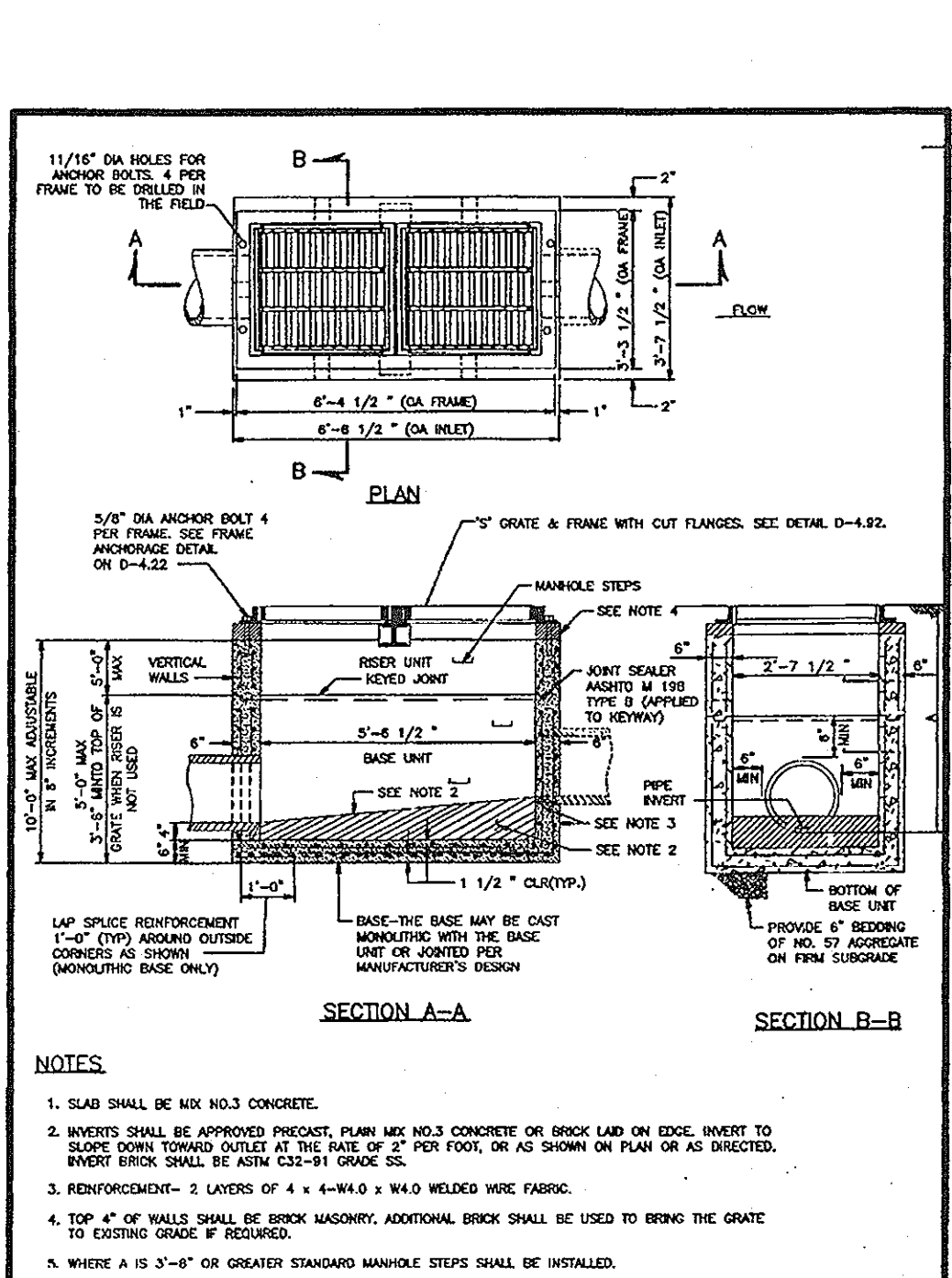
SECTION A-A



SECTION A-A

ISOMETRIC—NOSE DOWN

NOSE DOWN AT APPROACH END OF MEDIAN



SECTION A-A

SECTION B-B

NOTES:

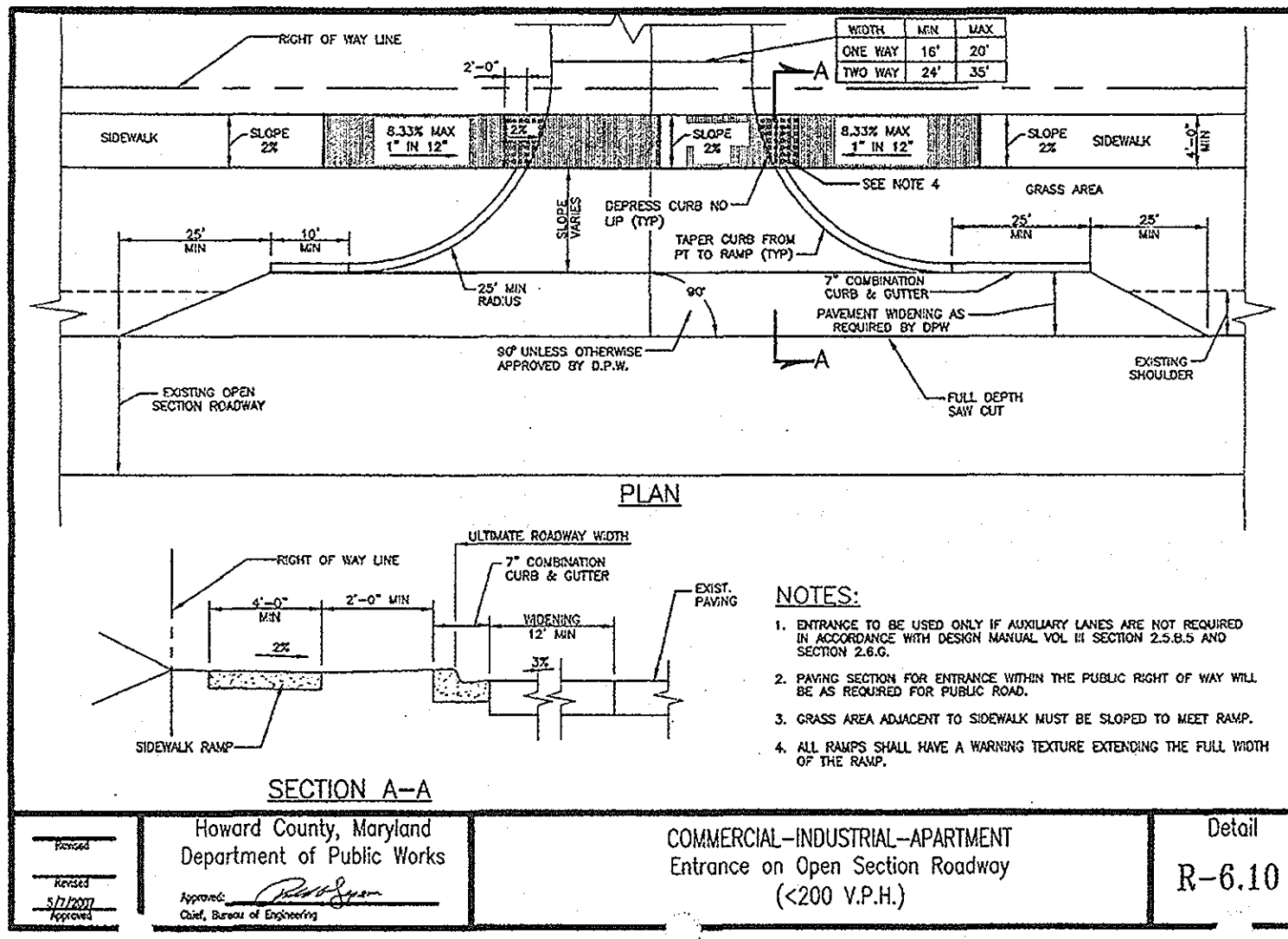
1. SLAB SHALL BE MIX NO.3 CONCRETE.
2. INVERTS SHALL BE APPROVED PRODUCT. SHALL BE 1/2\"/>

Howard County, Maryland Department of Public Works	SIDEWALK RAMP Type C	Detail R-4.04
---	-------------------------	------------------

Howard County, Maryland Department of Public Works	SIDEWALK RAMP Type B Dual Ramp	Detail R-4.03
---	--------------------------------------	------------------

Howard County, Maryland Department of Public Works	Monolithic Concrete Median	Detail R-3.04
---	-------------------------------	------------------

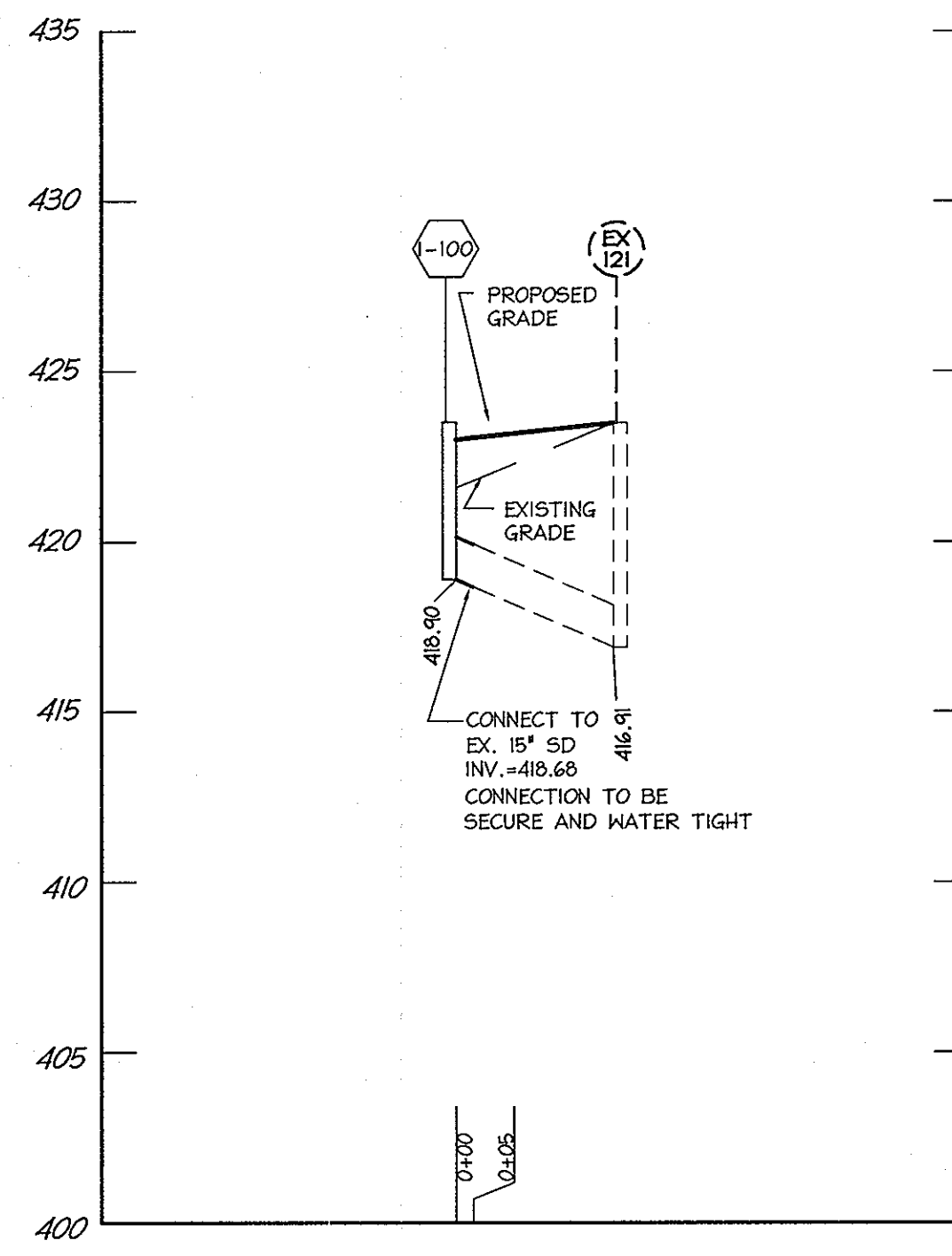
Howard County, Maryland Department of Public Works	Double Type 'S' Inlet	Detail D-4.23
---	-----------------------	------------------



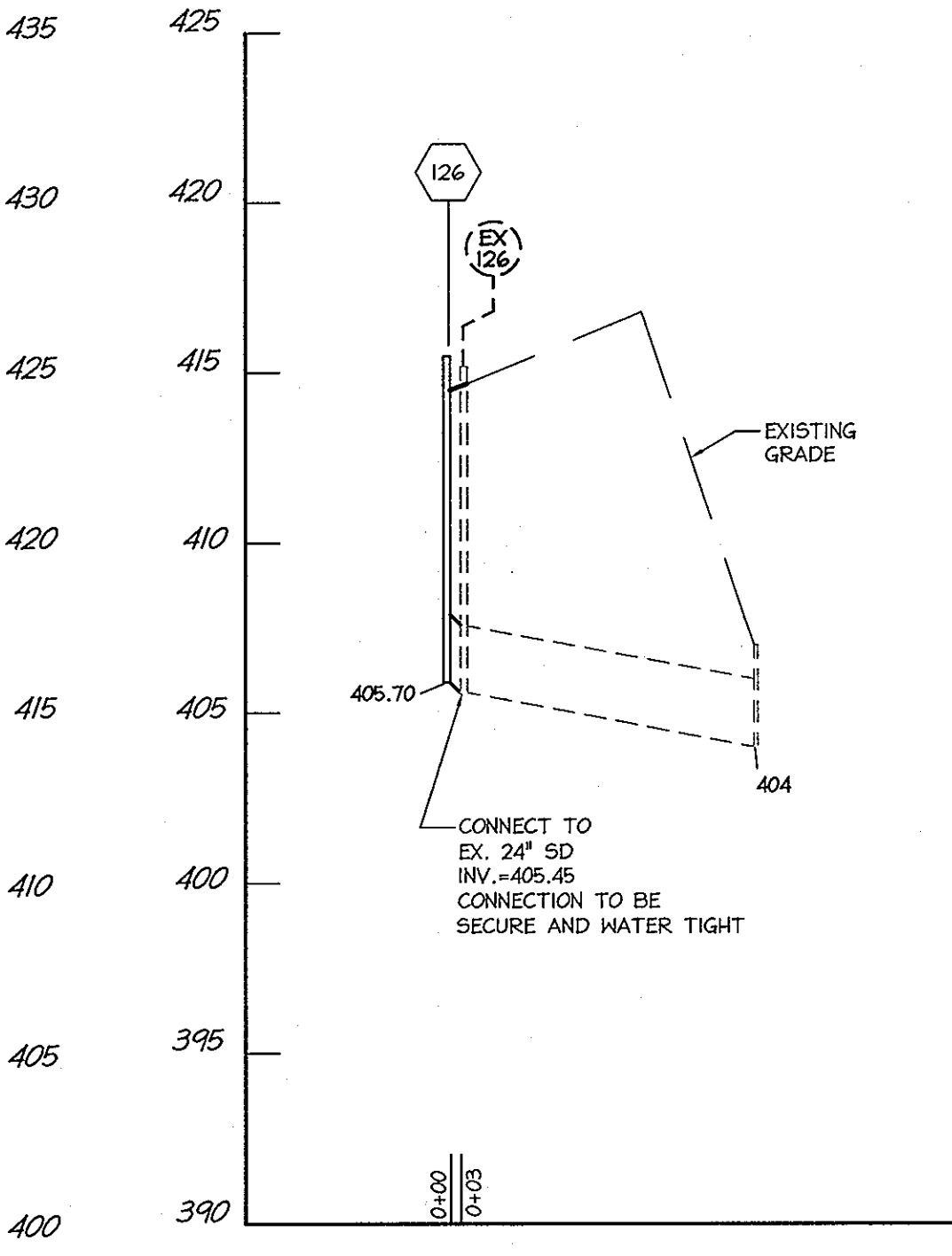
NOTES:

1. ENTRANCE TO BE USED ONLY IF ADJUTORY LANES ARE NOT PROVIDED BY ACCORDANCE WITH DESIGN MANUAL VOL II SECTION 2.5.8.3 AND SECTION 2.6.6.
2. PAVING SECTION FOR ENTRANCE WITHIN THE PUBLIC RIGHT OF WAY WILL BE AS REQUIRED FOR PUBLIC ROAD.
3. GRASS AREA ADJACENT TO SIDEWALK MUST BE SLOPED TO MEET RAMP.
4. ALL RAMP SHALL HAVE A WARNING TEXTURE EXTENDING THE FULL WIDTH OF THE RAMP.

