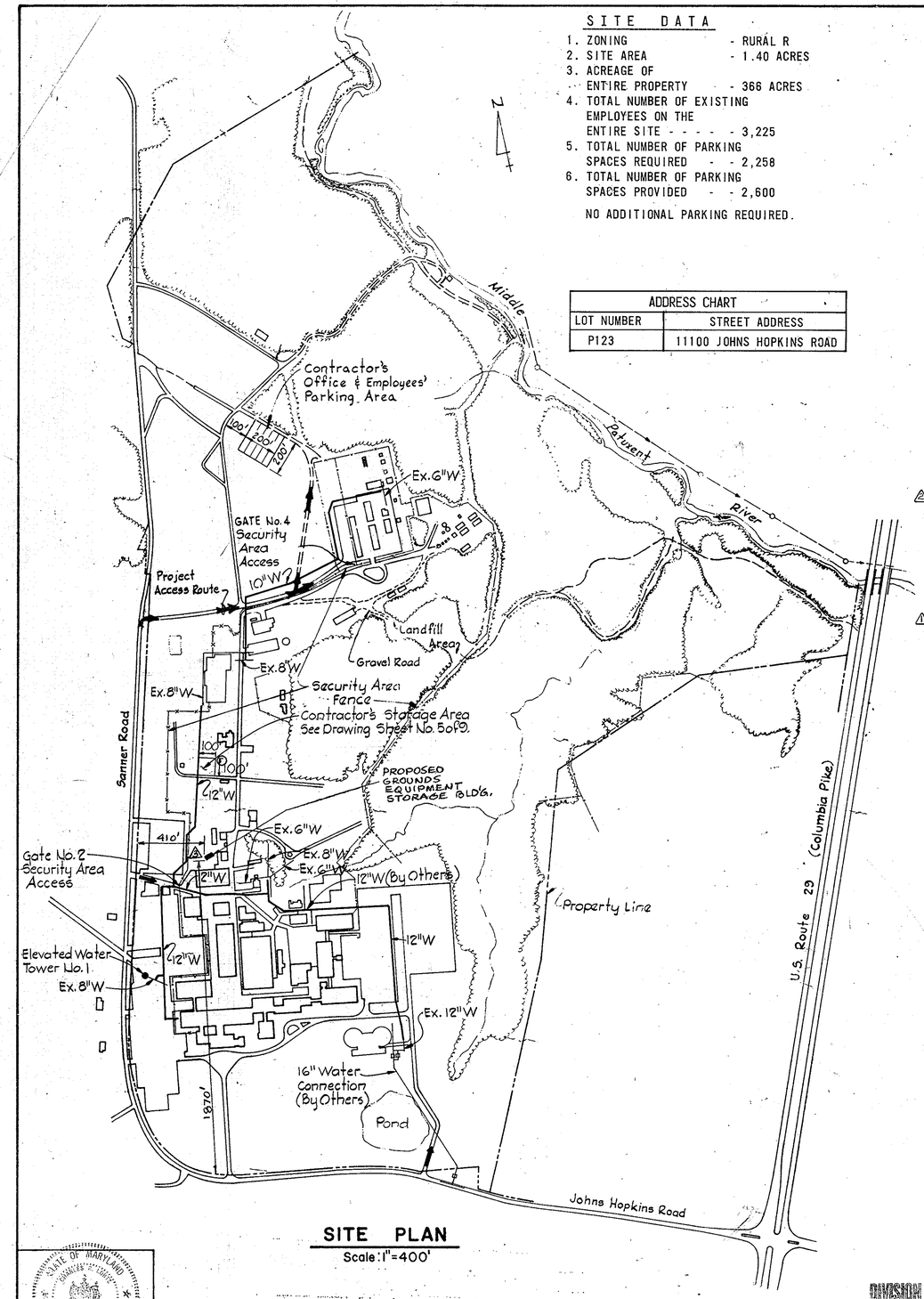
SITE DATA

1. ZONING - RURAL R
2. SITE AREA - 1.40 ACRES
3. ACREAGE OF ENTIRE PROPERTY - 366 ACRES
4. TOTAL NUMBER OF EXISTING EMPLOYEES ON THE ENTIRE SITE - - - - - 3,225
5. TOTAL NUMBER OF PARKING SPACES REQUIRED - - 2,258
6. TOTAL NUMBER OF PARKING SPACES PROVIDED - - 2,600

NO ADDITIONAL PARKING REQUIRED.

ADDRESS CHART	
LOT NUMBER	STREET ADDRESS
P123	11100 JOHNS HOPKINS ROAD



SITE PLAN
Scale: 1"=400'

GENERAL NOTES

1. ELEVATIONS SHOWN ARE BASED ON THE JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY (JHU/APL) DATUM. TO OBTAIN ELEVATIONS ON THE HOWARD COUNTY (U.S.G.S.) DATUM, SUBTRACT 0.94 FEET FROM THE JHU/APL DATUM.
2. TREES WITHIN THE CONSTRUCTION STRIP SHOWN ON THE DRAWINGS MAY BE TRIMMED. TREES SPECIFICALLY DESIGNATED TO BE REMOVED SHALL BE CUT, THE ROOTS EXCAVATED, AND ALL WOODY MATERIAL PLACED AT THE LOCATION DESIGNATED BY JHU/APL ON THE APL PROPERTY. OTHER TREES IN THE LINE OF WORK WILL BE RELOCATED OR REMOVED BY JHU/APL. THE CONTRACTOR WILL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT THE OPERATION OF EQUIPMENT, THE STORAGE OF EXCAVATED MATERIAL, OR THE TEMPORARY STORAGE OF PIPE OR OTHER CONSTRUCTION MATERIALS OUTSIDE OTHE DESIGNATED CONSTRUCTION STRIP. THE CONTRACTOR WILL PROTECT TREES 12 INCHES IN DIAMETER AND LARGER NOT DESIGNATED FOR REMOVAL IN CLOSE PROXIMITY TO THE CONSTRUCTION FROM DAMAGE.
3. ALL STONE AND PAVED ROAD AND PARKING SURFACES DISTURBED BY THE TRENCH EXCAVATION AND/OR THE OPERATION OF THE CONTRACTOR'S EQUIPMENT SHALL BE RESTORED IN ACCORDANCE WITH THE STANDARD DETAILS, "CUTTING AND REPAIRING OPENINGS IN EXISTING ROADWAYS".
4. SEDIMENT CONTROL MEASURES AND SPECIAL CONSTRUCTION REQUIREMENTS OF HOWARD COUNTY SOIL CONSERVATION SERVICE SHALL BE AS DEFINED IN THE SPECIFICATIONS AND/OR SHOWN ON THE DRAWINGS.
5. RESTORATION OF THE SURFACES DISTURBED BY CONSTRUCTION SHALL BE UNDERTAKEN WITHIN 30-DAYS OF COMPLETION OF CONSTRUCTION OPERATIONS IN A PARTICULAR AREA.
6. NOTIFY MR. ARTHUR STUCKI, PLANT ENGINEER, AT JHU/APL (953-5134) AT LEAST 5 WORKING DAYS PRIOR TO COMMENCING THE WORK. THE CONTRACTOR IS NOT PERMITTED TO OPERATE ANY VALVE ON THE JHU/APL WATER SYSTEM.
7. THE CONTRACTOR SHALL ARRANGE FOR THE SHUT DOWN OF THE EXISTING WATER MAINS WITH JHU/APL PERSONNEL PRIOR TO MAKING THE CONNECTIONS IN THE VICINITY OF BUILDING 39. THE CONTRACTOR SHALL NOT BE ENTITLED TO ANY EXTRA COMPENSATION SHOULD THE MAINS NOT BE SHUT DOWN WHEN REQUESTED. THE CONNECTION TO THE EXISTING WATER MAINS SHALL BE MADE ON A SATURDAY DURING WHICH TIME THE EXISTING MAINS CAN BE SHUT DOWN FOR NO MORE THAN 8-HOURS. THE CONTRACTOR SHALL HAVE SUFFICIENT MATERIALS, EQUIPMENT, AND MANPOWER ON SITE TO COMPLETE THE CONNECTION WITHIN THE TIME SPECIFIED. NO CONNECTIONS SHALL BE MADE UNTIL AFTER THE COMPLETED WATER MAINS HAVE BEEN CHLORINATED, TESTED, AND ACCEPTED.
8. THE CONTRACTOR SHALL REMOVE EXISTING FIRE HYDRANTS AND PIPING WHERE SHOWN ON THE PLANS. THE PIPE AND FITTINGS ARE TO BE DELIVERED TO A SITE DESIGNATED BY JHU/APL. THE HYDRANTS SHALL BE REBUILT AND INSTALLED ON THE NEW MAINS WHERE SHOWN ON THE PLANS.
9. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE AS SHOWN ON THE PLANS AND/OR STANDARD DETAILS.
10. STRAW BALE DIKE AND SILT FENCE ARE INTERCHANGEABLE.
11. APPROXIMATE LOCATIONS OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING PIPES, CONDUITS, CABLES, AND DUCTS AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF JHU/APL AT THE CONTRACTOR'S EXPENSE.
12. TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3-1/2' COVER. CLEAR ALL UTILITIES OTHER SAN. SEW. BY 6" MIN.
13. THE CONTRACTOR SHALL VERIFY THE ELEVATIONS OF THE EXISTING WATER MAINS, STORM DRAINS, AND OTHER UTILITIES BY TEST PITS PRIOR TO CONSTRUCTION OF THE WATER MAINS.
14. ALL PIPE ELEVATIONS SHOWN, UNLESS NOTED OTHERWISE, ARE INVERT ELEVATIONS.
15. FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE STRAPPED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS.
16. FOR DETAILS NOT SHOWN ON THE DRAWINGS, SEE THE STANDARD DETAILS APPENDED TO THE SPECIFICATIONS.
17. VALVES SHALL BE FURNISHED AND INSTALLED WITH ROADWAY TYPE VALVE BOXES UNLESS NOTED AS "PIV" IN WHICH CASE THEY SHALL BE FURNISHED AND INSTALLED WITH POST-TYPE INDICATORS.
18. THE CONTRACTOR OR DEVELOPER SHALL CONTACT THE CONSTRUCTION INSPECTION DIVISION, 24 HOURS IN ADVANCE OF COMMENCEMENT OF WORK, AT 792-2630.

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

COUNTY HEALTH OFFICER — DATE 3-16-86

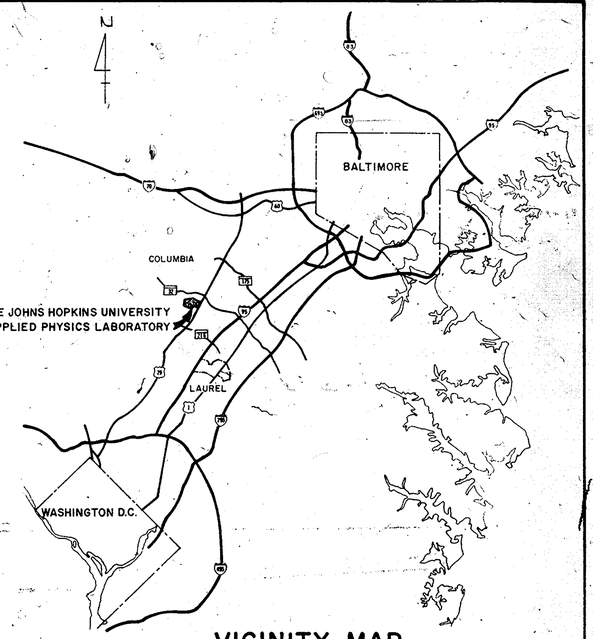
APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

PLANNING DIRECTOR — DATE 3-17-86

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 3-17-86

APPLIED PHYSICS LABORATORY
THE JOHNS HOPKINS UNIVERSITY
11100 JOHNS HOPKINS ROAD-LAUREL, MARYLAND 20707
APPROVED FOR THE UNIVERSITY BY: C.J. Smith
DATE: 1/17/86 TITLE: Business Manager

SUBDIVISION NAME			SECT./AREA	LOT/PARCEL
J.H.U. APPLIED PHYSICS LAB.			N/A	50 & 123
PLAT #OR L/F	BLOCK #	ZONE	TAX/ZONE MAP	ELEC. DIST.	CENSUS TR
234/304	16	R	41	5TH.	6051
WATER CODE			SEWER CODE	
E21			6480000	



VICINITY MAP
Scale: 1"=6 Miles

INDEX

SHEET NO.	TITLE
1	TITLE SHEET
2	WATER MAIN PLAN AND PROFILE KOSSIAKOFF TO BUILDING NO.24.
3	WATER MAIN PLAN, PROFILE, AND DETAIL BUILDING NO.24 TO BUILDING NO.39.
4	WATER MAIN PLAN AND PROFILE BUILDING NO.39 TO BUILDING NO.15.
5	WATER MAIN PLAN AND PROFILE BUILDING NO.12 TO BUILDING NO.23.
6	WATER MAIN PLAN AND PROFILE BUILDING NO.15 TO BUILDING NO.1.
7	WATER MAIN PLAN AND PROFILE BUILDING NO.23 TO P.R.L.
8	WATER MAIN PLAN, PROFILE, AND DETAIL PROPULSION RESEARCH LAB.
9	SEDIMENT CONTROL AND MISC. NOTES, PROFILES, AND DETAILS.

