

SHEET INDEX COVER SHEET 2 OF 14 SITE DEVELOPMENT PHASING PLAN 3 OF 14 EXISTING CONDITIONS PLAN 4 OF 14 DEMOLITION PLAN 5 OF 14 SITE GRADING AND DEVELOPMENT PLAN SEDIMENT AND EROSION CONTROL PLAN 7 OF 14 SEDIMENT AND EROSION CONTROL NOTES & DETAILS EXISTING CONDITIONS DRAINAGE AREA MAP PROPOSED CONDITIONS DRAINAGE AREA MAP .9 OF 14 10 OF 14 STORM DRAIN, AND ON-SITE WATER PLAN 11 OF 14 STORM DRAIN, AND WATER MAIN PROFILES, NOTES, AND DETAILS 12 OF 14 LANDSCAPING PLAN SITE AND handicap DETAILS and specifications 14 OF 14 LANDSCAPE DETAILS and specifications

GENERAL SITE DATA:

GENERAL SITE DATA:

- a. Existing Zoning: NT / POR
- Applicable DPZ File References: SDP-86-207, FDP-83, SDP-85-17, F-76-101, SDP-86-296, F-91-65, S-90-32, PB 266, SDP-94-04, AA-90-09, AA-95-23, WP-90-106, BA-9036, SDP-90-190, SDP-95-114. WP-05-99
- c. Proposed Use of Site or Structure(s): Hospital & Accessory Uses
- d. Proposed Water Systems: Public

- Total Project Area: 19.606 Acres (as indicated by Section and Area, and as shown on the Final Plat, or as shown on the Deed).
- (as indicated by Section and Area, and as shown on the Final Plat, or as shown on the Deed).
- Area of this Plan of Subdivision: 19.606 Acres.
- - Building Coverage of Site: Lot Area= 19.606 ac. (As Required by Zoning Regs):
 - Existing Building Coverage= 1.74 ac.
 Exist. Building Coverage= 0.67 ac.
 Exist. Psychiatric Addition Building Coverage= 0.03 ac. Total Building Coverage= 2.44 ac. or 12.45%

PARKING SPACE DATA

e.	Number of ambulance and police Parking Spaces Provided:	9
d.	Number of VAN Parking Spaces Provided:	10
C.	Number of Handicap Parking Spaces Provided:	32
b.	Tatal Number of regular Parking Spaces Provided on—Site:	988
a.	Number of Parking Spaces Required by the Zoning Regulations and/or FDP Criteria:	898

BREAK DOWN OF REQUIRED PARKING SPACES:

NOTE: PARKING CALCULATIONS ARE BASED ON SECTION 133 OF THE ZONING REGULATIONS

existing hospital		
1. Patient Beds: 2. Enployees per Major Shift:	223 (1 Space/2 Beds): 350 (1 Space/Employee):	112 Spaces 350 Spaces
3. DR.'S TREATING OUTPATIENTS ON MAJOR SHIFT:	4 (4 Spaces/Doctor):	16 Spaces
Exisiting ambulatory surgery		
1. EMPLOYEES PER MAJOR SHIFT: 2. DR.'S TREATING OUTPATIENTS:	80 (1 Space/Employee): 13 (4 Spaces/Doctor):	80 Spaces 52 Spaces
PROPOSED EMERGENCY DEPARTM	ENT ADDITION	
	0 (1 Space/Employee): 20 (4 Spaces/Doctor):	40 Spaces 80 Spaces
EXISITING VERTICAL EXPANSION		
 EMPLOYEES PER MAJOR SHIFT: 5 DR.'S TREATING OUTPATIENTS: 	60 (1 Space/Employee): 8 (4 Spaces/Doctor):	50 Spaces 32 Spaces
Existing doctor's offices (24,		
1. EMPLOYEES PER MAJOR SHIFT: 5 2. DR.'S TREATING OUTPATIENTS:	io (1 Space/Employee): 24 (4 Spaces/Doctor):	50 Spaces 96 Spaces
TOTAL REQUIRED PARKING		958 Spaces
PARKING	space data (existing vs. proposed)	
NUMBER	of spaces existing (pre construction)	1039 SPACES
NI IMPER	OF SDACES (LOST TO CONSTRUCTION)	22 CDACES

NUMBER OF SPACES EXISTING (PRE CONSTRUCTION)	1039 SPACES
NUMBER OF SPACES (LOST TO CONSTRUCTION)	22 SPACES
NUMBER OF SPACES (GAINED PER CONSTRUCTION)	0 SPACES

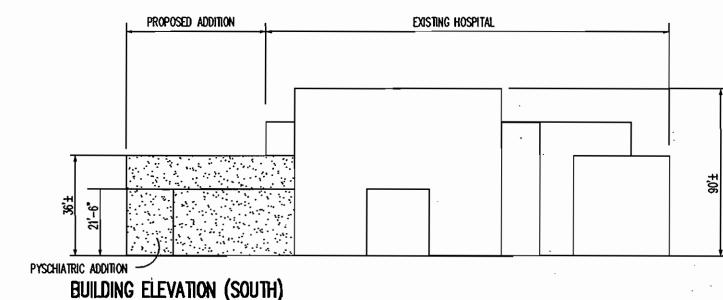
1027 SPACES

NOT TO SCALE

- 1. "A Building Permit for the Proposed 1670 sf Pychiatric Addition shall be applied for
- within one (1) year measured from the D.E.D. Approval Letter for this request".

Total Number of Parking Spaces Provided on-Site:

- 2. This project is subject to WP-05-99 for a waiver from Sections 16.119 and 16.120(a)(2) of the Regulations to allow direct access onto a restricted minor arterial road, Cedar Lane for relocated main entrance and to establish a dedicated delivery service circular entrance as approved on April 4, 2005.
- 3. "A grading permit for the proposed site work including the new relocated entrances and loading dock area relocated oxygen tank and landscape modifications shall be applied for within one (1) year from the approval for this red-line revision request.
- 4. This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and the Landscape Manual.



GENERAL BENCH MARK INFORMATION:

ELEVATIONS HEREON ARE BASED UPON THE GRID MERIDIAN OF THE MARYLAND COORDINATE SYSTEM AND DERIVED FROM THE FOLLOWING HOWARD COUNTY CONTROL SYSTEM:

3/4" IRON BAR ELEVATION = 479.559

LOCATED SOUTH OF LITTLE PATUXENT PARKWAY

12.1 FEET FROM THE FACE OF CONCRETE CURB, 0.16 MILES EAST OF CEDAR LANE BM#1: GRID POINT NUMBER B-3; A PK NAIL IN THE BITUMINOUS CONCRETE PAVED DRIVEWAY ENTRANCE, ELEVATION = 474.73, 1929 U.S.C.G.S. GENERAL DATUM.

BM#2: GRID POINT NUMBER F-3; A PK NAIL IN THE BITUMINOUS CONCRETE PAVED DOCTOR'S PARKING LOT, WEST OF THE MAIN BUILDING, ELEVATION = 470.44, 1929 U.S.C.G.S. GENERAL

BM#3: SQUARE CUT IN TOP OF SOUTHEAST CORNER OF CONCRETE PEDESTAL LIGHT BA MAIN PARKING LOT, SOUTHEAST SECTION, ELEVATION = 463.79, 1929 U.S.C.G.S. GENERAL SQUARE CUT IN TOP OF SOUTHEAST CORNER OF CONCRETE PEDESTAL LIGHT BASE IN THE

REFERENCE: S90-32, AA-90-09, WP-90-106, BA-9036V, SDP-86-269, SDP-86-207, SDP-85-17, FDP-83, F-76-101, F-91-65, SDP-90-190, SDP-94-04, AA-95-23.

NOTE: ON AUGUST 3, 1995, AN ADMINISTRATIVE ADJUSTMENT TO ALLOW FOR THE INCREASE IN THE MAXIMUM ALLOWABLE HEIGHT FROM 80 FEET TO 96 FEET, FOR A PARAPET AND PENTHOUSE WAS GRANTED.

GENERAL NOTES

. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY

2. Approximate locations of existing utilities are shown from available utility records and information. The contractor shall take all necessary precautions required to protect any existing utilities and maintain uninterrupted service. Any damage incurred due to the contractor's operations shall be repaired immediately at the contractor's sole expense.

3. The contractor shall test pit, by hand, all existing utility crossings at least five (5) days prior to the START OF construction as shown on these drawings, to verify their location and elevation. The contractor SHALL NOTIFY THE engineer immediately if locations and/or elevations are other than shown.

4. The contractor shall notify the following utility companies or agencies at least five (5) working days PRIOR TO start of construction for any work shown on these drawings:

1-800-257-7777 C& P TELEPHONE HOWARD COUNTY BUREAU OF UTILITIES 410-313-4900 AT&T CABLE LOCATION DIVISION 410-393-3553 BALTIMORE GAS & ELECTRIC COMPANY STATE HIGHWAY ADMINISTRATION HOWARD COUNTY CONSTRUCTION 410-313-1880

(24 hours notice prior to start of work)

Existing topographic survey information was OBTAINED FROM FIELD RUN SURVEY WITH TWO FOOT CONTOUR INTERVALS
prepared by Daft McCune Walker, dated February 22, 1995, and supplemented by Joyce Engineering CORPORATION
dated October 10, 1999.

INSPECTION SURVEY DIVISION

6. All inlet structures shall be constructed in accordance with Howard County Standards or MSHA Standards AS specified on the structure schedule.

Operating existing valves, switches, services or start up of new services shall be coordinated with the

8. Required soil erosion and sediment control facilities shall be provided, installed and maintained as required.

9. The contractor shall carefully remove from the area to be disturbed all trees, shrubs and plant materials USING procedures recommended by the American Nurseryman's Association so as to maximize the continual survival and health of the materials. These trees, shrubs and plant materials shall be transported to a designated LOCATION on the owner's property and heeled into a mulch holding bed for future use by the owner in locations OTHER THAN those involved in the contract work, or permanently planted immediately at the direction of the LANDSCAPER architect or owner.

10. Where demolition is indicated on the drawings, it shall mean to completely demolish the feature, clear the AREAS of all debris and dispose of the material off-site at a legal dump-site. Abandon means to leave the FEATURE IN place and cut where required, and bulkhead all cut ends with a plug or cap or construct a minimum 9" THICK brick and mortar bulkhead conforming to the existing utility materials.

11. THE NEW TOWN ZONED PORTION OF THIS PROPERTY IS EXEMPT FROM THE FOREST CONSERVATION (FC) ORDINANCE IN ACCORDANCE WITH SECTION 16.1202 [B] [1] [IV]

12. THE POR ZONED PORTION OF THIS PROPERTY IS EXEMPT FROM THE FOREST CONSERVATION (FC) ORDINANCE IN ACCORDANCE

WITH SECTION 16.1202 [b] [[] [ii]

13. THERE ARE NO KNOWN CEMETERIES OR BURIAL GROUNDS ON THIS SITE.

14. ALL EXTERIOR LIGHTING SHALL COMPLY WITH SECTION 134 OF THE ZONING REGULATIONS.

15. ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.

16. ALL CURB RADII ARE 5' UNLESS OTHERWISE NOTED.

17. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVISES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE TO THE PLACEMENT OF ANY ASPHALT.

18. There is no floodplain on-site.

19. THERE ARE NO WETLANDS ON THIS SITE.

20. THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY THE TRAFFIC GROUP, DATED 03/04/99 AND WAS APPROVED

21. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODEDIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NUMBERS 35C2 AND 35C5 WERE USED

22. WATER IS PRIVATE FOR DOMESTIC, AND PUBLIC FOR FIRE, CONTRACT #44-1558 D

23. SEWER IS PRIVATE

24. STORMWATER MANAGEMENT IS PROVIDED BY AN ON-SITE STORM WATER MANAGEMENT POND BUILT PER SDP-95-114 AND IS OWNED AND MAINTAINED BY THE HOWARD COUNTY GENERAL HOSPITAL

25. THE FOLLOWING NOTES SHALL APPLY TO THE TEMPORARY CONSTRUCTION ACCESS TO LITTLE PATUXENT PARKWAY:

A) THE TEMPORARY CONSTRUCTION ACCESS TO LITTLE PATUXENT PARKWAY SHALL BE USED FOR CONSTRUCTION DELIVERIES ONLY. CONSTRUCTION WORKERS SHALL PARK ELSEWHERE ON THE SITE.

B) CONSTRUCTION TRAFFIC WILL NOT BE ALLOWED TO DO THE "U-TURN" MANEUVER AT THE INTERSECTION OF LITTLE PATUXENT PARKWAY/CEDAR LANE. CONSTRUCTION TRAFFIC SHALL BE ROUTED TO HEAD NORTH ON CEDAR LANE THEN TURN RIGHT AT

LITTLE PATUXENT PARKWAY AND RIGHT ONTO THE ACCESS. FLAG MEN WILL BE REQUIRED AS NECESSARY, DELIVERIES SHALL BE Made During Non-Peak traffic Hours where possible.

C) PROVIDE A STABILIZED CONSTRUCTION ENTRANCE. THE ACCESS SHALL BE GATED OR CHAINED TO PREVENT UNAUTHORIZED USE.

D) THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL THE REPAIRS TO THE CURB AND GUTTER, GRASS, AND OTHER APPURTENANCES WITHIN THE COUNTY RIGHT-OF-WAY THAT MAY BE DISTURBED AS RESULT OF THIS ACCESS.

E) PARKING SHALL BE RESTRICTED ALONG LITTLE PATUXENT PARKWAY EXCEPT IN INSTANCES WHERE A CONTINUOUS WORK EFFORT iś involved such as a large concrete pour.

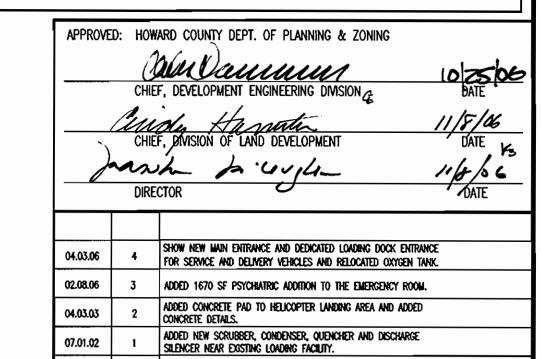
F) PROVIDE APPROPRIATE SIGNAGE ON APPROACH ROADWAYS. PLEASE COORDINATE WITH THE TRAFFIC ENGINEERING DIVISION OF THE BUREAU OF ENGINEERING FOR SIGNING DETAILS. THEY MAY BE REACHED AT 410 313—3059 AT YOUR CONVENIENCE.

COLUMBIA MALL COLUMBIA

LOCATION MAP PLAN SCALE: 1"=2000'

DATE

N ACCORDANCE WITH THE SEPT. 22, 2006 LETTER BY THE HOWARD COUNTY DEPT. OF PLANNING, ZONING, & DEVELOPMENT engineering division. The purpose of this revised site development plan is to relocate the main entrance on cedar lang



PROJECT HOWARD COUNTY GENERAL HOSPITAL

EMERGENCY ROOM ADDITION

REVISION DESCRIPTION

OWNER/DEVELOPER/APPLICANT HOWARD COUNTY GENERAL HOSPITAL INC. 5755 CEDAR LANE COLUMBIA, MARYLAND 21044 PHONE: 410-740-7962 ATTN: BETH PLAVNER

JOYCE ENGINEERING CORPORATION PROFESSIONAL ENGINEERS, PROFESSIONAL SURVEYORS LAND PLANNING & CONSTRUCTION MANAGEMENT 10766 BALTIMORE AVENUE — TWIN CHIMNEYS OFFICE PARK
BELTSVILLE, MARYLAND 20705
TEL: (301) 595-4353 FAX: (301) 595-4650
© 1999 JOYCE ENGINEERING CORPORATION