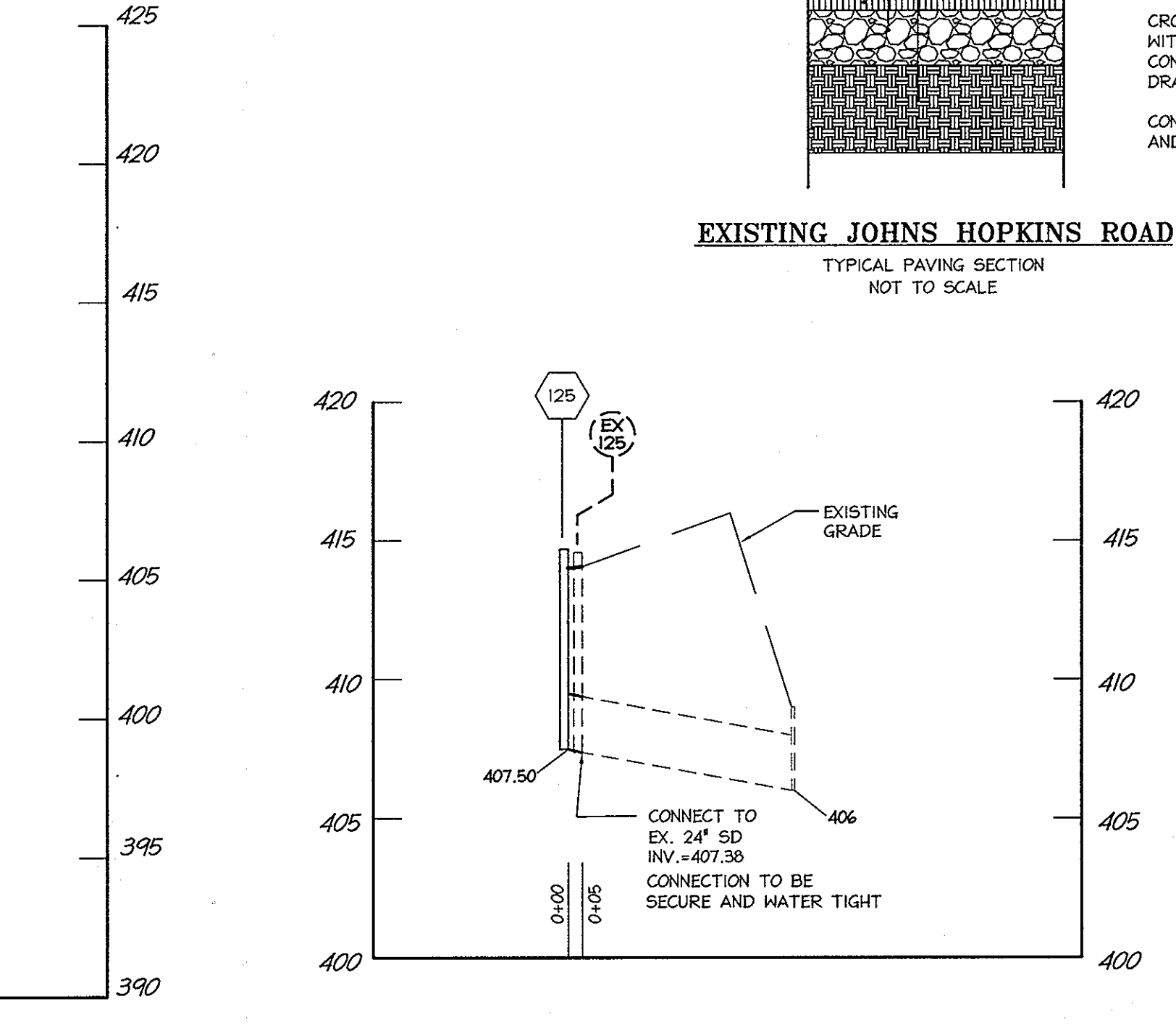
Howard County, Maryland Department of Public Works	COMMERCIAL—INDUSTRIAL—APARTMENT Entrance on Open Section Roadway (<200 V.P.H.)	Detail R-6.10
---	--	------------------



STORM DRAIN PROFILE - INLET 100 TO EX. INLET 121



STORM DRAIN PROFILE - RELOCATION EX. INLET 126



STORM DRAIN PROFILE - RELOCATION OF EX. INLET 125

SIZE	TYPE	LENGTH
15"	RCP CL-IV	5'
24"	RCP CL-IV	8'
TOTAL		13

FROM	TO	SIZE	TYPE	LENGTH
I-100	EX	15"	RCP CL-IV	5'
I-125	EX	24"	RCP CL-IV	5'
I-126	EX	24"	RCP CL-IV	3'

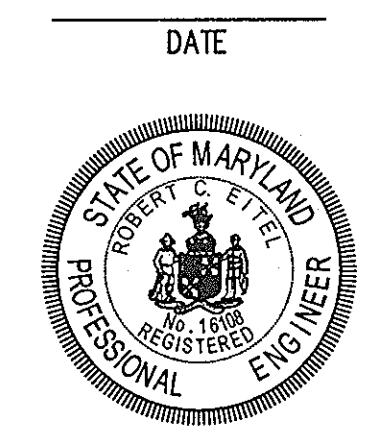
NO.	TYPE	WIDTH/ DIAMETER	INVERT ELEVATION	TOP ELEVATION	STANDARD DETAIL
I-100	"A-20" INLET	36"	418.90	423.50	SHA MD-376.42
EX 125	"A-5" INLET	36"	407.50	414.80	Ho Co. D-4.01
EX 126	"A-10" INLET	36"	405.70	413.70	Ho Co. D-4.03
EX 125	DOUBLE "S" INLET	6'-6 1/2"	419.97	427.30	Ho Co. D-4.23
EX 125	MANHOLE	48"	EXISTING	428.10	Ho Co. D-3.91

NOTE: REPLACE FRAME AND COVER FOR STRUCTURES 12 AND 255 ONLY.

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

SIGNATURE OF ENGINEER: ROBERT C EITEL, P.E.
M.D. LICENSE NUMBER: 16108
EXPIRATION DATE: 7-17-2012



APPROVED: DEPARTMENT OF PUBLIC WORKS
 [Signature] 10-23-09
 Chief, Bureau of Highways

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] 10/28/09
 Chief, Development Engineering Division

[Signature] 10-28-09
 Chief, Division of Land Development

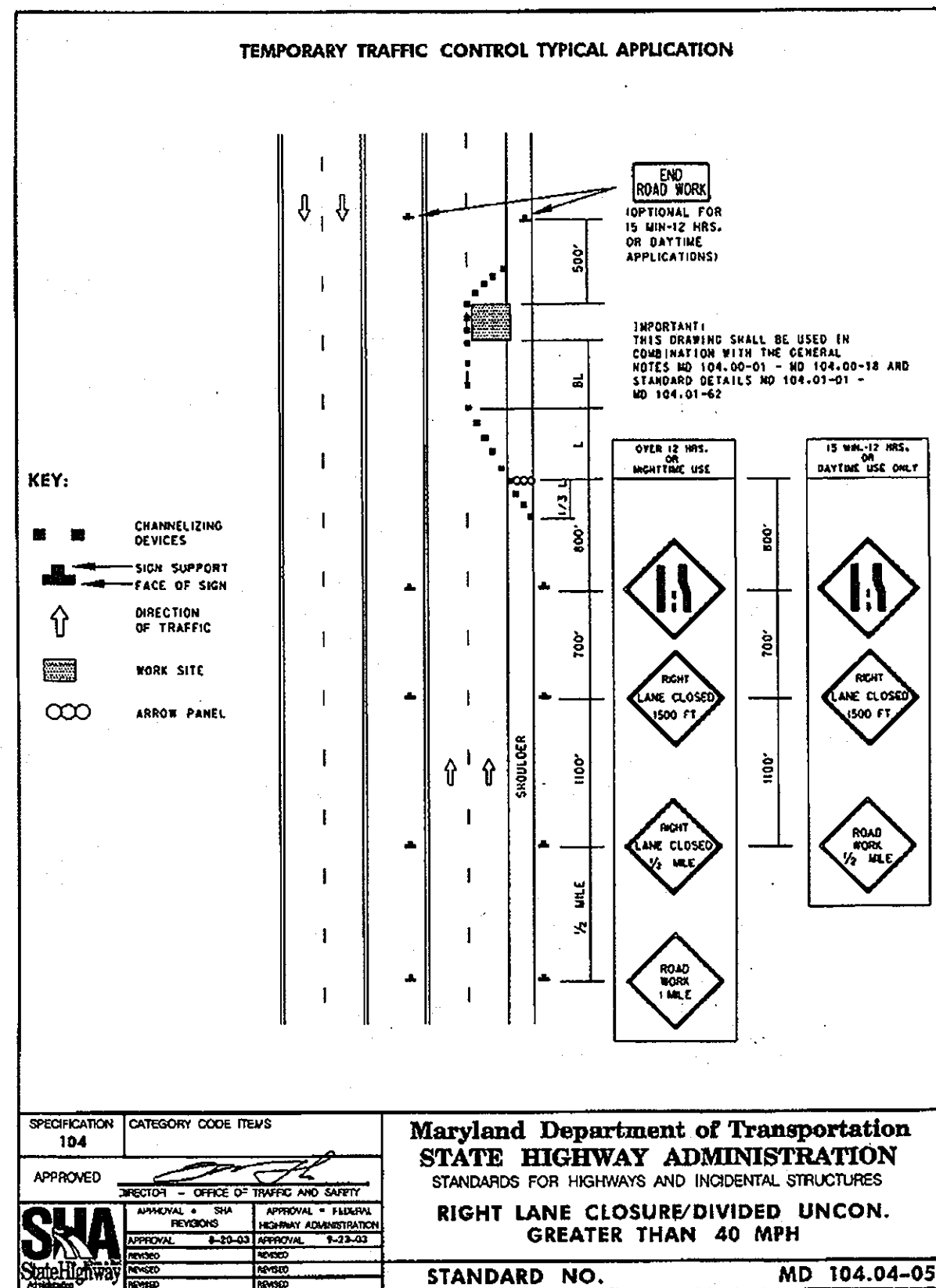
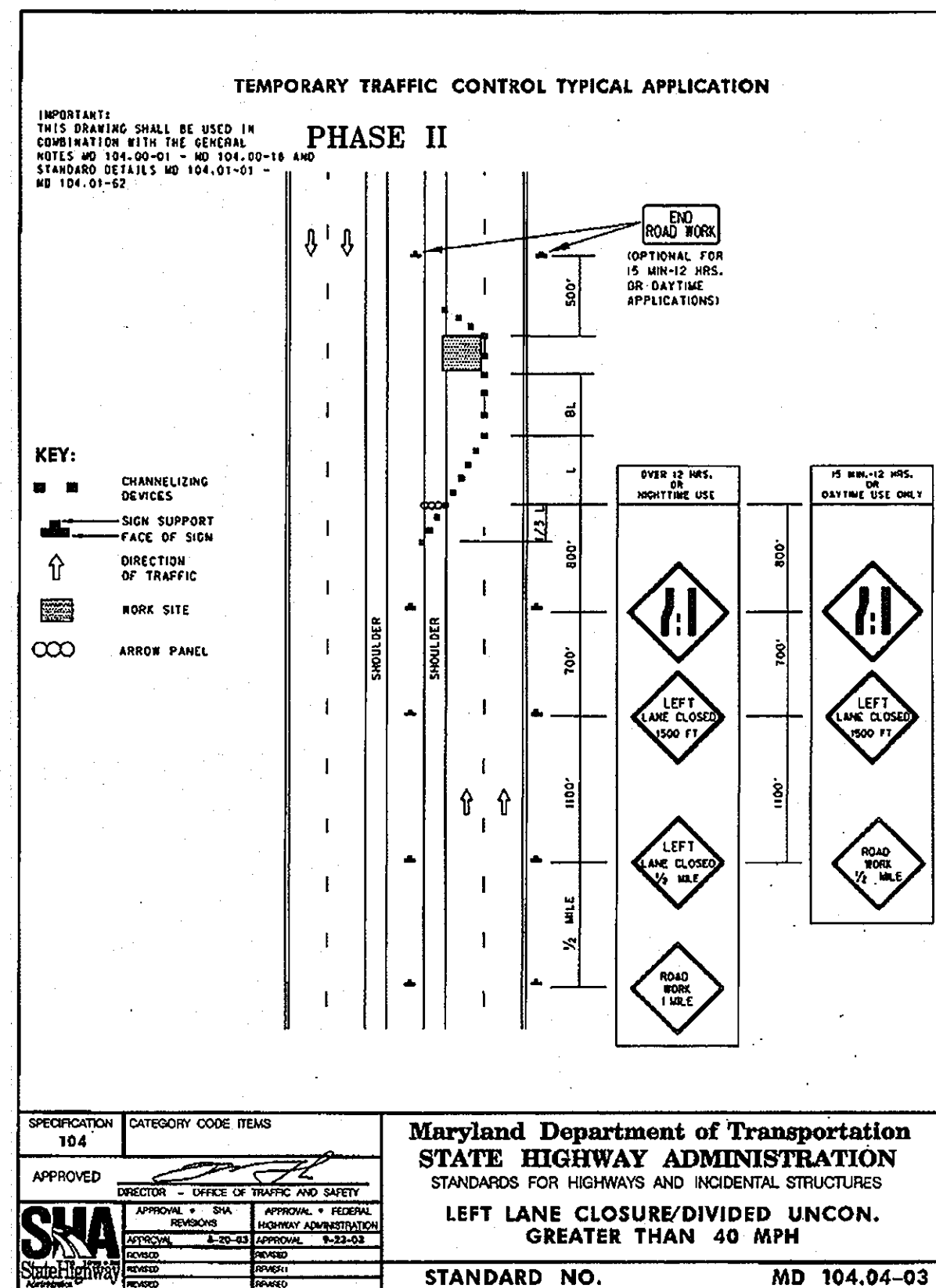
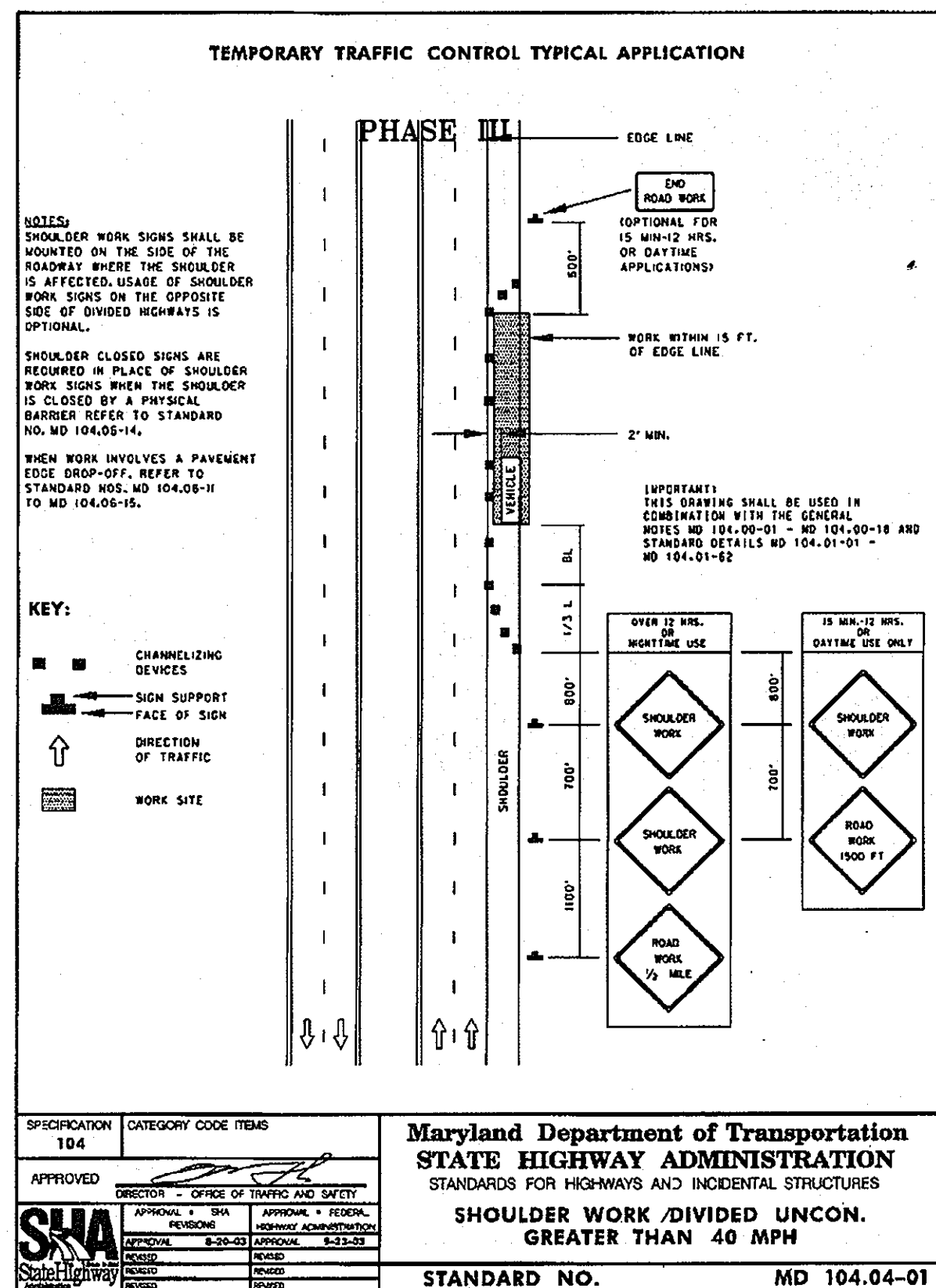
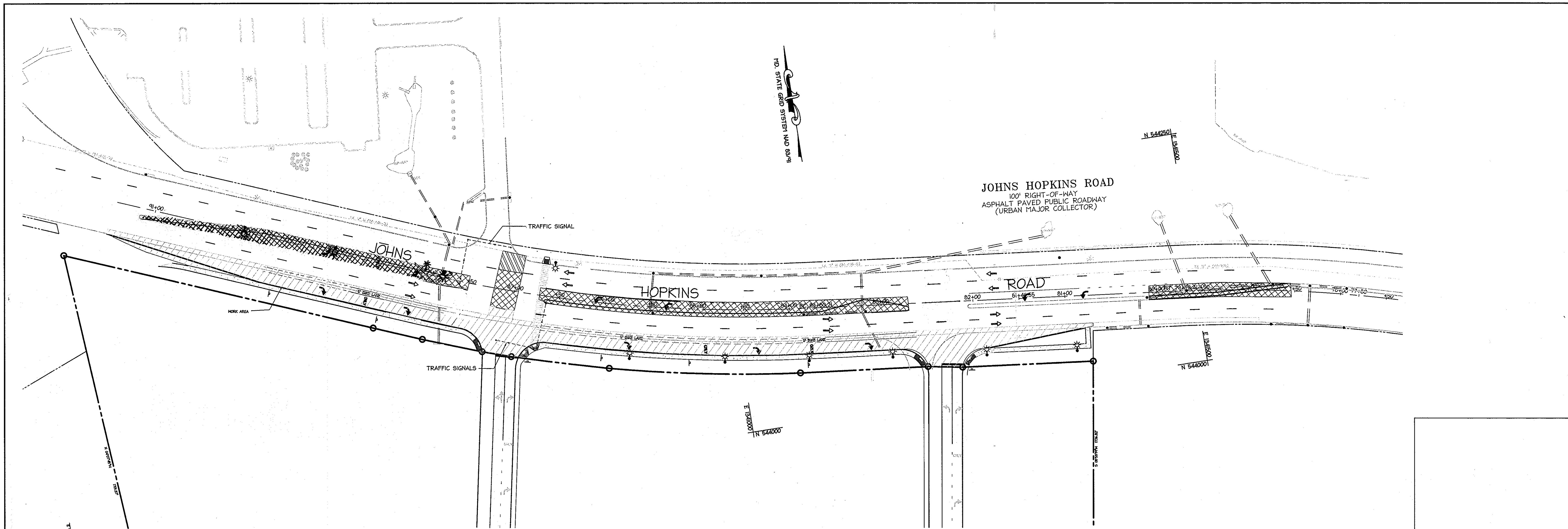
JOHNS HOPKINS UNIVERSITY
 APPLIED PHYSICS LABORATORY
 1100 JOHNS HOPKINS ROAD
 LAUREL, MARYLAND 20723-6099
 ATTN: JAMES LOESCH, P.E., CFM
 PHONE: 443.778.5384 FAX: 443.778.6122

