

BUILDING 17

THE JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY LOCATED SOUTHEAST INTERSECTION OF ROUTE 29 & 32 IN HOWARD COUNTY, MD

DEVELOPER & ENGINEER CERTIFICATES

1) BY THE DEVELOPER:

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONAL 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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

James E. Loesch
SIGNATURE OF DEVELOPER 05/29/02
DATE

2) BY THE ENGINEER:

"I CERTIFY THAT THE PLAN FOR EROSION AND SEDIMENT PLAN 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.

RE Byrne
DESIGN ENGINEER SIGNATURE 7/10/02
DATE

RE Burgoyne
PRINTED NAME 20906
REGISTRATION NUMBER

3) CERTIFICATION BY PROFESSIONAL:

THERE ARE NO WETLANDS ON THE SITE THAT WILL BE DISTURBED. THEREFORE, THE REQUIREMENT OF 401 AND 404 WETLANDS PERMITS FROM THE STATE OF MARYLAND AND CORPS OF ENGINEERS ARE NOT NEEDED.

RE Byrne
PROFESSIONAL'S SIGNATURE 7/10/02
DATE

RE Burgoyne
PRINTED NAME

() THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS

USDA NATURAL RESOURCES CONSERVATION SERVICE DATE

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

HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS DATE

SITE ANALYSIS TOTAL APL PROPERTY:

- A. AREA OF PARCEL/LOT = 361 ACRES PLAN SUBMISSION/DISTURBED AREA = 3.6 ACRES
- B. PRESENT ZONING = PEC
- C. PARKING TABULATION: EXISTING PARKING SPACES = 3,853
TOTAL SPACES REQUIRED = 2,953 (Max. Emp x 0.75)
- D. EXISTING BUILDING COVERAGE:
GROSS FLOOR AREA = 40.54 ACRES
COVERAGE = 19.11 ACRES
= 5.2%
- E. PROPOSED BUILDING COVERAGE:
GROSS FLOOR AREA = 5.55 ACRES
COVERAGE = 1.0 ACRES
= 0.27%
- F. TOTAL PROPOSED BUILDING COVERAGE:
COVERAGE = 20.1 ACRES
= 5.57%
- G. PROPOSED BUILDINGS DISTURBED AREA = 3.6 ACRES
- H. PROPOSED USE = EDUCATION/RESEARCH
- I. FLOOR SPACE USE EDUCATION/RESEARCH
- J. MAXIMUM NUMBER OF EMPLOYEES = 3,937
Number of Employees Proposed = 3,718-3,800
- K. NO LOT SUBDIVISION IS ANTICIPATED.
- L. CASE NUMBERS APPLICABLE: WAIVER PRELIMINARY PLAN, #WP-01-80, F-02-40 AND SDP-02-88. AA 02-16.
- M. SANITARY SEWER / WATER SERVICE SEE GENERAL NOTES.
- N. EXISTING OPEN SPACE AREA (LOT AREA MINUS PARKING AND BUILDINGS) = 303 ACRES, 83.9 % OF TOTAL LOT AREA.
- O. PROPOSED OPEN SPACE AREA = 302 ACRES, 83.6% OF TOTAL LOT (PROPOSED BUILDINGS = 1 ACRE)

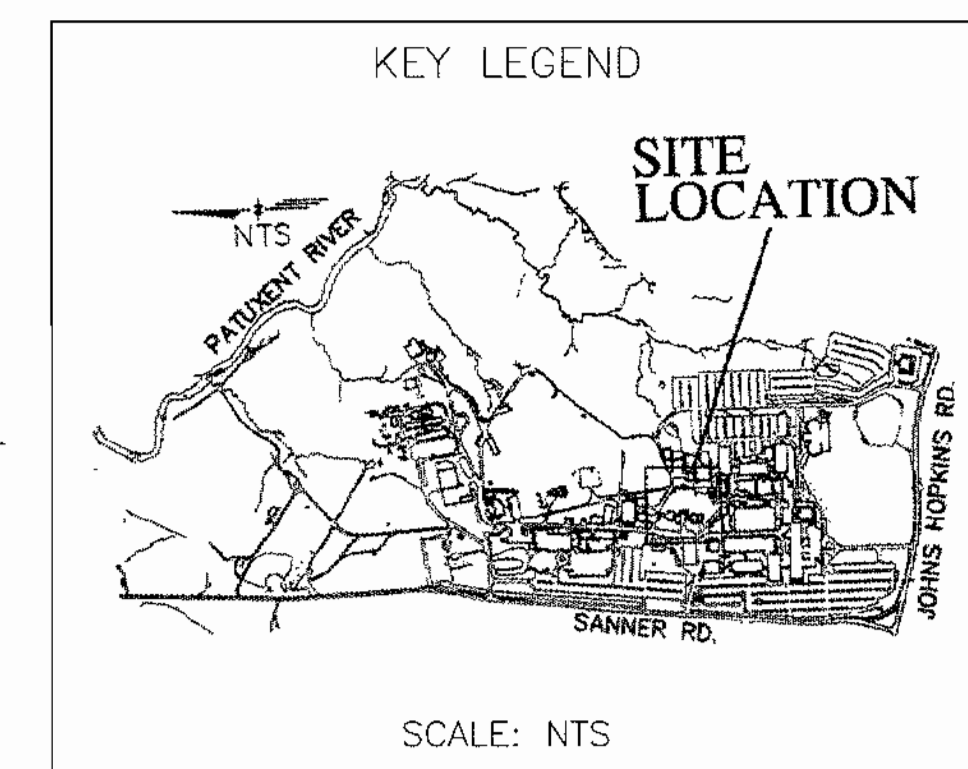
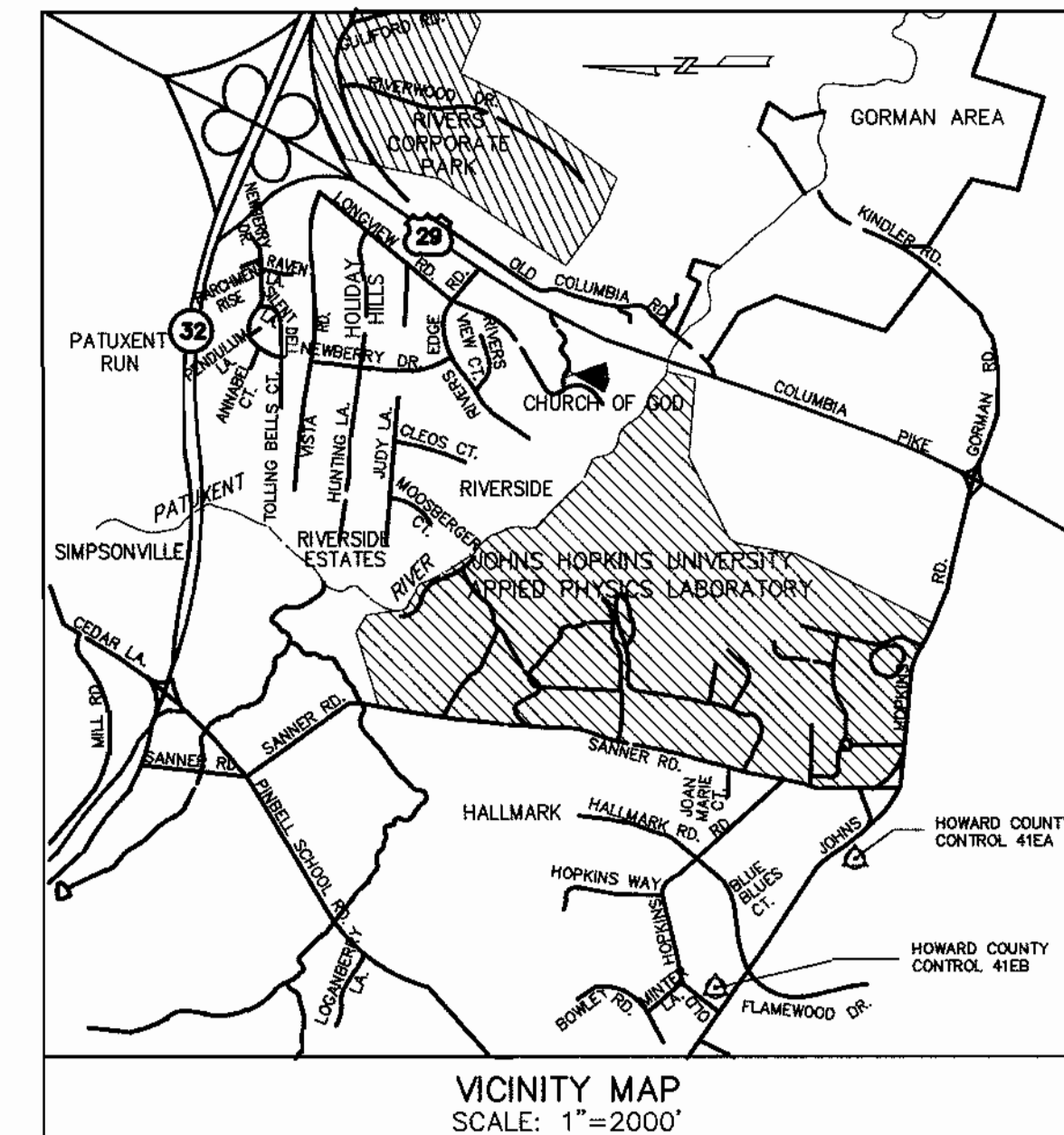
GENERAL NOTES:

1. WATER IS PUBLIC (HOWARD COUNTY)
2. SEWER IS PUBLIC (HOWARD COUNTY)
3. THE FLOOD PLAIN LIMITS FOR THIS PROJECT WAS TAKEN FROM HOWARD COUNTY STUDY. THERE IS NO FLOOD PLAIN WITHIN THE LIMITS OF THIS PLAN.
4. DIMENSION TO NEW STRUCTURES ARE PERPENDICULAR TO PROPERTY LINE.
5. THE PURPOSE OF THIS SDP PLAN IS TO REPRESENT A NEW BUILDING AND ASSOCIATED STORMWATER MANAGEMENT WATER QUALITY STRUCTURE. THE NEW BUILDING WILL BE FOR LABORATORY OPERATION AND RESEARCH.
6. ALL EXISTING UTILITIES WITHIN THE FOOTPRINT OF THE NEW BUILDING HAVE BEEN RELOCATED OUTSIDE THE BUILDING AREA AS SHOWN.
7. SOIL MAP USED SHEET NO.29, SOIL SURVEY JULY 1968 HOWARD COUNTY, MARYLAND, USDA.
8. NO PERIMETER LANDSCAPING IS REQUIRED BECAUSE BUILDING 17 IS INTERNAL TO THE SITE AND PLANTINGS ARE PROVIDED IN THE FACILITY.
9. FOREST CONSERVATION OBLIGATION ADDRESSED WITH F-02-40.
10. STORMWATER MANAGEMENT POND WILL BE PRIVATELY OWNED AND MAINTAINED. IN ACCORDANCE WITH F02-40.

GENERAL NOTES CONTINUE ON SHEET C-02

DRAWING INDEX:

- 1 C-01 COVER SHEET & VICINITY MAP
- 2 C-02 GENERAL NOTES AND SHEET INDEX
- 3 C-03 PROJECT SITE
- 4 C-101 EXISTING CONDITIONS
- 5 C-102 LAYOUT PLAN
- 6 C-103 GRADING PLAN
- 7 C-104 DRAINAGE & UTILITY PLAN
- 8 C-201 DETAILS
- 9 C-202 DETAILS
- 10 C-203 DETAILS
- 11 C-204 STORM DRAINAGE CALCULATIONS
- 12 C-301 STORM DRAIN & SANITARY SEWER PROFILES
- 13 ES-01 EROSION & SEDIMENT CONTROL NOTES
- 14 ES-101 EXISTING/PHASE 1 EROSION & SEDIMENT CONTROL
- 15 ES-102 EROSION & SEDIMENT CONTROL PHASE 2
- 16 ES-201 EROSION & SEDIMENT CONTROL DETAILS
- 17 ES-202 EROSION & SEDIMENT CONTROL DETAILS
- 18 A-1 WEST/SOUTH BUILDING ELEVATIONS
- 19 A-2 EAST/NORTH BUILDING ELEVATIONS



| | | | | | |
|---|-------|--|------------|---------------|--------------|
| CONTACT PERSON FOR OWNER: JEFFREY A. ANDERSON TELEPHONE: 443-778-5960 JACOBS FACILITIES INC. FAX: 443-778-5980 | | | | | |
| ADDRESS CHART | | | | | |
| LOT/PARCEL # | | STREET ADDRESS | | | |
| P # 123/120 | | 11100 JOHNS HOPKINS ROAD, LAUREL MD 20723, CONTACT JEFFREY ANDERSON 443-778-5960 | | | |
| ADDRESS CHART | | | | | |
| SUBDIVISION NAME | | SECTION/AREA | | LOT/PARCEL NO | |
| J.H.U. APPLIED PHYSICS LAB | | N/A | | PARCEL 1 | |
| PLAT# OR L/F | GRID# | ZONING | TAX MAP NO | ELECT DISTR | CENSUS TRACT |
| 15429 - 15433 | 16 | PEC | 41 | 5 | 6051 |
| WATER CODE | | | SEWER CODE | | |
| E-21 | | | 6480000 | | |

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Mike Dammann
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK 7/23/02
DATE

Cindy Korman
CHIEF, DIVISION OF LAND DEVELOPMENT HB 8/6/02
DATE

Frank Scott
DIRECTOR 8/7/02
DATE

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RTKL Associates Inc.
Commerce Place
One South Street, Suite 1000
Baltimore, MD 21202
410 528 8600
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FAIRFAX, VA 22030
(703) 691-4114



BUILDING 17

**APPLIED PHYSICS LABORATORY
THE JOHNS HOPKINS UNIVERSITY**

**COVER SHEET &
VICINITY MAP**

TAX MAP 41 PARCEL 123
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
APL SHEET NO. **C-01**
COUNTY SHEET NO. **1**

GENERAL NOTES: (CONT.)

11. THE SUBJECT PROPERTY IS ZONED PEC PER THE OCTOBER 18, 1993 COMPREHENSIVE ZONING PLAN.
12. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. NO LANDSCAPE PLANTINGS ARE REQUIRED FOR THIS PLAN SINCE NO PROPOSED IMPROVEMENTS ARE ADJACENT TO PUBLIC ROAD OR ADJOINING PROPERTY. PLANTINGS ARE NOT REQUIRED, THEREFORE NO SURETY IS REQUIRED.
13. THE TOPOGRAPHIC AND UTILITY INFORMATION SHOWN IN THIS DEVELOPMENT PLAN, WAS OBTAINED FROM FIELD SURVEYS PERFORMED BY WHITMAN, REQUARDT AND ASSOCIATES (TOPOGRAPHY) AND APPLIED PHYSICS LABORATORY (UTILITIES) CONSULTANTS IN NOVEMBER 1998 AND FROM REPORTS PROVIDED BY JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LAB (APL) AND MAY NOT REFLECT CURRENT CONDITIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY CURRENT TOPOGRAPHIC AND UTILITY INFORMATION TO HIS OWN SATISFACTION.
14. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY AND MSHA SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, UNLESS OTHERWISE NOTED.
15. APPROXIMATE LOCATIONS OF EXISTING UTILITIES ARE SHOWN, THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR AT NO COST TO THE OWNER.
16. 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 PROGRAM MANAGER, JEFFREY ANDERSON (443) 778-5960.
17. SECURITY MUST BE MAINTAINED WITHIN THE CONSTRUCTION AREA. ALL REQUIRED FENCE CONSTRUCTION AND RELOCATION SHALL BE BY THE CONTRACTOR WHO SHALL BE RESPONSIBLE TO COORDINATE WITH JHU-APL AS TO WHEN SUCH WORK IS REQUIRED.
18. THE CONTRACTOR SHALL CONTACT MR. JEFFREY ANDERSON, JACOBS FACILITIES INC. (443) 778-5960 AT LEAST FIVE DAYS BEFORE STARTING WORK OR NEEDING TO SHUT DOWN ANY UTILITIES.
19. THE CONTRACTOR SHALL SHUT DOWN EXISTING UTILITIES ONLY AFTER NORMAL WORKING HOURS AT JHU-APL. WORK MUST BE SCHEDULED ACCORDINGLY THRU JHU-APL. NORMAL WORKING HOURS ARE 8:30 A.M. TO 5:00 P.M., MONDAY THROUGH FRIDAY.
20. THE CONTRACTOR OR DEVELOPER SHALL CONTACT THE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION, 24 HOURS IN ADVANCE OF COMMENCEMENT OF WORK, AT (410) 313-1880.
21. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEMS. COORDINATE WITH THE OWNER FOR OPERATING WATERMAIN VALVES.
22. THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL STORM DRAINS WITHIN 2'-0" OF EXTERIOR MANHOLE WALL.
23. THE CONTRACTOR SHALL PERMANENTLY SEED AND STABILIZE ALL DISTURBED AREAS THAT ARE NOT TO BE PAVED.
24. ALL DRIVEWAYS ARE PRIVATELY OWNED AND MAINTAINED.
25. THE AREA SHOWN IS LOCATED ON TAX MAP #41.
26. THE INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AT ALL CROSSINGS WELL IN ADVANCE OF CONSTRUCTION.
27. ALL SITE UTILITIES ARE THE PROPERTY OF APL. APL WILL HORIZONTALLY LOCATE ALL ACTIVE UTILITIES FOR THE CONTRACTOR.
28. EXISTING PAVEMENTS, (ROADWAY, SIDEWALKS ETC.) REMOVED AS PART OF THIS PROJECT, SHALL BE REPLACED "IN-KIND" OR AS DETAILED HEREIN THESE PLANS. TRAFFIC SHALL BE MAINTAINED BY THE CONTRACTOR ALONG EXISTING ROADWAYS DURING PROPOSED WORK, AT ALL TIMES. THE PAVED DRIVE NORTHEAST OF BUILDING #41 SHALL BE OPEN TO ONE LANE OF TRAFFIC (15' WIDE) AT ALL TIMES.
29. SEE DETAIL SHEETS FOR OTHER ITEMS THAT APPLY TO THIS PROJECT.
30. THE CONTRACTOR SHALL TAKE PROPER PRECAUTIONS SO AS NOT TO DAMAGE EXISTING ADJACENT FACILITIES AND STRUCTURES. THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITION OR BETTER UNLESS NOTED OTHERWISE.
31. THE EXISTING UTILITIES SHOWN ON THESE PLANS ARE FROM RECORD OR THE UTILITY RELOCATION PROJECT DESIGN DRAWINGS PROVIDED BY APL. THEY HAVE NOT BEEN FIELD VERIFIED. THE CONTRACTOR MUST FIELD VERIFIED EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION.
32. THE UTILITY CONNECTION DEPTHS SHOWN ARE FROM UTILITIES UNDER CONSTRUCTION AND NOT FIELD VERIFIED. ALL REVISION SHALL BE APPROVED BY THE OWNER BEFORE THE START OF THE UTILITY'S CONSTRUCTION.
33. ACCESS TO ALL EXISTING FACILITIES SHALL BE MAINTAINED AT ALL TIMES.

34. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNER OF ANY DEVIATION FROM THESE PLANS. WITHOUT WRITTEN AUTHORIZATION BY THE OWNER WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
35. SURFACED STREETS AND PARKING AREAS SHALL BE MAINTAINED IN A CLEAN CONDITION, MUD AND DUST FREE AT ALL TIMES. ADEQUATE MEANS SHALL BE PROVIDED TO CLEAN TRUCKS AND OTHER EQUIPMENT USING EXISTING SURFACED STREETS AND PARKING AREAS.
36. THE CONTRACTOR SHALL MAKE EVERY ATTEMPT TO MINIMIZE DAMAGE TO EXISTING TREES DURING CONSTRUCTION.
37. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL MEET CURRENT HOWARD COUNTY DEPARTMENT OF PERMITTING SERVICES STANDARDS AND DIRECTIVES.
38. EXISTING SIGNS, GUARDRAILS AND OTHER MINOR SITE FEATURES IN THE WAY OF PROPOSED CONSTRUCTION, WHETHER OR NOT SHOWN ON THESE PLANS, SHALL BE REMOVED AND REPLACED AT NO ADDITIONAL COST TO THE OWNER.
39. CONTRACTOR SHALL CONTACT JHU-APPLIED PHYSICS LAB PLANT FACILITIES OFFICE (443) 778-5134, 48 HOURS PRIOR START OF THE EXCAVATION AND MUST NOTIFY ALL PUBLIC UTILITY COMPANIES AND THE OWNER OF UNDERGROUND FACILITIES IN THE AREA OF PROPOSED EXCAVATION AND HAVE THOSE FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION.
40. TRENCH AND INSTALLATION OF NEW UTILITIES SHALL BE SCHEDULED SO THAT ALL TRENCHES WILL BE BACK FILLED AT THE END OF EACH DAY. NO TRENCHES WILL BE ALLOWED TO BE OPEN AT THE END OF EACH WORK DAY. TRENCH AREAS SHALL BE MULCHED AND TEMPORARY SEEDING IN NON-PAVED AREA, AND TRAFFIC BARRING TEMPORARY SURFACE SHALL BE INSTALLED IN PAVED AREAS.
41. CONTRACTOR SHALL PREPARE CONSTRUCTION SHOP DRAWING FOR THE NEW UTILITIES AND RETAINING WALLS. SHOP DRAWINGS SHALL SHOW IN SECTIONS AND PLANS THE VERTICAL AND HORIZONTAL LOCATION FOR ALL PIPES, CONDUITS, MANHOLES, DUCTBANKS AND RETAINING WALL. SHOP DRAWINGS SHALL BE SUBMITTED AND APPROVED BY APL BEFORE START OF WORK IN THIS AREA.
42. CONTRACTOR SHALL MAINTAIN CONTINUOUS FLOW IN THE STORM DRAIN PIPES DURING CONSTRUCTION AS CONDENSATE WATER FLOWS IN THE STORM DRAIN PIPES CONTINUOUSLY.
43. HANDICAPPED PARKING PROVIDED ON THIS PROJECT IS ASSIGNED TO STAFF AS NEEDED. PUBLIC ACCESS HANDICAPPED PARKING IS ADJACENT TO BUILDING 7.
44. THESE PLANS REFERENCE HOWARD COUNTY CONTROL MONUMENT 41EA.

45. AA-02-16 WAS APPROVED 7/15/02. GRANTING AN INCREASE TO MAX HEIGHT FOR STRUCTURE TO 89'4" SUBJECT TO 3 CONDITIONS OR APPROVAL INDICATED IN DECISION AND ORDER.

46. This plan is subject to the Fifth Edition of the Subdivision Regulations and the new Zoning Regulations, as amended by Council Bill 50-2001.

LEGEND

| | | |
|-----------------|-----------------------------------|------------|
| EXISTING | | NEW |
| | SANITARY SEWER | |
| | SANITARY SEWER MANHOLE | |
| | SANITARY SEWER CLEANOUT | |
| | STORM DRAIN | |
| | STORM DRAIN MANHOLE | |
| | DROP INLET | |
| | YARD INLET | |
| | STORM SEWER CLEANOUT | |
| | ROOF DRAIN | |
| | HEADWALL, ENDWALL | |
| | STEAM LINE | |
| | STEAM VALVE | |
| | STEAM MANHOLE | |
| | WATER MAIN, BUILDING SERVICE | |
| | WATER VALVE | |
| | POST INDICATOR VALVE | |
| | FIRE HYDRANT WITH SHUTOFF VALVE | |
| | FIRE HYDRANT | |
| | FIRE DEPARTMENT CONNECTION | |
| | DECIDUOUS TREE | |
| | EVERGREEN TREE | |
| | RIPRAP | |
| | TREELINE | |
| | SHRUBS | |
| | INDEX CONTOUR | |
| | INTERMEDIATE CONTOUR | |
| | EDGE OF WATER | |
| | SPOT ELEVATION | |
| | SURVEY CONTROL POINT NO. CA10 | |
| | BENCHMARK ELEVATION = 429.70 FT. | |
| | PROPERTY BOUNDARY | |
| | CONCRETE SIDEWALK | |
| | HANDICAP RAMP | |
| | STAIRS | |
| | RETAINING WALL | |
| | HANDRAIL | |
| | CURB AND GUTTER | |
| | TRANSITION CURB AND GUTTER | |
| | DEPRESSED CURB AND GUTTER | |
| | ASPHALT PAVEMENT | |
| | PARKING STRIPE | |
| | FLAGPOLE | |
| | BUILDING | |
| | UTILITY TUNNEL AND ACCESS OPENING | |
| | TRAFFIC SIGN | |
| | SOIL BORING | |
| | ABANDON EXISTING UNDERGROUND LINE | |
| | LIMIT OF DISTURBANCE | |

FLOOR SPACE USAGE

| | Roof top | 6th Floor | 5th Floor | 4th Floor | 3rd Floor | 2nd Floor | 1st Floor | Bridge | Totals |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|---------------|
| B - Business Area | 0 | 27500 | 28000 | 40000 | 38700 | 34554 | 30570 | 1300 | 200624 |
| A-2 Assembly Area (Food Service) | 0 | 0 | 0 | 0 | 0 | 6646 | 0 | | 6646 |
| A-3 Assembly Area (Conference - Fitness) | 0 | 0 | 0 | 0 | 1300 | 800 | 7450 | | 9550 |
| S-2 Storage Area | 0 | 0 | 0 | 0 | 0 | 0 | 800 | | 800 |
| M - Mercantile Area | 0 | 0 | 0 | 0 | 0 | 1600 | 0 | | 1600 |
| S-2 MEP Equipment Room Area | 13900 | 0 | 4700 | 0 | 0 | 0 | 4180 | | 22780 |
| Total Floor Area GSF | 13900 | 27500 | 32700 | 40000 | 40000 | 43600 | 43000 | 1300 | 242000 |

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 7/22/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK
 DATE