ADDRESS CHART LOT/PARCEL STREET ADDRESS 5755 CEDAR LANE COLUMBIA, MARYLAND 21044

SECTION/AREA

SEWER CODE

PERMIT INFORMATION CHART

35 NT/POR | 5TH

COVER SHEET

SCALE AS SHOWN

DATE NOVEMBER 1999

TAX/ZONE MAP | ELECT. DISTRICT | CENSUS TRACT

PLOT DATE: 05/08/06

MAY 30, 2000 17 OCT. ROW

DES BY WAJ DRN BY HAL CHK BY WAJ

SITE DEVELOPMENT PLAN PROFESSIONAL ENGINEER, NO. 42243-

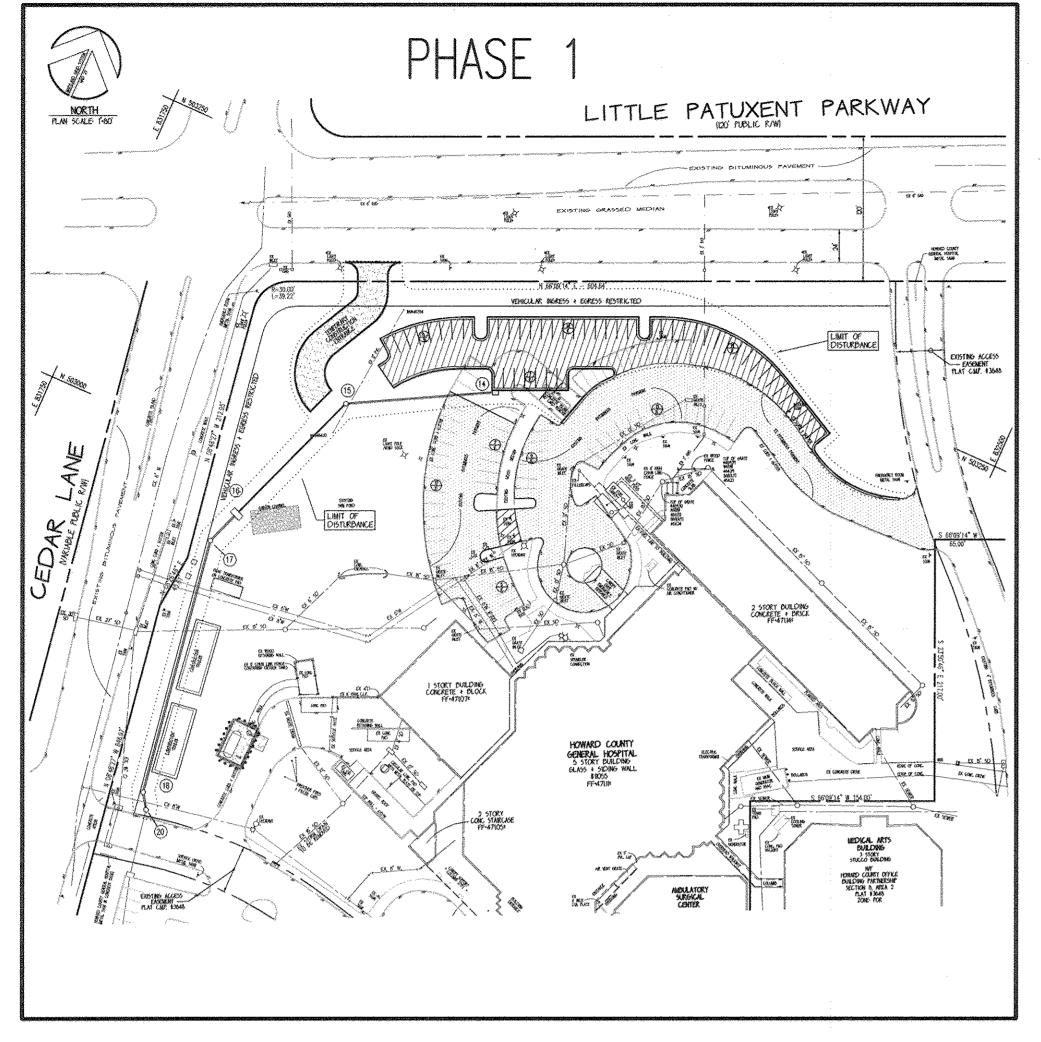
SUBDIMISION

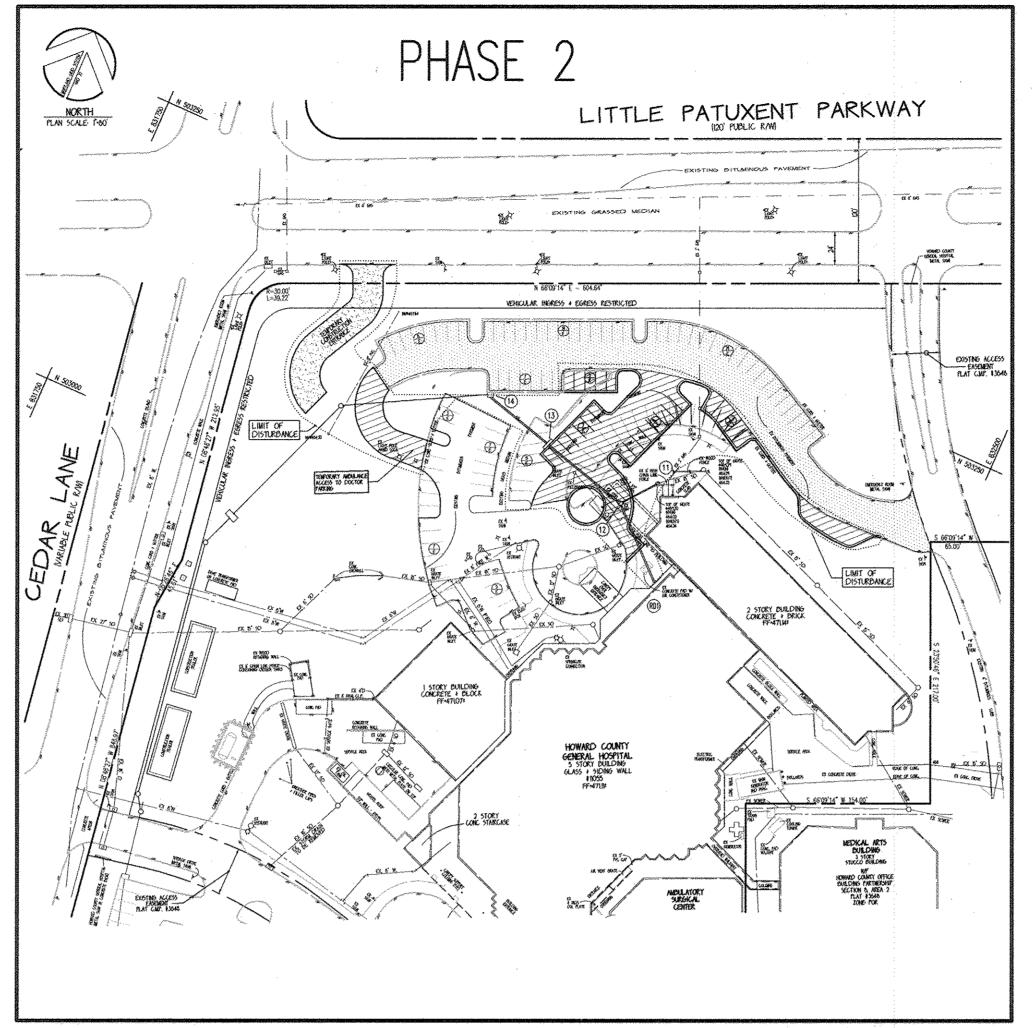
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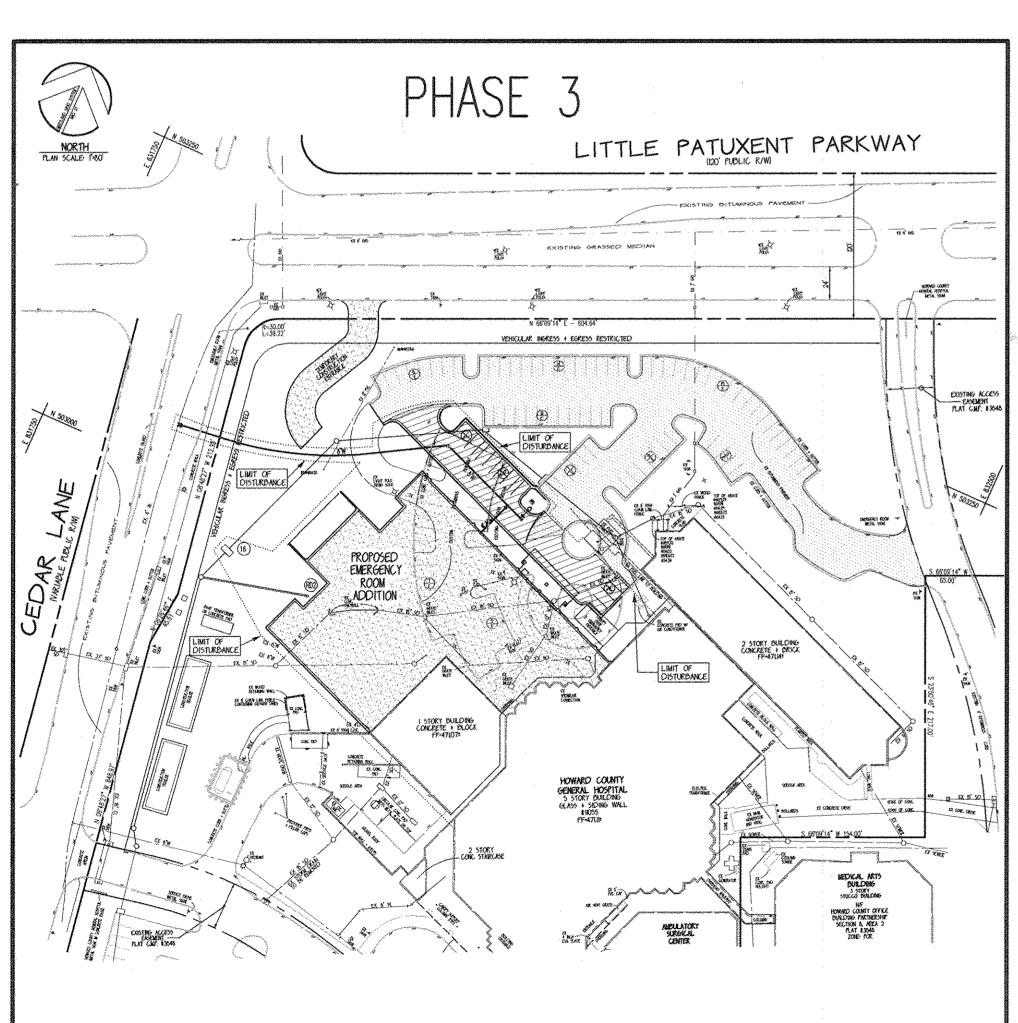
OF 14

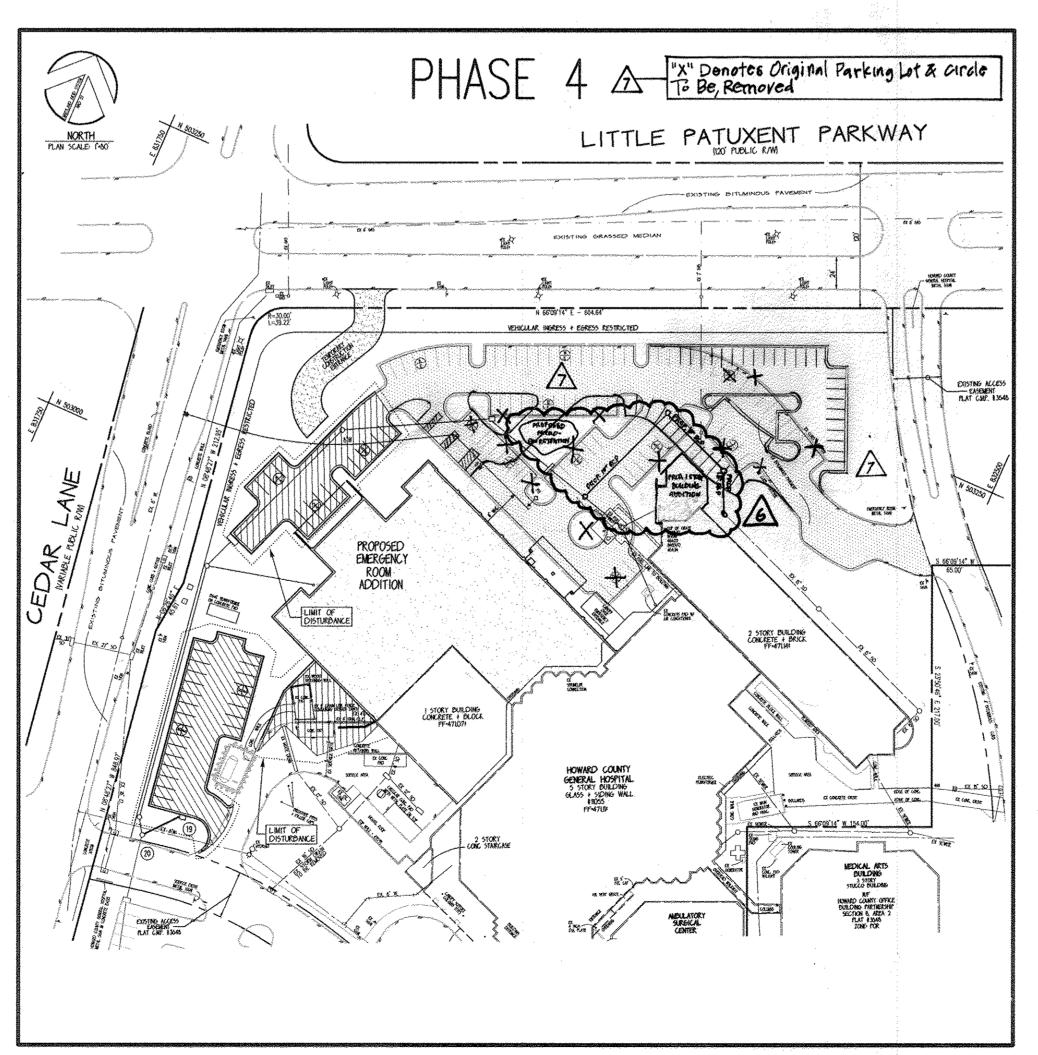
6053.02

PROJ. NO. 99-015









PHASE 1 SEQUENCE OF CONSTRUCTION

1,	RELOCATE EMERGENCY HELICOPTER LANDING AREA TO TEMPORARY LOCATION ON SW CORNER OF EXISTING PARKING LOT, SEE COVER SHEET FOR LOCATION.	1 1	WEEKS
2.	BUILD TEMPORARY CONSTRUCTION ACCESS TO LITTLE PATUXENT PARKWAY.	1 1	WEEKS
3,	CONSTRUCT NEW ACCESS TO OLD "DOCTOR'S" PARKING AREA.	1 1	WEEKS
4.	INSTALL STORM DRAIN STRUCTURES #14, 15, 16, 17, 18 + 20, INCLUDING THE REQUIRED STORM DRAIN CULVERTS. CONNECT TO EXISTING STUB AT LOADING DOCK AREA. LIMIT OF DISTURBANCE TO BE STABILIZED AT THE END OF EACH WORKDAY.	3 V	WEEKS
5.	REMOVE EXISTING "DOCTOR'S" PARKING AREA ENTRANCE, INCLUDING GATE CONTROLS.	2 ¥	WEEKS
6.	CONSTRUCT NEW PARKING AS SHOWN.	3 ¥	NEEKS
7.	INSTALL NEW OXYGEN TANK PAD, TANK AND LINES 🇨	3 V	WEEKS
IINIMUM	NUMBER OF PARKING SPACES PROVIDED AT ALL TIMES = 50 SPACES.		

PHASE 2 SEQUENCE OF CONSTRUCTION

, 111 to 25 2	and the state of t	
1.	CONSTRUCT NEW TEMPORARY AMBULANCE ACCESS INTO "DOCTOR'S" PARKING AREA.	1 WEEKS
2.	REMOVE EXISTING FUEL TANKS.	2 WEEKS
3.	INSTALL STORM DRAIN STRUCTURES $\#11$, 12, 13 AND RD $\#1$, INCLUDING THE REQUIRED STORM DRAIN CULVERTS.	3 WEEKS
4.	ABANDON EX 8" & 6" WATER AT CEDAR LANE AND PROVIDE INTERIOR PLUMBING CROSS CONNECTIONS, REFER TO MECHANICAL PLANS FOR ADDITIONAL INFORMATION.	1 WEEKS
5.	CONSTRUCT NEW TRAFFIC CIRCLE AND NEW PARKING AS SHOWN.**	4 WEEKS
MINIMUM	NUMBER OF PARKING SPACES PROVIDED AT ALL TIMES = 70 SPACES.	

PHASE :	3 SEQUENCE OF CONSTRUCTION	
1.	CONSTRUCT NEW TEMPORARY AMBULANCE CANOPY.	3 WEEKS
2.	INSTALL NEW 8" WATER MAIN TO PROPOSED EXTERIOR BLDG FACE, PER PLAN.	2 WEEKS
3 -	CONSTRUCT NEW CURB AND ABANDON THE "DOCTOR'S" PARKING AREA.	3 WEEKS
4,	BEGIN BUILDING CONSTRUCTION. EXISTING SWM FACILITY WILL BE FILLED AND GRADED WITH MATERIAL FROM BUILDING EXCAVATION.	100 WEEKS
MUMININ	NUMBER OF PARKING SPACES PROVIDED AT ALL TIMES = 73 SPACES.	

PHASE 4 SEQUENCE OF CONSTRUCTION

1.	CONSTRUCT REMAINING NEW CURB AND PARKING LOTS. REMOVE TEMPORARY ACCESS TO LITTLE ACCESS TO LITTLE PATUXENT PARKWAY.	4 WEEKS
2.	ADJUST STORM DRAIN STRUCTURED I-5 & I-17 AS NECESSARY TO FINAL CURB ELEVATIONS.	2 WĖEKS
3.	SURFACE PAVE ENTIRE PROJECT *	2 WEEKS

MINIMUM NUMBER OF PARKING SPACES PROVIDED AT ALL TIMES = 80 SPACES.

*NOTE: CONTRACTOR TO OBTAIN IN WRITING, PERMISSION TO PROCEED AT THE END OF EACH SEQUENCE OF CONSTRUCTION PHASE.

NOTE: PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR MAY BE

THESE WALKWAYS MAY NEED TO BE COVERED. THE TYPE, EXTENT, LIMITS AND PHASING OF PEDESTRIAN WALKWAYS SHALL BE DETERMINED BY THE CONTRACTOR AND THE OWNER.

OTHER VEHICULAR AND PEDESTRIAN TRAFFIC CONTROLS MAY BE REQUIRED. THE CONTRACTOR SHALL NOTIFY THE OWNER WELL IN ADVANCE OF ANY CHANGES THAT MAY IMPACT ACCESS TO

THE EXISTING EMERGENCY ROOM. NOTE: SEE COVER SHEET FOR TEMPORARY HELIPAD LOCATION, SEE SHEET 4 OF 14.

REQUIRED TO CONSTRUCT TEMPORARY ASPHALT, CONCRETE OR TIMBER WALKWAYS.

LEGEND

EXISTING/NEW PAVING

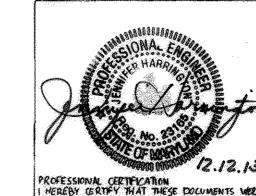
PAVED TO BASE COURSE

TEMPORARY ACCESS PAVEMENT

PURPOSE STATEMENT'- NOVEMBER, 2016 THE PURPOSE OF THIS SITE DEVELOPMENT PLAN REVISION IS TO MODIFY THE NOW EXISTING PARKING LOT AT THE NORTH SIDE OF THE EXISTING HOSTITAL BY REMINING THE CIRCULAR PRIVE WITH PARKING LOT AND RELOGATING PORTIONS OF THE PARKING LOT TO ACCOMODATE THE FUTURE PSYCHIATPIC HOSPITAL ADDITION TO THE HUSPITAL ADDITION, WITH DRAW THE PREMIOUSLY APPROVED ONLYING ADDITION AND MICEO-BIORETENTION PACILITY PATEU OCTOBER 2013. REPORTS REDUNE REVISIONS
UNDER SPY-74-108 + 50P 00-072 FOR ADDITIONAL INFORMATION.

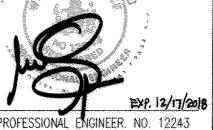
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THIS SEAL FOR & REVISIONS MADE BY SITE RESOURCES, INC.



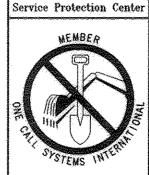
PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WEEK
PREPARED OR APPROVED BY ME, AND THAT I AM
A DULY LICENSED PROFESSIONAL ENGINEER LANGER
THE LAWS OF THE STATE OF NARYLAND, LICENSE
NO. 23165, EXPIRATION DATE. 07/18/15.

APRIL 18, 2017 thereby certify that these documents were prepared or approved by me, and that lan a duly licensed professional engineer under the laws of the State of Maryland.



Before You Dig

INFORMATION AS SHOWN, IS BASED UPON AVAILABLE REGORD INFORMATION AS PROVIDED BY THE OWNER/DEVELOPER/APPLICANT, ALL UNDERGROUND UTILITIES MUST BE FIELD VERIFIED BY DIGGING TEST PITS, BY HAND, PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY. JOYCE ENGINEERING CORPORATION ASSUMES NO LIABILITY FOR ACCURACY OF UTILITY INFORMATION "MISS UTILITY"



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CALL TOLL FREE RECIPIENT ACKNOWLEDGES ACCEPTANCE OF THE ABOVE TERMS AND CONDITIONS.

