

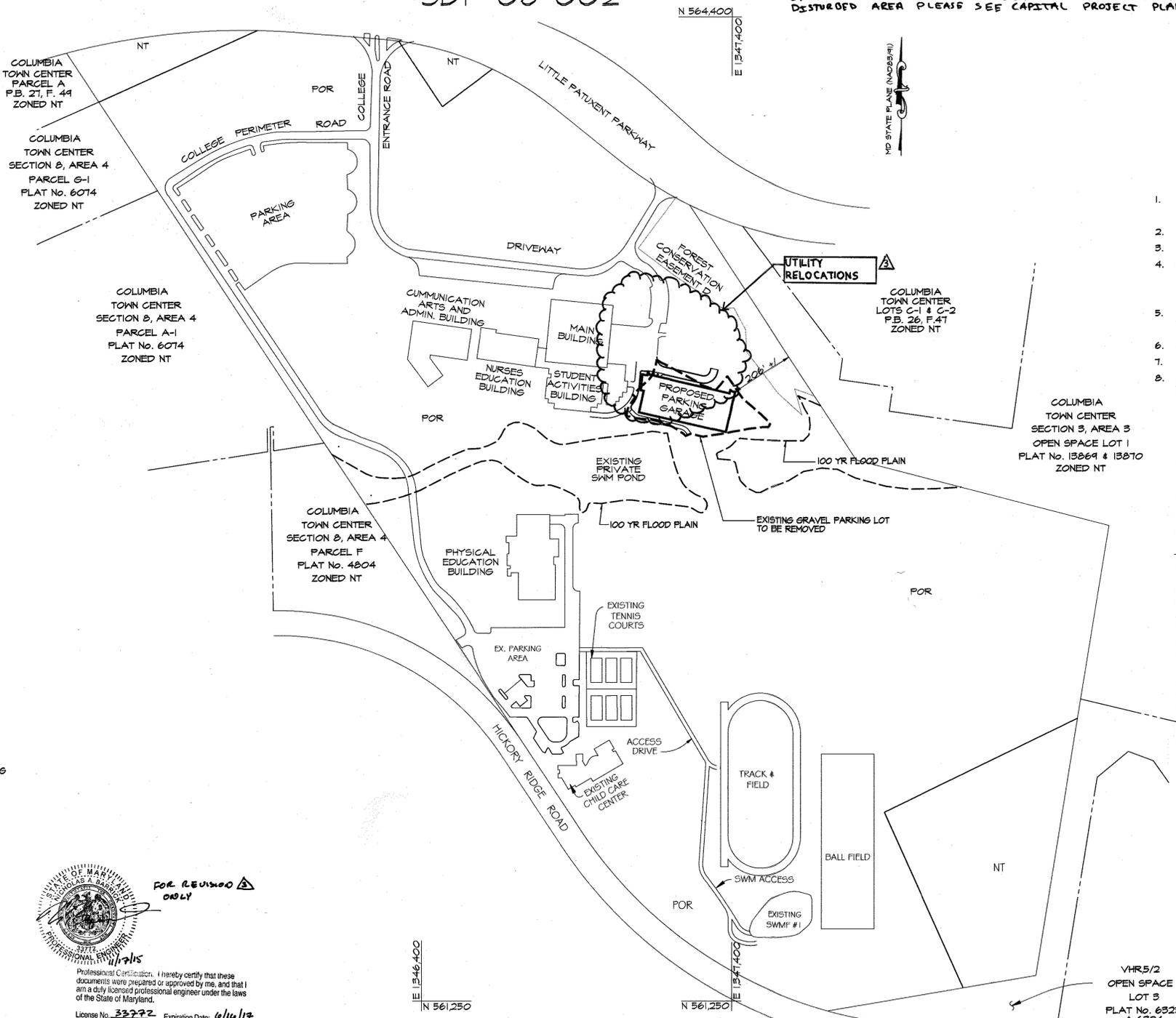
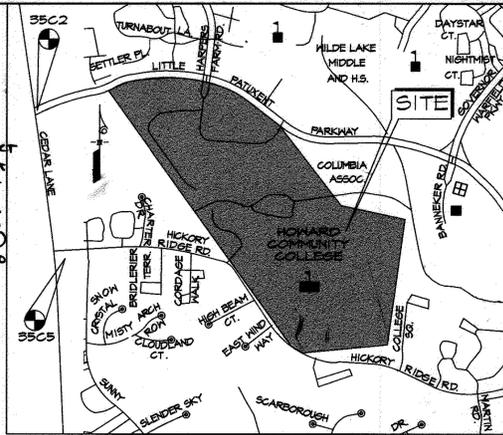
**GENERAL NOTES**

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" (800-251-7771) AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING ANY WORK.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/ BUREAU OF ENGINEERING/ CONSTRUCTION INSPECTION DIVISION AT (410) 313-1800 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED ON A FIELD SURVEY DATED APRIL 2005, COMPLETED BY KCI TECHNOLOGIES, INC.
- OBSTRUCTIONS SHOWN ON THESE DRAWINGS ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. KCI TECHNOLOGIES, INC. DOES NOT WARRANT OR GUARANTEE THE CORRECTNESS OR THE COMPLETENESS OF THE INFORMATION GIVEN. THE CONTRACTOR MUST VERIFY ALL SUCH INFORMATION TO HIS OWN SATISFACTION. IN THE EVENT THAT INFORMATION IS IN CONFLICT WITH INFORMATION OBTAINED, THE CONTRACTOR SHALL IMMEDIATELY BRING IT TO THE ATTENTION OF THE ARCHITECT PRIOR TO STARTING ANY WORK.
- CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES SHOWN BEFORE STARTING ANY WORK ON THESE PLANS. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR THE COST OF ANY AND ALL DAMAGES WHICH OCCUR AS A RESULT OF A FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES TO REMAIN.
- CONTRACTOR SHALL REMOVE DRIVEWAY ENTRANCES, STRUCTURES, AND CONCRETE WALKS TO LIMITS INDICATED ON THE DRAWING.
- CONTRACTOR SHALL NOT PROCEED WITH ANY DEMOLITION WORK UNTIL ALL UTILITY DISCONNECTIONS ARE COMPLETED AND VERIFIED IN WRITING.
- BURNING OF COMBUSTIBLE MATERIALS FROM DEMOLISHED STRUCTURES WILL NOT BE PERMITTED ON SITE.
- CONTRACTOR SHALL INSURE THAT ALL MATERIAL REMOVED FROM DEMOLISHED STRUCTURES ARE LEGALLY DISPOSED OF OFF-SITE.
- SEE SITE/GRADING PLAN FOR LIMITS OF APPROXIMATE SIDEWALK AND PAVING REMOVAL.
- EXISTING CONCRETE SIDEWALK SHALL BE REMOVED TO THE NEAREST JOINT. NO PATCHING SHALL BE PERMITTED.
- A GEOTECHNICAL STUDY WAS PREPARED BY FROELING & ROBERTSON, INC., DATED MARCH 2005.
- IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THIS PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLETE SUCH WORK.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER OF ANY DEVIATION FROM THIS PLAN PRIOR TO ANY CHANGE BEING MADE. ANY DEVIATION FROM THIS PLAN WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- SEE ARCHITECTURAL PLANS FOR ADDITIONAL BUILDING INFORMATION.
- SEE MECHANICAL/ELECTRICAL/PLUMBING PLANS FOR ADDITIONAL MECHANICAL/ELECTRICAL/PLUMBING DEMOLITION INFORMATION.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ALL PLAN DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
- A TRAFFIC STUDY IS NOT REQUIRED FOR THIS PROJECT.
- CONTRACTOR TO ADJUST TOP OF CURB GRADES AS NECESSARY TO PROVIDE SMOOTH TRANSITION TO EXISTING.
- SAW CUT EXISTING PAVEMENT AS NEEDED TO INSTALL NEW CONSTRUCTION.
- THE CONTRACTOR SHALL NOTE THAT IN CASE OF A DISCREPANCY BETWEEN THE SCALED AND THE FIGURED DIMENSIONS SHOWN ON THESE PLANS, THE FIGURED DIMENSIONS SHALL GOVERN.
- TRENCH BACKFILL IN GRASS AREAS SHALL BE COMPACTED TO A MINIMUM 90% OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH A.A.S.H.T.O. VERIFY DESIGNATION T-180, METHOD C. TRENCH BACKFILL IN STRUCTURAL AND PAVEMENT AREAS SHALL BE PLACED IN EIGHT INCH LOOSE LIFTS AND COMPACTED TO AT LEAST 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D-1557). IN PAVED AREAS, FILL BELOW THE TOP 12 INCHES SHOULD BE COMPACTED TO 97%.
- CONTRACTOR SHALL ADJUST ALL EXISTING UTILITIES, I.E. MANHOLE FRAMES AND COVERS, ETC. WITHIN THE LIMITS OF THE CONTRACT TO PROPOSED GRADES AS REQUIRED.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM STRUCTURES AT ALL TIMES.
- CONTRACTOR SHALL COORDINATE ALL DISCONNECTIONS AND REMOVAL OF EXISTING GAS, ELECTRIC AND TELEPHONE SERVICES AND EQUIPMENT WITH BALTIMORE GAS & ELECTRIC AND VERIZON.
- CONTRACTOR SHALL INSTALL SEDIMENT CONTROLS PRIOR TO BEGINNING ANY WORK AND MAINTAIN SEDIMENT CONTROLS THROUGHOUT THE ENTIRE DURATION OF DEMOLITION AND CONSTRUCTION ACTIVITIES.
- ALL EXCAVATION SHALL BE BACKFILLED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. IN THE EVENT THAT A PORTION OF A UTILITY IS TO BE REMOVED THE CONTRACTOR SHALL TERMINATE AND CAP TO THE LIMITS INDICATED IN ACCORDANCE WITH ALL STATE AND LOCAL REQUIREMENTS.
- SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY TO RESOLVE THE SITUATION. SHOULD THE CONTRACTOR MAKE FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT NOTIFYING THE ENGINEER, THEN THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES.
- THIS PROJECT IS EXEMPT FROM PERIMETER LANDSCAPING IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MAINTENANCE SINCE THE PARKING GARAGE IS INTERNAL TO THE DEVELOPMENT AND THIS IS AN EDUCATIONAL FACILITY.
- STORM WATER MANAGEMENT WATER QUANTITY AND WATER QUALITY HAS BEEN PROVIDED IN THE EXISTING ON-SITE POND. A BAYSAYER IS PROPOSED FOR PRE-TREATMENT.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 35C2 AND 35C5 WERE USED FOR THIS PROJECT.
- WATER IS PRIVATE IN THIS PROJECT AREA.
- SEWER IS PUBLIC, CONTRACT NO. 244-4445 SEWER DRAINAGE AREA: PATUXENT TREATMENT PLANT; LITTLE PATUXENT WWTP
- SUBJECT PROPERTY ZONED FOR & NT PER 2/2/04 COMPREHENSIVE ZONING PLAN AND FOP-12-A.
- FOREST CONSERVATION OBLIGATIONS FOR THE ENTIRE CAMPUS, IN ACCORDANCE WITH SECTION 16.1202 OF THE HOWARD COUNTY CODE AND LANDSCAPE MAINTENANCE HAVE BEEN MET BY THE PLACEMENT OF 2533 ACRES OF FOREST IN RETENTION EASEMENTS AND PAYMENT OF FEE-IN-LIEU FOR 0.01 ACRES OF REFORESTATION OBLIGATION IN THE AMOUNT OF \$1524.60. SEE SDP-01-38 FOR THE FOREST CONSERVATION PLAN.
- ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- SEE DEPARTMENT OF PLANNING AND ZONING FILE NO. SDP-41-45, SDP-75-46, SDP-81-45, SDP-16-30, FOP-224, SDP-60-12, SDP-75-32, SDP-00-36, SDP-01-38, HP-01-38, SDP-01-123, SDP-03-11, FOP-12-A.

**SITE DEVELOPMENT PLAN**  
**HOWARD COMMUNITY COLLEGE**  
**PROPOSED PARKING GARAGE #1**  
**5TH ELECTION DISTRICT**  
**HOWARD COUNTY, MD**  
**SDP-06-002**

**BENCHMARK DATA**  
 HORIZONTAL NAD83/91 AND VERTICAL (NGVD29) CONTROL BASED ON GPS OBSERVATIONS. HOWARD COUNTY BENCH MARK NO. 5

		NORTH	EAST	ELEV.
35C2	HOW CO MON	563920.830	1344204.150	464.133
35C5	HOW CO MON	562148.450	1344554.412	452.261



**SITE ANALYSIS DATA CHART**

- SITE ADDRESS: 10901 LITTLE PATUXENT PKY, COLUMBIA, MD 21044
- OWNER/APPLICANT: BOARD OF TRUSTEES OF HOWARD COUNTY COMMUNITY COLLEGE
- TAX ACCOUNT NO.: 15-045868
- PROPERTY REFERENCE: MAP 35, PLAT 16125, BLOCK 6, LOT 47, ELECTION DISTRICT NO. 5
- ZONING: FOR & NT, EXISTING USE: PARKING LOT, PROPOSED USE: PARKING GARAGE
- AREA OF TOTAL SITE: 117.84 ACRES
- TOTAL PROJECT AREA: 108,561 S. F. (2.44 AC.)
- EXISTING PARKING CALCULATIONS: STUDENTS: 2 SPACES / 3 STUDENTS (PER SDP-75-46), COLLEGE EMPLOYEES: 1 SPACE / EMPLOYEE (2023 FULL TIME STUDENTS x (2/3) = 1349 SPACES, 449 EMPLOYEES x 1 = 449 SPACES, DAYCARE SPACES: 3 / 1000 S.F. (12,700 S.F. x 3 / 1000 = 39 SPACES (PER SDP-03-11)), TOTAL REQUIRED SPACES: 1349 + 449 + 39 = 1837 SPACES, EXISTING PARKING: 2053 SPACES, PROPOSED PARKING GARAGE: 526 SPACES (INCLUDES 11 HC SPACES)
- PARKING CALCULATIONS: EXISTING PARKING: 2053 SPACES, NO. OF SPACES TO BE REMOVED: 160 +/- SPACES, NO. OF SPACES PROPOSED- PARKING GARAGE: LOWER LEVEL: 45 SPACES (INCLUDES 0 HANDICAPPED SPACES), GROUND LEVEL: 103 SPACES (INCLUDES 3 HANDICAPPED SPACES), SECOND LEVEL: 116 SPACES (INCLUDES 2 HANDICAPPED SPACES), THIRD LEVEL: 116 SPACES (INCLUDES 2 HANDICAPPED SPACES), FOURTH LEVEL: 117 SPACES (INCLUDES 2 HANDICAPPED SPACES), ROOF LEVEL: 24 SPACES (INCLUDES 2 HANDICAPPED SPACES), GARAGE TOTAL: 526 SPACES (INCLUDES 11 HANDICAPPED SPACES), TOTAL ON-SITE PROVIDED - 2574 SPACES, TOTAL ON-SITE REQUIRED - 1837 SPACES, PROPOSED PARKING - 526 SPACES, TOTAL PROVIDED - 2574 SPACES

**INDEX OF CIVIL DRAWINGS**

1	TITLE SHEET
2	EXISTING CONDITIONS / DEMOLITION PLAN
3	SITE/GRADING PLAN
4	UTILITY PLAN
5	STORM DRAIN DRAINAGE AREA MAP
6	STORM DRAIN PROFILES / BUILDING ELEVATIONS / PUMP DETAILS
7	EROSION AND SEDIMENT CONTROL PLAN
8	SEDIMENT CONTROL NOTES AND DETAILS
9	SITE DETAILS
10	BAYSAYER DETAILS
11	BORING LOGS
12	BORING LOGS
13	PROP. WATER LINE PROFILE

**ADDRESS CHART**

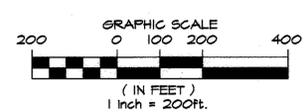
LOT / PARCEL #	STREET ADDRESS
47	10901 LITTLE PATUXENT PKY, COLUMBIA, MD 21044

**PERMIT INFORMATION CHART**

SUBDIVISION NAME:	SECTION/AREA	PARCEL NO.
HOWARD COMMUNITY COLLEGE	N/A	47
PLAT# 16125, 16125/F 328	ZONING FOR & NT	TAX MAP # 35
16125 + 18178 + 18179	WATER CODE 107	ELECTION DISTRICT: 5
	SEWER CODE 5522500	CENSUS TRACT 6056.02

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. 33272, Expiration Date: 6/16/17

**LOCATION MAP**  
 SCALE: 1"=200'



APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DIRECTOR  
 COUNTY HEALTH OFFICER  
 HOWARD COUNTY HEALTH DEPARTMENT

**DESMAN ASSOCIATES**  
 A DIVISION OF DESMAN, INC.  
 NEW YORK CHICAGO WASHINGTON, D.C. HARTFORD BOSTON CLEVELAND LAS VEGAS

DATE	REVISION
10/12/2015	UTILITY RELOCATION
12/7/2016	PLAN REVISION NOTE

APPLICANT:  
 HOWARD COMMUNITY COLLEGE  
 10901 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044  
 ATTN: JAMES LASH  
 HOWARD COMMUNITY COLLEGE  
 EXECUTIVE DIRECTOR OF  
 CAPITAL PROJECTS AND  
 FACILITIES  
 410-712-4296

DESIGNED BY: MLV  
 DRAWN BY: JMJ/GCD  
 CHECKED BY: RLB  
 3-27-04



**KCI TECHNOLOGIES**  
 110 North Park Drive  
 Hunt Valley, MD 21038  
 Phone: (410) 316-7800  
 Fax: (410) 316-7817  
 www.kci.com

**TITLE SHEET**  
 REVISED SITE DEVELOPMENT PLAN  
**HOWARD COMMUNITY COLLEGE**  
**PROPOSED PARKING GARAGE #1**  
 10901 LITTLE PATUXENT PKY  
 COLUMBIA, MD 21044  
 TAX MAP NO. 35, GRID NO. 6, PARCEL NO. 47  
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 DATE: MARCH 27, 2006  
 SHEET: 1 OF 13  
**SDP-06-002**

PLOTTED: 04:48 PM on Friday, March 24, 2006  
 BY: Bymiller, Division U.P. & D.  
 FILE: M:\2005\0053814\HOWARD\HOWARD.LITTLE.dgn