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
HOWARD COUNTY, MARYLAND
ELECTION DISTRICT NO.5
WATER DISTRIBUTION
SYSTEM IMPROVEMENTS

ADDITION TO SDP-86-106

APPROVED
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 2-24-86

SIGNED FOR REV. ⚠ ONLY — 10/3/13

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY MEAND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NUMBER: 32574 EXPIRATION DATE: 1-16-2014

APPROVED: FOR PUBLIC SEWER AND PUBLIC WATER SYSTEMS-HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

DIRECTOR — DATE 3-12-86

CHIEF, BUREAU OF ENGINEERING — DATE 3-13-86

STATE OF MARYLAND — CHARLES R. LOTZ — PROFESSIONAL ENGINEER

Charles R. Lotz

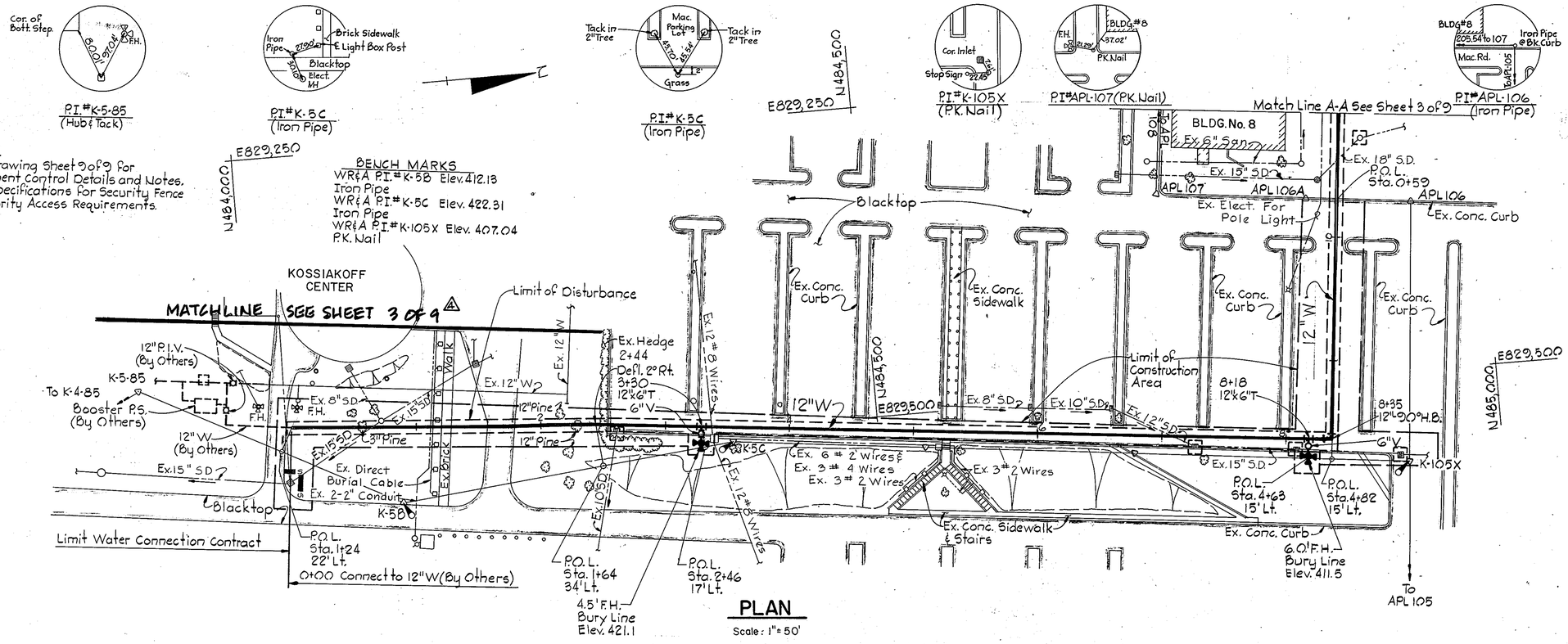
WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 SAINT PAUL STREET
BALTIMORE, MARYLAND 21218

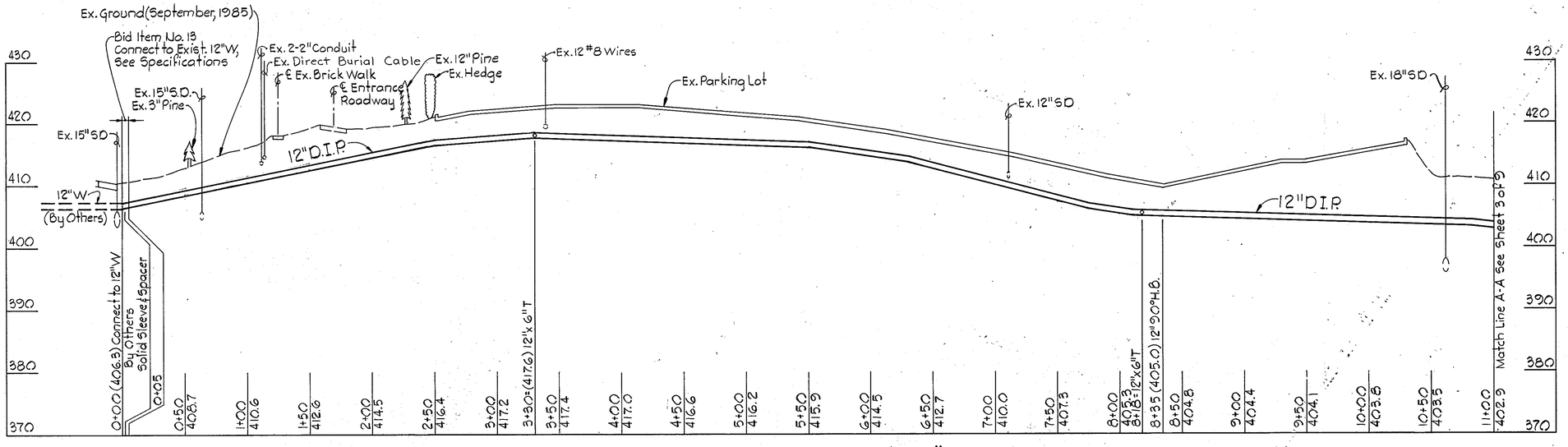
BY	NO	REVISION	DATE
DRS	⚠	ADD KOSSIAKOFF CENTER AND WALKS TO SHEETS 2 & 3 AND DETAILS TO SHEETS 4 & 9	8/26/13
APL	⚠	ADD: GROUNDS EQUIPMENT STOR. BLDG.	11/27/02
J.W.	⚠	Revise Note	4/23/86
C.J.K	⚠	Add Note, Correct Spelling	3/3/36

W.O. 80156

Sheet 1 of 9

SDP-86-149





PROFILE 12" WATER

SCALE: HOR. 1"=50'
VERT. 1"=10'

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO.: 32574 EXPIRATION DATE: 1.16.2014

SIGNED FOR REV. 4 ONLY

STATE OF MARYLAND — CHARLES R. LORTZ — No. 32574 — REGISTERED PROFESSIONAL ENGINEER

Charles R. Lortz

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 SAINT PAUL STREET
BALTIMORE, MARYLAND 21218

DRS	4	ADD MATCH LINE FOR KOSSIAKOFF CENTER	8-26-13
BY	NO.	REVISIONS	DATE

W.O. 80156

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER — DATE 3-6-86

APPROVED: FOR PUBLIC SEWER AND PUBLIC WATER SYSTEMS - HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR — DATE 3-12-86

CHIEF, BUREAU OF ENGINEERING — DATE 3.12.86

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING.
PLANNING DIRECTOR — DATE 3-17-86

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 3-17-86

APPLIED PHYSICS LABORATORY
THE JOHNS HOPKINS UNIVERSITY
11100 JOHNS HOPKINS ROAD
LAUREL, MARYLAND 20707
APPROVED FOR THE UNIVERSITY BY: C. J. Smith
DATE: 1/17/86 TITLE: Business Manager

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
APPROVED: Stephen S. Gulas DATE: 3/4/86
HOWARD S.C.D.

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.
SIGNATURE: James A. Hall DATE: 3-11-86
U.S. SOIL CONSERVATION SERVICE

CERTIFICATION BY THE DEVELOPER
I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS DEEMED NECESSARY.
SIGNATURE OF DEVELOPER — DATE 1/17/86

RESPONSIBLE PERSONNEL CERTIFICATION
"I HEREBY CERTIFY THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE FROM A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT".
SIGNATURE OF DEVELOPER — DATE 1/17/86

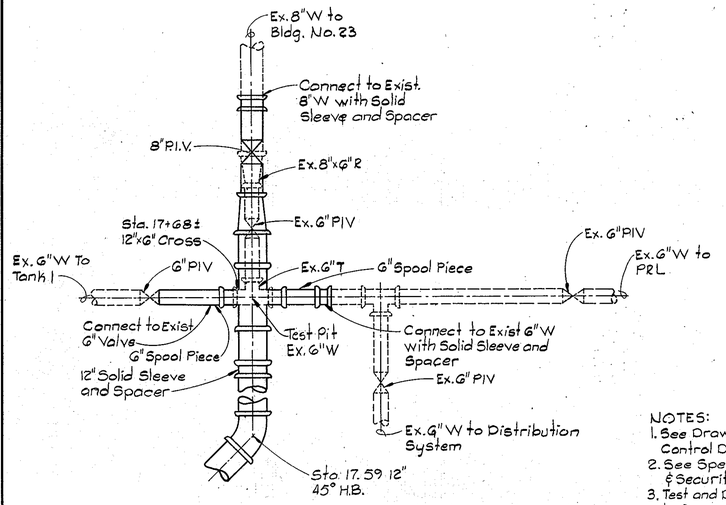
CERTIFICATION BY THE ENGINEER
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT".
SIGNATURE OF ENGINEER — DATE 1/22/86

APPROVED
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 2-24-86

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
HOWARD COUNTY, MARYLAND
ELECTION DISTRICT NO. 5
WATER SYSTEM IMPROVEMENTS
WATER MAIN PLAN AND PROFILE
KOSSIAKOFF CENTER TO BLDG. NO. 24