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 christopher consultants, inc.
 7172 columbus gateway drive suite 100 · columbia, md 21046-2900
 410.872.8800 · fax: 410.872.8803

DATE	NO.	REVISION DESCRIPTION
10/23/09	2	ADD SS-TYPE GRADE INLET DETAIL
10/28/09	1	ADJUST TURN EX. IN RELOCATION OF EX. INLET 125 INTERSECTION WITH AP. DE.

PROJECT NAME	LOT/PARCEL NO.	CENSUS TRACT
JHU/APL SOUTH CAMPUS	300	6051.02
DEED REF.	GRID NO./ZONE	TAX MAP
L10412, F.396	22 PEC	41
ELECTION DISTRICT	5th	

DESIGN: SJ	SCALE:	PROJECT: 08A901.00
DRAWN: SSA	DATE: AUGUST, 2009	
CHECKED: JMH	APPROVED: JMH	04 OF 13



GENERAL NOTES:

- 1) ALL PHASING ON THIS PLAN IS SUGGESTED AND SHALL BE CONFIRMED WITH HOWARD COUNTY DPW&T.
- 2) ALL TEMPORARY TRAFFIC CONTROL DEVICES AND METHODS SHALL BE IN ACCORDANCE WITH THE 2003 MUTCD STANDARDS, MD.S.H.A. STANDARDS, AND HOWARD COUNTY DPW STANDARDS.
- 3) OPEN SECTIONS SHALL NOT REMAIN OPEN OVERNIGHT. IF STEEL PLATES ARE UTILIZED TO TEMPORARILY RESTORE THE ROAD, THEN STEEL PLATE WARNING SIGNS SHALL BE INSTALLED ON ALL APPROACHES.

PHASE I- LANE CLOSURE WORK

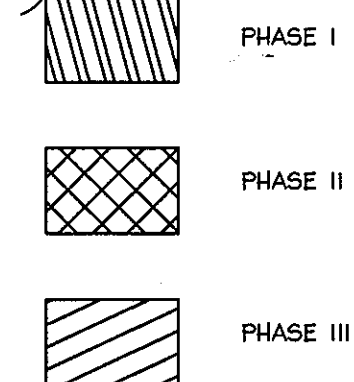
EXTENSION OF 12" WATER FROM EXISTING LINE (WEST ENTRANCE ONLY)
RIGHT LANE FOR WEST BOUND WILL BE CLOSED
RELOCATION OF STORM DRAIN STRUCTURES

PHASE II- LANE CLOSURE WORK (WEST ENTRANCE ONLY)

EXTENSION OF 12" WATER FROM EXISTING LINE SOUTH.
MEDIAN IMPROVEMENTS INCLUDING RELOCATION OF STORM DRAIN STRUCTURES
LEFT LANE OF EAST AND WESTBOUND WILL BE CLOSED
RELOCATION OF EXISTING STREETLIGHTS
REMOVAL OF STREET TREES
REMOVAL AND REPLACEMENT OF EXISTING

PHASE III- LANE CLOSURE WORK

EXTENSION OF 12" WATER FROM EXISTING LINE
RIGHT LANE OF EASTBOUND WILL BE CLOSED
CONSTRUCTION OF ACCELERATION-DECLARATION LANE
ADJUSTMENT OF STORM DRAIN
5' PARTIAL SURFACE OVERLAY
INSTALL TRAFFIC SIGNALS AND OTHER IMPROVEMENTS
EXTENSION OF 12" WATER ON EAST ENTRANCE



APPROVED: DEPARTMENT OF PUBLIC WORKS
William F. Mudd 10-23-09
Chief, Bureau of Highways Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Robert J. ... 10/28/09
Chief, Development Engineering Division Date

Kevin ... 10-28-09
Chief, Division of Land Development Date

JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
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LAUREL MARYLAND 20723-6099
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PHONE: 443.778.5134 FAX: 443.778.6122

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engineering • surveying • land planning
christopher consultants, inc.
7172 columbian gateway drive suite 100, columbia, md. 21046-2990
410.872.8800 • metro 301.581.0148 • fax 410.872.8803

PERMIT INFORMATION CHART

PROJECT NAME: JHU/APL SOUTH CAMPUS	LOT/PARCEL NO. 300	CENSUS TRACT 6051.02
DEED REF. L10412, F.396	GRID NO./ZONE 22 PEC	TAX MAP 41
ELECTION DISTRICT 5th		

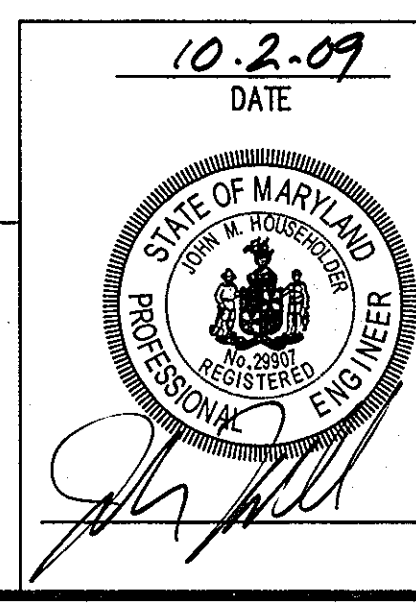
TITLE:
MAINTENANCE OF TRAFFIC PLAN

DESIGN: SJ	SCALE: 1" = 50'	PROJECT: 08A901.00
DRAWN: SSA	DATE: AUGUST, 2009	
CHECKED: JMH	APPROVED: JMH	05 of 13

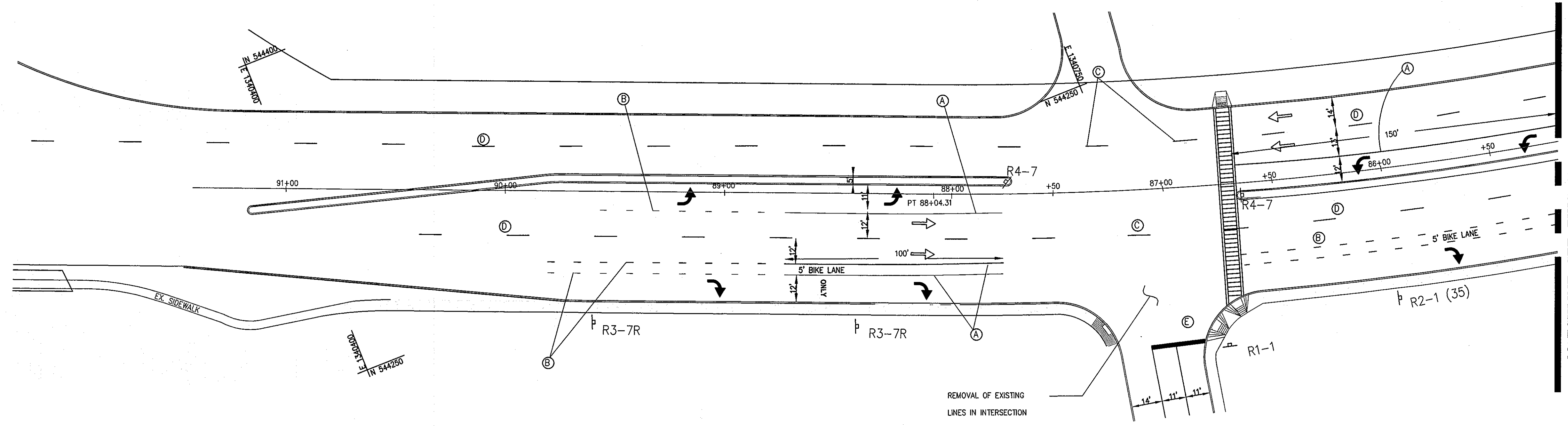
PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

John N. Householder
SIGNATURE OF ENGINEER
JOHN N. HOUSEHOLDER
MD LICENSE NUMBER: 29907
EXPIRATION DATE: 1-27-2010

10-2-09
DATE

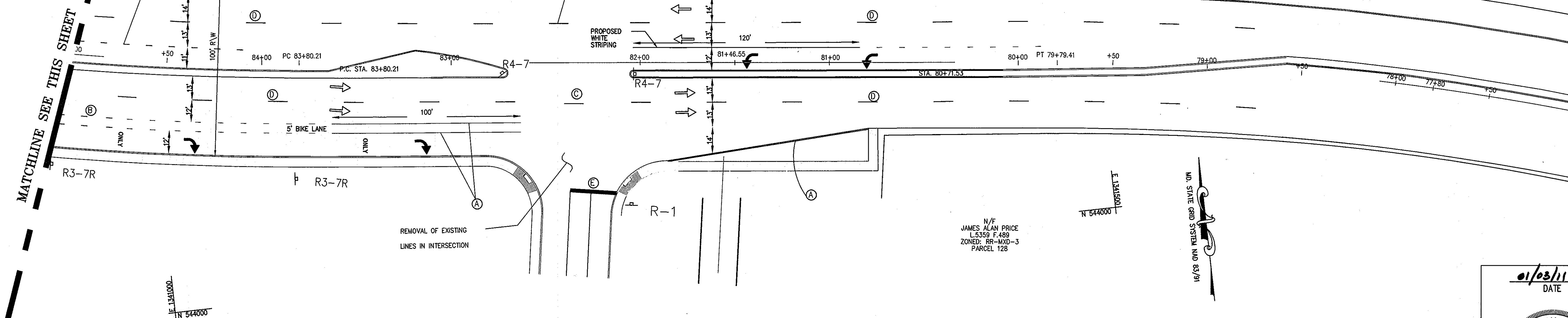
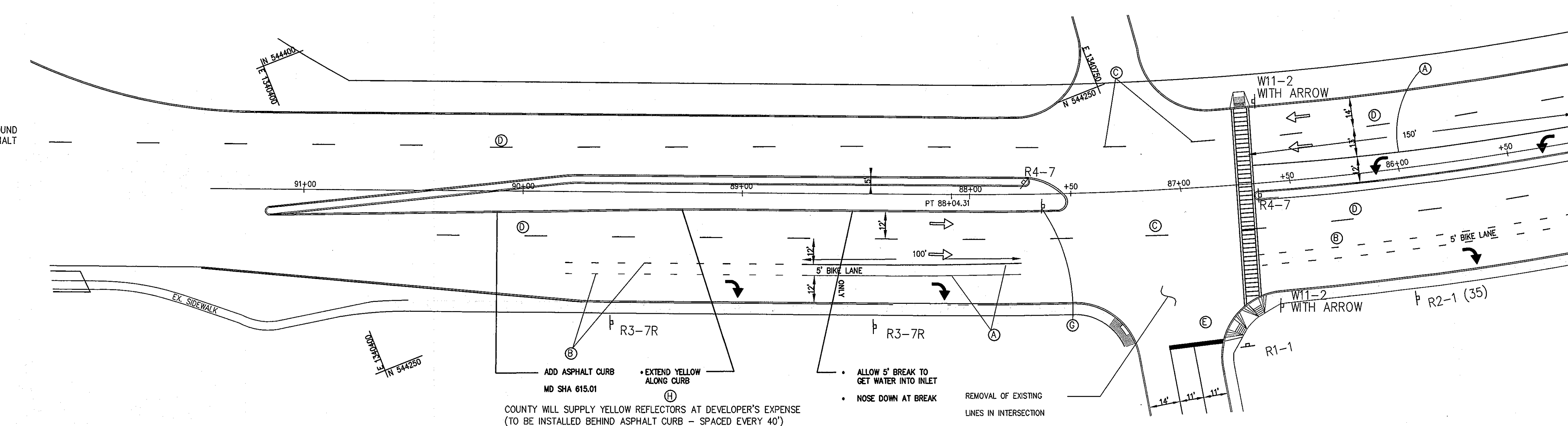


PHASE - WITH SIGNAL INSTALLATION



PHASE - WITHOUT SIGNAL INSTALLATION

IF SIGNAL IS NOT INSTALLED WHEN EASTBOUND LEFT TURN LANE IS BUILT, THEN THE ASPHALT CURB IS TO BE PROVIDED.