[Signature] 8/6/02
 CHIEF, DIVISION OF LAND DEVELOPMENT HB
 DATE

[Signature] 8/7/02
 DIRECTOR
 DATE

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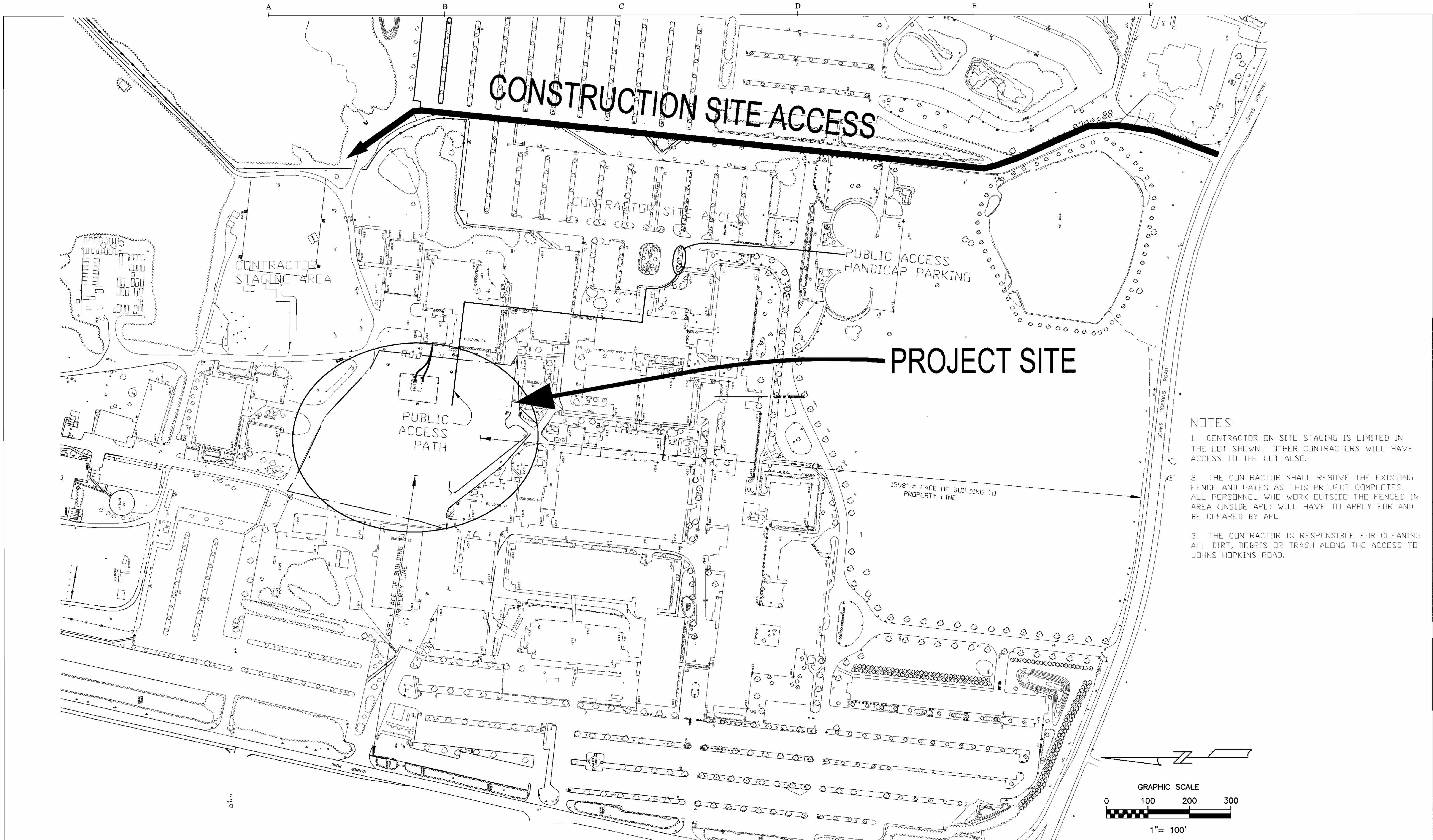
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 3541 CHAIN BRIDGE ROAD, SUITE 7
 FAIRFAX, VA. 22030
 (703) 691-4114

PROFESSIONAL ENGINEER
 STATE OF MARYLAND
 7/10/02

BUILDING 17

APPLIED PHYSICS LABORATORY
 THE JOHNS HOPKINS UNIVERSITY
 GENERAL NOTES &
 SHEET INDEX
 TAX MAP 41 PARCEL 123
 ELECTION DISTRICT NO. 5
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 APL SHEET NO. C-02
 COUNTY SHEET NO. 2



- NOTES:
1. CONTRACTOR ON SITE STAGING IS LIMITED IN THE LOT SHOWN. OTHER CONTRACTORS WILL HAVE ACCESS TO THE LOT ALSO.
 2. THE CONTRACTOR SHALL REMOVE THE EXISTING FENCE AND GATES AS THIS PROJECT COMPLETES. ALL PERSONNEL WHO WORK OUTSIDE THE FENCED IN AREA (INSIDE APL) WILL HAVE TO APPLY FOR AND BE CLEARED BY APL.
 3. THE CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL DIRT, DEBRIS OR TRASH ALONG THE ACCESS TO JOHNS HOPKINS ROAD.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Howard County
 CHIEF, DEVELOPMENT ENGINEERING DIVISION TIK

Cindy Hammonds
 CHIEF, DIVISION OF LAND DEVELOPMENT HP

John R. ...
 DIRECTOR

DATE: 7/23/02

DATE: 8/6/02

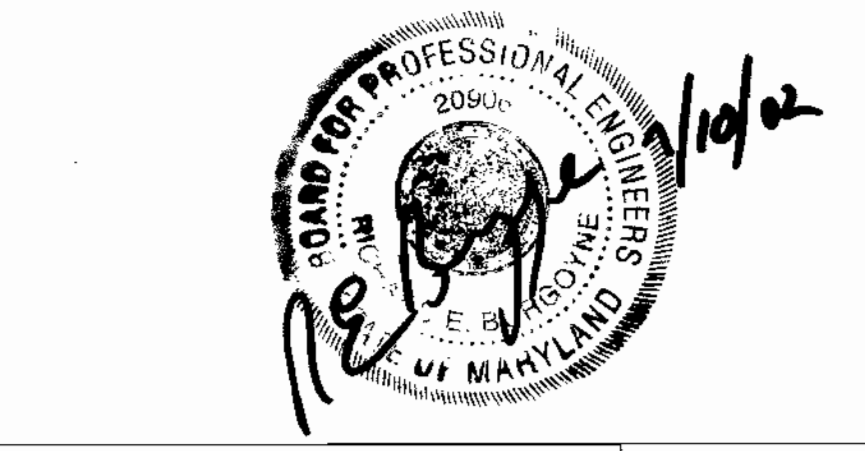
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 FAIRFAX, VA 22030
 (703) 691-4114



BUILDING 17

APPLIED PHYSICS LABORATORY
 THE JOHNS HOPKINS UNIVERSITY
 PROJECT SITE

TAX MAP 41 PARCEL 123
 ELECTION DISTRICT NO. 5
 HOWARD COUNTY, MARYLAND

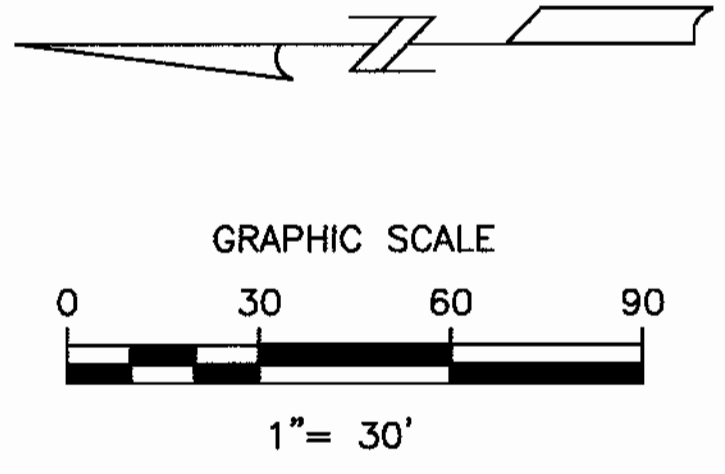
SCALE AS SHOWN

APL SHEET NO. **C-03**

COUNTY SHEET NO. 3



- NOTES:
1. THE EXISTING GRADING SHOWN IS A COMBINATION OF EXISTING GRADES AND WORK TO BE COMPLETED BY THE UTILITY RELOCATION CONTRACTOR.
 2. EXISTING UTILITIES ARE NOT SHOWN FOR CLARITY.
 3. EXISTING GRASSES AND UTILITIES SHOWN PER SDP-02-88.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature]
 CHIEF, DEVELOPMENT ENGINEERING DIVISION *MAK*

[Signature]
 CHIEF, DIVISION OF LAND DEVELOPMENT *HB*

[Signature]
 DIRECTOR

DATE: 7/23/02
 DATE: 8/6/02
 DATE: 8/7/02

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BUILDING 17

APPLIED PHYSICS LABORATORY
 THE JOHNS HOPKINS UNIVERSITY

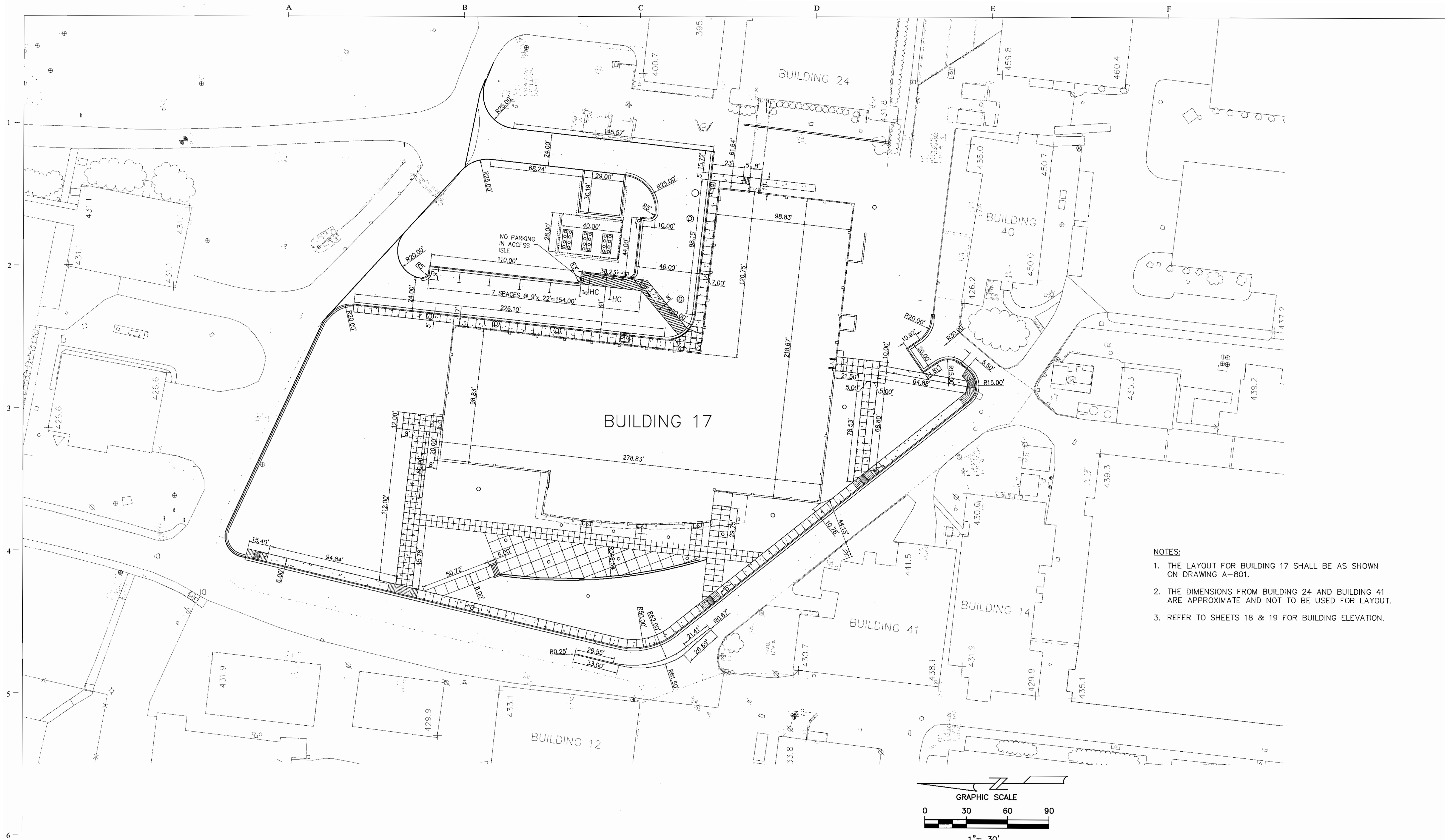
EXISTING
 CONDITIONS

TAX MAP 41 PARCEL 123
 ELECTION DISTRICT NO. 5
 HOWARD COUNTY, MARYLAND

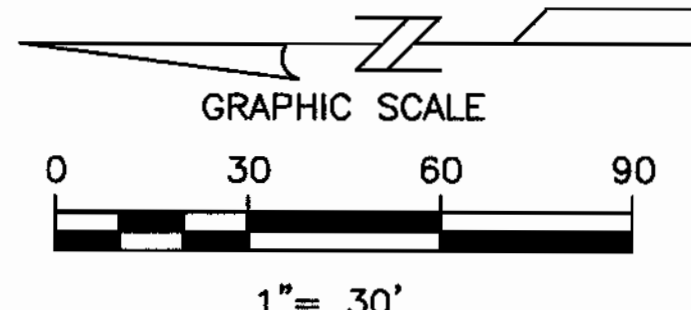
SCALE AS SHOWN

APL SHEET NO. **C-101**

COUNTY SHEET NO. **4**



- NOTES:
1. THE LAYOUT FOR BUILDING 17 SHALL BE AS SHOWN ON DRAWING A-801.
 2. THE DIMENSIONS FROM BUILDING 24 AND BUILDING 41 ARE APPROXIMATE AND NOT TO BE USED FOR LAYOUT.
 3. REFER TO SHEETS 18 & 19 FOR BUILDING ELEVATION.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad D. Williams
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK
DATE 7/23/02

Cindy Hamrick
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE 8/6/02

John S. Smith
DIRECTOR
DATE 8/7/02

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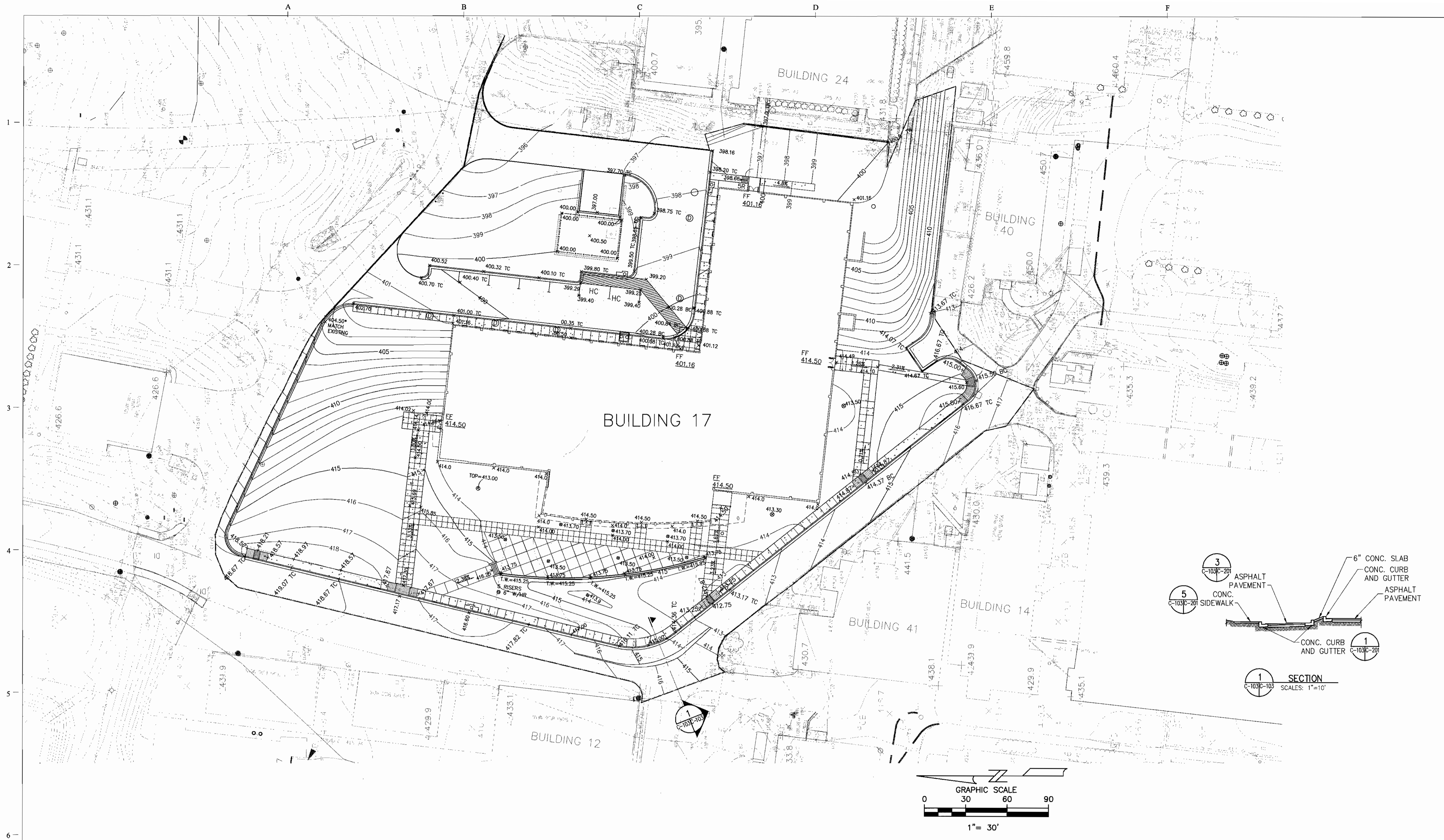

7/10/02

BUILDING 17

**APPLIED PHYSICS LABORATORY
THE JOHNS HOPKINS UNIVERSITY
LAYOUT PLAN**

TAX MAP 41 PARCEL 123
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
APL SHEET NO. **C-102**
COUNTY SHEET NO. 5

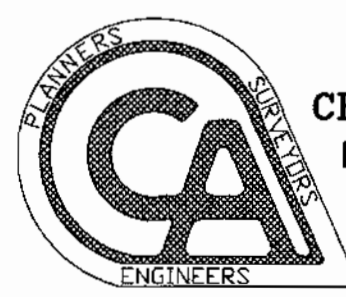


APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Michael J. ...
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK
Chris ...
 CHIEF, DIVISION OF LAND DEVELOPMENT HB
Paul ...
 DIRECTOR

7/22/02
 DATE
 8/6/02
 DATE
 8/7/02
 DATE

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 (703) 691-4114

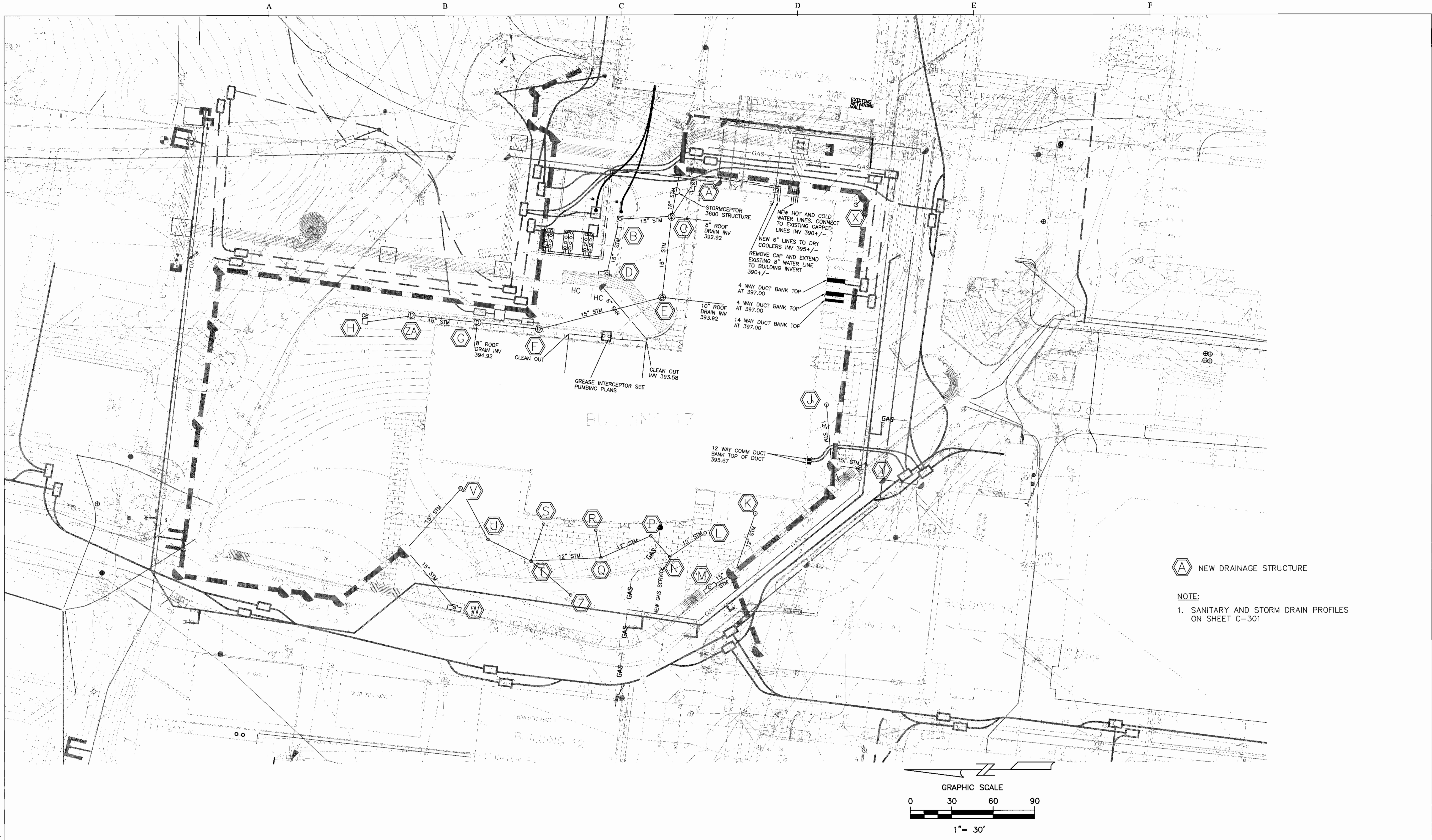


BUILDING 17

**APPLIED PHYSICS LABORATORY
 THE JOHNS HOPKINS UNIVERSITY
 GRADING PLAN**

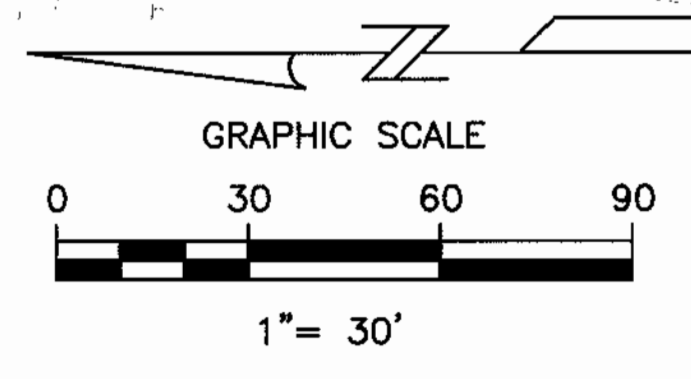
TAX MAP 41 PARCEL 123
 ELECTION DISTRICT NO. 5
 HOWARD COUNTY, MARYLAND

SCALE
 AS
 SHOWN
 APL SHEET NO.
C-103
 COUNTY SHEET
 NO.
6



 NEW DRAINAGE STRUCTURE

NOTE:
1. SANITARY AND STORM DRAIN PROFILES ON SHEET C-301

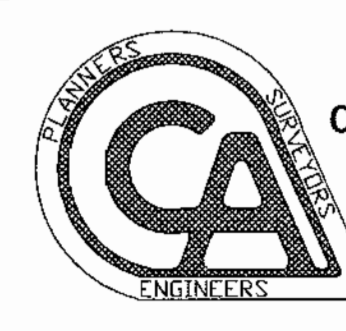


APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Howard County
CHIEF, DEVELOPMENT ENGINEERING DIVISION
Andy Hammett
CHIEF, DIVISION OF LAND DEVELOPMENT
Joseph R. Smith
DIRECTOR

DATE: 7/23/02
DATE: 8/6/02
DATE: 8/7/02

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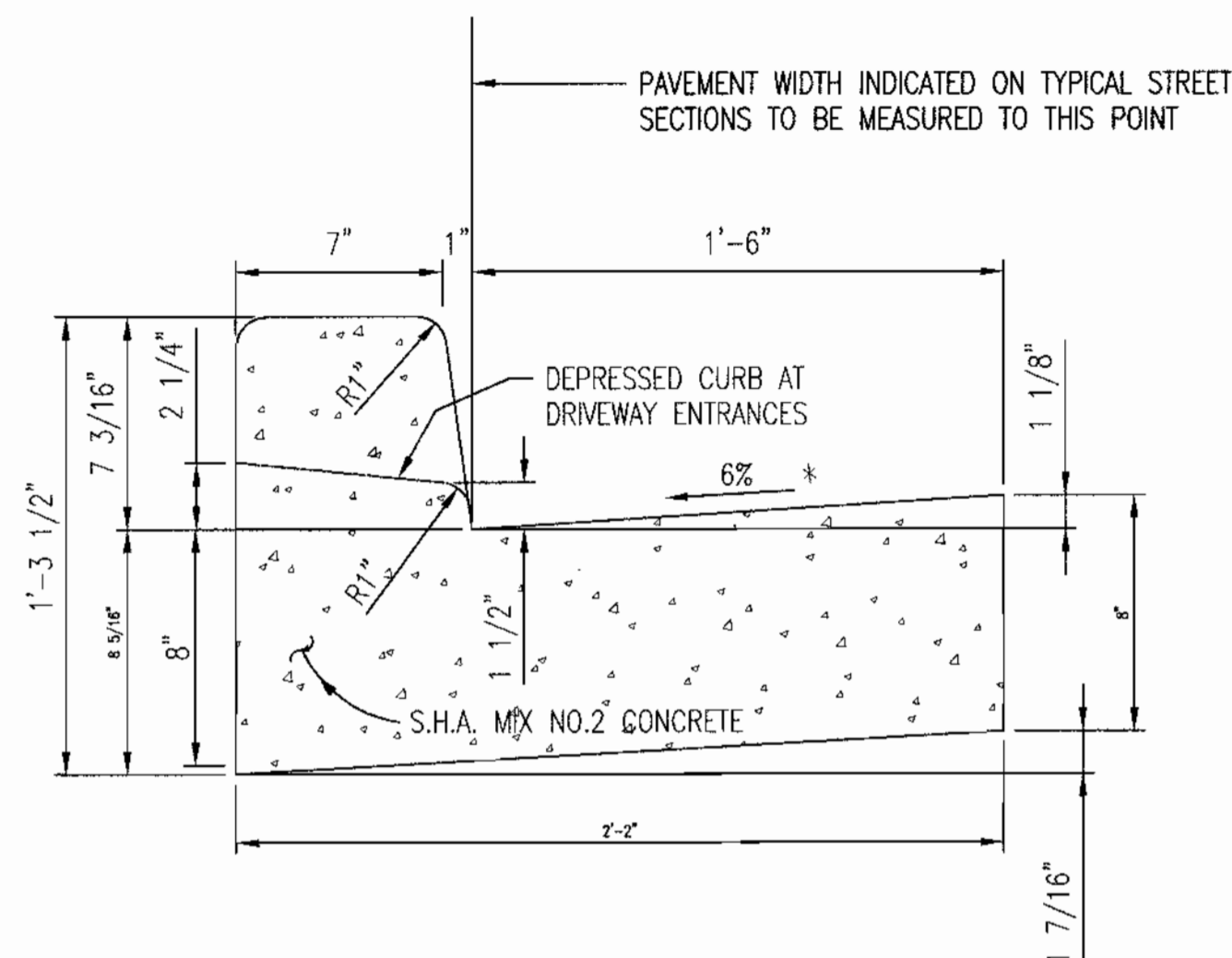
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BUILDING 17

**APPLIED PHYSICS LABORATORY
THE JOHNS HOPKINS UNIVERSITY**
DRAINAGE &
UTILITY PLAN
TAX MAP 41 PARCEL 123
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

