

**Requested Action:** Major Site Plan Approval  
**Project Name:** SPMAJ 2016-09; Mary Washington Healthcare – Observation Unit Addition  
**Property Address:** 1001 Sam Perry Boulevard  
**GPIN#:** 7779-47-5961  
**Applicant Name:** Summer Hughes, Mary Washington Healthcare  
**Description:** Construction of a 20,360 square foot building addition (observation unit) and related infrastructure near the existing emergency room.  
**Comments Due:** The general public is invited to make inquiries and provide comments regarding this request on or before close of business on December 5, 2016, to [mesherman@fredericksburgva.gov](mailto:mesherman@fredericksburgva.gov).

# MARY WASHINGTON HOSPITAL OBSERVATION UNIT ADDITION GPIN 7779-47-5961

## SITE STATISTICS

PROJECT GPIN: 7779-47-5961  
 ZONING: PD-MC  
 PROPOSED USE: OBSERVATION UNIT ADDITION  
 PARCEL AREA: 22.105 ACRES  
 PROJECT AREA: .445 ACRES  
 EXISTING IMPERVIOUS AREA: .358 ACRES  
 PROPOSED IMPERVIOUS AREA: .339 ACRES  
 REDUCTION IN IMPERVIOUS AREA: .019 ACRES

	OBSERVATION UNIT ADDITION BUILDING AREA:		NET AREA
	DEMO	NEW	
LEVEL 1	1,420 S.F.	9,800 S.F.	8,380 S.F.
LEVEL 2	250 S.F.	9,800 S.F.	9,550 S.F.
LEVEL 3	0	2,430 S.F.	2,430 S.F.
TOTAL	1,670 S.F.	22,030 S.F.	20,360 S.F.

### EXISTING CAMPUS BUILDING AREAS:

EMERGENCY ROOM EXPANSION:		
BASEMENT FLOOR:		4,500 S.F.
FIRST FLOOR:		27,500 S.F.
CENTRAL PLANT EXPANSION:		
MARY WASHINGTON HOSPITAL:		2,964 S.F.
BED TOWER EXPANSION:		470,000 S.F.
TOMPKINS-MARTIN:		113,136 S.F.
MULTI-SERVICE CENTER:		88,000 S.F.
PARKING DECK:		104,060 S.F.
KID'S STATION:		347,500 S.F.
SNOWDEN MANSION:		16,000 S.F.
MOSS FREE CLINIC:		9,000 S.F.
EXISTING CAMPUS BUILDING AREA:		32,000 S.F.
		1,214,660 S.F. (27.885 ACRES)

TOTAL CAMPUS BUILDING AREA: 1,235,020 S.F. (28.352 ACRES)

### TOTAL MWH CAMPUS PARKING REQUIREMENTS:

EXISTING MARY WASHINGTON HOSPITAL:	154 SPACES @ 1 SPACE PER 2 BEDS
BED TOWER EXPANSION:	47 SPACES @ 1 SPACE PER 2 BEDS
EMERGENCY DEPARTMENT PARKING:	93 SPACES @ 1.5 SPACE PER BED
OBSERVATION UNIT ADDITION (THIS PROJECT):	54 SPACES @ 1.5 SPACE PER BED
MARY WASHINGTON HOSPITAL EMPLOYEE PARKING:	900 SPACES @ 1 SPACE PER EMPLOYEE
MARY WASHINGTON HOSPITAL PHYSICIANS PARKING:	75 SPACES @ 1 SPACE PER EMPLOYEE
TOMPKINS MARTIN MOB:	352 SPACES @ 4 SPACES PER 1000 NSF
AMBULATORY SERVICES BUILDING:	416 SPACES @ 4 SPACES PER 1000 NSF
MOSS FREE CLINIC:	128 SPACES @ 4 SPACES PER 1000 NSF
TOTAL SPACES REQUIRED:	2219 SPACES

### TOTAL MWH CAMPUS PARKING PROVIDED:

LOT DESIGNATION	TOTAL SPACES
MWH ER LOT	42 (25 EMERGENCY, 17 CENTRAL PLANT)
MWH PHYSICIAN LOT	118
MWH ASSOCIATES LOT (NORTH)	170
MWH ASSOCIATES LOT (SOUTH)	39
TM-MOB NORTH LOT	148
TM-MOB SOUTH LOT	349
FASC LOT	35
PHYSICIANS PARKING	15
FASC VIRGINIA POWER LOT	272
PARKING DECK	1001
LOT L	220 (INCLUDES 14 HANDICAP SPACES, 4 HANDICAP HANDICAP SPACES DEDICATED TO MOSS FREE CLINIC)
MOSS FREE CLINIC	51 (INCLUDES 4 HANDICAP SPACES DEDICATED TO MOSS FREE CLINIC)
LOT M	143
	2,604 TOTAL

WATER: PUBLIC  
 SEWER: PUBLIC  
 STORMWATER MANAGEMENT: QUALITY & QUANTITY CONTROL IN EX. SWMB 2 (RUNOFF REDUCTION CALCULATIONS ON SHEET 12 INDICATE NO TP LOAD REDUCTION REQUIRED FOR THIS REDEVELOPMENT PROJECT)

### REFUSE COLLECTION:

PRIVATE HAULER

## NARRATIVE

THIS PROJECT PROVIDES FOR THE CONSTRUCTION OF A 20,360 SF OBSERVATION UNIT ADDITION IN SUPPORT OF THE EMERGENCY DEPARTMENT AT MARY WASHINGTON HOSPITAL.