**DEMOLITION KEY LEGEND**

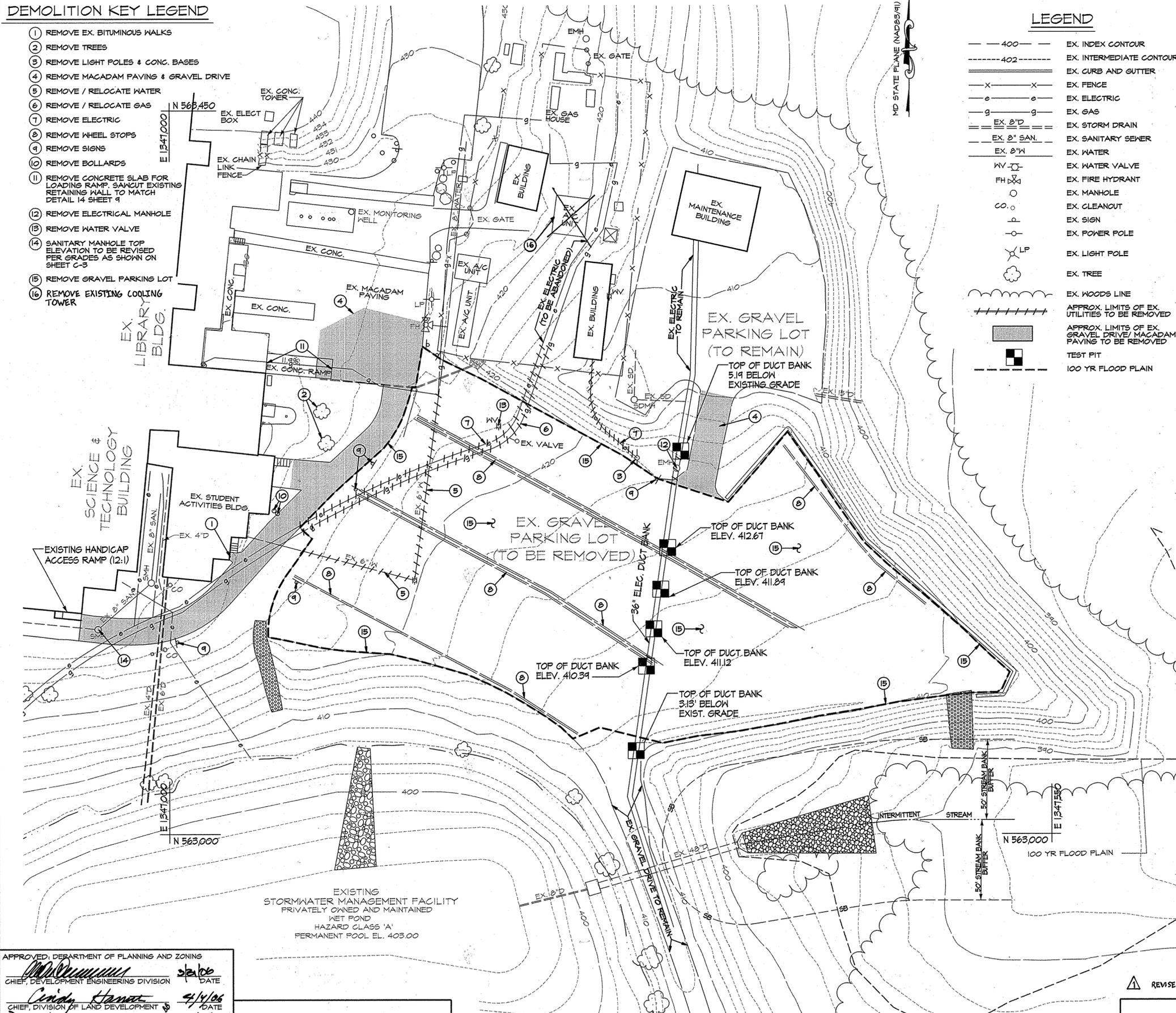
- ① REMOVE EX. BITUMINOUS WALKS
- ② REMOVE TREES
- ③ REMOVE LIGHT POLES & CONC. BASES
- ④ REMOVE MACADAM PAVING & GRAVEL DRIVE
- ⑤ REMOVE / RELOCATE WATER
- ⑥ REMOVE / RELOCATE GAS
- ⑦ REMOVE ELECTRIC
- ⑧ REMOVE WHEEL STOPS
- ⑨ REMOVE SIGNS
- ⑩ REMOVE BOLLARDS
- ⑪ REMOVE CONCRETE SLAB FOR LOADING RAMP. SAWCUT EXISTING RETAINING WALL TO MATCH DETAIL 14 SHEET 4
- ⑫ REMOVE ELECTRICAL MANHOLE
- ⑬ REMOVE WATER VALVE
- ⑭ SANITARY MANHOLE TOP ELEVATION TO BE REVISED PER GRADES AS SHOWN ON SHEET C-3
- ⑮ REMOVE GRAVEL PARKING LOT
- ⑯ REMOVE EXISTING COOLING TOWER

**LEGEND**

- 400 --- EX. INDEX CONTOUR
- 402 --- EX. INTERMEDIATE CONTOUR
- X --- EX. CURB AND GUTTER
- X --- EX. FENCE
- 0 --- EX. ELECTRIC
- 0 --- EX. GAS
- EX. 8" D --- EX. STORM DRAIN
- EX. 8" SAN --- EX. SANITARY SEWER
- EX. 8" W --- EX. WATER
- W --- EX. WATER VALVE
- FH --- EX. FIRE HYDRANT
- O --- EX. MANHOLE
- O --- EX. CLEANOUT
- O --- EX. SIGN
- O --- EX. POWER POLE
- LP --- EX. LIGHT POLE
- EX. TREE
- EX. WOODS LINE
- / / / / --- APPROX. LIMITS OF EX. UTILITIES TO BE REMOVED
- / / / / --- APPROX. LIMITS OF EX. GRAVEL DRIVE/MACADAM PAVING TO BE REMOVED
- [ ] --- TEST PIT
- [ ] --- 100 YR FLOOD PLAIN

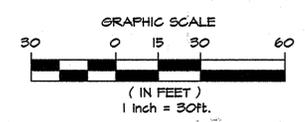
**DEMOLITION NOTES**

1. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" (800-257-7771) AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING ANY WORK.
2. NO WORK SHALL BEGIN UNTIL THE PROPER PERMITS HAVE BEEN RELEASED BY HOWARD COUNTY.
3. BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN IS BASED UPON A SURVEY CONDUCTED BY KCI TECHNOLOGIES IN APRIL, 2005.
4. OBSTRUCTIONS SHOWN ON THIS DRAWING ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE CONTRACTOR DOES NOT WARRANT OR GUARANTEE THE CORRECTNESS OR THE COMPLETENESS OF THE INFORMATION GIVEN. THE CONTRACTOR MUST VERIFY ALL SUCH INFORMATION TO HIS OWN SATISFACTION.
5. CONTRACTOR SHALL NOT PROCEED WITH ANY DEMOLITION WORK UNTIL ALL UTILITY COMPANIES HAVE VERIFIED IN WRITING THAT DISCONNECTIONS HAVE BEEN COMPLETED.
6. CONTRACTOR WILL INSTALL A TEMPORARY CONSTRUCTION FENCE AROUND THE CONSTRUCTION AREA WHILE MAINTAINING ACCESS TO THE ADJACENT PUBLIC SIDEWALKS.
7. CONTRACTOR WILL SECURE THE CONSTRUCTION AREA AT THE END OF EACH WORKING DAY AND WILL INSPECT THE SECURITY FENCING TO INSURE ITS INTEGRITY.
8. CONTRACTOR IS RESPONSIBLE TO COMPLY WITH MSHA AND OSHA REGULATIONS AS THEY PERTAIN TO EXISTING ADJACENT BUILDING WALLS AND PUBLIC SIDEWALKS AND PROVIDING "SAFE" PASSAGE TO THEM.
9. CONTRACTOR WILL INSPECT AND TAKE PICTURES OF ADJACENT BUILDING WALLS AND RETAINING WALLS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION ON THE SITE. EXISTING WALL CRACKS (IF ANY) WILL BE NOTED.
10. CONTRACTOR WILL CONTINUALLY MONITOR THE WALLS OF THE ADJACENT BUILDINGS AND RETAINING WALLS FOR ANY SIGNS OF STRUCTURAL DISTRESS. IF ANY DISTRESS IS NOTED, CONTRACTOR SHALL STOP WORK IMMEDIATELY AND NOTIFY OWNER, KCI TECHNOLOGIES, INC. AND DESMAN ASSOCIATES.
11. CONTRACTOR WILL NOT EXPOSE, UNDERMINE OR IMPACT THE ZONE OF INFLUENCE FOR FOOTINGS AND FOUNDATIONS OF ADJACENT BUILDINGS. CONTRACTOR WILL BE RESPONSIBLE FOR THE COST TO REPAIR ADJACENT BUILDINGS THAT ARE DAMAGED DUE TO HIS OPERATION.
12. CONTRACTOR WILL PROVIDE THE NECESSARY MEANS TO CONTROL DUST AND AIR QUALITY DURING THE DEMOLITION PROCESS.
13. CONTRACTOR WILL SAWCUT EXISTING PAVING TO MINIMIZE DAMAGE TO EXISTING PAVING REMAINING.
14. IN CONJUNCTION WITH THE REMOVAL OF CONCRETE APRONS AND WALKS, THE CONTRACTOR IS RESPONSIBLE TO ADJUST ALL PUBLIC UTILITIES (I.E. MANHOLE FRAMES & COVERS, ELECTRIC HAND BOXES, VALVE COVERS) TO BE FINISHED SIDEWALK GRADES.
15. ANY EXISTING CURB AND GUTTER & CONCRETE SIDEWALK SHALL BE REMOVED TO THE NEAREST JOINT.
16. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ALL WORK SHOWN ON THESE DRAWINGS UNLESS OTHERWISE NOTED.
17. THE DEMOLITION INFORMATION SHOWN ON THIS DRAWING IS FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LIMITS OF DEMOLITION AND REMOVAL OF AFFECTED SITE ITEMS.
18. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES SHOWN HEREON BEFORE STARTING ANY WORK ON THESE PLANS. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR THE COST OF ANY AND ALL DAMAGES WHICH OCCUR AS A RESULT OF A FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES TO REMAIN.
19. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AT ALL TIMES.
20. CONTRACTOR SHALL INSTALL SEDIMENT CONTROLS PRIOR TO BEGINNING ANY WORK AND MAINTAIN SEDIMENT CONTROLS THROUGHOUT THE ENTIRE DURATION OF DEMOLITION AND CONSTRUCTION ACTIVITIES.
21. ALL UTILITY LINES, ELECTRICAL DUCT BANKS, STRUCTURES, ETC. ARE TO BE REMOVED IN THEIR ENTIRETY UNLESS OTHERWISE INDICATED. ALL EXCAVATION SHALL BE BACKFILLED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. IN THE EVENT THAT A PORTION OF A UTILITY IS TO BE REMOVED THE CONTRACTOR SHALL TERMINATE & CAP TO THE LIMITS INDICATED IN ACCORDANCE WITH ALL STATE & LOCAL REQUIREMENTS AND THE PROJECT REQUIREMENTS.
22. IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THIS PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLETE SUCH WORK.
23. SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS THE A/E IS TO BE NOTIFIED IMMEDIATELY TO RESOLVE THE SITUATION. SHOULD THE CONTRACTOR MAKE FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT NOTIFYING THE A/E, THEN THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES.
24. CONTRACTOR SHALL CAP EXISTING UTILITY CONNECTIONS AND PROVIDE THEIR HORIZONTAL AND VERTICAL LOCATIONS TO THE OWNER AND THE ENGINEER.
25. CONTRACTOR SHALL REMOVE ALL CONSTRUCTION DEBRIS FROM THE SITE AND DISPOSE OF IT AT AN APPROVED, PERMITTED DISPOSAL FACILITY. NO RUBBLE IS TO BE LEFT ON SITE.
26. BURNING OF COMBUSTIBLE MATERIALS FROM DEMOLISHED STRUCTURES WILL NOT BE PERMITTED.
27. NO EXPLOSIVES WILL BE USED IN THE SITE DEMOLITION.



NEW SEAL AND SIGNATURE APPLICABLE TO REVISIONS 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. 031089, EXPIRATION DATE: 11-21-14



REVISION DEMOLITION PLAN AND ADD SEAL/CERTIFICATION 10-1-13

APPROVED, DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 2/21/06  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 [Signature] 4/14/06  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 [Signature] 4/14/06  
 DIRECTOR  
 APPROVED, FOR PRIVATE WATER SYSTEMS  
 COUNTY HEALTH OFFICER  
 HOWARD COUNTY HEALTH DEPARTMENT

**DESMAN ASSOCIATES**  
 A DIVISION OF DESMAN, INC.  
 NEW YORK CHICAGO WASHINGTON, D.C. HARTFORD BOSTON CLEVELAND LAS VEGAS

**EXISTING CONDITIONS / DEMOLITION PLAN**  
 SCALE: 1"=30'



**EXISTING CONDITIONS / DEMOLITION PLAN**  
**HOWARD COMMUNITY COLLEGE**  
**PROPOSED PARKING GARAGE #1**  
 10901 LITTLE PATUXENT PKWY  
 COLUMBIA, MD 21044  
 TAX MAP NO. 35, GRID NO. 6, PARCEL NO. 47  
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 DATE: MARCH 27, 2006 SHEET: 2 OF 13  
 SDP-06-002

PLOTTED: 04:38 PM on Friday, March 24, 2006  
 BY: [Name] Division: U.P. & D.  
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**GENERAL NOTES**

1. THE CONTRACTOR SHALL NOTIFY MISS UTILITY - (800) 251-7771 AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING ANY WORK.
2. TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED ON A FIELD SURVEY DATED APRIL 2005, COMPLETED BY KCI TECHNOLOGIES, INC.
3. OBSTRUCTIONS SHOWN ON THIS DRAWING ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. KCI TECHNOLOGIES, INC. DOES NOT WARRANT OR GUARANTEE THE CORRECTNESS OR THE COMPLETENESS OF THE INFORMATION GIVEN. THE CONTRACTORS MUST VERIFY ALL SUCH INFORMATION TO HIS OWN SATISFACTION PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPARTMENT OF CONSTRUCTION INSPECTION (410) 315-1880 FIVE (5) WORKING DAYS BEFORE STARTING THE WORK SHOWN ON THESE PLANS.
5. REMOVAL OF ANY SIDEWALK AND/OR CURB AND GUTTER SHALL BE AT NEAREST JOINT. NO PATCHING SHALL BE PERMITTED.
6. SAW CUT EXISTING PAVEMENT AS NEEDED TO INSTALL NEW CONSTRUCTION.
7. STRIP AND RESURFACE EXISTING PAVING AS NEEDED TO PROVIDE SMOOTH TRANSITION TO EXISTING GRADES. SEE PAVING TIE-IN DETAIL SHEET 4.
8. IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLETE SUCH WORK.
9. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER OF ANY DEVIATION FROM THIS PLAN PRIOR TO ANY CHANGE BEING MADE. ANY DEVIATION FROM THIS PLAN WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
10. THE CONTRACTOR SHALL NOTE THAT IN CASE OF A DISCREPANCY BETWEEN THE SCALED AND THE FIGURED DIMENSIONS SHOWN ON THESE PLANS, THE FIGURED DIMENSIONS SHALL GOVERN.
11. ALL CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE HOWARD COUNTY STANDARD DETAILS AND SPECIFICATIONS AND ALL REVISIONS THEREOF, UNLESS OTHERWISE NOTED.
12. CONTRACTOR SHALL ADJUST ALL EXISTING UTILITIES, I.E. MANHOLE FRAMES AND COVERS, ETC. TO FINISHED GRADE.
13. UNLESS OTHERWISE NOTED, PIPE ELEVATIONS REFER TO THE INVERT.
14. UNLESS OTHERWISE NOTED, ALL STORM DRAIN PIPE & FITTINGS SHALL BE HANGOR BLUE SEAL CORRUGATED POLYETHYLENE PIPE (H.D.P.E.) MANUFACTURED BY:

HANGOR INCORPORATED  
ONE WILLIAM DONNELLY INDUSTRIAL PARKWAY  
HAGERSTOWN, MD 21740  
1-800-847-5880

15. ALL STRUCTURE DIMENSIONS REFER TO THE CENTERLINE OF THE "STRUCTURES".
16. SEE MECHANICAL ELECTRICAL AND PLUMBING PLANS FOR CONTINUATION OF UTILITY CONNECTIONS TO BUILDING AND SITE LIGHTING INFORMATION.
17. CONTRACTOR SHALL CONNECT ALL ON SITE UTILITIES TO THE PROPOSED BUILDING CONNECTIONS AS REQUIRED.
18. ALL CLEANOUTS TO BE HOWARD COUNTY STD. S-2.22.
19. CLEANOUTS IN PAVED AREA ARE TO HAVE COUNTERSUNK LIDS.

**LEGEND**

--- 400 ---	EX. INDEX CONTOUR
--- 402 ---	EX. INTERMEDIATE CONTOUR
- - - - -	EX. CURB AND GUTTER
x - x - x	EX. FENCE
o - o - o	EX. ELECTRIC
g - g - g	EX. GAS
EX. 8" D	EX. STORM DRAIN
EX. 8" SAN	EX. SANITARY SEWER
EX. 8" W	EX. WATER
WV	EX. WATER VALVE
FH	EX. FIRE HYDRANT
o	EX. MANHOLE
CO	EX. CLEANOUT
o	EX. SIGN
o	EX. POWER POLE
LP	EX. LIGHT POLE
o	EX. TREE
o	EX. WOODS LINE
FB	EX. FOREST BUFFER
---	PROPERTY LINE
400	PROPOSED CONTOUR
-----	PROPOSED CONCRETE CURB & GUTTER HO. CO. STD. R-3.01
	PROPOSED CONCRETE SIDEWALK
+467.0	PROPOSED SPOT ELEVATION
o	PROPOSED PUMP
o	PROPOSED MANHOLE
PROP. 18" D	PROPOSED STORM DRAIN
PROP. 6" W	PROPOSED WATERLINE
g	PROPOSED GAS LINE
LOD	LIMIT OF DISTURBANCE
	APPROX. LIMITS OF PAVING TIE-IN
	APPROX. LIMITS OF PAVING HO. CO. STD. R-2.01 (P-3)
	APPROX. LIMITS OF CRUSHER RUN
	APPROX. LIMITS OF CONCRETE PAVING
o	DETAIL AND SHEET NUMBER
o	PROPOSED LIGHT
---	100 YR FLOOD PLAIN