SIGNING NOTES:

1. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
2. ALL SIGN LOCATIONS WITHIN THE PUBLIC RIGHT OF WAY SHALL BE APPROVED BY THE HOWARD COUNTY TRAFFIC DIVISION PRIOR TO ANY INSTALLATIONS.

PAVEMENT MARKING NOTES:

1. ALL PAVEMENT MARKING TO BE APPLIED USING 'SETFAST PREMIUM ALKYD THERMOPLASTIC OR APPROVED EQUAL.
2. ALL PAVEMENT MARKINGS ARE TO BE EITHER LOCATED OR APPROVED BY THE TRAFFIC DIVISION PRIOR TO THE PLACEMENT OF ANY MARKINGS
3. REFER TO SHEET 7 FOR STOP BAR LOCATIONS (SIGNAL INSTALLATION)

PAVEMENT MARKING LEGEND

- (A) 5" SOLID WHITE
- (B) 5" PUPPY TRACKS (3/9/3')
- (C) REMOVE EXISTING BY GRINDING
- (D) EXISTING 10'/30'/10' SKIPS
- (E) 24" WIDE STOPBAR (THERMO)
- (F) 5" WIDE DOUBLE YELLOW
- LANE USE DESIGNATION
- ↪ PROPOSED PAVEMENT ARROWS
- (C) NO LEFT TURN SIGN (R3-2)
- (H) 5" SINGLE YELLOW

APPROVED: DEPARTMENT OF PUBLIC WORKS
William Z. ... 10-23-09
 Chief, Bureau of Highways Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING
John ... 10/23/09
 Chief, Development Engineering Division Date

Robert ... 10-23-09
 Chief, Division of Land Development Date

Director _____ Date _____

JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
 1100 JOHNS HOPKINS ROAD
 LAUREL MARYLAND 20723-6099
 ATTN: JAMES LOESCH, P.E., CFM
 PHONE: 443.778.5134 FAX: 443.778.6122

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 christopher consultants, inc.
 1712 COLORADO DRIVE SUITE 100 - COLUMBIA, MD 21046-2990
 410.572.8850 - FAX 410.572.8863

PERMIT INFORMATION CHART			
PROJECT NAME: JHU/APL SOUTH CAMPUS	LOT/PARCEL NO. 300	CENSUS TRACT 6051.02	
DEED REF. L10412, F.396	GRID NO. / ZONE 22 / PEC	TAX MAP 41	ELECTION DISTRICT 5th
TITLE: SIGNING AND PAVEMENT MARKING PLAN			
DESIGN: SJ	SCALE: 1" = 30'	PROJECT: 08A901.00	
DRAWN: BSA	DATE: AUGUST, 2009	6 OF 13	
CHECKED: JMH	APPROVED: JMH		

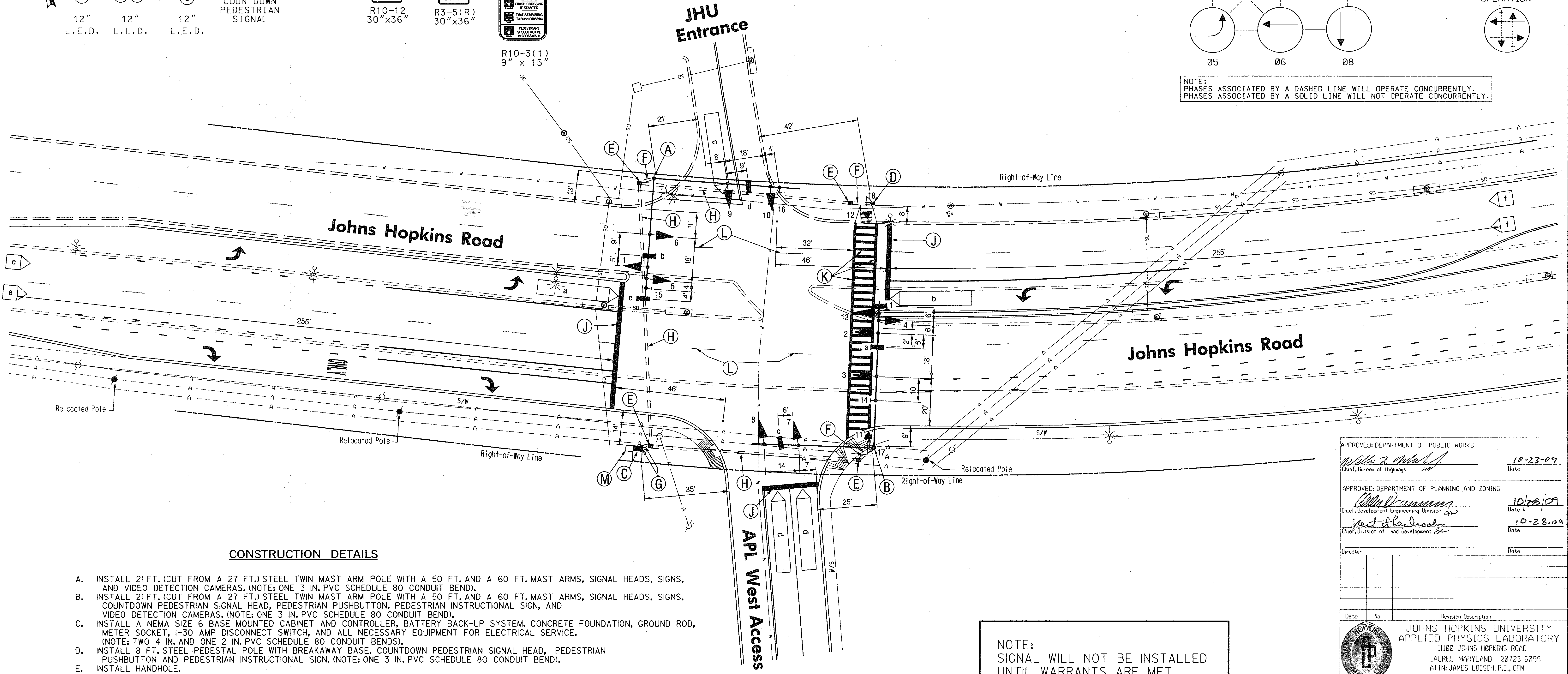
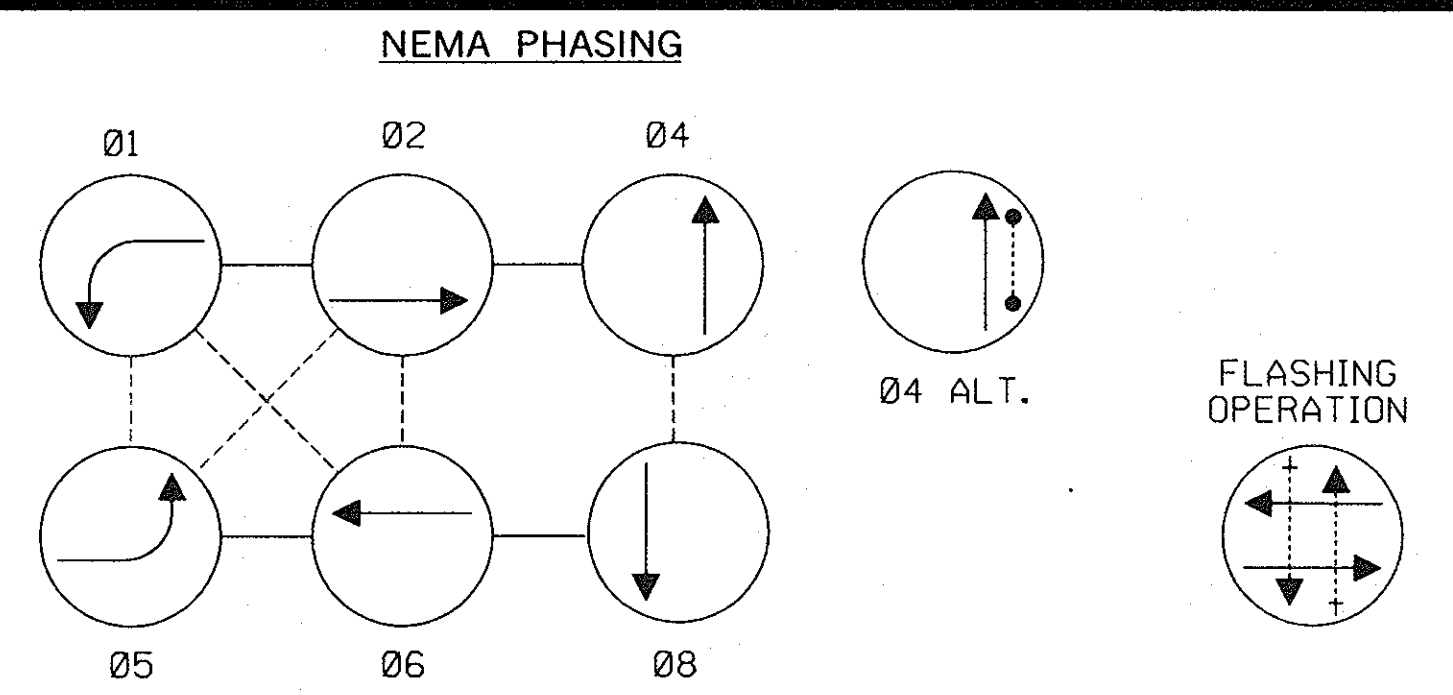
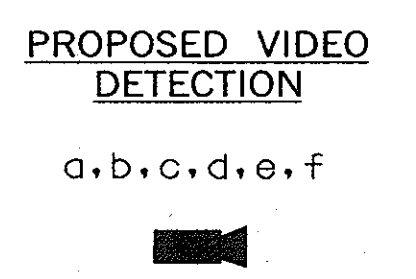
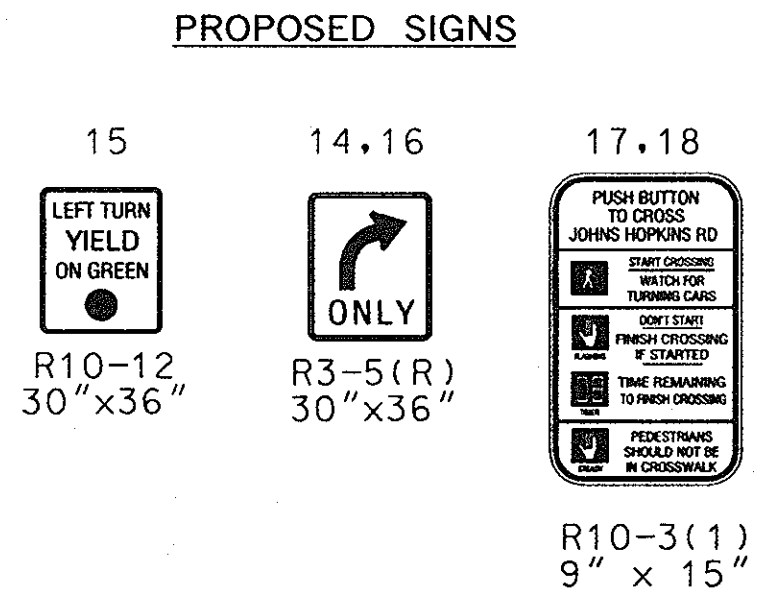
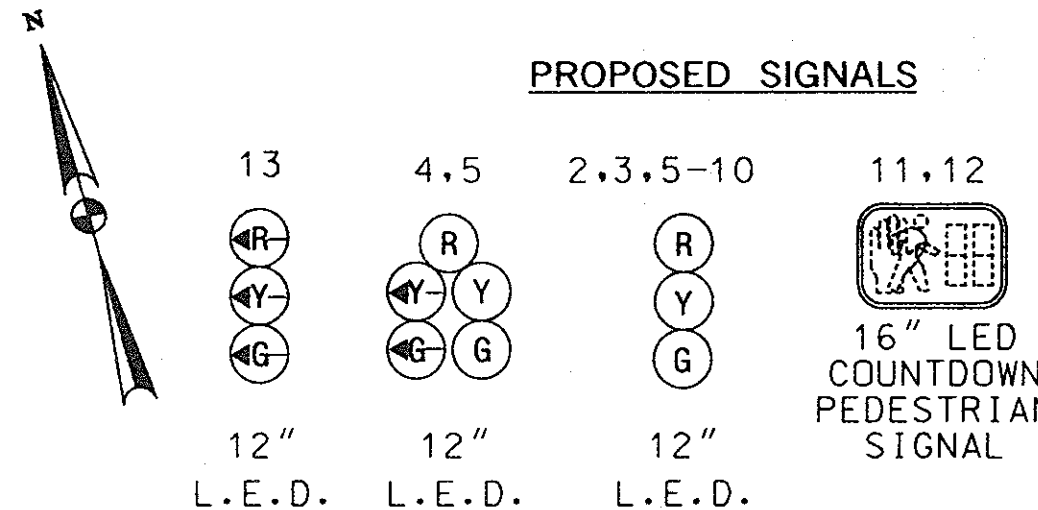
PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

Robert C. Etel 01/03/11
 SIGNATURE OF ENGINEER DATE

ROBERT C. ETEL, P.E.
 MD LICENSE NUMBER: 16108
 EXPIRATION DATE: 7-17-2012

01/03/11
 DATE

NOTE:
 REFER TO SDP FOR DETAILS OF PAVEMENT MARKINGS OFFSITE
 5' MEDIAN TO BE GRASS OR LANDSCAPED
 IF SIGNAL IS NOT INSTALLED WHEN EASTBOUND LEFT TURN LANE IS BUILT, THEN THE ASPHALT CURB IS TO BE PROVIDED.



CONSTRUCTION DETAILS

- A. INSTALL 21 FT. (CUT FROM A 27 FT.) STEEL TWIN MAST ARM POLE WITH A 50 FT. AND A 60 FT. MAST ARMS, SIGNAL HEADS, SIGNS, AND VIDEO DETECTION CAMERAS. (NOTE: ONE 3 IN. PVC SCHEDULE 80 CONDUIT BEND).
- B. INSTALL 21 FT. (CUT FROM A 27 FT.) STEEL TWIN MAST ARM POLE WITH A 50 FT. AND A 60 FT. MAST ARMS, SIGNAL HEADS, SIGNS, COUNTDOWN PEDESTRIAN SIGNAL HEAD, PEDESTRIAN PUSHBUTTON, PEDESTRIAN INSTRUCTIONAL SIGN, AND VIDEO DETECTION CAMERAS. (NOTE: ONE 3 IN. PVC SCHEDULE 80 CONDUIT BEND).
- C. INSTALL A NEMA SIZE 6 BASE MOUNTED CABINET AND CONTROLLER, BATTERY BACK-UP SYSTEM, CONCRETE FOUNDATION, GROUND ROD, METER SOCKET, 1-30 AMP DISCONNECT SWITCH, AND ALL NECESSARY EQUIPMENT FOR ELECTRICAL SERVICE. (NOTE: TWO 4 IN. AND ONE 2 IN. PVC SCHEDULE 80 CONDUIT BENDS).
- D. INSTALL 8 FT. STEEL PEDESTAL POLE WITH BREAKAWAY BASE, COUNTDOWN PEDESTRIAN SIGNAL HEAD, PEDESTRIAN PUSHBUTTON AND PEDESTRIAN INSTRUCTIONAL SIGN. (NOTE: ONE 3 IN. PVC SCHEDULE 80 CONDUIT BEND).
- E. INSTALL HANDHOLE.
- F. INSTALL 3 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT - TRENCHED.
- G. INSTALL 4 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT - TRENCHED.
- H. INSTALL 4 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT - BORED.
- J. INSTALL 24 IN. HEAT APPLIED, WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING FOR STOP LINE.
- K. INSTALL 12 IN. HEAT APPLIED, WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING FOR CROSSWALKS.
- L. REMOVE EXISTING PAVEMENT MARKINGS WITHIN THE INTERSECTION (SEE PAVEMENT MARKING PLAN).
- M. INSTALL CONCRETE SLAB 30 IN. X 36 IN. FOR BATTERY BACK-UP CABINET.