VICINITY MAP

1" = 2000'

## CERTIFICATE OF TITLE

I CERTIFY THAT THE SAID 22.105 ACRES (GPIN # 7779-47-5961) OF LAND SHOWN HEREON WAS CONVEYED TO MEDICORP PROPERTIES, INC FROM MWH MEDICORP BY DEED DATED MAY 20, 1991 AND RECORDED IN THE CLERK'S OFFICE OF THE CIRCUIT COURT OF THE CITY OF FREDERICKSBURG, VIRGINIA ON JUNE 26, 1991 IN DEED BOOK 243, PAGE 353.

I CERTIFY THAT THE SAID 5.669 ACRES (GPIN # 7779-47-4587) OF LAND SHOWN HEREON WAS CONVEYED TO TOMPKINS-MARTIN MEDICAL PLAZA, LLLP FROM TOMPKINS-MARTIN MEDICAL PLAZA, L.P. BY INSTRUMENT DATED AUGUST 28, 2006 AND RECORDED IN THE CLERK'S OFFICE OF THE CIRCUIT COURT OF THE CITY OF FREDERICKSBURG, VIRGINIA ON SEPTEMBER 29, 2006 IN INSTRUMENT NO. 060003339.

*[Signature]*  
 MICHAEL M. BAGBY  
 P.E.

## ENGINEER'S CERTIFICATE

GIVEN UNDER MY HAND THIS 4 DAY OF Nov. 2016. I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT ALL THE REQUIREMENTS OF THE CITY OF FREDERICKSBURG REGARDING THIS PROJECT HAVE BEEN COMPLIED WITH.

*[Signature]*  
 MICHAEL M. BAGBY  
 P.E.

## FLOOD PLAIN

THIS PROJECT IS LOCATED IN FLOOD ZONE 'X' (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD) F.I.R.M. COMMUNITY-PANEL 5100650036C, DATED SEPTEMBER 19, 2007.

CERTIFIED: *[Signature]*

## CHESAPEAKE BAY PRESERVATION ACT

CBPA IS AN OVERLAY DISTRICT FOR THE CITY OF FREDERICKSBURG AND THE PARCEL DESCRIBED WITHIN THIS PLAN IS WITHIN THE RMA FEATURES AND DOES NOT CONTAIN RPA FEATURES WITHIN THE CHESAPEAKE BAY PRESERVATION AREA OVERLAY DISTRICT.

## RESPONSIBLE LAND DISTURBER NOTE

UNTIL FURTHER NOTICE, THE RESPONSIBLE LAND DISTURBER FOR THIS PROJECT IS:

MIKE BAGBY PE #11765  
 NAME CERTIFICATION #  
 10/31/2018  
 EXPIRATION DATE

## INDEX

SHEET NO.	TITLE
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2.	OVERALL MWH CAMPUS PLAN
3.	EXISTING CONDITIONS AND DEMOLITION PLAN
4.	LAYOUT PLAN
5.	MISCELLANEOUS NOTES AND DETAILS
6.	GRADING PLAN
7.	UTILITIES PLAN
8.	SANITARY SEWER AND FIRE LINE PROFILES
9.	SANITARY SEWER AND FIRE LINE DETAILS
10.	DRAINAGE AREA PLAN
11.	STORM SEWER PROFILES AND CALCULATIONS
12.	STORM SEWER DETAILS AND SWM CALCULATIONS
13.	EROSION AND SEDIMENT CONTROL PLAN - PHASE I
14.	EROSION AND SEDIMENT CONTROL PLAN - PHASE II
15.	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
16.	LANDSCAPING PLAN
17.	LANDSCAPING NOTES AND DETAILS
18.	LIGHTING PLAN
19.	LIGHTING NOTES AND DETAILS

## OWNER / DEVELOPER

MARY WASHINGTON HEALTHCARE  
 ATTN: SUMMER HUGHES, DIRECTOR OF CONSTRUCTION  
 2300 FALL HILL AVENUE, SUITE 206  
 FREDERICKSBURG, VIRGINIA 22407  
 PHONE: (540)-741-2461

DEVELOPMENT ADMINISTRATOR

ZONING ADMINISTRATOR

SWM ADMINISTRATOR

APPROVED FOR FIRE LANES AND SIGNAGE, HYDRANT LOCATIONS AND COLOR CODING, FDC AND PIV LOCATIONS, TURNING RADI AND ROADWAY WIDTH FOR EMERGENCY VEHICLES

FIRE MARSHAL

APPROVED FOR WORK RELATED TO PUBLIC WATER, SEWER, STORM DRAINAGE, STREET TREES AND RIGHTS-OF-WAY

DEPARTMENT OF PUBLIC WORKS

City of Fredericksburg: Sixth Order Hydraulic Unit Code - RA46

PASS: General note;

Due to recent findings of possible acid sulphate soils (PASS) within the proximity of the City of Fredericksburg, it is recommended that the developer, builders and engineers be aware that if acid sulphate soils as well as other soils that produce a PH of <4 are present on the project site extensive treatment to bring the soils acid/pH level to an acceptable level to sustain any form of plant growth may be required.