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PLANNING BOARD of HOWARD COUNTY

DATE APRIL 6, 2000

APPROVED: FOR PUBLIC WATER & PUBLIC SEWERAGE SYSTEMS.
HOWARD COUNTY HEALTH DEPARTMENT

COUNTY HEALTH OFFICER APPROVED: HOWARD COUNTY DEPT, OF PLANNING & ZONING MilleDanning

10/18/20 A 10/20/10 BATE 1 10/20/00

REVISED PLAN TO REMOVE CIRCULAR DP. + PORTIONS OF THE PARKING LOT ON THE N. SIDE OF HOSPITAL FOR FUTURE PSYCHIATRIC BUILDING ADDITION & STORMWATER MANAGEMENT 10-16-13 6 REVISION DESCRIPTION

PROJECT

HOWARD COUNTY GENERAL HOSPITAL EMERGENCY ROOM ADDITION

OWNER/DEVELOPER/APPLICANT HOWARD COUNTY GENERAL HOSPITAL INC. 5755 CEDAR LANE COLUMBIA, MARYLAND 21044 PHONE: 410-740-7720 ATTN KYAN BROWN, YPOP OPERATIONS

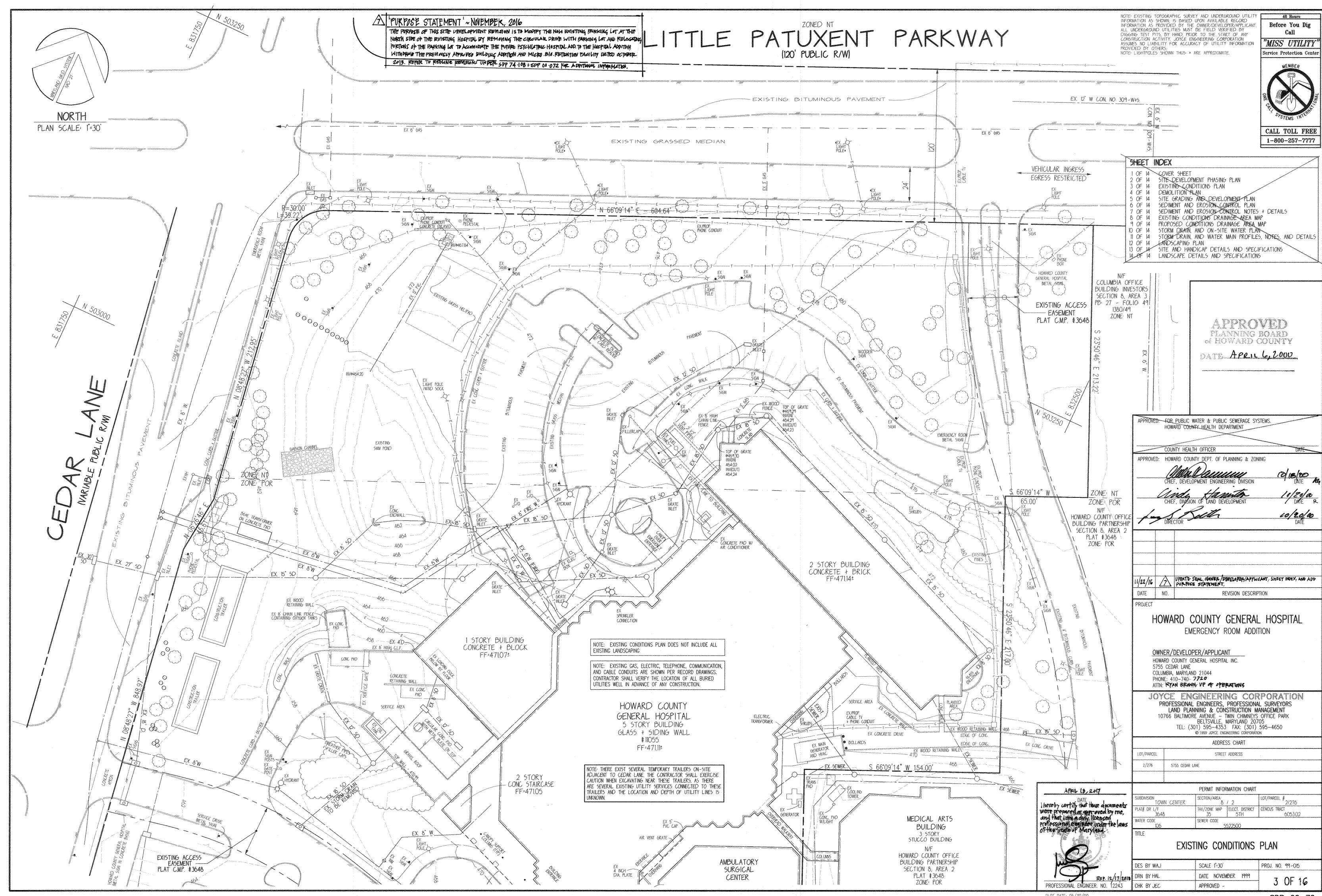
JOYCE ENGINEERING CORPORATION PROFESSIONAL ENGINEERS, PROFESSIONAL SURVEYORS LAND PLANNING & CONSTRUCTION MANAGEMENT 10766 BALTIMORE AVENUE - TWIN CHIMNEYS OFFICE PARK
BELTSVILLE, MARYLAND 20705
TEL: (301) 595-4353 FAX: (301) 595-4650
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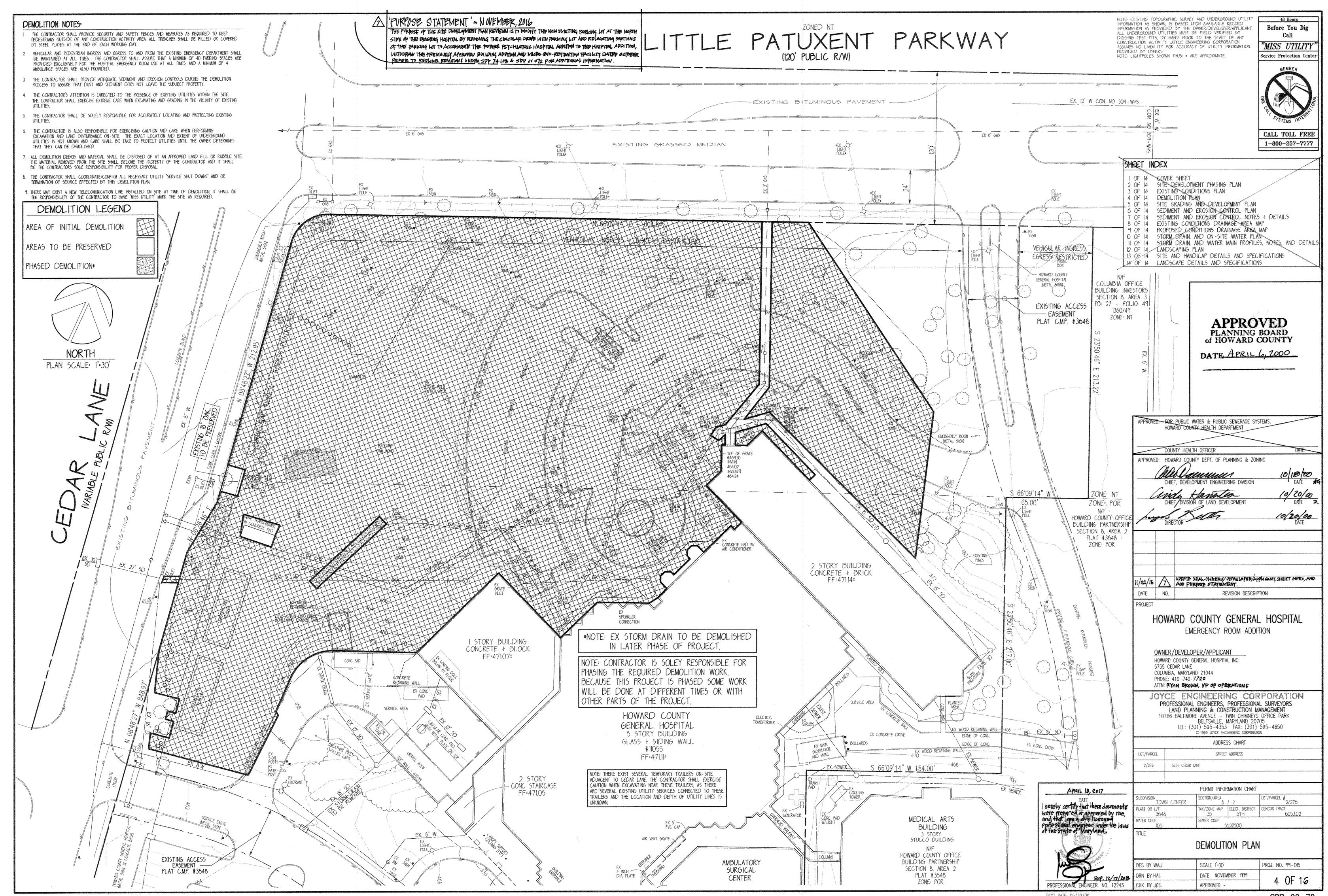
ADDRESS CHART STREET ADDRESS 5755 CEDAR LANE

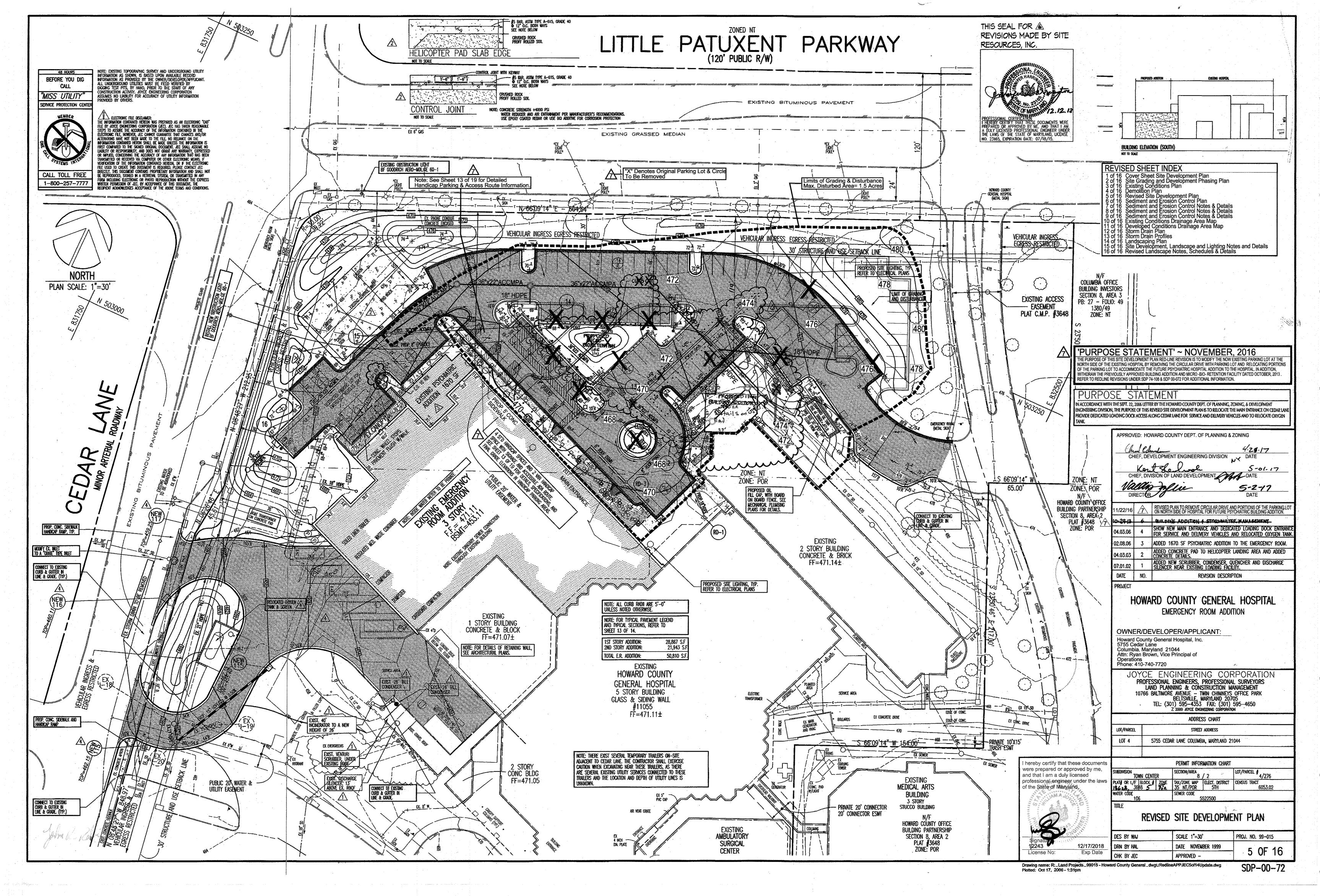
PERMIT INFORMATION CHART TOWN CENTER TAX/ZONE MAP ELECT. DISTRICT CENCUS TRACT 5TH 6

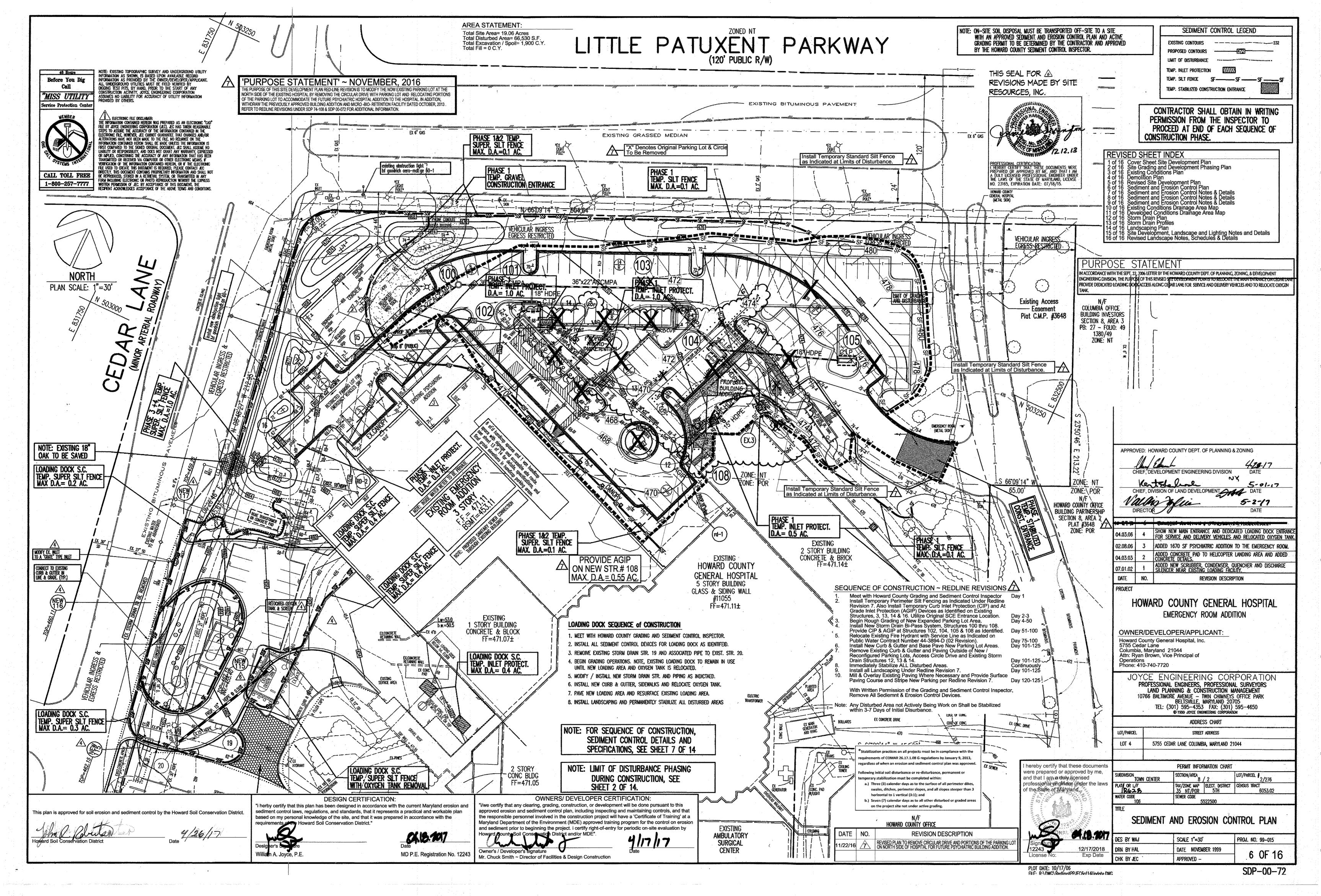
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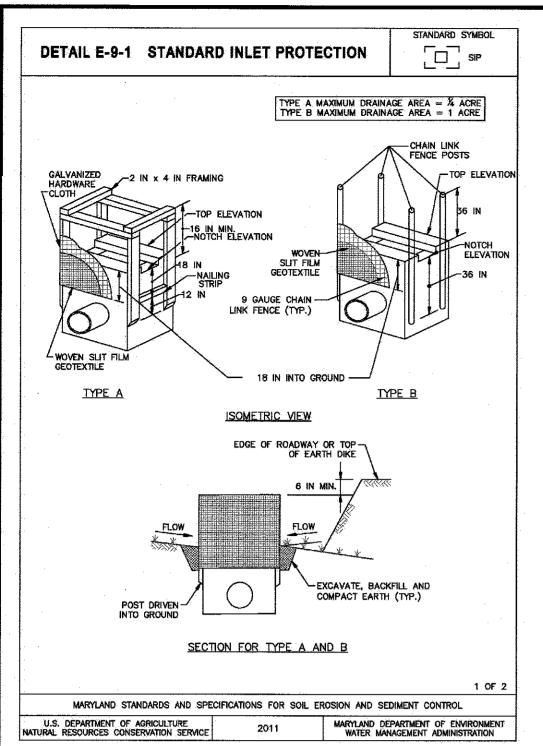
PHASING PLAN SCALE 1"-80" PROJ. NO. 99-015 DATE NOVEMBER 1999 2 OF 16 APPROVED

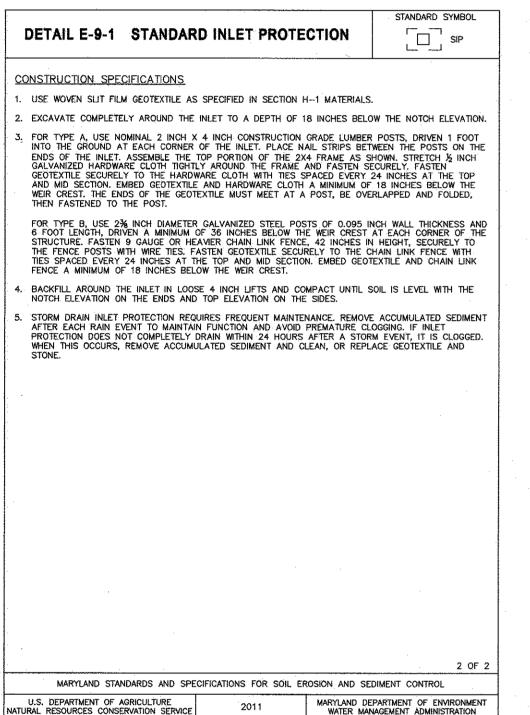




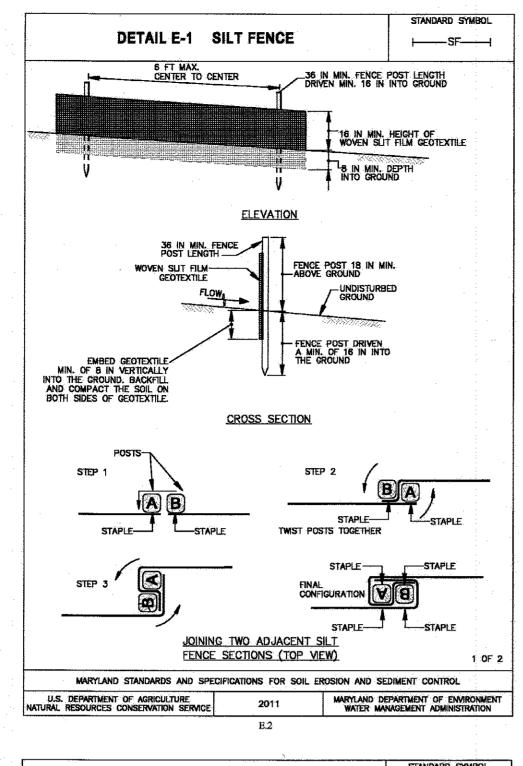


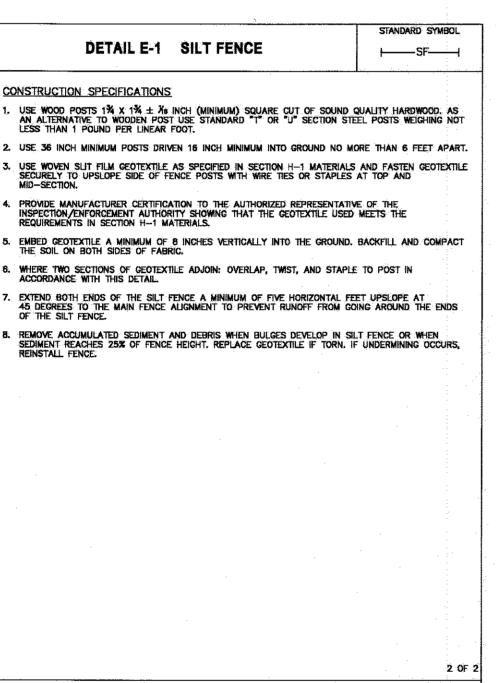






This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.





MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

DESIGN CERTIFICATION

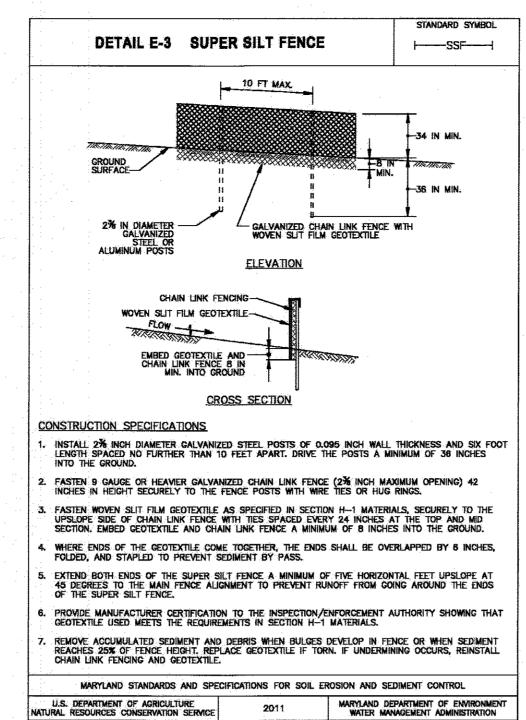
i herby certify that this plan has been designed in accordance with the current Maryland erosion and

sediment control laws, regulations, and standards, that it represents a practical and workable plan

based on my personal knowledge of the site, and that it was prepared in accordance with the

requirements of the Howard Soil Conservation District."