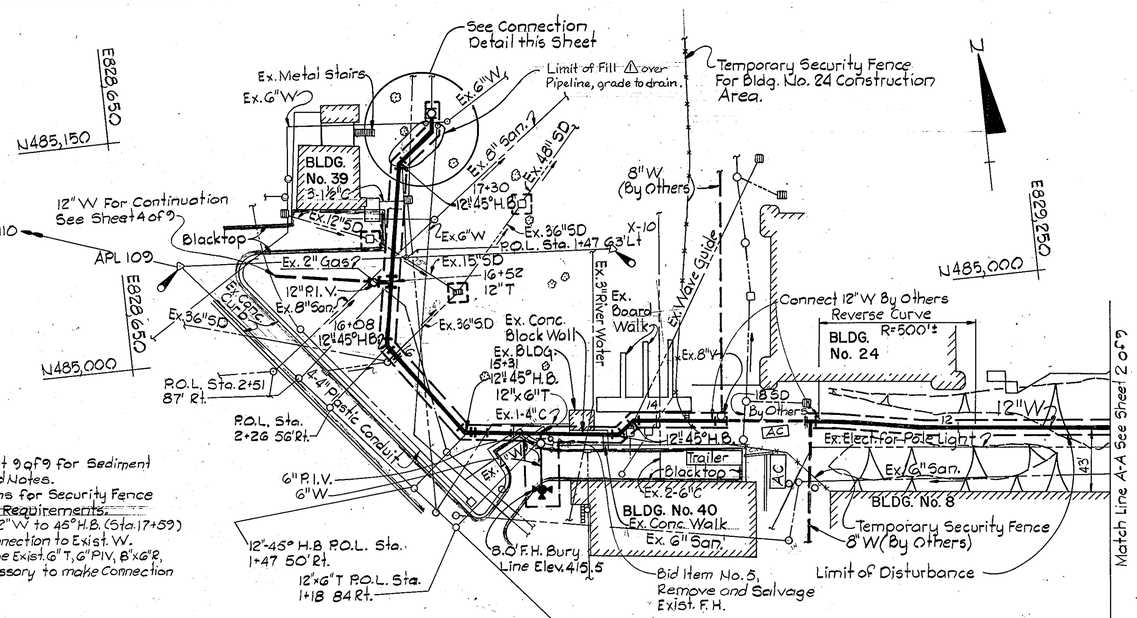
SCALE: AS SHOWN — DATE: DECEMBER, 1985
Sheet 2 of 9

SDP-86-149 F.B. 6988



CONNECTION DETAIL

Scale: 3/8"=1'-0"

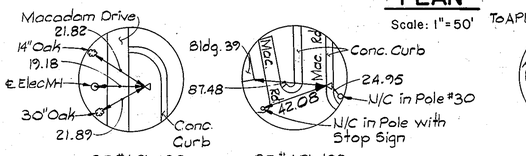


PLAN

Scale: 1"=50'

NOTES:
1. See Drawing Sheet 9 of 9 for Sediment Control Details and Notes.
2. See Specifications for Security Fence & Security Access Requirements.
3. Test and Disinfect 12"W to 45°H.B. (Sta. 17+59) before making connection to Exist. W.
4. Remove and Salvage Exist. G"T, G"PIV, 8"x6"R, and Piping as necessary to make Connection

BENCH MARKS
WR&A P.I.# APL 109 Elev. 415.18 PK Nail
WR&A P.I.# X-10 Elev. 403.33 Iron Pipe

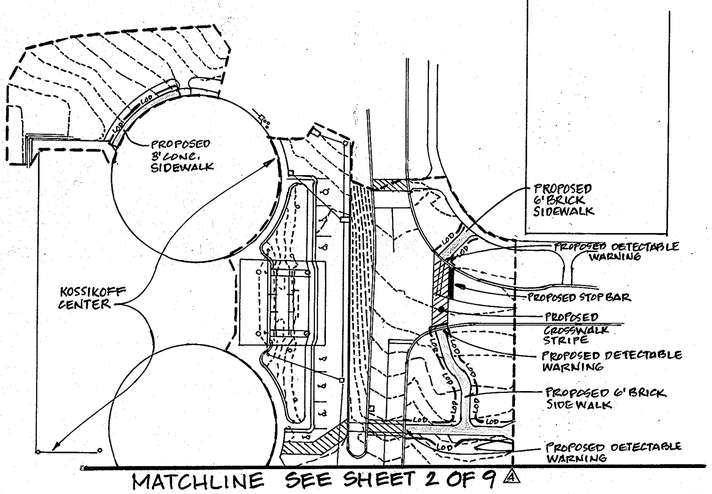


P.I.# APL 108 (Hub & Tack)

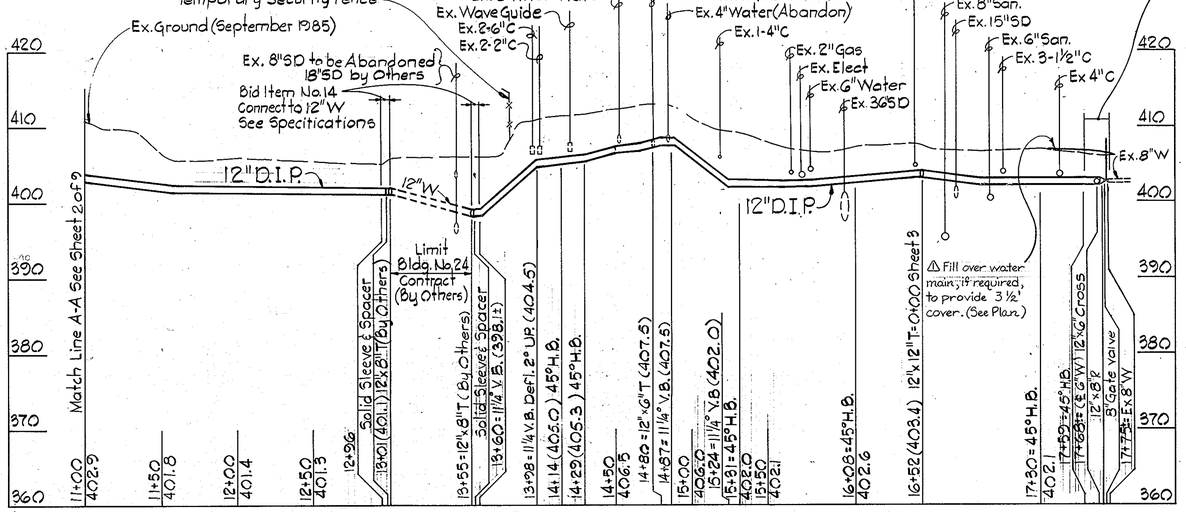
P.I.# APL 109 (P.K. Nail)

P.I.# X-10 (Iron Pipe)

Bid Item No. 17 Connect to Exist. 6"& 8"W See Specification and Detail this sheet.



MATCHLINE SEE SHEET 2 OF 9 ⚠



PROFILE 12" WATER

Scale: Hor. 1"=50'
Vert. 1"=10'

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER — DATE 3-16-86

APPROVED: FOR PUBLIC SEWER AND PUBLIC WATER SYSTEMS - HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
DIRECTOR — DATE 3-12-86
CHIEF, BUREAU OF ENGINEERING — DATE 3-12-86

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING.
PLANNING DIRECTOR — DATE 3-17-86
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 3-17-86

APPLIED PHYSICS LABORATORY
THE JOHNS HOPKINS UNIVERSITY
11100 JOHNS HOPKINS ROAD
LAUREL, MARYLAND 20707
APPROVED FOR THE UNIVERSITY BY: C. J. Smith
DATE: 1/17/86 TITLE: Business Manager

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
APPROVED: Stephen L. Hale DATE: 2/4/86
HOWARD S.C.D.

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.
SIGNATURE: [illegible] DATE: 3-11-86
U.S. CONSERVATION SERVICE

CERTIFICATION BY THE DEVELOPER
I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS AS DEEMED NECESSARY..
SIGNATURE C. J. Smith DATE 1/17/86

RESPONSIBLE PERSONNEL CERTIFICATION
"I HEREBY CERTIFY THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE FROM A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT".
SIGNATURE OF DEVELOPER — DATE 1/17/86

CERTIFICATION BY THE ENGINEER
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT".
SIGNATURE OF ENGINEER — DATE 1/22/86

APPROVED
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 2-24-86

STATE OF MARYLAND — CHARLES R. LORTZ — No. 21574 — PROFESSIONAL ENGINEER
Charles R Lortz

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 SAINT PAUL STREET
BALTIMORE, MARYLAND 21218

By	No.	Revision	Date
DRS	4	ADD KOSSIKOFF CENTER & WALKS	8.26.13
J.W.	3	Add Note	4/23/86

STATE OF MARYLAND — ANTHONY J. GRETZ — No. 21574 — PROFESSIONAL ENGINEER
SIGNED FOR REV. 4 ONLY

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO.: 32974 EXPIRATION DATE: 1.16.2014

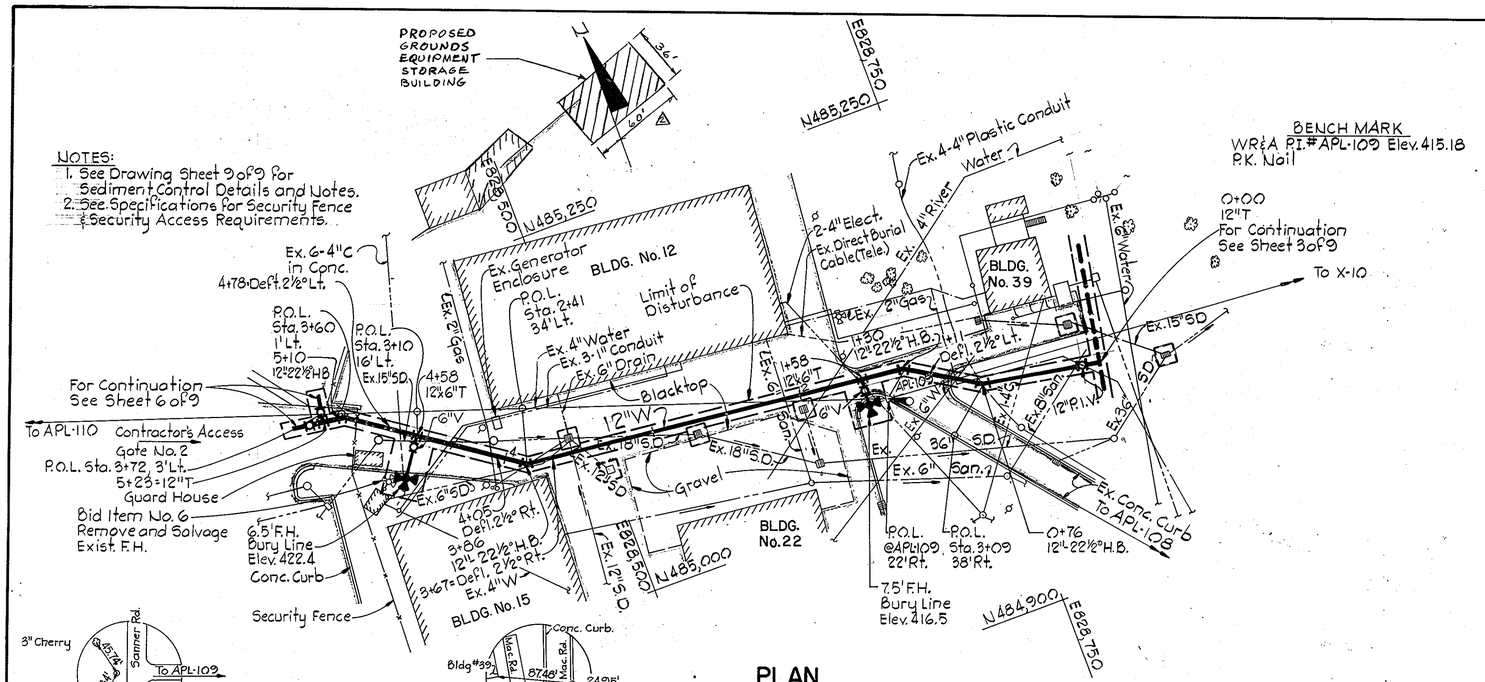
THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
HOWARD COUNTY, MARYLAND
ELECTION DISTRICT NO. 5
WATER SYSTEM IMPROVEMENTS
WATER MAIN PLAN, PROFILE, AND DETAIL
BLDG. NO. 24 TO BLDG. NO. 39

SCALE: AS SHOWN — DATE: DECEMBER, 1985
Sheet 3 of 9

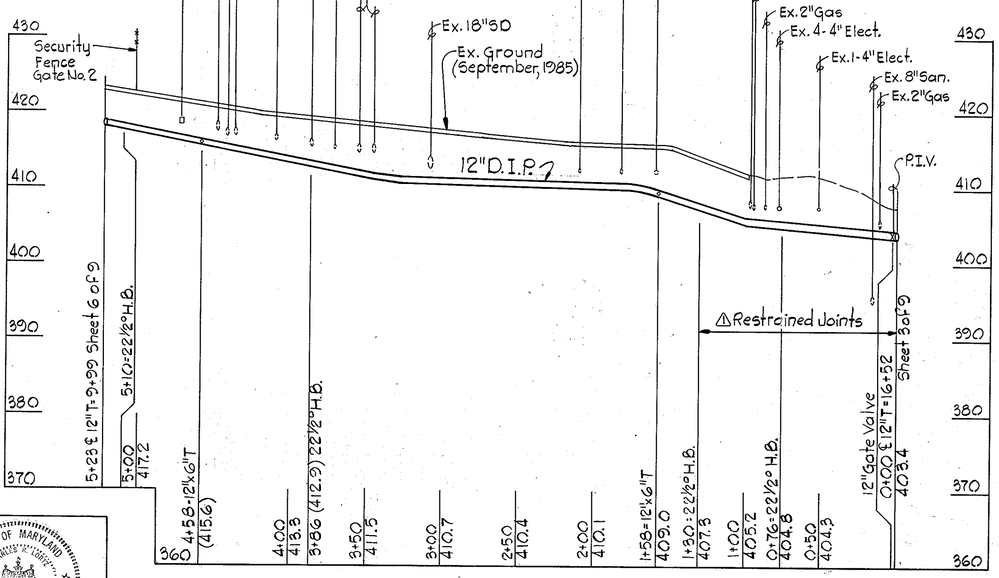
W.O. 80156

SDP-86-149 F.B. 6924, 6988, 7063

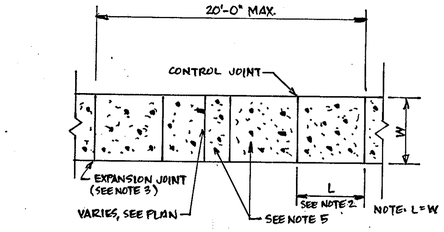
NOTES:
1. See Drawing Sheet 9 of 9 for Sediment Control Details and Notes.
2. See Specifications for Security Fence & Security Access Requirements.