CITY OF FREDERICKSBURG

VIRGINIA

REVISIONS

DATE

**BFC**  
 BAGBY, FOROUGH and COOPPASTURE, PLLC  
 CIVIL ENGINEERS AND LAND SURVEYORS  
 188 E. HEBERSON PARK AVENUE, SUITE 102  
 FREDERICKSBURG, VIRGINIA 22401  
 TELEPHONE: (540) 373-5178  
 FAX: (540) 373-6281



TITLE SHEET

MARY WASHINGTON HOSPITAL  
 OBSERVATION UNIT ADDITION  
 GPIN # 7779-47-5961

VIRGINIA

CITY OF FREDERICKSBURG

DATE: 11-4-16

SCALE: NONE

DESIGNED BY: MMB

DRAWN BY: LT

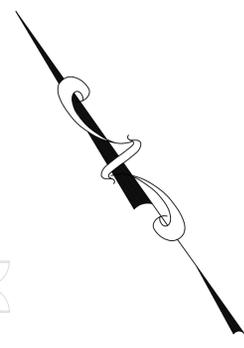
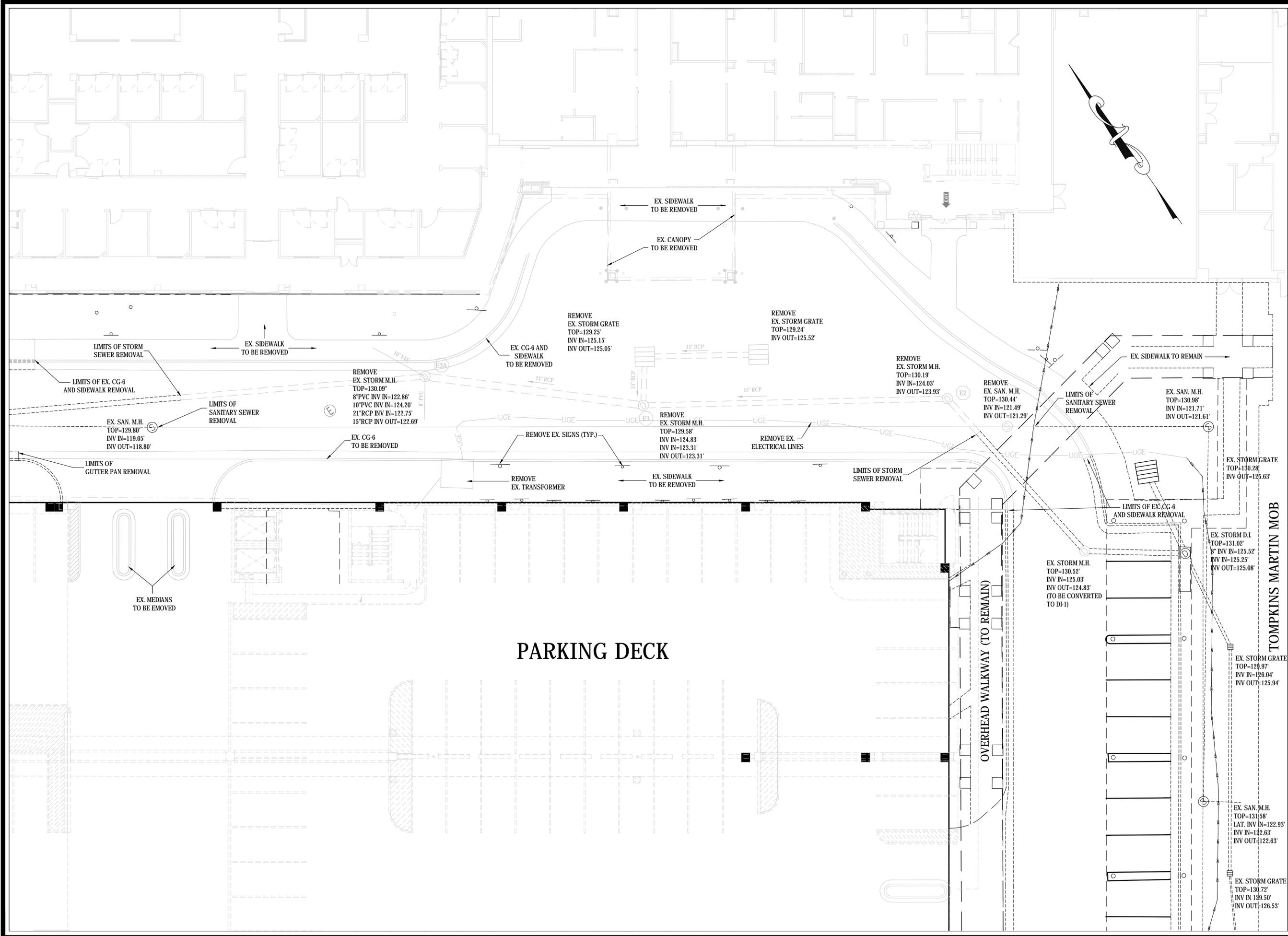
CHECKED BY:

FILE NAME: MODEL

JOB NO. 20518-1

PLAN NO.





DATE	REVISIONS

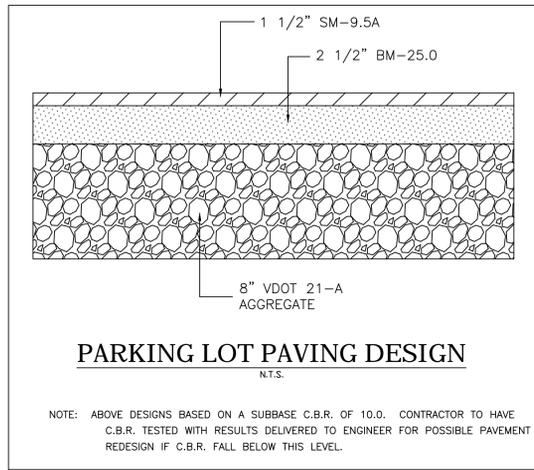
**BFG**  
 BAGBY, FOROUGH and GOODPASTURE, PLLC  
 CIVIL ENGINEERS AND LAND SURVEYORS  
 1806 HARRISON PARK HIGHWAY, SUITE 102  
 FREDERICKSBURG, VIRGINIA 22404  
 TELEPHONE: (540) 373-5178  
 FAX: (540) 373-6881