William A. Joyce, P.E.



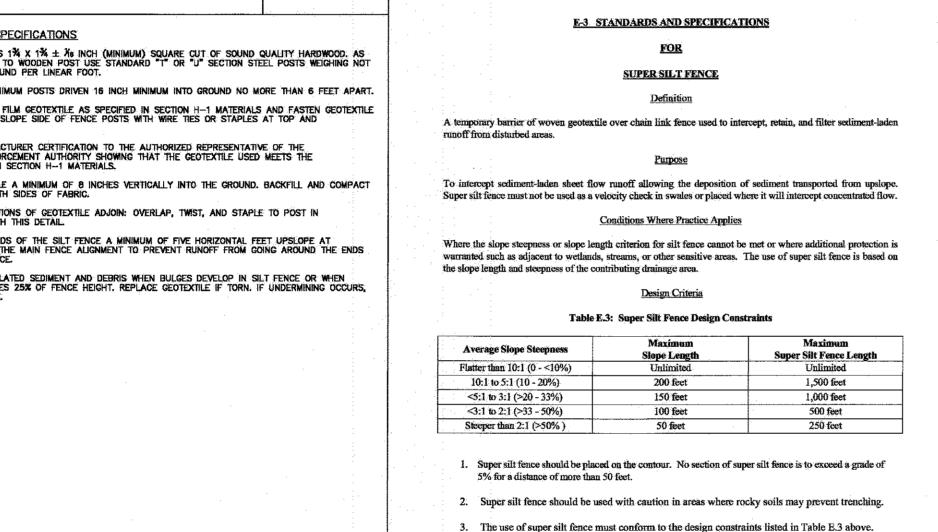
4. Extend both ends of the silt fence a minimum five (5) feet horizontally upslope at 45 degrees to the main

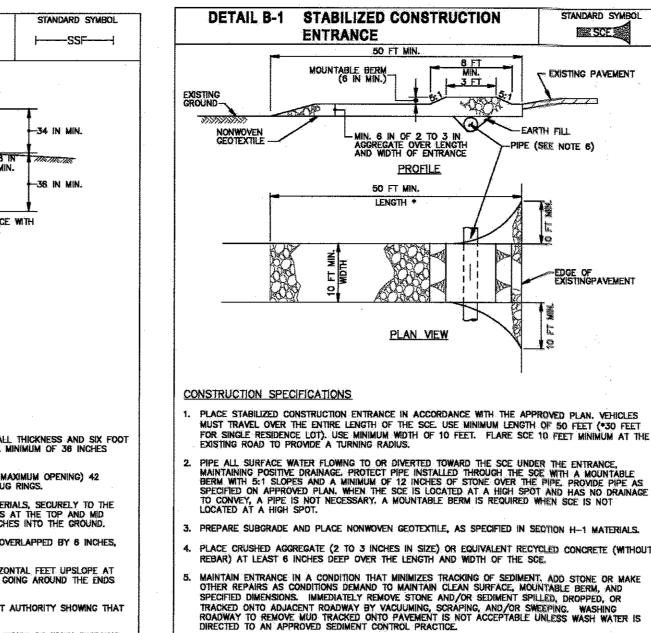
Accumulated sediment and debris must be removed when bulges develop in the fence or when sediment

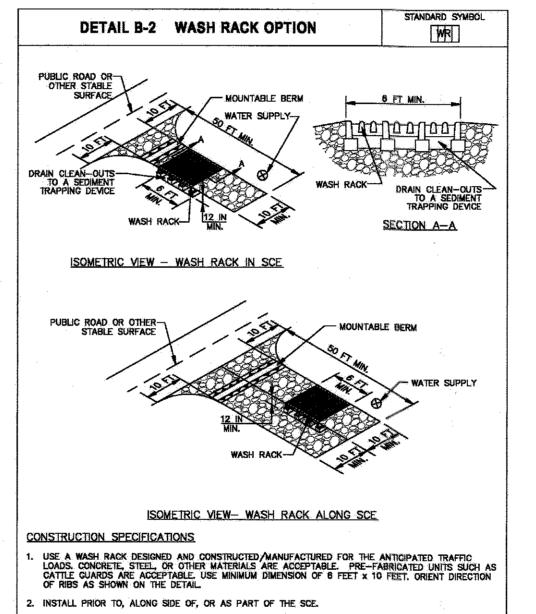
reaches 25 percent of the fence height. The geotextile must be replaced if torn. If undermining occurs,

fence alignment to prevent runoff from going around the ends of the silt fenc

reinstall chain link fencing and geotextile.







MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

- 3. DIRECT WASH WATER TO AN APPROVED SEDIMENT TRAPPING DEVICE.
- KEEP AREA UNDER WASH RACK FREE OF ACCUMULATED SEDIMENT. IF DAMAGED, REPAIR OR REPLACE WASH PACK
- MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Table H.2: Stone Size

ТҮРЕ	SIZE RANGE	d ₅₀	d ₁₉₀₎	AASHTO	MIDSIZE WEIGHT
NUMBER 57 ¹	3/8 to 1 ½ inch	½ in	1 ½ in	M-43	N/A
NUMBER 1	2 to 3 inch	2 1/2 in	3 in	M-43	N/A
RIPRAP ² (CLASS 0)	4 to 7 inch	5 ½ in	7 in	N/A	N/A
CLASS I	N/A	9 ½ in	15 in	N/A	40 lb
CLASS II	N/A	16 in	24 in	N/A	200 lb
CLASS III	N/A	23 in	34 in	N/A	600 lb

¹ This classification is to be used on the upstream face of stone outlets and check dams.

This classification is to be used for gabions.

³ Optimum gradation is 50 percent of the stone being above and 50 percent below the midsize.

Stone must be composed of a well graded mixture of stone sized so that fifty (50) percent of the pieces by weight are larger than the size determined by using the charts. A well graded mixture, as used herein, is defined as a mixture composed primarily of larger stone sizes but with a sufficient mixture of other sizes to fill the smaller voids between the stones. The diameter of the largest stone in such a mixture must not exceed the respective dies selected from Table H.2. The d₅₀ refers to the median diameter of the stone. This is the size for which 50 percent, by weight, will be smaller and 50 percent will be larger.

Note: Recycled concrete equivalent may be substituted for all stone classifications for temporary control measures only. Concrete broken into the sizes meeting the appropriate classification, containing no steel reinforcement, and having a minimum density of 150 pounds per cubic foot may be used as an equivalent.

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 48 hour notice to CID must be given at the following stages:

a. Prior to the start of earth disturbance, b. Upon completion of the installation of perimeter erosion and sediment controls, but before

proceeding with any other earth disturbance or grading, Prior to the start of another phase of construction or opening of another grading unit, d. Prior to the removal or modification of sediment control practices.

Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made. Other related state and federal permits shall be referenced, to ensure

coordination and to avoid conflicts with this plan. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR

SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.

Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading.

All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for topsoil (Sec. B-4-2), permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-41) specifications shall be enforced in areas with >15' of cut and/or fill. Stockpiles (Sec. B-4-8) in excess of 20 ft. must be benched with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6).

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 CID.

> Total Area of Site: Area Disturbed: Area to be roofed or paved: Area to be vegetatively stabilized:

Site Analysis:

Total Cut:

Total Fill:

13. Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade. 14. All Silt Fence and Super Silt Fence shall be placed on-the-contour, and be imbricated at 25' minimum Acres Acres (0.65 Exist / 0.42 New) Acres Cu. Yds. Cu. Yds.

Inspection date

Photographs

Monitoring/sampling

list of HSCD-approved field changes.

Name and title of inspector

Evidence of sediment discharges

• Identification of plan deficiencies

• Inspection type (routine, pre-storm event, during rain event)

Identification of sediment controls that require maintenance

Maintenance and/or corrective action performed

Construction Activities (NPDES, MDE).

sediment basin or other approved washout structure.

intervals, with lower ends curled uphill by 2° in elevation.

Use I and IP March 1 - June 15

Use IV March 1 - May 31

Use III and IIIP October 1 - April 30

Identification of missing or improperly installed sediment controls

back-filled and stabilized by the end of each workday, whichever is shorter.

· Weather information (current conditions as well as time and amount of last recorded

Brief description of project's status (e.g., percent complete) and/or current activities

Compliance status regarding the sequence of construction and stabilization requirements

• Other inspection items as required by the General Permit for Stormwater Associated with

Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be

by the HSCD prior to proceeding with construction. Minor revisions may allowed by the CID per the

Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities

begin on one grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed

to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit

has been stabilized and approved by the AD / Duless otherwise specified and approved by the HSCD, no more than 30 acres cumulatively may be disturbed at a given time.

Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a

Stream channels must not be disturbed during the following restricted time periods (inclusive):

A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION NY

CHIEF, DIVISION OF LAND DEVELOPMENT AND DATE

UPDATE SEAL, OWNER/DEVELOPER/APPLICANT, SHEET INDEX, AND ADD PURPOS.

REVISION DESCRIPTION

HOWARD COUNTY GENERAL HOSPITAL

EMERGENCY ROOM ADDITION

JOYCE ENGINEERING CORPORATION

PROFESSIONAL ENGINEERS, PROFESSIONAL SURVEYORS

10766 BALTIMORE AVENUE - TWIN CHIMNEYS OFFICE PARK BELTSVILLE, MARYLAND 20705 TEL: (301) 595-4353 FAX: (301) 595-4650

LAND PLANNING & CONSTRUCTION MANAGEMENT

© 1999 JOYCE ENGINEERING CORPORATION

ADDRESS CHART

STREET ADDRESS

OWNER/DEVELOPER/APPLICANT:

Howard County General Hospital, Inc. 5755 Cedar Lane

5755 CEDAR LAME

Columbia, Maryland 21044 Attn: Ryan Brown, Vice Principal of

Operations Phone: 410-740-7720

LOT/PARCEL

2/276

EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when

APPROVED

PLANNING BOARD

of HOWARD COUNTY

4-28-17

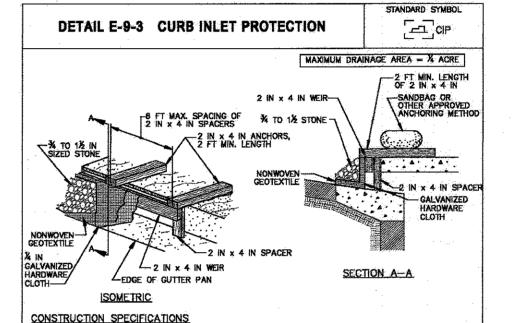
5-01-17

5-2-17

10. Any major changes or revisions to the plan or sequence of construction must be reviewed and approved

Location to be from a site with an active, approved and valid Sediment & Erosion Control Plan Offsite waste/borrow area location: 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 CID. The site and all controls shall be inspected by the contractor weekly, and the next day after each rain event. A written report by the contractor, made available upon request, is part of every inspection and should include:



CONSTRUCTION SPECIFICATIONS

USE NOMINAL 2 INCH x 4 INCH LUMBER 2. USE NONWOYEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.

3. NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART). ATTACH A CONTINUOUS PIECE OF X INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE.

PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET LENGTH), EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.

INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING. FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING, COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN % TO 1% INCH STONE OR EQUIVALENT RECYCLED CONCRETE.

AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET 10. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOCGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

H-1 STANDARDS AND SPECIFICATIONS

MATERIALS

Table H.1: Geotextile Fabrics

							2.675			
		SLIT	VEN FILM EXTILE	WOV MONOFII GEOTE	LAMENT	NONWOVEN GEOTEXTILE				
	MINIMUM AVERAGE ROLL V									
PROPERTY	TEST METHOD	MD	CD	MD	CD	MD	CD			
Grab Tensile Strength	ASTM D-4632	200 lb	200 lb	370 lb	250 lb	200 іь	200 lb			
irab Tensile Elongation	ASTM D-4632	15%	10%	15%	15%	50%	50%			
rapezoidal Tear Strength	ASTM D-4533	75 lb	75 lb	100 в	60 lb	80 lb	80 lb			
uncture Strength	ASTM D-6241	450) lb	900	lb	450 lb				
Apparent Opening Size ²	ASTM D-4751	U.S. Sieve 30 (0.59 mm)		U.S. Si (0.21		U.S. Sieve 70 (0.21 mm)				
ermittivity	ASTM D-4491	0.05 sec ⁻¹		0.28	sec-1	1.1 sec-1				
Ultraviolet Resistance tetained at 500 hours	ASTM D-4355	70% s	trength	70% st	rength	70% strength				

All numeric values except apparent opening size (AOS) represent minimum average roll values (MARV). MARV is calculated as the typical minus two standard deviations. MD is machine direction; CD is cross

² Values for AOS represent the average maximum opening

Geotextiles must be evaluated by the National Transportation Product Evaluation Program (NTPEP) and conform to the values in Table H.1.

The geotextile must be inert to commonly encountered chemicals and hydrocarbons and must be rot and mildew resistant. The geotextile must be manufactured from fibers consisting of long chain synthetic polymers and composed of a minimum of 95 percent by weight of polyolefins or polyesters, and formed into a stable network so the filaments or varus retain their dimensional stability relative to each other, including selvages,

When more than one section of geotextile is necessary, overlap the sections by at least one foot. The geotextile must be pulled taut over the applied surface. Equipment must not run over exposed fabric. When placing riprap on geotextile, do not exceed a one foot drop height.

> hereby certify that these documents were prepared or approved by me, and that Lam a duty licensed professional engineer under the laws of the State of Maryland.

PROJECT

PERMIT INFORMATION CHART PLAT# OR L/F TAX/ZONE MAP ELECT. DISTRICT CENSUS TRACT 35 5TH WATER CODE SEWER CODE

SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

PROJ. NO. 99-015 SCALE (=30) DATE NOVEMBER 1999 7 OF 16 CHK BY JEC APPROVED

C4.18.1017 MD P.E. Registration No. 12243

"i/we certify that any clearing, grading, construction, or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls, and that the responsible personnel involved in the construction project will have a 'Certificate of Training' at a Maryland Department of the Environment (MDE) approved training program for the control on erosion and sediment prior to beginning the project. I certify right-of-entry for periodic on-site evaluation by

OWNERS/ DEVELOPER CERTIFICATION:

Mr. Chuck Smith ~ Director of Facilities & Design Construction

PURPOSE STATEMENT' ~ NOVEMBER, 2016 E PURPOSE OF THIS SITE DEVELOPMENT PLAN RED-LINE REVISION IS TO MODIFY THE NOW EXISTING PARKING LOT AT THE NORTH SIDE OF THE EXISTING HOSPITAL BY REMOVING THE CIRCULAR DRIVE WITH PARKING LOT AND RELOCATING PORTIONS OF THE PARKING LOT TO ACCOMMODATE THE FUTURE PSYCHIATRIC HOSPITAL ADDITION TO THE HOSPITAL, IN ADDITION, WITHDRAW THE PREVIOUSLY APPROVED BUILDING ADDITION AND MICRO -BIO- RETENTION FACILITY DATED OCTOBER, 2013. REFER TO REDLINE REVISIONS UNDER SDP 74-108 & SDP 00-072 FOR ADDITIONAL INFORMATION.

B-4-5 STANDARDS AND SPECIFICATIONS

PERMANENT STABILIZATION

Definition To stabilize disturbed soils with permanent vegetation.

Exposed soils where ground cover is needed for 6 months or more.

To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

Conditions Where Practice Applies

Criteria

A. Seed Mixtures

General Use

- a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
- b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting,
- c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 ½ pounds per
- 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.

- a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
- b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan. i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive
- management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
- ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management, Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
- iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes: Certified Tall Fescue Cultivars 95 to 100 percent. Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
- iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes; Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1½ to 3 pounds per 1000 square feet.
- Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"
- Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line

c. Ideal Times of Seeding for Turf Grass Mixtures

Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a) Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b)

Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)

- d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 11/2 inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will
- e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (½ to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

Permanent Seeding Summary

		Zone (from Figure re (from Table B.			Lime Rate				
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P ₂ O ₅	K ₂ 0	- Lime Kai	
	See	Options	at Right	½- ½ in	45 pounds	90 lb/ac	90 lb/ac	2 tons/ac	
			1/4- ½ in	per acre (1.0 lb/	(2 lb/	(2 lb/	(90 lb/		
				1/4- 1/2 in	1000 sf)	1000 sf)	1000 sf)	1000 sf)	

Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).

General Specifications

- a. Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
- b. Sod must be machine cut at a uniform soil thickness of ¼ inch, plus or minus ¼ inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable
- c. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the
- d. Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may
- e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its installation.

Sod Installation

loward/Soil Conservation District

- a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
- b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.
- c. Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping and irrigating for any piece of sod within eight hours.

Table B.2: Recommended Permanent Seeding Mixtures by Site Condition or Purpose

Site Condition or Purpose of the Planting			R	econ	imei	Mix								
Sife Condition or Purpose of the Planting		2	3	4	5.	6	7	8	9	10	n	12	13	11. Creeping Red Fescus. (Festuca rubra)
Steep Slopes, Roadsides	R	R	Ř	A.	R	A				Α	Α	R	R	Chewings Fescue
Sand and Gravel Pits, Sanitary Landfills	, R	R	R	A	R	A				A	A	R		(Festuco rubra ssp. commutata)
Salt-Damaged Areas	A.	_					·						R	Kentocky Bhiegrass (Poa protensis)
Mine Spoil, Dredged Material, and Spoil Banks	А		R	A,	A.									OPTIONAL ADDITION Rough Binegrass (Pog trivialis).
Utility Rights-of-Way	R	R	R	R	R	R.	A.			R	R	R		12. Creeping Red Fescue (Fessuea inbra
Dikes and Dams	A	A.	R	Á,		R	R	A		R	R	R		yar. rubra)
Berms and Low Embankments (not on Ponds)	R	R	R	R	R	R	A	A		R	R	R	Α	Hard Fescue (Festuca truchyphylia)
Pond and Channel Banks, Streambanks	R	R	R	R	A	A.	A		-	A	A			Sheep Fescue (Festuca ovina)
Grassed Waterways, Diversions, Terraces, Spillways	A				A	R	R	A	R		R		Α	PLUS WILDFLOWER MIX: Black-eyed Susan (Rudbeokia hirta)
Bottom of Drainage Channels, Swales, Detention Basins				A		R	A			A	R		R	Lance leaved Cereopsis (Coreopsis lanceolata)
Field Borders, Filter Strips, Contour Buffer Strips	R	R	R	А	A	R	.A	R	R	R	R.	R	A	Purple Coneflower (Echimocea purpure
Wastewater Treatment Strips and Areas	Ī.							R	A,	A				Pararidge Pea (Chanaecrista fascicula)
Heavy Use Areas (Grass Loafing Paddocks for Livestock)								R						OR AND CLOVER MIX! White Clover (Trifolium repens)
Athletic Fields, Residential and Commercial Lawns				-			A	R.	R	İ	R			Red Clover (Trifolium prevense)
Recreation Areas	1						R	R	R		R			

R = Recommended mix for this site condition or purpos A = Alternative mix, depending on site conditions

