

GENERAL NOTES

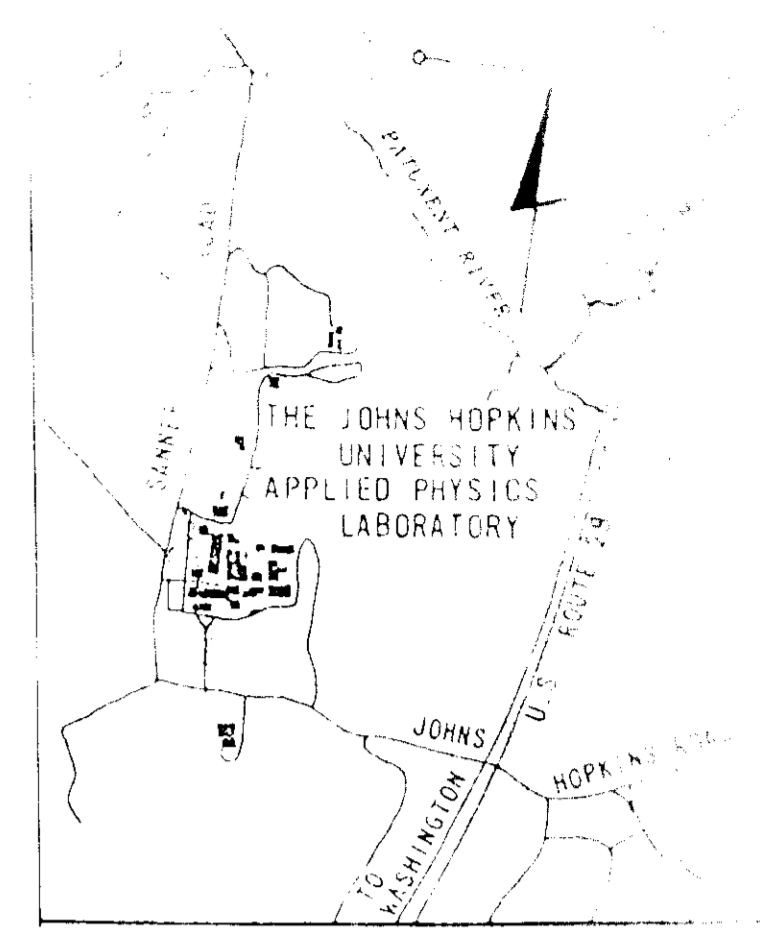
1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS.
2. ELEVATIONS SHOWN ARE BASED ON THE JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY DATUM. JHU-APL DATUM-'94' = HOWARD COUNTY DATUM. TOPOGRAPHIC SURVEY WAS DONE IN NOVEMBER 1989.
3. THE CONTRACTOR SHALL NOTIFY MISS UTILITY (301) 559-0100 FIVE DAYS PRIOR TO START OF CONSTRUCTION.
4. POLYFILTER X FILTER CLOTH BLANKET OR EQUAL SHALL BE PLACED UNDER ALL STONE RIP RAP.
5. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN AN UNINTERRUPTED SERVICE. ANY DAMAGE BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
6. ACCESS TO THE CONSTRUCTION AREA THROUGH THE SECURE AREA OF THE APPLIED PHYSICS LABORATORY (WITHIN THE FENCED ENCLOSURE) MUST BE ARRANGED IN ADVANCE BY CONTACTING THE PLANT ENGINEERING OFFICE (301) 792-5134.
7. SECURITY MUST BE MAINTAINED WITHIN THE EXISTING FENCED AREA. ALL REQUIRED FENCE CONSTRUCTION AND RELOCATION SHALL BE BY THE JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY. HOWEVER THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH JHU APL AS TO WHEN SUCH WORK IS REQUIRED.
8. THE CONTRACTOR SHALL CONTACT MR. ARTHUR STUCKI, PLANT ENGINEER (301) 792-5133 AT LEAST FIVE DAYS BEFORE STARTING WORK OR SHUTTING DOWN ANY UTILITIES.
9. THE CONTRACTOR SHALL SHUTDOWN AND TIE-IN TO THE EXISTING UTILITIES ONLY AFTER NORMAL WORKING HOURS AT JHU-APL. WORK MUST BE SCHEDULED ACCORDINGLY. NORMAL WORKING HOURS ARE 8:30 AM TO 5:00 PM.
10. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
11. ALL WATER MAINS SHALL BE DUCTILE IRON CLASS 92.
12. ALL SANITARY SEWER MAINS SHALL BE HOWARD COUNTY SCHEDULE 35 PVC UNLESS OTHERWISE NOTED.
13. THE CONTRACTOR OR DEVELOPER SHALL CONTACT THE CONSTRUCTION INSPECTION DIVISION, 24 HOURS IN ADVANCE OF COMMENCEMENT OF WORK, AT 992-2417 OR 2418.
14. TOP OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3 1/2 FT. OF COVER UNLESS OTHERWISE NOTED.
15. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWING.
16. CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES 2'-0" MINIMUM OR TUNNEL AS REQUIRED.
17. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEMS.
18. THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR MANHOLE WALL.
19. THE CONTRACTOR SHALL PERMANENTLY SEED AND STABILIZE ALL DISTURBED AREAS THAT ARE NOT TO BE PAVED.
20. THE BUILDINGS PROPOSED ARE FOR RESEARCH AND DEVELOPMENT.
21. THERE ARE NO WETLANDS WITHIN THE LIMIT OF DISTURBANCE SHOWN. THEREFORE SECTION 404 AND SECTION 401 DO NOT APPLY AND PERMITS ARE NOT REQUIRED.
22. ALL ON-SITE WATER AND SEWER SYSTEMS ARE PRIVATE.
23. PREVIOUS PLANS ON THIS SITE WERE APPROVED UNDER SDP 89-05, 89-08, 89-12 & 89-20-11.
24. STORMWATER MANAGEMENT FOR THIS DEVELOPMENT WAS PROVIDED UNDER SDP - 88-06.

1. General:

All water main construction shall conform to the requirements contained in the current issue of the "Howard County Design Manual, Volume IV, Standard Specifications and Details for Construction", Article 10 except as modified herein.

2. Modifications

- a. Valves
 - Valves shall open left - counterclockwise. Where indicated on the plans they shall be furnished with post type operators.
- b. Hydrants
 - All outlet nozzles shall have National Standard Fire Hose Coupling Screw Threads.
- c. Pipe Joint Bonding
 - 1) All pipe joints shall be bonded to insure electrical continuity. Bonding may be accomplished either with shop welded copper terminal straps and copper jumper straps with corrosion resistant bolts or with copper wire exothermic welded in the field.
 - 2) All bonding between joints for pipe, fittings, valves, and specials shall be tested for electrical continuity. Each joint shall be inspected and resistance tested prior to coating and backfilling. No resistance will be permissible across any joint.
 - 3) All bonded joints shall be coated with a rust-inhibitive paint.



VICINITY MAP
SCALE: 1" = 2000'

INDEX OF SHEETS

NO.	SHEET TITLE	SHT. NO.
1.	COVER SHEET	1 of 6
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4.	DRAINAGE AREA MAP/WATERLINE PROFILE	4 of 6
5.	SEDIMENT CONTROL PLAN	5 of 6
6.	SEDIMENT CONTROL NOTES	6 of 6