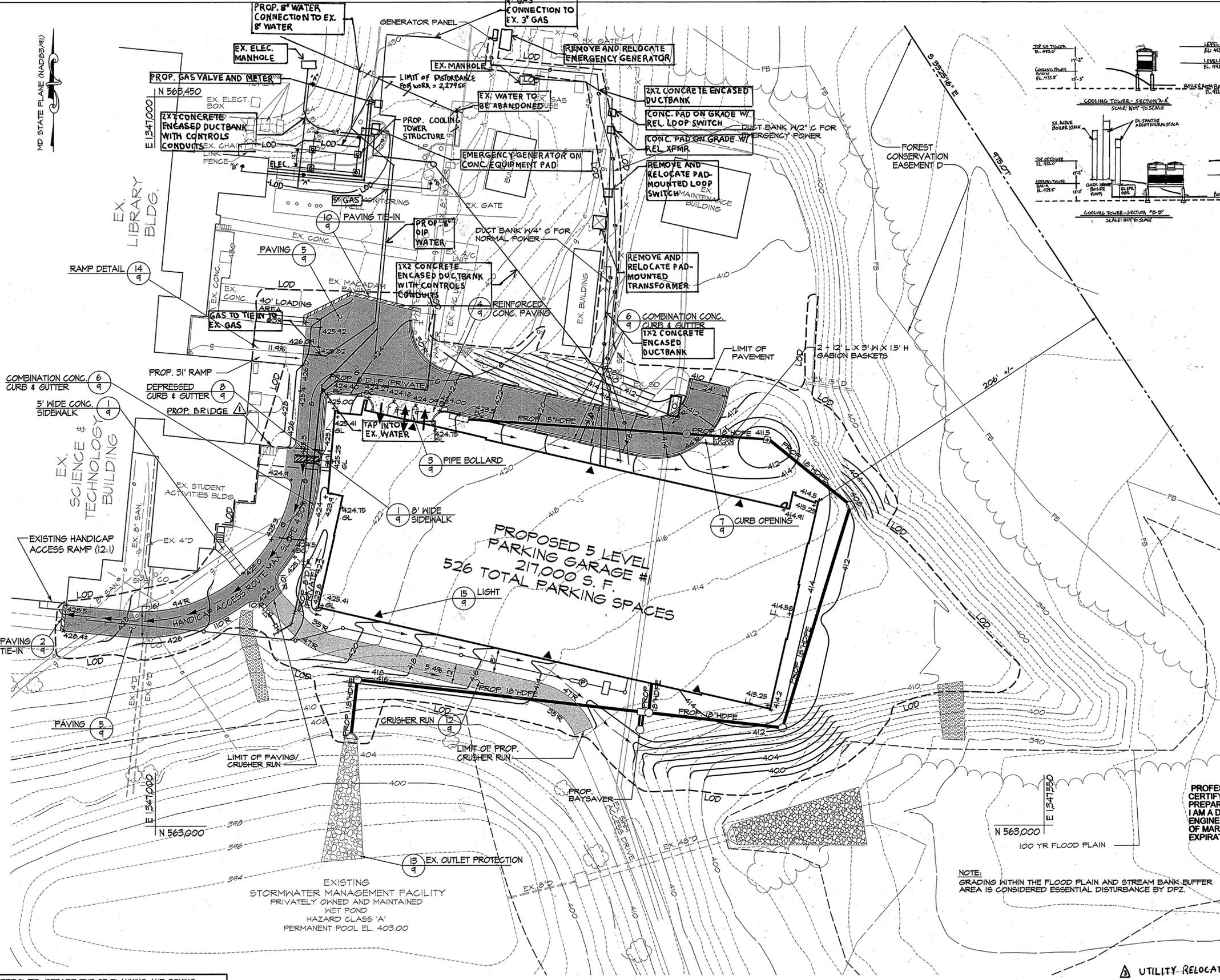
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 31087, Expiration Date: 11-20-13



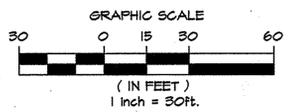
NEW SEAL AND SIGNATURE APPLICABLE TO REVISIONS ONLY

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. 31087, EXPIRATION DATE: 11-21-14

NOTE: GRADING WITHIN THE FLOOD PLAIN AND STREAM BANK BUFFER AREA IS CONSIDERED ESSENTIAL DISTURBANCE BY DPZ.



**SITE / GRADING PLAN**  
SCALE: 1"=30'

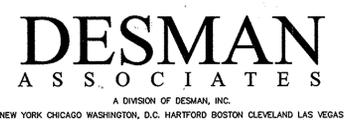


- ▲ UTILITY RELOCATION 10-12-13
- ▲ ADDED PROPOSED COOLING TOWER STATION AND SEAL/CERTIFICATION 10-1-13
- ▲ ADDED PEDESTRIAN BRIDGE 8-1-06



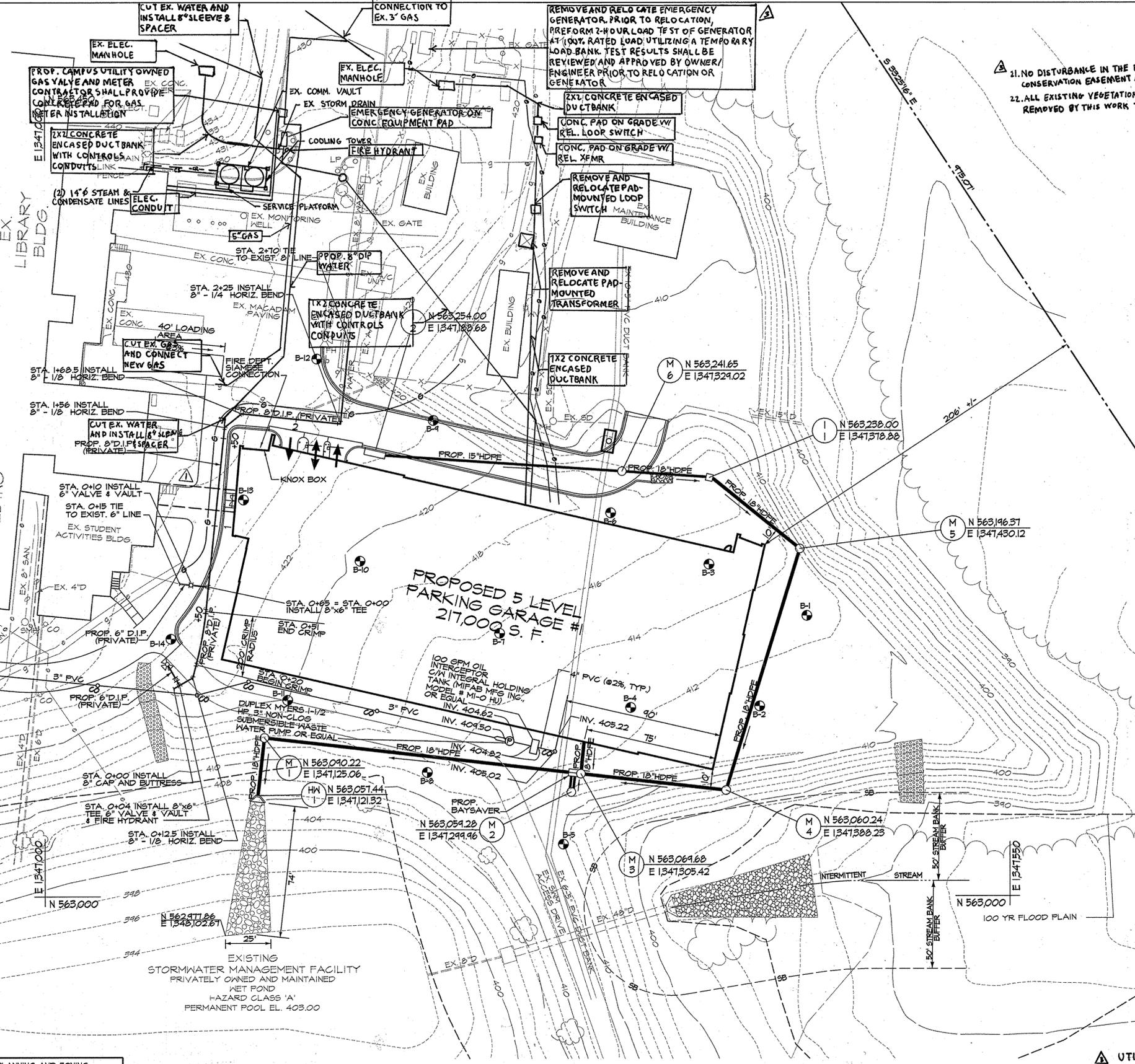
**SITE / GRADING PLAN**  
REVISED SITE DEVELOPMENT PLAN  
**HOWARD COMMUNITY COLLEGE**  
PROPOSED PARKING GARAGE #1  
10901 LITTLE PATUXENT PKWY  
COLUMBIA, MD 21044  
TAX MAP NO. 35, GRID NO. 6, PARCEL NO. 47  
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
DATE: MARCH 27, 2006  
SHEET: 3 OF 13  
SDP-06-002

APPROVED, DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DIRECTOR  
APPROVED FOR PRIVATE WATER SYSTEMS  
COUNTY HEALTH OFFICER  
HOWARD COUNTY HEALTH DEPARTMENT



PLOTTED: 04:47 PM on Friday, March 24, 2006  
BY: Byrd Miller, Division: L.P. & D.  
FILE: E:\MAY 2005\10153514.dwg

MD STATE PLANE (NAD83/94)



GENERAL NOTES

- 1. THE CONTRACTOR SHALL NOTIFY MISS UTILITY - (800) 257-7771 AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING ANY WORK.
2. TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED ON A FIELD SURVEY DATED APRIL 2008, COMPLETED BY KCI TECHNOLOGIES, INC.
3. OBSTRUCTIONS SHOWN ON THIS DRAWING ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. KCI TECHNOLOGIES, INC. DOES NOT WARRANT OR GUARANTEE THE CORRECTNESS OR THE COMPLETENESS OF THE INFORMATION GIVEN. THE CONTRACTORS MUST VERIFY ALL SUCH INFORMATION TO HIS OWN SATISFACTION PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPARTMENT OF CONSTRUCTION INSPECTION (410) 315-1280, FIVE (5) WORKING DAYS BEFORE STARTING THE WORK SHOWN ON THESE PLANS.
5. REMOVAL OF ANY SIDEWALK AND/OR CURB AND GUTTER SHALL BE AT NEAREST JOINT. NO PATCHING SHALL BE PERMITTED.
6. SAW CUT EXISTING PAVEMENT AS NEEDED TO INSTALL NEW CONSTRUCTION.
7. STRIP AND RESURFACE EXISTING PAVING AS NEEDED TO PROVIDE SMOOTH TRANSITION TO EXISTING GRADES. SEE PAVING TIE-IN DETAIL SHEET 4.
8. IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLETE SUCH WORK.
9. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER OF ANY DEVIATION FROM THIS PLAN PRIOR TO ANY CHANGE BEING MADE. ANY DEVIATION FROM THIS PLAN WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
10. THE CONTRACTOR SHALL NOTE THAT IN CASE OF A DISCREPANCY BETWEEN THE SCALED AND THE FIGURED DIMENSIONS SHOWN ON THESE PLANS, THE FIGURED DIMENSIONS SHALL GOVERN.
11. ALL CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE HOWARD COUNTY STANDARD DETAILS AND SPECIFICATIONS AND ALL REVISIONS THERETO, UNLESS OTHERWISE NOTED.
12. CONTRACTOR SHALL ADJUST ALL EXISTING UTILITIES, I.E. MANHOLE FRAMES AND COVERS, ETC. TO FINISHED GRADE.
13. UNLESS OTHERWISE NOTED, PIPE ELEVATIONS REFER TO THE INVERT.
14. UNLESS OTHERWISE NOTED, ALL STORM DRAIN PIPE & FITTINGS SHALL BE HANCOR BLUE SEAL CORRUGATED POLYETHYLENE PIPE (H.D.P.E.) MANUFACTURED BY:
HANCOR INCORPORATED
ONE WILLIAM DONNELLY INDUSTRIAL PARKWAY
MAVERLY, NY 14842
1-800-847-5880
15. ALL STRUCTURE DIMENSIONS REFER TO THE CENTERLINE OF THE 'STRUCTURES'.
16. SEE MECHANICAL, ELECTRICAL AND PLUMBING PLANS FOR CONTINUATION OF UTILITY CONNECTIONS TO BUILDING AND SITE LIGHTING INFORMATION.
17. CONTRACTOR SHALL CONNECT ALL ON SITE UTILITIES TO THE PROPOSED BUILDING CONNECTIONS AS REQUIRED.
18. ALL CLEANOUTS TO BE HOWARD COUNTY STD. S-2.22.
19. CLEANOUTS IN PAVED AREA ARE TO HAVE COUNTERSUNK LIDS.
20. A KNOX BOX (FIRE DEPARTMENT ACCESS BOX) IS REQUIRED TO BE PLACED ON THE FRONT OF THE BUILDING. IT SHALL BE PLACED TO THE RIGHT OF THE MAIN ENTRANCE OF THE BUILDING AT A HEIGHT AND NO MORE THAN 6' FROM THE DOOR. THE BOX SHALL BE ELECTRONICALLY SUPERVISED TO NOTIFY THE OWNER THAT IT IS BEING ACCESSED. NPFA-110.12.1

LEGEND

- 400 --- EX. INDEX CONTOUR
--- 402 --- EX. INTERMEDIATE CONTOUR
--- x-x --- EX. CURB AND GUTTER
--- x-x --- EX. FENCE
--- e-e --- EX. ELECTRIC
--- g-g --- EX. GAS
--- EX. 8" D --- EX. STORM DRAIN
--- EX. 8" SAN. --- EX. SANITARY SEWER
--- EX. 8" W --- EX. WATER
--- W-V --- EX. WATER VALVE
--- FH --- EX. FIRE HYDRANT
--- O --- EX. MANHOLE
--- CO --- EX. CLEANOUT
--- --- EX. SIGN
--- --- EX. POWER POLE
--- --- EX. LIGHT POLE
--- --- EX. TREE
--- --- EX. WOODS LINE
--- 400 --- PROPOSED CONTOUR
--- --- PROPOSED CONCRETE CURB & GUTTER HO. CO. STD. R-3.01
--- --- PROPOSED CONCRETE SIDEWALK
--- +467.0 --- PROPOSED SPOT ELEVATION
--- B-B --- BORING LOCATION
--- O --- PROPOSED MANHOLE
--- --- PROPOSED STORM DRAIN
--- --- PROPOSED WATERLINE
--- --- PROPOSED GAS LINE
--- --- PROPOSED ELECTRIC LINE
--- --- PROPOSED PUMP
--- --- 100 YR FLOOD PLAIN

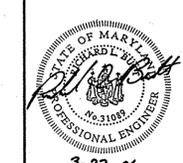
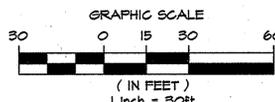
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 33772, Expiration Date: 6/6/12



NEW SEAL AND SIGNATURE APPLICABLE TO REVISIONS 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. 31089, EXPIRATION DATE: 11-21-14

- ▲ UTILITY RELOCATION 10-12-13
▲ ADDED PROPOSED COOLING TOWER STATION AND SEAL/CERTIFICATION 10-1-13
▲ ADDED PEDESTRIAN BRIDGE 8-1-06



UTILITY PLAN
REVISED SITE DEVELOPMENT PLAN
HOWARD COMMUNITY COLLEGE
PROPOSED PARKING GARAGE #1
10901 LITTLE PATUXENT PKWY
COLUMBIA, MD 21044
TAX MAP NO. 35, GRID NO. 6, PARCEL NO. 47
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: JANUARY 9, 2008 SHEET: 4 OF 13
SDP-06-002

APPROVED, DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION
CHIEF, DIVISION OF LAND DEVELOPMENT
DIRECTOR
COUNTY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT



UTILITY PLAN
SCALE: 1"=30'

MD STATE PLANE (NAD83/91)

SOILS LEGEND		
MAP SYMBOL	SOIL GROUP	SOIL TYPE
EKB2	C	ELIOK SILT LOAM (8% TO 8% slopes) MODERATELY ERODED
GIB2	B	GLENELO LOAM (8% TO 8% slopes) MODERATELY ERODED
GIB2	C	GLENNVILLE SILT LOAM (8% TO 8% slopes) MODERATELY ERODED
MIC2	B	MANOR LOAM (8% TO 15% slopes) MODERATELY ERODED
MIC3	B	MANOR LOAM (8% TO 15% slopes) SEVERELY ERODED
MID	B	MANOR VERY STONY LOAM (8% TO 25% slopes)

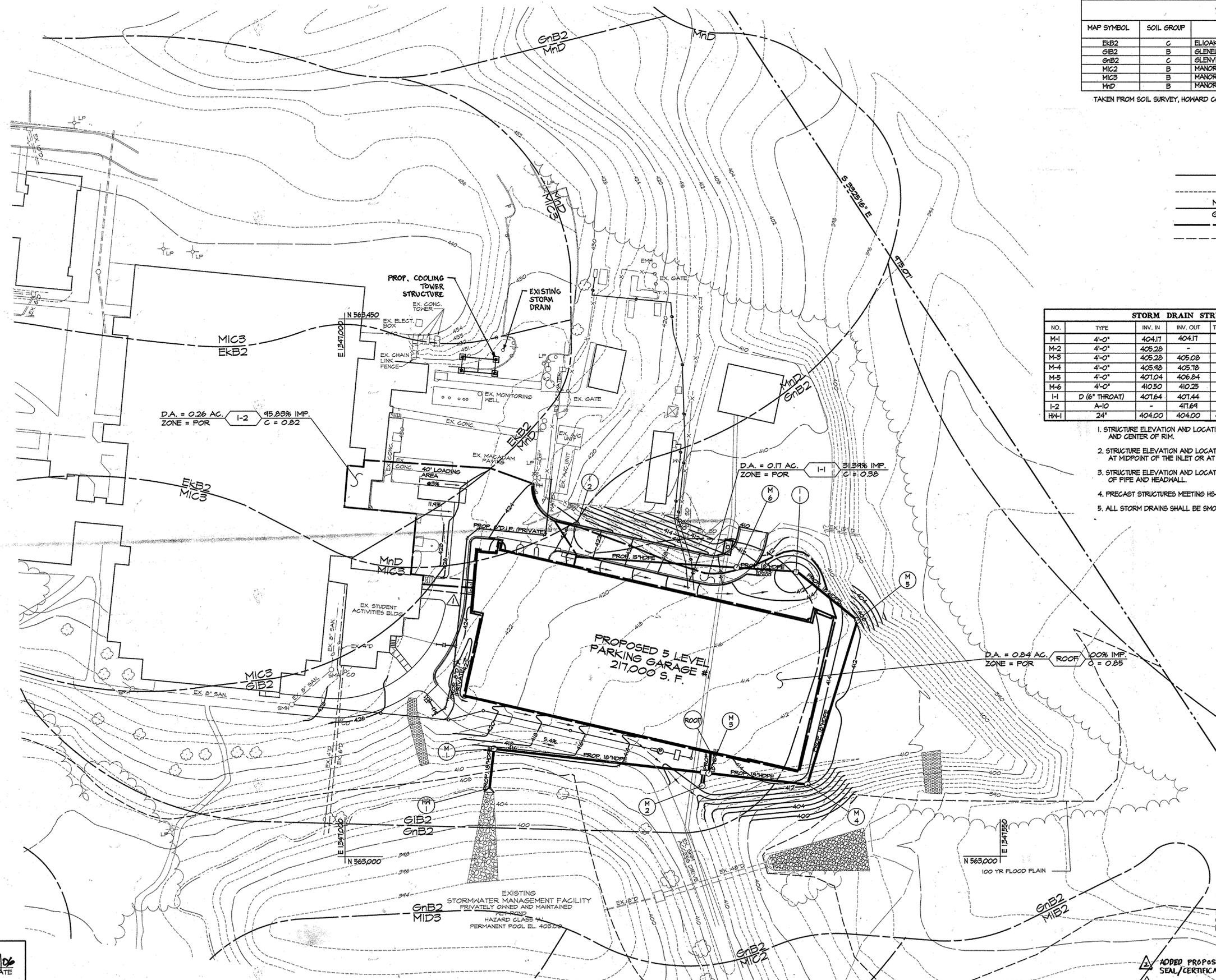
TAKEN FROM SOIL SURVEY, HOWARD COUNTY, MARYLAND (ISSUED JULY 1968) MAP NO. 24

**LEGEND**

- 400 — PROPOSED GRADING
- - - 402 - - - EX. CONTOUR
- MIC3 — SOILS LIMITS
- - - GIB2 - - - DRAINAGE AREA BOUNDARY
- - - 100 YR FLOOD PLAN

STORM DRAIN STRUCTURE SCHEDULE						
NO.	TYPE	INV. IN	INV. OUT	TOP ELEV.	REMARKS	HO. CO. STD.
M-1	4'-0"	404.17	404.17	414.0	-	G-5.12
M-2	4'-0"	405.28	-	412.0	BAYSAVER	SEE SHEET 10
M-3	4'-0"	405.28	405.08	415.0	BAYSAVER	SEE SHEET 10
M-4	4'-0"	405.98	405.78	412.0	-	G-5.12
M-5	4'-0"	407.04	406.84	412.0	-	G-5.12
M-6	4'-0"	410.50	410.25	412.95	-	G-5.12
I-1	D (6" THROAT)	407.64	407.44	411.5	OPEN 4 SIDES	SD-4.11 OR 4.24
I-2	A-10	-	417.69	423.5	-	SD-4.02
HW-1	24"	404.00	404.00	407.00	-	SD-5.11

1. STRUCTURE ELEVATION AND LOCATION FOR MANHOLES IS AT THE TOP AND CENTER OF RIM.
2. STRUCTURE ELEVATION AND LOCATION FOR INLETS IS AT THE TOP OF CURB AT MIDPOINT OF THE INLET OR AT THE CENTER OF SLAB FOR 'D' INLETS.
3. STRUCTURE ELEVATION AND LOCATION OF HEADWALL IS AT THE CONNECTION OF PIPE AND HEADWALL.
4. PRECAST STRUCTURES MEETING HS-20 LOADING MAY BE USED.
5. ALL STORM DRAINS SHALL BE SMOOTH CORE HIGH DENSITY POLYETHYLENE PIPE.