Table B.3:	Selected List of Permaneut Herbacoos Seeding Mixtures

		Seeding Rate !!			Max.	1		
Mia	Recommended Cultivar	lb/ac	₽5/ 1000 ft²	Soil Drainaige Class	Height (inch)	Maint. Level	Remarks	
Warsh-Slason/Cool-Season Grass Mixes				3533	NE. 374			
1. SELECT ONE WARSI-SCASON GRASSI								
Switch Gross (Panicum virgatum) OR	Blackwell, Carrhage, Cave-in-Rock, or Shelter	16	0.23				All species are native to Maryland. Plant this row with a regular grass drift.	
	Atlantie			- 1			Limit ritts illes seint a täßteint Staza mitt	
Coastal Panie Grass (Panieum amarum yar, amatuhan)	Atlantie	.16	9.23				Constal point grass is best adapted to Zones 7a and 7b.	
AND ADD:				1 1			Creeping red fescue is a cool-season	
Creeping Red Fescue (Fesauca subra var subra)	Dawson, Pennlawn, Flyer, Fortess, Ruby, or Salem	L5	0.34	E-P	4-7	C-D	grass that will provide crosion protection while the warm-season grass (switchmass or contait panicaress) is	
PLUS ONE OF THE FOLLOWING LEGESTES:							becoming established.	
Partridge Pes (Chamaecrisus fasclouluse)	Common	4	9:09				Switchgrass, coastal panaegrass, the	
Bush Clover (Lespedeza capitata)	Common	2	0.05				'Dawson' variety of excepting red fescue and partitidge pea are moderately salt.	
Wild Indigo (Baptisia fractoria)	Common	2	0:05				tolerant. Do not use bash clover or will indigo on wet sites:	
2. Big Bluestem (Andropagon gerardii)	Niagara or Rountree	6	0.14				All species are native to Maryland.	
Indiangrass (Singhasarum muans)	Rumsey	6	0.14.				The indiangrass and blacstems have fluffy seeds. Plant with a specialized	
Little Bluestern (Schizachyrium scoparium)	Aldons or Bluze	4	0.09				nauve seed drill.	
Creeping Red Fescus (Festuara rubra) yar. rubra).	Dawson, Penniawa, Flyer, Forteso, Ruby, or Salem	lΣ	0.34				Creeping red fescue is a cool-season grass that will provide erosion protection while the warm-season grasses are becoming established.	
PLUS ONE OF THE FOLLOWING LECUMES:	Sul, Cir.			E-MW	6-8	C-D	gresses are recountry established.	
Partridge Pea (Chumuscrista fusciculata)	Совиноп	A	9.09					
Bush Clover (Lespedeza captura)	Common	2	0,05					
Wild Indigo (Buptisia tinctoria)	Сивипоп	2	0.05				-	
Showy Tick-Trefoil (Deimodium canadense)	Сопиноп	.1	0.02				-	

Ta	ble B.3: Selected List o	f Permanent Herbace	ous Seeding	Mixtures	(Continu	200
•		Seeding Rate	6.4	\.		I

	1	Seeding Rate Seit			Mgs.	1		
Mix	Recommended Cultivar	llulae	15/ 1000 ft ²	Orainage Class	Height (inch)	Maint. Level 3/	Remarks	
WARM-SEASON/COOL-SEASON GRASS MIXES	884888120HBS	39.9m 200	rando de la compania. A compania de la comp		E2680	13.00		
3. SELECT THREE CRASSES: Deertongue (Dichanthelium olundestinum)	Tioga	20	0.46				Excellent for excessively droughry, to pH (acidic) soils.	
Sheep Fescue (Festuca ovina) OR	Common or Bigisom	20	0.46			-	Sheep fescue, Canada wild rye, and redtop are cool-season grasses that wi	
Canada Wild Rye (Elymus canadensis)	Common	3	6.07	E-MW	4-6	C-D.	provide crosion protection while the warm-season grass (decirongue) is	
Redtop (Agrossis giganican)	Streaker	ŧ	0.02	E-MW	4-0	(- D.	becoming established,	
PLOS OSE OF THE FOLLOWING LEGEMES:							Common lespedeza ('Kobe' variety) is more tolerant of low acidity and high	
Common Lespedeza (Lespedeza striata).	Kobe	10	0.23				manganese concentrations than Korea	
Korean Lespedeza (Lespedeza sapulacea)	Climax or Rowan	İQ	0,23				lespedeza. These lespedezas are resceding armials.	
4. Deersongne (Dichanthelium claudestinum)	Tioga	13	0.34					
Creeping Red Fescue (Festuca rubra var. rubra)	Dawson, Pennlawn, Flyer, Fortess, Ruby, or Salem	20	0.46					
Virginia Wild Rye (Elymus virginicus) OR	Common	5	Ð.1 Í	W-P	2-3	C-D	Use Virginia wild rye on moist, shady sites.	
Canada Wild Rye (Elymus canadensis)	Common	5	9.11		ŀ	ļ	Use Canada wild rye on droughty sae	

		Seeding	Rate !!	Soil	Max.		1.4
Mix	Recommended Cultivar	ar th/ac th/ Drainage Heig	Height (inch)	Maint. Level 3/	Remarks		
COOL-SEASON GRASS MIXES			3903				
5. Splect two grasses:							
Creeping Red Pescue (Festuca rubra var. rubra)	Dawson, Pennlawn, Flyer, Fortesk, Raby, or Salem	.20	0.46				Use creeping red fescue in heavy shade and on moist sites.
. <u>OR</u>	1	1		ŀ			Perennial ryegrass and redtop will establish more rapidly than entier
Hard Fescue (Festuca trackyphylla)	Anda or Aerora	20	0.46				fescue. Redtop tolerates wet sites bette
Perennial Ryegrass (Lalium perenne)	Blazer (II), Penntine	10	0.23		İ		than ryegrass.
OR.		ĺ		E-SP	2 - 3	B-D.	Liaspea will suppress woody vegetation
Redton (Agrossis giganican)	Streaker	1	0.02			ļ.	It should be planted in the spring, or as a dormant seeding in late fall or winter
- rearsh Com Section Sections	1	. 1	1 3.02				It must be incorporated into the soil or ecvered with mules. It may not be
AND ADD THE FOLLOWING LEGUME:			Ę				winter-hardy if planted late summer -
Flatpea (Lathyrus sylvesnis)	Lathco	15	0.34				fall. <u>Caution</u> : Fistper can spread aggressively, and can be toxic to livestock.
6. Tall Fescue (Lolium arundinaceum)	D	40	0.93				Micoure.
(formerly Festuca arundinacea)	Recommended MD turf-types	40	9.95		٠.		
Perennial Ryegrass (Lotium perenne)	Blazer (II), Penntine	25	9.57.				
PLUS ONE OF THE FOLLOWING LEGIMES:				W-SP	2-3	6-D	
Birdsfoor Trefoil (Louis cornteulums)	Empire, Viking, Norcen, Leo	. 8.	0.18				Badsfoot trefoil is suitable for use only in Zones 5b and 6a.
White Clover (Trifolium repens)	Common	5	0.11				
7. Creening Red Fescue (Fesauca rubra.	Dayson, Pennlayen,	60	1.38				
var. nubra)	Flyer, Fortess, Ruby, or		-			-	1.00
	Salem			W-MW	1-2	C-D	This mix has good shade tolerance.
Kentucky Bluegross (Poa pratensis)	Recommended MD	-15	0.34				

B-4-6 STANDARDS AND SPECIFICATIONS

SOIL STABILIZATION MATTING

Definition Material used to temporarily or permanently stabilize channels or steep slopes until groundcover is established.

To protect the soils until vegetation is established

exceeds four feet per second (4 fps).

Table B.3: Selected List of Permanent Herbacoons Seeding Mixtures (Continued

Table B.3: Selected List of Permanent Herbaceous Seeding Mixtures (Continued)

16 Seeding Rates: Seeding rates for the warm-cosmo occases are in munds of Pure Live Seed (PLS). Actual planting rates must be adjusted to reflect percent seed

germination and purity, as tectred. Adjustments are usually not needed for the cool-season grasses, tegumes, or whithovers. All fegume seeds must be inocult before plainting with the appropriate Rhizobium bacteria. When feasible, hard-seeded legumes should be scarified to improve germination.

A - Intensive mowing (every 2 - 4 days), fertilization, these insect and weed control, and watering (examples; high maintenance lawns and athletic fields).

4/ Furl-type cultivars of tall fessue and Kentucky bioegrass must be selected based on recommendations of the University of Maryland Cooperative Extension Service, Agrinomy Mimeo 77. Recommendations are as follows:

B-4-4 STANDARDS AND SPECIFICATIONS

TEMPORARY STABILIZATION

<u>Purpose</u>

Conditions Where Practice Applies

Criteria

1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along

3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch

Depths

Fertilizer

Rate

(10-20-20)

436 lb/ac

Lime Rate

2 tons/ac

(10 lb/1000 st) (90 lb/1000 sf)

alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.

Temporary Seeding Summary

Dates

Mar.1st-May 15th Aug.15th-Oct.15th

with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and

Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time,

completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.

B - Frequent moving (every 3 - 10 days), occasional fertilization, lime, pest control, and watering (examples: residential, school, and commercial favor.

C - Periodic moving (every 3 - 10 days), occasional fertilization and fine (examples; residential layers, parks).

D - Infrequent or no moving, fertilization, or lime after the first year of establishment (examples: widdife areas, roadsides, steep banks).

27 Soll Drainage Class (refer to the county soil survey for further information):
E - Excessively Drained; W - Well Drained; MW - Moderately Well Drained; SP - Somewhat Poorly Brained; P - Poorly Brained.

A. <u>Rentucky Bluegrass</u>
 t. The following Kentucky binegrass cultivars are suitable for general use, and are also noted for shade tolerance:

SR 2000

To stabilize disturbed soils with vegetation for up to 6 months.

permanent stabilization practices are required.

(Secale Cereale)

Foxtail Millet

(Secale Cereale)

To use fast growing vegetation that provides cover on disturbed soils.

Soil tests are not required for Temporary Seeding.

Hardiness Zone (from Figure B.3): ____78

Seed Mixture (from Table B.1): at Left

Rate (lb/ac)

112

30

Seeding Rate 1 Suil Mas.

Ib/ac ib/ Brainage Height (inch) Level 2 Class 1 (inch)

Purple Coneflower (Echinocea purpure Partridge Pen (Chamaecrista fasciculate) Commo

13. Alkali Saligrass (Puccinellia distans)

Creeping Red Fescue (Festura rula

Fowl Meadowgrass (Poa palustris)

Creeping Benigrass (Agrostis stolomifera) Seaside

Moonlight Nuglade

OPTIONAL ADDITION

3/ Maintenance Level:

Brilliant

Champagne

mmon or Bighor

hac the Prainage Height Level 3

E-MW 2-3 B-D

Add rough bluegress in moist, shady

Ammerica may of fine fescues and

Wildflowers are best established b

broadcasting and cultipacking on a prepared seedbed. Onling can be als used, but care must be taken so that

this risk if wildflowers are used. (They have very small seeds.)

seeds are not drilled too deep.

For best results, use only the Daws

Conditions Where Practice Applies

On newly seeded surfaces to prevent the applied seed from washing out; in channels and on steep slopes where the flow has erosive velocities or conveys clear water; on temporary swales, earth dikes, and perimeter dike swales as required by the respective design standard; and, on stream banks where moving water is likely to wash out new vegetative plantings.

Design Criteria

- 1. The soil stabilization matting that is used must withstand the flow velocities and shear stresses determined for the area, based on the 2-year, 24-hour frequency storm for temporary applications and the 10-year, 24-hour frequency storm for permanent applications. Designate on the plan the type of soil stabilization matting using the standard symbol and include the calculated shear stress
- for the respective treatment area. 2. Matting is required on permanent channels where the runoff velocity exceeds two and half feet per second (2.5 fps) or the shear stress exceeds two pounds per square foot (2 lbs/ft2). On temporary channels discharging to a sediment trapping practice, provide matting where the runoff velocity
- 3. Temporary soil stabilization matting is made with degradable (lasts 6 months minimum), natural, or manmade fibers of uniform thickness and distribution of fibers throughout and is smolder resistant. The maximum permissible velocity for temporary matting is 6 feet per second
- 4. Permanent soil stabilization matting is an open weave, synthetic material consisting of nondegradable fibers or elements of uniform thickness and distribution of weave throughout. The maximum permissible velocity for permanent matting is 8.5 feet per second.
- Shear Stress (t) is a measure of the force of moving water against the substrate and is calculated as:

Calculate channel velocity and shear stress using the following procedure:

 $\tau = \gamma \cdot \mathbf{R} \cdot \mathbf{S}_{w}$ where: $\tau = \text{shear stress (lb/fl}^2)$ $y = \text{weight density of water } (62.4 \text{ lb/ft}^3)$ R = average water depth (hydraulic radius) (ft)

 S_{vi} = water surface slone (ft/ft)

Velocity (v) measures the rate of flow through a defined area and is calculated as:

 $1.486R^{73}s^{73}$

v = velocity (ft/sec) n = Manning's roughness coefficient R = hydraulic radius (ft) s = channel slope (ft/ft)

6. Use Table B.7 to assist in selecting the appropriate soil stabilization matting for slope applications based on the slope, the slope length, and the soil-erodibility K factor.

Table B.7: Soil Stabilization on Slopes

Slope	20:1 or Flatter (≤5%)			20:1 to >5 - 25					<3:1 to 2.5:1 (>33 - 40%)			<2.5:1 to 2:1** (>40 - 50%)			
Slope Length (feet)*	0-30	30-60	60-120	0-30	30-60	60-120	0-30	30-60	60-120	0-30	30-60	60-120	0-30	30-60	60-120
Straw Mulch/Wood Cellulose Fiber					for	K≤0.3	5***								
Temporary Matting with Design Shear Stress ≥ 1.5 lb/sf										-	-	-			
Temporary Matting with Design Shear Stress ≥ 1.75 lb/sf												-			
Temporary Matting with Design Shear Stress ≥ 2.0 lb/sf															
Temporary Matting with Design Shear Stress ≥ 2.25 lb/sf															the=ma

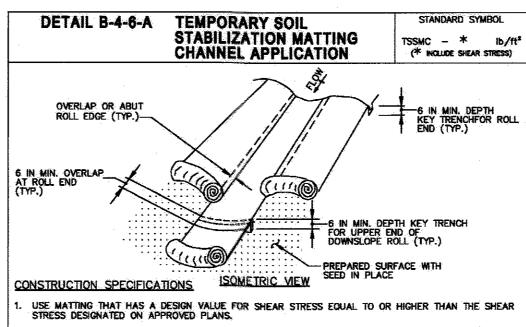
Effective range for all K values unless otherwise specified 2. For sites having soil tests performed, use and show the recommended rates by the testing agency.

* Slope length includes contributing flow length. ** Slopes steeper than 2:1 must be engineered

*** Soil having a K value less than or equal to 0.35 can be stabilized effectively with straw mulch or wood cellulose fiber when located on slopes steeper than 5%. Soil stabilization matting is required on all slopes steeper than 5% that have soil with a K factor greater than 0.35. K factor ratings are published in the NRCS Soil Survey http:// websoilsurvey.nrcs.usda.gov/app. During construction or reclamation, the soilerodibility K value should represent the upper 6 inches of the final fill material re-spread as the last lift. Only the effects of rock fragments within the soil profile are considered in the estimation of the K value. Do not adjust K values to account for rocks on the soil surface or increases in soil organic matter related to management activities.

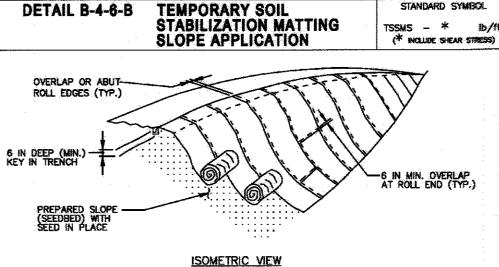
Maintenance

Vegetation must be established and maintained so that the requirements for Adequate Vegetative Establishment are continuously met in accordance with Section B-4 Vegetative Stabilization.



- USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM)
 NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC), MAT MUST HAVE UNIFORM THICKNESS AND
 DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT, CHEMICALS USED IN THE MAT
 MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS
 TO THE SKIN, IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF
 2X2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF
- SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SERVICE OF THE SECOND SE
- UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTERLINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MAT SMOOTHLY AND FIRMLY ON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
- KEY-IN UPSTREAM END OF EACH MAT ROLL BY DIGGING A 6 INCH (MINIMUM) TRENCH AT THE UPSTREAM END OF THE MATTING, PLACING THE ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END. OVERLAP OR ABUT THE ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT
- STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPE	CIFICATIONS FOR SOIL EF	ROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE RAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



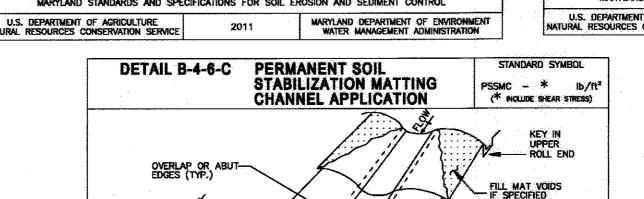
CONSTRUCTION SPECIFICATIONS

- I. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
- 2. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM)
 NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND
 DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT
 MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS
 TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF
 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF
 THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
- 3. SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 2 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTON

PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS, PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING

- OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION & SEDIMENT CONTROL PLAN.
- 5. UNROLL MATTING DOWNSLOPE, LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE, AVOID STRETCHING THE MATTING.
- S. OVERLAP OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT. 7. KEY IN THE UPSLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
- S. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS. 9. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE

			RDANCE WITH SECTION		
MARYLAND	STANDARDS A	AND SPECIFICATIONS	FOR SOIL EROSION	AND SEDIMENT CONTROL	

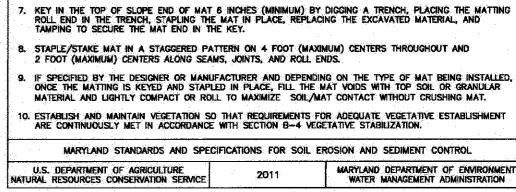


SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. B RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 ½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH BAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.

OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.

STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS. IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE



DETAIL B-4-6-D

CONSTRUCTION SPECIFICATIONS

PERMANENT SOIL

SLOPE APPLICATION

STABILIZATION MATTING

ISOMETRIC VIEW

USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL

SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL

WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE
1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM
8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE
ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT
THE BOTTOM.

PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS, PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL

OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS

UNROLL MATTING DOWN SLOPE, LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE, AVOID STRETCHING THE MATTING.

BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.

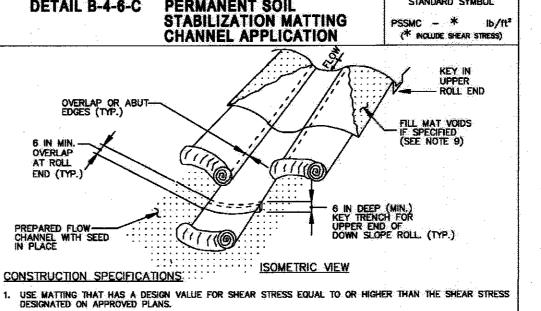
USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.

PSSMS - * lb/ft2

(* INCLUDE SHEAR STRESS)

6 IN MIN OVERLAP

AT ROLL END (TYP.)



USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.

PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.

UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.

KEY IN THE TOP OF SLOPE END OF WAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.

ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION 8-4 VEGETATIVE STABILIZATION.

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING CHIEF, DEVELOPMENT ENGINEERING DIVISION 4.28.17 DATE 5-01-17 UPDATE SEAL, OWNER/DEVELOPER/APPLICANT, SHEET INDEX, AND ADD PURPOSI STATEMENT. APD THIS SHEET TO PLAN SET. DATE REVISION DESCRIPTION PROJECT

HOWARD COUNTY GENERAL HOSPITAL EMERGENCY ROOM ADDITION

OWNER/DEVELOPER/APPLICANT: Howard County General Hospital, Inc. 5755 Cedar Lane Columbia, Maryland 21044 Attn: Ryan Brown, Vice Principal of Operations Phone: 410-740-7720

JOYCE ENGINEERING CORPORATION PROFESSIONAL ENGINEERS, PROFESSIONAL SURVEYORS LAND PLANNING & CONSTRUCTION MANAGEMENT 10766 BALTIMORE AVENUE - TWIN CHIMNEYS OFFICE PARK BELTSVILLE, MARYLAND 20705 TEL: (301) 595-4353 FAX: (301) 595-4650

© 1999 JOYCE ENGINEERING CORPORATION ADDRESS CHART LOT/PARCEL STREET ADDRESS 5755 CEDAR LANE 2/276

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

PERMIT INFORMATION CHART SUBDIVISION TAX/ZONE MAP | ELECT. DISTRICT | CENSUS TRACT PLAT# OR L/F STH WATER CODE SEWER CODE

SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

SCALE (=30) PROJ. NO. 99-015 DATE NOVEMBER 1999 8 OF 16 CHK BY JEC APPROVED -

SDP-00-72

sediment control laws, regulations, and standards, that it represents a practical and workable plan based on my personal knowledge of the site, and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

DESIGN CERTIFICATION:

Designer's

i herby certify that this plan has been designed in accordance with the current Maryland erosion and

MD P.E. Registration No. 12243

Mr. Chuck Smith ~ Director of Facilities & Design Construction

PURPOSE STATEMENT' ~ NOVEMBER, 2016

EFER TO REDLINE REVISIONS UNDER SDP 74-108 & SDP 00-072 FOR ADDITIONAL INFORMATION.