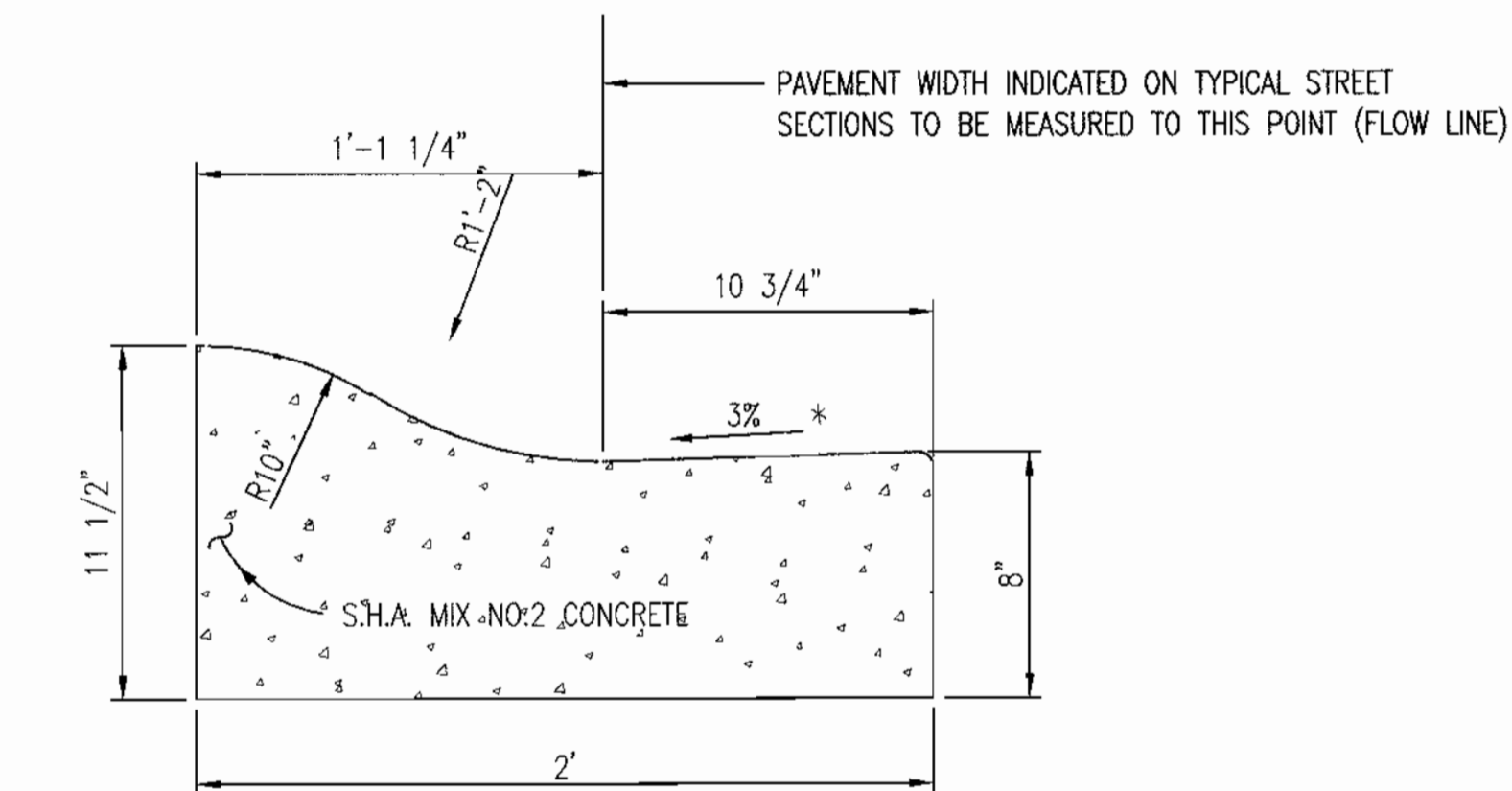
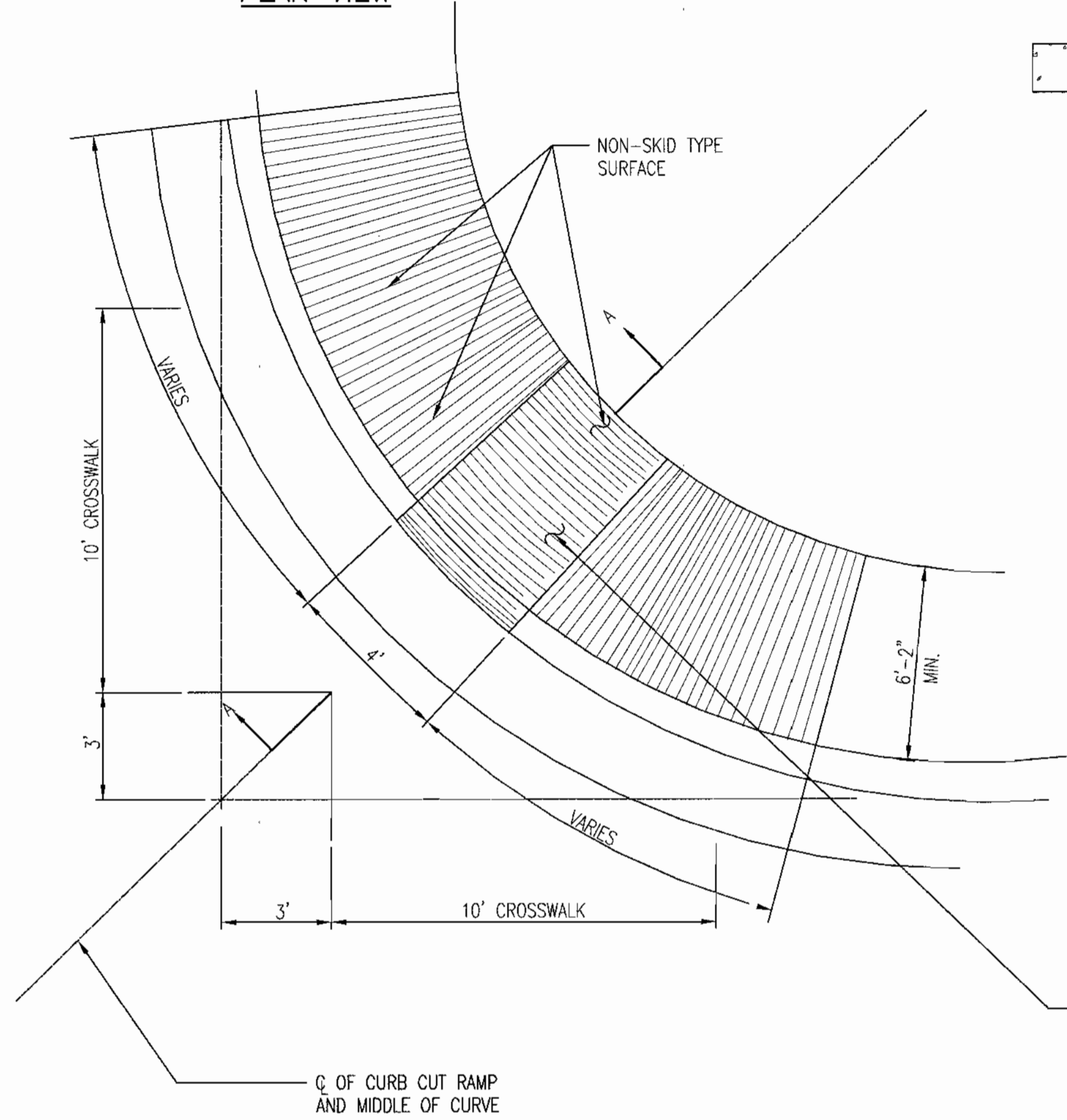
SCALE AS SHOWN
APL SHEET NO. **C-104**
COUNTY SHEET NO. 7



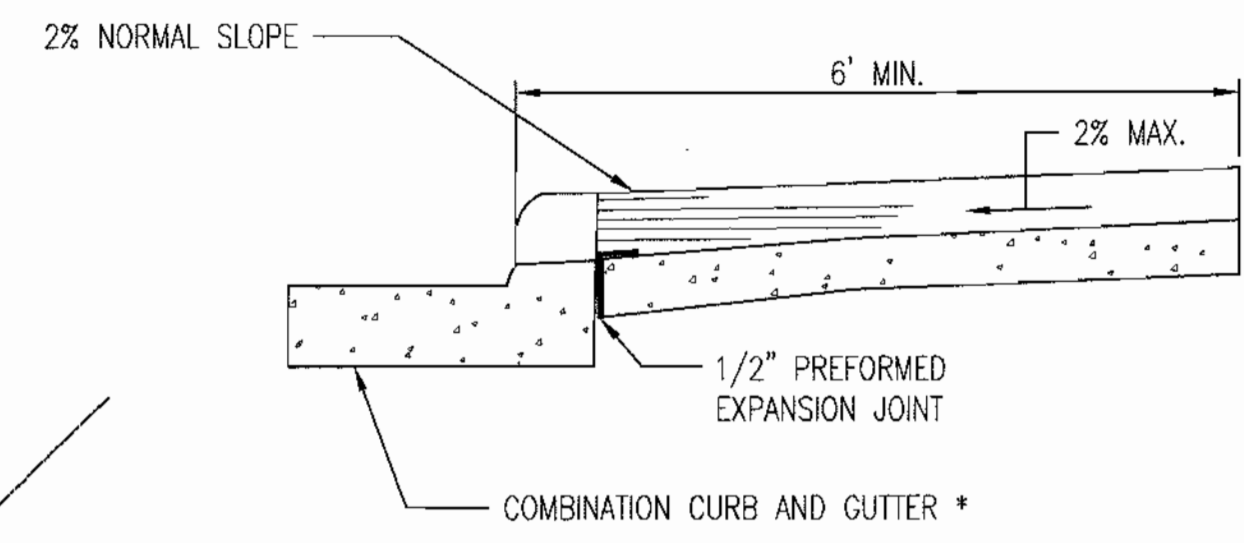
1 STANDARD 7" COMBINATION CURB AND GUTTER DETAIL
C-103|C-201 NOT TO SCALE

* STANDARD 7" COMB. CURB AND GUTTER IS SHOWN. DETAILS TO BE SIMILAR FOR MOD. CURB AND GUTTER AND BIT. CURB EXCEPT THAT FLOW LINE LIP IS TO BE OMITTED.

PLAN VIEW



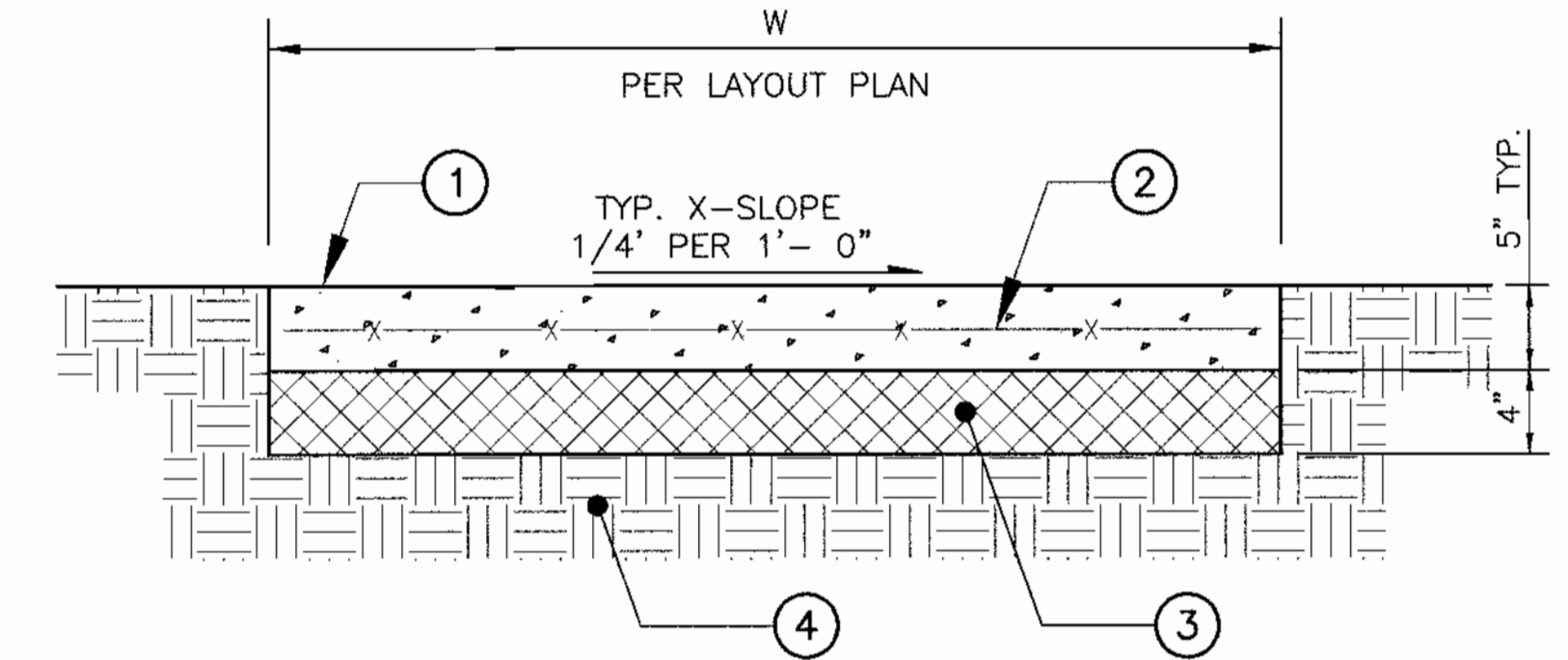
3 PAVEMENT DETAIL
C-103|C-201 NOT TO SCALE



4 CURB RAMP DETAIL
C-102|C-201 NOT TO SCALE

SECTION A-A

NOTE:
TYPE C SIDEWALK RAMP IS TO BE USED AT LOCATIONS WHERE THE SIDEWALK MUST BE PLACED IMMEDIATELY ADJACENT TO THE BACK OF CURB AND THE SIDEWALK CAN BE AT LEAST 6'-2" IN WIDTH. THIS CONDITION MAY BE ENCOUNTERED IN DEVELOPED AREAS WHERE THE RIGHT OF WAY IS LIMITED AND THE ROADWAY PAVEMENT AND SIDEWALK ARE TO BE RECONSTRUCTED. FOR WIDTH OF SIDEWALK LESS THAN 6'-2", SEE TYPE D RAMP DETAIL.



- ① S.H.A. MIX NO.2 CONCRETE
- ② WELDED WIRE FABRIC, 6"x6"-W1.4/W1.4
- ③ 4" GRADED AGGREGATE BASE
- ④ PREPARED SUBGRADE

NOTES:
A. SIDEWALK SHALL BE SCRIBED IN SQUARES EQUAL TO W (6 FT. MAX). USE 5' X 5' SQUARES IN FRONT OF BUILDING.
B. EXPANSION JOINTS SHALL BE PLACED AT INTERVALS NOT EXCEEDING 16'.
C. EXPANSION JOINTS SHALL CONSIST OF 1/2" PREFORMED BITUMINOUS JOINT FILLER SET 1/4" BELOW THE SURFACE.

5 SIDEWALK SECTION AND DETAIL
C-103|C-201 NOT TO SCALE

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[Signature]
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 7/23/02
[Signature]
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 8/6/02
[Signature]
 DIRECTOR
 DATE: 8/7/02

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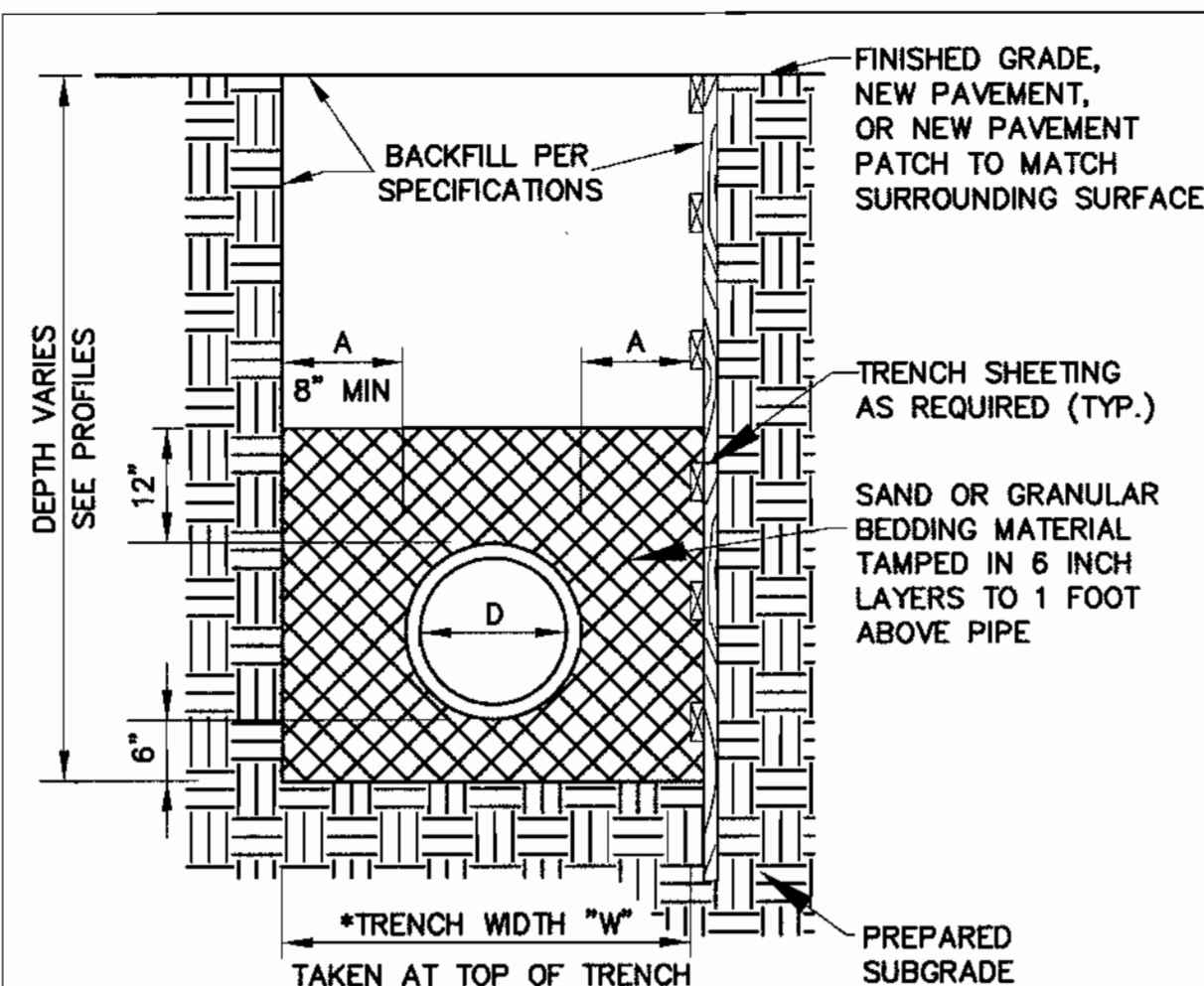
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 STATE OF MARYLAND
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 7/19/02

BUILDING 17

APPLIED PHYSICS LABORATORY
THE JOHNS HOPKINS UNIVERSITY
 DETAILS
 TAX MAP 41 PARCEL 123
 ELECTION DISTRICT NO. 5
 HOWARD COUNTY, MARYLAND

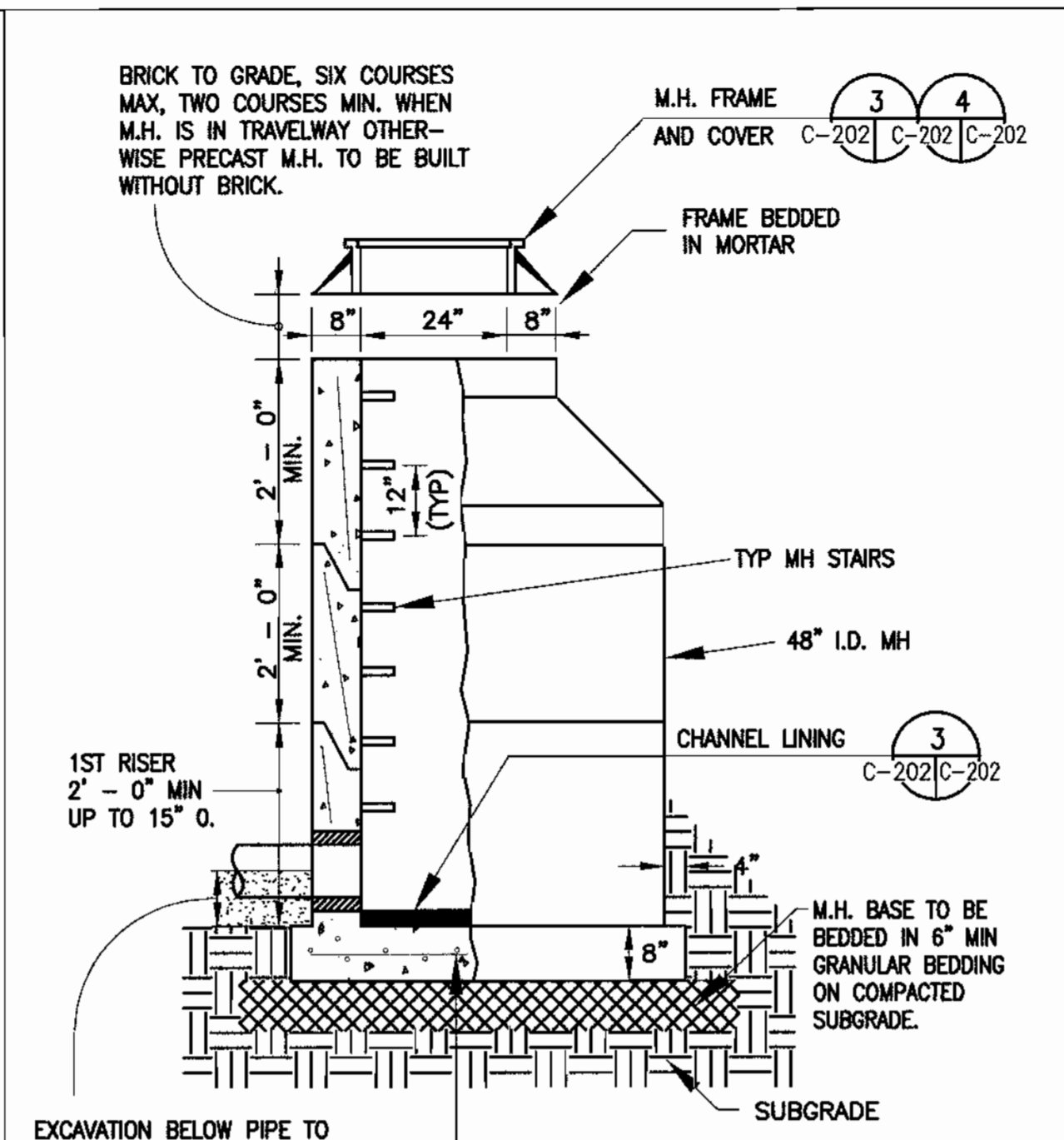
SCALE AS SHOWN
 APL SHEET NO. C-201
 COUNTY SHEET NO. 8



* FOR PIPES 12" OR LESS IN DIAMETER, THE TRENCH WIDTH SHALL NOT EXCEED 33"

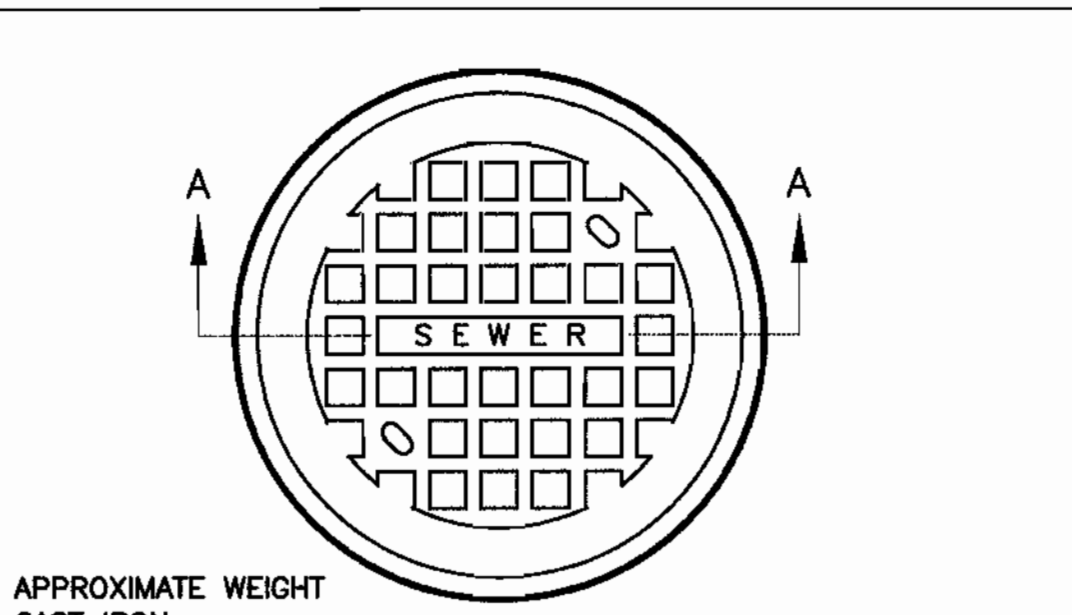
| PIPE DIA. "D" | "A" | PIPE DIA. "D" | "A" |
|---------------|-----|----------------|-----|
| 3" & 4" | 12" | 15" | 8" |
| 6" | 11" | 18" TO 21" | 10" |
| 8" | 10" | 24" TO 30" | 12" |
| 10" | 9" | 33" TO 42" | 15" |
| 12" | 9" | 48" AND LARGER | 18" |

1 TYPICAL PIPE TRENCH DETAIL FOR STORM AND SANITARY SEWERS
C-202 NOT TO SCALE



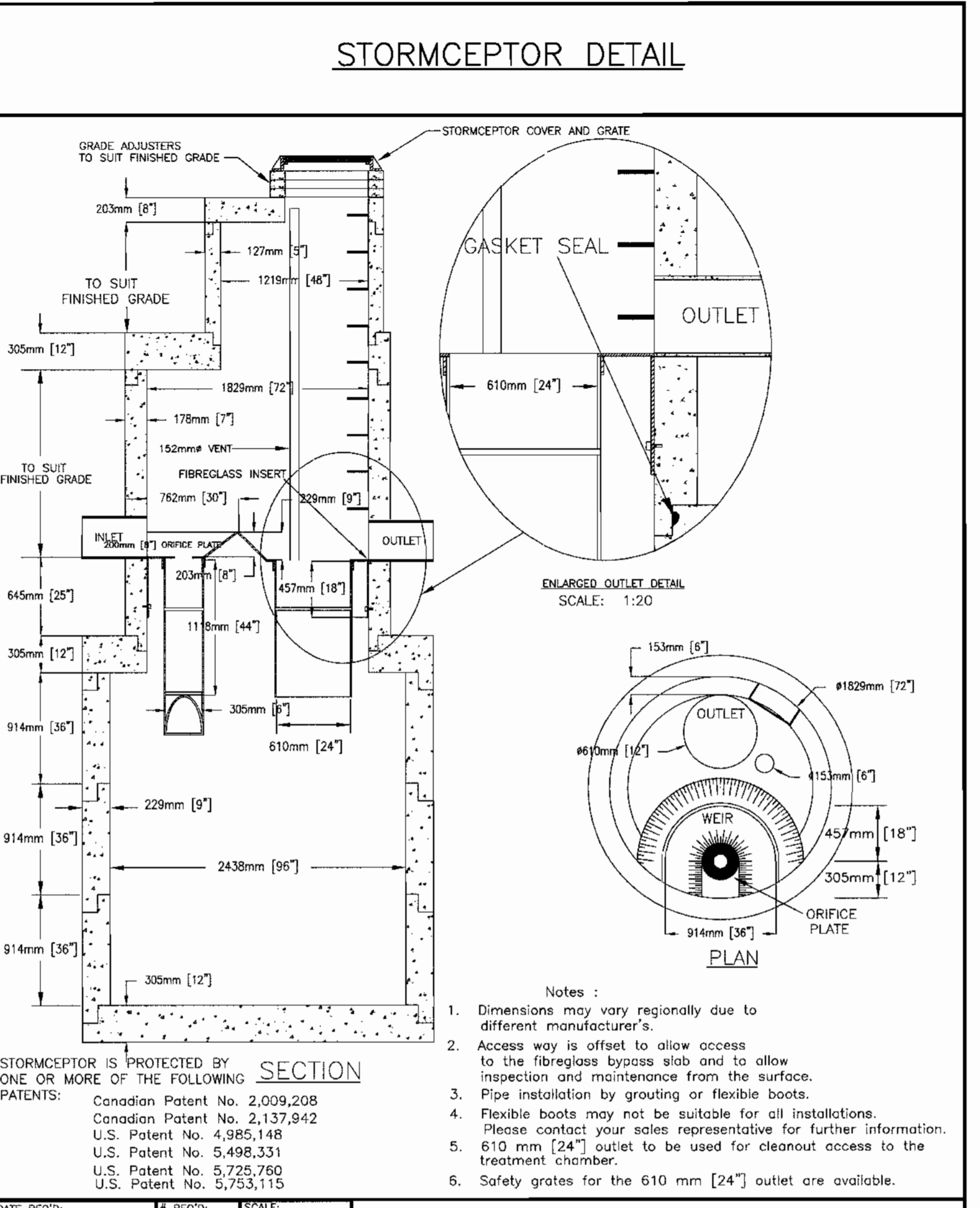
EXCAVATION BELOW PIPE TO BE BACKFILLED WITH SAND 1/2 WAY TO TOP OF PIPE
PRECAST BASE REINFORCED WITH NO. 4 12" C.C. EACH WAY.
NOTES:
1. PROVIDE LIFTING HOLES W/NEOPRENE OR RUBBER PLUGS IN ALL PRECAST SECTIONS.
2. THICKNESS OF PRECAST RISER SECTIONS DO NOT CHANGE WITH DEPTH.