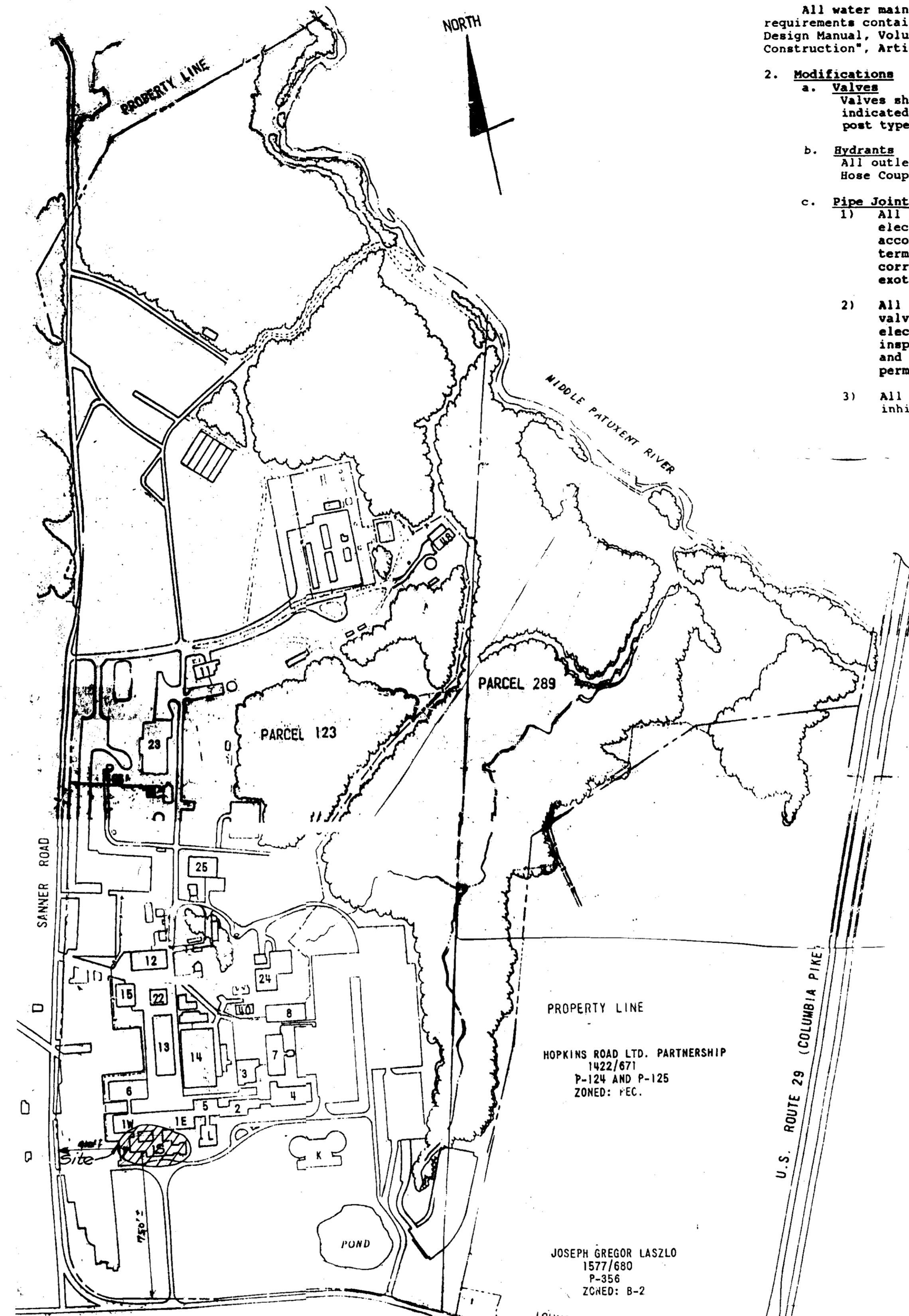
SITE ANALYSIS

% COVERAGE

PRESENT ZONING	RURAL -R	
AREA OF PROPERTY	366 ACRES.	
AREA OF SUBMISSION	0.85 ACRES	
BUILDING FLOOR SPACE:		
EXISTING	1416,850 S.F.	
PROPOSED	6,313 S.F.	LOBBY AND OFFICE
TOTAL	1,423,163 S.F.	
NUMBER OF EMPLOYEES		
EXISTING	3,100	
PROPOSED	0	
TOTAL	3,100	
NUMBER OF PARKING SPACES		
EXISTING	3,180	
REQUIRED	3,100 X 0.7 = 2,170	
PROVIDED	3,180	
GREEN AREA		
EXISTING	304.20 AC.	83.11 %
PROPOSED	303.82 AC.	83.01 %
BUILDING COVERAGE		
EXISTING	616,571 SF.	3.87%
PROPOSED	630,760 SF.	3.95%
PAVING AREA		
EXISTING	46.97 AC.	12.83 %
PROPOSED	46.99 AC.	12.84 %

NOTE: THERE IS NO ADDITIONAL PARKING PROPOSED BY THIS SUBMITTAL.

Note: Any trees to be removed and any new landscaping will be done by JHU-APL after building is completed.



MILICED B. PRICE ET AL
146/235 146/76
P-128
ZONED: RURAL

JOSEPH GREGOR LASZLO
1577/680
P-358
ZONED: B-2

LOCATION PLAN

Scale 1" = 400'

ADDRESS CHART			
PARCEL NUMBER	STREET ADDRESS		
P. 123/129	11100 JOHNS HOPKINS ROAD		
SUBDIVISION NAME	SECT./AREA	LOT/PARCEL	
J.H.U. APPLIED PHYSICS LAB.		P.123/289	
PLAT: OR L/F	BLOCK:	ZONE	TAX/ZONE MAP ELEC. DIST. CENSUS TR.
234/304	16	R	41 5th. 605'
400/625			
WATER CODE	SEWER CODE		
E-21	6480000		
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT			
<i>Joseph B. Boyle</i>		10-1-90	
COUNTY HEALTH OFFICER		DATE	
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING			
<i>Cheryl</i>		11.16.90	
PLANNING DIRECTOR		DATE	
<i>Mark C. P. Boyle</i>		11/6/90	
CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT		DATE	
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS			
<i>R. B. Boyle</i>		9-27-90	
DIRECTOR		DATE	
<i>James E. Boyle</i>		9-26-90	
CHIEF, BUREAU OF ENGINEERING		DATE	



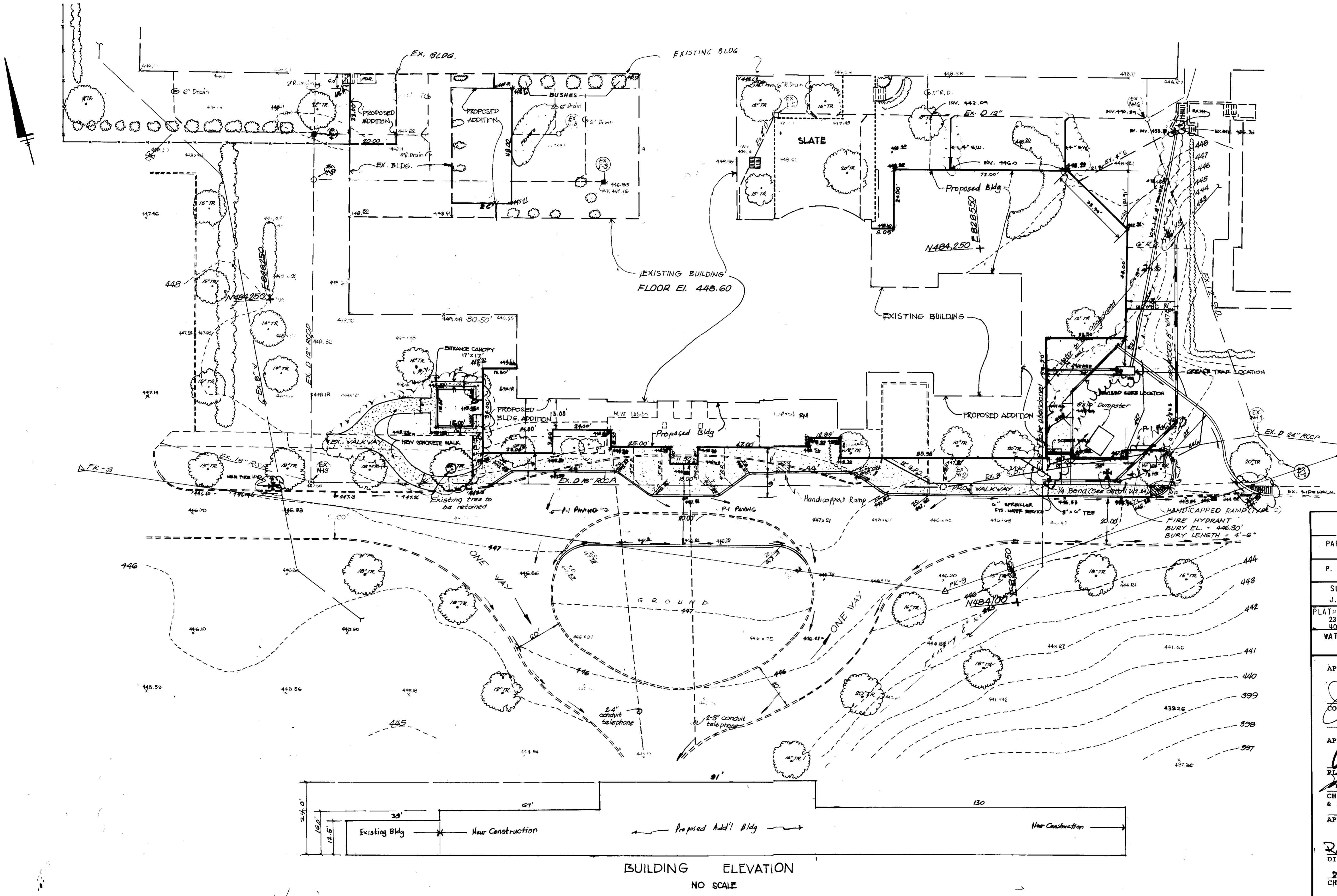
APPLIED PHYSICS LABORATORY
THE JOHN HOPKINS UNIVERSITY
JOHNS HOPKINS ROAD HOWARD COUNTY MARYLAND
APPROVED FOR THE UNIVERSITY BY: *James E. Boyle*
DATE: 4/18/90 TITLE: *Camp Supervisor*

BUILDING I - ADDITION
THE JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY
11100 JOHNS HOPKINS ROAD
LAUREL MARYLAND 20701

COVER SHEET

SCALE: AS SHOWN
DATE: 03-19-90

REVISIONS



LEGEND:

	Existing	Proposed
Curbs	=====	=====
Grades	-----	-----
Spot elevation	170.90	170.90
Paving	[]	[]
Water Line	---	---
Side walk	---	---
Troverse	△	△
Building	[]	[]