NEW SEAL AND SIGNATURE APPLICABLE TO REVISIONS ONLY

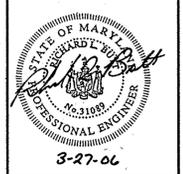
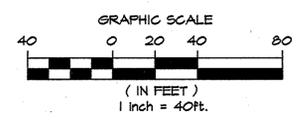
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31087, EXPIRATION DATE: 11-21-14

- △ ADDED PROPOSED COOLING TOWER STATION AND SEAL/CERTIFICATION 10-1-13
- △ ADDED PEDESTRIAN BRIDGE 8-1-06

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 2/3/06  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 [Signature] 4/4/06  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 [Signature] 7/1/06  
 DIRECTOR  
 APPROVED: FOR PRIVATE WATER SYSTEMS  
 COUNTY HEALTH OFFICER  
 HOWARD COUNTY HEALTH DEPARTMENT

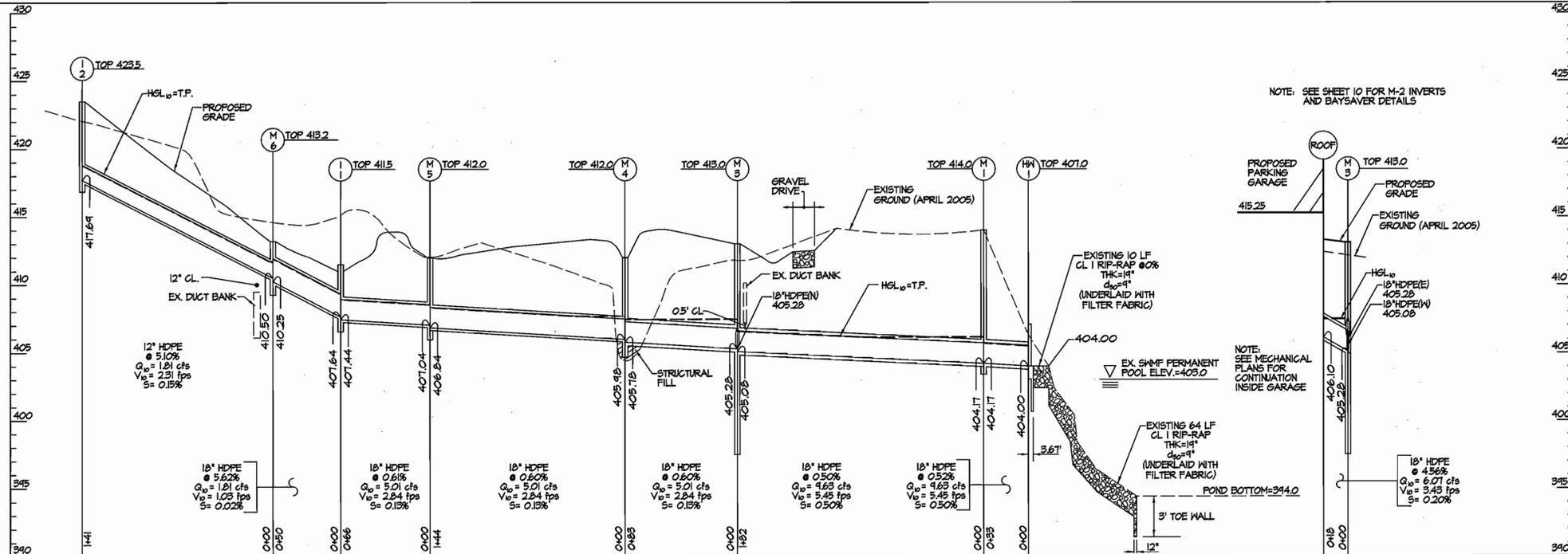
**DESMAN ASSOCIATES**  
 A DIVISION OF DESMAN, INC.  
 NEW YORK CHICAGO WASHINGTON, D.C. HARTFORD BOSTON CLEVELAND LAS VEGAS

STORM DRAIN DRAINAGE AREA MAP  
 SCALE: 1" = 40'

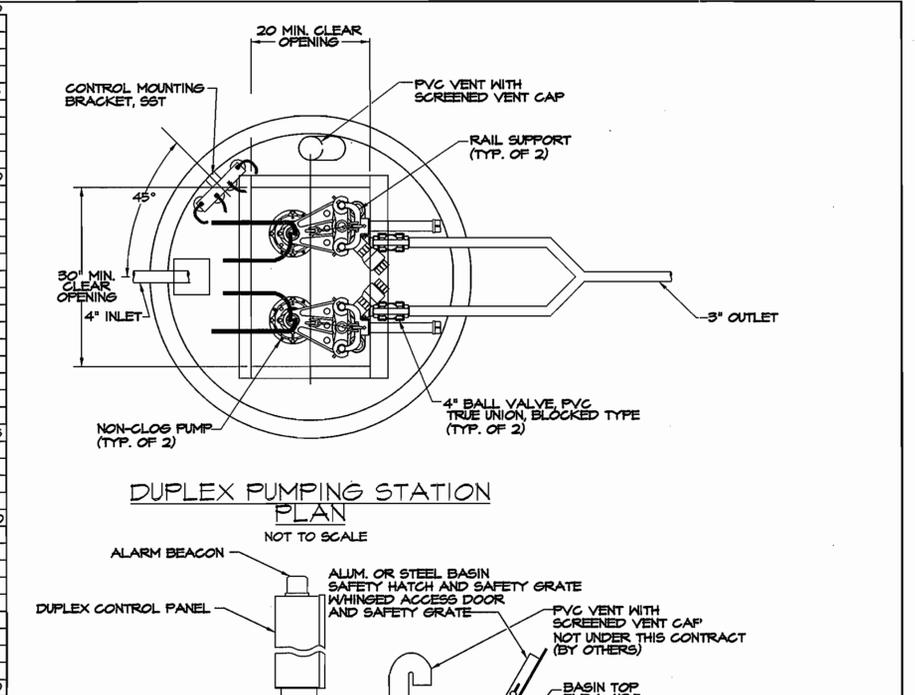


**STORM DRAIN DRAINAGE AREA MAP**  
**HOWARD COMMUNITY COLLEGE**  
**PROPOSED PARKING GARAGE #1**  
 10901 LITTLE PATUXENT PKWY  
 COLUMBIA, MD 21044  
 TAX MAP NO. 35, GRID NO. 6, PARCEL NO. 47  
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 DATE: MARCH 27, 2006  
 SHEET: 5 OF 13  
 SDP-06-002

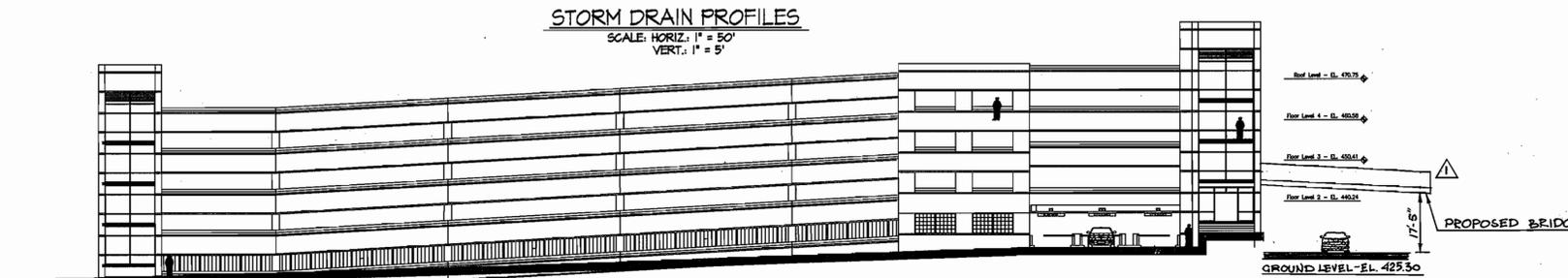
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 BY: [Signature]  
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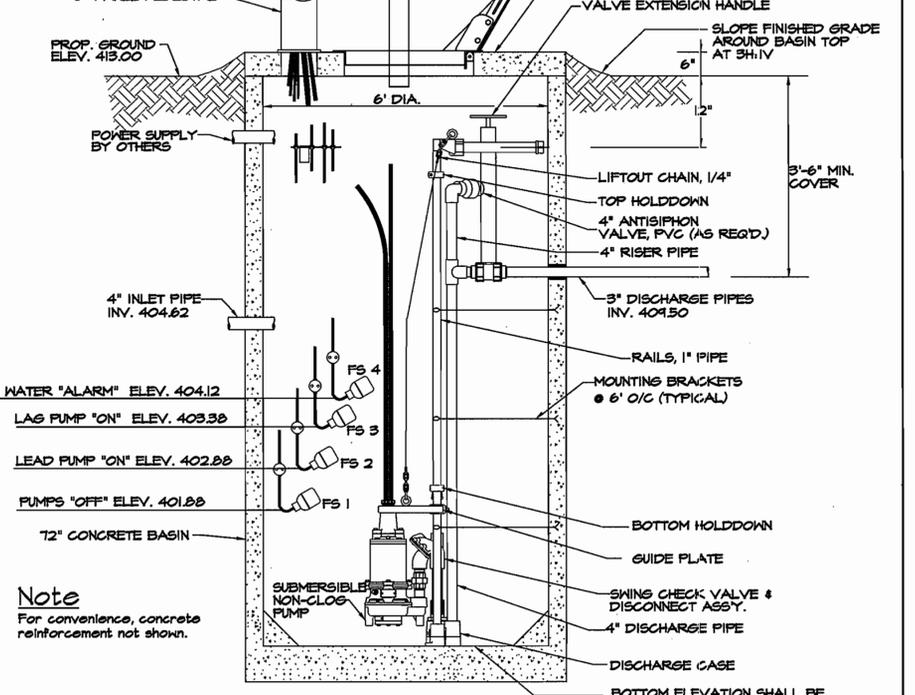
STORM DRAIN PROFILES  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'



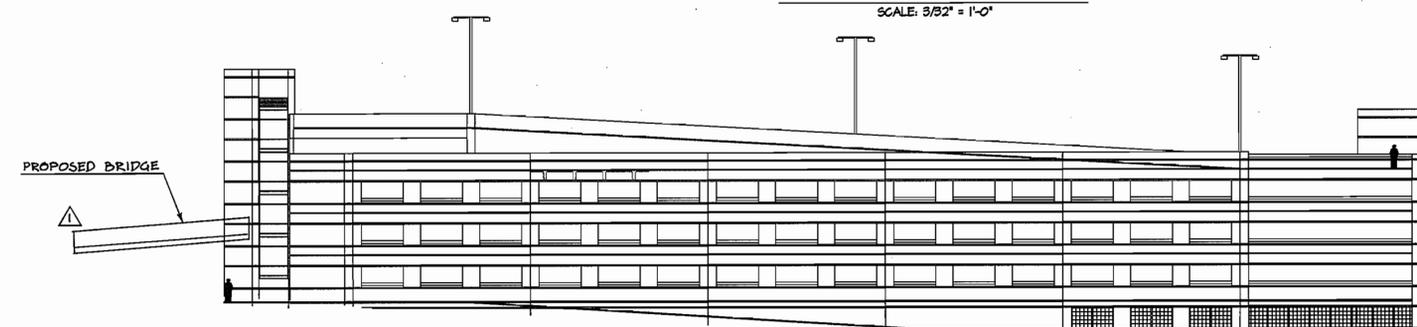
DUPLEX PUMPING STATION  
PLAN  
NOT TO SCALE



NORTH BUILDING ELEVATION  
SCALE: 3/32" = 1'-0"

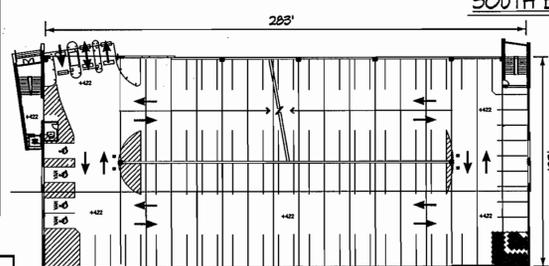


DUPLEX PUMPING STATION  
SECTION  
NOT TO SCALE  
INFLUENT MAX. DAILY FLOW = 6710 GPD

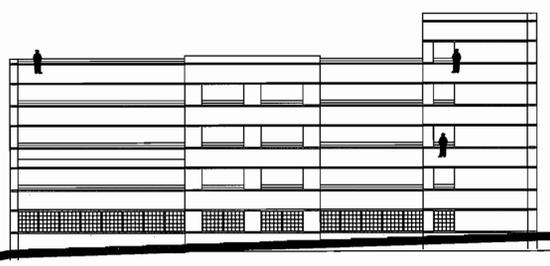


SOUTH BUILDING ELEVATION  
SCALE: 3/32" = 1'-0"

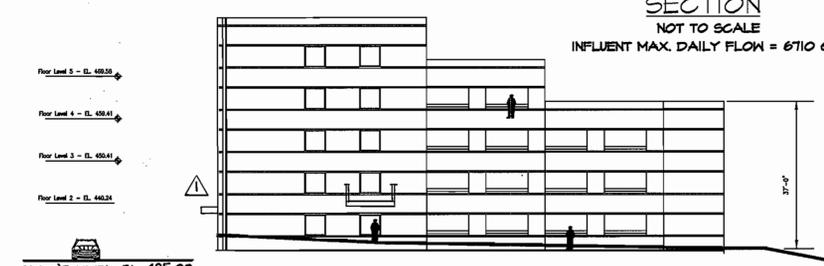
RUN	SIZE	LENGTH	TYPE & CLASS
H-1 TO M-1	10"	33'	HDPE
M-1 TO M-3	10"	182'	HDPE
M-3 TO M-4	10"	83'	HDPE
M-4 TO M-5	10"	144'	HDPE
M-5 TO I-1	10"	66'	HDPE
I-1 TO M-6	10"	50'	HDPE
M-6 TO I-2	12"	141'	HDPE
M-3 TO ROOF	10"	10'	HDPE
M-2 TO M-3	-	-	BAYSAYER



GARAGE GROUND LEVEL FLOOR PLAN  
SCALE: 3/32" = 1'-0"



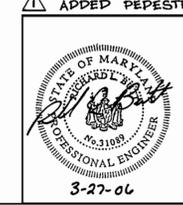
EAST BUILDING ELEVATION  
SCALE: 3/32" = 1'-0"



WEST BUILDING ELEVATION  
SCALE: 3/32" = 1'-0"  
ADDED PEDESTRIAN BRIDGE 8-17-06

APPROVED, DEPARTMENT OF PLANNING AND ZONING  
*[Signature]*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 3/31/06  
*[Signature]*  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 4/4/06  
*[Signature]*  
 DIRECTOR  
 DATE: 4/4/06  
 APPROVED FOR PRIVATE WATER SYSTEMS  
 COUNTY HEALTH OFFICER  
 HOWARD COUNTY HEALTH DEPARTMENT  
 DATE: \_\_\_\_\_

**DESMAN ASSOCIATES**  
 A DIVISION OF DESMAN, INC.  
 NEW YORK CHICAGO WASHINGTON, D.C. HARTFORD BOSTON CLEVELAND LAS VEGAS



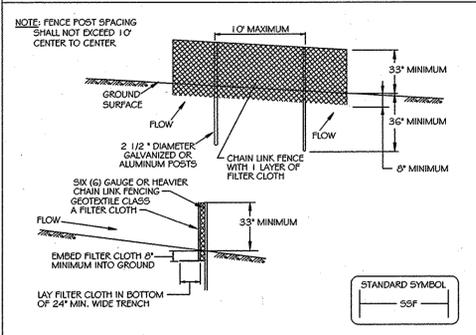
**KCI TECHNOLOGIES**  
 10 Morris Park Drive  
 Hunt Valley, MD 21030  
 Phone: (410) 316-7800  
 Fax: (410) 316-7817  
 www.kci.com

STORM DRAIN PROFILES / BUILDING ELEVATIONS / PUMP DETAILS  
 HOWARD COMMUNITY COLLEGE  
 PROPOSED PARKING GARAGE #1  
 10901 LITTLE PATUXENT PKWY  
 COLUMBIA, MD 21044  
 TAX MAP NO. 35, GRID NO. 6, PARCEL NO. 47  
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 DATE: MARCH 27, 2006  
 SHEET: 6 OF 12  
 SDP-06-002

PLOTTED: 04:43 PM on Friday, March 24, 2006  
 BY: [Name] / Divisions: U.P. & D.  
 FILE: M:\2005\03\SDP\4\Drawings\SDP06.dwg



DETAIL 33 - SUPER SILT FENCE



- Construction Specifications**
- Fencing shall be 42 inches in height and constructed in accordance with the latest Maryland State Highway (SHA) Details for Chain Link Fencing. The (SHA) specification for a 6 foot fence shall be used, substituting 42 inch fabric and 6 foot length posts.
  - The posts do not need to be set in concrete.
  - Chain link fence shall be fastened securely to the fence posts with wire ties or staples. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence. The chain link fence shall be set (G) gauge or heavier.
  - Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
  - Filter cloth shall be embedded a minimum of 6" into the ground.
  - When two sections of geotextile fabric adjoin each other, they shall be overlapped by 6" and folded.
  - Manufacture shall be performed as needed and all buildings removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE MODIFIED MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