2 PRECAST SEWER MANHOLE
C-202 NOT TO SCALE



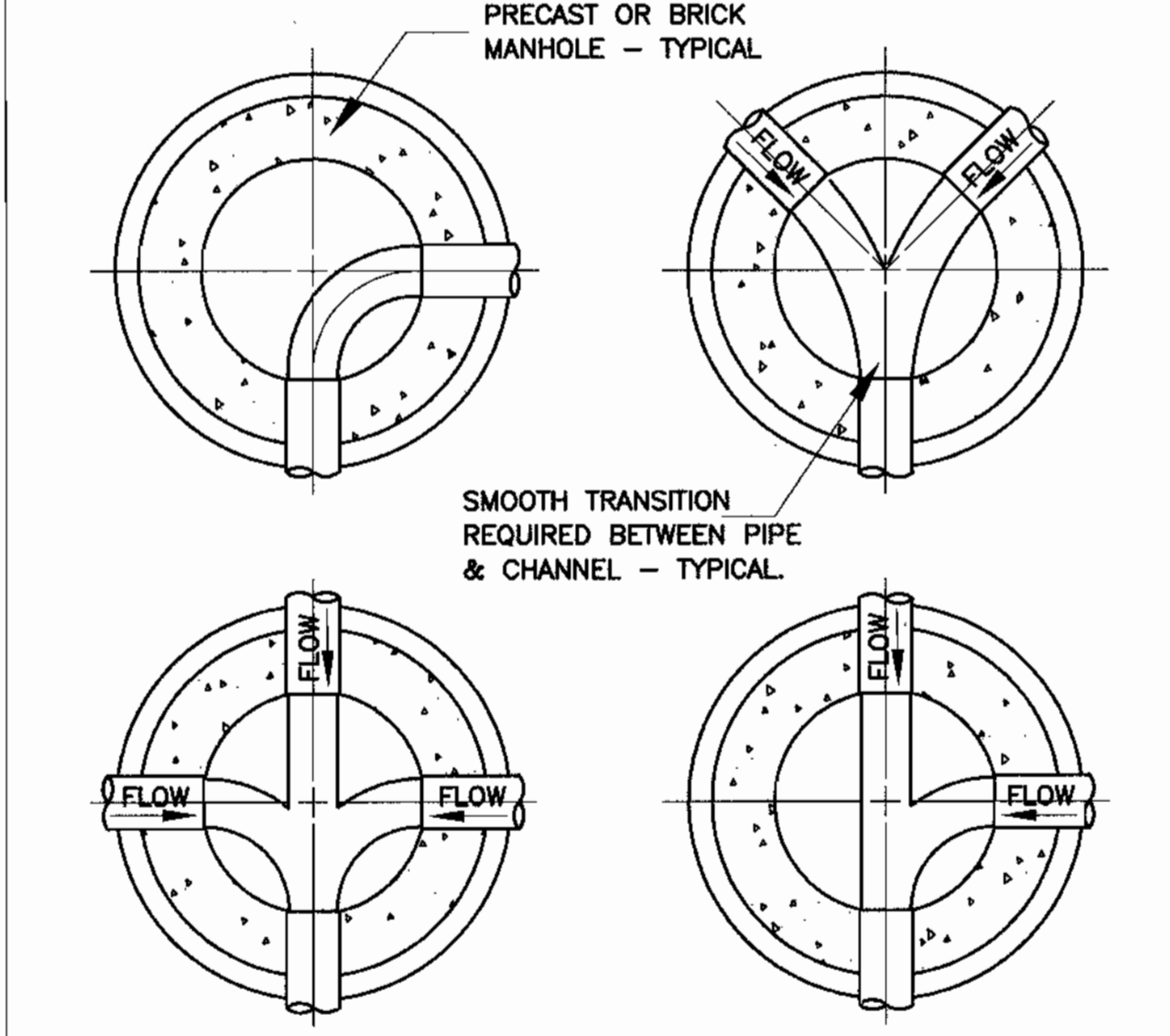
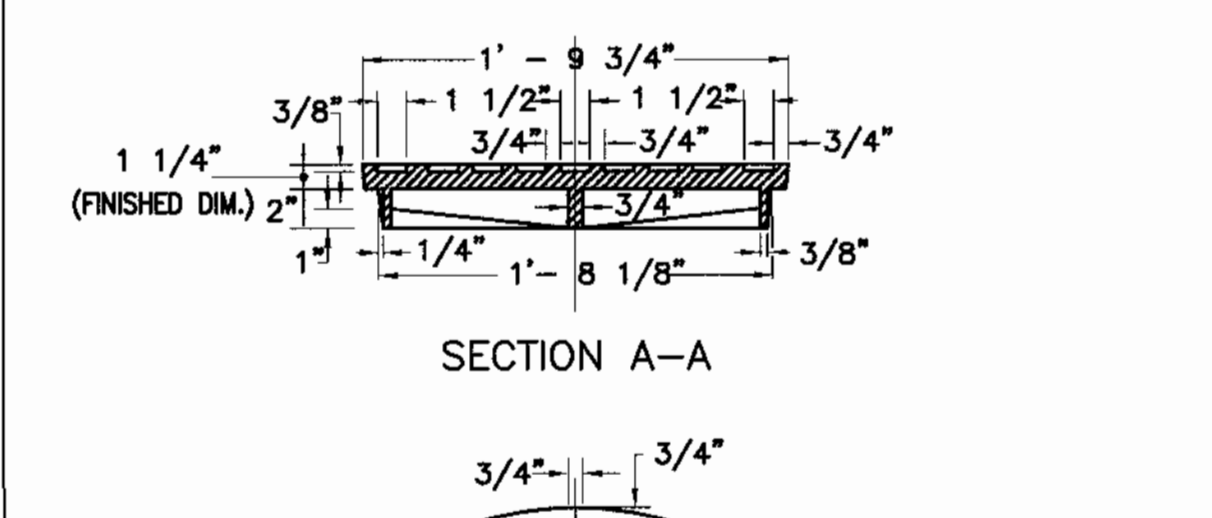
NOTE:
FOR STORM SEWER THE LETTERS "STORM" AND FOR SANITARY SEWER THE LETTERS "SEWER" TO BE CAST IN THE DEPRESSION IN TOP OF COVER 1" WIDE AND RAISED 3/8" HIGH AS SHOWN.

3 MANHOLE COVER DETAIL
C-202 NOT TO SCALE



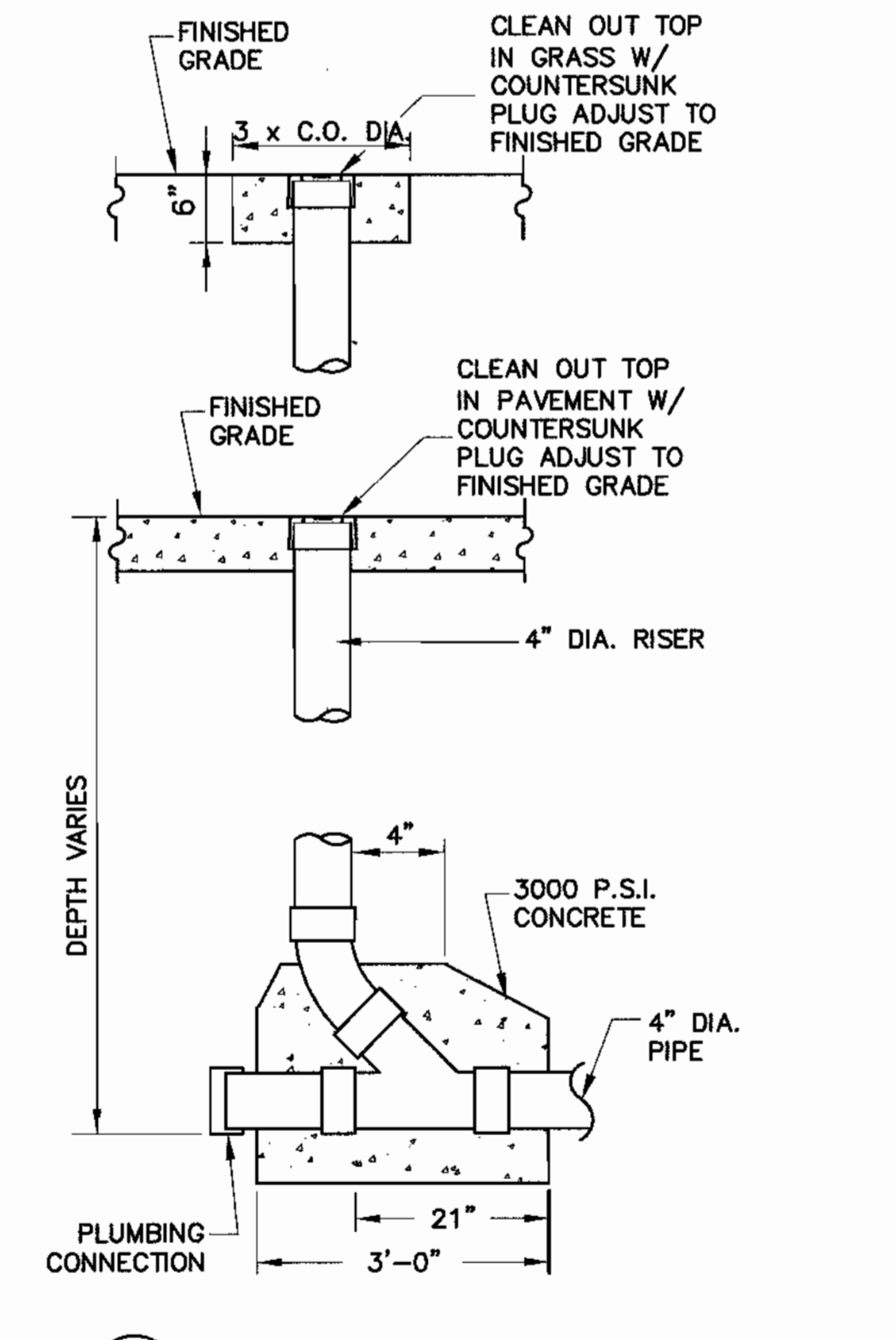
STORMCEPTOR IS PROTECTED BY ONE OR MORE OF THE FOLLOWING PATENTS:
Canadian Patent No. 2,009,208
Canadian Patent No. 2,137,942
U.S. Patent No. 4,985,148
U.S. Patent No. 5,498,331
U.S. Patent No. 5,725,760
U.S. Patent No. 5,753,115

4 STORMCEPTOR STC 3600 DETAIL
C-202 NOT TO SCALE

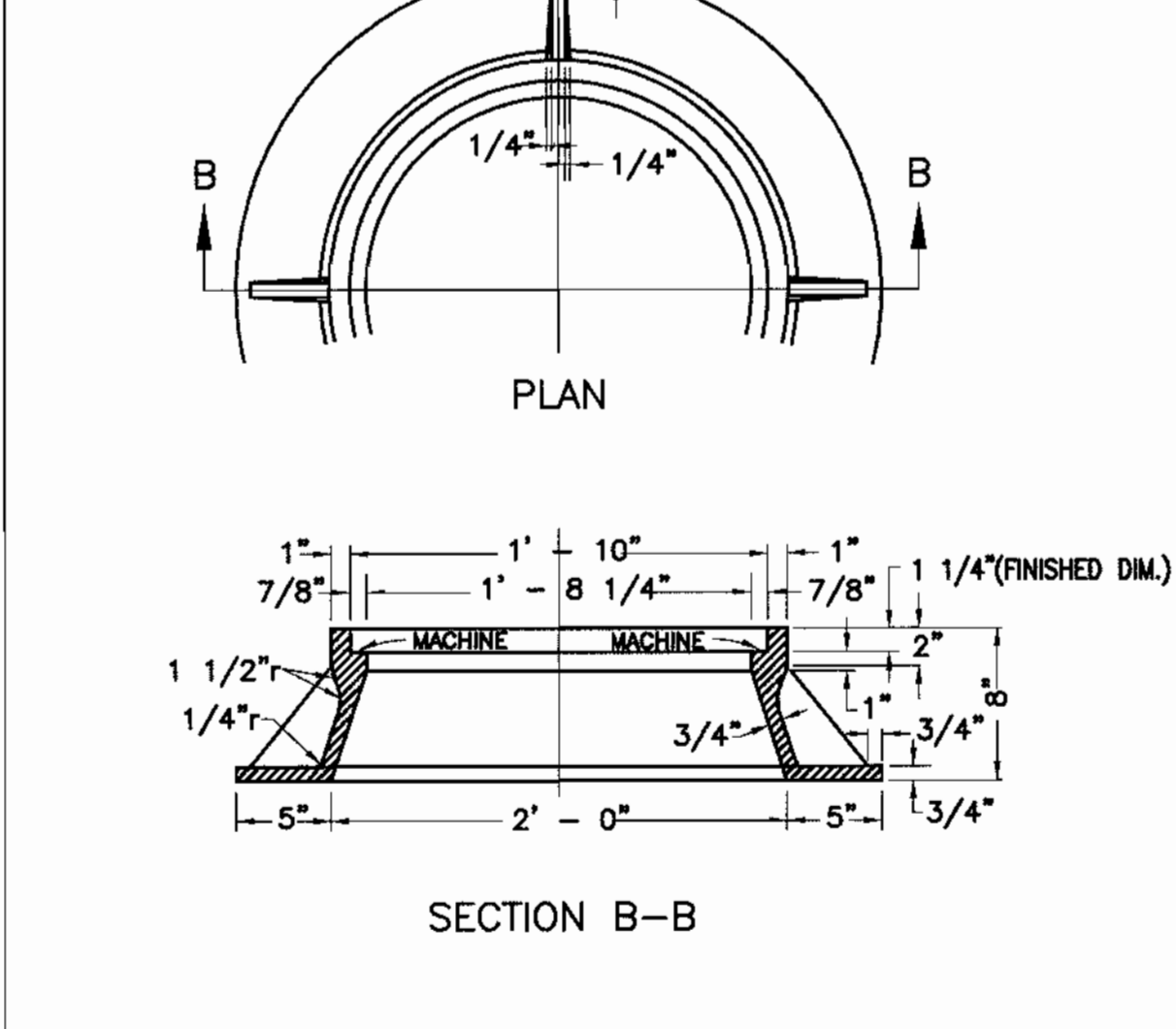


CHANNEL LINING NOTES
1. CHANNEL LINING SHALL BE EITHER BRICK OR CONCRETE, MINIMUM 4" THICK.
2. WIDTH OF CHANNEL SHALL MATCH INSIDE DIAMETER OF INCOMING AND OUTGOING PIPES. BLEND CHANNELING FOR SMOOTH CONTOUR BETWEEN PIPES.
3. CONCRETE CHANNELS SHALL BE FORMED AS SHOWN. F'c FOR CAST-IN-PLACE CHANNELS AND BENCHES SHALL BE 3000 PSI @ 28 DAYS. FOR PRECAST CHANNELS AND BENCHES, F'c = 4000 PSI MINIMUM.
4. BRICK CHANNELS SHALL BE FORMED AS SHOWN.
5. ALL INVERT ELEVATIONS SHALL BE AS SHOWN ON THE CONTRACT DRAWINGS.

5 TYPICAL MANHOLE CHANNELIZATION
C-202 NOT TO SCALE



6 DETAIL OF 4" CLEANOUT FOR SANITARY SEWER
C-202 NOT TO SCALE

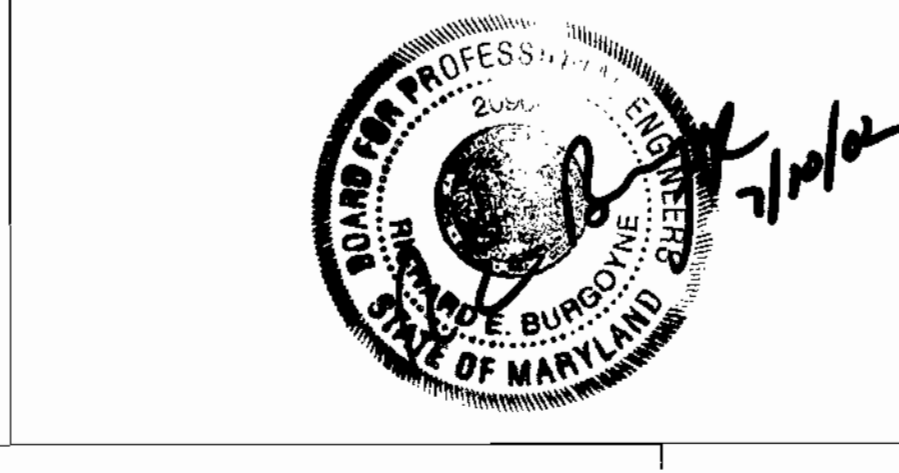


4 MANHOLE FRAME & COVER (PT 2)
C-202 NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
7/23/02
Cindy Hamate
5/6/02
8/7/02

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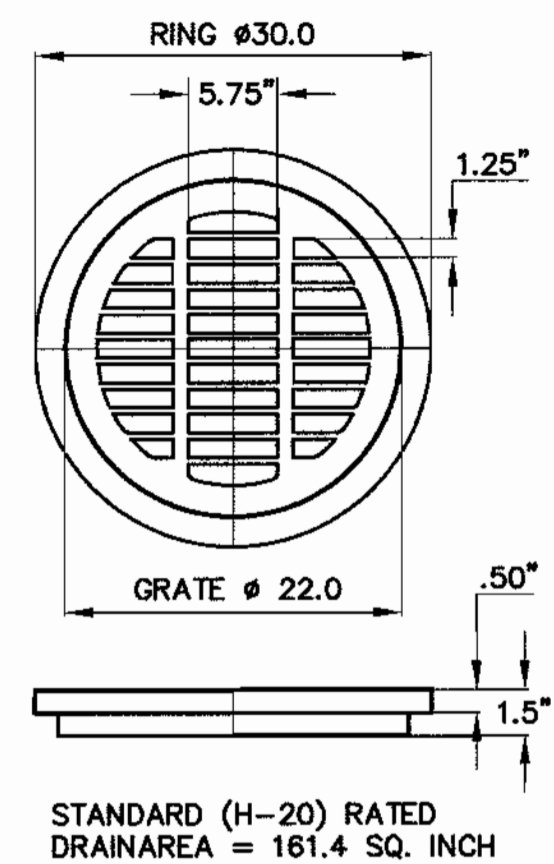
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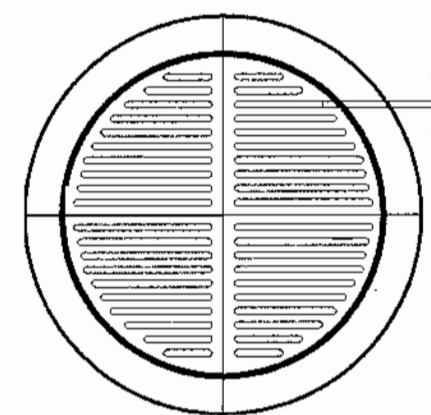
BUILDING 17

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THE JOHNS HOPKINS UNIVERSITY
DETAILS
TAX MAP 41 PARCEL 123
ELECTION DISTRIC NO. 5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
APL SHEET NO. C-202
COUNTY SHEET NO. 9



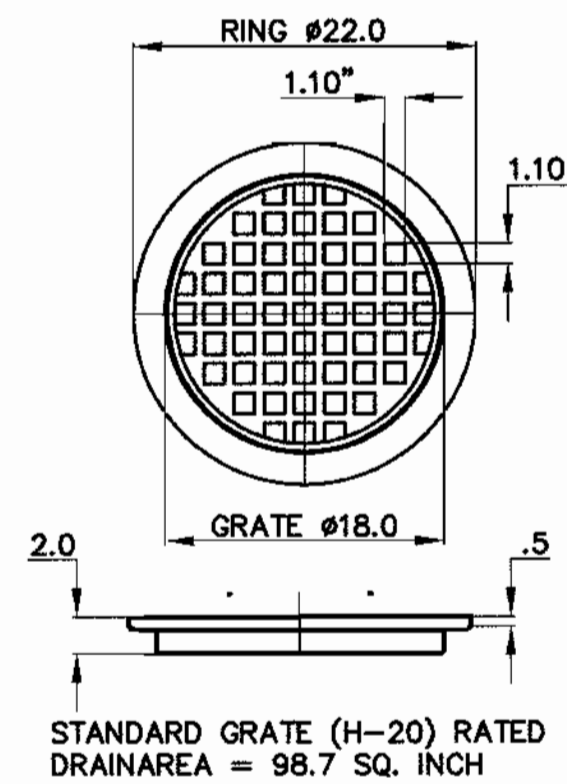
STANDARD (H-20) RATED
DRAINAREA = 161.4 SQ. INCH



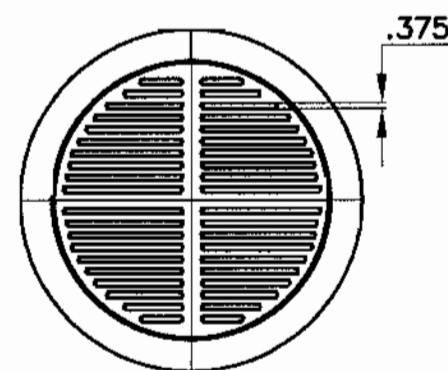
PEDESTRIAN GRATE (H-10) RATED
DRAINAGE AREA = 91.0 Sq. INCHES

MATERIAL: DUCTILE IRON
QUALITY: MATERIAL SHALL CONFORM TO ASTM A48 - CLASS 30B
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT

1 24" DUCTILE IRON GRATE
X/C-203 NOT TO SCALE



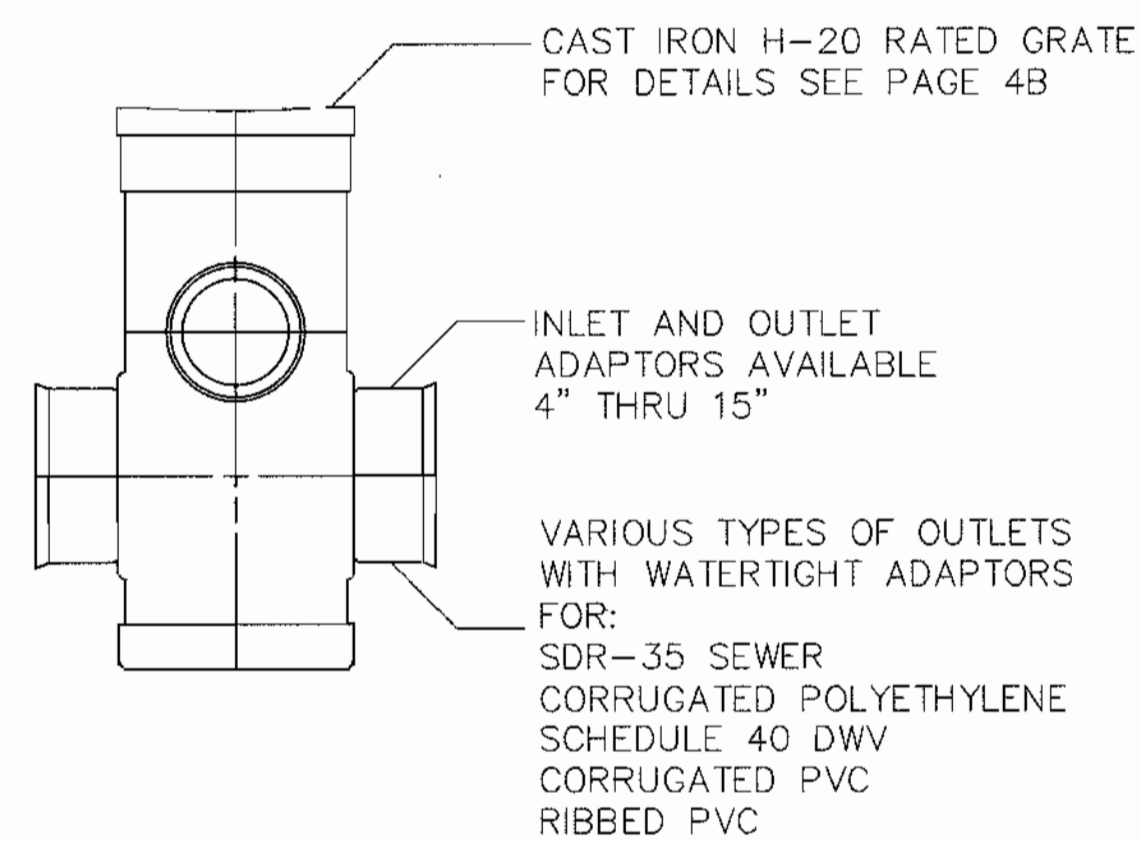
STANDARD GRATE (H-20) RATED
DRAINAREA = 98.7 SQ. INCH