ADDRESS CHART

PARCEL NUMBER	STREET ADDRESS				
P. 123/129	11100 JOHNS HOPKINS ROAD				
SUBDIVISION NAME	SECT./AREA	LOT/PARCEL			
J.H.U. APPLIED PHYSICS LAB.		P.123/289			
PLAT# OR L/F	BLOCK#	ZONE	TAX/ZONE MAP	ELEC. DIST.	CENSUS TR.
234/304	16	R	41	5th.	6051
400/625					
WATER CODE	SEWER CODE				
E-21	6480000				

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

James B. ... 10-1-90
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

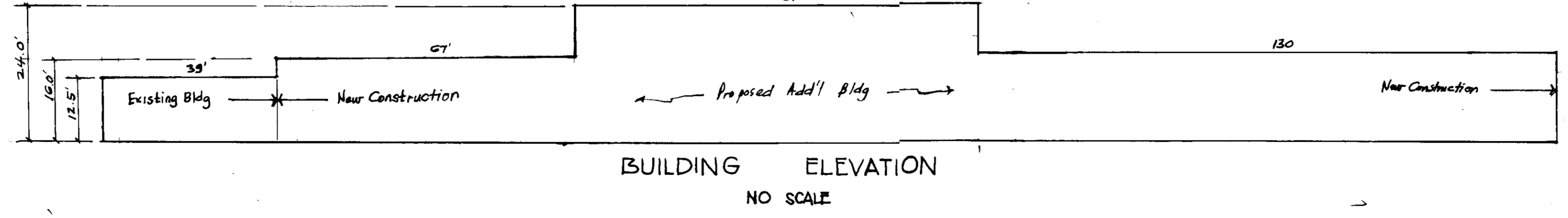
... 11.5.90
PLANNING DIRECTOR DATE

... 1/6/90
CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

... 9-27-90
DIRECTOR DATE

... 9-26-90
CHIEF, BUREAU OF ENGINEERING DATE



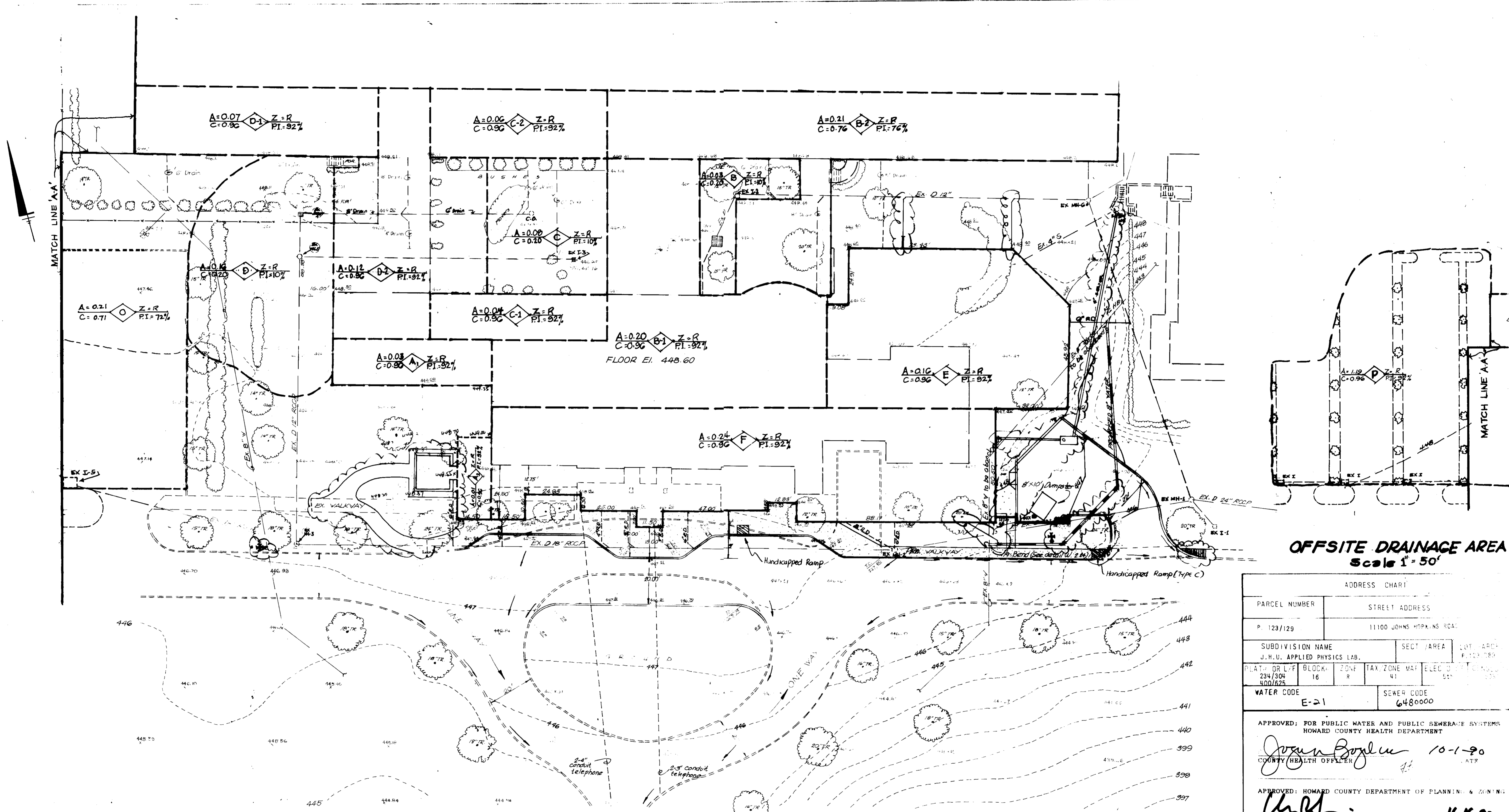
oria engineering inc.
Consulting Engineers - Land Planners - Surveyors
2230 Bethany Lane, Suite 4, Elkridge City, Maryland
301-465-0300

APPLIED PHYSICS LABORATORY
THE JOHN HOPKINS UNIVERSITY
JOHNS HOPKINS ROAD HOWARD COUNTY MARYLAND
APPROVED FOR THE UNIVERSITY BY: *...*
DATE: ... TITLE: *...*

BUILDING I - ADDITION
THE JOHN HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY
11100 JOHNS HOPKINS ROAD
LAUREL MARYLAND 20707

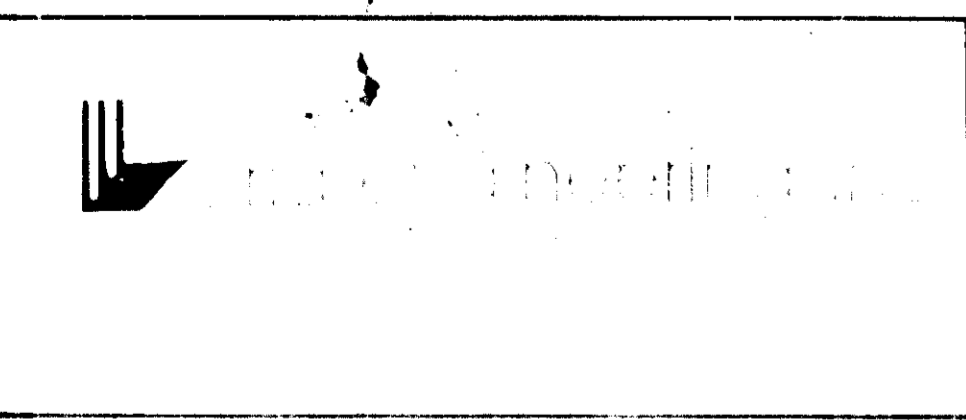
SITE DEVELOPMENT PLAN
GRADING PLAN

SCALE: 1" = 20'
DATE: 03-21-90
5-22-91 SEWER LINES REVISIONS
SHEET: 2 OF 6



OFFSITE DRAINAGE AREA
Scale 1" = 50'

ADDRESS CHART	
PARCEL NUMBER	STREET ADDRESS
P. 123/129	11100 JOHNS HOPKINS ROAD
SUBDIVISION NAME	SECT./AREA
J.H.U. APPLIED PHYSICS LAB.	
PLAT. OR L.P.F. BLOCK. ZONE TAX. ZONE MAP ELEC. DIST. CODE	
234/304 16 R 41 51	
400/625	
WATER CODE	SEWER CODE
E-21	6480000
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT	
<i>John Boyle</i> 10-1-90 COUNTY HEALTH OFFICER DATE	
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING	
<i>Cheryl</i> 11.16.90 PLANNING DIRECTOR DATE	
<i>David J. Taylor</i> 1/2/91 CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT DATE	
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
<i>Robert B. Smith</i> 1-27-90 DIRECTOR DATE	
<i>William B. Riley</i> 1-28-90 CHIEF, BUREAU OF ENGINEERING DATE	