IE PURPOSE OF THIS SITE DEVELOPMENT PLAN RED-LINE REVISION IS TO MODIFY THE NOW EXISTING PARKING LOT AT THE IORTH SIDE OF THE EXISTING HOSPITAL BY REMOVING THE CIRCULAR DRIVE WITH PARKING LOT AND RELOCATING PORTIONS

OF THE PARKING LOT TO ACCOMMODATE THE FUTURE PSYCHIATRIC HOSPITAL ADDITION TO THE HOSPITAL. IN ADDITION, . WITHDRAW THE PREVIOUSLY APPROVED BUILDING ADDITION AND MICRO -BIO- RETENTION FACILITY DATED OCTOBER, 2013

approved erosion and sediment control plan, including inspecting and maintaining controls, and that the responsible personnel involved in the construction project will have a 'Certificate of Training' at a Maryland Department of the Environment (MDE) approved training program for the control on erosion and sediment prior to beginning the project. I certify right-of-entry for periodic on-site evaluation by nse vation District and/or MDE".

OWNERS/ DEVELOPER CERTIFICATION:

"i/we certify that any clearing, grading, construction, or development will be done pursuant to this

PLOT DATE: 05/30/00 FILE: R:\DWG\99015\99015SC2.DWG

12/17/2018 Exp Date

LAND GRADING

Definition

Reshaping the existing land surface to provide suitable topography for building facilities and other site

To provide erosion control and vegetative establishment for extreme changes in grade

Conditions Where Practice Applies

Earth disturbances or extreme grade modifications on steep or long slopes.

Design Criteria

The grading plan should be based on the incorporation of building designs and street layouts that fit and utilize existing topography and desirable natural surroundings to avoid extreme grade modifications. Information submitted must provide sufficient topographic surveys and soil investigations to determine limitations that must be imposed on the grading operation related to slope stability, adjacent properties, drainage patterns, measures for water removal, and vegetative treatment, etc.

Many jurisdictions have regulations and design procedures already established for land grading that must be followed. The plan must show existing and proposed contours for the area(s) to be graded including practices for erosion control, slope stabilization, and safe conveyance of runoff (e.g., waterways, lined channels, reverse benches, grade stabilization structures). The grading/construction plans are to include the phasing of these practices and consideration of the following:

- 1. Provisions to safely convey surface runoff to storm drains, protected outlets or stable water courses to ensure that surface runoff will not damage slopes or other graded areas.
- 2. Cut and fill slopes, stabilized with grasses, no steeper than 2:1. (Where the slope is to be mowed, t slope should be no steeper than 3:1, but 4:1 is preferred because of safety factors related to moving steep slopes.) Slopes steeper than 2:1 require special design and stabilization considerations to be
- 3. Benching per Detail B-3-1 whenever the vertical interval (height) of any 2:1 slope exceeds 20 feet; for 3:1 slopes, when it exceeds 30 feet; and for 4:1 slopes, when it exceeds 40 feet. Locate benches to divide the slope face as equally as possible and to convey the water to a stable outlet. Soils, seeps, rock outcrops, etc. are to be taken into consideration when designing benches.
- a. Provide benches with a minimum width of six feet for ease of maintenance.
- b. Design benches with a reverse slope of 6:1 or flatter to the toe of the upper slope and with a minimum of one foot in depth. Grade the longitudinal slope of the bench between 2 percent and 3 percent, unless accompanied by appropriate design and computations.
- c. The maximum allowable flow length within a bench is 800 feet unless accompanied by appropriate design and computations
- 4. Diversion of surface water from the face of all cut and fill slopes using earth dikes or swales.
- a. Protect the face of all graded slopes from surface runoff until they are stabilized.

Convey surface water down slope using a designed structure, and:

drainage ways, graded swales, downspouts, etc.

- b. Do not subject the slope's face to any concentrated flow of surface water such as from natural
- Protect the face of the slope by special erosion control materials to include, but not be limited
- to, approved vegetative stabilization practices, riprap or other approved stabilization methods 5. Serrated slope as shown in Detail B-3-2. The steepest allowable slope for ripable rock is 1.5:1. For
- non rock surfaces, the slopes are to be 2:1 or flatter. These steps will weather and act to hold moisture, lime, fertilizer and seed thus producing a much quicker and longer lived vegetative cover and better slope stabilization.
- 6. Subsurface drainage provisions. Provide subsurface drainage where necessary to intercept seepage and permanent stabilization. that would otherwise adversely affect slope stability or create excessively wet site conditions.
- . Proximity to adjacent property. Slopes must not be created close to property lines without adequate
- 8. Quality of fill material. Fill material must be free of brush, rubbish, logs, stumps, building debris, reducing sediment loads and runoff to downstream areas. and other objectionable material. Do not place frozen materials in the fill nor place the fill material on a frozen foundation.
- 4 Standards and Specifications for Stabilization Practices

Maintenance

The line, grade, and cross section of benching and serrated slopes must be maintained. Benches and serrated Sediment control practices must remain in place during grading, seedbed preparation, seeding, mulching. slopes must continuously meet the requirements for Adequate Vegetative Establishment in accordance with and vegetative establishment. Section B-4 Vegetative Stabilization.

DETAIL B-3-1 BENCHING BENCH SPACING SLOPE y (MAX. 2:1 20 FT 3:1 30 FT 4:1 40 FT

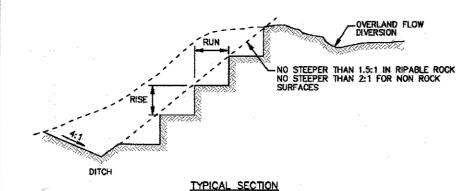
CONSTRUCTION SPECIFICATIONS

- USE FILL MATERIAL FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS, AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
- DO NOT INCORPORATE FROZEN, SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS INTO FILL SLOPES OR STRUCTURAL FILLS. DO NOT PLACE FILL ON A FROZEN FOUNDATION.
- . PLACE ALL FILL IN LOOSE LIFTS NOT TO EXCEED 8 INCHES AND THEN COMPACT.
- COMPACT ALL FILLS AS REQUIRED TO REDUCE EROSION, SUPPAGE, SETTLEMENT, OR OTHER RELATED PROBLEMS. COMPACT FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES, CONDUITS, ETC., IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
- HANDLE SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION IN ACCORDANCE WITH SECTION H-2 SUBSURFACE DRAINS OR OTHER APPROVED METHODS.
- MAINTAIN LINE, GRADE, AND CROSS SECTION OF BENCHING. STABILIZE IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION CRITERIA OR AS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN. INSTALLATION OF EROSION CONTROL MATTING MAY BE NECESSARY IN BENCH/SWALE INVERTS. CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
- KEEP ALL BENCHES FREE OF SEDIMENT DURING ALL PHASES OF DEVELOPMENT.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

DETAIL B-3-2 SERRATED SLOPE



- DIVERT OVERLAND FLOW FROM THE TOP OF ALL SERRATED CUT SLOPES AND CARRY TO A SUITABLE DUTLET.
- MAKE SERRATIONS AS THE EXCAVATION PROGRESSES.
- CONSTRUCT EACH STEP OR SERRATION ON THE CONTOUR, RISE & RUN DIMENSIONS WILL VARY DEPENDING ON THE FINAL SLOPE RATIO. FOR RIPABLE ROCK SURFACES, MAKE TWO FOOT VERTICAL (RISE) AND THREE FOOT HORIZONTAL (RUN) SERRATIONS AT A SLOPE RATIO NO STEEPER THAN 1.5:1 FOR NON ROCK SURFACES, MAKE TWO FOOT VERTICAL (RISE) AND FOUR FOOT HORIZONTAL (RUNS) SERRATIONS AT A SLOPE RATIO NO STEEPER THAN 2:1.
- KEEP ALL BENCHES FREE OF SEDIMENT DURING ALL PHASES OF CONSTRUCTION.
- HANDLE SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION IN ACCORDANCE WITH SECTION H-2 SUBSURFACE DRAINS OR OTHER APPROVED METHODS.
- 5. MAINTAIN LINE, GRADE, AND CROSS SECTION OF SERRATED SLOPES. TEMPORARILY OR PERMANENTLY STABILIZE ALL GRADED, NON ROCK SURFACES IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENTS OR AS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN. CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL FROSION AND SEDIMENT CONTROL MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

B-4 STANDARDS AND SPECIFICATIONS

FOR

VEGETATIVE STABILIZATION

Using vegetation as cover to protect exposed soil from erosion.

To promote the establishment of vegetation on exposed soil.

Conditions Where Practice Applies On all disturbed areas not stabilized by other methods. This specification is divided into sections on incremental

stabilization; soil preparation, soil amendments and topsoiling; seeding and mulching; temporary stabilization;

Effects on Water Quality and Quantity protection against sedimentation, erosion, slippage, settlement, subsidence, or other related damages. Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to crode and more likely to allow infiltration of rainfall, thereby

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation will 9. Stabilization. Stabilize all disturbed areas structurally or vegetatively in compliance with Section Bincrease organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to

receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

pect seeded areas for vegetative establishment and make necessary repairs, replacements, and reseedings within the planting season

- 1. Adequate vegetative stabilization requires 95 percent groundcover.
- 2. If an area has less than 40 percent groundcover, restabilize following the original recommendations
- for lime, fertilizer, seedbed preparation, and seeding. 3. If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates originally specified.
- 4. Maintenance fertilizer rates for permanent seeding are shown in Table B.6.

B-4-1 STANDARDS AND SPECIFICATIONS FOR

INCREMENTAL STABILIZATION

Definition Establishment of vegetative cover on cut and fill slopes.

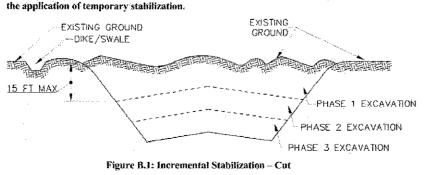
To provide timely vegetative cover on cut and fill slopes as work progresses.

Conditions Where Practice Applies Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles.

requirements 25

- Incremental Stabilization Cut Slopes
- 1. Excavate and stabilize cut slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all cut slopes as the work progresses.
- Construction sequence example (Refer to Figure B.1): a. Construct and stabilize all temporary swales or dikes that will be used to convey runoff around
- the excavation.
- b. Perform Phase 1 excavation, prepare seedbed, and stabilize
- c. Perform Phase 2 excavation, prepare seedbed, and stabilize. Overseed Phase 1 areas as necessary
- d. Perform final phase excavation, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any

interruptions in the operation or completing the operation out of the seeding season will necessitate



DESIGN CERTIFICATION:

"i herby certify that this plan has been designed in accordance with the current Maryland erosion and

04.18.1017

MD P.E. Registration No. 12243

sediment control laws, regulations, and standards, that it represents a practical and workable plan

based on my personal knowledge of the site, and that it was prepared in accordance with the

Howard Soil Conservation District."

Incremental Stabilization - Fill Slopes

- Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all slopes as the work progresses
- Stabilize slopes immediately when the vertical height of a lift reaches 15 feet, or when the grading operation ceases as prescribed in the plan-
- 3. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept
- surface runoff and convey it down the slope in a non-erosive manner. Construction sequence example (Refer to Figure B.2)
- a. Construct and stabilize all temporary swales or dikes that will be used to divert runoff around the fill. Construct silt fence on low side of fill unless other methods shown on the plans address
- b. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner
- c. Place Phase I fill, prepare seedbed, and stabilize. d. Place Phase 2 fill, prepare seedbed, and stabilize
- e. Place final phase fill, prepare seedbed, and stabilize. Overseed previously seeded areas as

Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

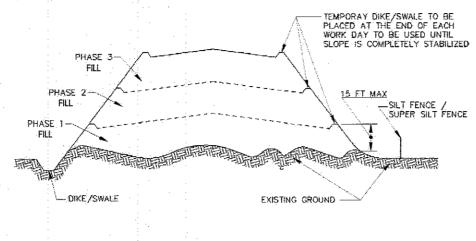


Figure B.2: Incremental Stabilization - Fill **B-4-2 STANDARDS AND SPECIFICATIONS**

SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

Definition The process of preparing the soils to sustain adequate vegetative stabilization.

Purpose To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies

Where vegetative stabilization is to be established

A. Soil Preparation Temporary Stabilization

a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running

Criteria

- parallel to the contour of the slope. Apply fertilizer and lime as prescribed on the plans.
- c. Incorporate time and fertilizer into the top 3 to 5 inches of soil by disking or other suitable
- Permanent Stabilization
- a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are: Soil pH between 6.0 and 7.0.
 - iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An

Soluble salts less than 500 parts per million (ppm).

exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable. iv. Soil contains 1.5 percent minimum organic matter by weight.

v. Soil contains sufficient pore space to permit adequate root penetration.

- b. Application of amendments or topsoil is required if on-site soils do not meet the above
- c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.

e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake

lawn areas to smooth the surface, remove large objects like stones and branches, and ready the

area for seed application. Loosen surface soil by dragging with a heavy chain or other

equipment to roughen the surface where site conditions will not permit normal seedbed

d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil

preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

- 1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is 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, and/or unacceptable soil gradation. 2. Topsoil salvaged from an existing site may be used provided 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-NRCS.
- 3. Topsoiling is limited to areas having 2:1 or flatter slopes where:
- a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth. b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
- c. The original soil to be vegetated contains material toxic to plant growth.
- d. The soil is so acidic that treatment with limestone is not feasible. 4. Areas having slopes steeper than 2:1 require special consideration and design
- 5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria: a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments,
- gravel, sticks, roots, trash, or other materials larger than 11/2 inches in diameter. b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.

c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist

and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

- a. Erosion and sediment control practices must be maintained when applying topsoil. b. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed
- formation of depressions or water pockets. c. Topseil must not be placed if the topseil or subsoil is in a frezen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading

with a minimum of additional soil preparation and tillage. Any irregularities in the surface

resulting from topsoiling or other operations must be corrected in order to prevent the

- and seedbed preparation. Soil Amendments (Fertilizer and Lime Specifications)
- 1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
- 2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer 3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve.
- 4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
- 5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the

rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

B-4-3 STANDARDS AND SPECIFICATIONS **FOR**

SEEDING AND MULCHING

Definition

Purpose

The application of seed and mulch to establish vegetative cover.

To protect disturbed soils from erosion during and at the end of construction.

To the surface of all perimeter controls, slopes, and any disturbed area not under active grading,

Conditions Where Practice Applies

Specifications

- a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.
- b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is
- frozen. The appropriate seeding mixture must be applied when the ground thaws. c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep
- weaken bacteria and make the inoculant less effective. d. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can

Application

- a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
- i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries. ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in

each direction. Roll the seeded area with a weighted roller to provide good seed to soil

b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.

- Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
- ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).

i. If fertilizer is being applied at the time of seeding, the application rates should not exceed.

- the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P_2O_5 (phosphorous 200 pounds per acre; K₂O (potassium), 200 pounds per acre. ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one
- time. Do not use burnt or hydrated lime when hydroseeding. iii. Mix seed and fertilizer on site and seed immediately and without interruption.

iv. When hydroseeding do not incorporate seed into the soil.

be phyto-toxic

OWNERS/ DEVELOPER CERTIFICATION:

"i/we certify that any clearing, grading, construction, or development will be done pursuant to this

approved erosion and sediment control plan, including inspecting and maintaining controls, and that

the responsible personnel involved in the construction project will have a 'Certificate of Training' at a

Maryland Department of the Environment (MDE) approved training program for the control on erosion

and sediment prior to beginning the project. I certify right-of-entry for periodic on-site evaluation by

Mr. Chuck Smith ~ Director of Facilities & Design Construction

- 1. Mulch Materials (in order of preference) a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw mulch in
- areas where one species of grass is desired. b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose
- processed into a uniform fibrous physical state i. WCFM is to be dyed green or contain a green dye in the package that will provide an
- appropriate color to facilitate visual inspection of the uniformly spread slurry. ii. WCFM, including dye, must contain no germination or growth inhibiting factors.
- iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.

iv. WCFM material must not contain elements or compounds at concentration levels that will

v. WCFM must conform to the following physical requirements: fiber length of

ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.

approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5,

Application

- a. Apply mulch to all seeded areas immediately after seeding.
- b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of I to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
- c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

- a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:
- i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
- ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
- iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited
- iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000

B-4-8 STANDARDS AND SPECIFICATIONS

FOR

To provide a designated location for the temporary storage of soil that controls the potential for erosion,

Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

sedimentation, and changes to drainage patterns.

PURPOSE STATEMENT' ~ NOVEMBER, 2016

REFER TO REDLINE REVISIONS UNDER SDP 74-108 & SDP 00-072 FOR ADDITIONAL INFORMATION.

IE PURPOSE OF THIS SITE DEVELOPMENT PLAN RED-LINE REVISION IS TO MODIFY THE NOW EXISTING PARKING LOT AT THE

NORTH SIDE OF THE EXISTING HOSPITAL BY REMOVING THE CIRCULAR DRIVE WITH PARKING LOT AND RELOCATING PORTIONS

OF THE PARKING LOT TO ACCOMMODATE THE FUTURE PSYCHIATRIC HOSPITAL ADDITION TO THE HOSPITAL IN ADDITION.

WITHDRAW THE PREVIOUSLY APPROVED BUILDING ADDITION AND MICRO-BIO-RETENTION FACILITY DATED OCTOBER, 2013.

- 1. The stockpile location and all related sediment control practices must be clearly indicated on the
- 2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance
- 4. Access the stockpile area from the upgrade side. 5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as
- control practice must be used to intercept the discharge. 7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as

The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1

STOCKPILE AREA

Definition

A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

Conditions Where Practice Applies

- erosion and sediment control plan. with Section B-3 Land Grading.
- 3. Runoff from the stockpile area must drain to a suitable sediment control practice.
- an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.

6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment

Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization. 8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable

slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.