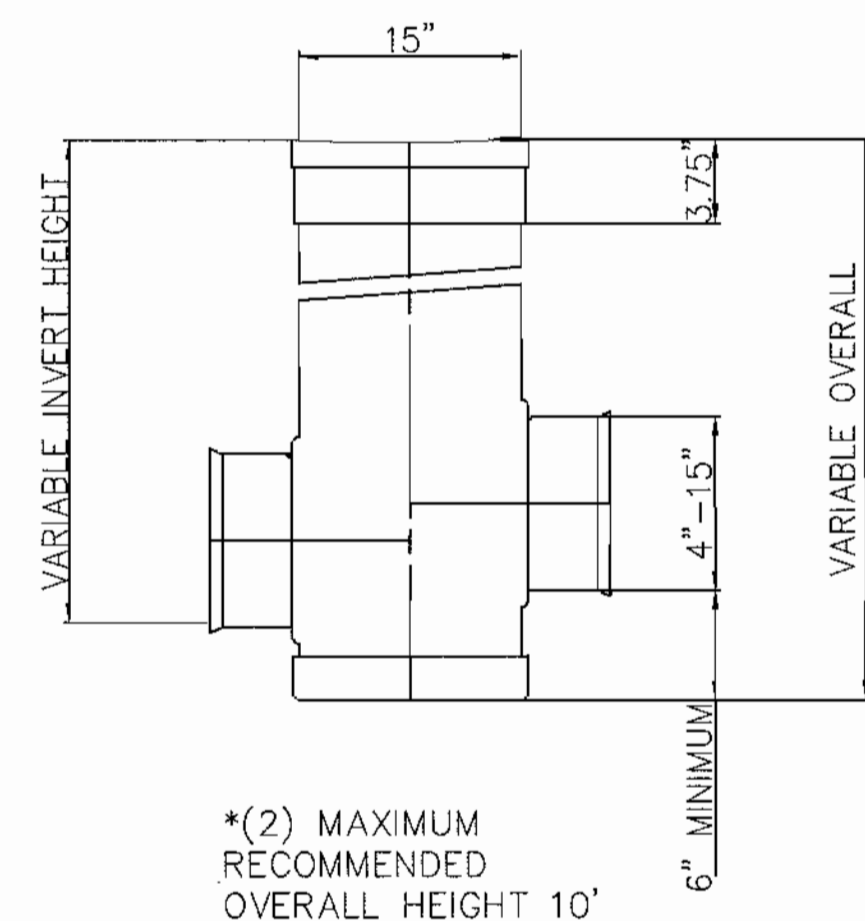
PEDESTRIAN GRATE (H-10) RATED
DRAINAGE AREA = 87.6 Sq. INCHES

MATERIAL: DUCTILE IRON
QUALITY: MATERIAL SHALL CONFORM TO ASTM A48 - CLASS 30B
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT

2 18" DUCTILE IRON GRATE
X/C-203 NOT TO SCALE

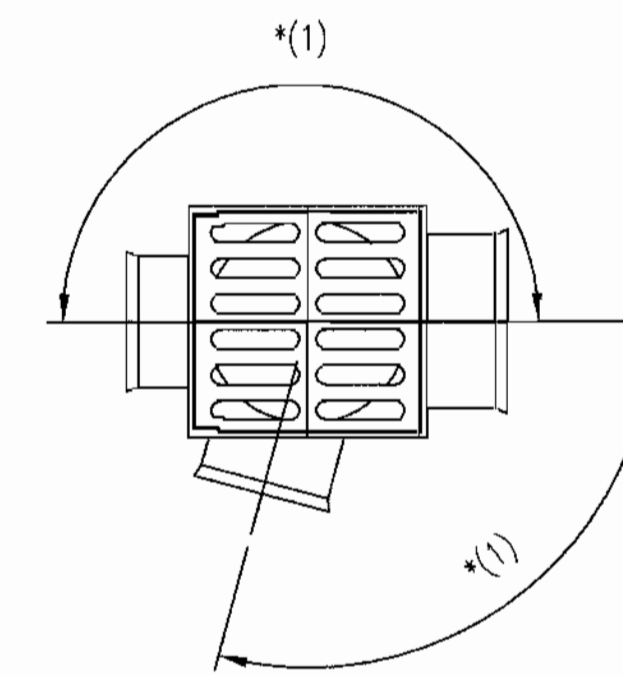


CAST IRON H-20 RATED GRATE FOR DETAILS SEE PAGE 4B
INLET AND OUTLET ADAPTORS AVAILABLE 4" THRU 15"
VARIOUS TYPES OF OUTLETS WITH WATERTIGHT ADAPTORS FOR:
SDR-35 SEWER
CORRUGATED POLYETHYLENE
SCHEDULE 40 DWV
CORRUGATED PVC
RIBBED PVC



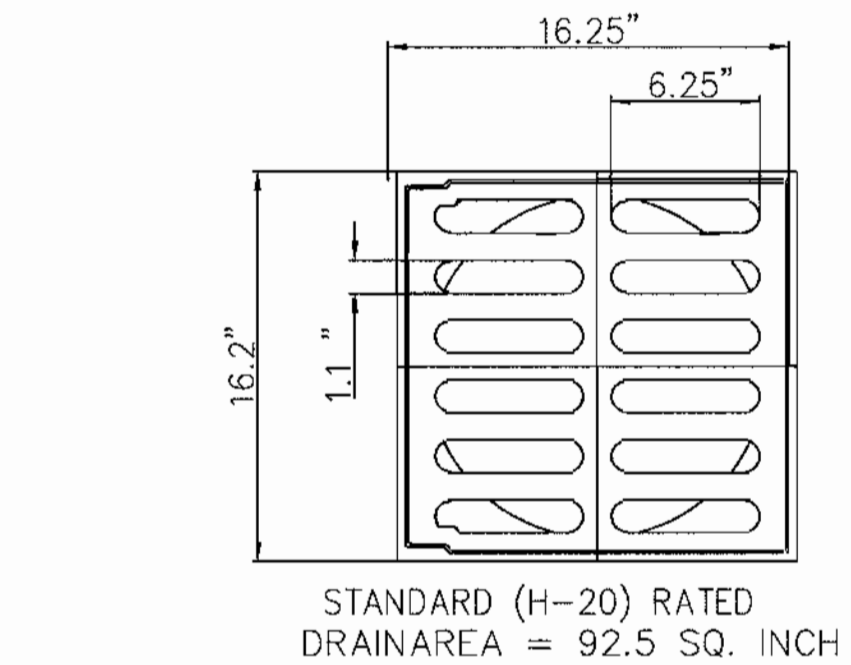
*(2) MAXIMUM RECOMMENDED OVERALL HEIGHT 10'

3 DRAIN TYPE II - 15"φ
X/C-203 NOT TO SCALE

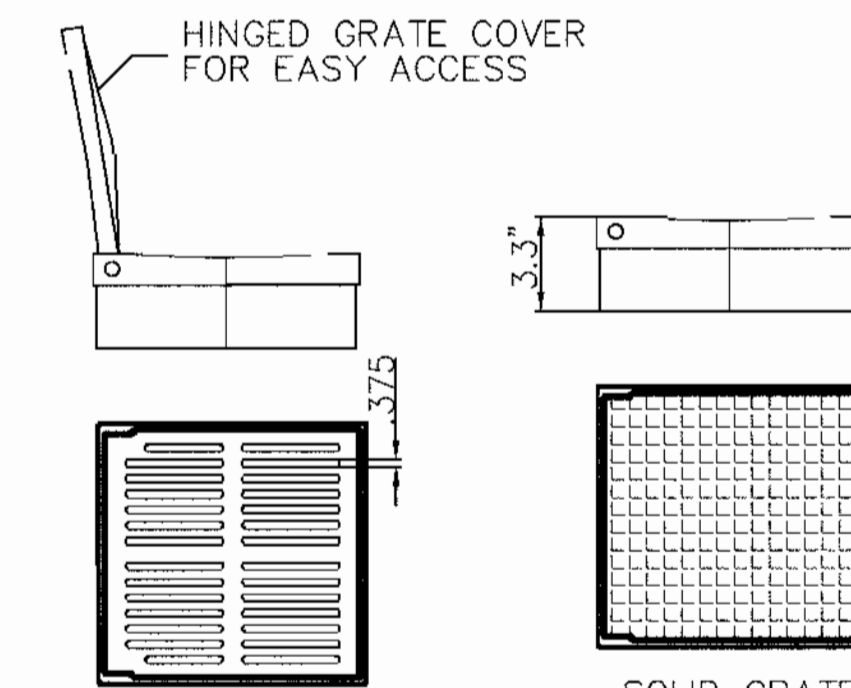


*(1) ADAPTORS CAN BE MOUNTED ON ANY ANGLE 0° TO 359°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTORS SEE SHEET #6

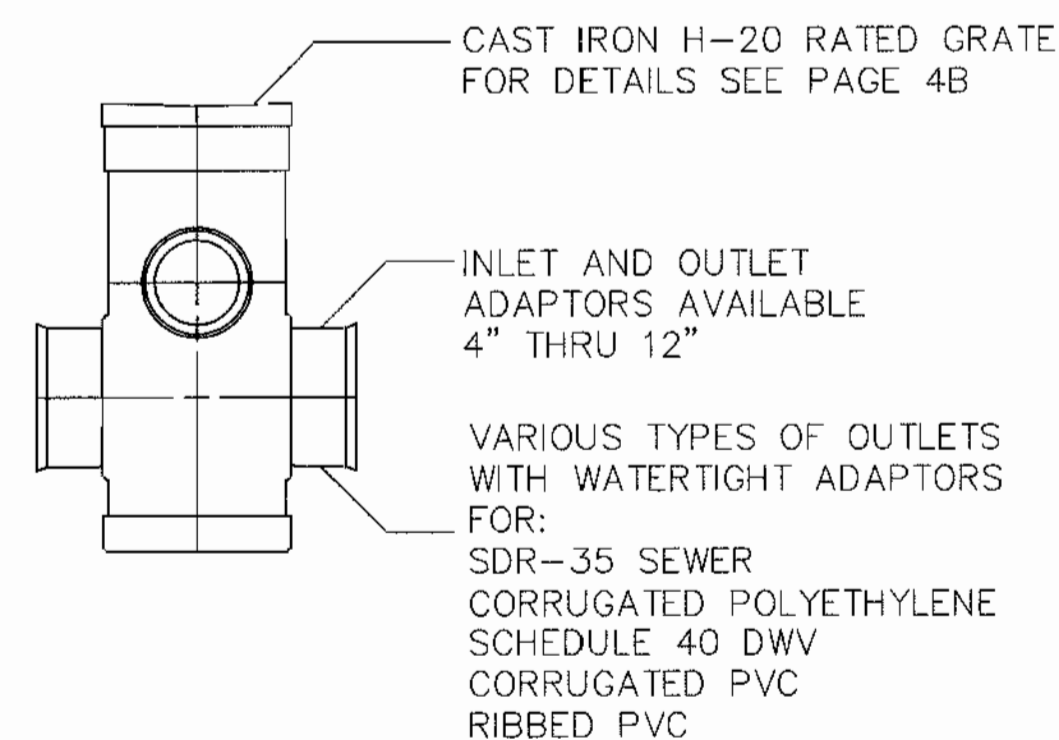
MATERIAL: CAST IRON
QUALITY: MATERIAL SHALL CONFORM TO ASTM A48 - CLASS 30B
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT



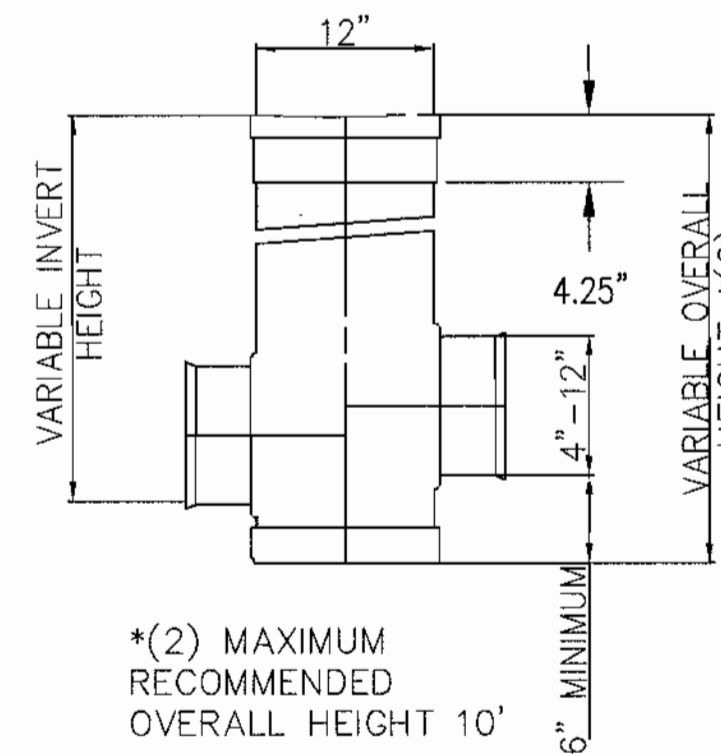
STANDARD (H-20) RATED
DRAINAREA = 92.5 SQ. INCH



PEDESTRIAN (H-10) RATED
DRAINAREA = 79.3 SQ. INCH

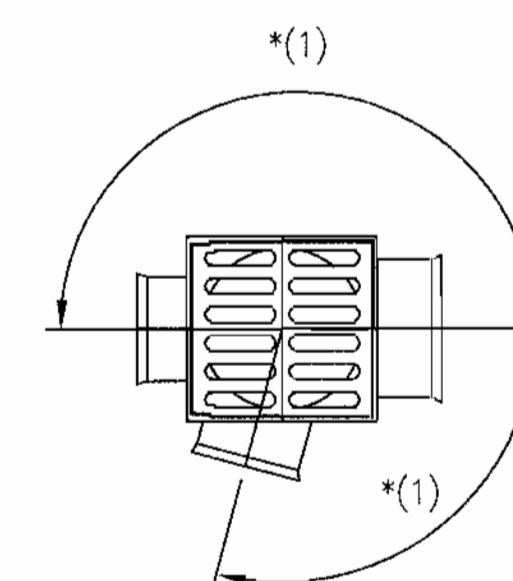


CAST IRON H-20 RATED GRATE FOR DETAILS SEE PAGE 4B
INLET AND OUTLET ADAPTORS AVAILABLE 4" THRU 12"
VARIOUS TYPES OF OUTLETS WITH WATERTIGHT ADAPTORS FOR:
SDR-35 SEWER
CORRUGATED POLYETHYLENE
SCHEDULE 40 DWV
CORRUGATED PVC
RIBBED PVC



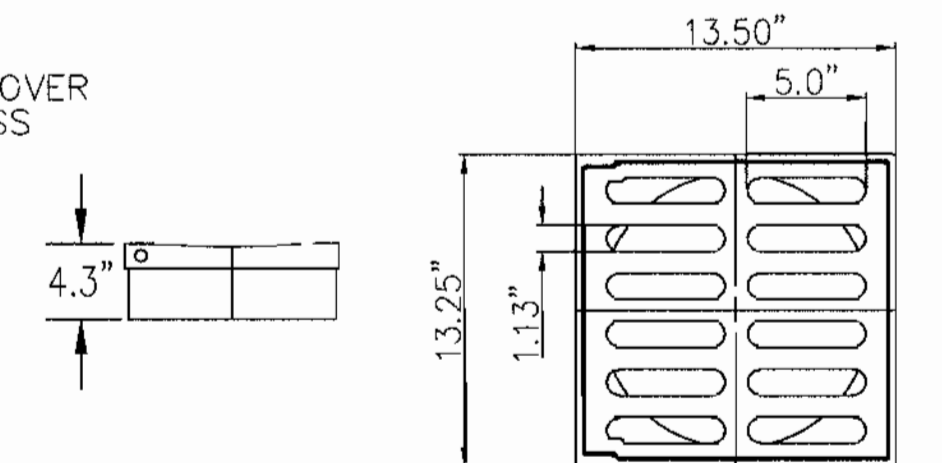
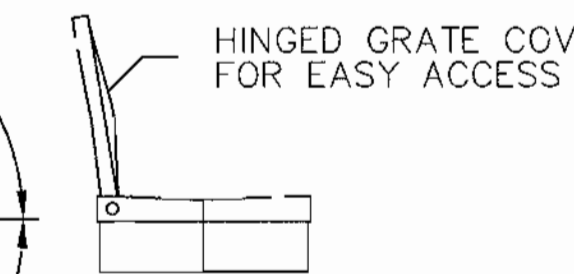
*(2) MAXIMUM RECOMMENDED OVERALL HEIGHT 10'

4 DRAIN TYPE II - 12"φ
X/C-203 NOT TO SCALE



*(1) ADAPTORS CAN BE MOUNTED ON ANY ANGLE 0° TO 359°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTORS SEE SHEET # 6

MATERIAL: CAST IRON
QUALITY: MATERIAL SHALL CONFORM TO ASTM A48 - CLASS 30B
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT



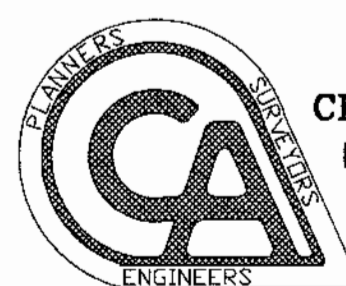
STANDARD (H-20) RATED
DRAINAREA = 62.7 SQ. INCH

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Howard County
CHIEF, DEVELOPMENT ENGINEERING DIVISION
Cindy Hernandez
CHIEF, DIVISION OF LAND DEVELOPMENT
John P. Smith
DIRECTOR

DATE: 7/23/02
DATE: 8/6/02
DATE: 8/7/02

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BUILDING 17

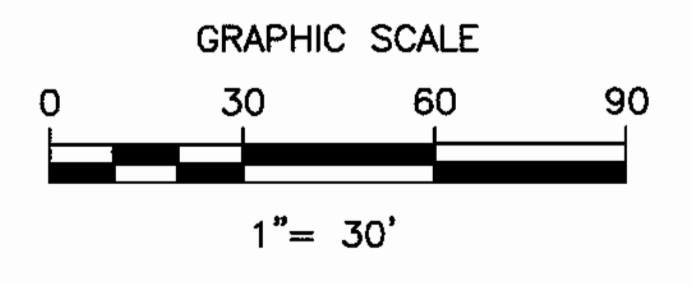
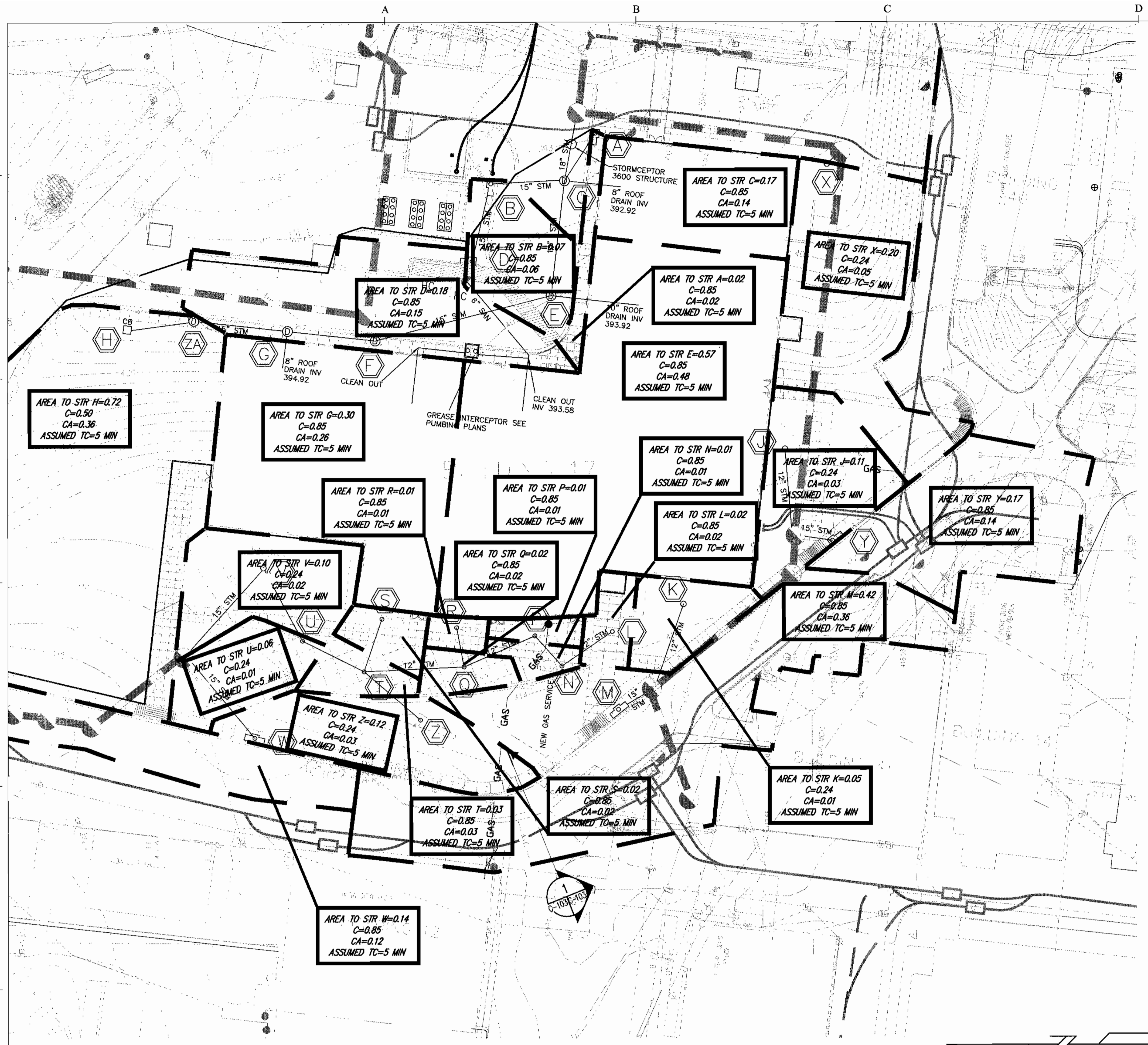
APPLIED PHYSICS LABORATORY
THE JOHNS HOPKINS UNIVERSITY

DETAILS

TAX MAP 41 PARCEL 123
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
APL SHEET NO. C-203
COUNTY SHEET NO. 10

SDP-02-140



| STORM DRAIN COMPUTATIONS | | | | | | | | | | | | | | | PROJECT NAME: APL Building 17 | | SHEET ____ OF ____ | | | | | | | | |
|--------------------------|--------|-----------------|------------------|------|-------|-------------|-------------|-------------|---------|----------------|----------------|---------------------|--------------|-------------|-------------------------------|--|--------------------|--|--|--|--|--|--|--|---------|
| | | | | | | | | | | | | | | | COMPUTED BY: CR | | DATE: 05/20/02 | | | | | | | | |
| | | | | | | | | | | | | | | | CHECKED BY: REB | | DATE: 05/21/02 | | | | | | | | |
| | | | | | | | | | | | | | | | DESIGNER FREQUENCY: 10_YR. | | SEAL | | | | | | | | |
| | | | | | | | | | | | | | | | PIPE | | | | | | | | | | REMARKS |
| FROM NO. | TO NO. | INC. AREA (AC.) | TOTAL AREA (AC.) | C | C X A | SUM (C X A) | TIME (MIN.) | I (IN./HR.) | Q (CFS) | DES. SLOPE (%) | DIAMETER (IN.) | VELOCITY (FT./SEC.) | LENGTH (FT.) | TIME (MIN.) | REMARKS | | | | | | | | | | |
| H | ZA | 0.72 | 0.72 | 0.50 | 0.36 | | 5 | 8.50 | 3.06 | 1.00 | 15 | 2.49 | 29.17 | 0.50 | | | | | | | | | | | |
| ZA | G | | | | | 0.36 | 5 | 8.50 | 3.06 | 1.00 | 15 | 2.49 | 43.00 | | | | | | | | | | | | |
| G | F | 0.30 | 1.02 | 0.85 | 0.26 | 0.62 | 5 | 8.50 | 5.27 | 1.50 | 15 | 4.29 | 39.93 | 0.15 | | | | | | | | | | | |
| F | E | | 1.02 | | | 0.62 | 5 | 8.50 | 5.27 | 1.50 | 15 | 4.29 | 87.28 | 0.34 | | | | | | | | | | | |
| E | C | 0.57 | 1.59 | 0.85 | 0.48 | 1.10 | 5 | 8.50 | 9.35 | 1.25 | 18 | 5.29 | 52.83 | 0.17 | | | | | | | | | | | |
| D | B | 0.18 | 0.18 | 0.85 | 0.15 | 0.15 | 5 | 8.50 | 1.28 | 1.00 | 15 | | 38.47 | 0.68 | | | | | | | | | | | |
| B | C | 0.07 | 0.23 | 0.85 | 0.06 | 0.20 | 5 | 8.50 | 1.70 | 1.00 | 15 | 1.39 | 32.62 | 0.28 | | | | | | | | | | | |
| A | C | 0.02 | 0.02 | 0.85 | 0.02 | 0.02 | 5 | 8.50 | 0.17 | 1.00 | 15 | 0.14 | 23.92 | 2.88 | | | | | | | | | | | |
| C | ZZ | | | | | 1.32 | 5 | 8.50 | 11.22 | 2.00 | 18 | 6.35 | 14.5 | 0.04 | STORMCEPTOR | | | | | | | | | | |
| ZZ | 7 | | | | | 1.32 | 5 | 8.50 | 11.22 | 4.00 | 18 | 6.35 | 3.66 | 0.01 | | | | | | | | | | | |
| K | 3 | 0.05 | 0.05 | 0.24 | 0.01 | 0.01 | 5 | 8.50 | 0.09 | 1.00 | 12 | 0.11 | 41 | 5.96 | | | | | | | | | | | |
| R | Q | 0.01 | 0.01 | 0.85 | 0.01 | 0.01 | 5 | 8.50 | 0.09 | 1.00 | 12 | 0.11 | 19.01 | 2.76 | | | | | | | | | | | |
| S | T | 0.05 | 0.05 | 0.85 | 0.04 | 0.04 | 5 | 8.50 | 0.34 | 1.00 | 12 | 0.43 | 26.77 | 1.03 | | | | | | | | | | | |
| Z | T | 0.12 | 0.12 | 0.24 | 0.03 | 0.03 | 5 | 8.50 | 0.26 | 1.00 | 12 | 0.33 | 29.17 | 1.47 | | | | | | | | | | | |
| W | 1C | 0.14 | 0.14 | 0.85 | 0.12 | 0.12 | 5 | 8.50 | 1.02 | 1.00 | 15 | 0.83 | 34.19 | 0.69 | | | | | | | | | | | |
| J | 5 | 0.11 | 0.11 | 0.24 | 0.03 | 0.03 | 5 | 8.50 | 0.26 | 1.00 | 12 | 0.33 | 34.36 | 1.73 | | | | | | | | | | | |
| Y | 5 | 0.17 | 0.17 | 0.85 | 0.14 | 0.14 | 5 | 8.50 | 1.19 | 2.00 | 15 | 0.97 | 7.59 | 0.13 | | | | | | | | | | | |
| M | 3 | 0.42 | 0.42 | 0.85 | 0.36 | 0.36 | 5 | 8.50 | 3.06 | 3.44 | 15 | | 7.27 | 0.06 | | | | | | | | | | | |
| X | 6 | 0.20 | 0.20 | 0.24 | 0.05 | 0.05 | 5 | 8.50 | 0.43 | 4.40 | 12 | 0.55 | 3.86 | 0.12 | | | | | | | | | | | |
| L | N | 0.02 | 0.02 | 0.85 | 0.02 | 0.02 | 5 | 8.50 | 0.17 | 1.00 | 12 | 0.22 | 29.75 | 2.29 | | | | | | | | | | | |
| N | P | 0.01 | 0.03 | | | | | | | | | | 19.25 | | | | | | | | | | | | |
| P | Q | 0.01 | 0.11 | 0.85 | 0.01 | 0.12 | 5 | 8.50 | 1.02 | 1.00 | 12 | 1.30 | 37.63 | 0.48 | | | | | | | | | | | |
| Q | T | 0.02 | 0.13 | 0.85 | 0.02 | 0.14 | 5 | 8.50 | 1.19 | 1.00 | 12 | 1.52 | 49.20 | 0.54 | | | | | | | | | | | |
| FROM R | | 0.01 | 0.14 | 0.85 | 0.01 | 0.15 | 5 | 8.50 | 1.28 | | | | | | | | | | | | | | | | |
| T | U | 0.03 | 0.17 | 0.85 | 0.03 | 0.18 | 5 | 8.50 | 1.53 | 1.00 | 12 | 1.95 | 33.63 | 0.29 | | | | | | | | | | | |
| FROM S | | 0.02 | 0.19 | 0.85 | 0.02 | 0.20 | 5 | 8.50 | 1.70 | | | | | | | | | | | | | | | | |
| FROM Z | | 0.12 | 0.31 | 0.24 | 0.03 | 0.23 | 5 | 8.50 | 1.96 | | | | | | | | | | | | | | | | |
| U | V | 0.06 | 0.37 | 0.24 | 0.01 | 0.24 | 5 | 8.50 | 2.04 | 1.00 | 12 | | 40.43 | | | | | | | | | | | | |
| V | 1C | 0.10 | 0.10 | 0.24 | 0.02 | 0.02 | 5 | 8.50 | 0.17 | 1.00 | 12 | 0.22 | 55.01 | 3.65 | | | | | | | | | | | |