**EXISTING CONDITIONS AND DEMOLITION PLAN**  
 MARY WASHINGTON HOSPITAL  
 OBSERVATION UNIT ADDITION  
 GPIN # 7779-47-5961  
 TOMPKINS MARTIN MOB  
 VIRGINIA  
 CITY OF FREDERICKSBURG

DATE:	11-4-16
SCALE:	1" = 10'
DESIGNED BY:	MMB
DRAWN BY:	LT
CHECKED BY:	
FILE NAME:	20518-1MODEL
JOB NO.:	20518-1
PLAN NO.:	





**PARKING LOT PAVING DESIGN**  
N.T.S.

NOTE: ABOVE DESIGNS BASED ON A SUBBASE C.B.R. OF 10.0. CONTRACTOR TO HAVE C.B.R. TESTED WITH RESULTS DELIVERED TO ENGINEER FOR POSSIBLE PAVEMENT REDESIGN IF C.B.R. FALL BELOW THIS LEVEL.

**FIRE LANES:**

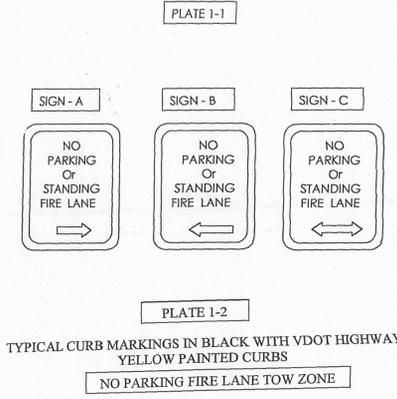
Designation: The fire official shall require and designate public or private fire lanes as deemed necessary for the efficient and effective operation of fire apparatus. Fire lanes shall have a minimum width of 20 feet.

Obstructions: Designated fire lanes shall be maintained free of obstructions and vehicles and shall be identified in an approved manner.

Maintenance: All designated fire lane signs or markings shall be maintained in a clean and legible condition at all times and replaced when necessary to ensure adequate visibility.

**ADDITIONS TO FIRE LANE CODE:**

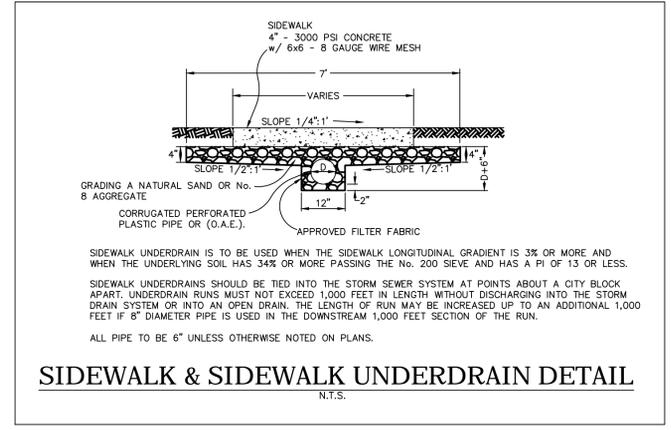
- (a) Action for the establishment of a fire lane may be initiated by the fire official or by the written request of an owner or his agent.
- (b) All fire lane information proposed shall be shown on a site plan in accordance with this section. The fire official shall be consulted during a project's design phase to discuss the appropriate areas for fire lane designation.
- (c) Fire lanes must have an on-site final inspection before an Occupancy Permit is issued.
- (d) Maintenance of fire lanes shall be the responsibility of the property owner. Fire lanes shall not be altered or deleted without the written permission from the fire official.
- (e) Fire lanes shall be marked with both signs and curb delineation.
  - A. SIGNAGE SPECIFICATIONS:
    - 1. Metal construction: 12" x 18"
    - 2. Red letters on reflective white background with 3/8" red trim strip around entire outer edge of sign.
    - 3. Lettering on sign to be "NO PARKING OR STANDING - FIRE LANE". Refer to plate 1-1.
    - 4. Lettering size to be as follows:
      - a. NO PARKING OR STANDING - 2"
      - b. OR - 1"
      - c. FIRE LANE - 2 1/2"
      - d. Arrows 1" x 6" solid shaft with solid head 1 1/2" wide and 2" deep.
    - 5. Signs are to be mounted 6' from the ground surface to the bottom of the sign unless otherwise directed by the fire official.
    - 6. Posts for the signs, when required, shall be metal and securely mounted unless written permission for alternatives is obtained from the fire official prior to installation.
    - 7. Signs shall be posted at the beginning and the end of all designated fire lanes and spaced a minimum of 25' apart and a maximum of 100' apart when needed.
    - 8. Short islands require curb marking and one sign.
    - 9. Yellow stripes and/or complete hash marks may be required for the 20' fire lane.
  - B. CURB DESIGNATION:
    - 1. Fire lanes designated by the code official shall be painted with VDOT highway traffic grade yellow paint.
    - 2. All fire lane curbs shall be painted with "NO PARKING FIRE LANE TOW ZONE".
    - 3. Letters to be a minimum of 4" and painted black.
    - 4. Curb fire lane markings shall be located at the beginning, end, and every 25'. Refer to plate 1-2.
    - 5. Short islands require curb marking and one sign.