PLAN
Scale: 1" = 50'

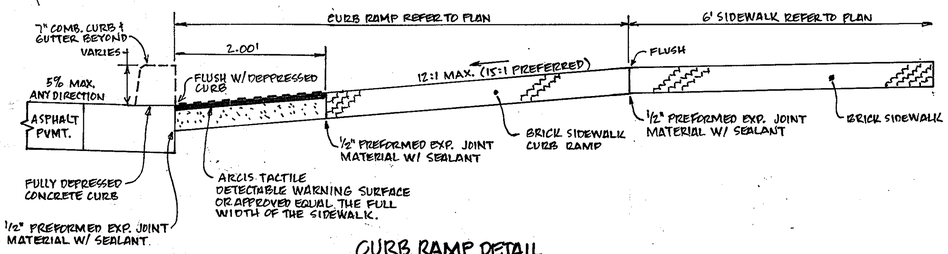


PROFILE 12" WATER
SCALE: HOR 1"=50'
VERT 1"=10'

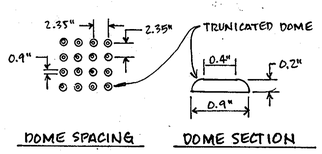


NOTES:
1. ALL CONCRETE SHALL BE 6% AIR-ENTRAINED, 3,000 PSI SHA MIX. NO.2, DEPTH SHALL BE 4".
2. PROVIDE SCORED CONTROL JOINTS EVERY 4'-0" MIN. BOTH DIRECTIONS.
3. PROVIDE ½" EXPANSION JOINT EVERY 20' O/C MAX. MARK EXPANSION/CONTRACTION JOINTS FOR SIDEWALK WIDTHS. 4'-0" TO 8'-0". IF "W" IS 8'-0" OR GREATER, ADD ADDITIONAL LONGITUDINAL EXPANSION JOINT AT CENTERLINE OF SIDEWALK.
4. PROVIDE ½" EXPANSION JOINT SEALANT WHERE SIDEWALK ABUTS CURB OR OTHER RIGID STRUCTURE(S).
5. ALL BROOM FINISH STROKES IN CONCRETE SIDEWALK TO BE PERPENDICULAR TO EDGES OF CONCRETE. DO NOT ALTERNATE PATTERN.
6. SIDEWALK CROSS-SLOPE SHALL NOT EXCEED 1% AS MEASURED PERPENDICULAR TO THE FLOW OF PEDESTRIAN TRAFFIC AND SHALL NEVER EXCEED 2% UNLESS SPECIFICALLY INDICATED ON THE GRADING PLAN.

CONCRETE SIDEWALK DETAIL ⚠4
NOT TO SCALE

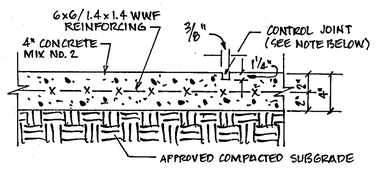


CURB RAMP DETAIL



DETECTABLE WARNING SURFACE DETAIL

CURB RAMP NOTES
1. CURB RAMPS AND DETECTABLE WARNING SURFACES TO BE INSTALLED PER THE LATEST VERSION OF THE AMERICANS W/ DISABILITIES ACT. ACCESSIBILITY GUIDELINES (ADAAG) OR STATE OF MARYLAND REQUIREMENT, WHICHEVER IS MORE STRINGENT.
2. DETECTABLE WARNING SURFACES SHALL BE PLACED IN ALL NEW CURB RAMPS WHERE A SIDEWALK CROSSES A VEHICULAR PATH.
3. THE DETECTABLE WARNING SURFACES SHALL BE INSTALLED TO THE DIMENSIONS NOTED ABOVE AND PER REQUIREMENTS OUTLINED IN THE VISUAL CONTRAST APPENDIX A4.29.2 OF THE LATEST VERSION OF THE ADAAG OR STATE OF MARYLAND REQUIREMENTS, WHICHEVER IS MORE STRINGENT.
4. A MINIMUM CLEAR WIDTH OF CURB RAMP TO BE 36". BASIS OF DESIGN SHALL BE 72 INCHES.
5. ALL DETECTABLE WARNING SURFACES SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP.



NOTES:
- 1/2" EXPANSION JOINTS- PLACE 20' O.C. AND AT ALL AREAS WHERE PAVING ABUTS OTHER WALKS AND STRUCTURES (TYP.) PROVIDE SEALANT AT ALL EXPANSION JOINTS.
- SCORED CONTROL JOINTS SHALL BE PLACED AT 4' (MIN) TO 8' (MAX.) BOTH DIRECTIONS (TYP.)

CONCRETE SIDEWALK SECTION ⚠4
NOT TO SCALE

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER — DATE 3-16-86

APPROVED: FOR PUBLIC SEWER AND PUBLIC WATER SYSTEMS - HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR — DATE 3-12-86
CHIEF, BUREAU OF ENGINEERING — DATE 3-13-86

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING.
PLANNING DIRECTOR — DATE 3-17-86
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 3-17-86

APPLIED PHYSICS LABORATORY
THE JOHNS HOPKINS UNIVERSITY
11100 JOHNS HOPKINS ROAD
LAUREL, MARYLAND 20707
APPROVED FOR THE UNIVERSITY BY: C. J. Smith
DATE: 11/7/86 TITLE: Business Manager

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
APPROVED: Stephen L. Hahn DATE: 2/4/86
HOWARD S.C.D.

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.
SIGNATURE: Robert H. Hall DATE: 3-11-86
U.S. SOIL CONSERVATION SERVICE

CERTIFICATION BY THE DEVELOPER
I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS AS DEEMED NECESSARY.
SIGNATURE OF DEVELOPER — DATE 11/7/86

RESPONSIBLE PERSONNEL CERTIFICATION
"I HEREBY CERTIFY THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE FROM A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT".
SIGNATURE OF DEVELOPER — DATE 11/7/86

CERTIFICATION BY THE ENGINEER
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT".
SIGNATURE OF ENGINEER — DATE 1/22/86

APPROVED
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 2-24-86

STATE OF MARYLAND — CHARLES R. LENTZ — No. 7963 — REGISTERED PROFESSIONAL ENGINEER

Charles R. Lentz

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 SAINT PAUL STREET
BALTIMORE, MARYLAND

BY	NO	REVISION	DATE
DRS	⚠	ADD SIDEWALK DETAILS PER KOSSIAKOFF CENTER	8.26.13
APL	⚠	ADD. GROUNDS EQUIPMENT STOR. BLD'G.	11/27/00
C.J.K	⚠	Add Note	3/3/86

W.O. 80156

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO.: 32574 EXPIRATION DATE: 1-16-2014

STATE OF MARYLAND — ANTHONY JOSEPH KOSSIAKOFF — No. 32574 — REGISTERED PROFESSIONAL ENGINEER
SIGNED FOR REV. ⚠4 ONLY

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
HOWARD COUNTY, MARYLAND
ELECTION DISTRICT NO. 5
WATER SYSTEM IMPROVEMENTS
WATER MAIN PLAN AND PROFILE
BLDG. NO. 39 TO BLDG. NO. 15

SCALE: AS SHOWN — DATE: DECEMBER, 1985
Sheet 4 of 9

SDP-86-149 F.B. 6988, 7063

For Continuation See Sheet 7 of 9

BLDG. No. 23

BLDG. No. 36

BLDG. No. 19

Security Fence

Ex. 8"W

Ex. 1-2"C

Ex. Conc. Walk

Ex. 15"SD

Connect to Ex. 8"W

Ex. 1-2" PVC (Elect)

Ex. 1-1" PVC (Tele.)

Test pit 8"W

Ex. 1-1"C

Ex. 8"SD

Ex. 18"SD

Ex. 21"SD.

Power Beds

Ex. Telephone Line Direct Burial

Conc. Block Building

Security Fence

Screen Fence

Antenna

Backtop

Conc. Slab

Limit of Disturbance

Shed

Bldg.

Contractor Storage

Conc. Mon.

Gravel Road

Trailer

Trailer

100'

12" W

Ex. Metal Storage Shed

Conc. Slab

P.O.L. Sta. 1+87

1"C

3+50

12"W

6" PIV

P.O.L. Sta. 1+64.5

P.O.L. Sta. 1+75

64' Lt.

Ex. 6-4"C

P.O.L. Sta. 0+99

60' Lt.

Sand Storage

36" Oak

36" Twin Oak

33' Lt.

30" Oak

Horsecrest

6+12+12½°-45° H.B.

24" Oak

Remove 8" Oak & 6

12" Oak

15" Oak

6" PIV

Ex. Conc. Curb

Ex. 3"T Direct Burial Elect.

Blacktop

7.5" FH Bury Line Elev. 439.5

Ex. Overhead Antenna

4.5" FH Bury Line Elev. 436.0

Security Fence

Match Line B-B See Sheet 6 of 9

12"x6"T

To X-5

6"x70'

2-45° H.B.

S.D. MH

Wooden Kanter Support Poles

Iron Pipe

Ex. 3"T E Direct Burial

Ex. Overhead Antenna

Security Fence

Ex. Ground (September, 1985)

12" DIP

8" DIP

Ex. 15"SD

Ex. 1-2"PVC (Elect.)
Ex. 1-1" PVC (Tele.)

Ex. Telephone Line Direct Burial

Gravel Road

Bid Item No. 15 Connect to Ex. 8"W

Security Fence

Ex. 8"W

Connect to Ex. 8"W with Solid Sleeve and Spacer

6"x12"x8"T

0+15

0+50 419.6

1+00 419.8

1+50 423.0

2+00 425.5

2+50 426.5

3+00 427.7

3+30=12"x6"T

3+50 427.7

4+00 429.5

4+50 429.4

5+00 429.2

5+50 429.1

6+00 427.9

6+12=45° B. 427.8

6+50 430.1

6+70=45° H.B. 43.4

6+82 42.6

7+00 43.9

7+50 431.5

8+00 430.8

8+28

Match Line B-B See Sheet 6 of 9

380

390

400

410

420

430

440

PLAN

Scale: 1"=50'

PROFILE 12" WATER

SCALE: HOR. 1"=50'
VERT. 1"=10'

BENCH MARKS

WREA PI "X-6 Elev. 430.76 Iron Pipe
WREA PI "X-7 Elev. 436.84 Iron Pipe
WREA PI "X-8 Elev. 428.22 Iron Pipe
WREA PI "X-9 Elev. 417.14 Iron Pipe

PI "X-6 (Iron Pipe)

32.86 57.05 30" Oak 30" Oak Iron Pipe

PI "X-7 (Iron Pipe)

36" Oak 36" Twin Oak 52.6 62.6 Iron Pipe

PI "X-8 (Iron Pipe)

Iron Pipe

PI "X-9 (Iron Pipe)

Iron Pipe

APPROVED FOR
PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER — DATE 3-10-86

APPROVED FOR PUBLIC SEWER AND PUBLIC WATER SYSTEMS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR — DATE
CHIEF BUREAU OF ENGINEERING — DATE 3-6-86

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
PLANNING DIRECTOR — DATE 3-17-86
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 3-17-86

APPLIED PHYSICS LABORATORY
THE JOHNS HOPKINS UNIVERSITY
11100 JOHNS HOPKINS ROAD
LAUREL, MARYLAND 20707
APPROVED FOR THE UNIVERSITY BY: C.J. Smith
DATE: 4/7/86 TITLE: Business Manager

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
APPROVED — DATE: 3/4/86
HOWARD S.C.D.