CHIEF, DEVELOPMENT ENGINEERING DIVISION 5-01-17 UPDATE SEAL, OWNER/DEVELOPER/APPLICANT, SHEET INDEX, AND ADD PURPOS STATEMENT, AND THIS SHEET TO PLAN SET. DATE REVISION DESCRIPTION

HOWARD COUNTY GENERAL HOSPITAL

JOYCE ENGINEERING CORPORATION

PROFESSIONAL ENGINEERS, PROFESSIONAL SURVEYORS

ADDRESS CHART

STREET ADDRESS

PERMIT INFORMATION CHART

TAX/ZONE MAP | ELECT DISTRICT | CENSUS TRACT

5TH

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

OWNER/DEVELOPER/APPLICANT:

Howard County General Hospital, Inc. 5755 Cedar Lane Columbia, Maryland 21044 Attn: Ryan Brown, Vice Principal of Operations Phone: 410-740-7720

5755 CEDAR LANE

LAND PLANNING & CONSTRUCTION MANAGEMENT 10766 BALTIMORE AVENUE - TWIN CHIMNEYS OFFICE PARK BELTSVILLE, MARYLAND 20705 TEL: (301) 595-4353 FAX: (301) 595-4650 © 1999 JOYCE ENGINEERING CORPORATION

hereby certify that these documents vere prepared or approved by me. and that I am a duly licensed professional engineer under the laws of the State of Maryland

WATER CODE

LOT/PARCEL

2/276

PROJECT

SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

DATE NOVEMBER 1999

SEWER CODE

SCALE (=30)

APPROVED

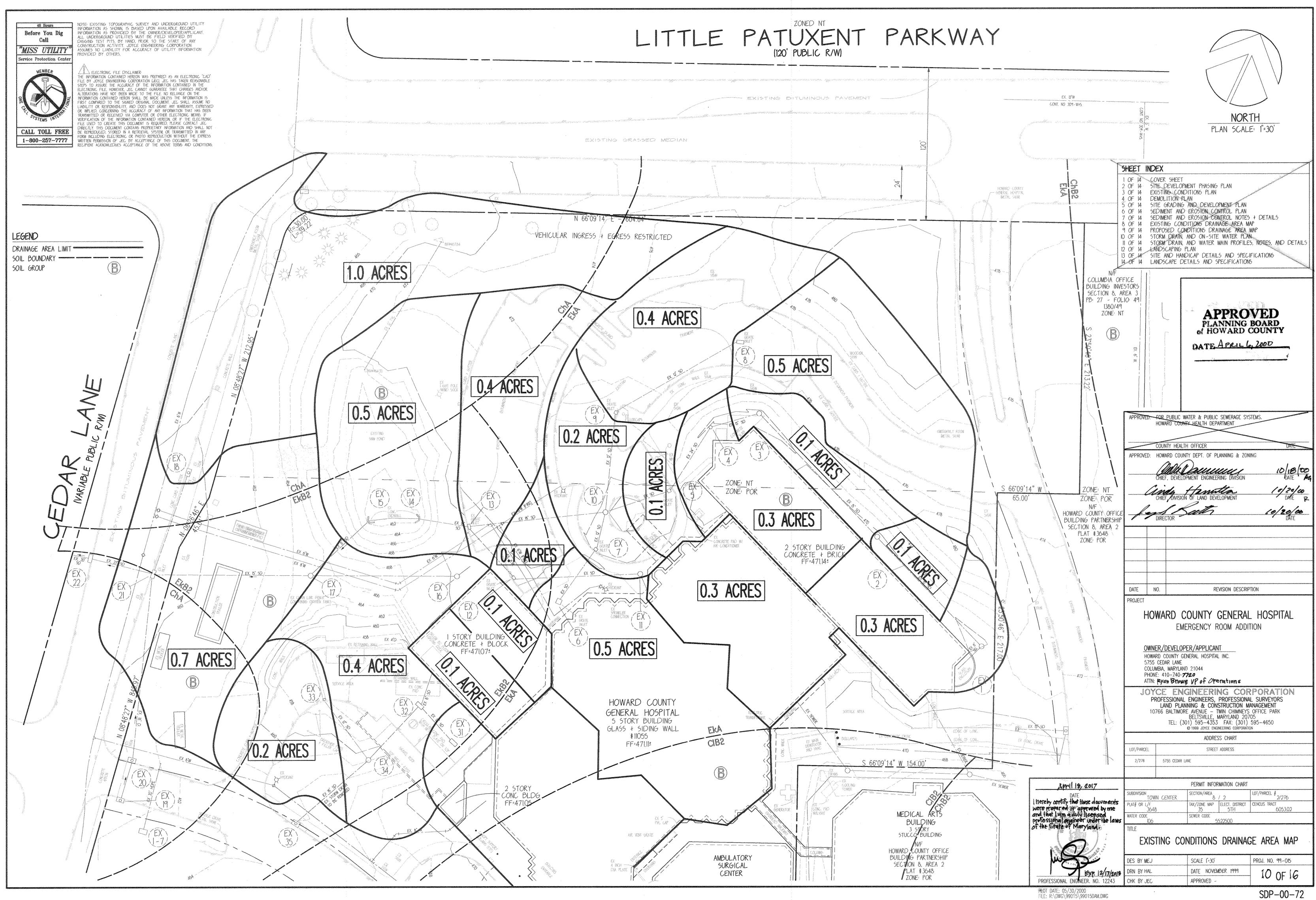
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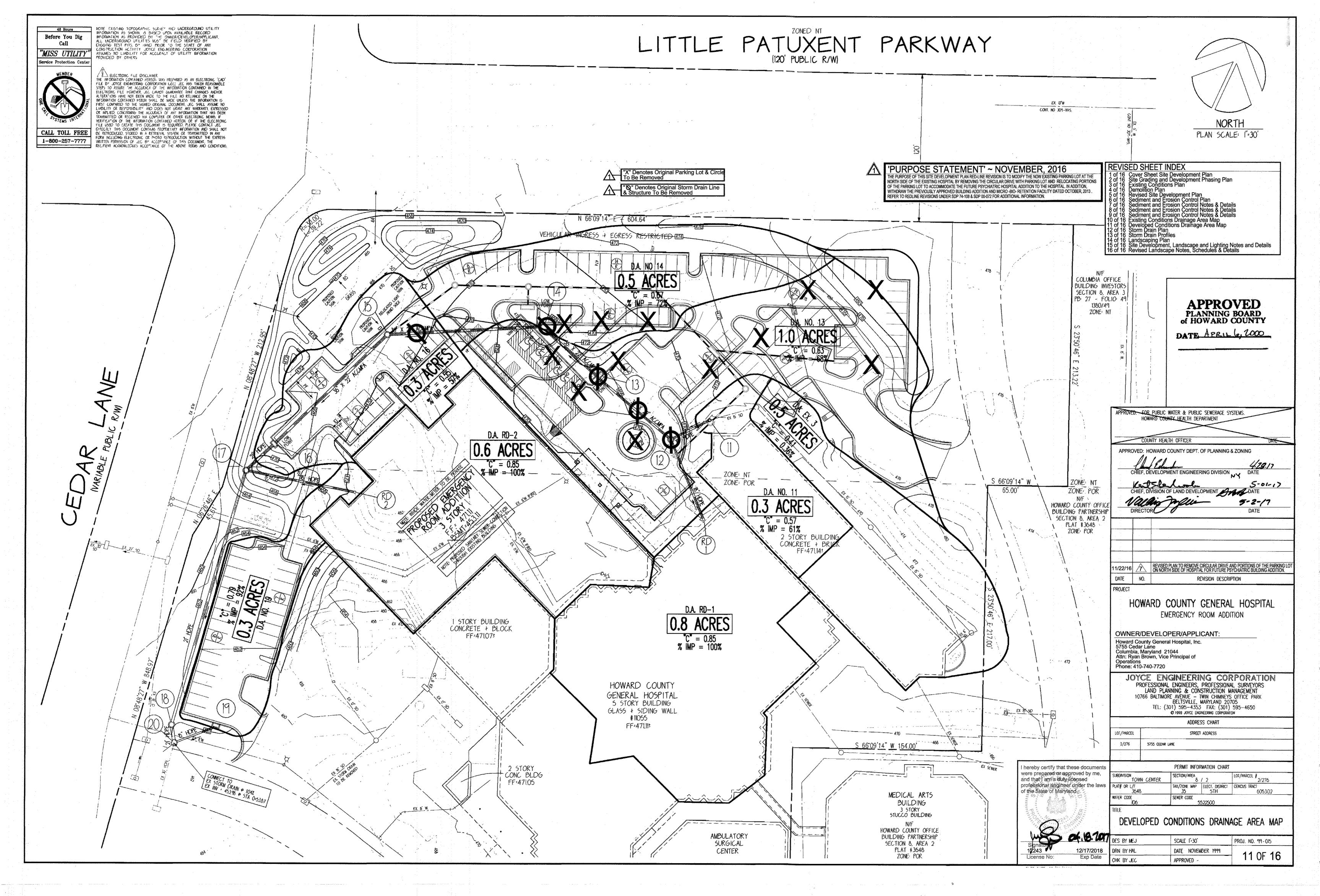
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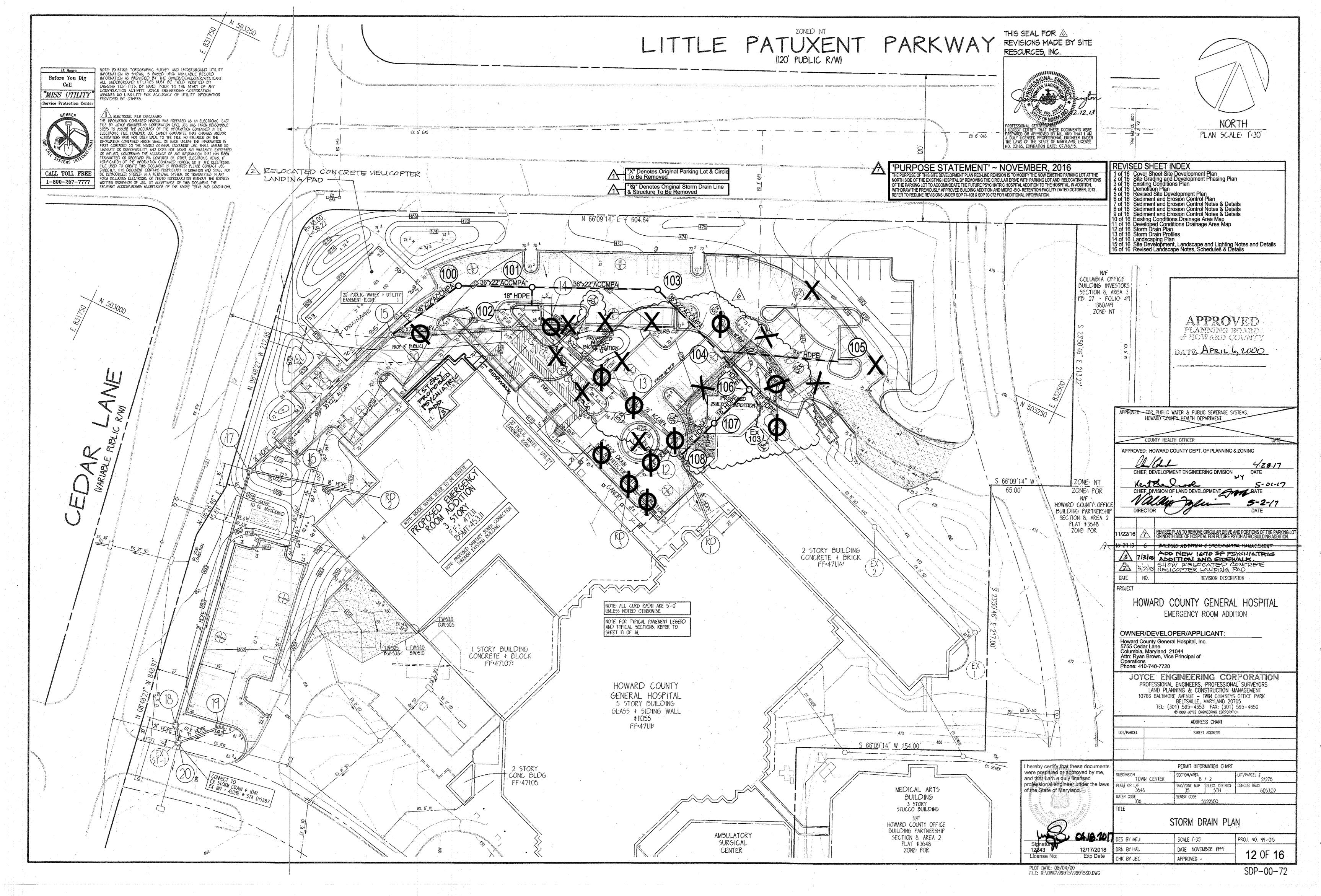
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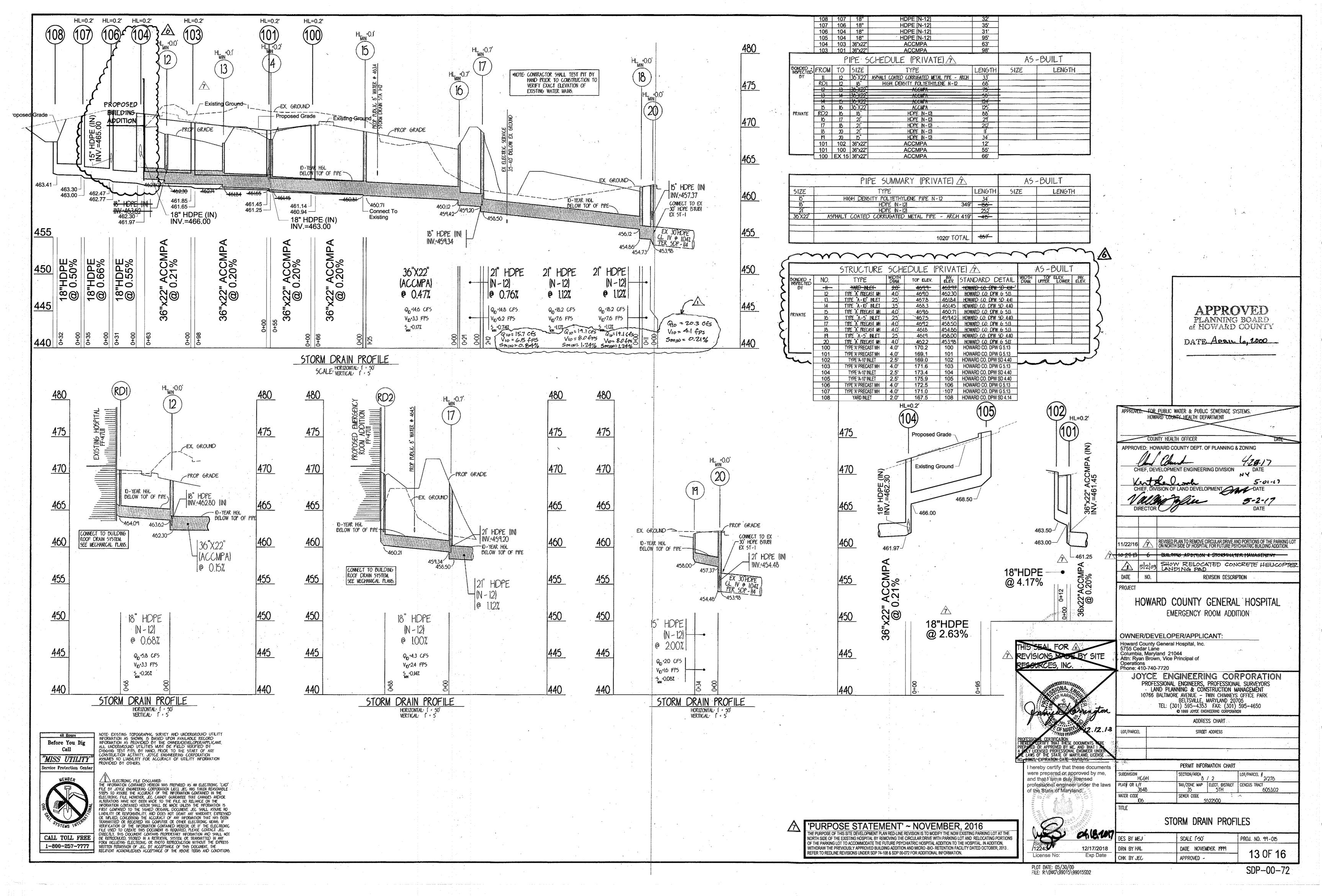
PROJ. NO. 99-015

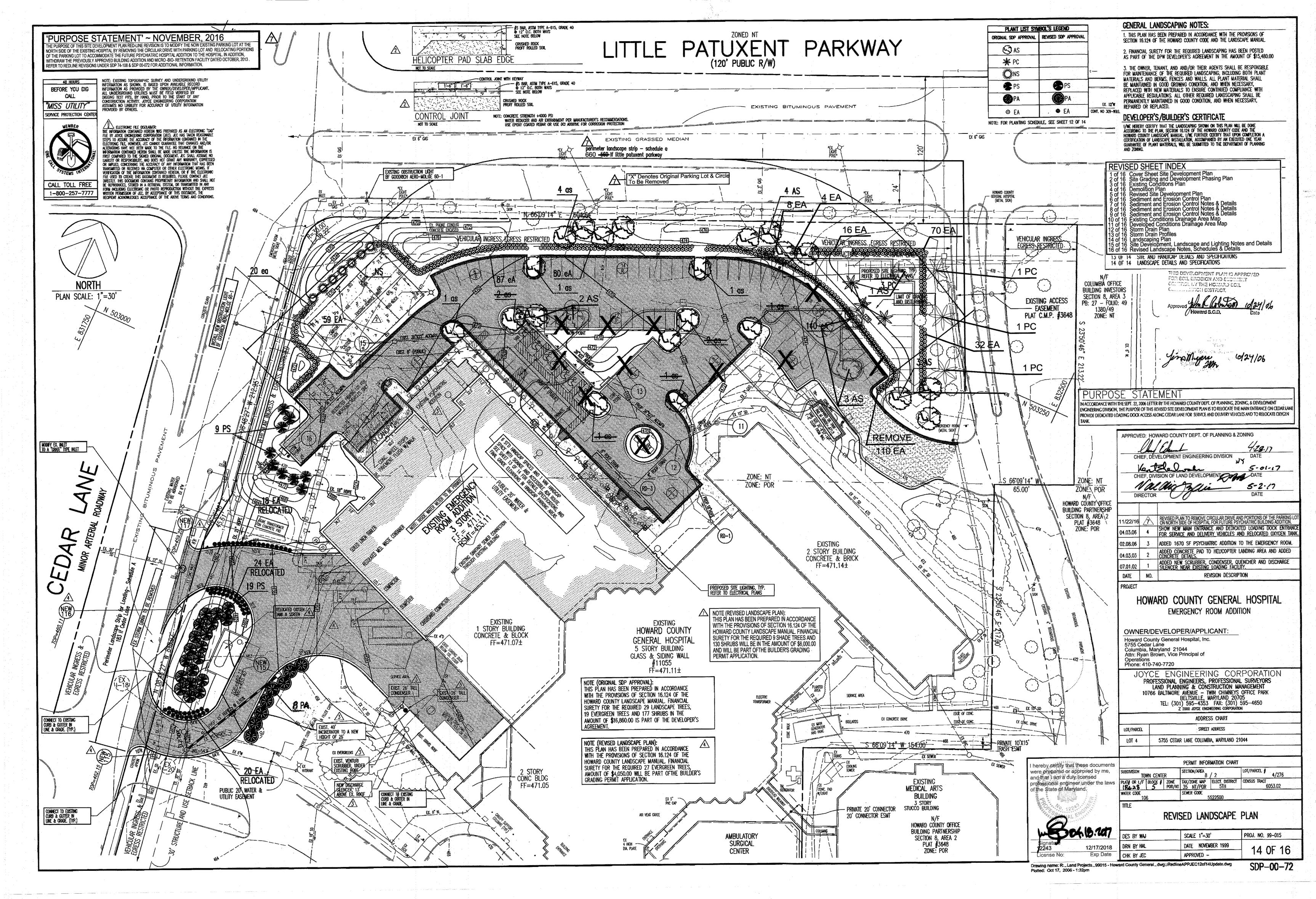
9 OF 16

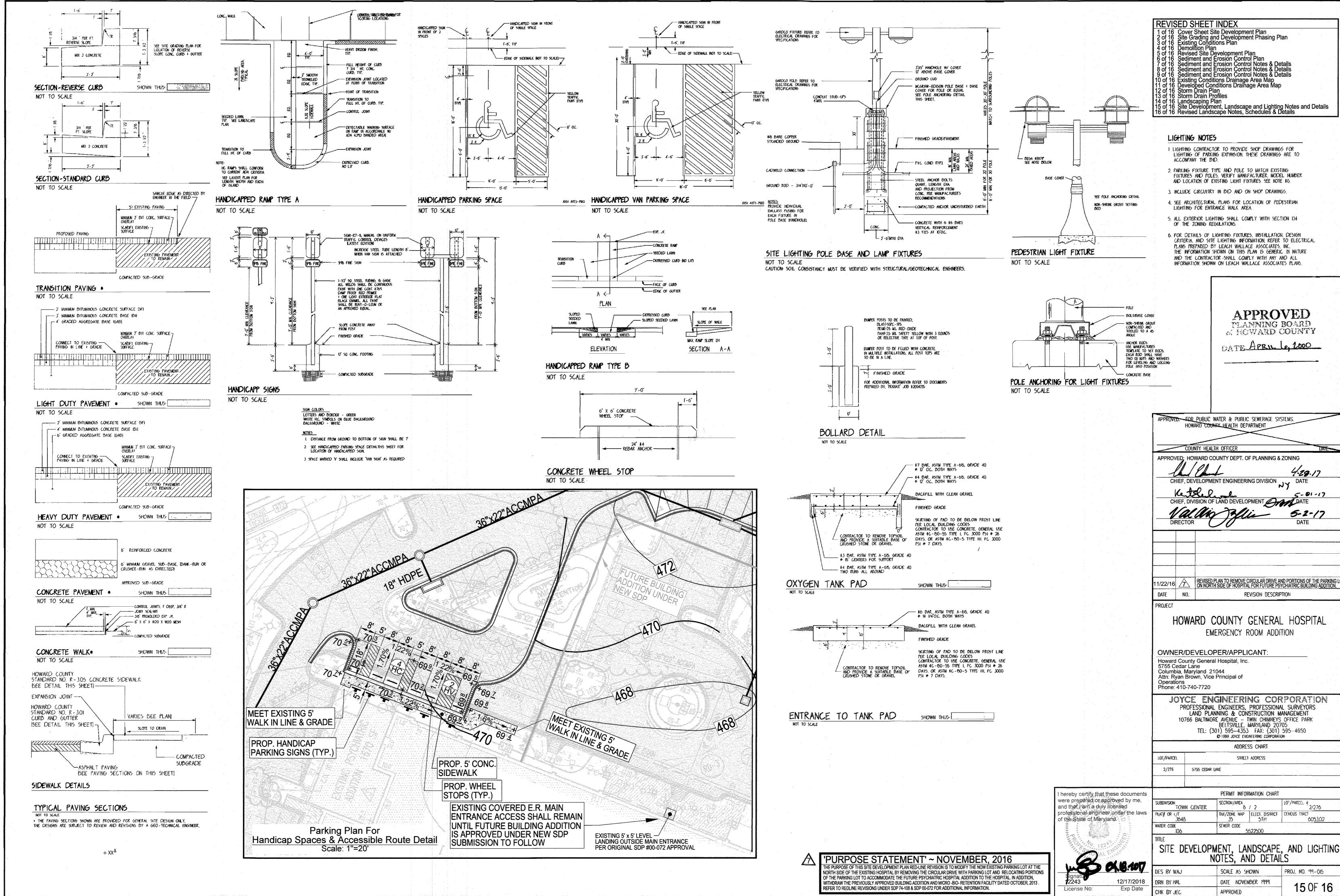












PLOT DATE: 07/14/00

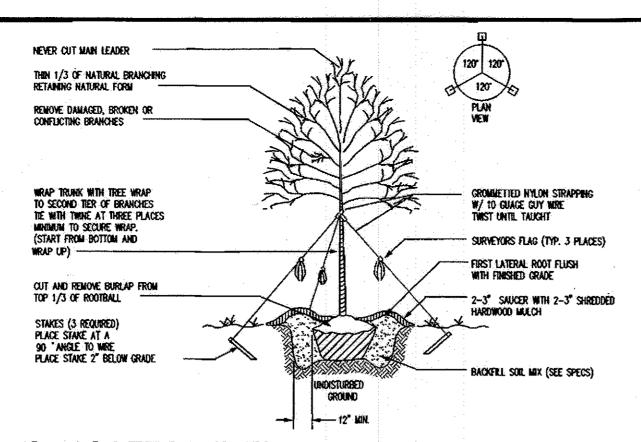
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Landscape Notes,