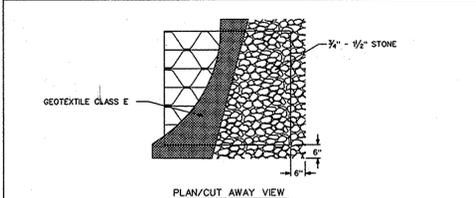
SUPER SILT FENCE

**Design Criteria**

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

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

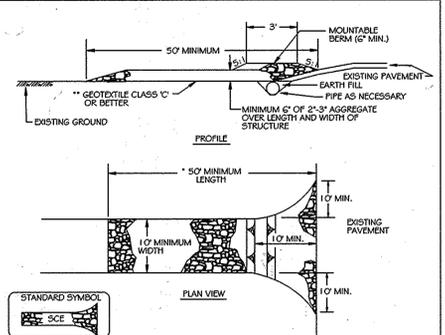
DETAIL 23B - AT GRADE INLET PROTECTION



- Construction Specifications**
- Lift grate and wrap with Geotextile Class E to completely cover all openings. Then set grate back in place.
  - Place 3/4" to 1/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

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

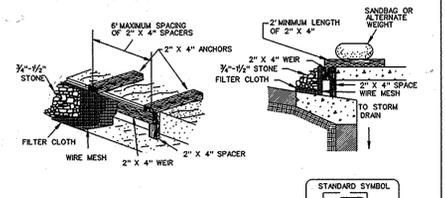
DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



- Construction Specification**
- Length - minimum of 50' (30' for single residence lots).
  - Width - 10' minimum, should be flared at the existing road to provide a turning radius.
  - Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. "The plan approval authority may require a single family lane to use geotextile."
  - Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
  - Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable beam with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipes should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
  - Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

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

DETAIL 23C-CURB INLET PROTECTION (COG OR COS INLETS)



- Attach a continuous piece of wire mesh (30" minimum width by 3' throat length plus 4") to the 2" x 4" wire (measuring throat length plus 2") shown on the standard drawing.
- Place a continuous piece of Geotextile Class E of the same dimensions as the wire mesh over the wire mesh and secure it closely to the 2" x 4" wire.
- Securely nail the 2" x 4" wire to a 9" long vertical spacer to be located between the wire and the inlet face (not 4" apart).
- Place the assembly against the inlet throat and nail minimum 2" lengths of 2" x 4" to the top of the wire at each end. These 2" x 4" anchors should extend across the inlet top and be held in place by sandbags or alternate weight.
- The assembly shall be placed so that the end anchors are a minimum 1' beyond both ends of the throat opening.
- Form the 1/2" x 1/2" wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4" to 1/2" stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
- This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
- Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

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

SEDIMENT CONTROL NOTES

- A MINIMUM OF 24 HOURS MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION, (315-1850).
- 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 SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL, REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETE WITHIN: A) 1 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- 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 SEEDINGS (SEC. 5) 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.

**T/SITE ANALYSIS:**

TOTAL AREA OF SITE	1174.4 ACRES
AREA TO BE ROOFED OR PAVED	0.42 ACRES
AREA TO BE VEGETATIVELY STABILIZED	2.05 ACRES
TOTAL CUT	1400 CY
TOTAL FILL	1400 CY
TOTAL FILL WASTE AREA LOCATION	SITE WITH APPROVED SED. CONTROL PLAN

- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL 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 CONTROL STRUCTURES, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THE INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE FEET LENGTHS ON THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE G - 17 - 1 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

HOWARD COUNTY SOIL CONSERVATION DISTRICT DETAILS AND SPECIFICATIONS FOR VEGETATIVE ESTABLISHMENT

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETE WITHIN SEVEN CALENDAR DAYS FOR THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SLOPES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3:1 HORIZONTAL TO 1 VERTICAL (3:1) AND FOURTEEN DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

- PERMANENT SEEDING:**
  - SOIL TESTS:** LIME AND FERTILIZER WILL BE APPLIED PER SOIL TESTS RESULTS FOR SITES GREATER THAN 5 ACRES. SOIL TESTS WILL BE DONE AT COMPLETION OF ROUGH GRADING. RATES AND ANALYSES WILL BE PROVIDED TO THE GRADING INSPECTOR AS WELL AS THE CONTRACTOR.
  - OCCURRENCE OF ACID SULFATE SOILS (GRAYISH BROWN COLOR) WILL REQUIRE COVERING WITH A MINIMUM OF 2 INCHES OF CLEAN SOIL WITH 6 INCHES MINIMUM COVERING OF TOP SOIL. NO STOCKPILING OF MATERIAL IS ALLOWED. IF NEEDED, SOIL TESTS SHOULD BE DONE BEFORE AND AFTER A 6 WEEK INCUBATION PERIOD TO ALLOW OXIDATION OF SULFATES.**
  - SEEDING PREPARATION:** AREA TO BE SEEDDED SHALL BE LOOSE AND FRIABLE TO A DEPTH OF AT LEAST 3 INCHES. THE TOP LAYER SHALL BE LOOSEENED BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING OCCURS. FOR SITES LESS THAN 5 ACRES, APPLY 100 POUNDS OF DOLOMITIC LIMESTONE AND 21 POUNDS OF 10-20-20 FERTILIZER PER 1000 SQUARE FEET. HARBOR OR DISK LIME AND FERTILIZER INTO THE SOIL TO A DEPTH OF AT LEAST 3 INCHES ON SLOPES FLATTER THAN 3:1.
  - SEEDING:** APPLY 5-6 POUNDS PER 1000 SQUARE FEET OF TALL FESCUE BETWEEN FEBRUARY 1 AND AUGUST 15 AND OCTOBER 31. APPLY SEED UNIFORMLY ON A MOIST FIRM SEEDBED WITH A CYCLONE SEEDER DRILL, CULTIPACKER, RECOMB OR HYDROSEEDER (SLURRY INCLUDES SEEDS AND FERTILIZER, RECOMMENDED ON STEEP SLOPES ONLY). MAXIMUM SEED DEPTH SHOULD BE 1/4" IN CLAY AND 1/2" IN SANDY SOILS WHEN USING OTHER THAN THE HYDROSEEDER METHOD. IRRIGATE IF SOIL MOISTURE IS DEFICIENT TO SUPPORT ADEQUATE GROWTH UNTIL VEGETATION IS FIRMLY ESTABLISHED. IF OTHER SEED MIXTURES ARE TO BE USED, SELECT FROM TABLE 25, ENTITLED "PERMANENT SEEDING FOR LOW MAINTENANCE AREAS" FROM THE 1994 STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. MIXES SUITABLE FOR THIS AREA ARE 1, 3, AND 5-1. MIXES 3-1 ARE SUITABLE IN MOST SITUATIONS.
  - MULCHING:** MULCH SHALL BE APPLIED TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING. DURING THE TIME PERIODS WHEN SEEDING IS NOT PERMITTED, MULCH SHALL BE APPLIED IMMEDIATELY AFTER GRADING. MULCH SHALL BE UNWITTED, UNCOMPRESSED, AND APPLIED AT A RATE OF 2 TONS PER ACRE OR 10 POUNDS PER 1000 SQUARE FEET (2 BALES). IF A MULCH ANCHORING TOOL IS USED, APPLY 2.5 TONS PER ACRE. MULCH MATERIALS SHALL BE RELATIVELY FREE OF ALL KINDS OF WEEDS AND SHALL BE COMPLETELY FREE OF PROHIBITED NOXIOUS WEEDS. SPREAD MULCH UNIFORMLY, MECHANICALLY OR BY HAND, TO A DEPTH OF 1-2 INCHES.
  - SECURING STRAW MULCH:** STRAW MULCH SHALL BE SECURED IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE MOVEMENT BY WIND OR WATER. THE FOLLOWING METHODS ARE PERMITTED:
    - USE A MULCH ANCHORING TOOL WHICH IS DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE TO A MINIMUM DEPTH OF 2 INCHES. THIS IS THE MOST EFFECTIVE METHOD FOR SECURING MULCH. HOWEVER, IT IS LIMITED TO WOODEN FLAT AREAS WHERE EQUIPMENT CAN OPERATE SAFELY.
    - WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A RATE OF 150 POUNDS PER ACRE. IF MIXED WITH WATER, USE 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
    - LIQUID BINDERS MAY BE USED AND APPLIED HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF SLOPES. THE PREVENT EROSION AND SLIPPAGE.
    - NETTING MAY BE USED TO SECURE MULCH. THE NETTING WILL BE STAPLED TO THE GROUND ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- TEMPORARY SEEDING:**
  - 100 POUNDS OF DOLOMITIC LIMESTONE PER 1000 SQUARE FEET.
  - FERTILIZER: 5 POUNDS OF 10-10-10 PER 1000 SQUARE FEET.
  - SEED:
    - MILLET - 0.42 POUNDS PER 1000 SQUARE FEET (MAY 1 THROUGH AUGUST 15).
    - MULCH - SAME AS 1 D AND E ABOVE.
  - NO FILLS MAY BE PLACED ON FROZEN GROUND. ALL FILL TO BE PLACED IN APPROXIMATELY HORIZONTAL LAYERS, EACH LAYER OF LOOSE THICKNESS OF NOT MORE THAN 8 INCHES. ALL FILL IN ROADWAYS AND PARKING AREAS IS TO BE CLASSIFIED TYPE 2 AS PER ANNE ARUNDEL COUNTY CODE - ARTICLE 21, SECTION 2-308, AND COMPACTED TO 90% DENSITY. COMPACTION TO BE DETERMINED BY ASTM #1587 (NOT IMPROPER). ANY FILL WITHIN THE BUILDING AREA TO BE COMPACTED TO A MINIMUM OF 95% DETERMINED BY METHODS PREVIOUSLY MENTIONED. FILLS FOR POUD BEMBANKS SHALL BE COMPACTED AS PER MD-518 CONSTRUCTION SPECIFICATIONS. ALL OTHER FILLS SHALL BE COMPACTED SUFFICIENTLY SO AS TO BE STABLE AND PREVENT EROSION AND SLIPPAGE.
- PERMANENT SOD:**
  - INSTALLATION OF SOD SHOULD FOLLOW PERMANENT SEEDING DATES. PERMANENT SOD IS TO BE TALL FESCUE, STATE APPROVED SOD, LIME AND FERTILIZER PER PERMANENT SEEDING SPECIFICATIONS AND LIGHTLY IRRIGATE SOIL PRIOR TO LAYING SOD. SOD IS TO BE LAID ON THE CONTIGUOUS WITH ALL JOINTS ARE TO BE STAGGERED BETWEEN ROWS. WATER AND ROLL OR TAMP SOD TO INSURE POSITIVE ROOT CONTACT WITH THE SOIL. ALL SLOPES STEEPER THAN 3:1, AS SHOWN, ARE TO BE PERMANENTLY SODDED OR PROTECTED WITH AN APPROVED EROSION CONTROL NETTING. ADDITIONAL WATERING FOR ESTABLISHMENT MAY BE REQUIRED. SOD IS NOT TO BE APPLIED ON FROZEN GROUND. SOD SHALL NOT BE HARVESTED OR TRANSLATED WHEN MOISTURE CONTENT (DRY OR WET) AND/OR EXCESSIVE TEMPERATURE MAY ADVERSELY AFFECT ITS SURVIVAL. IN THE ABSENCE OF ADEQUATE RAINFALL, IRRIGATION SHOULD BE PERFORMED TO INSURE ESTABLISHED SOD.
- MINING OPERATIONS:**
  - SEDIMENT CONTROL PLANS FOR MINING OPERATIONS MUST INCLUDE THE FOLLOWING SEEDING DATES AND MIXTURES:
    - FEBRUARY 1 THROUGH APRIL 30 AND AUGUST 15 THROUGH OCTOBER 31, USE SEED MIXTURE OF TALL FESCUE AT THE RATE OF 2 POUNDS PER 1000 SQUARE FEET AND BERGESSA LESPEDEZA AT THE RATE OF 0.5 POUNDS PER 1000 SQUARE FEET.
    - SEEDING DATES OF: MAY 1 THROUGH AUGUST 14, USE SEED MIXTURE OF TALL FESCUE AT THE RATE OF 2 POUNDS PER 1000 SQUARE FEET AND KEEPING LOVEGRASS AT THE RATE OF 0.1 POUND PER 1000 SQUARE FEET.
  - NOTE: USE OF THIS INFORMATION DOES NOT PRECLUDE MEETING ALL OF THE REQUIREMENTS OF THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

2.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

**Purpose**  
To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, or other unacceptable soil conditions.

**Conditions Where Practice Applies**  
This practice is limited to areas having 2:1 or flatter slopes where:

- The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
- Soil with a minimum of 2 inches of topsoil is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
- The original soil to be vegetated contains material toxic to plant growth.
- The soil is so acidic that treatment with limestone is not feasible.

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

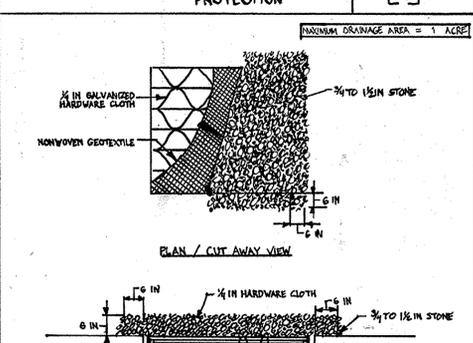
**Construction and Material Specifications**  
Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in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

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

- Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of clinders, stones, slag, coarse rock, roots, trash, or other materials larger than 1 1/2" in diameter.
- Topsoil must be free of plants or plant parts such as burweed, grass, quackgrass, Johnsongrass, nutgrass, poison ivy, thistle, or others as specified.
- Where the subsoil is either highly acidic or composed of heavy clay, gravel, limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
- For sites having disturbed areas over 5 acres:
  - Place topsoil in accordance with the requirements as specified in 20.0 Vegetative Stabilization - Section 7 - Vegetative Stabilization Methods and Materials.
  - For sites having disturbed areas over 5 acres on soil meeting tillage specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
    - DEVELOPER'S CERTIFICATION:**
      - (HE) CERTIFY THAT:
        - ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE IN ACCORDANCE WITH THIS SEDIMENT AND EROSION CONTROL PLAN, AND FURTHER, AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT BOARD OF SUPERVISORS OR THEIR AUTHORIZED AGENTS.
        - ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE FROM THE MARYLAND DEPARTMENT OF THE ENVIRONMENT'S APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.
      - RESPONSIBLE PERSON ON THE SITE: *C. Niamtzale*
    - THE DEVELOPER IS RESPONSIBLE FOR THE ACQUISITION OF ALL EASEMENTS, RIGHTS, AND/OR RIGHTS OF WAY THAT MAY BE REQUIRED FOR THE SEDIMENT AND EROSION CONTROL PRACTICES, STORMWATER MANAGEMENT PRACTICES AND THE DISCHARGE OF STORMWATER ADJACENT OR DOWNSTREAM PROPERTIES INCLUDED IN THIS PLAN. HE IS ALSO RESPONSIBLE FOR THE ACQUISITION OF ALL EASEMENTS, RIGHTS AND/OR RIGHTS OF WAY THAT MAY BE REQUIRED FOR GRADING AND/OR WORK ON ADJACENT PROPERTIES INCLUDED IN THIS PLAN.
    - FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETE WITHIN SEVEN CALENDAR DAYS FOR THE SURFACE OF PERIMETER CONTROLS, DIKES, SLOPES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND FOURTEEN DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
    - THE SEDIMENT CONTROL APPROVALS ON THE PLAN EXTEND ONLY TO AREAS AND PRACTICES IDENTIFIED AS PROPOSED WORK.
    - THE APPROVAL OF THIS PLAN FOR SEDIMENT AND EROSION CONTROL DOES NOT RELIEVE THE DEVELOPER/CONSULTANT FROM COMPLYING WITH ANY FEDERAL/STATE/COUNTY REQUIREMENTS PERTAINING TO ENVIRONMENTAL ISSUES.
    - THE DEVELOPER MUST REQUEST THAT THE DEPARTMENT OF INSPECTIONS AND PERMITS APPROVE WORK COMPLETED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN, THE GRADING OR BUILDING PERMIT AND THE ORDINANCE.
    - ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE DEPARTMENT OF INSPECTIONS AND PERMITS SHALL BE REQUIRED ON COMPLETION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THE INITIAL APPROVAL BY THE DEPARTMENT OF INSPECTIONS AND PERMITS IS GIVEN.
    - APPROVAL SHALL BE REQUESTED ON FINAL STABILIZATION OF ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES BEFORE REMOVAL OF CONTROLS.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE H - 27 - 1 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

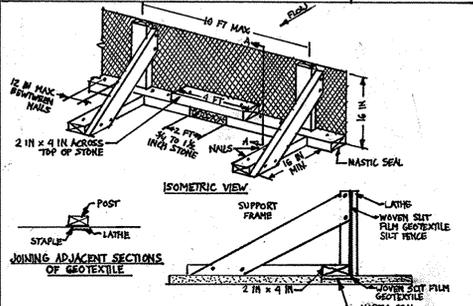
DETAIL E-3-2 AT-GRADE INLET PROTECTION



- Construction Specifications**
- USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
  - LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE.
  - PLACE CLEAN 3/4" TO 1/2" INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE GRATE.
  - STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN PROPER FLOW. UNDER INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT. IT IS CRUCIAL WHEN THIS OCCURS REMOVE ACCUMULATED SEDIMENT AND CLEAN OR REPLACE GEOTEXTILE AND STONE.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE I - 21 - 1 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-2 SILT FENCE ON PAVEMENT



- Construction Specifications**
- USE NOMINAL 2 INCH X 4 INCH LUMBER.
  - USE WOVEN SILT FENCE GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
  - REMOVE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/PERMITTING AUTHORITY SHOWING THAT THE GEOTEXTILE USE MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
  - STAKE WEIGHT SUPPORTS TO MORE THAN 10 FEET APART.
  - PROVIDE A TWO FOOT OPENING BETWEEN EVERY SET OF SUPPORTS AND PLACE STONE IN THE OPENING OVER GEOTEXTILE.
  - WARP SILT FENCE TIGHT AND SECURELY STAPLE TO THE UPWIND SIDE OF WEIGHT SUPPORTS ACCORDANCE WITH THIS DETAIL, ATTACH LATINE.
  - PROVIDE A MASTIC SEAL BETWEEN PERIMETER, GEOTEXTILE, AND 2x4 TO PREVENT SEDIMENT-LOADED WATER FROM ESCAPING DURING SILT FENCE INSTALLATION.
  - SECURE BOARD TO PAVEMENT WITH 400 5/8 INCH MINIMUM LENGTH NAILS.
  - REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF PERMITS WEIGHT REPLACEMENT. IF TIGHT MAINTAIN WATER TIGHT SEAL ALONG BOTTOM REPLACE STONE IF DISPLACED.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE I - 21 - 1 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**PROFESSIONAL CERTIFICATION:** I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31089, EXPIRATION DATE: 11-21-14

**NEW SEAL AND SIGNATURE AVAILABLE TO REVISIONS ONLY**

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE I - 21 - 1 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

APPROVED, DEPARTMENT OF PLANNING AND ZONING  
*John J. Williams* 3/23/06  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*Candy Thomas* 3/1/06  
CHIEF, DIVISION OF LAND DEVELOPMENT  
*Mark R. Unger* 3/1/06  
DIRECTOR

APPROVED, FOR PRIVATE WATER SYSTEMS

COUNTY HEALTH OFFICER  
HOWARD COUNTY HEALTH DEPARTMENT

**DESMAN ASSOCIATES**  
A DIVISION OF DESMAN, INC.  
NEW YORK CHICAGO WASHINGTON, D.C. HARTFORD BOSTON CLEVELAND LAS VEGAS

*Richard L. Butt* 3-27-06  
ENGINEER  
Richard L. Butt, MD LICENSE #012401

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

*James Lash* 3-27-06  
DATE  
JAMES LASH  
HOWARD COMMUNITY COLLEGE  
EXECUTIVE DIRECTOR OF CAPITAL PROJECTS AND FACILITIES

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

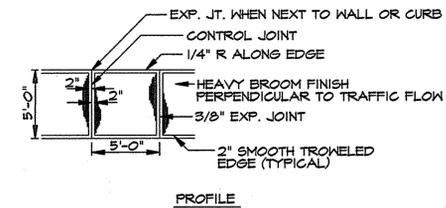
*Jim Morgan* 3/30/06  
DATE  
Natural Resource Conservation Services

*John R. Robertson* 3/13/06  
DATE  
Howard SCD

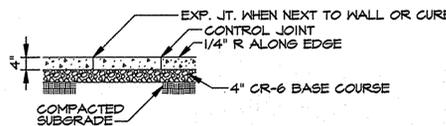
NOTE:  
ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO

**SEDIMENT CONTROL NOTES AND DETAILS**  
**HOWARD COMMUNITY COLLEGE**  
**PROPOSED PARKING GARAGE #1**  
10901 LITTLE PATUXENT PKWY  
COLUMBIA, MD 21044  
TAX MAP NO. 35, GRID NO. 6, PARCEL NO. 47  
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
DATE: MARCH 27, 2006 SHEET: 8 OF 13  
SDP-06-002

PLOTTED: 04:44 PM on Friday, March 24, 2006  
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PROFILE

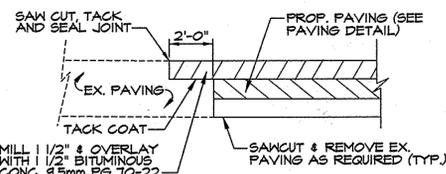


NOTE: PROVIDE 2% CROSS-SLOPE FOR POSITIVE DRAINAGE AS REQUIRED.