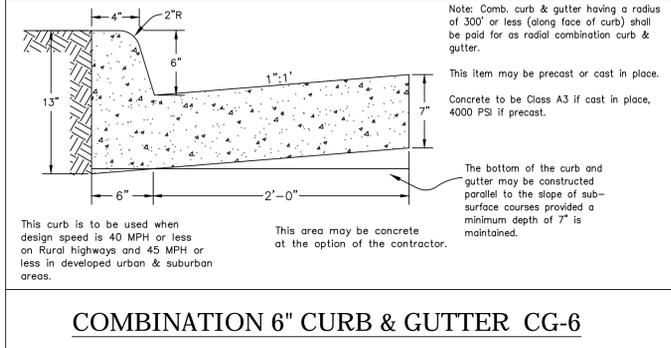
TYPICAL CURB MARKINGS IN BLACK WITH VDOT HIGHWAY YELLOW PAINTED CURBS

**GENERAL NOTES**

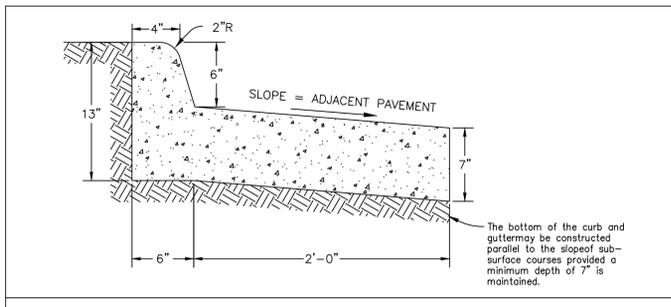
1. ALL CONSTRUCTION METHODS AND MATERIALS SHALL MEET THE LATEST REQUIREMENTS OF THE CITY OF FREDERICKSBURG AND THE VIRGINIA DEPARTMENT OF TRANSPORTATION
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL NECESSARY PERMITS AND SHALL NOTIFY THE PROPER AUTHORITIES AT THE START OF CONSTRUCTION SO THAT THE WORK MAY BE INSPECTED.
3. THE CONTRACTOR IS REQUIRED TO CALL "MISS UTILITY" AT 1-800-552-7001 AND HAVE UTILITIES LOCATED BEFORE UNDERTAKING ANY EXCAVATION. THIS ACTION DOES NOT RELIEVE THE CONTRACTOR OF INDEPENDENT VERIFICATION BY HIS OWN FORCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AT HIS OWN EXPENSE ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.
4. BAGBY, FOROUGH and GOODPASTURE DOES NOT CERTIFY AS TO THE LOCATION OF ANY UNDERGROUND UTILITIES NOR AS TO SOIL AND GROUND CONDITIONS.
5. CONTRACTOR TO VERIFY ALL DIMENSIONS AND ELEVATIONS IN THE FIELD BEFORE STARTING CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DIFFERENCES.
6. PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL VERIFY FROM THE DRAWINGS ALL DIMENSIONS, DETAILS AND TREATMENT FOR THE PROPOSED PARKING LOT, SIDEWALKS, AND FOR OTHER PROPOSED CONSTRUCTION WHERE INDICATED ON THE PLANS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WITH MATCHING MATERIALS ANY PAVEMENT, DRIVEWAYS, WALKS, CURBS, ETC., THAT MUST BE CUT OR THAT ARE DAMAGED DURING CONSTRUCTION.
8. RELOCATION OF ANY UTILITIES IS TO BE AT THE CONTRACTOR'S EXPENSE AND COMPLETED WITH SITE WORK. ALL NEW UTILITY LINE INSTALLATION MUST BE UNDERGROUND (I.E., TELEPHONE, ELECTRIC, ETC.).
9. CONTRACTOR SHALL INSTALL UTILITIES TO THE LIMITS SHOWN ON THE PLANS.
10. SANITARY SEWER AND WATER LINE EXTENSIONS REQUIRED SHALL BE COORDINATED WITH SITE PLANS.
11. DRIVE AND PARKING AREAS SHALL BE PAVED IN ACCORDANCE WITH DETAILS ON THIS SHEET OF THE PLAN.
12. ALL CONCRETE WORK SHALL CONFORM TO THE CITY OF FREDERICKSBURG AND VDOT STANDARDS.
13. ALL FILL MATERIAL TO BE COMPACTED TO 95% STANDARD PROCTOR.
14. REFUSE COLLECTION AND DEBRI DURING CONSTRUCTION BY PRIVATE HAULER.
15. OUTDOOR LIGHTING TO BE PROVIDED IN ACCORDANCE WITH CITY ORDINANCE AT ONE (1) FOOT CANDLE (ONE LUMEN PER SQUARE FOOT).
16. ALL WORK WITHIN THE CITY RIGHT-OF-WAY MUST BE INSPECTED AND APPROVED BY THE CITY BUILDING AND DEVELOPMENT SERVICES DEPARTMENT.
17. CITY BUILDING AND DEVELOPMENT SERVICES DEPARTMENT TO BE NOTIFIED PRIOR TO PERFORMING ANY WORK.
18. LANDSCAPING FOR THIS PROJECT TO BE DESIGNED BY LANDSCAPE ARCHITECT AND SUBMITTED SEPARATELY TO CITY OF FREDERICKSBURG FOR APPROVAL.