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.
SIGNATURE: — DATE 3-11-86
U.S. SOIL CONSERVATION SERVICE

CERTIFICATION BY THE DEVELOPER
I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS DEEMED NECESSARY.
C.J. Smith — 4/7/86
SIGNATURE OF DEVELOPER — DATE

RESPONSIBLE PERSONNEL CERTIFICATION
"I HEREBY CERTIFY THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE FROM A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT."
C.J. Smith — 4/7/86
SIGNATURE OF DEVELOPER — DATE

CERTIFICATION BY THE ENGINEER
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
Charles R. Lentz — 1/22/86
SIGNATURE OF ENGINEER — DATE

DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 2-24-86

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
HOWARD COUNTY, MARYLAND
ELECTION DISTRICT NO. 5
WATER SYSTEM IMPROVEMENTS
WATER MAIN PLAN AND PROFILE
BLDG. NO. 12 TO BLDG. NO. 23

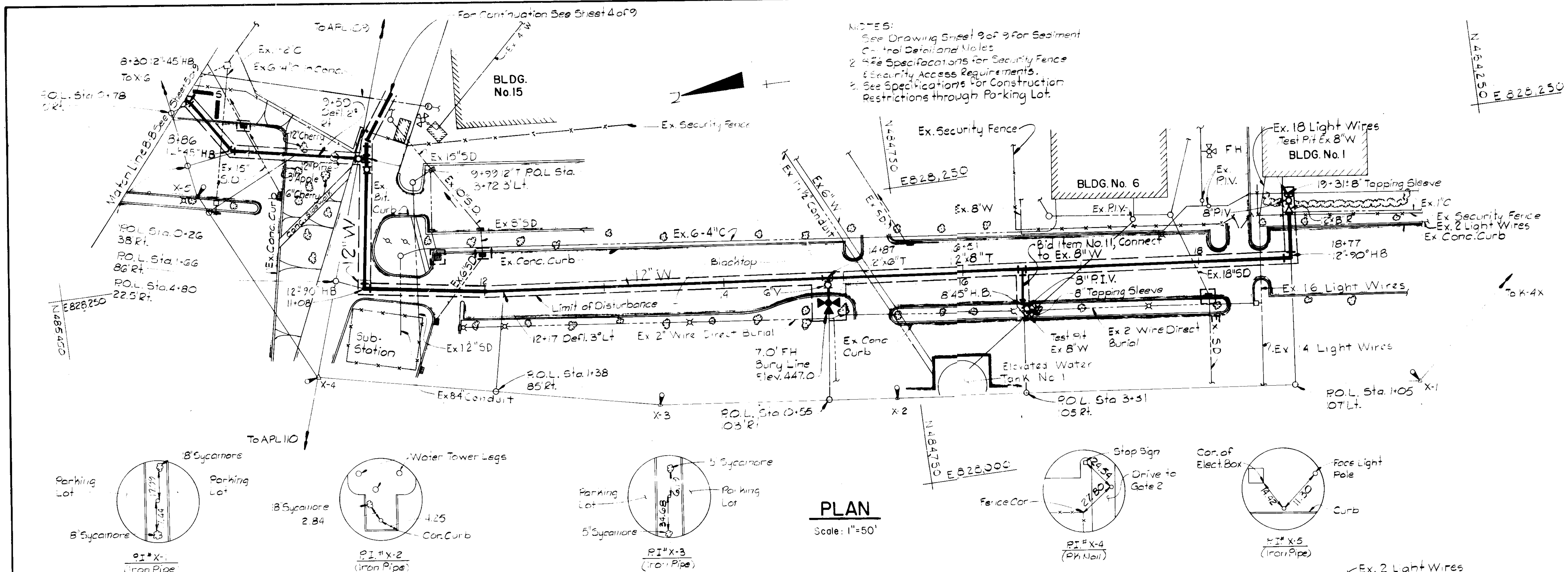
SCALE: AS SHOWN — DATE: DECEMBER, 1985
Sheet 5 of 9

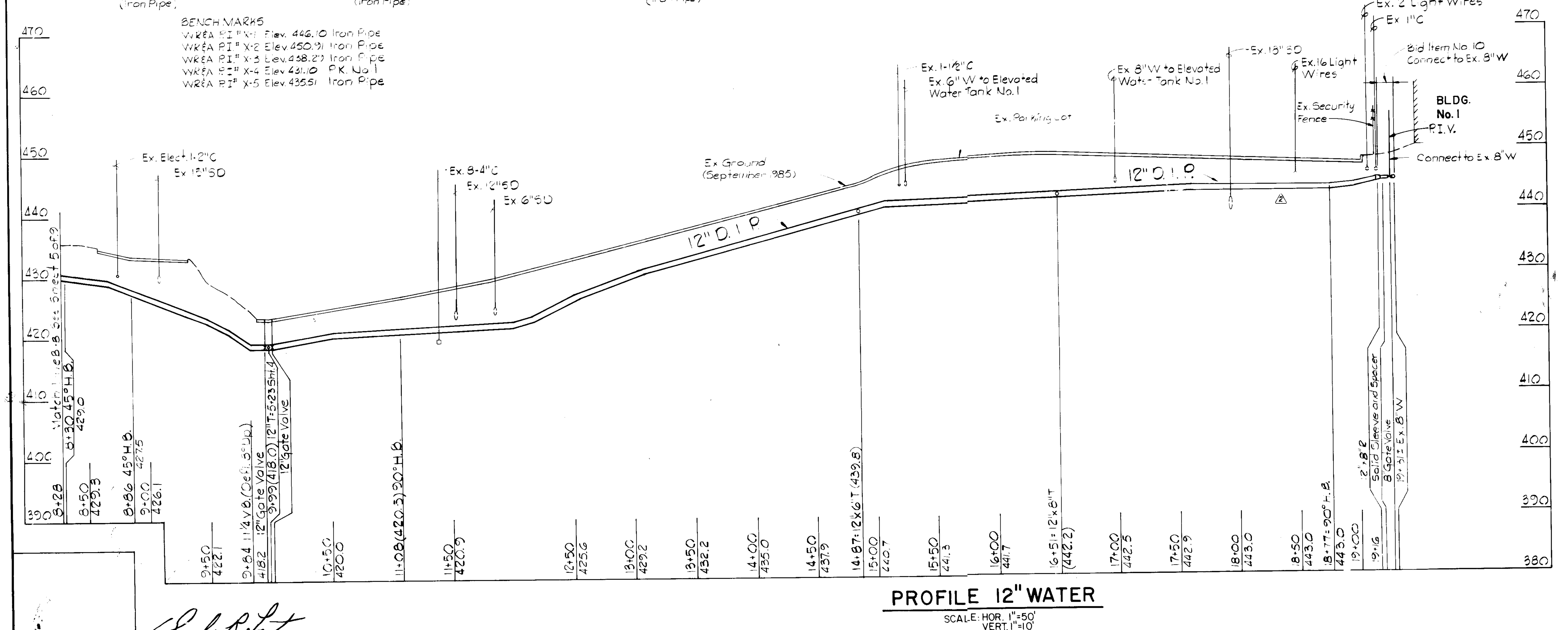
WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 SAINT PAUL STREET
BALTIMORE, MARYLAND

W.O. 80156

By	No	Revision	Date
C.J.K	4	Move Fire Hydrant	7/24/86
J.W.	3	Pipeline Profile	4/23/86

SDP-86-149 FB 7063, 6981, 6681, 6672





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

[signature] 3-16-86
COUNTY HEALTH OFFICER — DATE

APPROVED: FOR PUBLIC SEWER AND PUBLIC WATER SYSTEMS - HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

[signature] — [date]
DIRECTOR — DATE

[signature] 3-12-86
CHIEF, BUREAU OF ENGINEERING — DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING.

[signature] 3-17-86
PLANNING DIRECTOR — DATE

[signature] 3-17-86
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE

APPLIED PHYSICS LABORATORY
THE JOHNS HOPKINS UNIVERSITY

APPROVED FOR THE UNIVERSITY BY: C. J. Smith
⚠ 11100 JOHNS HOPKINS ROAD
LAUREL, MARYLAND 20207
DATE: 1/17/86 TITLE: Business Manager

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
APPROVED: [signature] DATE: 3/11/86
HOWARD S.C.D.

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.
SIGNATURE: [signature] DATE: 3-11-86
U.S. SOIL CONSERVATION SERVICE

CERTIFICATION BY THE DEVELOPER
I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS DEEMED NECESSARY.
C. J. Smith — 1/17/86
SIGNATURE OF DEVELOPER — DATE

RESPONSIBLE PERSONNEL CERTIFICATION
"I HEREBY CERTIFY THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE FROM A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT".
C. J. Smith — 1/17/86
SIGNATURE OF DEVELOPER — DATE

CERTIFICATION BY THE ENGINEER
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
Charles R Lotz — 1/22/86
SIGNATURE OF ENGINEER — DATE

DIVISION OF ... ZONING ... HOWARD COUNTY, MARYLAND
DATE 2-24-86
[signature]

Charles R Lotz

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 SAINT PAUL STREET
BALTIMORE, MARYLAND 21218

BY	NO	REVISION	DATE
J.W.	2	Pipeline Profile	4/23/86
CJK	1	Add Address	3/3/86

W.O. 80156

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
HOWARD COUNTY, MARYLAND
ELECTION DISTRICT NO. 5

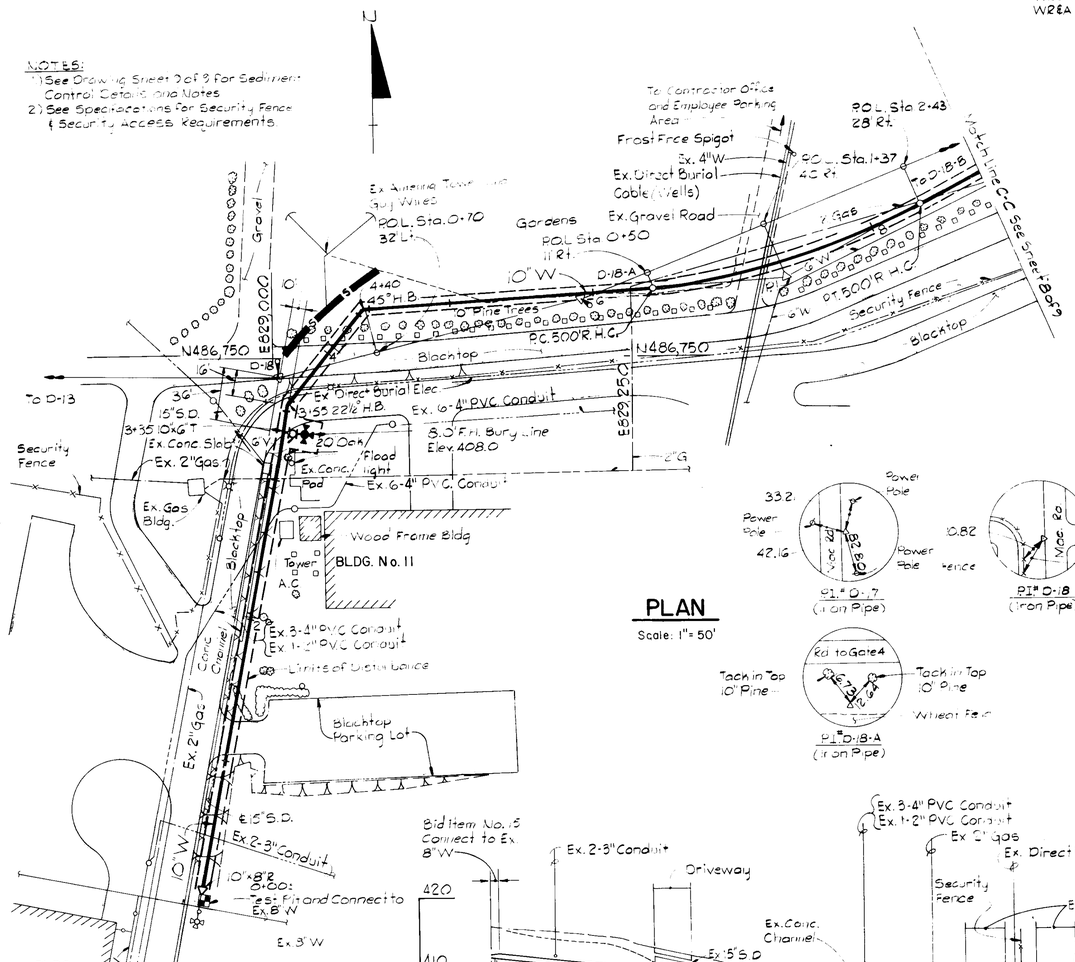
WATER SYSTEM IMPROVEMENTS
WATER MAIN PLAN AND PROFILE
BLDG. NO. 15 TO BLDG. NO. 1