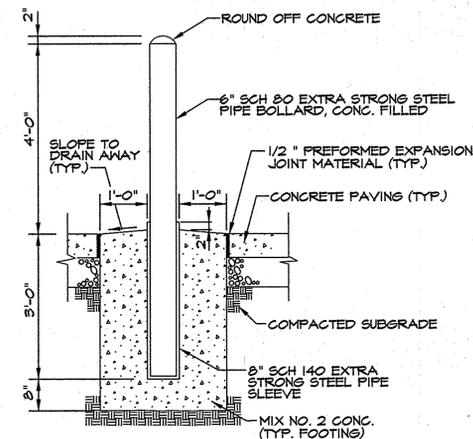
SECTION

1. PROVIDE EXPANSION JOINTS 15' C.C. MAX. AND SCORE JOINTS 6' C.C. (UNLESS OTHERWISE NOTED). EXPANSION JOINTS SHALL BE ZIP STRIP CONTROL JOINTS MANUFACTURED BY SUPERIOR FEATHERWEIGHT TOOLS (OR APPROVED EQUIVALENT) WITH 1/2" FEMOULDED BITUMINOUS JOINT MATERIAL. ALL CONTROL JOINTS SHALL BE SEALED WITH A POLYURETHANE SEALANT.
2. WHEN SIDEWALK ADJUTS CURB SIDEWALK SHALL BE 1/4" ABOVE CURB WITH ROOFING FELT SATURATED ON BOTH SIDES WITH ASPHALTIC MATERIAL BETWEEN THEM. ROOFING PAPER SHALL NOT WEIGH LESS THAN 34.8 LBS. PER SQ. FT.

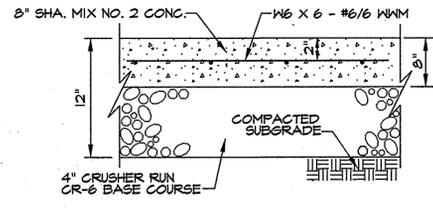
① CONCRETE SIDEWALK DETAIL HOWARD CO. STD. R-3.05 N.T.S.



② PAVING TIE-IN DETAIL N.T.S.

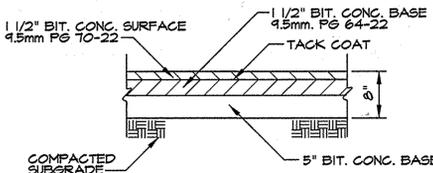


③ PIPE BOLLARD N.T.S.

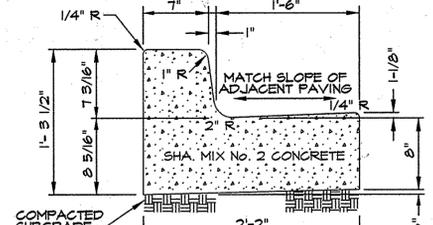


NOTE: EXPANSION JOINTS SHALL BE AT THE LOCATIONS SHOWN ON THE PLANS AND SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAIL.

④ REINFORCED CONCRETE PAVING DETAIL N.T.S.

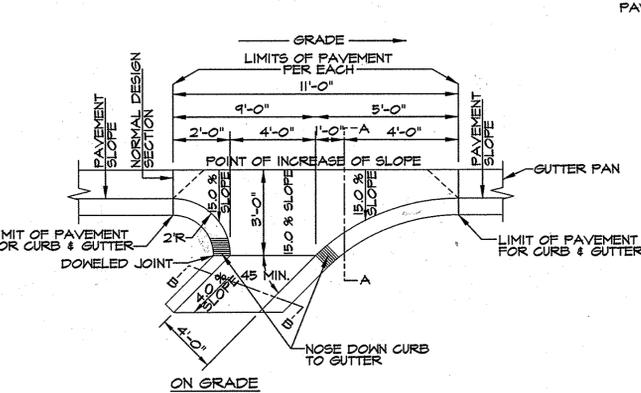


⑤ PAVING DETAIL HOWARD CO. STD R-2.01 P-3 N.T.S.

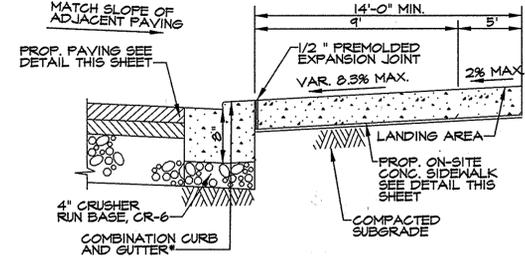


NOTES:  
1. PROVIDE EXPANSION JOINTS EVERY 20' MAX.  
2. PROVIDE CONTROL JOINTS EVERY 10'. JOINTS ARE TO ALIGN WITH THE PROPOSED SIDEWALK JOINTS.

⑥ COMBINATION CURB AND GUTTER HOWARD CO. STD. R-3.01 N.T.S.

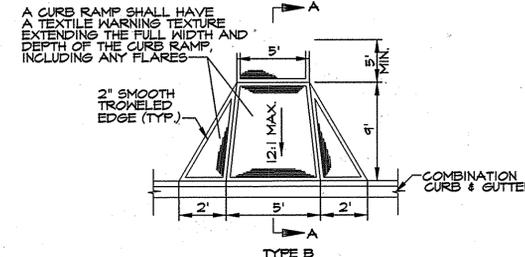


⑦ STANDARD DRAINAGE DETAILS, STANDARD CURB OPENING DETAIL, CURB & GUTTER SECTION N.T.S.



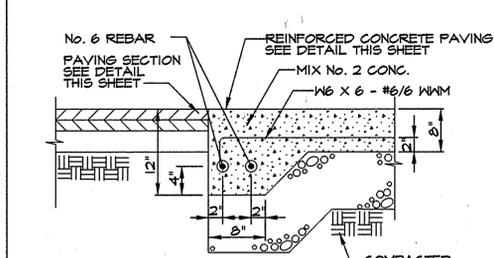
\* STANDARD T" COMB. CURB AND GUTTER IS SHOWN. DETAILS TO BE SIMILAR FOR MODIFIED CURB AND GUTTER AND BIT. CURB EXCEPT THAT FLOW LINE LIP IS TO BE OMITTED.

⑧ DEPRESSED CURB & GUTTER AT PEDESTRIAN RAMP (SECTION A-A) N.T.S.

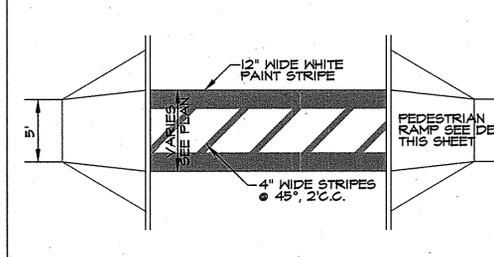


NOTES:  
1. ALL RAMP SHALL HAVE A WARNING TEXTURE EXTENDING THE FULL WIDTH OF THE CURB RAMP  
2. SEE DETAIL 8 FOR SECTION A-A DETAILS.

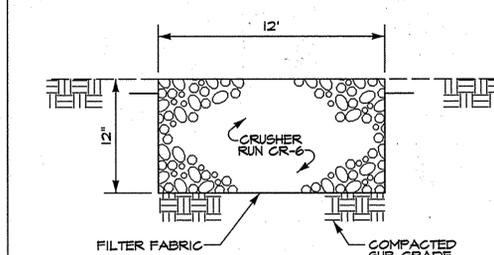
⑨ PEDESTRIAN RAMP HO. CO. STD. R-4.02 & R-4.03 N.T.S.



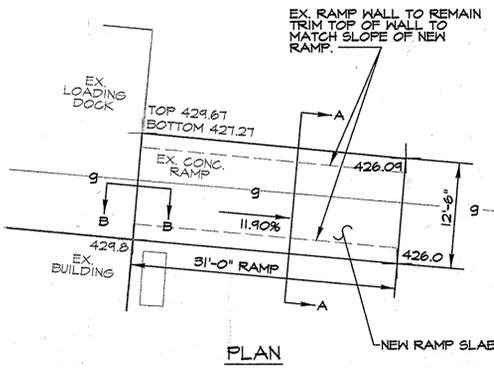
⑩ TIE-IN FOR PAVING AND REINFORCED CONCRETE PAVING N.T.S.



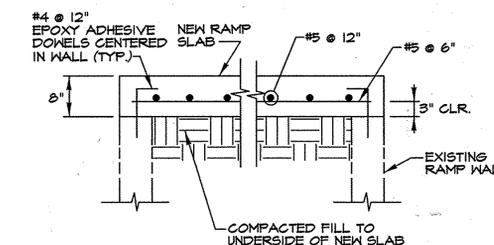
⑪ CROSS WALK PAINT STRIPING N.T.S.



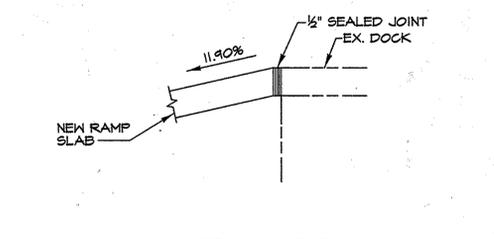
⑫ GRAVEL DRIVEWAY DETAIL N.T.S.



PLAN

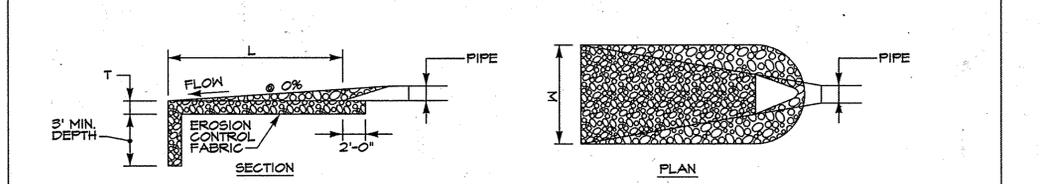


SECTION A-A



SECTION B-B

⑭ RAMP DETAIL N.T.S.

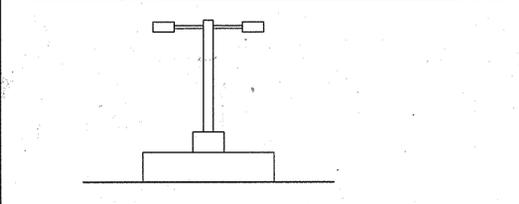


STRUCTURE	D-50	LENGTH (L)	WIDTH (D)	THICKNESS (T)	SHA CLASS
HA-1	4.5'	74'	25'	14"	

CONSTRUCTION SPECIFICATIONS

1. THE SUBGRADE FOR THE FILTER, RIP-RAP, OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
2. THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.
3. GEOTEXTILE CLASS 'C'-28" OR BETTER SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE PREPARED BY PLACING ANOTHER PIECE OF GEOTEXTILE FABRIC OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE FABRIC. ALL OVERLAPS WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE FABRIC SHALL BE A MINIMUM OF ONE FOOT.
4. STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR THE RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES, AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE FABRIC. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
5. THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.

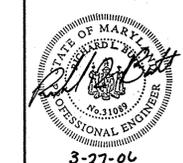
⑬ OUTLET PROTECTION DETAIL N.T.S.



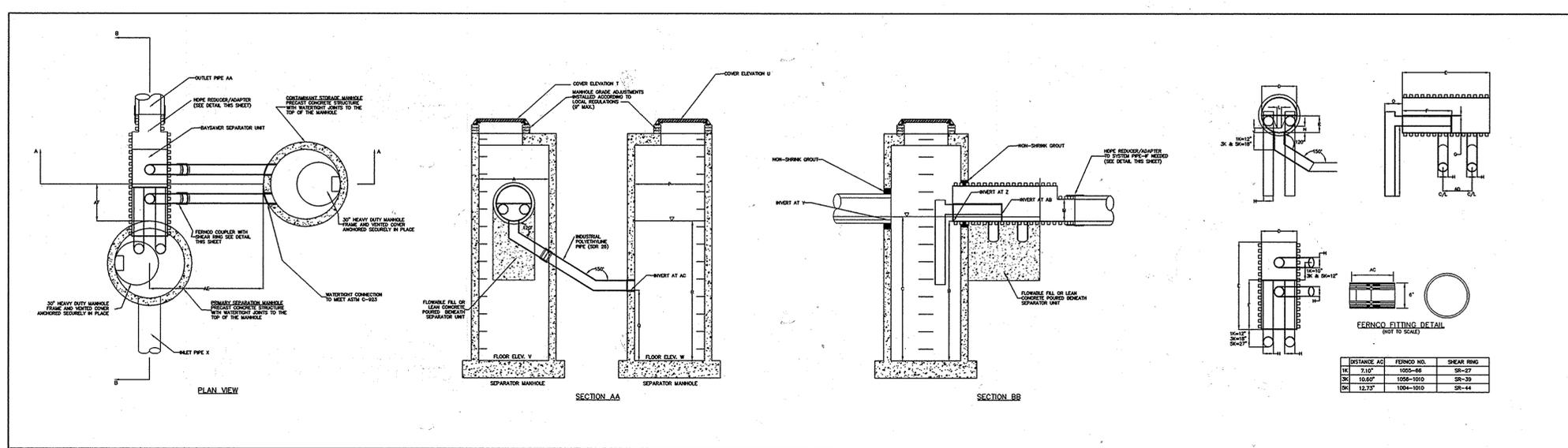
⑮ LIGHT DETAIL N.T.S.

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DIRECTOR  
 COUNTY HEALTH OFFICER  
 HOWARD COUNTY HEALTH DEPARTMENT

**DESMAN ASSOCIATES**  
 A DIVISION OF DESMAN, INC.  
 NEW YORK CHICAGO WASHINGTON, D.C. HARTFORD BOSTON CLEVELAND LAS VEGAS

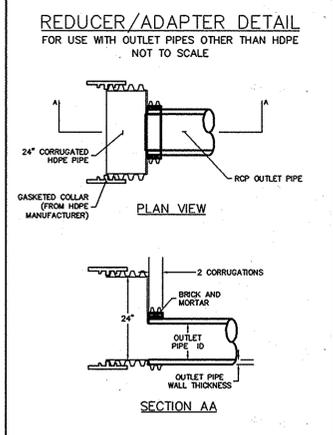
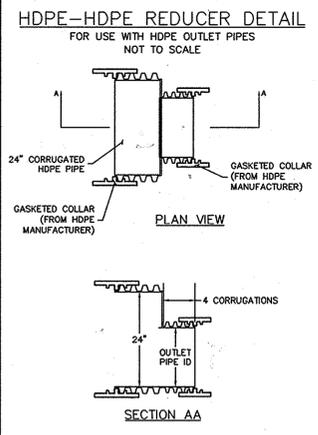


**SITE DETAILS**  
**HOWARD COMMUNITY COLLEGE**  
**PROPOSED PARKING GARAGE #1**  
 10901 LITTLE PATUXENT PKWY  
 COLUMBIA, MD 21044  
 TAX MAP NO. 35, GRID NO. 6, PARCEL NO. 47  
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 DATE: MARCH 27, 2006  
 SHEET: 9 OF 13  
 SDP-06-002



BAYSAYER SYSTEM DIMENSIONS	
DESCRIPTION	1K SYSTEM
<b>SEPARATOR MANHOLE DIMENSIONS</b>	
A PRIMARY MANHOLE DIAMETER	48"
B MANHOLE DEPTH BELOW OUTLET	8' - 0"
C MINIMUM FLUID DEPTH	8' - 3"
<b>STANDARD SEPARATOR UNIT DIMENSIONS</b>	
D SEPARATOR UNIT ID	24"
E SEPARATOR UNIT LENGTH	60"
F BYPASS PLATE LENGTH	34"
G WEIR/BYPASS PLATE THICKNESS	3/4"
H ELBOW AND CONNECTING PIPE OD	7.125"
I ELBOW LENGTH	48"
J WEIR HEIGHT ABOVE INVERT	3"
K BYPASS PLATE HEIGHT ABOVE INVERT	12"
L WIDTH OF WEIR AT BASE	3"
M OUTLET PIPE DIAMETER	18"
N ELBOW INVERT HEIGHT ABOVE UNIT INVERT	4 1/2"
O ELBOW PIPE OVERHANG	12"
<b>STORAGE MANHOLE DIMENSIONS</b>	
P STORAGE MANHOLE DIAMETER	48"
Q MANHOLE DEPTH BELOW INLET/OUTLET	48"
R FLUID DEPTH	8' - 0"
S TOTAL STORAGE VOLUME	200 CF
<b>SYSTEM DIMENSIONS AND ELEVATIONS</b>	
T SEPARATOR MANHOLE COVER ELEVATION	±413.0
U STORAGE MANHOLE COVER ELEVATION	±412.0
V SEPARATOR MANHOLE FLOOR ELEVATION	397.08
W STORAGE MANHOLE FLOOR ELEVATION	397.08
X INLET PIPE ID AND MATERIAL	18" HDPE 18" HDPE
Y INLET PIPE INVERT	405.28 405.28
Z SEPARATOR UNIT INVERT	405.08
AA OUTLET PIPE ID AND MATERIAL	24" HDPE
AB ELBOW INVERT ELEVATION	405.46
AC CONNECTING PIPE INVERT ELEVATION	401.33
AD CONNECTION PIPE SPACING	20"
AE STORAGE MANHOLE SIDE OFFSET	72 ± 6"
AF STORAGE MANHOLE DOWNSTREAM OFFSET	23"

SEQUENCE OF CONSTRUCTION AND INSPECTOR'S CHECK-OFF LIST FOR DUAL MANHOLE SEPARATORS						
Stage (X = Approval Required)	Developer's/Engineer Approval		Inspector		Geotechnical Engineer	
	Initials	Date	Initials	Date	Initials	Date
1. Pre-Construction Meeting.	X		X		X	
2. Install Manholes and associated storm drainage:						
a. Obtain approval of subgrade from Geotechnical Engineer. (Subgrade to have a minimum of 95% compaction).					X	
b. Installation of precast base, lower tank and lower piping.	X		X			
c. Backfill and min. 95% compaction around lower tank and lower piping.					X	
d. Installation of precast middle section(s) with separator unit and remaining piping.	X		X			
e. Installation of precast top slab.	X		X			
f. Installation of adjustment rings and frame and cover.	X		X			
g. Installation of flowable fill or concrete backfill.					X	
3. Backfilling operation and compaction.					X	
4. Site is permanently stabilized. Sediment control measures removed and all sediment and debris removed from dual manhole separators.			X			
5. Final Inspection.			X			



**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED BAYSAYER WATER QUALITY DEVICE**

A. THE BAYSAYER WATER QUALITY STRUCTURE SHALL BE PERIODICALLY INSPECTED AND CLEANED TO MAINTAIN OPERATION AND FUNCTION. THE OWNER SHALL INSPECT THE BAYSAYER UNIT YEARLY AT A MINIMUM, UTILIZING THE BAYSAYER INSPECTION/MONITORING FORM. INSPECTIONS SHALL BE DONE BY USING A GRADE STICK OR SIMILAR DEVICE. WHEN THE SEDIMENT DEPTHS EXCEED 2 FEET, THE UNIT MUST BE CLEANED.