NOTE: SIGNAL WILL NOT BE INSTALLED UNTIL WARRANTS ARE MET AND APPROVED BY THE COUNTY

GEOMETRIC LEGEND

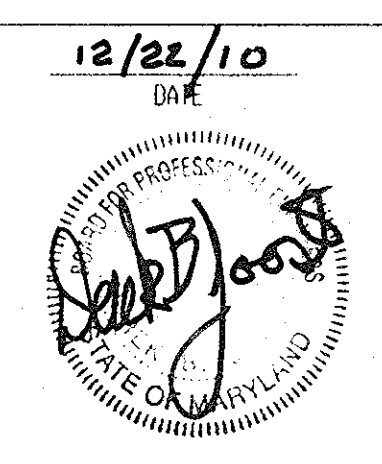
— EXISTING
- - - PROPOSED

UTILITY LEGEND

— S/D — STORM DRAIN
— G — GAS MAIN
— W — WATER MAIN
— S — SEWER MAIN
— E — ELECTRIC CABLES
— A — AERIAL CABLES
— T — TELEPHONE CABLES
— F — FIBER-OPTIC

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSED NO. 20761, EXPIRATION DATE: 03/07/11



APPROVED: DEPARTMENT OF PUBLIC WORKS
William A. ... 10-23-09
Chief, Bureau of Highways

APPROVED: DEPARTMENT OF PLANNING AND ZONING
William ... 10/28/09
Chief, Development Engineering Division

West ... 10-28-09
Chief, Division of Land Development

JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
11100 JOHNS HOPKINS ROAD
LAUREL, MARYLAND 20723-6099
ATTN: JAMES LOESCH, P.E., CFM
PHONE: 443.778.5134 FAX 443.778.6122

The Traffic Group, Inc.
9000 Franklin Square Drive
Baltimore, Maryland 21236
410-351-6000 1-800-543-8411 Fax: 410-931-6001
www.trafficgroup.com

PERMIT INFORMATION CHART

PROJECT NAME: THE JOHNS HOPKINS UNIVERSITY / APPLIED PHYSICS LABORATORY SOUTH CAMPUS	LOT/PARCEL NO. 300	CENSUS TRACT 6801.02
DEED REF. LIB412-F-396	GRID NO. 22	ZONE PEC
TAX MAP #	ELECTION DISTRICT 5b	

TITLE: Traffic Signal Plan
Johns Hopkins Road at JHU Entrance/APL West Access

DESIGN: JJD	SCALE: 1" = 20'	PROJECT: 08491.00
DRAWN: JJD	DATE: December 22, 2010	
CHECKED:	APPROVED:	7 OF 13

**PROJECT DESCRIPTION
GENERAL**

This project involves the installation of a new traffic control signal at the intersection of Johns Hopkins Road at APL West Access, Howard County, Maryland. Johns Hopkins Road is considered to run in an East/West direction.

INTERSECTION OPERATION

The intersection is to operate in a NEMA 6 phase, full-traffic-actuated mode. There will be a protective/ permissive left turn phase for the eastbound movement of Johns Hopkins Road. There will be a protective left turn phase for the westbound movement of Johns Hopkins Road. The through movements will operate concurrently. The JHU/ APL West Access through movements will operate concurrently with an actuated pedestrian movement across the east leg of the intersection.

An eight phase, full-traffic-actuated, solid state digital controller with intersection monitor and harness, battery back-up, video detection equipment housed in a base mounted cabinet are to be installed at this location.

EQUIPMENT LIST

A. Equipment to be furnished by the County and reimbursed by Developer or Contractor.

Quantity	Units	Description
1	EA	Traffic signal controller, base mounted cabinet, video detection interface
2	EA	27 ft. steel twin mast arm pole with a 50 ft. & 60 ft. mast arms.
1	EA	8 ft. steel pedestal pole with break away transformer base.
1	EA	16 in., one-way, one section L.E.D. (Countdown indications) adjustable pedestrian signal head with pole mounting hardware and cut-away visors.
1	EA	16 in., one-way, one section L.E.D. (Countdown indications) adjustable pedestrian signal head with post top mounting hardware and cut-away visors.
7	EA	12 in., one-way, three section L.E.D. (R,Y,G) adjustable yellow faced traffic signal head with mast arm mounting hardware and tunnel visors.
2	EA	12 in., one-way, three section L.E.D. (RA,YA,GA) adjustable yellow faced traffic signal head with mast arm mounting hardware and tunnel visors.
2	EA	12 in., one-way, five section L.E.D. (R,Y,YA,G,GA) adjustable yellow faced traffic signal head with mast arm mounting hardware and tunnel visors.
2	EA	Pedestrian pushbutton assembly with pushbutton sign.
6	EA	Video Detection Camera and cable.
2	EA	30 in. x 30 in. R 3-5(R) sign with mast arm mounting hardware.
1	EA	30 in. x 36 in. R 10-12 sign with mast arm mounting hardware.

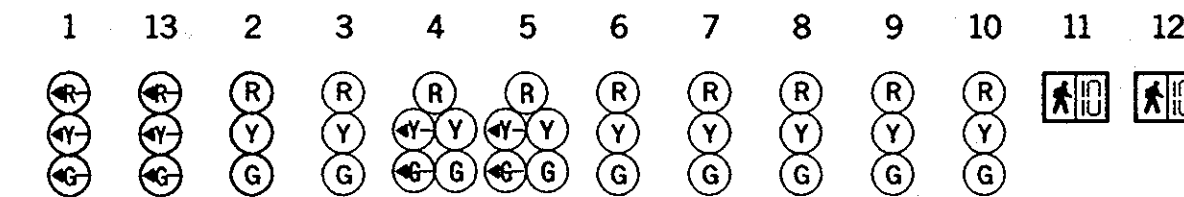
C. Equipment to be installed by the County signal shop and reimbursed by the Developer or Contractor.

Quantity	Units	Description
1	EA	Battery back-up system.

B. Equipment to be furnished and/or installed by the Contractor.

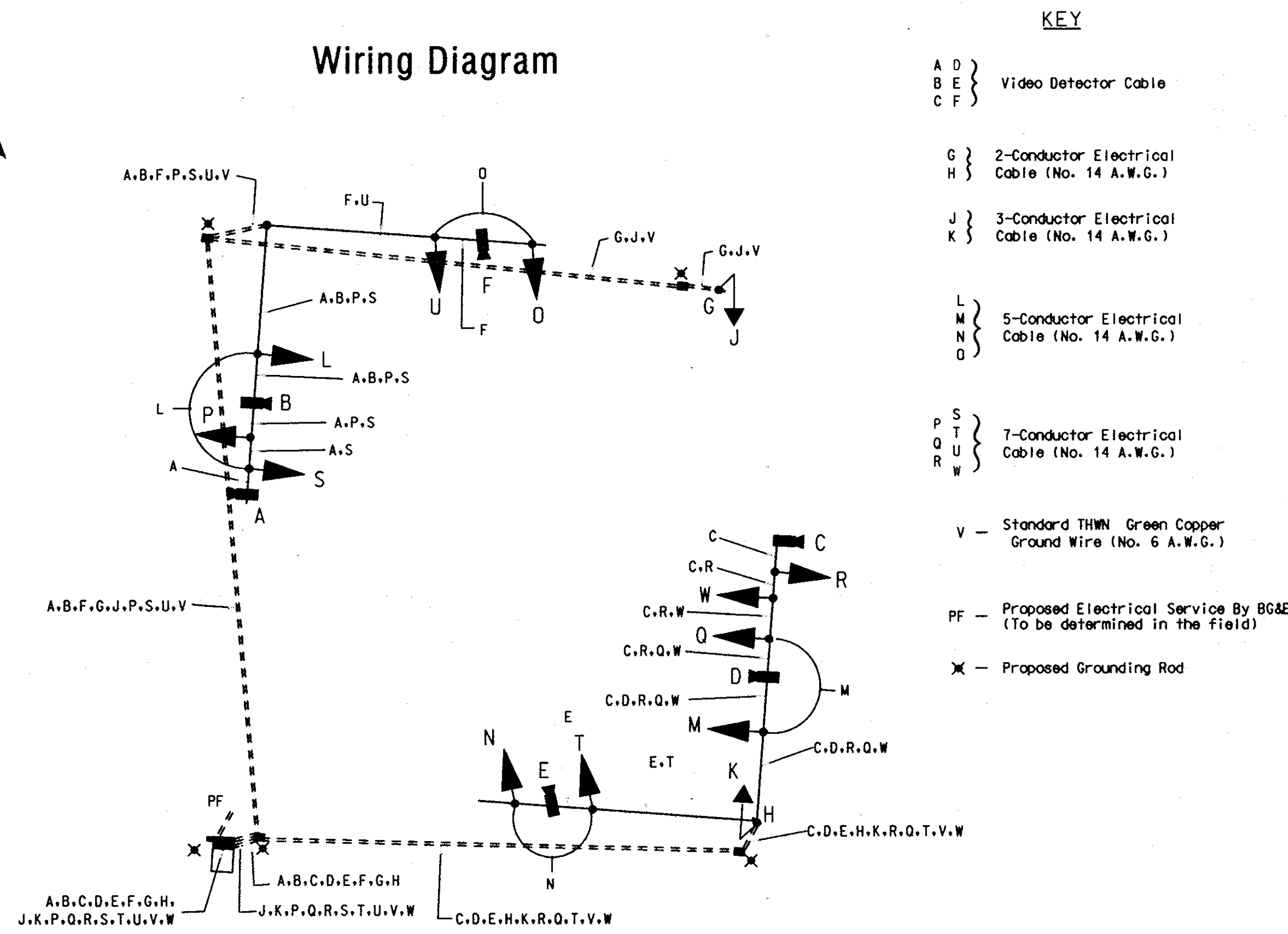
Quantity	Units	Description
Lump Sum	LS	Mobilization.
Lump Sum	LS	Maintenance of traffic.
4	CY	Test pit excavation.
4	EA	Handbox.
365	LF	2-conductor electrical cable (No. 14 A.W.G.).
365	LF	3-conductor electrical cable (No. 14 A.W.G.).
120	LF	5-conductor electrical cable (No. 14 A.W.G.).
1350	LF	7-conductor electrical cable (No. 14 A.W.G.).
350	LF	Stranded THWN green ground wire (No. 6 A.W.G.).
35	LF	3 in. polyvinyl chloride (Schedule 80) electrical conduit - trenched.
25	LF	4 in. polyvinyl chloride (Schedule 80) electrical conduit - trenched.
300	LF	4 in. polyvinyl chloride (Schedule 80) electrical conduit - bored.
14.5	CY	Concrete foundation for traffic signal equipment.
5	EA	Ground rod - 3/4 in. diameter x 10 ft. length.
2	EA	Cut, clean, and cap mast arm poles.
410	LF	12 in. white Thermoplastic pavement marking - Crosswalk
125	LF	24 in. white Thermoplastic pavement marking - Stop line
Lump Sum	LS	Electrical utility service equipment (120/240 V, one phase, three wire, one - 30 AMP disconnect system) for an underground electrical power service.

Phase Chart



PHASE 1 AND 5	+G	+G	R	R	+GR	+GR	R	R	R	R	R	DW	DW
1 AND 5 CHANGE TO 1 AND 6, 2 AND 5, OR 2 AND 6													
PHASE 1 AND 6	+R	+R	R	R	+GG	+GG	G	R	R	R	R	DW	DW
1 CHANGE	+R	+R	R	R	+YG	+YG	G	R	R	R	R	DW	DW
PHASE 2 AND 5	+G	+G	G	G	R	R	R	R	R	R	R	DW	DW
5 CHANGE	+Y	+Y	G	G	R	R	R	R	R	R	R	DW	DW
PHASE 2 AND 6	+R	+R	G	G	G	G	R	R	R	R	R	DW	DW
2 AND 6 CHANGE	+R	+R	Y	Y	Y	Y	R	R	R	R	R	DW	DW
PHASE 4 AND 8	+R	+R	R	R	R	R	G	G	G	G	G	DW	DW
4 AND 8 CHANGE	+R	+R	R	R	R	R	G	G	G	G	G	DW	DW
PHASE ALT 4 AND 8	+R	+R	R	R	R	R	G	G	G	G	G	WK	WK
PED CLEARANCE	+R	+R	R	R	R	R	G	G	G	G	G	FL	FL
ALT 4 AND 8 CHANGE	+R	+R	R	R	R	R	Y	Y	Y	Y	Y	DW	DW
FLASHING OPERATION	FL	FL	FLY	FLY	FLY	FLY	FLR	FLR	FLR	FLR	FLR	DARK	DARK

Wiring Diagram

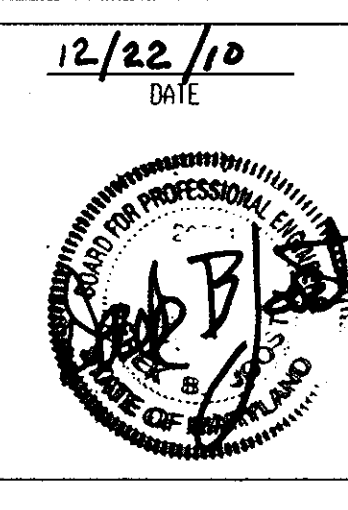


KEY

- A D } Video Detector Cable
- B E } Video Detector Cable
- C F } Video Detector Cable
- G } 2-Conductor Electrical Cable (No. 14 A.W.G.)
- H } 2-Conductor Electrical Cable (No. 14 A.W.G.)
- J } 3-Conductor Electrical Cable (No. 14 A.W.G.)
- K } 3-Conductor Electrical Cable (No. 14 A.W.G.)
- L } 5-Conductor Electrical Cable (No. 14 A.W.G.)
- M } 5-Conductor Electrical Cable (No. 14 A.W.G.)
- N } 5-Conductor Electrical Cable (No. 14 A.W.G.)
- O } 5-Conductor Electrical Cable (No. 14 A.W.G.)
- P } 7-Conductor Electrical Cable (No. 14 A.W.G.)
- Q } 7-Conductor Electrical Cable (No. 14 A.W.G.)
- R } 7-Conductor Electrical Cable (No. 14 A.W.G.)
- S } 7-Conductor Electrical Cable (No. 14 A.W.G.)
- T } 7-Conductor Electrical Cable (No. 14 A.W.G.)
- U } 7-Conductor Electrical Cable (No. 14 A.W.G.)
- V } Standard THWN Green Copper Ground Wire (No. 6 A.W.G.)
- W } Standard THWN Green Copper Ground Wire (No. 6 A.W.G.)
- PF - Proposed Electrical Service By BG&E (To be determined in the field)
- X - Proposed Grounding Rod

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSED NO. 20761 EXPIRATION DATE: 03/07/11



APPROVED: DEPARTMENT OF PUBLIC WORKS
 [Signature] 10-23-09
 Chief, Bureau of Highways

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] 10/28/09
 Chief, Development Engineering Division

[Signature] 10-28-09
 Chief, Division of Land Development

Director _____ Date _____

JOHNS HOPKINS UNIVERSITY
 APPLIED PHYSICS LABORATORY
 11100 JOHNS HOPKINS ROAD
 LAUREL MARYLAND 20723-6899
 ATTN: JAMES LOESCH, P.E., CFM
 PHONE: 443.778.5134 FAX 443.778.6122