SCALE: AS SHOWN — DATE: DECEMBER, 1985
Sheet 6 of 9

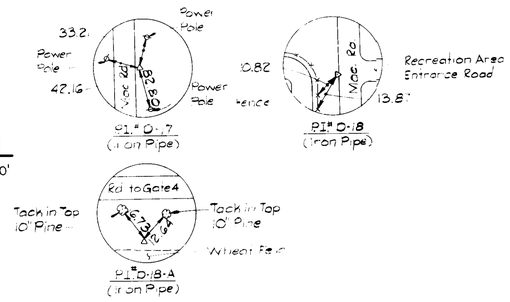
SDP-86-149 — F.B. 6988, 7063

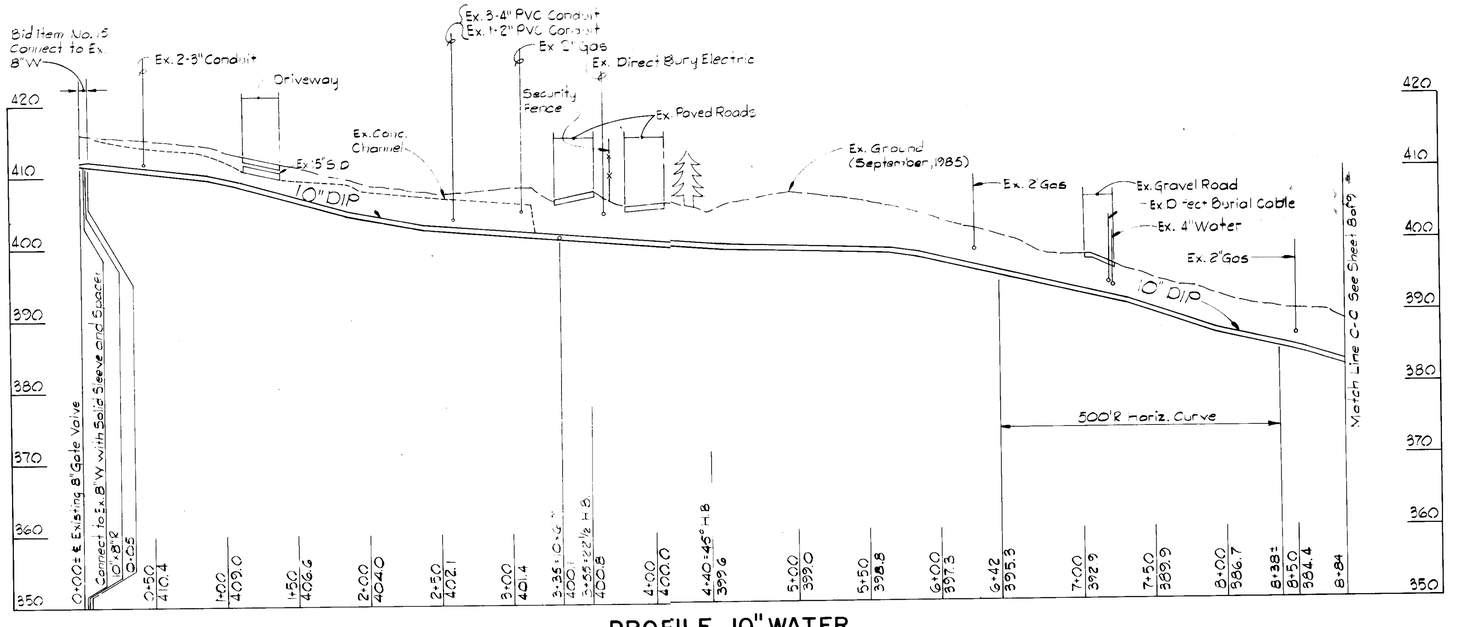
BENCH MARKS
W/REA PI# D-18 Elev. 404.25 Iron Pipe
W/REA PI# D-18-A Elev. 403.62 Iron Pipe

NOTES:
1) See Drawing Sheet 2 of 9 For Sediment Control Details and Notes
2) See Specifications for Security Fence & Security Access Requirements



PLAN
Scale: 1" = 50'





PROFILE 10" WATER
SCALE: HOR. 1"=50'
VERT. 1"=10'

APPROVED FOR
PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER — DATE 3-16-86

APPROVED: FOR PUBLIC SEWER AND PUBLIC WATER SYSTEMS - HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR — DATE 3-17-86
CHIEF, BUREAU OF ENGINEERING — DATE 3-20-86

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
PLANNING DIRECTOR — DATE 3-17-86
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 3-7-86

APPLIED PHYSICS LABORATORY
THE JOHNS HOPKINS UNIVERSITY
11100 JOHNS HOPKINS ROAD
LAUREL, MARYLAND 20707
APPROVED FOR THE UNIVERSITY BY: C. J. Smith
DATE: 1/17/86 TITLE: Business Manager

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
APPROVED: DATE: 3/4/86
HOWARD S.C.D.

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS
SIGNATURE: DATE: 3-11-86
U.S. SOIL CONSERVATION SERVICE

CERTIFICATION BY THE DEVELOPER
I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS DEEMED NECESSARY.
C. J. Smith — 1/17/86
SIGNATURE OF DEVELOPER — DATE

RESPONSIBLE PERSONNEL CERTIFICATION
"I HEREBY CERTIFY THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE FROM A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT".
C. J. Smith — 1/17/86
SIGNATURE OF DEVELOPER — DATE

CERTIFICATION BY THE ENGINEER
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT".
Charles P. Lantz — 1/22/86
SIGNATURE OF ENGINEER — DATE

APPROVED
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 2-24-86

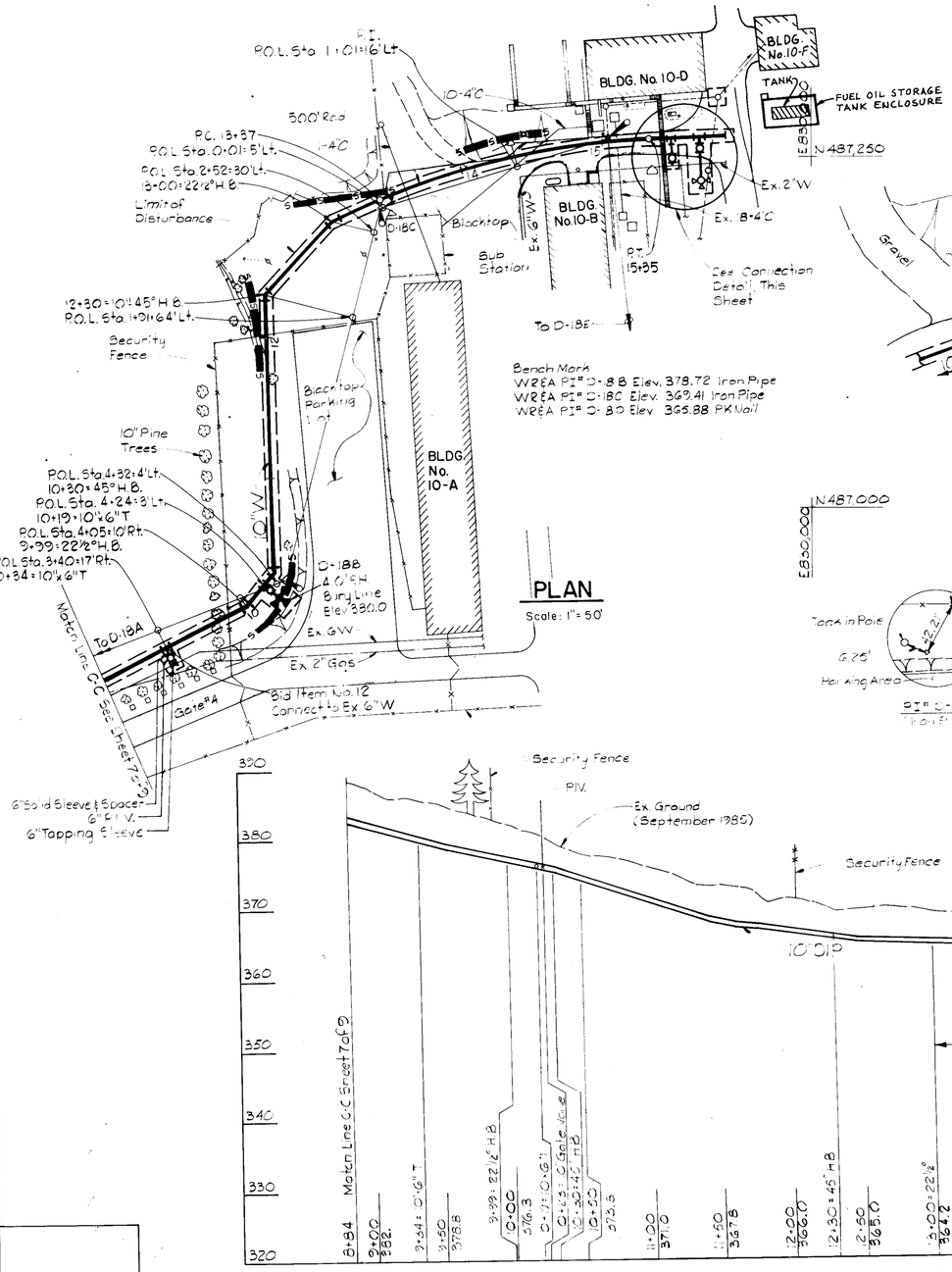
WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 SAINT PAUL STREET
BALTIMORE, MARYLAND 21218
W.O. 80156

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
HOWARD COUNTY, MARYLAND
ELECTION DISTRICT NO. 5
WATER SYSTEM IMPROVEMENTS
WATER MAIN PLAN AND PROFILE
BLDG NO 23 TO P.R.L.

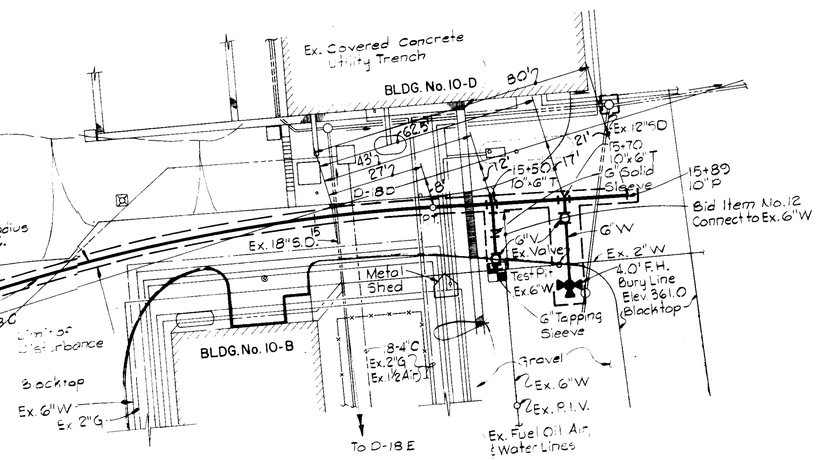
SCALE: AS SHOWN — DATE: DECEMBER, 1985
Sheet 7 of 9

SDP-86-149 — FB 6672, 7063

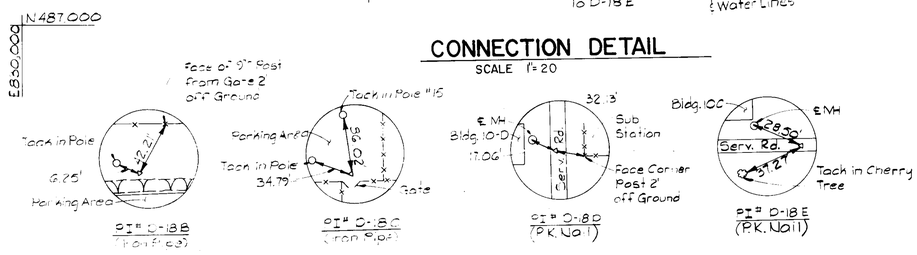
NOTES:
1) See Drawing Sheet 2 of 9 for Sediment Control Details and Notes.
2) See Specifications for Security Fence & Security Access Requirements.