B. THE BAYSAYER WATER QUALITY STRUCTURE SHALL BE CHECKED AND CLEANED IMMEDIATELY AFTER PETROLEUM SPILLS. THE OWNER SHALL CONTRACT THE APPROPRIATE REGULATORY AGENCIES.

C. THE MAINTENANCE OF THE BAYSAYER UNIT SHALL BE DONE USING A VACUUM TRUCK WHICH WILL REMOVE THE WATER, SEDIMENT, DEBRIS, FLOATING HYDROCARBONS AND OTHER MATERIALS IN THE UNIT. PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIALS AND LIQUID MUST BE FOLLOWED BY THE OWNER.

D. THE INLET AND OUTLET PIPES SHALL BE CHECKED FOR ANY OBSTRUCTIONS AT LEAST ONCE EVERY SIX MONTHS. IF OBSTRUCTIONS ARE FOUND THE OWNER SHALL HAVE THEM REMOVED. STRUCTURAL PARTS OF THE BAYSAYER UNIT SHALL BE REPAIRED AS NEEDED.

E. THE OWNER SHALL RETAIN AND MAKE THE BAYSAYER INSPECTION/MONITORING FORMS AVAILABLE TO HOWARD COUNTY OFFICIALS UPON THEIR REQUEST.

**BAYSAYER MAINTENANCE**

INSPECTION IS MADE BY CHECKING THE DEPTH OF SEDIMENT IN EACH MANHOLE WITH A GRADE STICK OR SIMILAR DEVICE. MAINTENANCE IS REQUIRED WHEN THE SEDIMENT DEPTH IN EITHER MANHOLE EXCEEDS 2 FEET.

MAINTENANCE CONSISTS OF THE FOLLOWING:

**A. CONTAMINANT STORAGE MANHOLE**

1. REMOVE THE ENTIRE VOLUME OF THE CONTAMINATED WATER BY VACUUM TRUCK.
2. CLEAN THE MANHOLE WALLS AND FLUSH OUT THE MANHOLE USING A HIGH PRESSURE HOSE AND REMOVE FLUSHING WATER BY VACUUM TRUCK. MAKE CERTAIN MANHOLE IS CLEAN.

**B. PRIMARY SEPARATION MANHOLE**

1. USING A SUBMERSIBLE PUMP, PUMP THE CLEAN WATER FROM THE CENTER OF THE MANHOLE DIRECTLY INTO THE EMPTY STORAGE MANHOLE UNTIL THE WATER LEVEL FALLS TO 1 FOOT ABOVE THE SEDIMENT LAYER.
2. REMOVE THE SETTLED SEDIMENT AND REMAINING WATER BY VACUUM TRUCK.
3. CLEAN THE MANHOLE WALLS AND FLUSH OUT THE MANHOLE USING A HIGH PRESSURE HOSE AND REMOVE FLUSHING WATER BY VACUUM TRUCK. MAKE CERTAIN MANHOLE IS CLEAN.
4. CONTAMINATED MATERIAL REMOVED FROM THE MANHOLES MUST BE DISPOSED OF RESPONSIBLY AND LEGALLY BY THE OPERATOR OF THE VACUUM TRUCK.

Baysaver Separator Unit	Baysaver Manhole Sizes (prim. x stor.)	Maximum Treatment (cfs)*1	Maximum Treatment (gpm)*1	Impervious Area (acres)
1K Baysaver Separator	48x48 48x50 48x72 60x60	2.4 2.4 2.4 2.4	1076 1076 1076 1076	1.2 1.4 1.6 1.5

**NOTE:**

BAYSAYERS ARE TO BE INSTALLED WITH THE STORM DRAIN SYSTEM AND WILL FUNCTION AS SECONDARY SEDIMENT CONTROL DEVICES. UPON COMPLETION OF SITE STABILIZATION, EACH BAYSAYER SYSTEM SHALL BE FLUSHED CLEAN & THE MANHOLES CLEANED OUT AND REFILLED WITH CLEAN WATER.

**NOTE: DIMENSIONAL SHOP DRAWINGS ARE TO BE APPROVED BY THE DESIGN ENGINEER**

- BAYSAYER INSTALLATION INSTRUCTIONS**
1. EXCAVATION MUST PROVIDE ADEQUATE SPACE TO CONNECT INLET AND OUTLET PIPES TO SEPARATOR MANHOLE AND BAYSAYER UNIT. INSTALL PRECAST DROP STRUCTURES ON SOLID GROUND AS VERIFIED BY A GEOTECHNICAL ENGINEER.
  2. VERIFY THE SUBGRADE ELEVATION AGAINST THE MANHOLE DIMENSIONS AND CONNECTING STORM DRAIN INVERTS.
  3. MAKING SURE THE BASES ARE LEVEL AND THE STORAGE MANHOLE OPENINGS ARE ALIGNED WITH THE SEPARATOR UNIT. INSTALL PRIMARY AND STORAGE MANHOLES. INSTALL RUBBER GASKETS ON BASE UNITS AND COAT WITH LUBRICATING GREASE. INSTALL ADDITIONAL MANHOLE SECTIONS AS REQUIRED. SEAL LIFT HOLES WITH NON-SHRINK GROUT.
  4. BACKFILL BASE SECTIONS OF MANHOLES TO INVERT OF STORAGE MANHOLE CONNECTING PIPES. USING APPROVED BACKFILL MATERIAL. BACKFILL AND COMPACT IN 6 INCH LIFTS. BACKFILL AND COMPACTION SHOULD BE MONITORED BY A GEOTECHNICAL ENGINEER.
  5. INSTALL BAYSAYER SEPARATOR UNIT AND CONNECTING PIPES. SEAL ALL CONNECTING JOINTS AND INSTALL SEPARATOR UNIT/STORM DRAIN JOINT COLLAR. CUT EXCESS LENGTH OFF CONNECTING PIPES INSIDE STORAGE MANHOLE.
  6. BACKFILL SEPARATOR UNIT AND MANHOLES. AREAS NOT ACCESSIBLE TO COMPACTION EQUIPMENT MUST BE BACKFILLED WITH LEAN CONCRETE OR FLOWABLE FILL.
  7. INSTALL AND SET MANHOLE COVER GRADE ADJUSTMENT RINGS AS NECESSARY.
  8. INSTALL AND SET MANHOLE FRAME AND COVER UNITS.

Project: PARKING GARAGE Designer: PHR+A  
 Address: 10901 LITTLE PATUXENT PKWY Contact: AIMEE REMINGTON  
COLUMBIA, MD Phone: 410-997-8900  
21044 Fax: 410-997-9282  
 Delivery Date: \_\_\_\_\_  
 Owner: HOWARD COMMUNITY COLLEGE Contractor: \_\_\_\_\_  
 Contact: JIM LASH/CHUCK NIGHTINGALE Address: \_\_\_\_\_  
 Address: SAME AS ABOVE Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_

Separator Unit Model:

1K    
 3K    
 5K  

Circle system orientation above

Manhole Specifications:

Primary Manhole Diameter: 48 inches  
 Storage Manhole Diameter: 48 inches

Floor Elevations:  
 Primary Manhole 397.08  
 Storage Manhole 397.08

Primary Manhole Inverts:  
 Separator Unit 405.08  
 Inlet Pipe(s) 405.28  
405.28

Please show orientation (including angle), size and material of inlet pipes above.

Cover Elevations:  
 Primary Manhole 413.0  
 Storage Manhole 412.0 M-2 & M-3

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Janet Dr. Lash* 4/1/06 DATE  
 DIRECTOR

*Jim Lash* 3/21/06 DATE  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

*Chris Starnitz* 4/1/06 DATE  
 CHIEF, DIVISION OF LAND DEVELOPMENT

DATE NO. REVISION

OWNER / DEVELOPER

HOWARD COMMUNITY COLLEGE  
 10901 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044-3197  
 ATTN: MR. JAMES O. LASH  
 410-772-4296

PROJECT

**HOWARD COMMUNITY COLLEGE  
 PROPOSED PARKING GARAGE #1**

AREA PARCEL 47 ZONED POR & NT  
 TAX MAP NO. 35, 36 BLOCK 6 & 1  
 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE

**BAYSAYER DETAILS**

Patton Harris Rust & Associates, pc  
 Engineers, Surveyors, Planners, Landscape Architects.  
 8518 Centre Park Drive  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

DATE 3/27/2006

DESIGNED BY: ACR

DRAWN BY: ACR

PROJECT NO. 11449/3-1/ENGR/  
 PLANS/PG-BAYSAYER

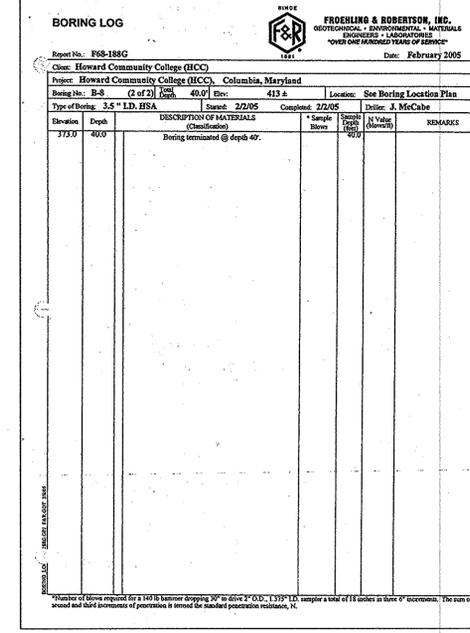
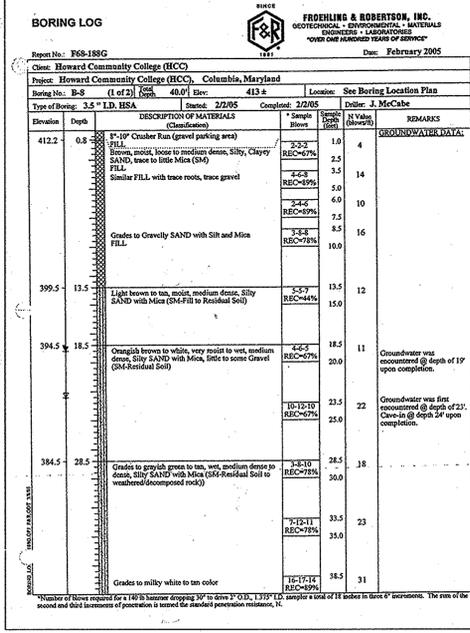
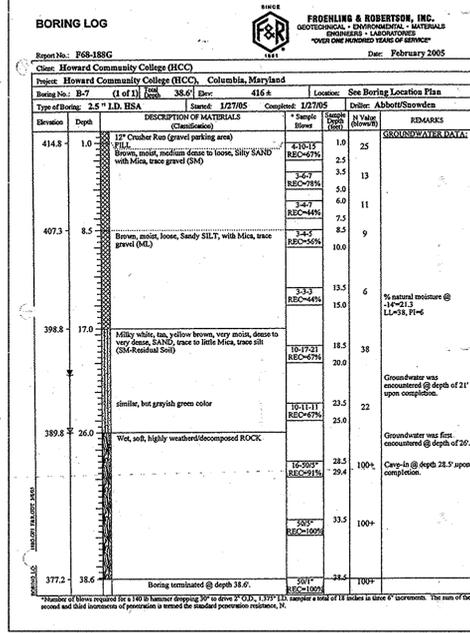
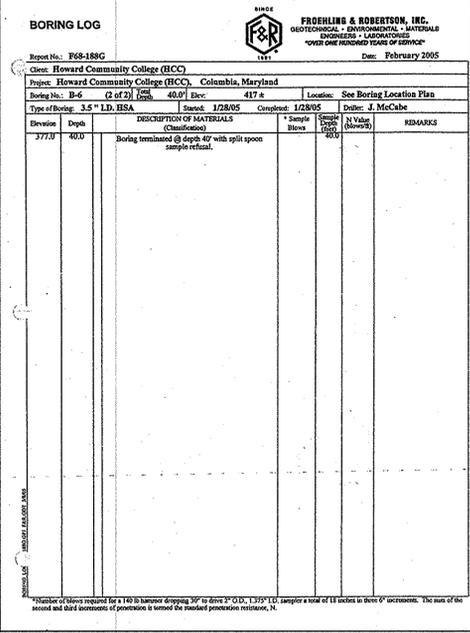
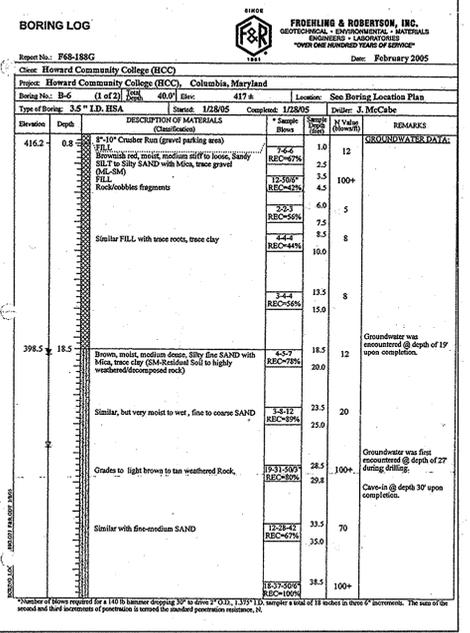
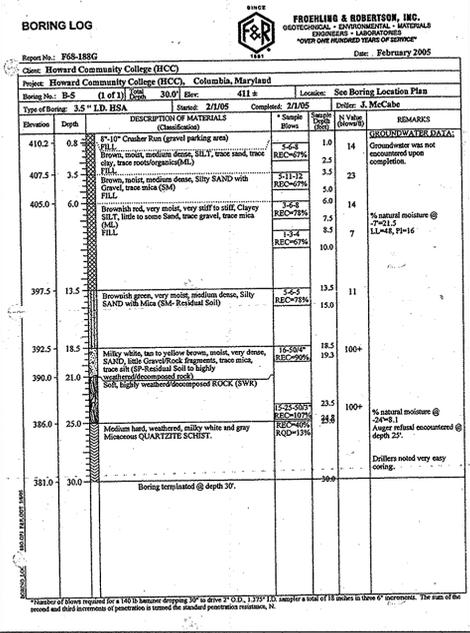
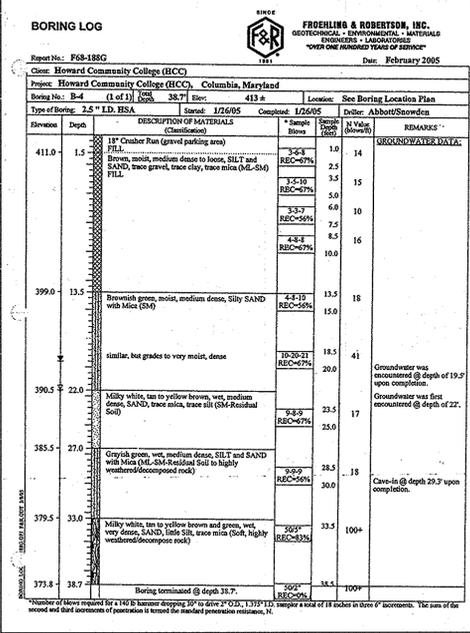
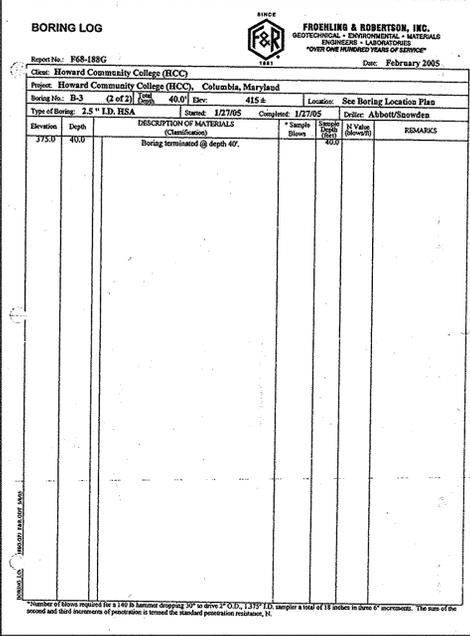
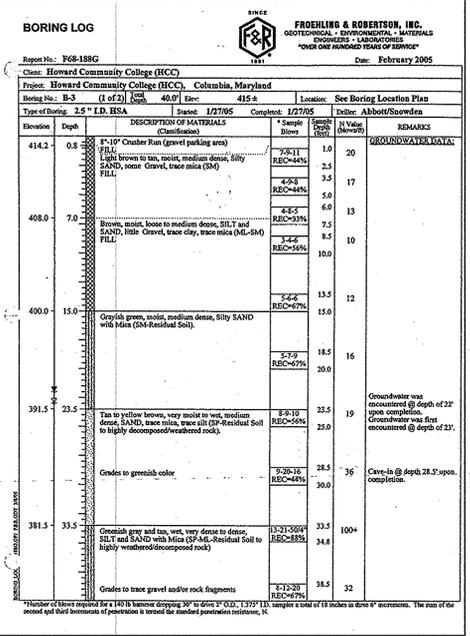
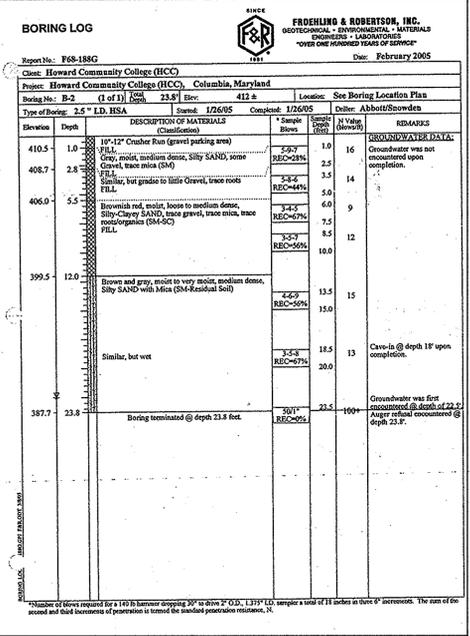
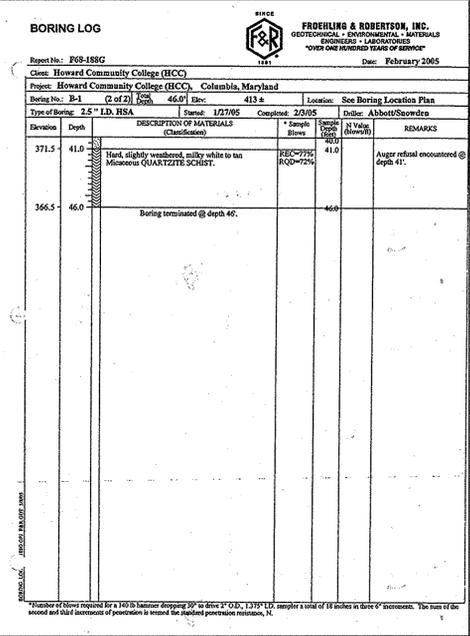
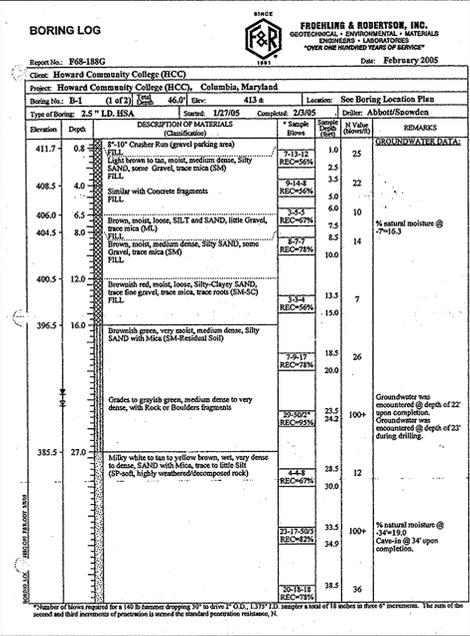
DATE: MARCH 27, 2006