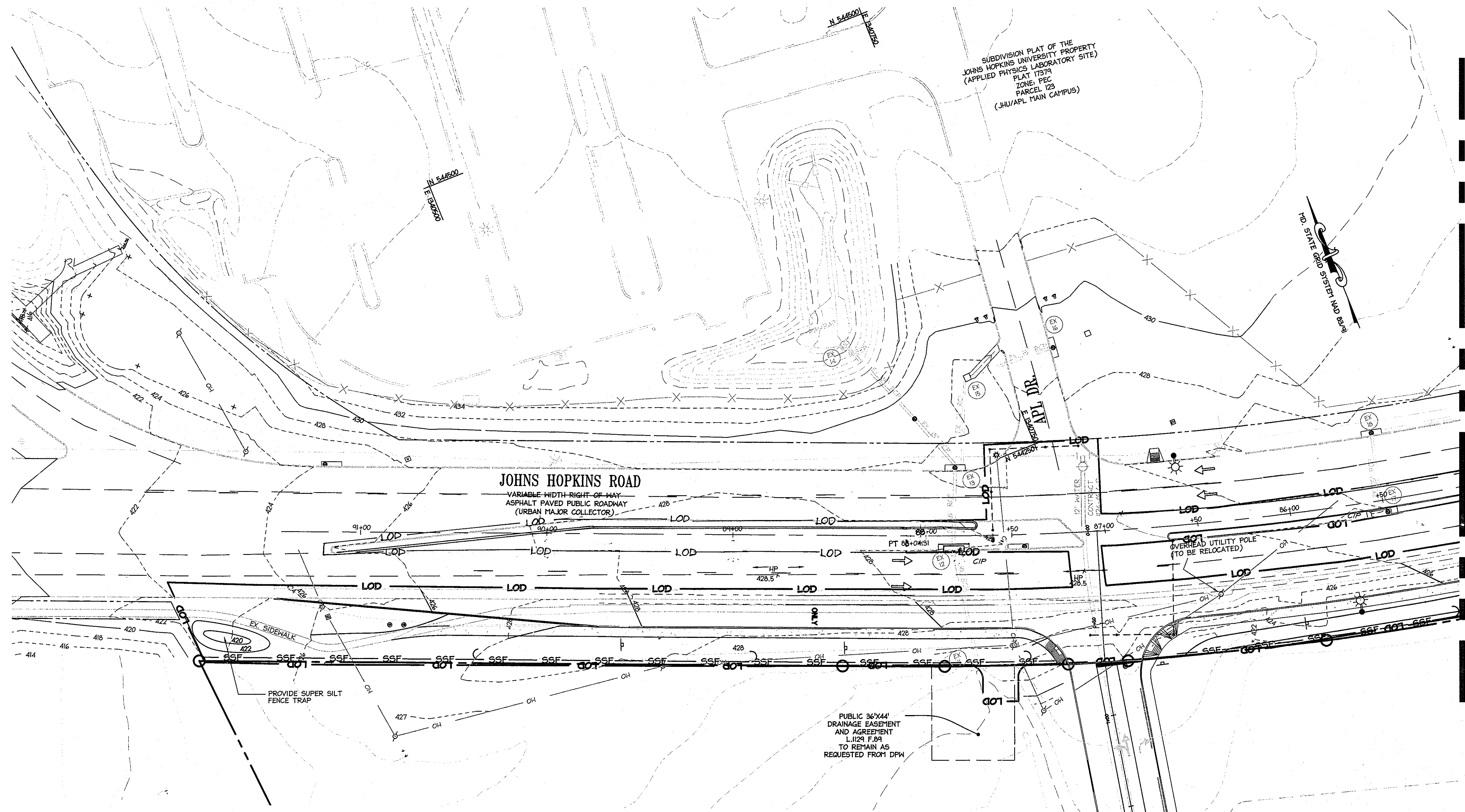
The Traffic Group, Inc.
 Suite 111
 9900 Franklin Square Drive
 Baltimore, Maryland 21236
 110 351 6600 T 800-503-9411 Fax: 410-311-6001
 www.trafficgroup.com
 "Merging Innovation and Excellence"

PERMIT INFORMATION CHART

PROJECT NAME: JHU/APL SOUTH CAMPUS	LOT/PARCEL NO: 308	CENSUS TRACT: 6861.82
DEED REF: LHM42, E.296	GRID NO. 22	TAX MAP 4
ZONE: PEC	ZONE: H	ELECTION DISTRICT: 5th

TITLE: General Information Sheet
 Johns Hopkins Road at
 JHU Entrance/APL West Access

DESIGN: JLD	SCALE: N/A	PROJECT: 08/09/08
DRAWN: JLD	DATE: December 22, 2010	
CHECKED:	APPROVED:	8 OF 13



MATCHLINE SEE SHEET 10 OF 13

SEQUENCE OF CONSTRUCTION

1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS, INCLUDING GRADING PERMIT, PRIOR TO COMMENCING ANY LAND DISTURBANCE ACTIVITIES. (1 DAY)
 2. AN ON-SITE PRECONSTRUCTION MEETING SHALL BE CONDUCTED WITH THE CONTRACTOR AND THE HOWARD COUNTY INSPECTOR AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION. CONTACT THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS AT (410) 93-1800 TO SCHEDULE. (1 DAY)
 3. INSTALL STABILIZED CONSTRUCTION ENTRANCE PER THE PLAN (1 DAY)
 4. INSTALL ALL SEDIMENT CONTROLS AND OBTAIN INSPECTOR'S APPROVAL PRIOR TO WORK (2 DAYS)
 5. PLACE SUPER SILTFENCE ON PROPOSED INLET 100 AND ON EX. INLETS 12, 17, 120, & 121 (1 DAY)
 6. UPON COMPLETION OF ROAD IMPROVEMENTS, GRADING, PAVEMENT, CURB & GUTTER, OBTAIN INSPECTOR'S APPROVAL PRIOR TO REMOVAL OF ANY SEDIMENT CONTROL DEVICES (21 DAYS)
 7. REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES (3 DAYS)
 8. ONCE ALL DEVICES ARE REMOVED AND SITE IS STABILIZED, OBTAIN APPROVAL FROM INSPECTOR (2 DAYS)
- TOTAL TIME = 32 DAYS

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

John M. Householder
 SIGNATURE OF ENGINEER
 JOHN M. HOUSEHOLDER
 MD LICENSE NUMBER: 29907
 EXPIRATION DATE: 1-27-2010

10.2.09
 DATE



I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE ONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Richard T. R.
 SIGNATURE OF DEVELOPER
 PRINT NAME BELOW SIGNATURE
 DATE: 10/2/09

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John M. Householder
 SIGNATURE OF ENGINEER
 PRINT NAME BELOW SIGNATURE
 DATE: 10.2.09

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD
 SIGNATURE OF HOWARD SCD
 DATE: 10/15/09

APPROVED: DEPARTMENT OF PUBLIC WORKS

William Z. Mahall
 SIGNATURE OF CHIEF, BUREAU OF HIGHWAYS
 DATE: 10-23-09

APPROVED: DEPARTMENT OF PLANNING AND ZONING

John M. Householder
 SIGNATURE OF CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 10/2/09

John M. Householder
 SIGNATURE OF CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 10-28-09

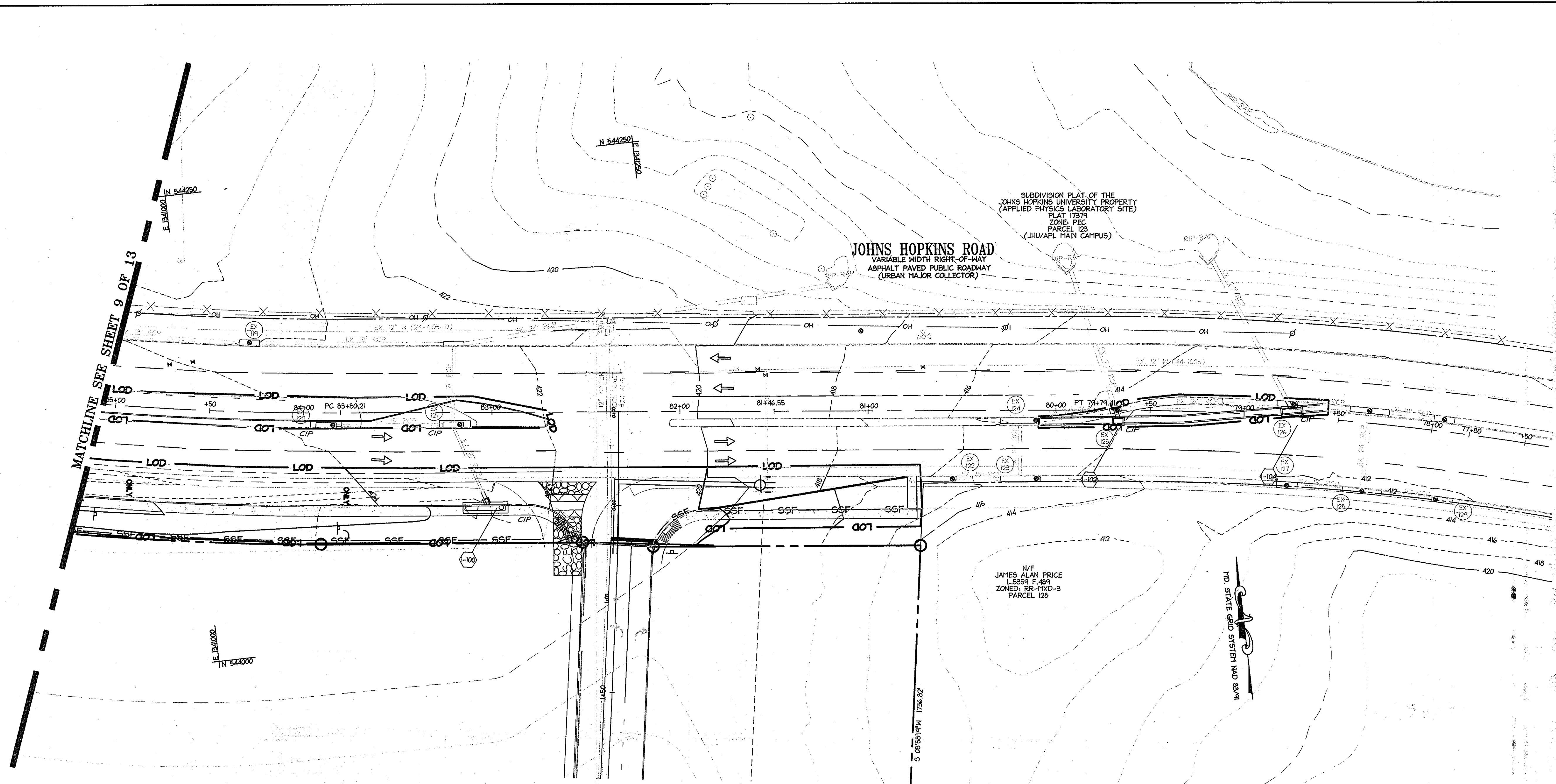
Date	No.	Revision Description
10/2/09	1	ADD LEFT TURN BAY ON EASTBOUND JOHNS HOPKINS RD AT INTERSECTION WITH APL DR

JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY
 1100 JOHNS HOPKINS ROAD
 LAUREL MARYLAND 20723-6099
 ATTN: JAMES LOESCH, P.E., CFM
 PHONE: 443.778.5134 FAX: 443.778.6122

christopher consultants
 engineering · surveying · land planning
 christopher consultants, inc.
 7172 oakdale gateway drive suite 100, covington, ms 39040-2899
 601.872.8885 · faxes 601.871.0148 · fax 601.872.8883

PERMIT INFORMATION CHART

PROJECT NAME: JHU/APL SOUTH CAMPUS	LOT/PARCEL NO. 300	CENSUS TRACT 6051.02
DEED REF. L10412, F.396	GRID NO. 22 ZONE PEC	TAX MAP 41 ELECTION DISTRICT 5th
TITLE: SEDIMENT CONTROL PLAN		
DESIGN: SJ	SCALE: 1" = 30'	PROJECT: 08A901.00
DRAWN: SSA	DATE: AUGUST, 2009	
CHECKED: JMH	APPROVED: JMH	09 OF 13



JOHNS HOPKINS ROAD
 VARIABLE WIDTH RIGHT-OF-WAY
 ASPHALT PAVED PUBLIC ROADWAY
 (URBAN MAJOR COLLECTOR)

SUBDIVISION PLAT OF THE
 JOHNS HOPKINS UNIVERSITY PROPERTY
 (APPLIED PHYSICS LABORATORY SITE)
 PLAT 17374
 ZONE: PEC
 PARCEL 123
 (JHU/APL MAIN CAMPUS)

N/F
 JAMES ALAN PRICE
 1.5854 F. 489
 ZONED: RR-MXD-3
 PARCEL 125

MATCHLINE SEE SHEET 9 OF 13

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE ONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

John T. R.
 SIGNATURE OF DEVELOPER
 PRINT NAME BELOW SIGNATURE
 DATE: 10/2/09

"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

John M. Householder
 SIGNATURE OF ENGINEER
 PRINT NAME BELOW SIGNATURE
 DATE: 10-2-09

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John S. Se
 SIGNATURE OF HOWARD SCD
 DATE: 10/15/09

APPROVED: DEPARTMENT OF PUBLIC WORKS
Walter Z. ...
 Chief, Bureau of Highways
 DATE: 10-23-09

APPROVED: DEPARTMENT OF PLANNING AND ZONING
...
 Chief, Development Engineering Division
 DATE: 10/28/09

...
 Chief, Division of Land Development
 DATE: 10-28-09

Date	No.	Revision Description
10/2/09	1	ADD LEFT-TURN BAY ON EAST SIDE OF JOHNS HOPKINS RD AT INTERSECTION WITH APL DE: PARKING WATERLINE

JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
 1100 JOHNS HOPKINS ROAD
 LAUREL MARYLAND 20723-6099
 ATTN: JAMES LOESCH, P.E., CFM
 PHONE: 443.778.5134 FAX 443.778.6122

christopher consultants
 engineering · surveying · land planning
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 7172 columbian gateway drive, suite 100, columbia, md 21046-2990
 410.872.8889 mdc301.881.0148 fax 410.872.8893

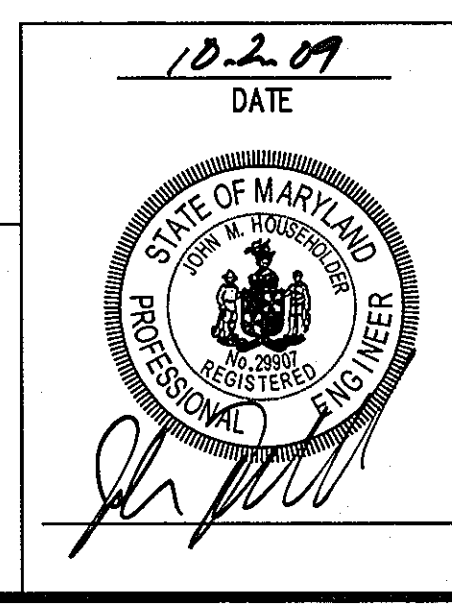
PERMIT INFORMATION CHART

PROJECT NAME: JHU/APL SOUTH CAMPUS	LOT/PARCEL NO. 300	CENSUS TRACT 6051.02
DEED REF. L10412, F.396	GRID NO. ZONE 22 PEC	TAX MAP 41
ELECTION DISTRICT 5th		

TITLE: **SEDIMENT CONTROL PLAN**

DESIGN: SJ	SCALE: 1" = 30'	PROJECT: 08A901.00
DRAWN: SSA	DATE: AUGUST, 2009	
CHECKED: JMH	APPROVED: JMH	10 of 13

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
John M. Householder
 SIGNATURE OF ENGINEER
 JOHN M. HOUSEHOLDER
 MD LICENSE NUMBER: 29907
 EXPIRATION DATE: 1-27-2010
 DATE: 10-2-09



19.0 Standards and Specifications For Land Grading

Definitions
Reshaping of the existing land surface in accordance with a plan as determined by engineering survey and layout.

Purpose
The purpose of a land grading specification is to provide for erosion control and vegetative establishment on those areas where the existing land surface is to be reshaped by grading according to plan.

Design Criteria
The grading plan should be based upon the incorporation of building designs and street layouts that fit and utilize existing topography and desirable natural surrounding to avoid extreme grade modifications.

Many counties have regulations and design procedures already established for land grading and cut and fill slopes. Where these regulations exist, they should be followed.

1. Provisions shall be made to safely conduct surface runoff to storm drains, protected outlets or to stable water courses to insure that surface runoff will not grade slopes or other graded areas.

2. Cut and fill slopes that are to be stabilized with grasses shall not be steeper than 2:1. (Where the slope is to be mowed the slope should be no steeper than 3:1; 4:1 is preferred because of safety factors related to mowing steep slopes.)

3. Reverse benches shall be provided whenever the vertical interval (height) of any 2:1 slope exceeds 20 feet; for 3:1 slopes it shall be increased to 30 feet and for 4:1 to 40 feet. Benches shall be located to divide the slopes face as equally as possible and shall convey the water to a stable outlet.

a. Benches shall be a minimum of six-feet wide to provide ease of maintenance.
b. Benches shall be designed with a reverse slope of 6:1 or flatter to the toe of the upper slope and with a minimum of one foot in depth.

4. Surface water shall be diverted from the face of all cut and/or fill slopes by the use of earth dikes, ditches and swales or conveyed downslope by the use of a designated structure, except where:

a. The face of the slope is or shall be stabilized and the face of all graded slopes shall be protected for surface runoff until they are stabilized.
b. The face of the slope shall not be subjected to any concentrated flows of surface water such as from natural drainways, graded swales, downspouts, etc.

c. The face of the slope will be protected by special erosion control materials, to include, but not limited to: approved vegetative stabilization practices (see section G), rip-rap or other approved stabilization methods.

5. Cut slopes occurring in ripable rock shall be serrated as shown on the following diagram. These serrations shall be made with conventional equipment as the excavation is made. Each step or serration shall be constructed on the contour and will have steps cut at nominal two-foot intervals with nominal three-foot horizontal shelves.