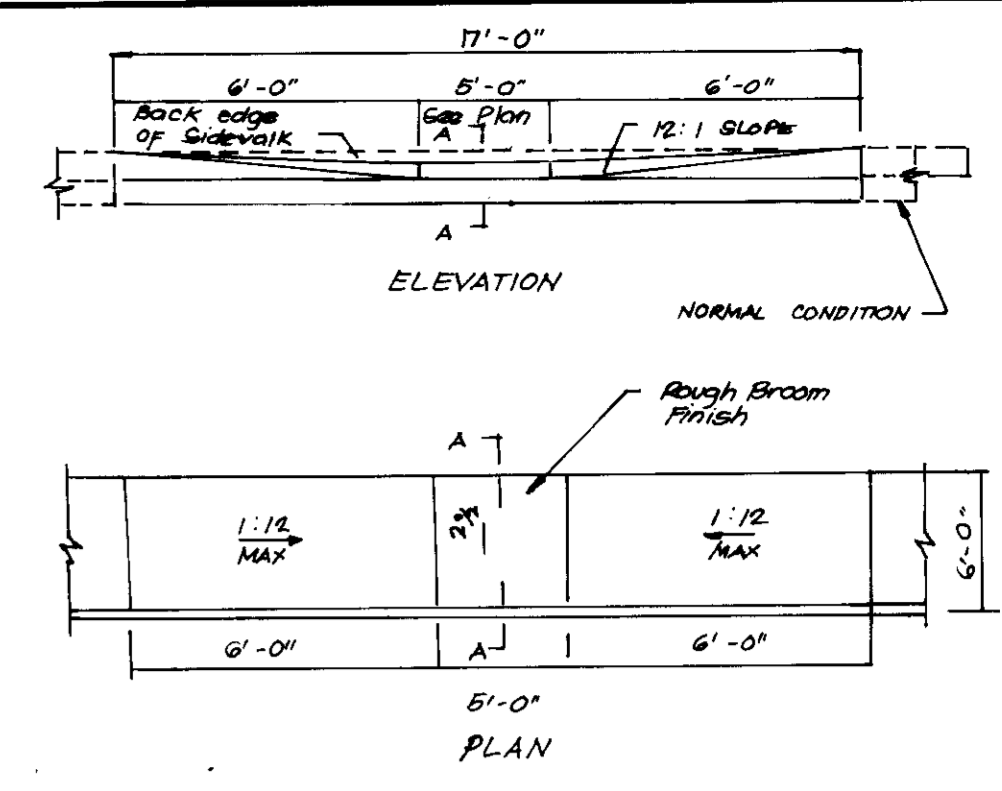


APPLIED PHYSICS LABORATORY
THE JOHN HOPKINS UNIVERSITY
JOHNS HOPKINS ROAD HOWARD COUNTY MARYLAND
APPROVED FOR THE UNIVERSITY BY: *James E. Louch*
DATE: 4/10/90 TITLE: *Drainage Engineer*

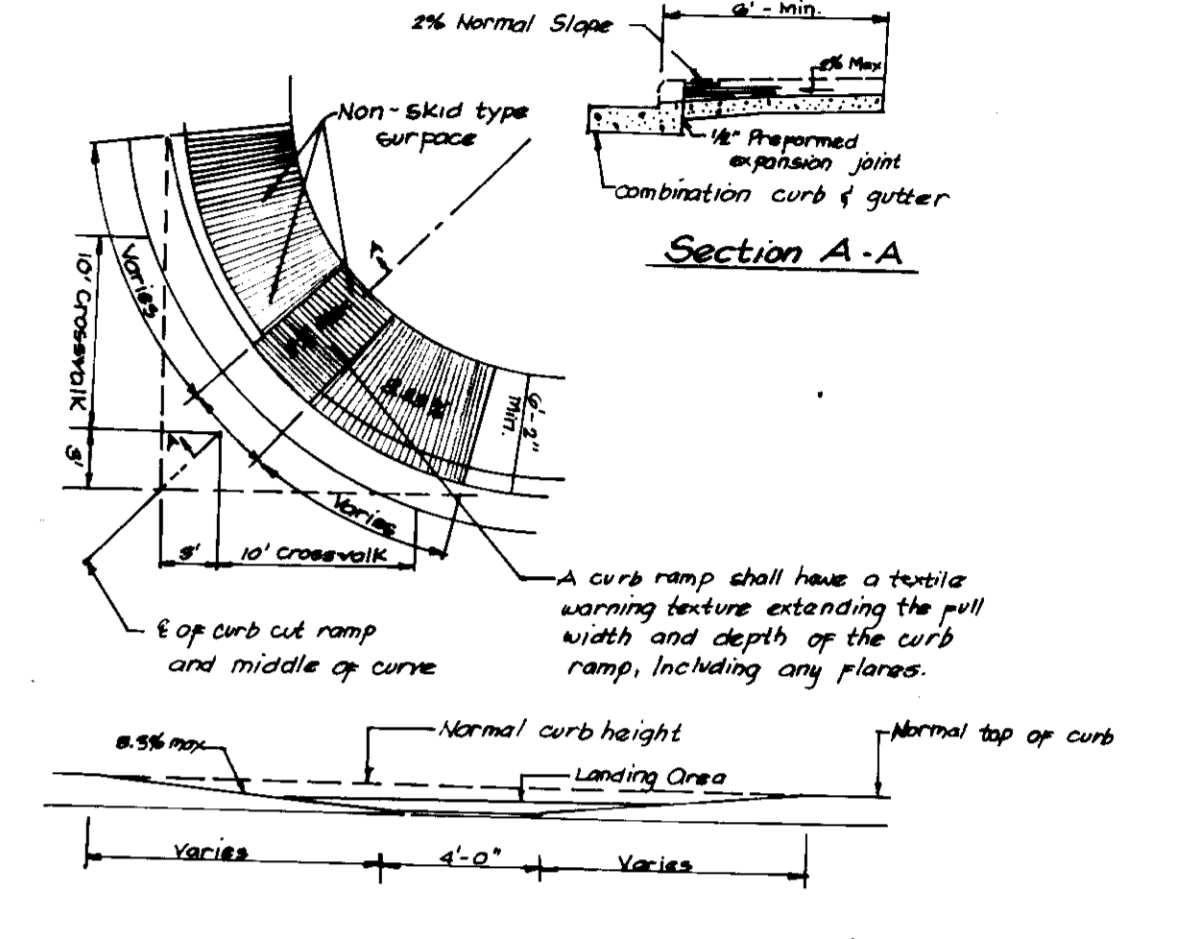
BUILDING I - ADDITION
THE JOHN HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY
1100 JOHNS HOPKINS ROAD LAUREL, MARYLAND 20701

DRAINAGE AREA MAP

SCALE	SHEET
1" = 20'	3 OF 6
DATE:	
05-23-90	
5-22-91 - SEWER LINES	
REVISIONS:	