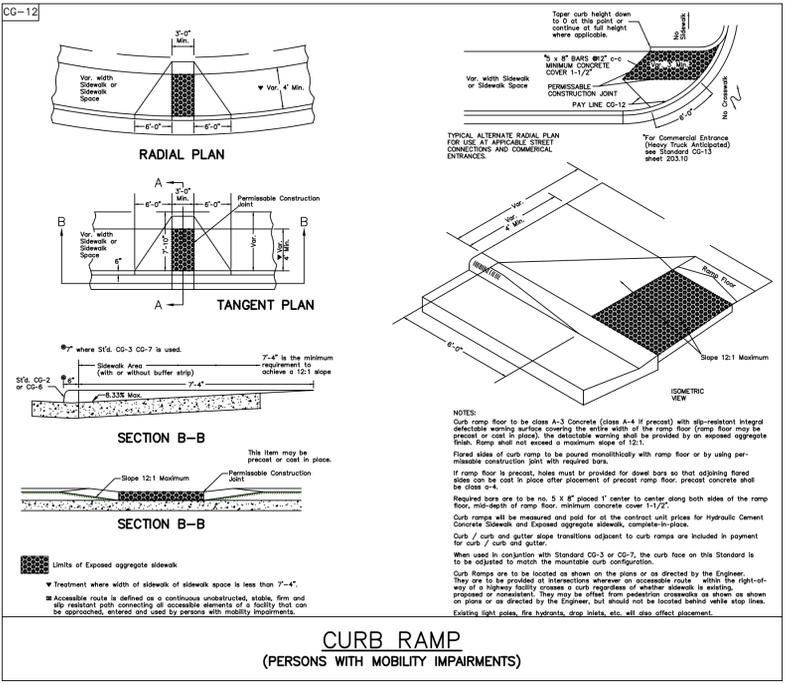
**SIDEWALK & SIDEWALK UNDERDRAIN DETAIL**  
N.T.S.



**COMBINATION 6" CURB & GUTTER CG-6**



**COMBINATION 6" REVERSE CURB & GUTTER CG-6R**



**CURB RAMP**  
(PERSONS WITH MOBILITY IMPAIRMENTS)

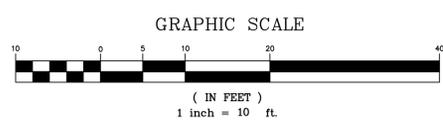
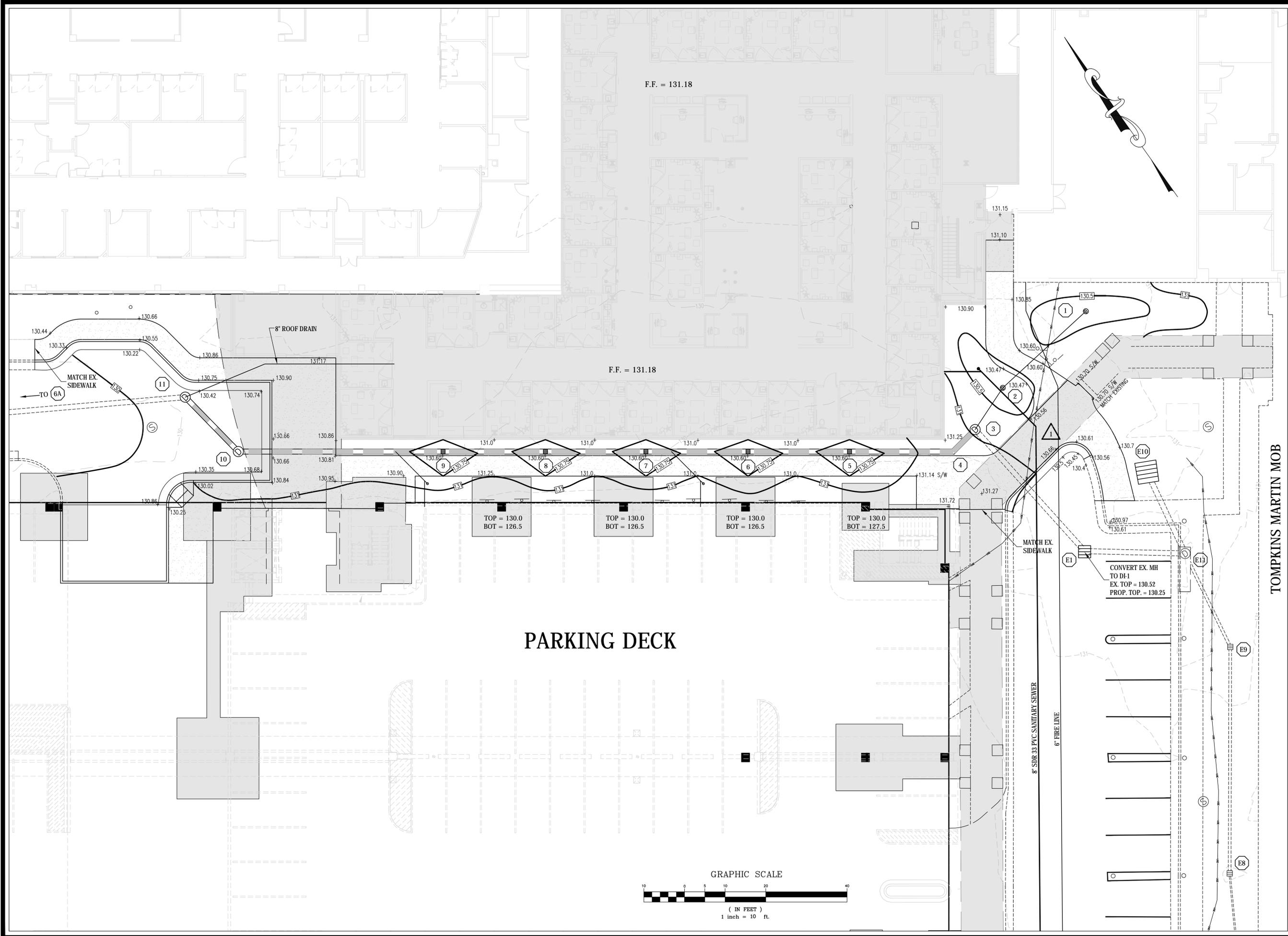
REVISIONS	
DATE	