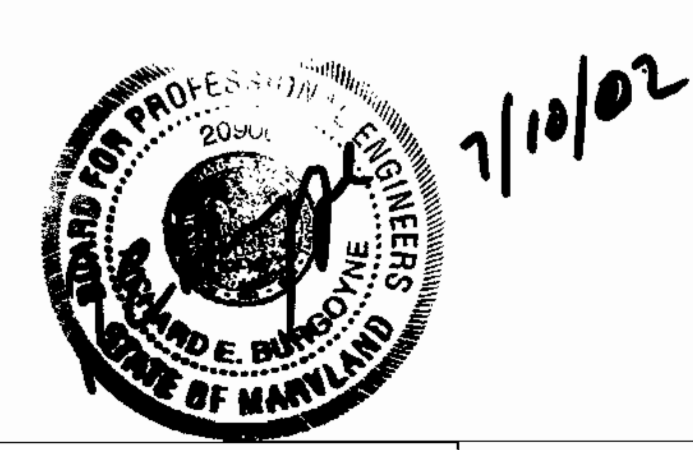
WATER QUALITY NOTE:

THE PROPOSED STORMCEPTOR IS IN ACCORDANCE WITH F-02-40. THE LOCATION HAS MOVED TO THE EAST TO INTERCEPT THE RUN OFF FROM THIS DEVELOPMENT. THE STORMCEPTOR PROVIDES TREATMENT TO RUN OFF FROM THE NEW BUILDING AND PAVEMENT TO THE EAST OF THE BUILDING, AND EXISTING PAVEMENT AREAS TO THE NORTH OF THE NEW BUILDING. THE AREA TO THE WEST OF THE BUILDING IS APPROXIMATELY EQUAL TO THE EQUAL TO THE ADDITIONAL AREA NORTH OF THE BUILDING. THIS DESIGN CALLS FOR THE INSTALLATION OF A STORMCEPTOR STC 3600 AS IS REQUIRED BY F-02-40. THIS DESIGN FULLY MEETS THE INTENT OF F-02-40.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 7/23/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] 8/6/02
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] 8/1/02
 DIRECTOR

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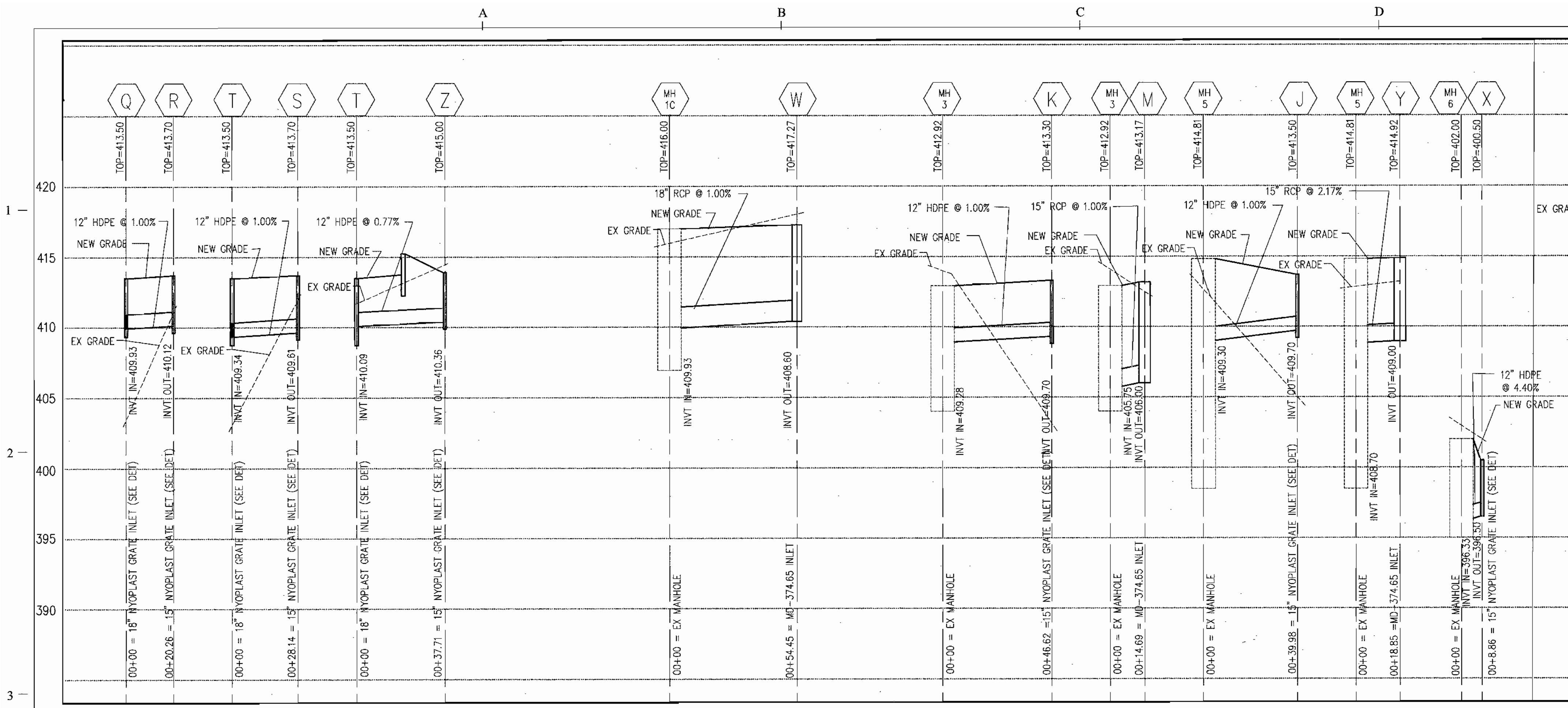
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 3541 CHAIN BRIDGE ROAD, SUITE 7
 FAIRFAX, VA. 22030
 (703) 691-4114



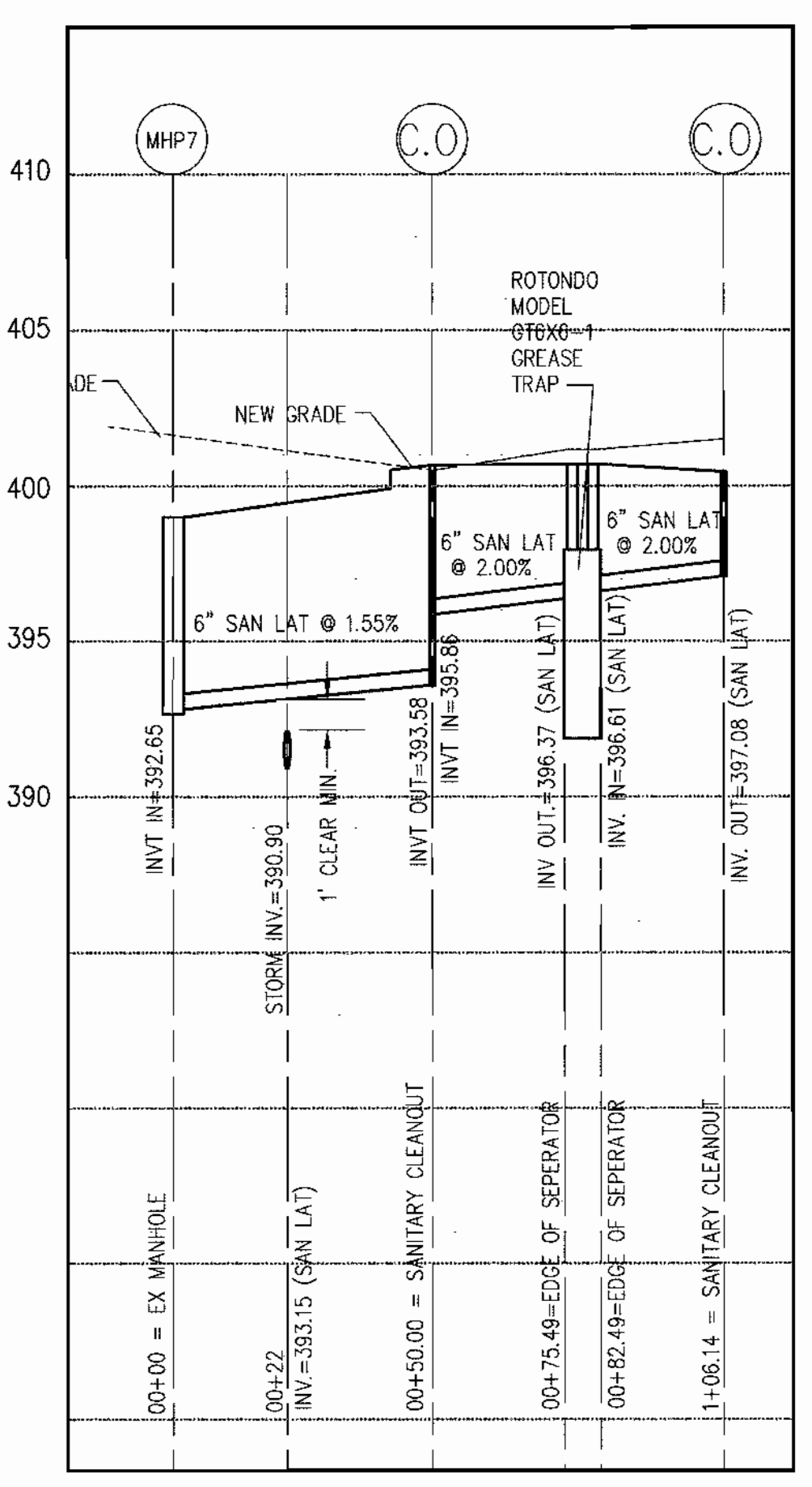
BUILDING 17

APPLIED PHYSICS LABORATORY
THE JOHNS HOPKINS UNIVERSITY
 STORM DRAINAGE
 CALCULATIONS
 TAX MAP 41 PARCEL 123
 ELECTION DISTRICT NO. 5
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 APL SHEET NO. C-204
 COUNTY SHEET NO. 11



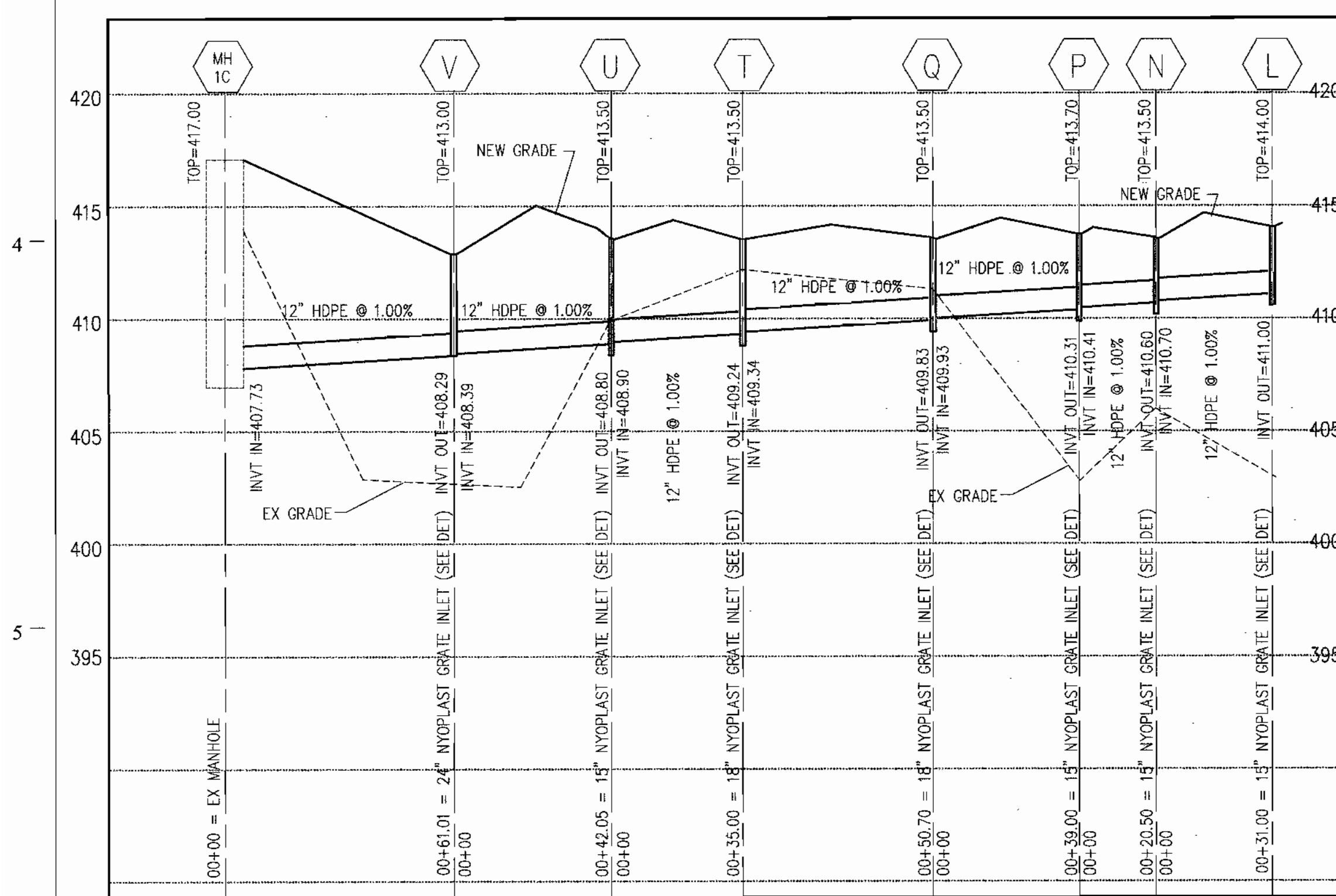
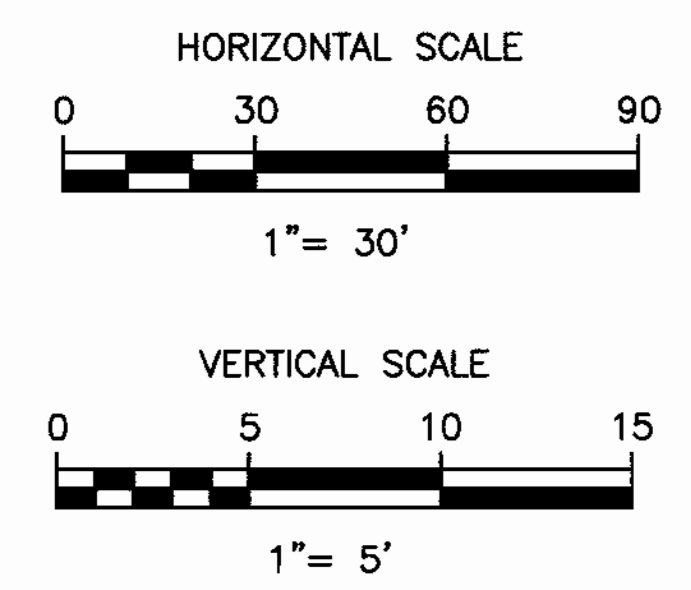
1 STORM SEWER PROFILE
 HORIZ. SCALE: 1"=30' VERT. SCALE: 1"=5'



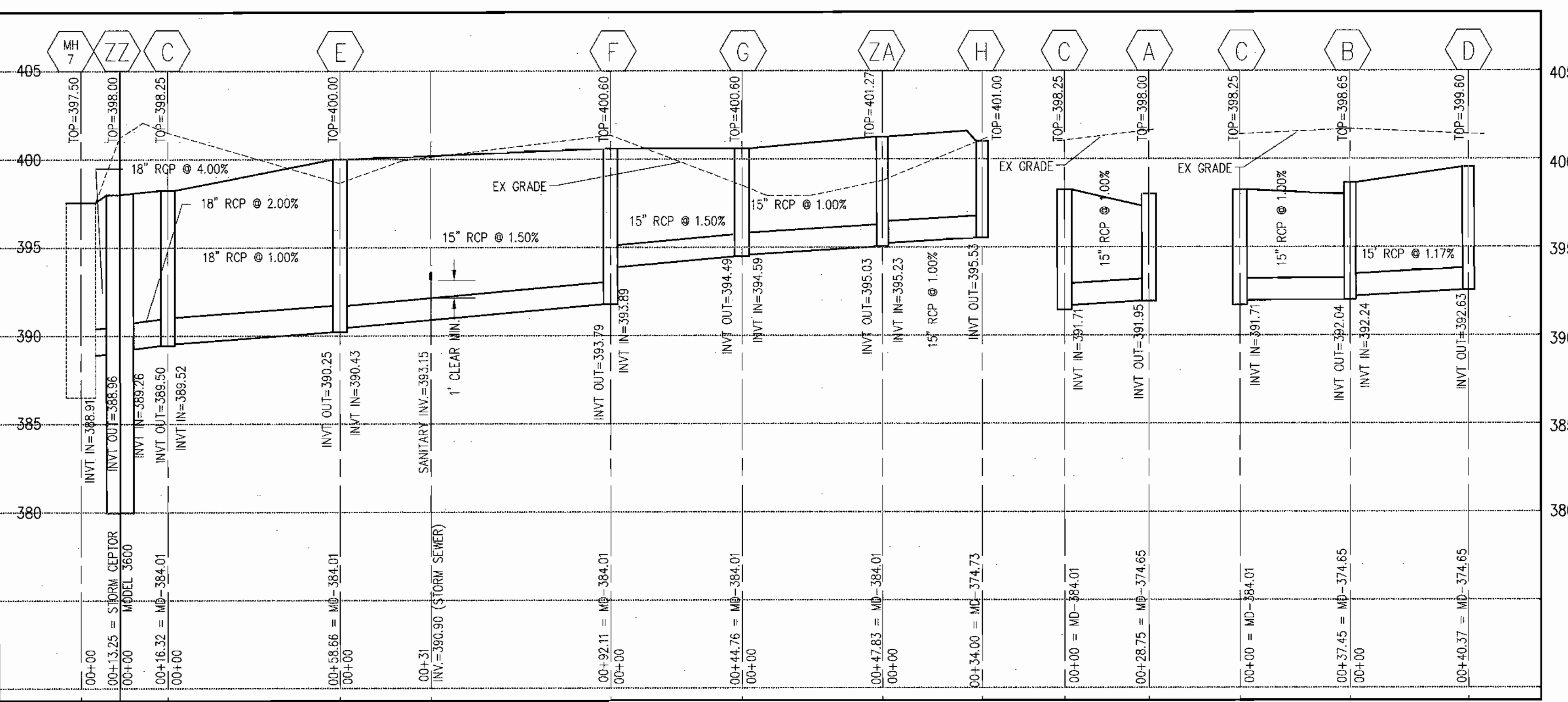
2 SANITARY SEWER PROFILE
 HORIZ. SCALE: 1"=30' VERT. SCALE: 1"=5'

| STRUCTURE | TYPE | TOP | INVERT |
|-----------|--------------|--------|--------|
| A | MD-374.65 | 398.00 | 391.95 |
| B | MD-374.65 | 398.65 | 392.04 |
| C | MD-384.01 | 398.25 | 391.71 |
| D | MD-374.65 | 399.60 | 392.63 |
| E | MD-384.01 | 400.00 | 390.25 |
| F | MD-384.01 | 400.60 | 393.79 |
| G | MD-384.01 | 400.60 | 394.49 |
| H | MD-374.73 | 401.00 | 395.53 |
| J | 15" NYOPLAST | 413.50 | 409.70 |
| K | 15" NYOPLAST | 413.50 | 409.70 |
| L | 15" NYOPLAST | 414.00 | 411.00 |
| M | MD-374.65 | 413.17 | 406.00 |
| N | 15" NYOPLAST | 413.50 | 410.60 |
| P | 15" NYOPLAST | 413.70 | 410.31 |
| Q | 18" NYOPLAST | 413.50 | 409.83 |
| R | 15" NYOPLAST | 413.70 | 410.12 |
| S | 15" NYOPLAST | 413.70 | 409.61 |
| T | 18" NYOPLAST | 413.50 | 409.24 |
| U | 15" NYOPLAST | 413.50 | 408.80 |
| V | 24" NYOPLAST | 413.00 | 408.29 |
| W | MD-374.65 | 417.27 | 408.60 |
| X | 15" NYOPLAST | 400.50 | 396.50 |
| Y | MD-374.65 | 414.92 | 409.00 |
| Z | 15" NYOPLAST | 415.00 | 410.36 |
| ZZ | 15" NYOPLAST | 398.00 | 411.50 |
| ZA | MD-384.01 | 401.27 | 395.03 |

NOTE:
 THE FOLLOWING STRUCTURES SHALL BE MARYLAND STANDARD MD-374.65 - COG-5 (THROAT=5') STRUCTURES - M, W & Y



3 STORM SEWER PROFILE
 HORIZ. SCALE: 1"=30' VERT. SCALE: 1"=5'



NOTES:
 1. THESE PROFILES TIE INTO EXISTING STRUCTURES CONSTRUCTED BY THE UTILITY RELOCATION CONTRACT. THE CONTRACTOR SHALL VERIFY THE ACTUAL FIELD CONDITION PRIOR TO CONSTRUCTION.
 2. THE CONTRACTOR SHALL ROUGH GRADE AND COMPACT THE SITE PRIOR TO INSTALLATION OF UTILITIES.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] MK
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] HB
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature]
 DATE: 7/23/02
 DATE: 8/6/02
 DATE: 8/7/02

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BUILDING 17

APPLIED PHYSICS LABORATORY
 THE JOHNS HOPKINS UNIVERSITY
 STORM DRAIN &
 SANITARY SEWER PROFILES
 TAX MAP 41 PARCEL 123
 ELECTION DISTRICT NO. 5
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 APL SHEET NO. C-301
 COUNTY SHEET NO. 12

BY THE DEVELOPER:

"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 THE ENVIRONMENT EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

James E. Loesch
 SIGNATURE OF DEVELOPER
 PRINT NAME BELOW SIGNATURE

05/29/02
 Date

BY THE ENGINEER:

"I CERTIFY THAT THIS PLAN FOR UTILITIES CONSTRUCTION, 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."

RE Bryce
 SIGNATURE OF ENGINEER
 PRINT NAME BELOW SIGNATURE

7/10/02
 Date

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Ayala/C.S.
 USDA-NATURAL RESOURCES
 CONSERVATION SERVICE

8/5/02
 Date

THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Gulf S. Selig
 HOWARD SOIL CONSERVATION DISTRICT

8/5/02
 Date

DURATION (WEEKS):

SEQUENCE OF CONSTRUCTION (S.O.C.):

PHASE 1

- CONTRACTOR SHALL OBTAIN A GRADING PERMIT.
- NOTIFY APL AND COUNTY SEDIMENT CONTROL INSPECTOR AT LEAST 14 DAYS PRIOR TO BEGINNING WORK TO ARRANGE FOR A PRE-CONSTRUCTION MEETING.
- INSTALL OR ASSUME CUSTODY OF TEMPORARY SECURITY FENCE OUTSIDE CONSTRUCTION AREA AND GAIN APPROVAL OF FENCE INSTALLATION.
- ASSUME CUSTODY OF EXISTING TREE PROTECTION, STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, SEDIMENT TRAP, INLET PROTECTION AND ALL OTHER SEDIMENT CONTROL FACILITIES WITHIN THE PROJECT LIMIT, ESTABLISHED BY SDP-02-88. THE CONTRACTOR SHALL REFURBISH / RESTORE ALL EROSION & SEDIMENT CONTROL FACILITIES.
- REFURBISH STAGING AREA FOR CONSTRUCTION. DO NOT START S.O.C.#6 UNTIL FIRST RECEIVING PERMISSION FROM THE INSPECTOR TO PROCEED.

PHASE 2

- ROUGH GRADE SITE (REMOVE EXISTING SEDIMENT TRAP) FILL AS REQUIRED, DO NOT REMOVE SEDIMENT TRAP UNTIL ALL GRADES AROUND THE TRAP ARE REACHED THE DISCHARGE PIPE IN MH7 IS PLUGGED WITH A PERMANENT BULKHEAD AND PERMISSION IS GRANTED BY COUNTY INSPECTOR. INSTALL FOUNDATION CASSIONS AND EXCAVATE FOR CONSTRUCTION OF NEW UTILITIES. REMOVE ANY SEDIMENT AT THE END OF EACH DAY FROM THE PAVED AREAS. ALL UNFINISHED STORM DRAINS MUST BE BLOCKED FROM RECEIVING RUNOFF. THE CONTRACTOR SHALL INSTALL INLET PROTECTION ON THE NEW STORM UTILITIES AS THERE ARE CONSTRUCTED.
- PERFORM FINE GRADING AND PERMANENT STABILIZATION OF THE SITE INCLUDING SOD, LANDSCAPE PLANTING, AND VEGETATIVE STABILIZATION.
- REMOVE EROSION AND SEDIMENT CONTROLS UPON PERMISSION FROM THE COUNTY INSPECTOR CLEAN / REFURBISH THE SWM POND OF SEDIMENT TO APPROVED LIMITS.

32 TOTAL TIME

SEDIMENT CONTROL NOTES

- 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 (313-1855).
- 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.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN THE FOLLOWING:
 - 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1.
 - 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (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.
- 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.
- SITE ANALYSIS:

| | |
|-------------------------------------|------------------------|
| TOTAL AREA OF SITE | 361 ACRES |
| AREA DISTURBED | 3.6 ACRES |
| AREA TO BE ROOFED OR PAVED | 1.7 ACRES |
| AREA TO BE VEGETATIVELY STABILIZED | 0.9 ACRES |
| TOTAL CUT | |
| TOTAL FILL | 6000 YD ³ |
| OFF SITE WASTE/BORROW AREA LOCATION | BORROW / WASTE ON SITE |
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE PREPARED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 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.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO LENGTHS THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY (MAXIMUM 100 FT/ DAY/CREW). ALL DISTURBED NON-PAVED TRENCH AREAS SHALL BE MULCHED AND SEEDED AT THE END OF EACH DAY TO ESTABLISH TURF. ALL DISTURBED PAVED TRENCH AREAS SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT TRAFFIC BEARING COVER.