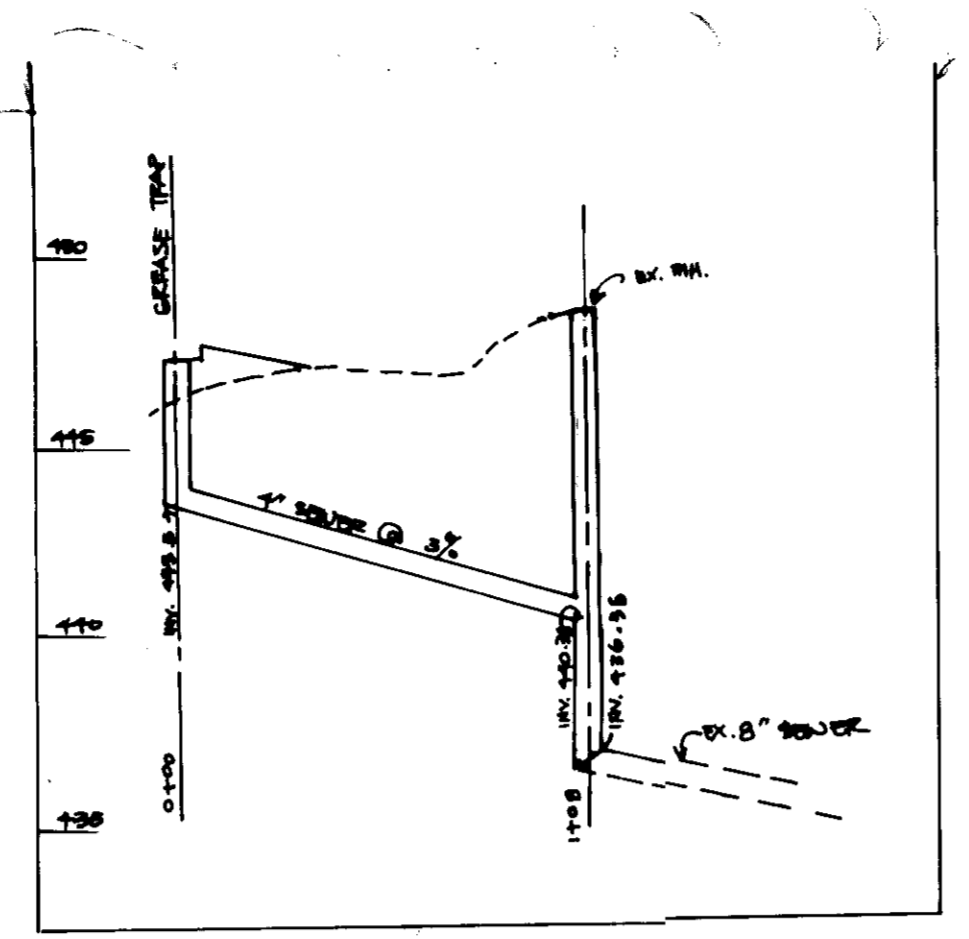
SIDEWALK RAMP



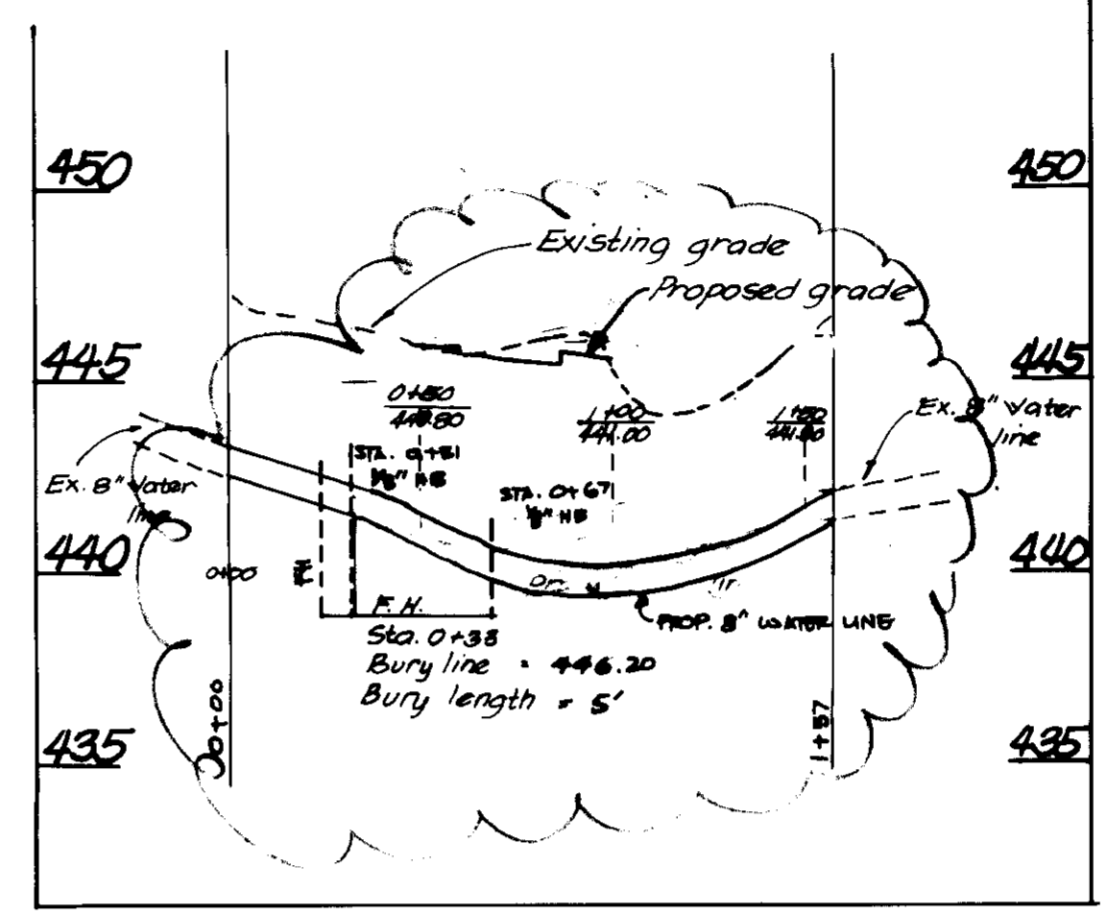
SIDEWALK RAMP (TYPE C)

HANDICAPPED RAMP DETAILS
NOT TO SCALE

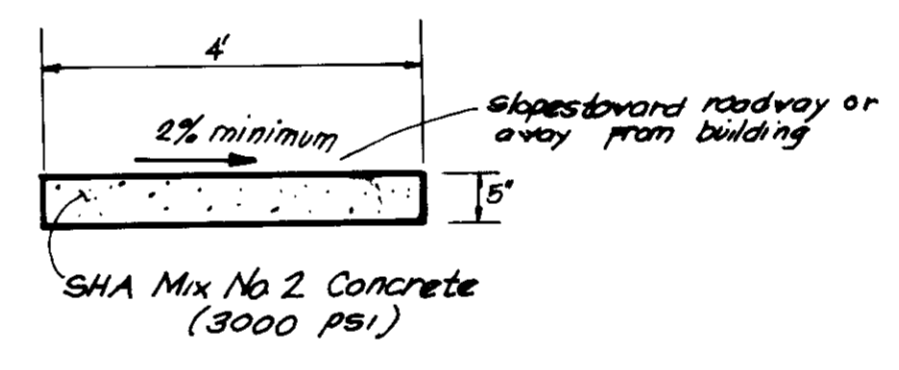
QUANTITIES			
ITEM	ESTIMATED	AS BUILT	SUPPLIER
8" Water	157 L.F.		
6" Water	18' L.F.		
Fire Hydrant	1 each		
8" x 6" Tee	3 each		
8" 1/4 Bend	1 each		
8" 1/2 Bend	1 each		
6" Valve	2 each		
8" - 1/2" BEND	2 EACH		
4" SEWER	180 L.F.		



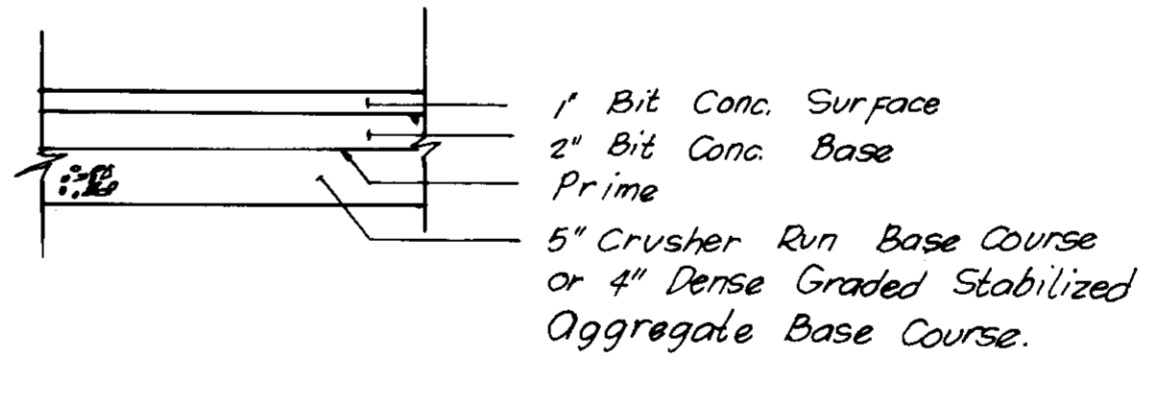
SEWER PROFILE
SCALE: 1" = 50' HORIZ.
1" = 5' VERT.



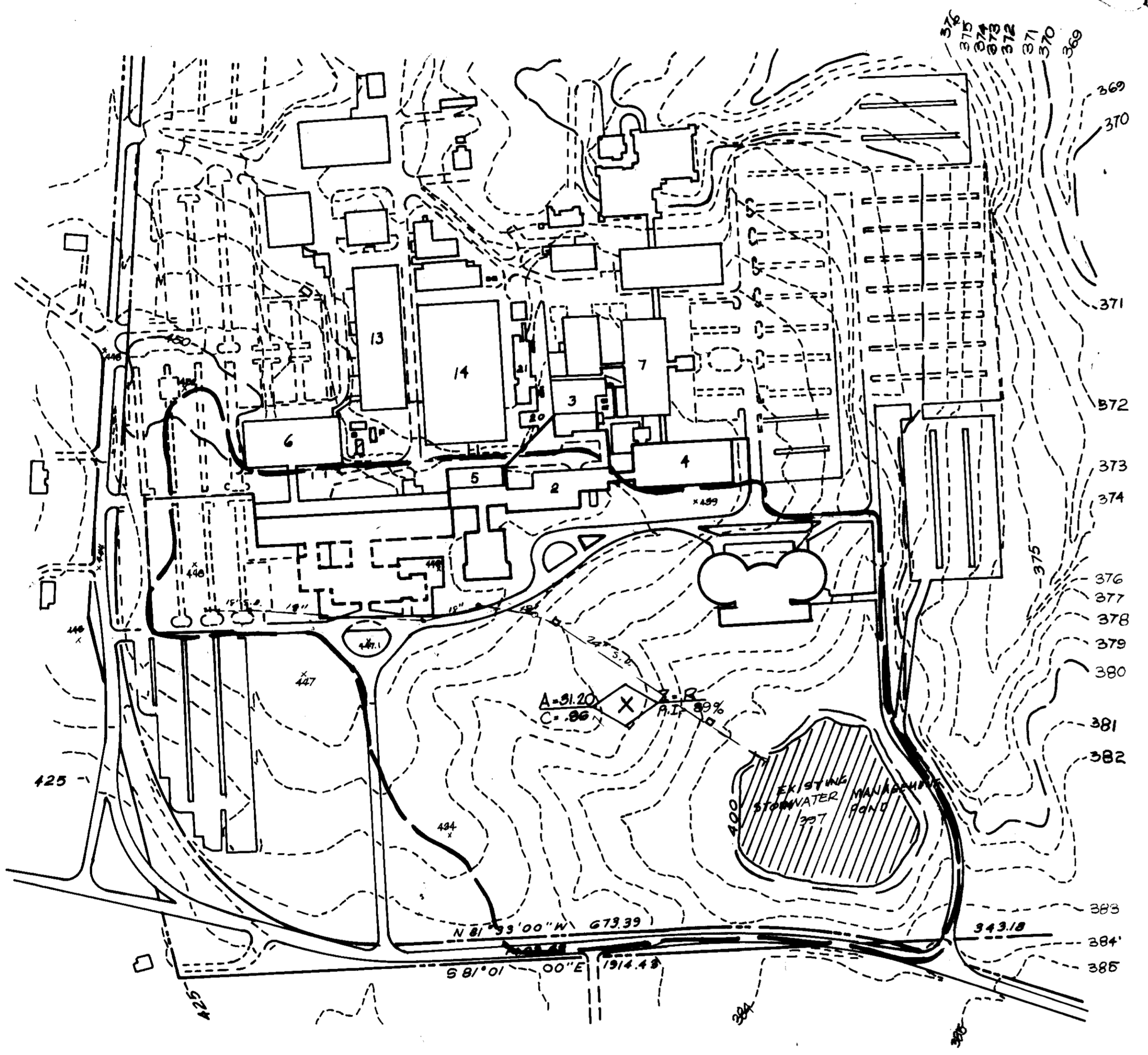
PROFILE OF WATERLINE
Scale: 1" = 50' Horizontal
1" = 5' Vertical