**BFG**  
BAGBY, FOROUGH and GOODPASTURE, PLLC  
CIVIL ENGINEERS AND LAND SURVEYORS  
1806 PETERSON PARK DRIVE, HIGHWAY 280, SUITE 102  
FREDERICKSBURG, VIRGINIA 22401  
TELEPHONE: (540) 373-5178  
FAX: (540) 373-6881

COMM. ENGR. OF VIRGINIA  
MICHAEL M. BAGBY  
Lic. No. 11765  
PROFESSIONAL ENGINEER

MISCELLANEOUS NOTES AND DETAILS  
MARY WASHINGTON HOSPITAL  
OBSERVATION UNIT ADDITION  
GPN # 7779-47-5961

DATE:	11-4-16
SCALE:	NONE
DESIGNED BY:	MMB
DRAWN BY:	LT
CHECKED BY:	
FILE NAME:	MODEL
JOB NO.	20518-1
PLAN NO.	



DATE	REVISIONS

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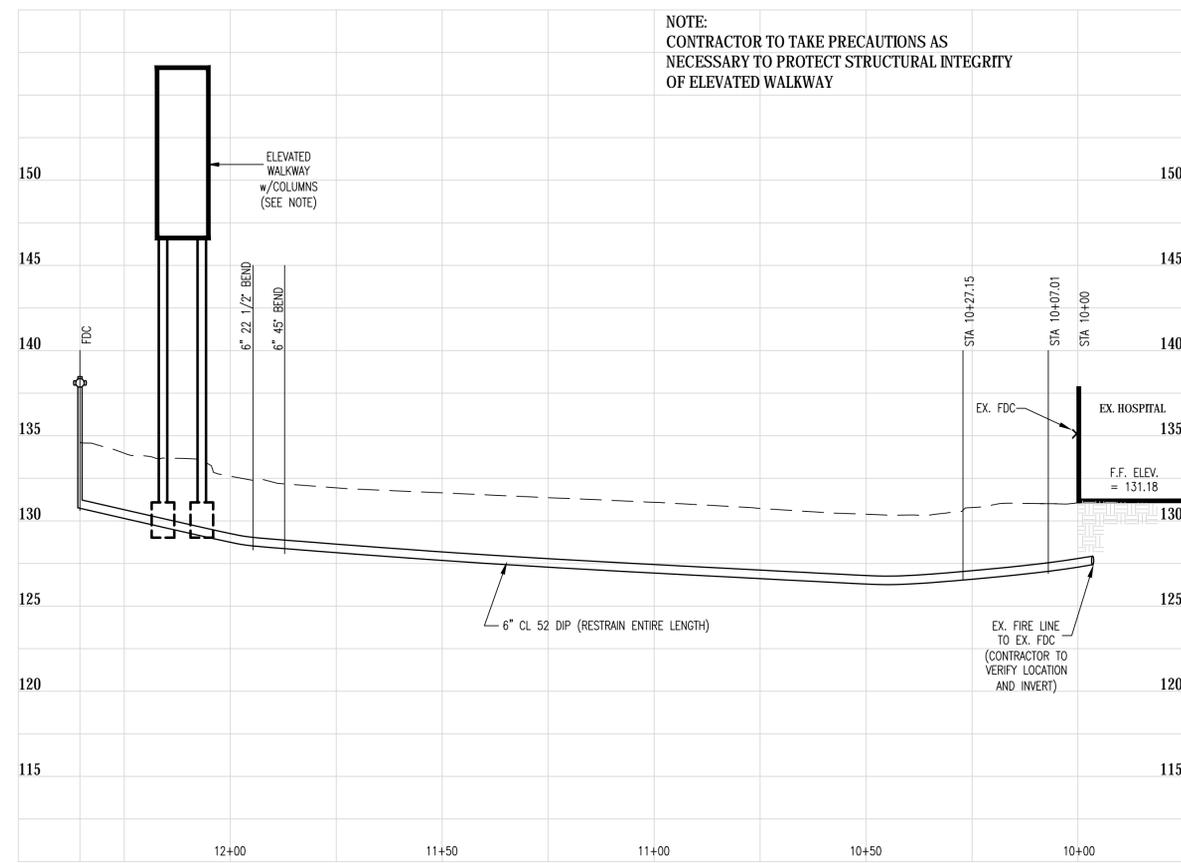
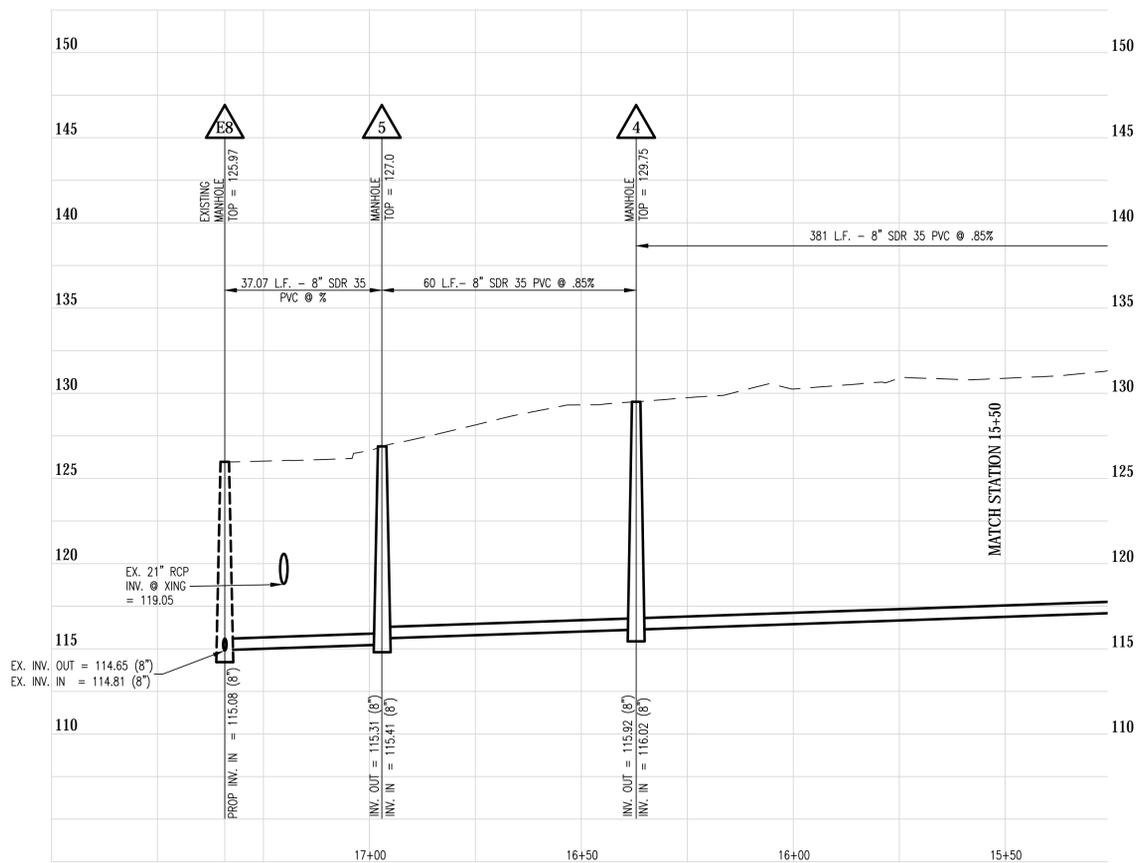