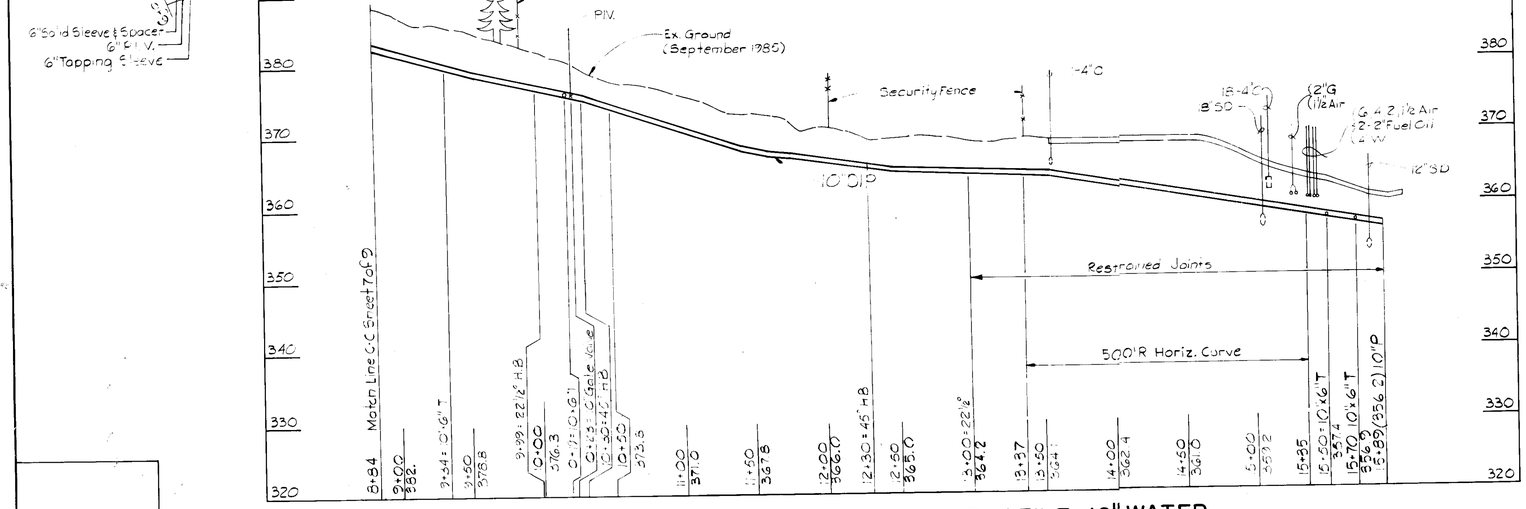


PLAN
Scale: 1" = 50'



CONNECTION DETAIL
SCALE 1" = 20





PROFILE 10" WATER
SCALE: HOR. 1" = 50'
VERT. 1" = 10'

Charles R Lord

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 SAINT PAUL STREET
BALTIMORE MARYLAND 21218

W.O 80156

APPROVED FOR
PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.
HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER — DATE 3-6-86

APPROVED: FOR PUBLIC SEWER AND PUBLIC WATER SYSTEMS - HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR — DATE 3-12-86
CHIEF, BUREAU OF ENGINEERING — DATE 3-12-86

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
PLANNING DIRECTOR — DATE 3-17-86
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 3-17-86

APPLIED PHYSICS LABORATORY
THE JOHNS HOPKINS UNIVERSITY
11100 JOHNS HOPKINS ROAD
LAUREL, MARYLAND 20707
APPROVED FOR THE UNIVERSITY BY: C J Smith
DATE: 1/17/86 TITLE: Business Manager

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
APPROVED: Stephen L. Hahn DATE: 2/4/86
HOWARD S.C.D.

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.
SIGNATURE — DATE: 3-11-86
U.S. SOIL CONSERVATION SERVICE

CERTIFICATION BY THE DEVELOPER
I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS DEEMED NECESSARY.
C J Smith — SIGNATURE OF DEVELOPER — 1/17/86 DATE

RESPONSIBLE PERSONNEL CERTIFICATION
"I HEREBY CERTIFY THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE FROM A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT".
C J Smith — SIGNATURE OF DEVELOPER — 1/17/86 DATE

CERTIFICATION BY THE ENGINEER
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT".
Charles R Lord — SIGNATURE OF ENGINEER — 1/22/86 DATE

APPROVED
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
HOWARD COUNTY MARYLAND
DATE 2-24-86

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
HOWARD COUNTY, MARYLAND
ELECTION DISTRICT NO. 5
WATER SYSTEM IMPROVEMENTS
WATER MAIN PLAN, PROFILE, AND DETAIL
PROPULSION RESEARCH LAB

SCALE: AS SHOWN — DATE: DECEMBER, 1985
REV. 1/2/90 A.P.L. - D.J.D. — Sheet 8 of 9

FB 7063

SDP-86-149

STANDARD AND SPECIFICATIONS FOR STORM DRAIN INLET PROTECTION

Definition

Filter cloth installed around inlets in the form of a fence or across an opening, thereby reducing sediment content of sediment laden water.

Purpose

To prevent sediment laden water from entering a storm drain system through inlets.

Conditions Where Practice Applies

This practice shall be used where the drainage area to an inlet is disturbed, it is not possible to temporarily divert the storm drain outfall into a sediment trapping device and watertight blocking of inlets is not advisable. It is not to be used in place of sediment trapping devices. This practice may be used in conjunction with storm drain diversion to help prevent siltation of pipes installed with a low slope angle.

Construction Specifications

I. Materials

A. Wooden frame is to be constructed of 2" x 4" construction grade lumber.

B. Wire mesh must be of sufficient strength to support filter fabric, and stone for curb inlets, with water fully impounded against it.

C. Filter cloth must be of a type approved for this purpose; resistant to sunlight with sieve size, EOS, 40-85, to allow sufficient passage of water and removal of sediment.

4. Stone is to be 2" in size and clean, since fines would clog the cloth.

II. Procedure

A. A swale, ditchline or yard inlet protection.

1. Excavate completely around inlet to a depth of 18" below notch elevation.
2. Drive 2 x 4 post 1' into ground at four corners of inlet. Place nail strips between posts on ends of inlet. Assemble top portion of 2 x 4 frame using overlap joint shown. Top of frame (weir) must be 6" below edge of roadway adjacent to inlet.
3. Stretch wire mesh tightly around frame and fasten securely. Ends must meet at post.
4. Stretch filter cloth tightly over wire mesh, the cloth must extend from top of frame to 18" below inlet notch elev. Fasten securely to frame. Ends must meet at post, be overlapped and folded, then fastened down.
5. Backfill around inlet in compacted 6" layers until layer of earth is even with notch elevation on ends and top elevation on sides.
6. If the inlet is not in a low point, construct a compacted earth dike in the ditchline below it. The top of this dike is to be at least 6" higher than the top of frame (weir).
7. This structure must be inspected frequently and the filter fabric replaced when clogged.

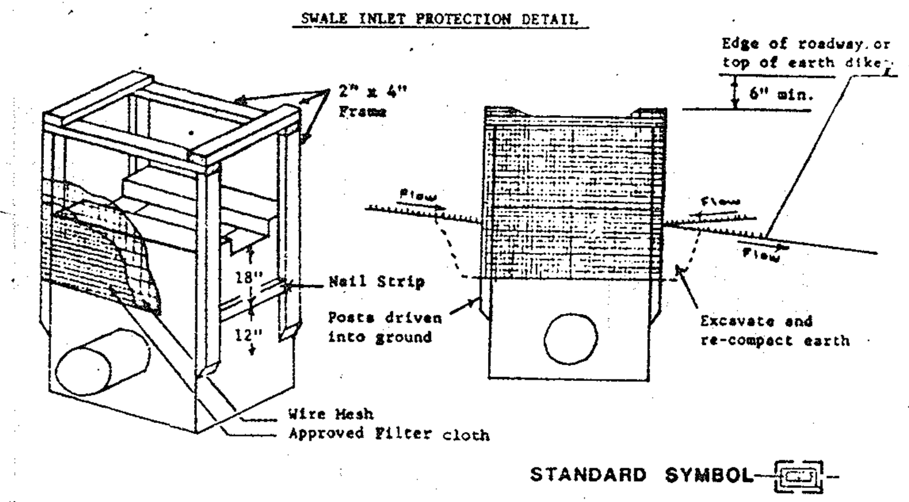
B. Curb Inlet Protection.

1. Attach a continuous piece of wire mesh (30" min. width by throat length plus 4') to the 2" x 4" weir (measuring throat length plus 2') as shown on the standard drawing.
2. Place a piece of approved filter cloth (40-85 sieve) of the same dimensions as the wire mesh over the wire mesh and securely attach to the 2" x 4" weir.
3. Securely nail the 2" x 4" weir to 9" long vertical spacers to be located between the weir and inlet face (max. 6' apart).
4. Place the assembly against the inlet throat and nail (minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations. These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
6. Form the wire mesh and filter cloth to the concrete gutter and against the face of curb on both sides of the inlet. Place clean 2" stone over the wire mesh and filter fabric in such a manner as to prevent water from entering the inlet under or around the filter cloth.
7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
8. Assure that storm flow does not bypass inlet by installing temporary earth or asphalt dikes directing flow into inlet.

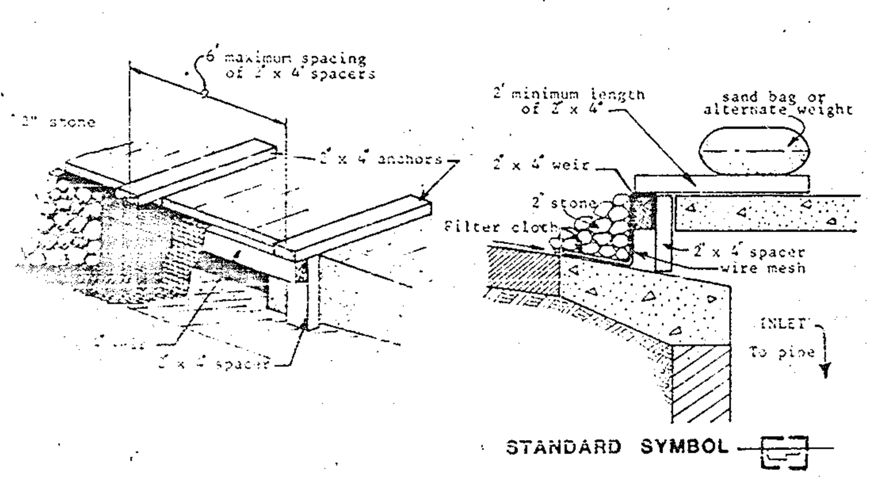
C. Drop Inlet Protection.

1. Place a piece of approved filter cloth (40-85 sieve) at least 2' larger in both dimensions than the grate over the drop inlet as shown on the standard drawing.
2. Place clean 2" stone over the filter fabric in such a manner as to prevent water from entering the inlet under the filter cloth.
3. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
4. Assure that storm flow does not bypass inlet by installing temporary earth or asphalt dikes directing flow into inlet.
5. Provide suitable traffic protection and warning devices around all inlets in paved or trafficked areas while sediment control devices are in place.