SIDEWALK SECTION
NOT TO SCALE



PAVING SECTION (P-1)
NOT TO SCALE



DRAINAGE AREA MAP
Scale: 1" = 200'

ADDRESS CHART			
PARCEL NUMBER	STREET ADDRESS		
P. 123/129	11100 JOHNS HOPKINS ROAD		
SUBDIVISION NAME	SECT./AREA	LOT/PARCEL	
J.H.U. APPLIED PHYSICS LAB.		P. 123/289	
PLAT# OR L/F	BLOCK#	ZONE	TAX/ZONE MAP
234/304	18	R	41
400/625			
WATER CODE	SEWER CODE		
E-21	6480000		
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT			
Joseph Boudin		10-1-90	
COUNTY HEALTH OFFICER		DATE	
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING			
[Signature]		11-16-90	
PLANNING DIRECTOR		DATE	
Frank C. J. [Signature]		1/2/90	
CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT		DATE	
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS			
[Signature]		1-27-90	
DIRECTOR		DATE	
[Signature]		2-24-90	
CHIEF, BUREAU OF ENGINEERING		DATE	

oria engineering inc.
Consulting Engineers • Land Planners • Surveyors
3230 Bethony Lane, Suite 4, Fitts City, Maryland
301-465-0900



APPLIED PHYSICS LABORATORY
THE JOHN HOPKINS UNIVERSITY
JOHNS HOPKINS ROAD HOWARD COUNTY MARYLAND
APPROVED FOR THE UNIVERSITY BY: [Signature]
DATE: 4/1/90 TITLE: [Signature]

BUILDING I - ADDITION
THE JOHN HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY
11100 JOHNS HOPKINS ROAD
LAUREL MARYLAND 20707

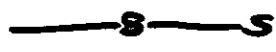


DRAINAGE AREA MAP
WATERLINE PROFILE
DETAILS

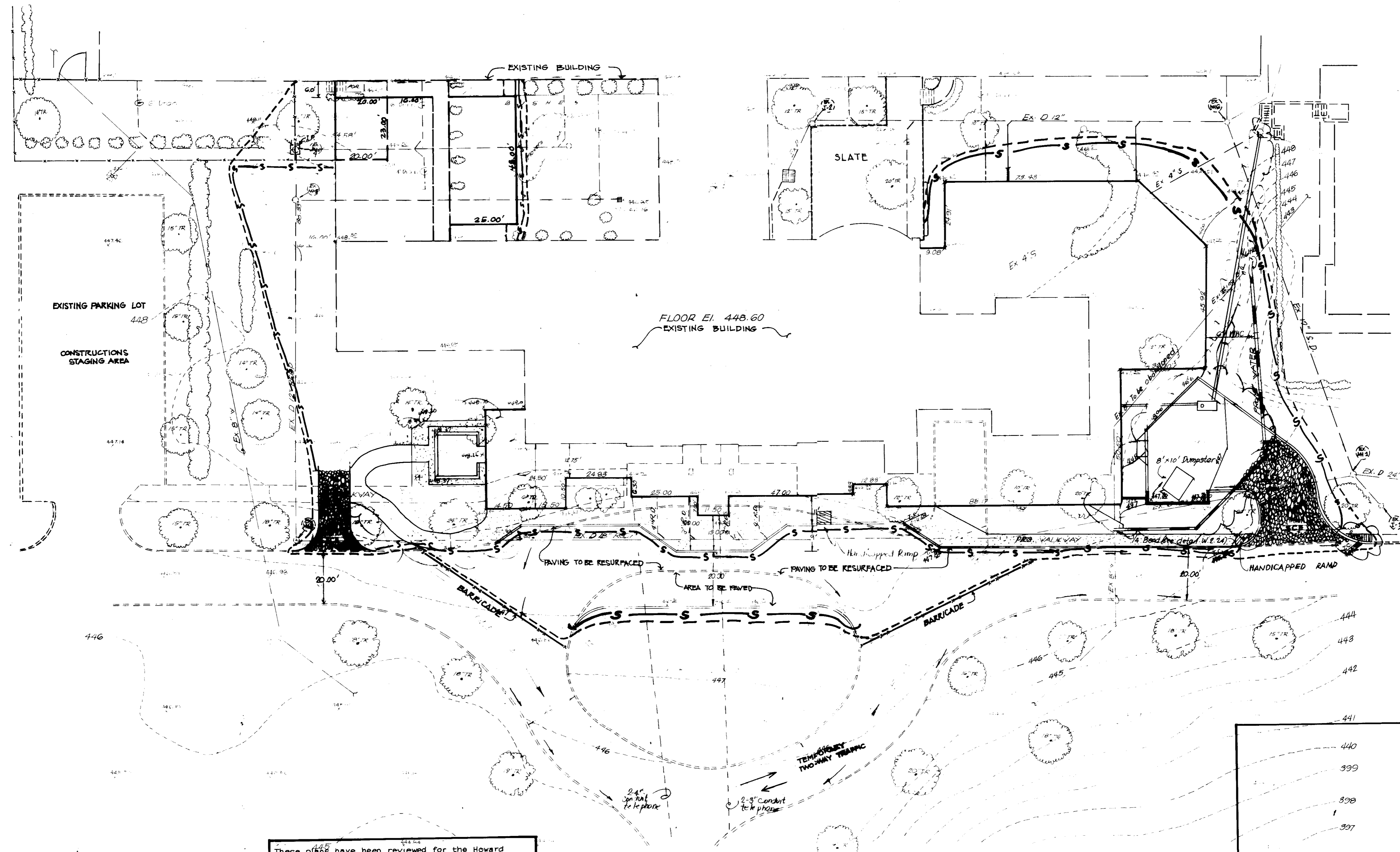
SCALE:	SHEET:
As shown	4 OF 6
DATE:	
04-03-90	
5-22-91 - SEWER LINES	
REVISIONS	

SEQUENCE OF CONSTRUCTION

1. Obtain grading permit.
2. Install all sediment control measures shown on this plan.
3. Grade the site.
4. Seed & Mulch all disturb area in accordance with Howard County Soil Construction District requirement.

LEGEND :

-  Silt Fence
-  Limit of Disturbance
-  Stabilized Const. Entrance



ADDRESS CHART	
PARCEL NUMBER	STREET ADDRESS
P 123/129	1100 JOHN HOPKINS ROAD
SUBDIVISION NAME	SECTION AREA
W.H.U. APPLIED PHYSICS LAB.	P 123/289
BLK 16	LOT 41
WATER CODE	SEWER CODE
E-21	6480000

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT	10-1-90
<i>Joseph Boyle</i> COUNTY HEALTH OFFICER	DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING	11.16.90
<i>Unlabeled</i> PLANNING DIRECTOR	DATE
<i>David C. J. ...</i> CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT	DATE
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	9-27-90
<i>Robert ...</i> DIRECTOR	DATE
<i>...</i> CHIEF, BUREAU OF ENGINEERING	DATE

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for soil and sediment control.

James M. ... 9/11/90
U.S. Soil Conservation Service Date

These plans for soil and sediment control meet the requirements of the Howard Soil Conservation District.

... 9/11/90
Howard Soil Conservation District Date

ENGINEER'S CERTIFICATE

I certify that this plan erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District.

... 4-19-90
Signature of Engineer Date

DEVELOPER'S CERTIFICATE

I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Environment Approved Training Program for Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.