6. Surface drainage shall be provided where necessary to intercept seepage that would otherwise adversely affect slope stability or create excessively wet site conditions.

7. Slopes shall not be created too close to property lines as the danger adjoining properties without adequately protecting such properties against sediment, erosion, slippage, settlement, subsidence or other related damages.

8. Fill material shall be free of brush, rubbish, rocks, logs, stumps, building debris, and other objectionable material. It should be free of stones over two (2) inches in diameter where compacted by hand or mechanical tampers over eight (8) inches in diameter where compacted by rollers or other equipment.

9. Stockpiles, borrow areas and spoil shall be shown on the plans and shall be subjected to the provisions of the Standard and Specifications.

All disturbed areas shall be stabilized structurally or vegetatively in compliance with 20.0 Standards and Specifications for Vegetative Stabilization.

21.0 Standards and Specifications For Topsoil
Definitions
Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose
To provide a suitable soil medium for vegetative growth. Solid of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies
This practice is limited to areas having 2:1 or flatter slopes where:
a. The texture of the exposed subsoil/parent material in not adequate to produce vegetative growth.

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
c. The original soil to be vegetated contains materials toxic to plant growth

d. The soil is so acidic that treatment with limestone is not feasible.

For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications
Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.

Topsoil Specifications - Soil to be used as topsoil must meet the following:

i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall both be a mixture of contrasting textured subsols and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials large than 1 1/2" in diameter.

ii. Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or other as specified.

iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread to the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked in to the soil in conjunction with tillage operations as described in the following procedures.

For sites having disturbed areas under 5 acres:
Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

For sites having disturbed areas over 5 acres:
On soil meeting Topsoil Specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following.

a. pH for topsoil shall be between 6.0 and 7.5. If tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise pH to 6.5 or higher.

b. Organic content of topsoil shall be not less than 1.5 percent by weight.

c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.

d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 day min.) to permit dissipation of phytotoxic materials.

Note: Topsoil substitutes or amendments as recommended by a qualified agronomist or soil scientist approved by the appropriate approval authority, may be used in lieu of natural topsoil.

Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

Topsoil Application
When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fences and Sediment Traps and Basins.

Grades in the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.

Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.

Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

Composted Sludge Materials for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:

a. Composted sludge shall be supplied by, or originated from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.

b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 9.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.

c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.

Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Sodding, MD-VA, Pub #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes, Revised 1973.

30.0 Dust Control
Definition
Controlling dust blowing and movement on construction sites and roads.

Purpose
To prevent blowing and movement of dust from exposed soil surfaces, reduce air and off-site damage, health hazards, and improve traffic safety.

Conditions Where Practice Applies
This practice is applicable to areas subject to dust blowing and movement where in and off-site damage is likely without treatment.

Specifications
Temporary Methods
1. Mulches - See standards for vegetative stabilization with mulches only. Mulch should be crimped or tacked to prevent blowing.

2. Vegetative Cover - See standards for temporary vegetative cover.
3. Tillage - To roughen surface and bring clumps to the surface. This is an emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12' apart, spring-toothed harrows, and similar plows are examples of equipment which may produce the desired effect.

4. Irrigation - This is generally done as an emergency treatment. Site is sprinkled with water until the surface is moist. Repeat as needed. At no time should the site be irrigated to the point that runoff begins to flow.

5. Barriers - Solid board fences, silt fences, snow fences, burlap fences, straw bales, and similar materials can be used to control air currents and soil blowing. Barriers placed at right angles to prevailing currents at intervals of about 10 times their height are effective in controlling soil blowing.
6. Calcium Chloride - Apply at rates that will keep surface moist. May need retreatment.

Permanent Methods
1. Permanent Vegetation - See standards for permanent vegetative cover, and permanent stabilization with sod. Existing trees or large shrubs may afford valuable protection if left in place.

2. Topsoil - Covering with less erosive materials. See Standards for Topsoiling.
3. Stone - Cover surface with crushed stone or coarse gravel.

References
1. Agriculture Handbook 346. Wind Erosion Forces in the United States and Their Use in Predicting Soil Loss.
2. Agriculture Information Bulletin 354. How to Control Wind Erosion, USDA - ARS.

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:

1. Preferred--Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding apply 400 lbs/acre 30-0-0 urea form fertilizer (9 lbs/1000 sq. ft.) and 1000 lbs/acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.

2. Acceptable--Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs/acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.

Seeding -- For the periods March 1 -- April 30, and August 1 -- October 15, seed with 60 lbs/acre (1.4 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 -- July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs/acre (.05 lbs/1000 sq. ft.) of weeping lovegrass. During the period of October 16 -- February 28, protect site by:
Option 1 - Two tons per acre of well anchored straw mulch and seed as soon as possible in the spring.
Option 2 - Use sod. Option 3 - Seed with 60 lbs/acre Kentucky 30 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching -- Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of rotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool of 2lb gal. per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.

Maintenance -- Inspect all seeding areas and make needed repairs, replacements and reseeding.

TEMPORARY SEEDING NOTES.

Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed.

Seedbed preparation -- Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: -- Apply 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.).

Seeding: -- For periods March 1 -- April 30 and from August 15 -- October 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sq. ft.). For the period May 1 -- August 14, seed with 3 lbs/acre of weeping lovegrass (.07 lbs/1000 sq. ft.). For the period November 16 -- February 28 protect the site by applying 2 tons/acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching: -- Apply 1-1/2 to 2 tons/acre (70 to 90 lbs/1000 sq. ft.) of rotted used-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 2lb gal. per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 ft. or higher, use 348 gal. per acre (8 gal/1000 sq. ft.) for anchoring.

Refer to the 1994 Maryland Standards and Specification for Soil Erosion and Sediment Control for additional rates and methods not covered.

HOWARD COUNTY SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (410-313-1855).

2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.

3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.

5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIC ABOVE IN ACCORDANCE WITH THE 1996 MARYLAND STANDARD AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 6), SOI (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SECTION 52). TEMPORARY STABILIZATION WITH MULCH ALONG CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.

6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

7. SITE ANALYSIS:
TOTAL AREA OF SITE 1.51 ACRES
AREA DISTURBED 1.51 ACRES
AREA TO BE ROOFED OR PAVED 1.51 ACRES
AREA TO BE VEGETATIVELY STABILIZED .01 ACRES
TOTAL CUT 230 CU. YDS.
TOTAL FILL 230 CU. YDS.

OFFSITE WASTE/BORROW AREA LOCATION: TO A SITE WITH APPROVED SEDIMENT CONTROL PLAN AND GRADING PERMIT.

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY OR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

9. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

10. ON ALL SITE WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.

11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED ANY CONSTRUCTION AS SHOWN ON THESE PLANS BY THE END OF EACH WORK DAY, WHICHEVER IS SHORTER. SECURE AN AS-BUILT APPROVAL LETTER FROM HOWARD SCD AND COUNTY.

WETLAND NOTE:

IT IS THE APPLICANT'S RESPONSIBILITY TO OBTAIN ANY STATE PERMITS, IF REQUIRED, FOR ANY CONSTRUCTION ACTIVITY COVERED BY THIS PLAN WHICH IMPACTS A STATE REGULATED WETLAND. ANY CHANGES TO PLANS FOR THIS DEVELOPMENT WHETHER REQUIRED BY THE STATE OR INITIATED BY THE APPLICANT TO MEET STATE REQUIREMENTS, MUST BE APPROVED BY PG SCD.

SOIL CHARACTERISTICS CHART

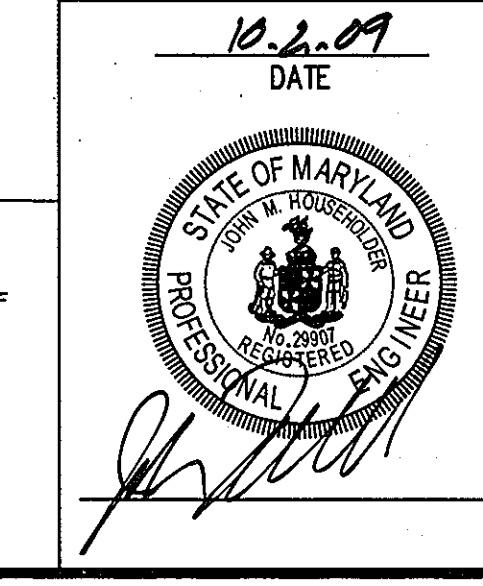
Table with 6 columns: SERIES, NAME, SUBGROUP, DESCRIPTION, HYDRIC, K-FACTOR. Rows include CHESTER SILT LOAM, COUROUS SILT LOAM, GLENELG LOAM, GLENVILLE-BAILE SILT LOAM, HATERBORO SILT LOAM, HANOR GRAVELLY LOAM.

WARNING: ALL SOILS HAVE LIMITATIONS, RANGING FROM SLIGHT TO SEVERE, FOR BUILDING HOMES, CONSTRUCTING ROADS AND PONDS AND VARIOUS OTHER USES. PLEASE CONSULT THE SOIL SURVEY OF HOWARD COUNTY FOR DETERMINING SOIL TYPES AND THEIR SUITABILITY FOR DEVELOPMENT, ENGINEERING AND BUILDING.

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

SIGNATURE OF ENGINEER: [Signature] DATE: 10-2-09
JOHN N. HOUSEHOLDER
MD LICENSE NUMBER: 29907
EXPIRATION DATE: 1-27-2010



I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE ONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature: [Signature] DATE: 10/2/09

Signature: [Signature] DATE: 10/2/09

Signature: [Signature] DATE: 10/15/09

Signature: [Signature] DATE: 10/23/09

Signature: [Signature] DATE: 10/28/09

Signature: [Signature] DATE: 10/28/09

Signature: [Signature] DATE: 10/28/09

Signature: [Signature] DATE: 10/28/09

Signature: [Signature] DATE: 10/28/09

Signature: [Signature] DATE: 10/28/09

Signature: [Signature] DATE: 10/28/09

Signature: [Signature] DATE: 10/28/09

Signature: [Signature] DATE: 10/28/09

Signature: [Signature] DATE: 10/28/09

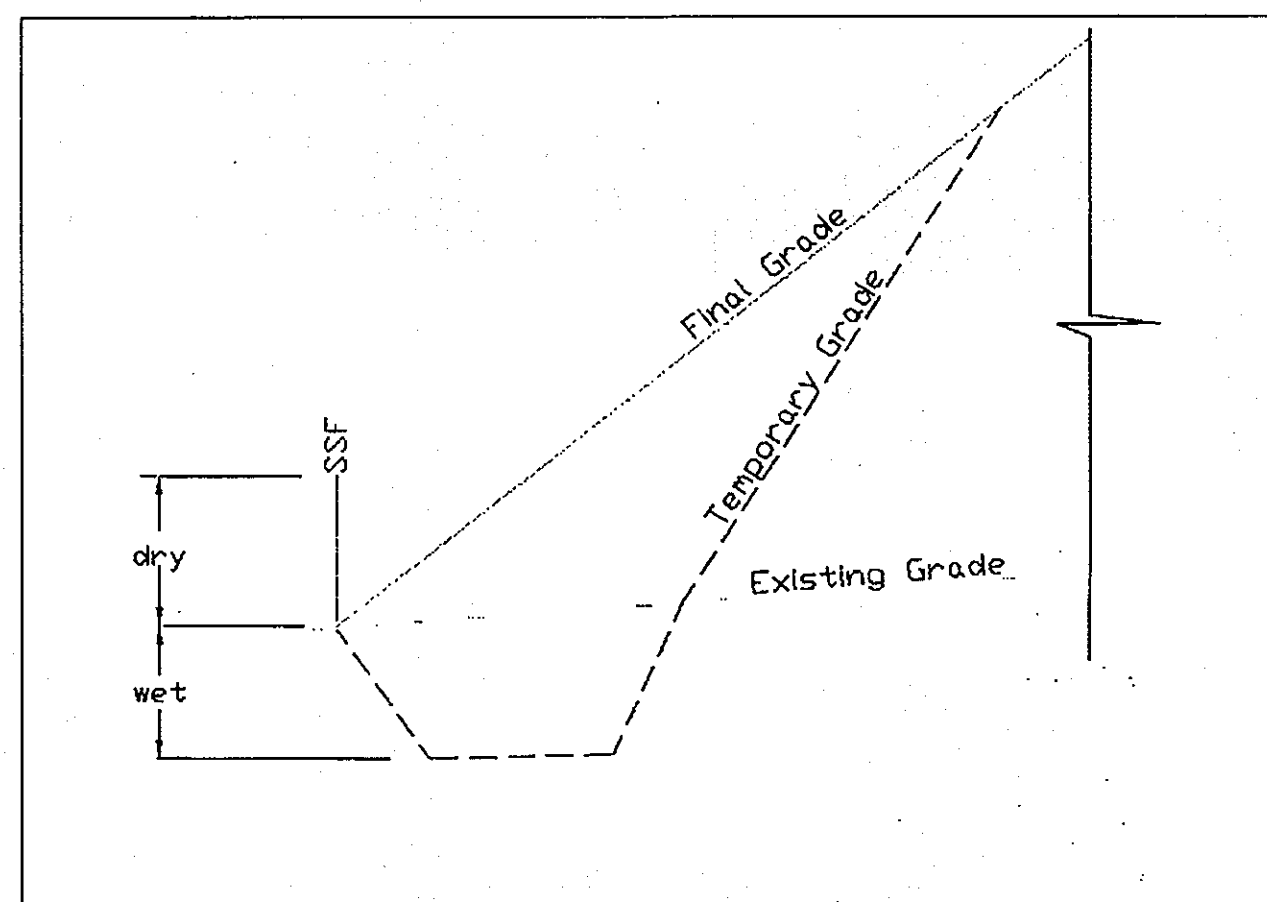
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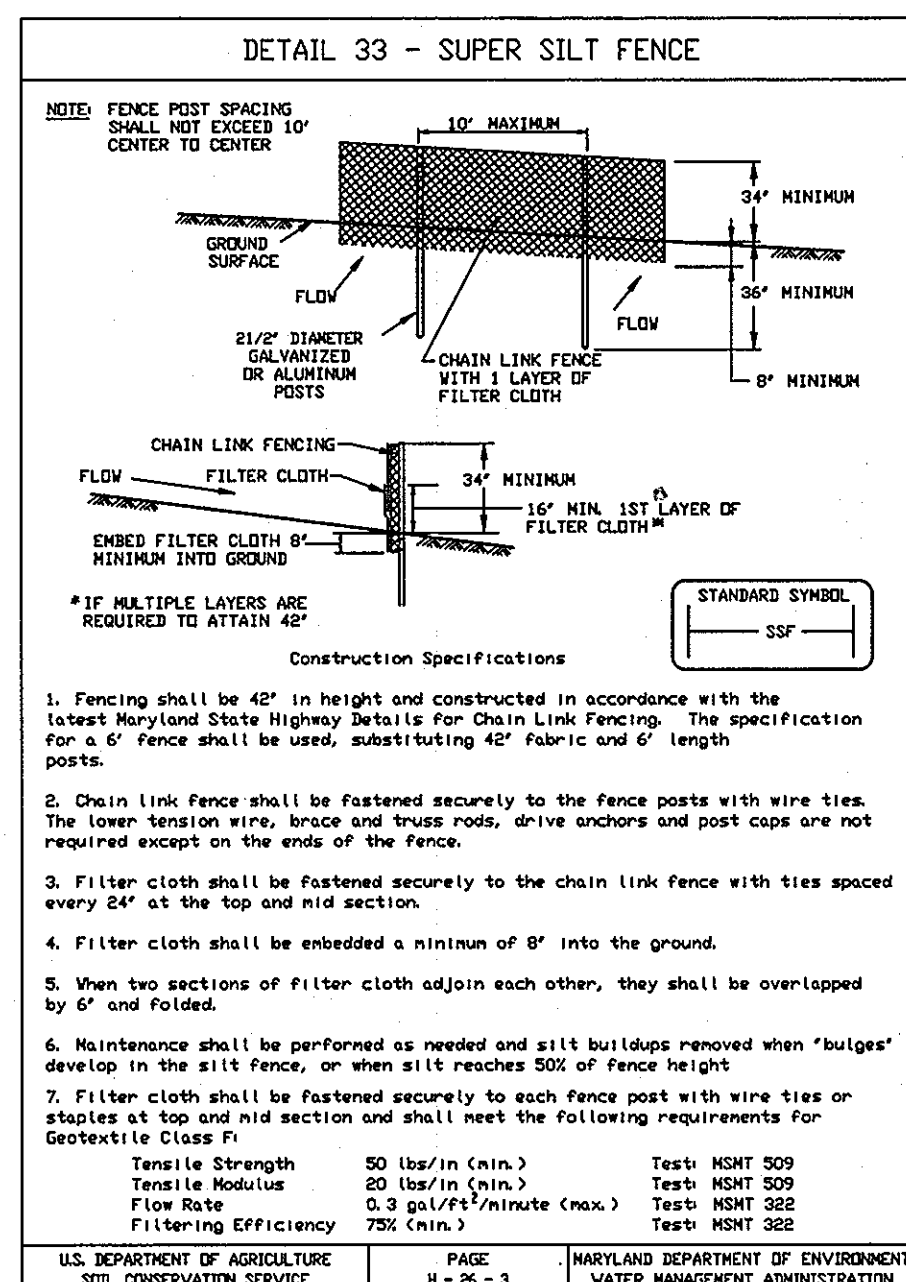
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Signature: [Signature] DATE: 10/28/09

Signature: [Signature] DATE: 10/28/09



SSF-TRAP DETAIL
N.T.S.