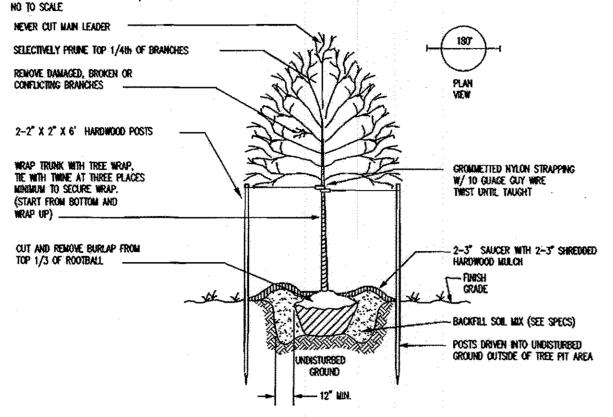
- 1. The contractor shall review architectural/engineering plans to become thoroughly familiar with grading and surface utilities.
- All equipment and tools shall be placed so as not to interfere or hinder the pedestrian and vehicular traffic flow.
- 3. The contractor shall coordinate with lighting and Irrigation contractors regarding timing of installation of plant material
- 4. The contractor shall insure that his work does not interrupt established or projected drainage
- 5. During planting operations, excess waste materials shall be promptly and frequently removed m the site.
- 6. Call Miss Utility a minimum of three days prior to any excavation. The contractor is advised of the existence of underground utilities on the site. Their exact location shall be verified in the field with the owner or general contractor prior to the commencement of any digging operations. In the event they are uncovered, the contractor shall be held responsible for all damage to utilities and such damage shall not result in any additional expenses to the owner, Any damage of unreported lines shall not be the responsibility of the contractor.
- If utility lines are encountered in excavation of tree pits, other locations for trees shall be made by the contractor without additional compensation. No changes of location shall be made without approval by the landscape architect.
- 8. Maintain positive drainage out of planting beds at a minimum 2% slope. All grades, dimensions, and existing conditions shall be verified by the contractor on site before construction begins. Any discrepancies shall be brought to the attention of the landscape architect or owner.
- 9. Every possible safeguard shall be taken to protect building surfaces, equipment, and furnishing. The contractor shall be responsible for any damage or injury to person or property which may occur as a result of his negligence in the execution of the work.
- 10. In the event of variation between quantities shown on the plant list and the plans, the plans shall control. The contractor is responsible for verifying all plant quantities prior to the commencement of work. Seed quantity take—offs are the responsibility of the contractor. All discrepancies shall be reported to the landscape architect for clarification prior to bidding. The contractor shall furnish plant material in sizes as specified in plant list.
- 11. Plants shall be located as shown on the drawings or as designated in the field. The contractor shall stake all material located on the site for review and/or adjustment by the landscape architect prior to planting. All locations are to be approved by the landscape architect before excavation.
- 12. Plants shall conform to current 'American Standards for Nursery Stock' by American Association of Nurserymen (AAN), particularly with regard to size, growth, size of ball, and density of branch structure. Plant material shall be tagged at the source by the landscape architect unless THIS requirement is specifically waived.
- 13. All plants (B&B or container) shall be property Identified by weatherproof labels securely attached thereto before delivery to project site. Labels shall identify plants by name, species, and size, Labels shall not be removed until the final Inspection by the landscape architect or agent in
- 14, Any material and/or work may be rejected by the landscape architect if it does not meet the requirements of the specifications. All rejected materials shall be removed from the site by the
- 15. No substitutions shall be made without written consent of the owner or landscape architect.
- 16. The landscape architect or owner shall have the right, at any stage of the operations, to reject any and all work and material which, in his opinion, does not meet the requirements of these plans
- 17. The contractor shall be wholly responsible for stability and conditions of all trees and shrubs and shall be legally liable for any damage caused by instability of any plant materials. Staking of all trees shall be done utilizing a method agreed upon by the landscape architect, as Indicated on the
- 18. All proposed trees to be installed either entirely on or entirely out of planting beds. Planting bed lines are not to be obstructed. All shrubs and ground cover areas shall be planted in continuous prepared bed and top dressed with 3-inch shredded hardwood mulch, Mulch shall have been shredded Within the last six months.
- Spode edge all planting beds.

and seeded.

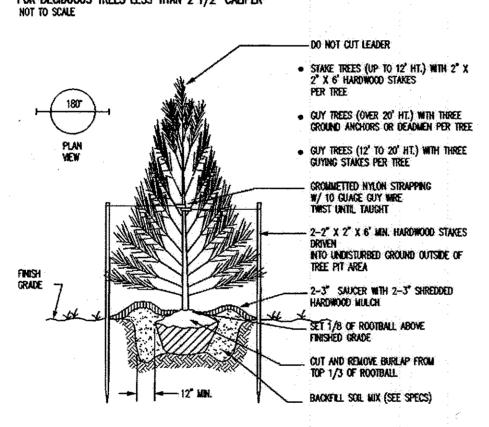
- 20. Maintenance shall begin after each plant has been installed and shall continue until 90 days after final acceptance by the architect or owner representative. Maintenance includes watering, pruning, weeding, fertilizing, mulching, replacement of sick or dead plants, and any other care necessary for the proper growth of the plant material. The contractor must be able to provide continued maintenance if requested by the owner.
- 21. Upon completion of all landscaping, an acceptance of work shall be held. The contractor shall notify the landscape architect or owner for scheduling the inspection at least seven (7) days prior to the anticipated inspection date.
- 22. All trees shall be guaranteed for 12 months from the date of acceptance. All shrubs and ground covers shall be guaranteed for 12 months from the date of acceptance. Replacement plants used shall be guaranteed for an additional 90 days.
- 23. The contractor is responsible for testing project soils. The contractor is to provide a certified soils report to the owner. The contractor shall verity that the soils on site are acceptable for the PROPER growth of the proposed plant material. Should the contractor find poor soil conditions, the CONTRACTOR shall be required to provide soil amendments as necessary. These omendments shall include, BUT NOT be limited to, fertilizers, lime, and topsoil. Proper planting soils must be verified prior to PLANTING OF materials.
- 24. The contractor shall dispose of stumps and major roots of all plants to be removed. Any depressions caused by removal operations shall be refilled with fertile, friable soil placed and compacted so as to reestablish proper grade for new planting and/or lawn areas.
- 25. The contractor shall insure adequate vertical drainage in all plant beds.
- 26. All disturbed areas of the site not planted with shrubs or ground cover shall be fine graded
- 27. All laws areas to be seeded where disturbance has occurred within the limit of construction,
 Loosen upper 30 of soil before seeding, if not previously loosened. Amend soil per soil test
 recommendations. During the periods March 1 thru April 30, and August I thru October 15, seed with
 60 lbs. per acre (1.4 lbs. per 1000 sq. ft.) of Rebel 11 Tall Fescue. For the period May I thru July 31
 seed with 60 lbs. Rebel II 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 spreading 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring.
- 28. Seed mulch: Apply 1.5 to 2 tons/acre (70-90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after applications using mulch anchoring tool or 218 gol per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slopes > 8%, use 348 gal. per acre (8 gal/1000 sq. ft.) for anchoring.
- 29. Inspect all seeded areas and make needed repairs and reseed until town is established.
- 30. Bulbs: in accordance with section 11 of the American Association of Nurserymen standards



BALL & BAG TREE PLANTING DETAIL FOR DECIDUOUS TREES 2 1/2" CAUPER OR GREATER

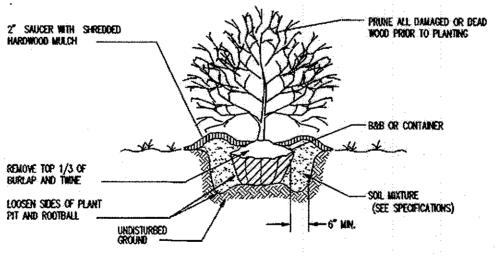


BALL & BAG TREE PLANTING DETAIL FOR DECIDUOUS TREES LESS THAN 2 1/2" CALIPER



EVERGREEN TREE PLANTING DETAIL

NOT TO SCALE



SHRUB PLANTING DETAIL

DECIDUOUS OR EVERGREEN

NOTE: ALL JANIPER PLANTS SHALL BE PLANTED SO TOP OF ROOT WASS OCCURS AT FINISHED GRADE OF WILCH LAYER, ANY BROKEN ROOTBALL WILL BE REJECTED.

SCHEDULE B - PARKING LOT INTERNAL LANDSCAPING NUMBER OF PARKING SPACES (INCLUDING AMBULANCE) INTERNAL ISLANDS -5 OR 1400-SF A REQUIRED: 1/20 SP. NUMBER OF TREES REQUIRED (1/20 SP.): NUMBER OF TREES PROVIDED INTERNAL ISLANDS 3,328 +## SF PROVIDED: 200 SF/ISLAND

CATEGORY	ADJACENT TO CEDAR LANE
LANDSCAPE TYPE	D
LINEAR FEET OF ROADWAY FRONTAGE / PERIMETER	183 🛕
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO
NUMBER OF PLANTS REQUIRED (BASED ON TOTAL PERIMETER) TYPE d	
SHADE TREES 1:60	4
EVERGREEN TREES 1:10 SHRUBS N/A	19
NUMBER OF PLANTS PROVIDED	
SHADE TREES	. 0
EVERGREEN TREES	19
OTHER TREES (2:1 SUBSTITUTION) SHRUBS RELOCATION	8 4

KE	Y QUA	NTITY	PLANT: BOTANICAL NAME	PLANT: COMMON NAME	SIZE AND CONDITION	REMARKS
				SHADE TREES		
9	AS A	21 20	ACER SACCHARUM 'GREEN MOUNTAIN'	Green Mountain Sugar Maple	12'-14' HEIGHT 2.5"-3.0" CAL, b&b	7 REMOVED 6 REPLACED
*	PC	3	PRUNUS CERASIFERA ATROPUPUREA THUNDER'	THUNDERCLOUD PURPLELEAF PLUM	6'-8' HEIGHT 1.5"-2.0" CAL, b&b	3 REMOVED 3 REPLACED
				EVERGREEN TREES		
\$	PS	28	PINUS STOBUS	EASTERN WHITE PINE	6'-8' HEIGHT	
(%)		8	PICEA ABIES	NORWAY SPRUCE	6'-8' HEIGHT b+b	
	NS	7	ILEX 'NELLIER, STEVENS / NELLIE	STEVENS HOLLY	6"-8" HEIGHT b+b	
				SHRUBS		
0	EA 506	300	EUONYMUS ALATUS 'COMPATA'	DWARF WINGED EUONYMUS	24°-30° B+B OR CONT.	3.0' 0/C
0		2 +	EUONYMUS ALATUS COMPATA	DWARF WINGED EUONYMUS	24" 30" D+D OR CONT.	3.0' 0/0

* RELOCATED SHRUBS

PURPOSE STATEMENT

REVISED SHEET INDEX

1 of 16 Cover Sheet Site Development Plan
2 of 16 Site Grading and Development Phasing Plan
3 of 16 Existing Conditions Plan
4 of 16 Demolition Plan
5 of 16 Revised Site Development Plan
6 of 16 Sediment and Erosion Control Plan
7 of 16 Sediment and Erosion Control Notes & Details
8 of 16 Sediment and Erosion Control Notes & Details
9 of 16 Sediment and Erosion Control Notes & Details
9 of 16 Sediment and Erosion Control Notes & Details
10 of 16 Existing Conditions Drainage Area Map
11 of 16 Developed Conditions Drainage Area Map
12 of 16 Storm Drain Plan
13 of 16 Storm Drain Profiles
14 of 16 Landscaping Plan

14 of 16 Landscaping Plan
15 of 16 Site Development, Landscape and Lighting Notes and Details
16 of 16 Revised Landscape Notes, Schedules & Details

IN ACCORDANCE WITH THE SEPT. 22, 2006 LETTER BY THE HOWARD COUNTY DEPT. OF PLANNING, ZONING, & DEVELOPMENT ENGINEERING DIVISION, THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO RELOCATE THE MAIN ENTRANCE ON CEDAR LAN PROVIDE DEDICATED LOADING DOCK ACCESS ALONG CEDAR LANE FOR SERVICE AND DELIVERY VEHICLES AND TO RELOCATE OXYGEN

COMMENTS:

SCHEDULE A - PERIMETER LANDSCAPE EDGE									
CATEGORY	ADJACENT TO CEDAR LANE	ADJACENT TO LITTLE PATUXENT PARKWAY	ADJACENT TO PERIMETER PROPERTIES						
LANDSCAPE TYPE	n/a <u>∕</u>	E	*						
LINEAR FEET OF ROADWAY FRONTAGE / PERIMETER	N/A	-560- 660 <u>^</u>	· *.						
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	N/A	NO	*						
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	N/A	NO	*						
NUMBER OF PLANTS REQUIRED (BASED ON TOTAL PERIMETER) TYPE E SHADE TREES 1:40 EVERGREEN TREES N/A SHRUBS 1:4	N/A	17 <u>A</u> 0 165 <u>A</u>	*						
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION) SHRUBS (10:1 SUBTITUTION) TOTAL SHRUBS	N/A	17 17 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	*						

COMMENTS: * PREVIOUSLY APPROVED AND INSTALLED IN ACCORDANCE WITH SDP 95-114

NOTE (ORIGINAL SOP APPROVAL): THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED 29 LANDSCAPE TREES. 19 EVERGREEN TREES AND 177 SHRUBS IN THE AMOUNT OF \$16,860.00 IS PART OF THE DEVELOPER'S AGREEMENT.

NOTE (REVISED LANDSCAPE PLAN): THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY LANDSCAPE MANUAL, FINANCIAL SURETY FOR THE REQUIRED 27 EVERGREEN TREES. AMOUNT OF \$4,050.00 WILL BE PART OF THE BUILDER'S GRADING PERMIT APPLICATION.

NOTE (REVISED LANDSCAPE PLAN): THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY LANDSCAPE MANUAL, FINANCIAL SURETY FOR THE REQUIRED 9 SHADE TREES AND 130 SHRUBS WILL BE IN THE AMOUNT OF \$6,600.00 WILL BE PART OF THE BUILDER'S GRADING PERMIT APPLICATION.

PPROVED: FOR PUBLIC WATER & PUBLIC SEWERAGE SYSTEMS. COUNTY HEALTH DEPARTMENT COUNTY HEALTH OFFICER APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING CHIEF, DEVELOPMENT ENGINEERING DIVISION 4-28.n CHIEF, DIVISION OF LAND DEVELOPMENT DATE 5-01-17 REVISED PLAN TO REMOVE CIRCULAR DRIVE AND PORTIONS OF THE PARKING LOT ON NORTH SIDE OF HOSPITAL FOR FUTURE PSYCHIATRIC BUILDING ADDITION.

SHOW NEW MAIN ENTRANCE AND DEDICATED LOADING DOCK ENTRANCE FOR SERVICE AND DELIVERY VEHICLES AND RELOCATED OXYGEN TANK ADDED 1670 SF PSYCHIATRIC ADDITION TO THE EMERGENCY ROOM.

ADDED CONCRETE PAD TO HELICOPTER LANDING AREA AND ADDED CONCRETE DETAILS. ADDED NEW SCRUBBER, CONDENSER, QUENCHER AND DISCHARGE SILENCER NEAR EXISTING LOADING FACILITY. DATE NO. REVISION DESCRIPTION PROJECT

HOWARD COUNTY GENERAL HOSPITAL EMERGENCY ROOM ADDITION

OWNER/DEVELOPER/APPLICANT: Howard County General Hospital, Inc. 5755 Cedar Lane Columbia, Maryland 21044 Attn: Ryan Brown, Vice Principal of Phone: 410-740-7720

> JOYCE ENGINEERING CORPORATION PROFESSIONAL ENGINEERS, PROFESSIONAL SURVEYORS LAND PLANNING & CONSTRUCTION MANAGEMENT 10766 BALTIMORE AVENUE - TWIN CHIMNEYS OFFICE PARK BELTSVILLE, MARYLAND 20705 TEL: (301) 595-4353 FAX: (301) 595-4650

© 1999 JOYCE ENGINEERING CORPORATION ADDRESS CHART LOT/PARCEL STREET ADDRESS 5755 CEDAR LANE COLUMBIA, MARYLAND 21044

PERMIT INFORMATION CHART SECTION/AREA_ TAX/ZONE MAP ELECT. DISTRICT CENSUS TRACT.
35 NT/POR 5TH 6 PLAT# OR L/F WATER CODE SEWER CODE TITLE

REVISED LANDSCAPE NOTES, SCHEDULES & DETAILS

SCALE AS SHOWN DATE NOVEMBER 1999 APPROVED

'PURPOSE STATEMENT' ~ NOVEMBER, 2016 THE PURPOSE OF THIS SITE DEVELOPMENT PLAN RED-LINE REVISION IS TO MODIFY THE NOW EXISTING PARKING LOT AT THE NORTH SIDE OF THE EXISTING HOSPITAL BY REMOVING THE CIRCULAR DRIVE WITH PARKING LOT AND RELOCATING PORTIONS OF THE PARKING LOT TO ACCOMMODATE THE FUTURE PSYCHIATRIC HOSPITAL ADDITION TO THE HOSPITAL. IN ADDITION. WITHDRAW THE PREVIOUSLY APPROVED BUILDING ADDITION AND MICRO -BIO- RETENTION FACILITY DATED OCTOBER, 2013 REFER TO REDLINE REVISIONS UNDER SDP 74-108 & SDP 00-072 FOR ADDITIONAL INFORMATION.

DES BY WAJ ORN BY HAL 12/17/2018 Exp Date CHK BY JEC

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.

16 OF 16 PLOT DATE: 10/17/06
FILE: R:\DWG\RedlineAPPJEC14of14Update.DWG

SDP-00-72

PROJ. NO. 99-015