James E. ... 4/18/90
Signature of Developer Date

APPLIED PHYSICS LABORATORY
THE JOHN HOPKINS UNIVERSITY
BUILDING OFFICE ROAD, HOWARD COUNTY, MARYLAND
APPROVED FOR THE UNIVERSITY BY *James E. ...*
DATE 4/19/90 TITLE *...*

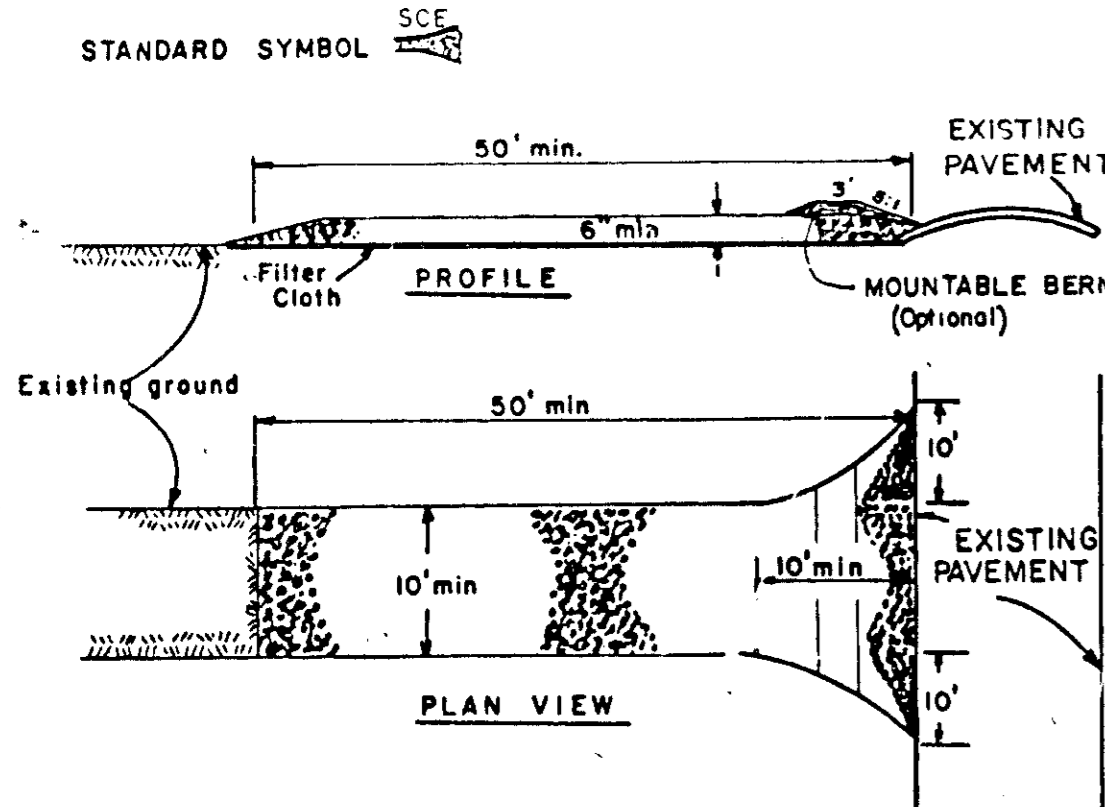
BUILDING I - ADDITION

THE JOHN HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY
1100 JOHN HOPKINS ROAD

SEDIMENT CONTROL PLAN

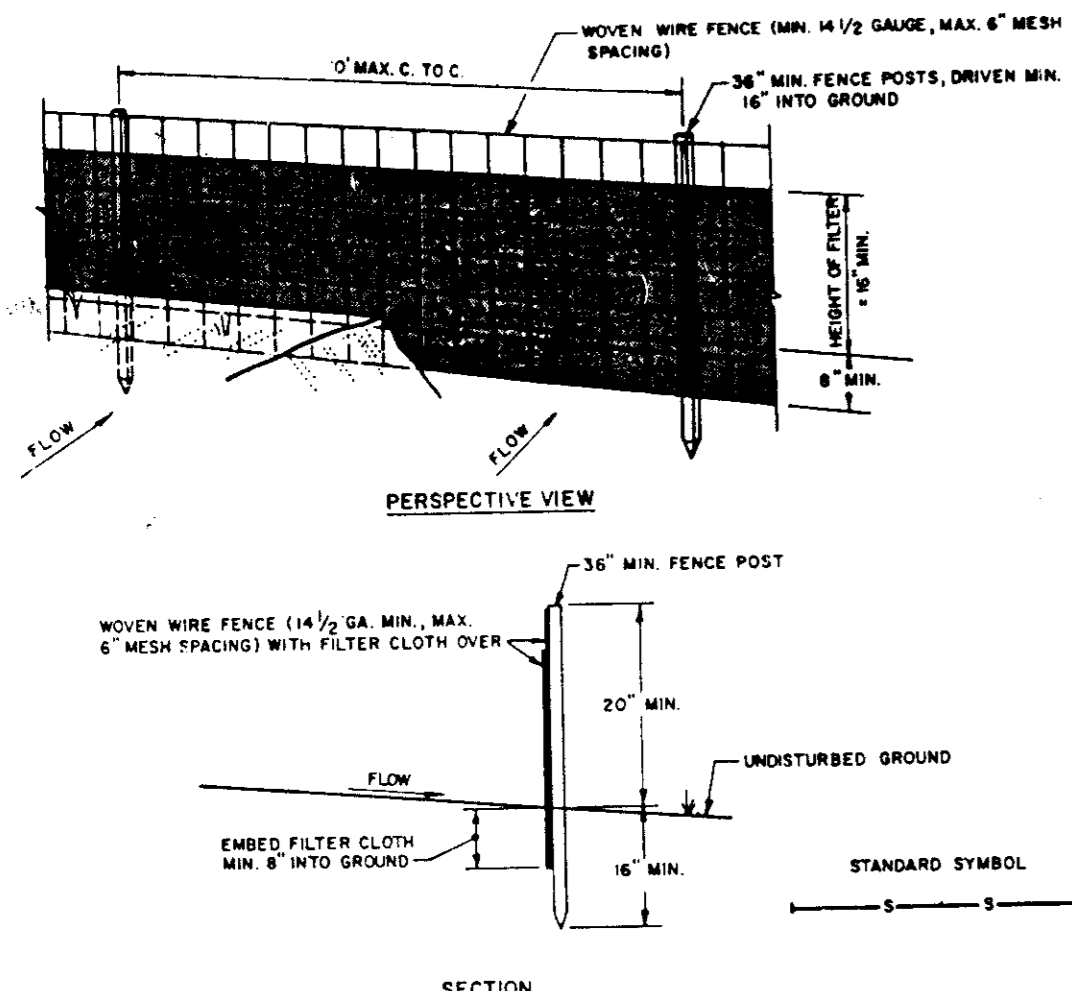
SCALE	SHEET
1" = 20'	5 OF 6
DATE	
04-89-90	
5-22-91 - SEWER LINES REVISIONS	

STABILIZED CONSTRUCTION ENTRANCE
not to scale



CONSTRUCTION SPECIFICATIONS

1. Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
3. Thickness - Not less than six (6) inches.
4. Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
5. Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Periodic inspection and needed maintenance shall be provided after each rain event.



CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH WIRE TIES OR STAPLES EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN 'BULGES' DEVELOP IN THE SILT FENCE.

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

Seeded Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, unless previously loosened.

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

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

Seeding - For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000 sq ft) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (.05 lbs/1000 sq ft) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) 2 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 31 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 unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq ft) for anchoring.

Maintenance - Inspect all seeded areas and make needed repairs, replacements and reseeds.

TEMPORARY SEEDING NOTES

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

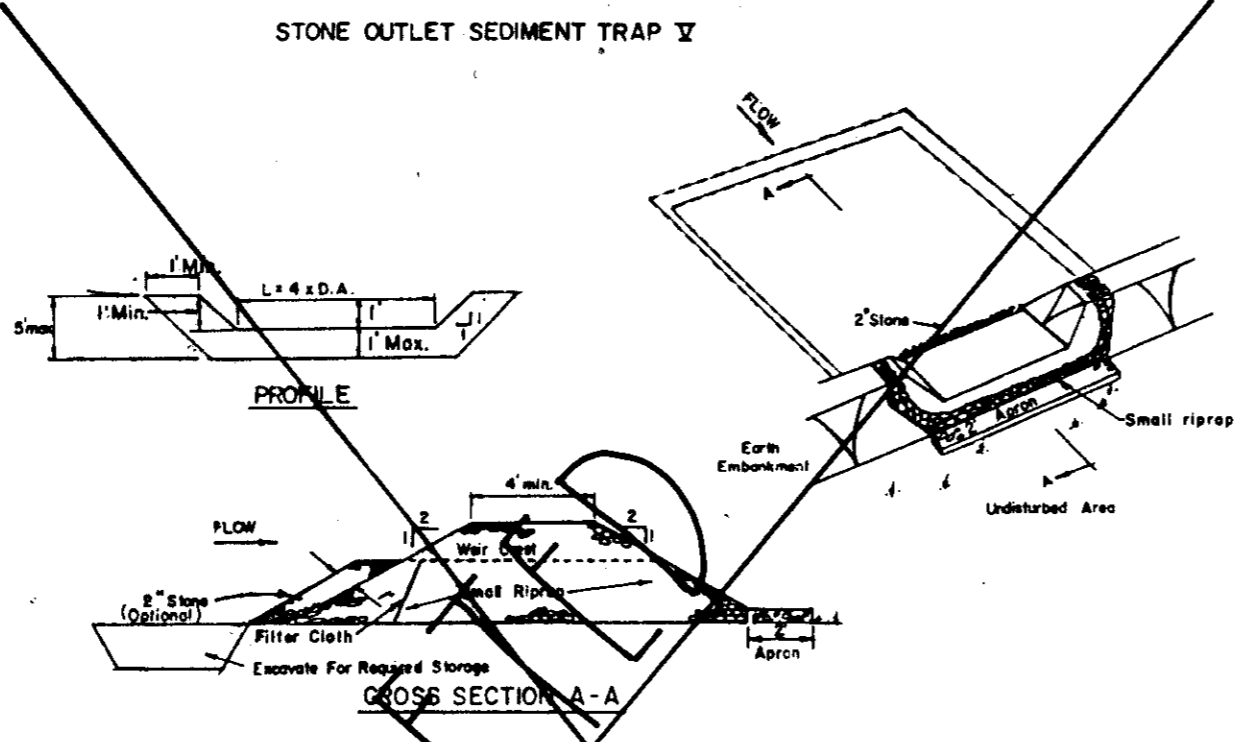
Seeded Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, unless previously loosened.