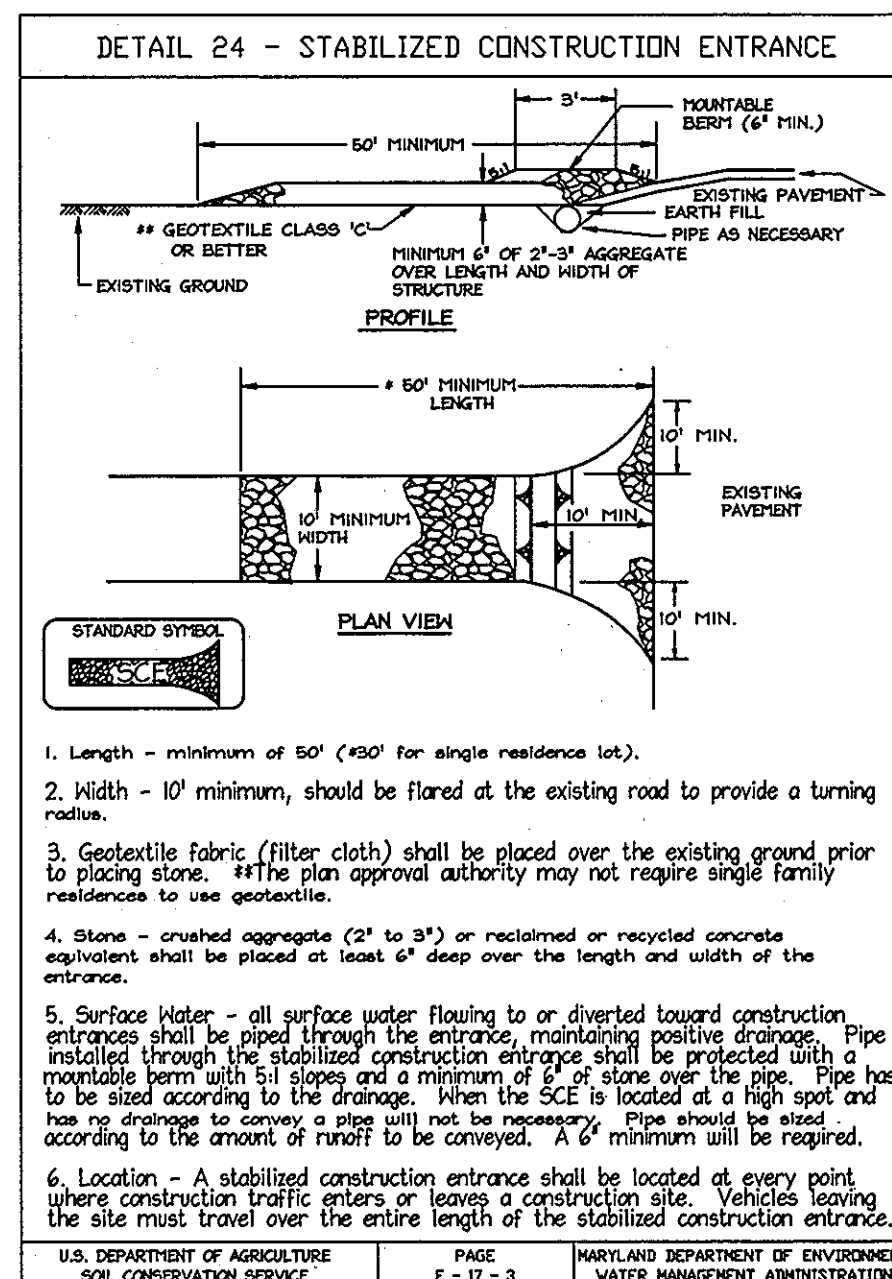


SUPER SILT FENCE

Design Criteria

Slope	Slope Steepness	Slope Length (Maximum)	Silt Fence Length (Maximum)
0 - 10%	0 - 10:1	Unlimited	Unlimited
10 - 20%	10:1 - 5:1	200 Feet	1,500 Feet
20 - 33%	5:1 - 3:1	100 Feet	1,000 Feet
33 - 50%	3:1 - 2:1	100 Feet	500 Feet
50% +	2:1 +	50 Feet	250 Feet

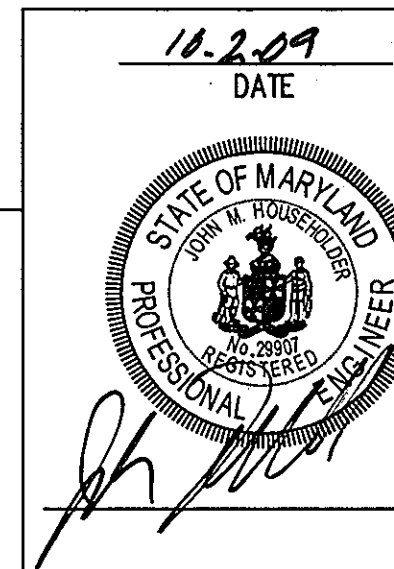
U.S. DEPARTMENT OF AGRICULTURE **PAGE** **MARYLAND DEPARTMENT OF ENVIRONMENT**
SOIL CONSERVATION SERVICE **H - 26 - 3A** **WATER MANAGEMENT ADMINISTRATION**



PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

John M. Householder
 SIGNATURE OF ENGINEER **10.2.09** DATE
 JOHN M. HOUSEHOLDER
 MD LICENSE NUMBER: 29907
 EXPIRATION DATE: 1-27-2010



I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE ONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Richard T. R...
 SIGNATURE OF DEVELOPER **10/2/09** DATE
 PRINT NAME BELOW SIGNATURE

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John M. Householder
 SIGNATURE OF ENGINEER **10.2.09** DATE
 PRINT NAME BELOW SIGNATURE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature]
 HOWARD SCD **10/2/09** DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS

[Signature]
 Chief, Bureau of Highways **10-23-09** Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature]
 Chief, Development Engineering Division **10/20/09** Date

[Signature]
 Chief, Division of Land Development **10-28-09** Date

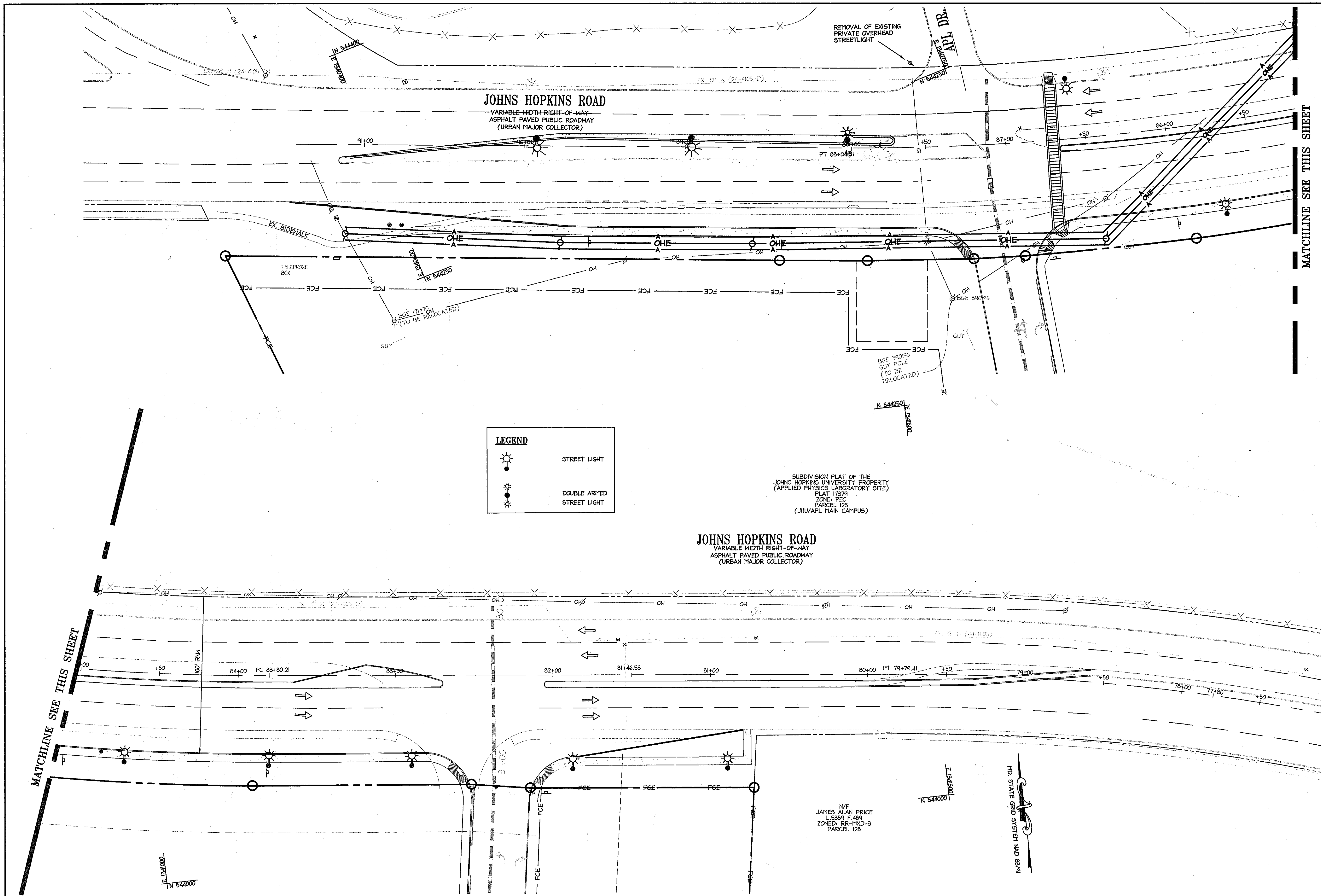
Date	No.	Revision Description

JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
 1100 JOHN HOPKINS ROAD
 LAUREL, MARYLAND 20723-0099
 ATTN: JAMES LOESCH, P.E., CFM
 PHONE: 443.778.5134 FAX 443.778.6122

christopher consultants
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 christopher consultants, inc.
 7172 columba gateway drive (route 103) columbia, md 21046-2900
 410.272.8800 - fax: 410.272.8801 - www.christopherconsultants.com

PERMIT INFORMATION CHART

PROJECT NAME: JHU/APL SOUTH CAMPUS	LOT/PARCEL NO. 300	CENSUS TRACT 6051.02
DEED REF. L10412, F.396	GRID NO. 22 ZONE PEC	TAX MAP 41 ELECTION DISTRICT 5th
TITLE: SEDIMENT CONTROL DETAILS		
DESIGN: SJ	SCALE: AS SHOWN	PROJECT: 08A901.00
DRAWN: SSA	DATE: AUGUST, 2009	12 of 13
CHECKED: JMH	APPROVED: JMH	



STREET LIGHT SCHEDULE		
STATION	OFFSET	FIXTURE, POLE & ARM TYPE
90+00	3' OFFSET RIGHT	250 WATT HPS VAPOR PENDANT FIXTURE (CUTOFF) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING A 12' ARM
89+00	6' OFFSET RIGHT	250 WATT HPS VAPOR PENDANT FIXTURE (CUTOFF) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING A 12' ARM
88+00	6' OFFSET RIGHT	TWO 250 WATT HPS VAPOR PENDANT FIXTURES (CUTOFF) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING TWIN 6' ARMS
85+68	57' OFFSET LEFT	250 WATT HPS VAPOR PENDANT FIXTURE (CUTOFF) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING A 12' ARM
84+70	57' OFFSET LEFT	250 WATT HPS VAPOR PENDANT FIXTURE (CUTOFF) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING A 12' ARM
83+80	57' OFFSET LEFT	250 WATT HPS VAPOR PENDANT FIXTURE (CUTOFF) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING A 12' ARM
82+90	57' OFFSET LEFT	250 WATT HPS VAPOR PENDANT FIXTURE (CUTOFF) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING A 12' ARM
81+88	60' OFFSET LEFT	250 WATT HPS VAPOR PENDANT FIXTURE (CUTOFF) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING A 12' ARM
80+90	60' OFFSET LEFT	250 WATT HPS VAPOR PENDANT FIXTURE (CUTOFF) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING A 12' ARM
86+63	40' OFFSET RIGHT	250 WATT HPS VAPOR PENDANT FIXTURE (CUTOFF) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING A 12' ARM

LEGEND	
	STREET LIGHT
	DOUBLE ARMED STREET LIGHT

JOHNS HOPKINS ROAD
 VARIABLE WIDTH RIGHT-OF-WAY
 ASPHALT PAVED PUBLIC ROADWAY
 (URBAN MAJOR COLLECTOR)

SUBDIVISION PLAT OF THE
 JOHNS HOPKINS UNIVERSITY PROPERTY
 (APPLIED PHYSICS LABORATORY SITE)
 PLAT 17374
 ZONE: PEC
 PARCEL 123
 (JHU/APL MAIN CAMPUS)

APPROVED: DEPARTMENT OF PUBLIC WORKS
Walter R. Mohr
 Chief, Bureau of Highways
 Date: 10-23-09

APPROVED: DEPARTMENT OF PLANNING AND ZONING
John J. ...
 Chief, Development Engineering Division
 Date: 10/20/09

Kit ...
 Chief, Division of Land Development
 Date: 10-28-09

Date	No.	Revision Description
10/20/09	4	REVISED STREET LIGHT SCHEDULE
10/20/09	1	ADD LEFT TURN BAY ON BACKGROUND JOHNS HOPKINS PLAT INTERSECTION WITH APL DR.

JOHNS HOPKINS UNIVERSITY
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 1100 JOHNS HOPKINS ROAD
 LAUREL MARYLAND 20723-6099
 ATTN: JAMES LOESCH, P.E., CFM
 PHONE: 443.778.5834 FAX: 443.778.6122

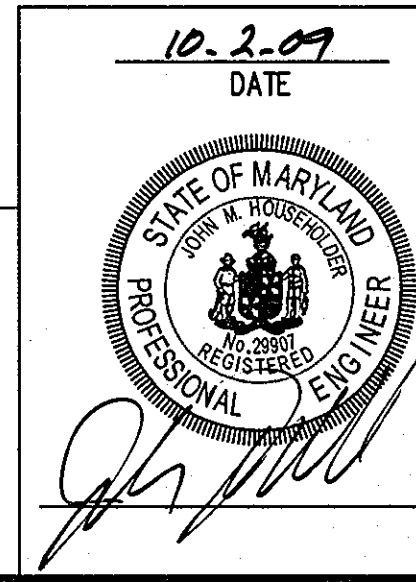
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 1172 oldstone gateway drive suite 100, annapolis, md 21406-2990
 410.972.8850 mdc301.981.0146 fax 410.972.8853

PERMIT INFORMATION CHART			
PROJECT NAME:	JHU/APL SOUTH CAMPUS	LOT/PARCEL NO.	300
CENSUS TRACT	6051.02	TAX MAP	41
DEED REF.	L10412, F.396	ZONE	PEC
ELECTION DISTRICT	5th	TITLE:	STREET LIGHT PLAN

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

John M. Householder
 SIGNATURE OF ENGINEER
 JOHN M. HOUSEHOLDER
 MD LICENSE NUMBER: 29907
 EXPIRATION DATE: 1-27-2010

10.2.09
 DATE



MDC-967