SCALE: AS SHOWN

DRAWING NO. 10 OF 13

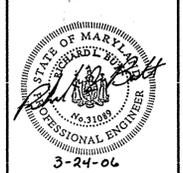
JOHN W. CLAPSADDLE, #16956

This order can be faxed to Bay Saver, Inc. at (301) 829-3747



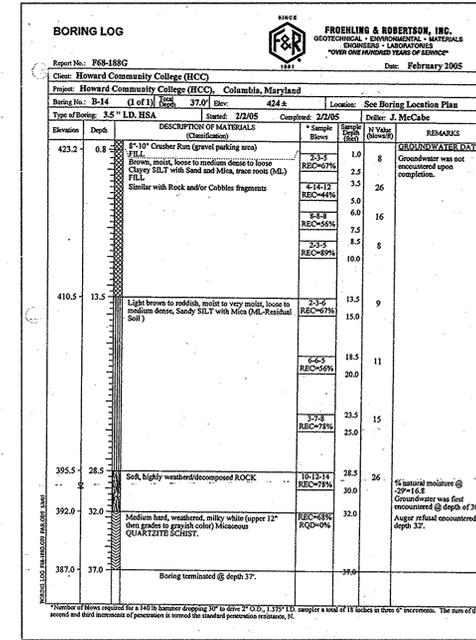
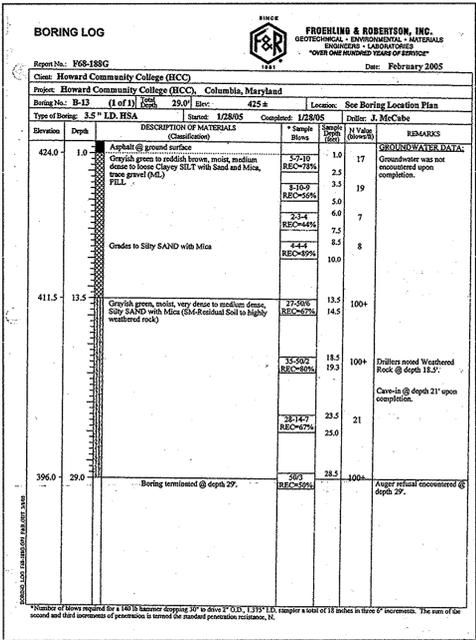
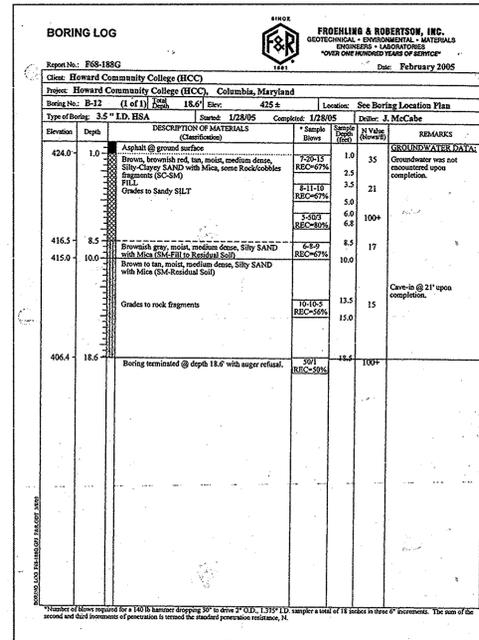
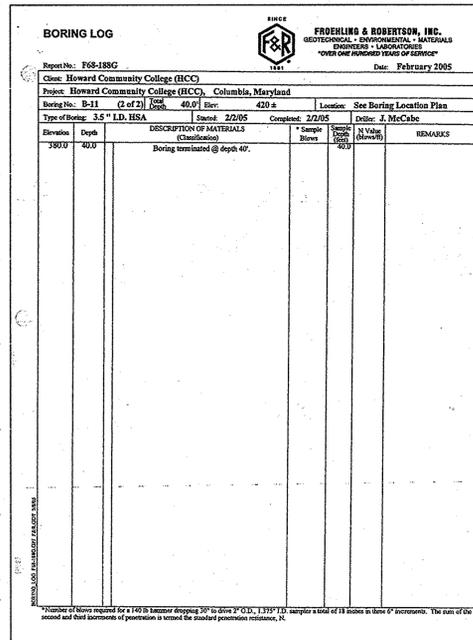
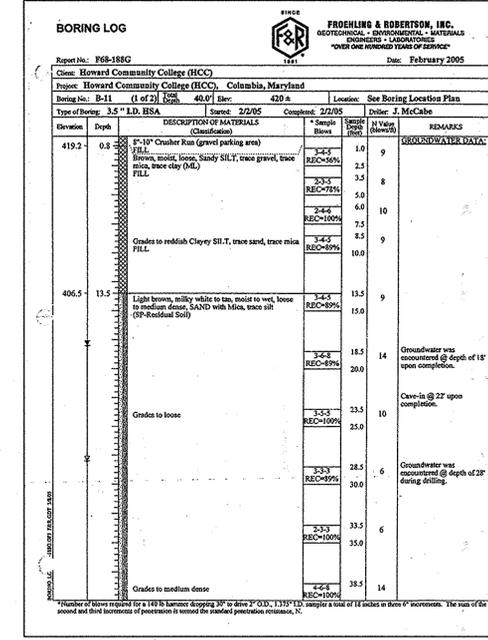
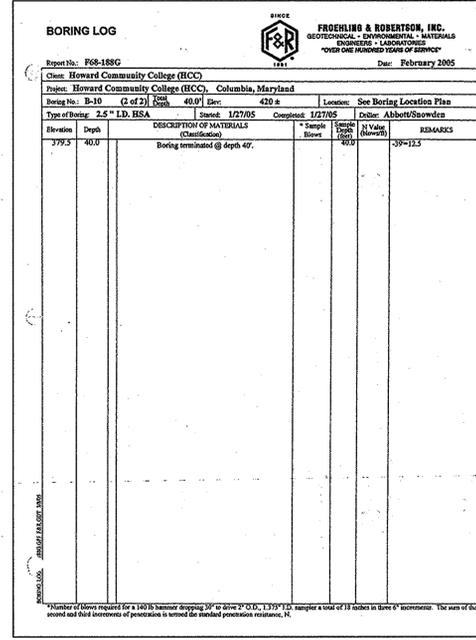
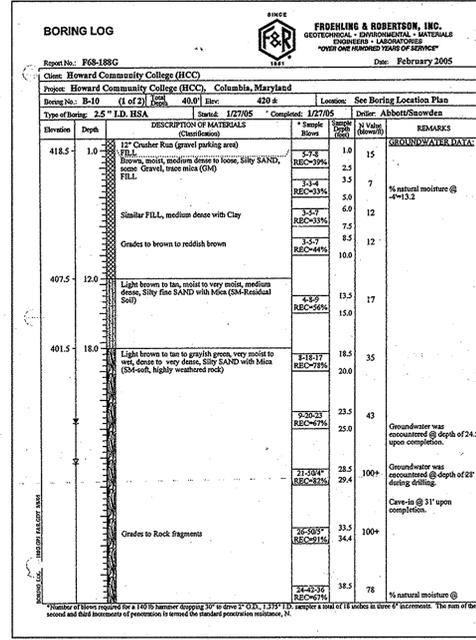
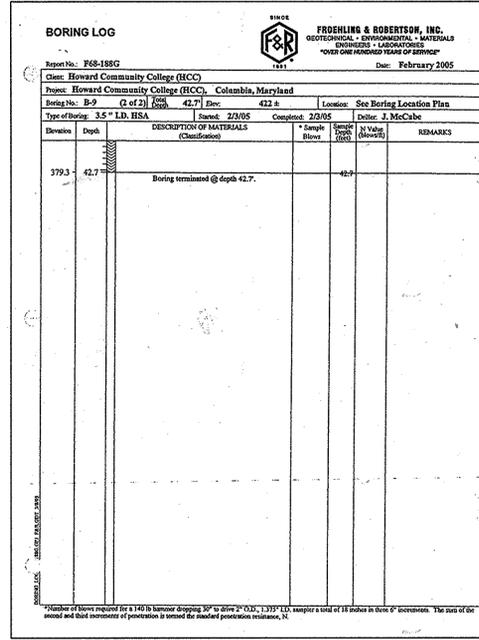
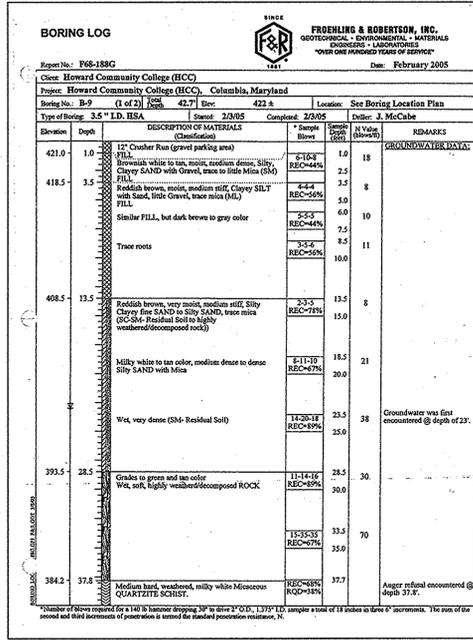
APPROVED, DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 3/2/06  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 [Signature] 4/1/06  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 [Signature] 4/1/06  
 DIRECTOR  
 APPROVED FOR PRIVATE WATER SYSTEMS  
 COUNTY HEALTH OFFICER  
 HOWARD COUNTY HEALTH DEPARTMENT

**DESMAN ASSOCIATES**  
 A DIVISION OF DESMAN, INC.  
 NEW YORK CHICAGO WASHINGTON, D.C. HARTFORD BOSTON CLEVELAND LAS VEGAS



**KCI TECHNOLOGIES**  
 10 North Park Drive  
 Hunt Valley, MD 21030  
 Phone: (410) 316-7800  
 Fax: (410) 316-7817  
 www.kci.com

**BORING LOGS**  
**HOWARD COMMUNITY COLLEGE**  
**PROPOSED PARKING GARAGE #1**  
 10901 LITTLE PATUXENT PKWY  
 COLUMBIA, MD 21044  
 TAX MAP NO. 35, GRID NO. 6, PARCEL NO. 47  
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 DATE: MARCH 27, 2006  
 SHEET: 11 OF 13  
 SDP-06-002



PLOTTED: 04:41 PM on Friday, March 24, 2006  
 BY: E:\miller, Division: U, P, & D  
 FILE: M:\2005\UBOR\B-14.dwg

APPROVED, DEPARTMENT OF PLANNING AND ZONING  
  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 3/21/06

APPROVED, FOR PRIVATE WATER SYSTEMS  
  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 4/4/06

DIRECTOR  
 DATE: 4/4/06

APPROVED: COUNTY HEALTH OFFICER  
 HOWARD COUNTY HEALTH DEPARTMENT  
 DATE:

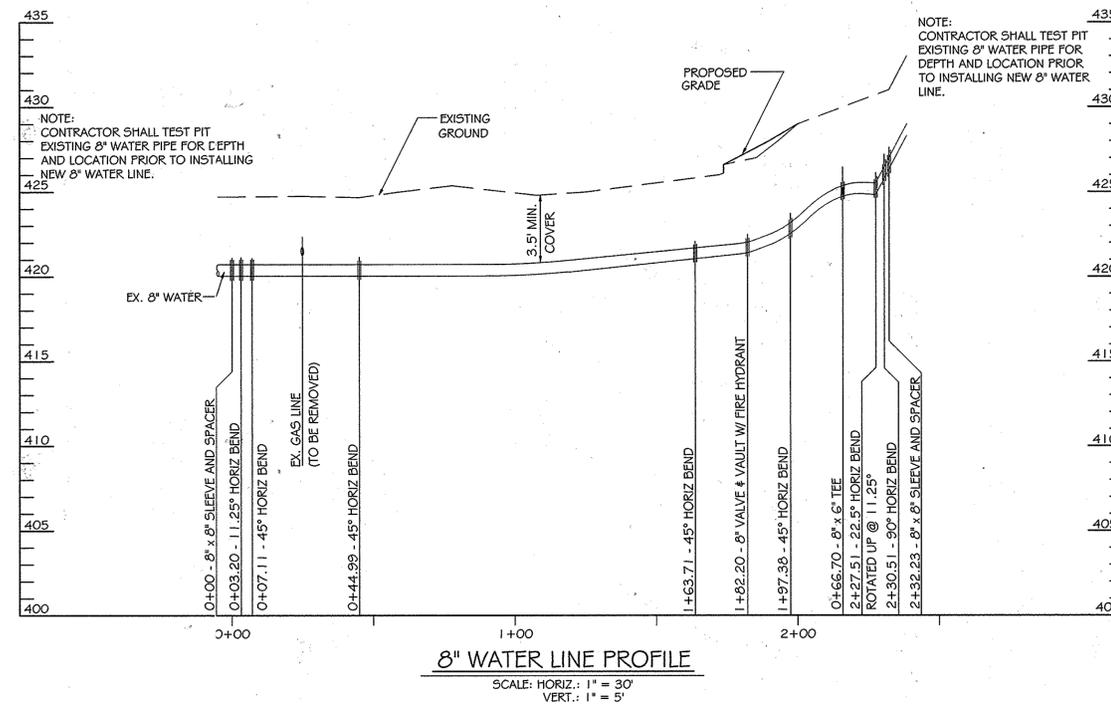
**DESMAN ASSOCIATES**  
 A DIVISION OF DESMAN, INC.  
 NEW YORK CHICAGO WASHINGTON, D.C. HARTFORD BOSTON CLEVELAND LAS VEGAS



**BORING LOGS**  
**HOWARD COMMUNITY COLLEGE**  
**PROPOSED PARKING GARAGE #1**  
 10901 LITTLE PATUXENT PKWY  
 COLUMBIA, MD 21044  
 TAX MAP NO. 35, GRID NO. 6, PARCEL NO. 47  
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 DATE: MARCH 27, 2006  
 SHEET: 12 OF 13  
 SDP-06-002

## WATER PIPE SCHEDULE

ITEM	UNIT	ESTIMATE	AS-BUILT
6" PVC (AWWA C900-DR18)	L.F.	7	
8" PVC (AWWA C900-DR18)	L.F.	233	
8" SLEEVE AND SPACER	EA	2	
8" 11.25° HORIZ.	EA	1	
8" 22.5° HORIZ.	EA	1	
8" 45° HORIZ. BEND	EA	4	
8" 90° HORIZ. BEND	EA	1	
6" FIRE HYDRANT	EA	1	
6" VALVE & VAULT	EA	1	



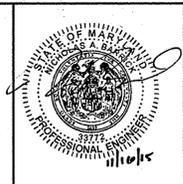
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 33272, Expiration Date: 6/16/17

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Amogh Banchali* 11/23/15  
CHIEF DEVELOPMENT ENGINEERING DIVISION DATE  
*Keith Cuddeback* 11/24/15  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*William J. Allen* 11-24-15  
DIRECTOR DATE



APPLICANT:  
HOWARD COMMUNITY COLLEGE  
10901 LITTLE PATUXENT PARKWAY  
COLUMBIA, MD 21044  
ATTN: CHARLES NIGHTINGALE  
EXECUTIVE DIRECTOR OF  
CAPITAL PROJECTS AND  
FACILITIES  
410-772-4296

DESIGNED BY: BA  
DRAWN BY: BA  
CHECKED BY: NAB



UTILITY PROFILE  
HOWARD COMMUNITY COLLEGE  
PARKING GARAGE ADDITION  
10901 LITTLE PATUXENT PKWY  
COLUMBIA, MD 21044  
TAX MAP NO. 35, GRID NO. 8, PARCEL NO. 47  
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
DATE: MARCH 27, 2006 SHEET: 13 OF 13