* ANY CUT WIL BE TRANSFERRED TO A SITE WITH APPROVED AND ACTIVE PERMITTED PROJECT

TEMPORARY SEEDING NOTES:

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED 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, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS:

APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1,000 SQ.FT.) ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SEEDING:

FOR THE PERIOD MARCH 1 THROUGH APRIL 30, AND AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 1-1/2 BUSHEL PER ANNUAL RYE (3.2 LBS./ 1,000 SQ.FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS/ ACRE OF WEEPING LOVE GRASS (0.07 LBS./1,000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28 PROTECT BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED RAW 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./1,000 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./1,000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT ACRES. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL./ 1,000 SQ.FT.) FOR ANCHORING. REFER TO THE 1988 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATES AND METHODS NOT COVERED.

PERMANENT SEEDING NOTES:

ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:

SEEDBED PREPARATION:

LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

SOIL AMENDMENTS:

APPLY WO TONS PER ACRE DOLOMITIC LIME STONE (92 LBS./1,000 SQ.FT.) AND 600 LBS PER ACRE 20-20-20 FERTILIZER (14 LBS./1,000 SQ.FT.) BEFORE SEEDING HARROW OR DISCING INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, (9 LBS./1,000 SQ.FT.).

SOIL AMENDMENTS:

FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 100 LBS PER ACRE (2.3 LBS./1,000 SQ.FT.) OF 3-WAY TALL FESCUE, FOR THE PERIOD MAY 1 THROUGH JULY 21, SEED WITH 60 LBS/ACRE (0.05 LBS./1,000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THROUGH FEBRUARY 28. PROJECT SITE BY:

OPTION (1) - TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRINGS

OPTION (2) - USE 500

OPTION (3) - SEED WITH 100 LBS/ACRE 3-WAY TALL FESCUE AND MULCH WITH TWO TONS/ACRE WELL ANCHORED STAW. ALL SLOPES SHOULD BE HYDROSEEDED.

MULCHING:

APPLY 1-1/2 TO 2 TONS PER ACRE (10 TO 90 LBS./1,000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING 200 GALLONS PER ACRE (5 GAL./ 1,000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT ACRES. ON SLOPES 8 FEET OR HIGHER USE 348 GALLONS PER ACRE (8 GAL./1,000 SQ.FT.) FOR ANCHORING.

MAINTENANCE:

INSPECT ALL SEEDED AREAS (ONCE PER MONTH) AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TOP SOIL SPECIFICATIONS - SOIL TO BE USED AS TOP SOIL MUST MEET THE FOLLOWING:

TOPSOIL SHALL BE A SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM OR LOAMY SAND. OTHER SOILS MAY BE USED IT RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURE SUBSOIL AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS TASH, OR OTHER MATERIALS LARGER THAN 3/4" IN DIAMETER.

TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, JOHNSON GRASS, NUTSEGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

WHERE THE TOPSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS/1,000 SQ.FT.) PRIOR TO THE PLACEMENT OF TOPSOIL, LIME SHALL BE DISTURBED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.

FOR SITE HAVING DISTURBED AREAS UNDER 5 ACRES:
 PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZERS, COMPOSED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW:

COMPOSTED SLUDGE MATERIAL 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:

- COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE 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.
- 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 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE:
- COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQ.FT. PERCENT POTASSIUM AND HAVE A PH OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE:

COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4 LBS./1,000 SQ.FT. AND 1/3 THE NORMAL LIME APPLICATION RATE.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chris Dammann
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK
 DATE 7/23/02

Chris Dammann
 CHIEF, DIVISION OF LAND DEVELOPMENT HB
 DATE 8/6/02

Paul Smith
 DIRECTOR
 DATE 8/7/02

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 Commerce Place
 One South Street, Suite 1000
 Baltimore, MD 21202
 410 528 8600
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 FAIRFAX, VA. 22030
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STATE OF MARYLAND

PROFESSIONAL ENGINEERS

7/10/02

BUILDING 17

APPLIED PHYSICS LABORATORY
 THE JOHNS HOPKINS UNIVERSITY

EROSION & SEDIMENT CONTROL NOTES

TAX MAP 41 PARCEL 123
 ELECTION DISTRIC NO. 5
 HOWARD COUNTY, MARYLAND

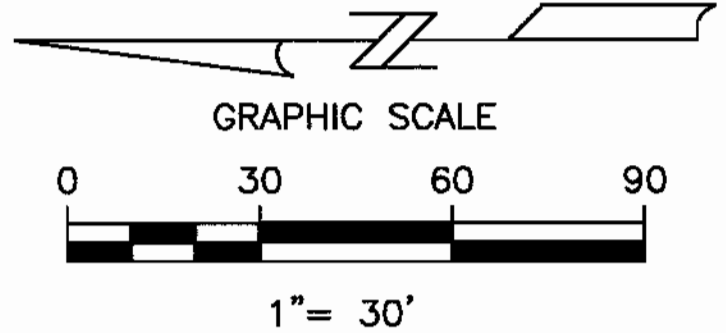
SCALE AS SHOWN

APL SHEET NO. **ES-01**

COUNTY SHEET NO. **13**



NOTE:
THIS REPRESENTS THE INITIAL SITE AS LEFT BY THE UTILITY RELOCATION CONTRACTOR AS PER SDP -02-88.



BY THE DEVELOPER:

"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 THE ENVIRONMENT EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

James E. Leach 05/29/02
SIGNATURE OF DEVELOPER Date
PRINT NAME BELOW SIGNATURE

BY THE ENGINEER:

"I CERTIFY THAT THIS PLAN FOR UTILITIES CONSTRUCTION, 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."

R.E. Burge 7/10/02
SIGNATURE OF ENGINEER Date
PRINT NAME BELOW SIGNATURE
R.E. Burge

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jin Myers /cs 8/5/02
USDA NATURAL RESOURCES CONSERVATION SERVICE Date

THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John Selig 8/5/02
HOWARD SOIL CONSERVATION DISTRICT Date

- STANDARD SYMBOL INLET PROTECTION
- STANDARD SYMBOL CURB INLET PROTECTION
- STANDARD SYMBOL CONSTRUCTION ENTRANCE
- DRAINAGE DIVIDE
- SUPPER SILTFENCE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Cheryl Hamilton 7/23/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE

Clayton Hamstra 8/6/02
CHIEF, DIVISION OF LAND DEVELOPMENT HB DATE

Paul J. Smith 8/7/02
DIRECTOR DATE

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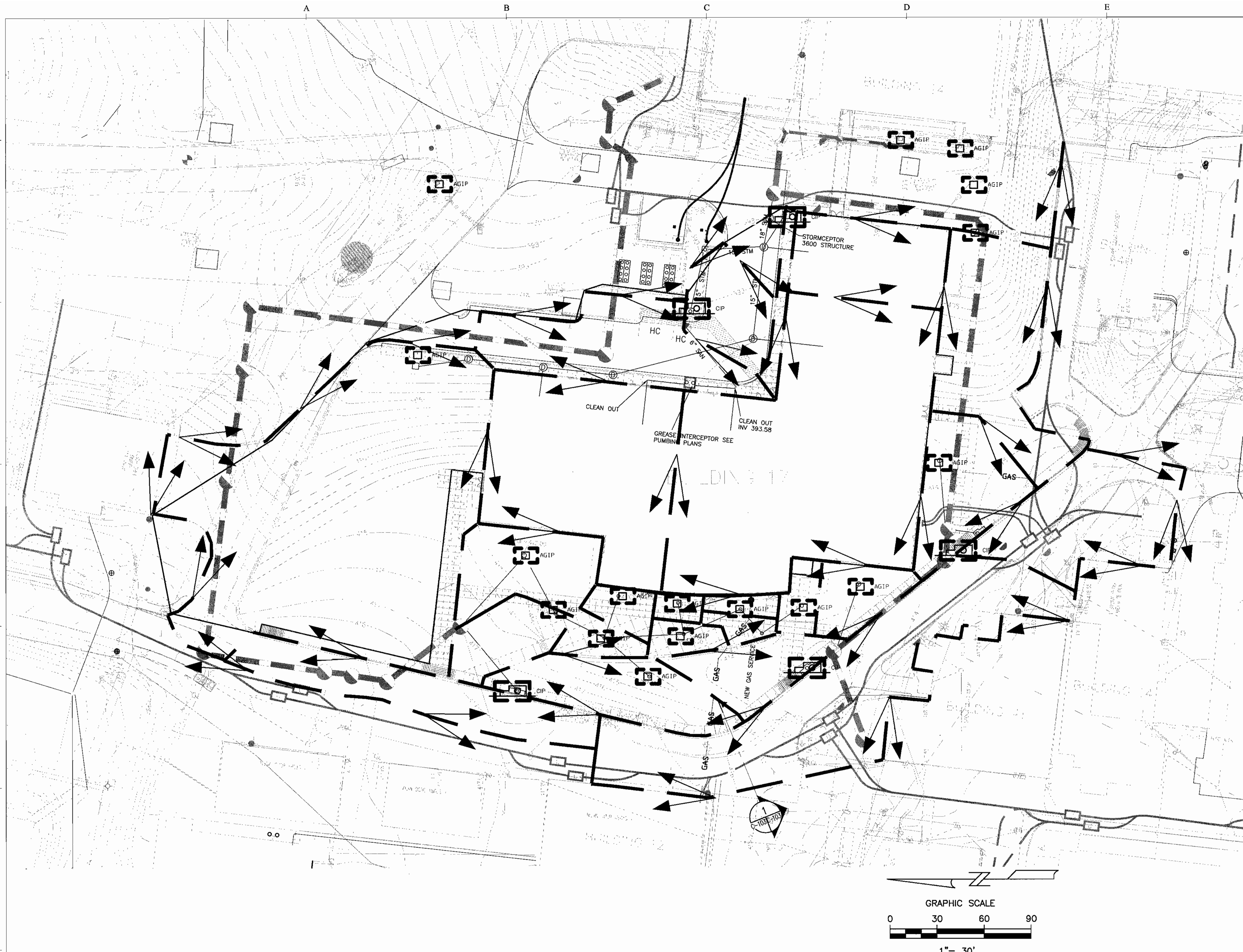
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FAIRFAX, VA. 22030
(703) 891-4114

PROFESSIONAL ENGINEER
STATE OF MARYLAND
R.E. Burge 7/10/02

BUILDING 17

APPLIED PHYSICS LABORATORY
THE JOHNS HOPKINS UNIVERSITY
EXISTING /PHASE 1
EROSION & SEDIMENT CONTROL
TAX MAP 41 PARCEL 123
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
APL SHEET NO. **ES-101**
COUNTY SHEET NO. 14



BY THE DEVELOPER:

"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 THE ENVIRONMENT EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

James E. Loesch
 SIGNATURE OF DEVELOPER
 PRINT NAME BELOW SIGNATURE

05/29/02
 Date

BY THE ENGINEER:

"I CERTIFY THAT THIS PLAN FOR UTILITIES CONSTRUCTION, 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."

R. B. Burgoyne
 SIGNATURE OF ENGINEER
 PRINT NAME BELOW SIGNATURE

7/10/02
 Date

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

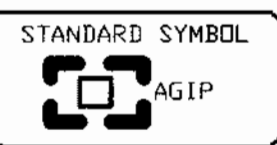
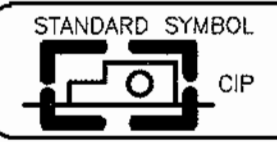
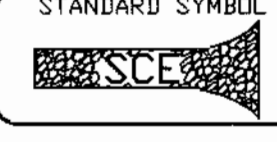
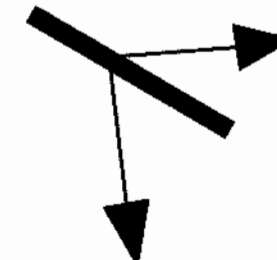

Jim Ayres / as.
 SIGNATURE
 USDA-NATURAL RESOURCES CONSERVATION SERVICE

8/5/02
 Date

THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John S. ...
 SIGNATURE
 HOWARD SOIL CONSERVATION DISTRICT

8/5/02
 Date

-  INLET PROTECTION
-  CURB INLET PROTECTION
-  CONSTRUCTION ENTRANCE
-  DRAINAGE DIVIDE
-  SUPPER SILTFENCE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING


Mark ...
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 7/23/02

Cindy ...
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 8/6/02

Paul ...
 DIRECTOR
 DATE: 8/7/02

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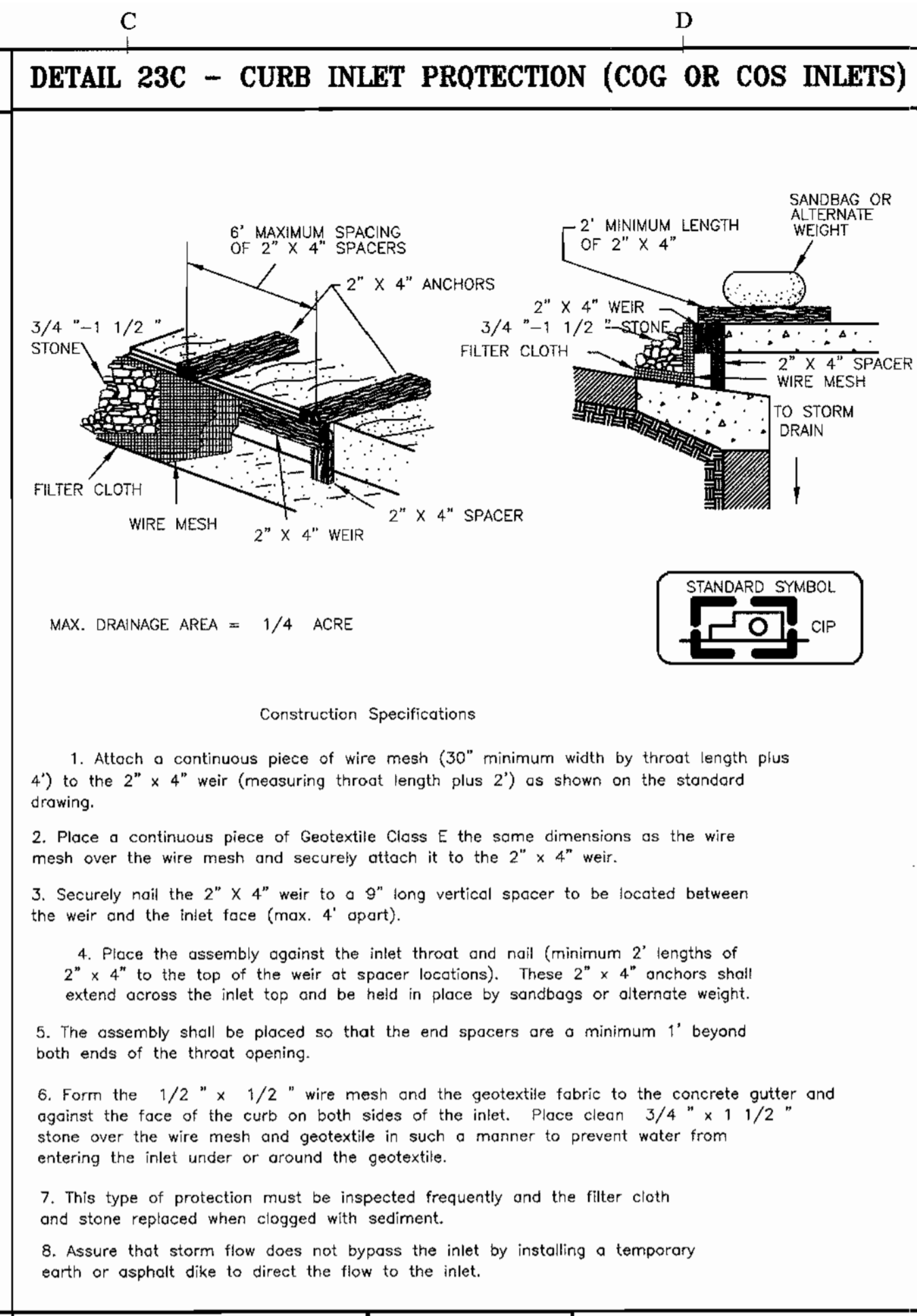
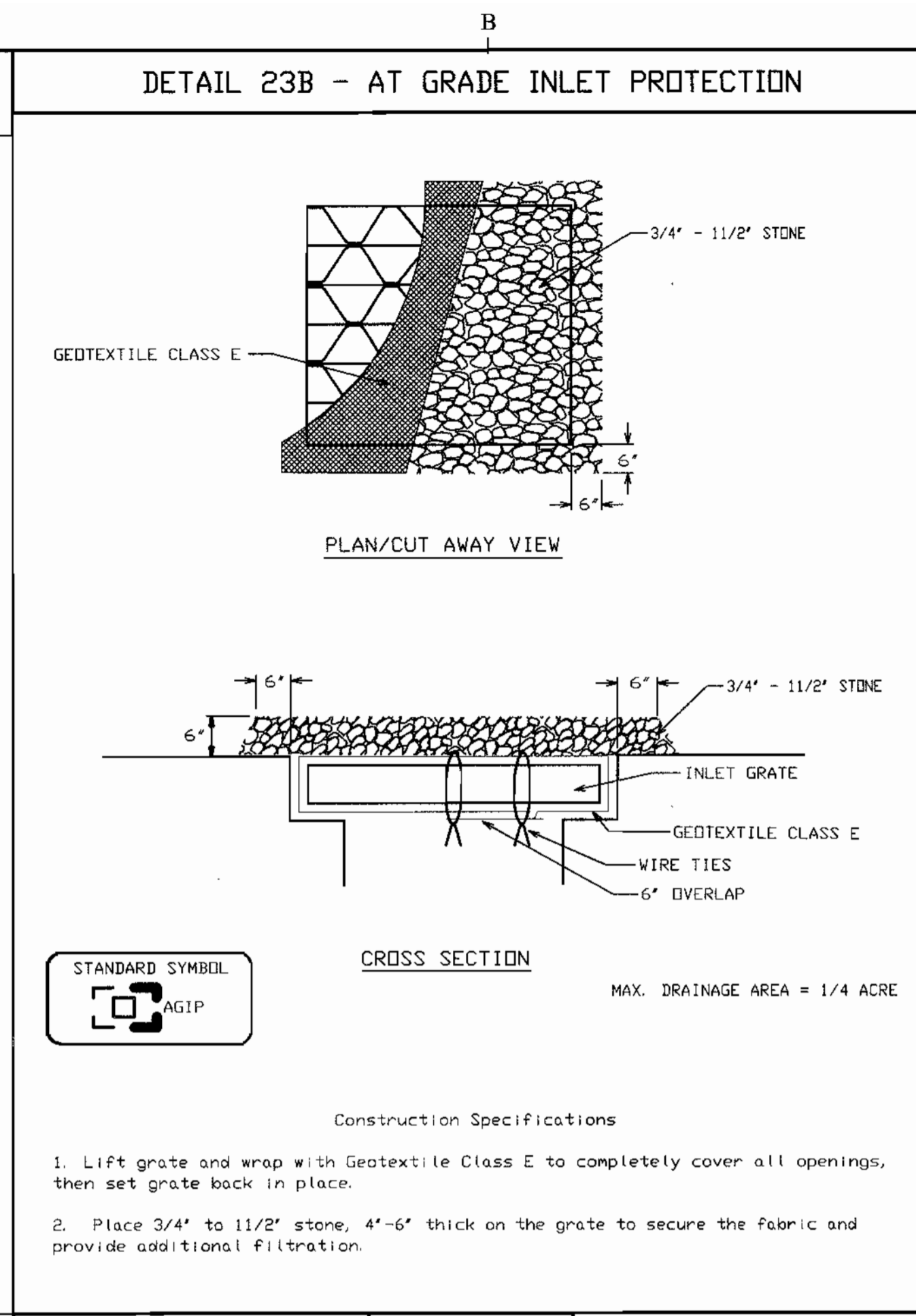
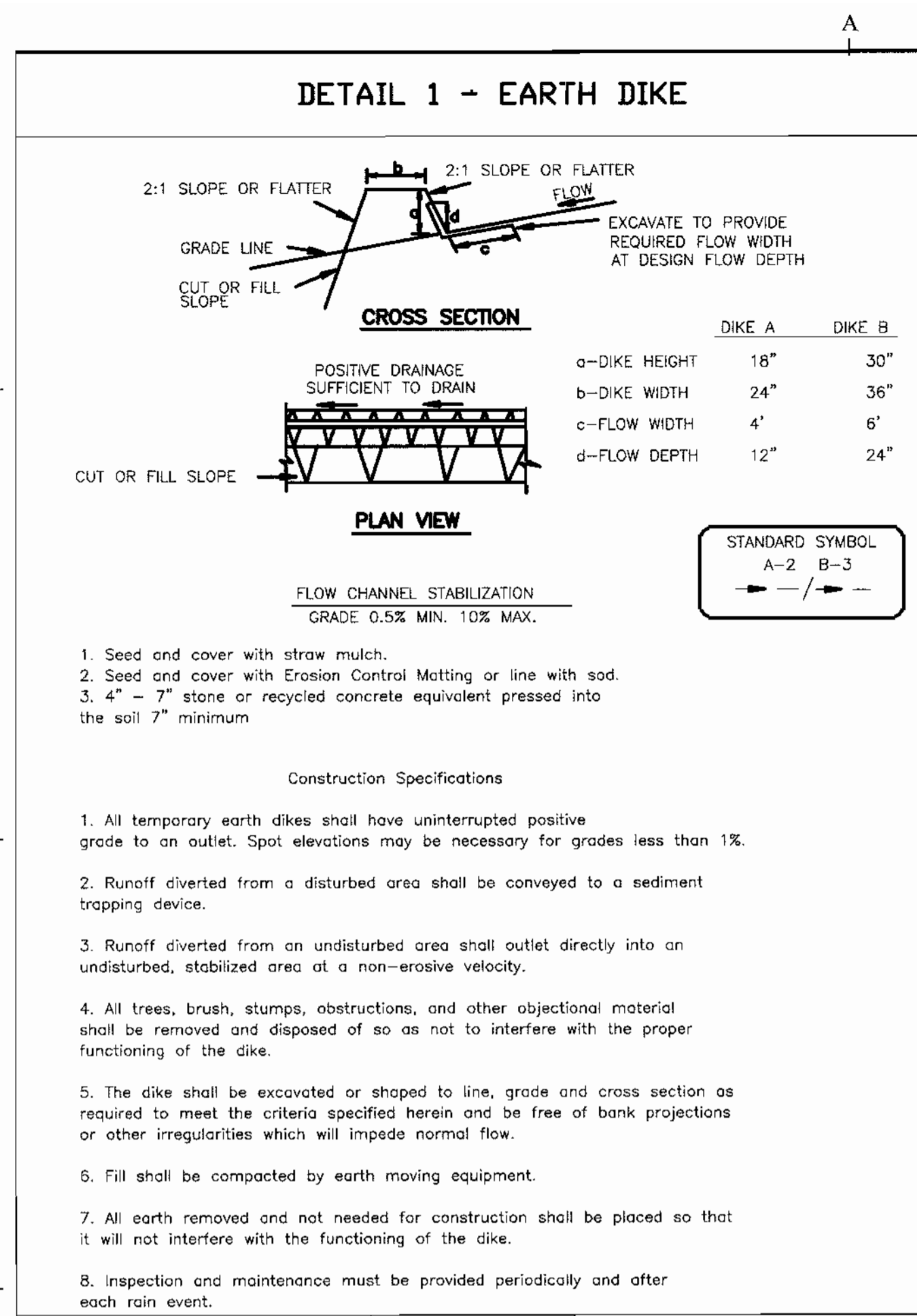
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 (703) 691-4114


 7/10/02

BUILDING 17

APPLIED PHYSICS LABORATORY
 THE JOHNS HOPKINS UNIVERSITY
 EROSION SEDIMENT CONTROL
 PHASE 2
 TAX MAP 41 PARCEL 123
 ELECTION DISTRICT NO. 5
 HOWARD COUNTY, MARYLAND