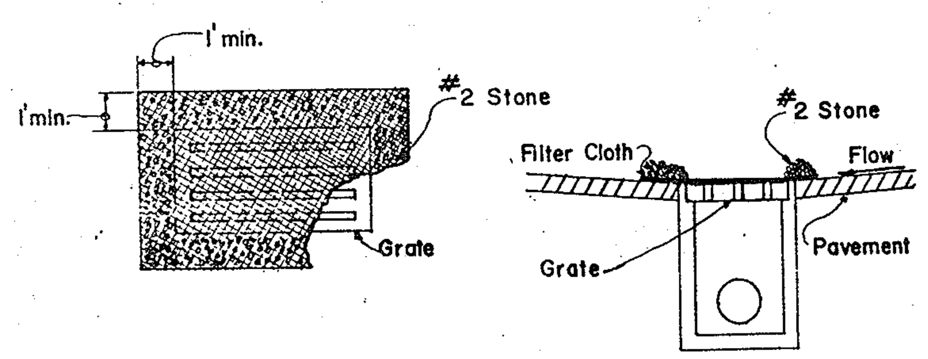
SWALE INLET PROTECTION DETAIL



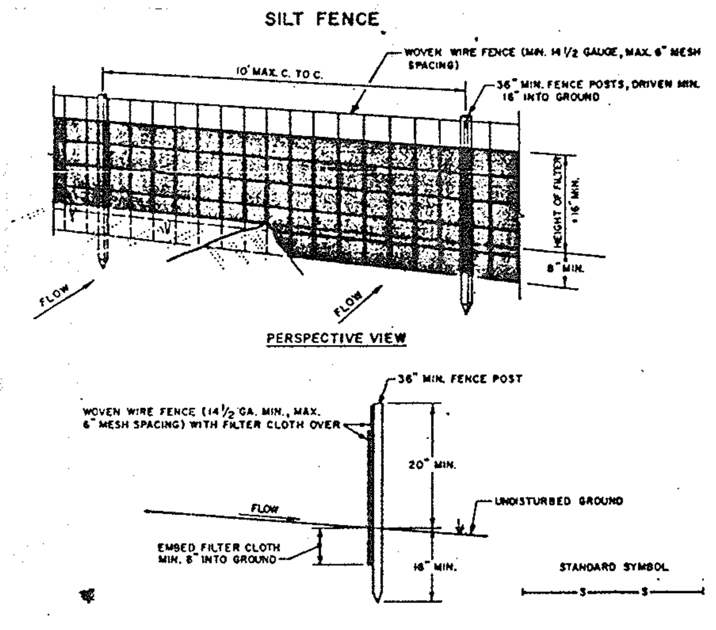
CURB INLET PROTECTION DETAIL



Drop Inlet Protection Detail



SILT FENCE



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 ties spaced 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.

POSTS: Steel either T or U type or 2" hardwood

FENCE: Woven wire, 14 Ga. 6" Max. Mesh Opening

FILTER CLOTH: Filter X, Mirafi 100X, Stabilinka T140N or Approved Equal

PREFABRICATED UNIT: Geofab, Envirofence, or Approved Equal.

PERMANENT SEEDING NOTES

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

Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding.

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 square 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 1½ 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.

Matinenance - Inspect all seeded areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

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

Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding.

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 2½ bushel 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 the 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 1½ 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.

SEDIMENT CONTROL NOTES

1) A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (992-2437)
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 redisturbance, 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, Chaper 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	366.0	Acres
Area Disturbed	1.40	Acres
Area to be roofed or paved	0.57	Acres
Area to be vegetatively stabilized	0.83	Acres
Total Cut	3300	Cu. yds
Total Fill	3300	Cu. yds
Offsite waste/borrow area location	N/A	

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.

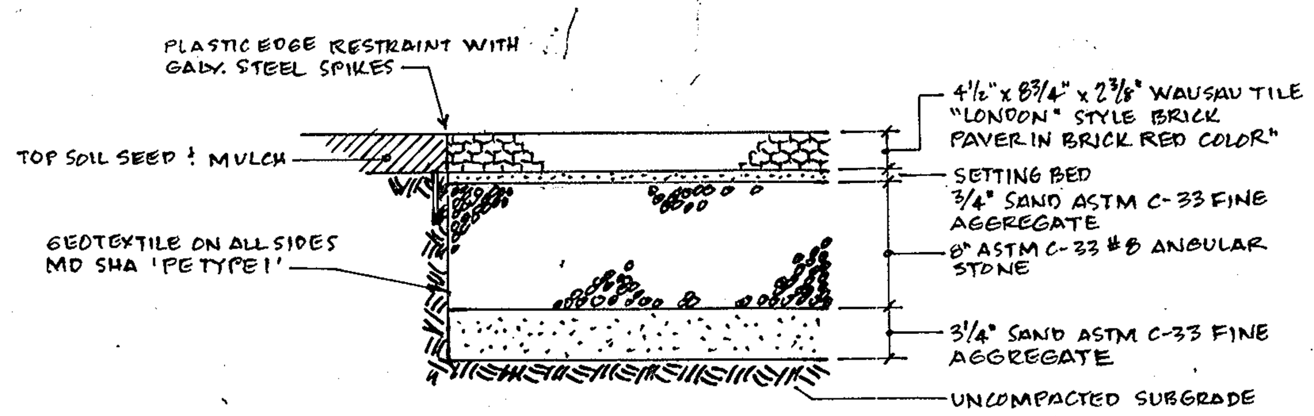
SEQUENCE OF CONSTRUCTION

1. NOTIFY THE HOWARD SOIL CONSERVATION DISTRICT AND THE HOWARD COUNTY BUREAU OF LICENSES. INSPECTIONS AND PERMITS 48 HOURS BEFORE ANY WORK BEGINS.
2. INSTALL SILT FENCE AND INLET PROTECTION.
3. CONSTRUCT WATER MAIN.
4. PERMANENTLY SEED AND STABILIZE NON-PAVED AREAS.
5. REMOVE SEDIMENT CONTROL DEVICES.

CONSTRUCTION SEQUENCE

OPERATION		TIME SCHEDULE
1. SEDIMENT CONTROL INSTALLATION.	----	MARCH, 1986.
2. WATER MAIN INSTALLATION.	----	MARCH TO SEPTEMBER, 1986.
3. PERMANENT SEEDING AND REMOVAL OF SEDIMENT CONTROL.	----	OCTOBER, 1986.

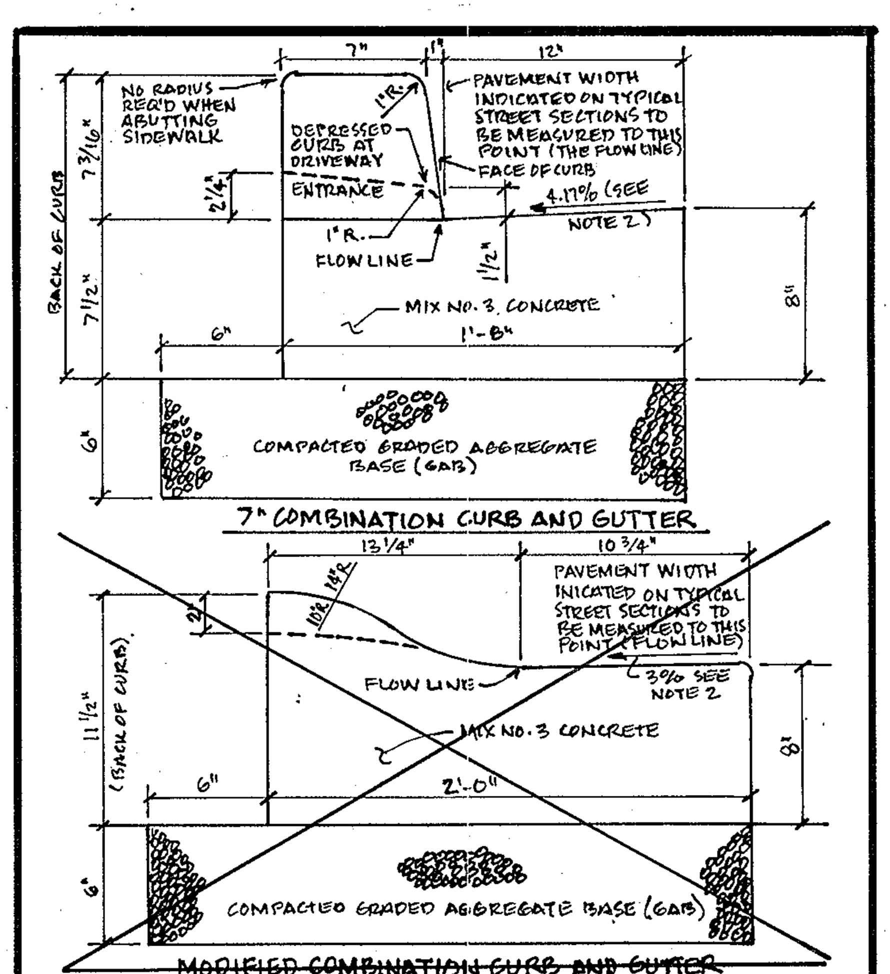
PROPOSED PAVER DETAIL



* REMOVE AND STORE EXISTIN PAVERS DURING GRADING OPERATIONS WHEN LAYING PROPOSED WALKS INTERSPERSE EXISTING PAVERS WITH NEW IN A RANDOM MANNER.

PROPOSED PAVER DETAIL

N.T.S.



NOTE:

1. A REVERSE GUTTER PAN SHALL HAVE A GUTTER SLOPE OF 4.17% AWAY FROM THE FLOW LINE, AND SHALL NOT BE USED WHERE THIS DRAINAGE CREATES A HAZARDOUS CONDITION.
2. GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED AT THE LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPERELEVATION IS GREATER THAN 3% FOR MODIFIED CURB & GUTTER.
3. A MINIMUM OF TWO (2) FEET OF COMPACTED STABILIZED EARTH, OR EQUIVALENT, SHALL SUPPORT THE ENTIRE BACK OF CURB.
4. POSITIVE DRAINAGE SHALL BE PROVIDED BOTH BEHIND THE CURB AND ALONG THE GUTTER AND FLOW LINE.

HOWARD COUNTY, MD. DEPT. OF PUBLIC WORKS	CURB AND GUTTER 7" & MODIFIED	DETAIL R-3.01
5/7/2007 APRVD. CHIEF-BUREAU OF ENGINEERING		

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

COUNTY HEALTH OFFICER — DATE 3-16-86

APPROVED: FOR PUBLIC SEWER AND PUBLIC WATER SYSTEMS - HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

DIRECTOR — DATE 3-12-86

CHIEF, BUREAU OF ENGINEERING — DATE 3.12.86

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING.

PLANNING DIRECTOR — DATE 3-17-86

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 3-17-86

APPLIED PHYSICS LABORATORY
THE JOHNS HOPKINS UNIVERSITY
11100 JOHNS HOPKINS ROAD
LAUREL, MARYLAND 20707

APPROVED FOR THE UNIVERSITY BY: C. J. Smith

DATE: 1/17/86 TITLE: Business Manager

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

APPROVED: — DATE: 3/6/86

HOWARD S.C.D.

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.

SIGNATURE: — DATE: 3-11-86

U.S. SOIL CONSERVATION SERVICE

CERTIFICATION BY THE DEVELOPER:

I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS DEEMED NECESSARY.

SIGNATURE OF DEVELOPER — DATE 1/17/86

RESPONSIBLE PERSONNEL CERTIFICATION

"I HEREBY CERTIFY THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE FROM A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT".

SIGNATURE OF DEVELOPER — DATE 1/17/86

CERTIFICATION BY THE ENGINEER

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

SIGNATURE OF ENGINEER — DATE 1/22/86

APPROVED
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 2-24-86

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 SAINT PAUL STREET
BALTIMORE MARYLAND 21218

BY	NO.	REVISIONS	DATE
DRS	4	ADD CURB DETAIL FOR KOSSIAKOFF CENTER	8.26.13

SIGNED FOR REV. 4 ONLY

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO.: 22514 EXPIRATION DATE: 1.16.2014

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
HOWARD COUNTY, MARYLAND
ELECTION DISTRICT NO. 5
WATER SYSTEM IMPROVEMENTS
SEDIMENT CONTROL AND MISC.
NOTES, PROFILES, AND DETAILS

SCALE: AS SHOWN — DATE: DECEMBER, 1985

SDP-86-149