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

Seeding - For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2 1/2 bushels per acre of annual rye (3.2 lbs/1000 sq ft). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq ft). For their period November 16 thru February 28, protect site by applying 2 tons per 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 per acre (70 to 90 lbs/1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes, 8 ft or higher, use 348 gal per acre (8 gal/1000 sq ft) for anchoring.

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.



OPTION: A one foot layer of 2" stone may be placed on the upstream side of the riprap in place of the embedded filter cloth.

1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The soil area shall be cleared.
2. The fill material for the embankment shall be free of roots and other woody vegetation as well as other sticks, stones, rocks, organic material or other objectionable material. The embankment shall be constructed by traversing with equipment while it is being constructed.
3. All cut and fill slopes shall be 2:1 or flatter.
4. The stone used in the outlet shall be small riprap 4"-8" along with a 1" thickness of 2" aggregate placed on the up-grade side on the small riprap and embedded filter cloth in the riprap.
5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap.
6. The structure shall be inspected after each rain and repairs made as needed.
7. Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
8. The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for soil and sediment control.

James E. Toled 9-11-90
U. Soil Conservation Service Date

Cliff J. Ashby 9/18/90
Howard Soil Conservation District Date

ENGINEER'S CERTIFICATE

I certify that this plan erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District.

Richard L. Brice 4-19-90
Signature of Engineer Date

DEVELOPER'S CERTIFICATE

I hereby certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Environment Approved Training Program for Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.

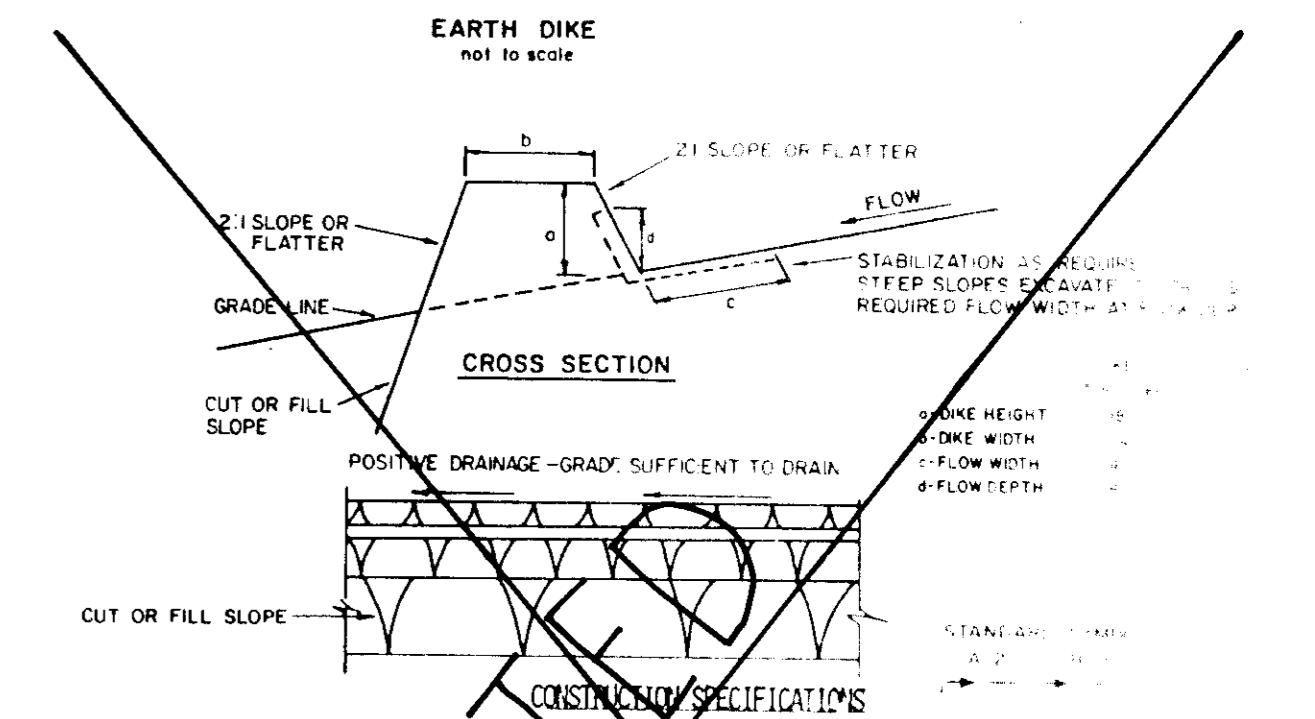
James E. Toled 4/18/90
Signature of Developer Date

APPLIED PHYSICS LABORATORY
THE JOHN HOPKINS UNIVERSITY
JOHNS HOPKINS ROAD HOWARD COUNTY MARYLAND
APPROVED FOR THE UNIVERSITY BY *James E. Toled*
DATE: 4/18/90 TITLE: *Sedimentation*

BUILDING I - ADDITION
THE JOHN HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY
11100 JOHN HOPKINS ROAD
LAUREL MARYLAND 20707

SEDIMENT CONTROL NOTES

- 1) A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permitting prior to the start of any construction. (192-24-17)
- 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 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- 3) Following initial soil disturbance or redistribution, 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 specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 51) sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone 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 from the Howard County Sediment Control Inspector.
- 7) Site Analysis:
Total Area of Site: 966 Acres
Area Disturbed: 40 Acres
Area to be roofed or paved: 27 Acres
Area to be vegetatively stabilized: .02 Acres
Total Cut: 500 Cu. yds
Total Fill: Cu. yds
Offsite waste/borrow area location: _____
- 8) Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- 9) Additional sediment controls must be provided, if deemed necessary by the Howard County DPW sediment control inspector.
- 10) On all sites 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.



CONSTRUCTION SPECIFICATIONS

1. ALL DIKES SHALL BE COMPACTED (EARTHWORKING EQUIPMENT).
2. ALL DIKES SHALL HAVE POSITIVE INTERNAL ANGLE.
3. TOP WIDTH MAY BE WIDER AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO ALLOW CROSSING BY CONSTRUCTION TRAFFIC.
4. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED BANK.
5. EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. THE DIKE SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE, SUCH AS A SEDIMENT TRAP, TRAP BASIN WHERE EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE ADEQUATELY STABILIZED.
6. STABILIZATION SHALL BE DONE IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEEDING AND STRAW MULCH OR STRAW MULCH IF NOT IN SEEDING SEASON. (B) FLOW CHANNEL ABOVE THE DIKE SHALL BE STABILIZED.

FLOW CHANNEL STABILIZATION		
TYPE OF TREATMENT	CHANNEL GRADE	DIKE A
1	1-3.0%	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH
3	5.1-8.0%	SEED WITH LIME, OR SEED AND STRAW MULCH
4	8.1-20%	LINED RIP-RAP 4-8"

- A. STONE TO BE 2 INCH STONE, OR RECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 4 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
- B. RIP-RAP TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.
- C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.
7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

APPROVED: FOR PUBLIC WATER AND PUBLIC HEALTH
HOWARD COUNTY HEALTH DEPARTMENT
John B. B... 10-1-90
COUNTY HEALTH OFFICER

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING
John B. B... 11.16.90
PLANNING DIRECTOR

APPROVED: FOR PUBLIC WATER AND PUBLIC HEALTH
STORM DRAINAGE SYSTEMS AND PUBLIC HEALTH
HOWARD COUNTY DEPARTMENT OF PLANNING
Robert B... 9-27-90
DIRECTOR

APPROVED: FOR PUBLIC WATER AND PUBLIC HEALTH
STORM DRAINAGE SYSTEMS AND PUBLIC HEALTH
HOWARD COUNTY DEPARTMENT OF PLANNING
Richard L. Brice 4-19-90
CHIEF, BUREAU OF ENGINEERING

SCALE: _____ SHEET: 6 OF 6
DATE: 04-09-90

REVISIONS
SDP-90-194