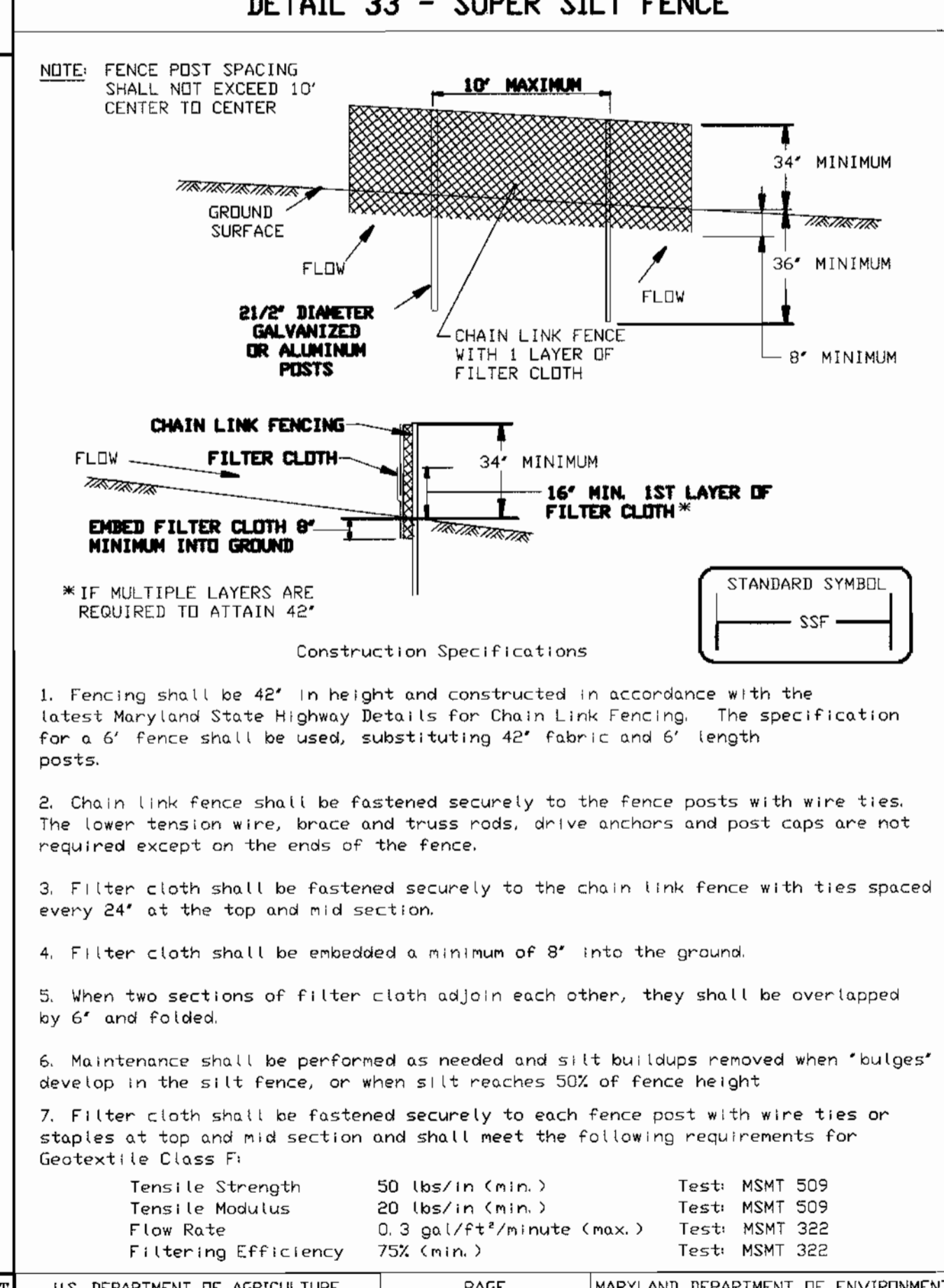
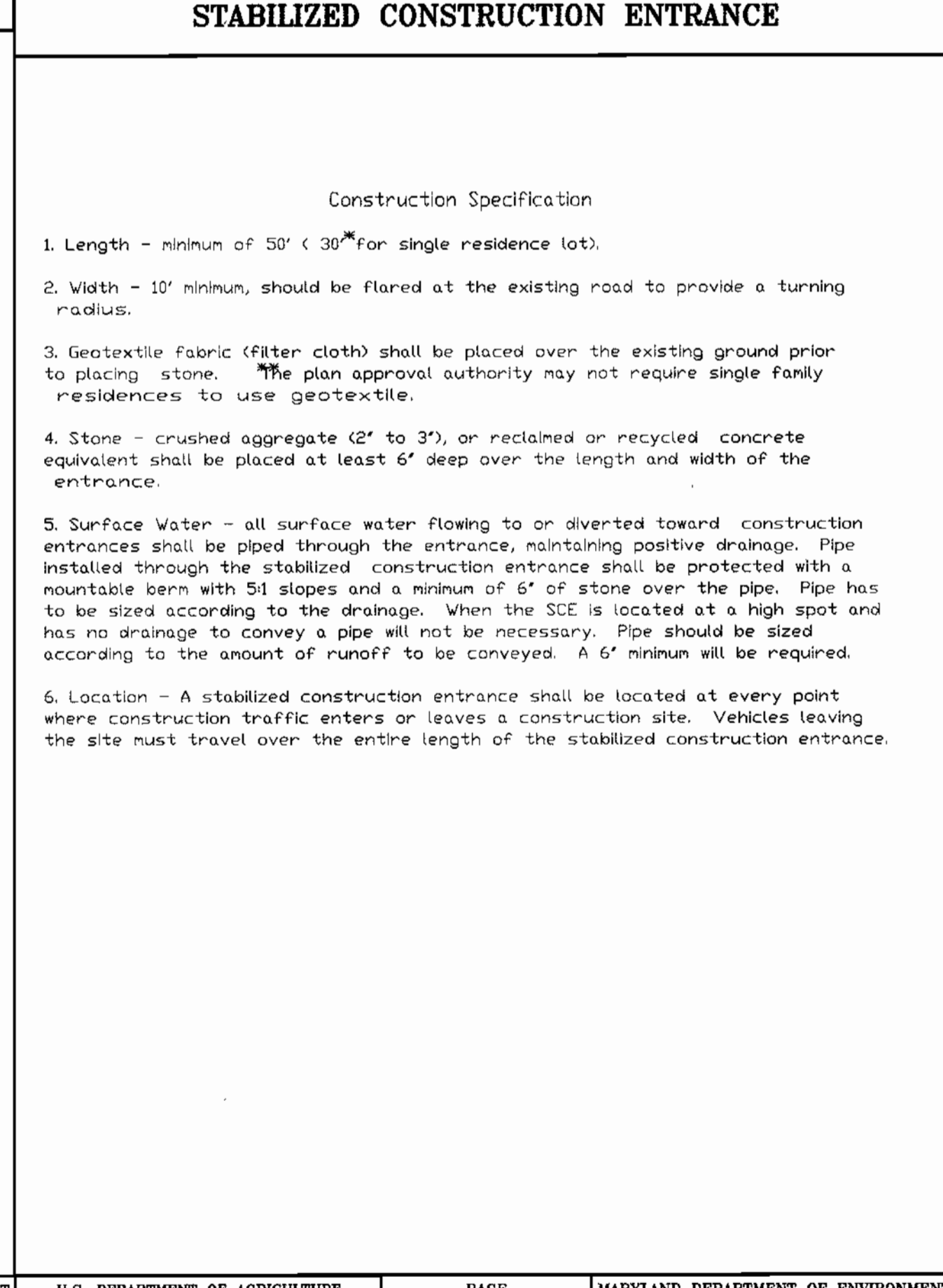
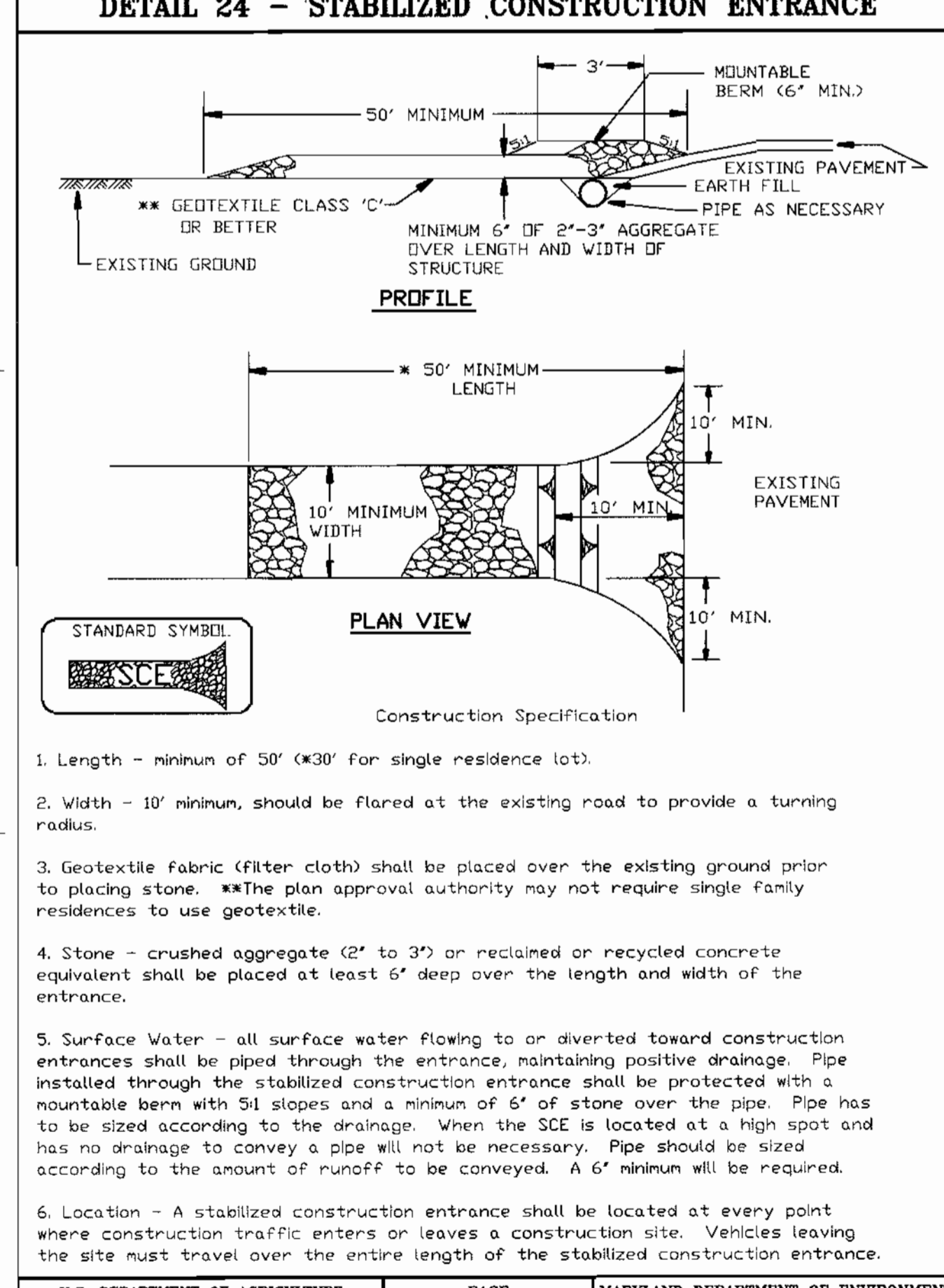
SCALE AS SHOWN
 APL SHEET NO. ES-102
 COUNTY SHEET NO. 15



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 1-6 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE F-16-5A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE F-16-5B MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE F-17-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE F-17-3A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Decker 7/23/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK
DATE

Andy Hamant 5/6/02
CHIEF, DIVISION OF LAND DEVELOPMENT HB
DATE

Joseph R. Smith 8/7/02
DIRECTOR
DATE

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BUILDING 17

APPLIED PHYSICS LABORATORY
THE JOHNS HOPKINS UNIVERSITY
EROSION & SEDIMENT CONTROL DETAILS
TAX MAP 41 PARCEL 123
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SDP-02-140

BY THE DEVELOPER:

"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 THE ENVIRONMENT EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

James E. Leesch
SIGNATURE OF DEVELOPER
PRINT NAME BELOW SIGNATURE

05/29/02
Date

BY THE ENGINEER:

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R.E. Borge
SIGNATURE OF ENGINEER
PRINT NAME BELOW SIGNATURE

7/10/02
Date

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Boyer/CS
USDA-NATURAL RESOURCES CONSERVATION SERVICE

8/5/02
Date

THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Yuhua Li
HOWARD SOIL CONSERVATION DISTRICT

8/5/02
Date

SCALE AS SHOWN

APL SHEET NO. ES-201

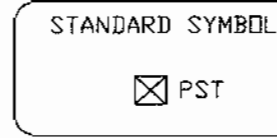
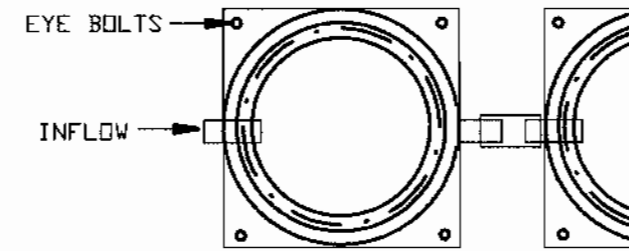
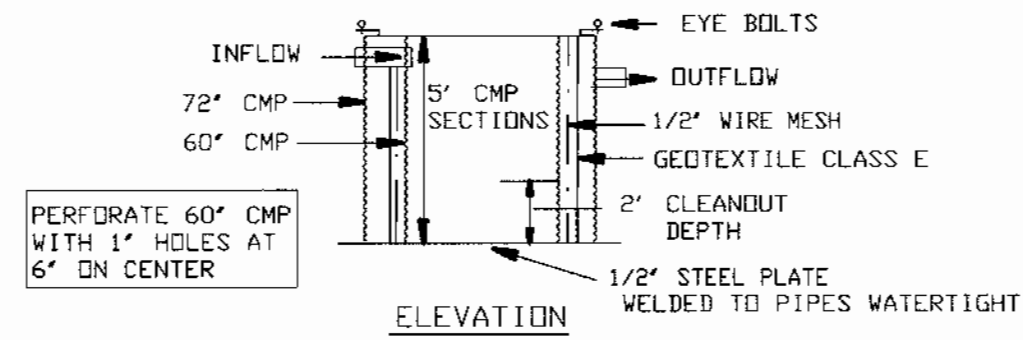
COUNTY SHEET NO. 16

SUPER SILT FENCE

DETAIL 21 - PORTABLE SEDIMENT TANK

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 |



Construction Specifications

- The following formula should be used in determining the storage volume of the sediment tank: 1 cubic foot of storage for each gallon per minute of pump discharge capacity.
- An example of a typical sediment tank is shown above. Other container designs can be used if the storage volume is adequate and approval is obtained from the local approving agency.
- Tanks may be connected in series.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E - 26 - 3A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE D - 14 - 2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

BY THE DEVELOPER:

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James E. Loesch
 SIGNATURE OF DEVELOPER
 PRINT NAME BELOW SIGNATURE

05/29/02
 Date

BY THE ENGINEER:

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R E Burdome
 SIGNATURE OF ENGINEER
 PRINT NAME BELOW SIGNATURE

7/10/02
 Date

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jin Nguyen/GS
 USDA-NATURAL RESOURCES CONSERVATION SERVICE

8/5/02
 Date

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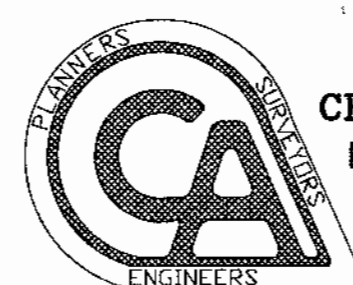
John S. Lyle
 HOWARD SOIL CONSERVATION DISTRICT

8/5/02
 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Deane
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK
 DATE 7/22/02
Cindy Hamat
 CHIEF, DIVISION OF LAND DEVELOPMENT HB
 DATE 8/6/02
Paul Smith
 DIRECTOR
 DATE 8/7/02

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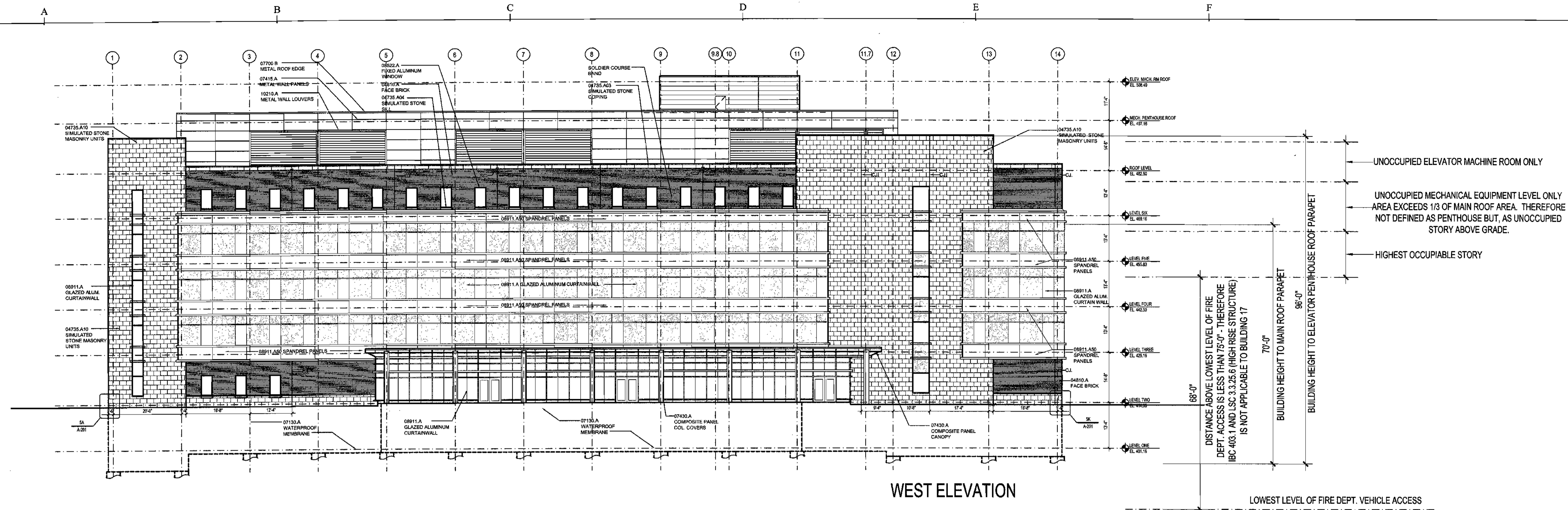


BUILDING 17

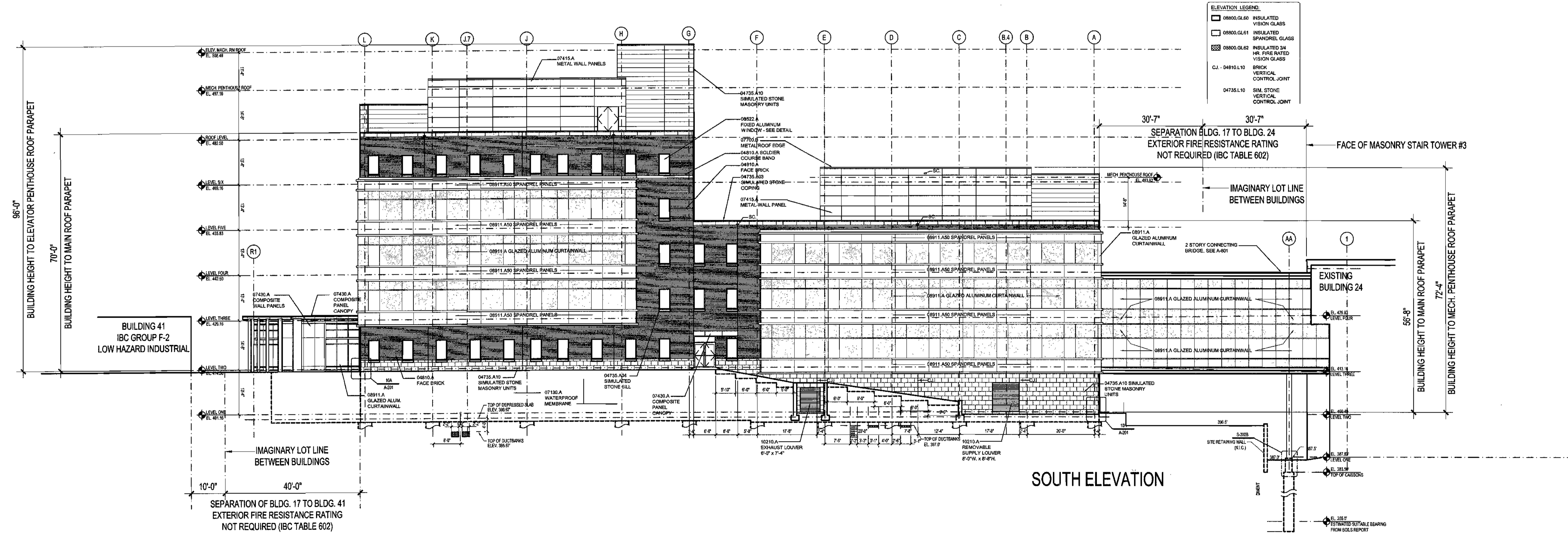
APPLIED PHYSICS LABORATORY
 THE JOHNS HOPKINS UNIVERSITY

EROSION & SEDIMENT CONTROL DETAILS
 TAX MAP 41 PARCEL 123
 ELECTION DISTRICT NO. 5
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 APL SHEET NO. ES-202
 COUNTY SHEET NO. 17



WEST ELEVATION



SOUTH ELEVATION

ELEVATION LEGEND

| | |
|----------------|--|
| 08900.GL.00 | INSULATED VISION GLASS |
| 08900.GL.01 | INSULATED SPANDREL GLASS |
| 08900.GL.02 | INSULATED 24 HR. FIRE RATED VISION GLASS |
| CJ - 04810.L10 | BRICK VERTICAL CONTROL JOINT |
| 04735.L10 | SIM. STONE VERTICAL CONTROL JOINT |

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Howard County Department of Planning and Zoning
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK

Candy Hamilton
 CHIEF, DIVISION OF LAND DEVELOPMENT HD

Paul K. Smith
 DIRECTOR

DATE: 7/20/02
 DATE: 8/6/02
 DATE: 8/7/02

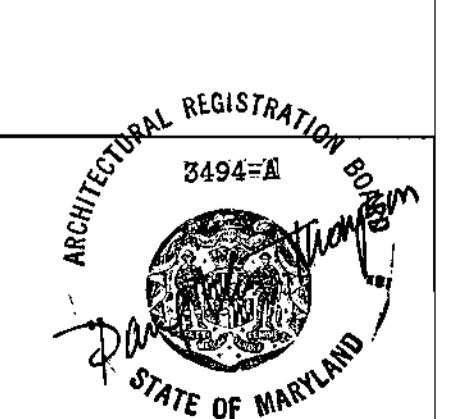
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BUILDING 17



APPLIED PHYSICS LABORATORY
 THE JOHNS HOPKINS UNIVERSITY

WEST/SOUTH
 BUILDING ELEVATIONS

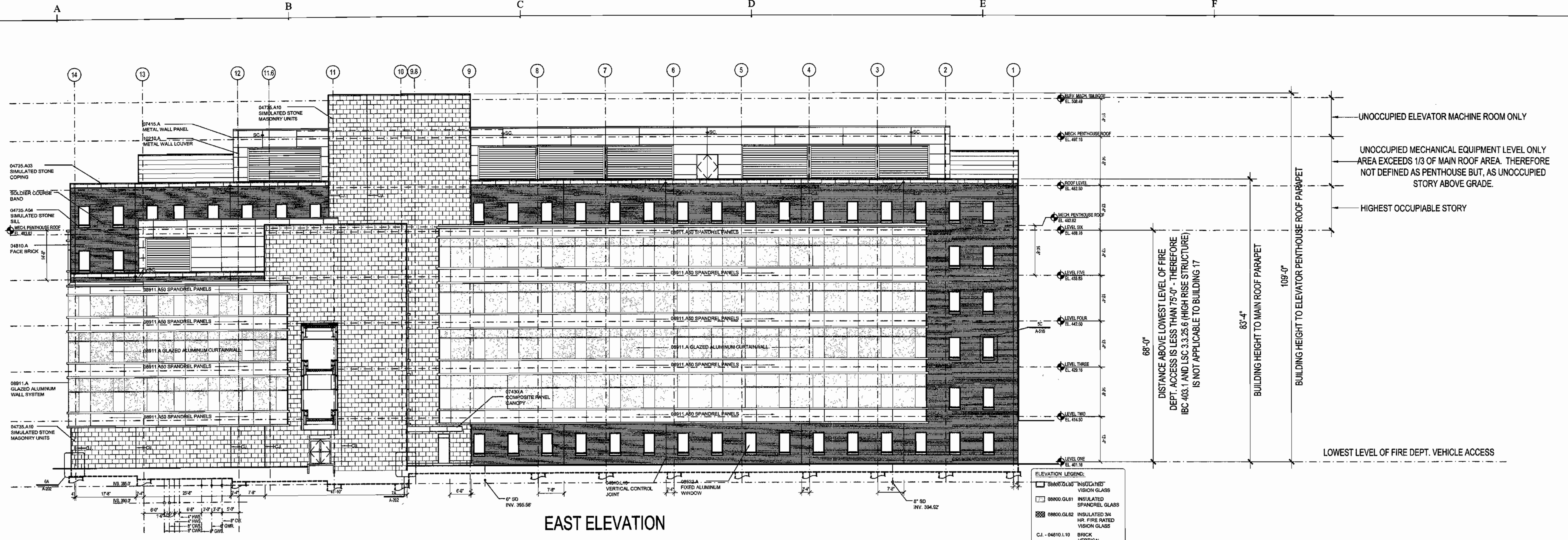
TAX MAP 41 PARCEL 123
 ELECTION DISTRICT NO. 5
 HOWARD COUNTY, MARYLAND

SCALE: 1/16" = 1'-0"

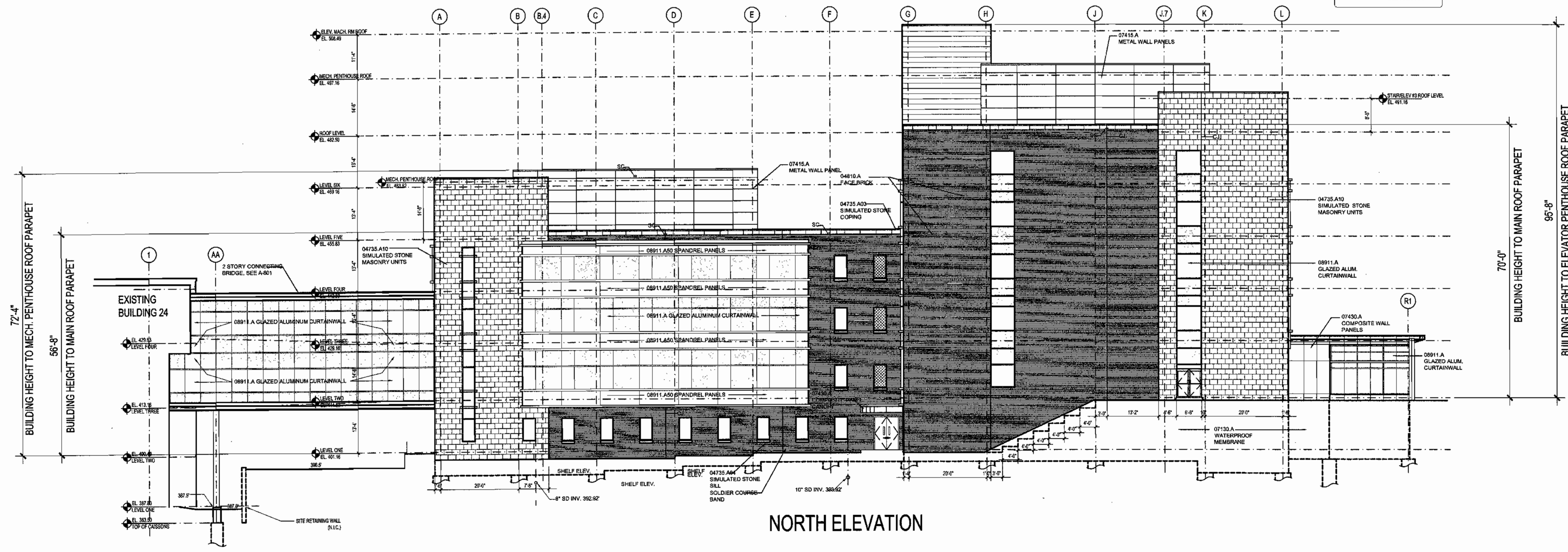
APL SHEET NO. A1

COUNTY SHEET NO. 18

SDP-02-140



EAST ELEVATION



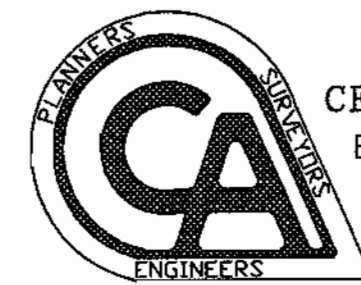
NORTH ELEVATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Howard County Department of Planning and Zoning
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK
Cindy Hamata
 CHIEF, DIVISION OF LAND DEVELOPMENT HB
Joseph R. Smith
 DIRECTOR

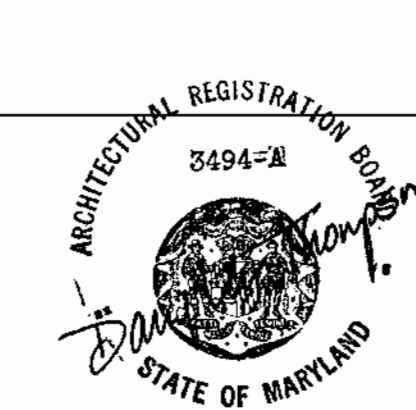
7/23/02
 DATE
 8/6/02
 DATE
 8/7/02
 DATE

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BUILDING 17



APPLIED PHYSICS LABORATORY
 THE JOHNS HOPKINS UNIVERSITY
 EAST/NORTH
 BUILDING ELEVATIONS
 TAX MAP 41 PARCEL 123
 ELECTION DISTRICT NO. 5
 HOWARD COUNTY, MARYLAND

SCALE:
 1/16" = 1'-0"
 APL SHEET NO.
 A2
 COUNTY SHEET
 NO.
 19