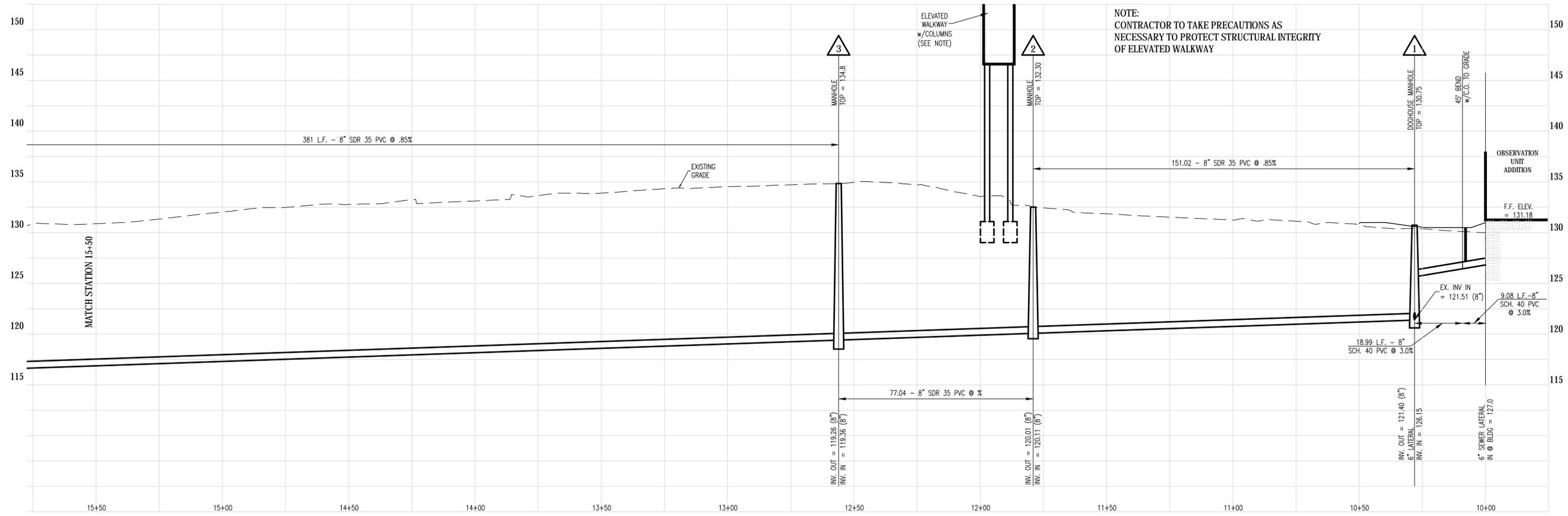


**GRADING PLAN**  
 MARY WASHINGTON HOSPITAL  
 OBSERVATION UNIT ADDITION  
 GPIN # 7779-47-5961

CITY OF FREDERICKSBURG  
 VIRGINIA

DATE:	11-4-16
SCALE:	1" = 10'
DESIGNED BY:	MMB
DRAWN BY:	LT
CHECKED BY:	
FILE NAME:	20518-1MODEL
JOB NO.	20518-1
PLAN NO.	





DATE	REVISIONS

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 CIVIL ENGINEERS AND LAND SURVEYORS  
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 FREDERICKSBURG, VIRGINIA 22401  
 TELEPHONE: (540) 373-5178  
 FAX: (540) 373-6881



**SANITARY SEWER AND FIRE LINE PROFILES**  
 MARY WASHINGTON HOSPITAL  
 OBSERVATION UNIT ADDITION  
 GPIN # 7779-47-5961  
 CITY OF FREDERICKSBURG, VIRGINIA

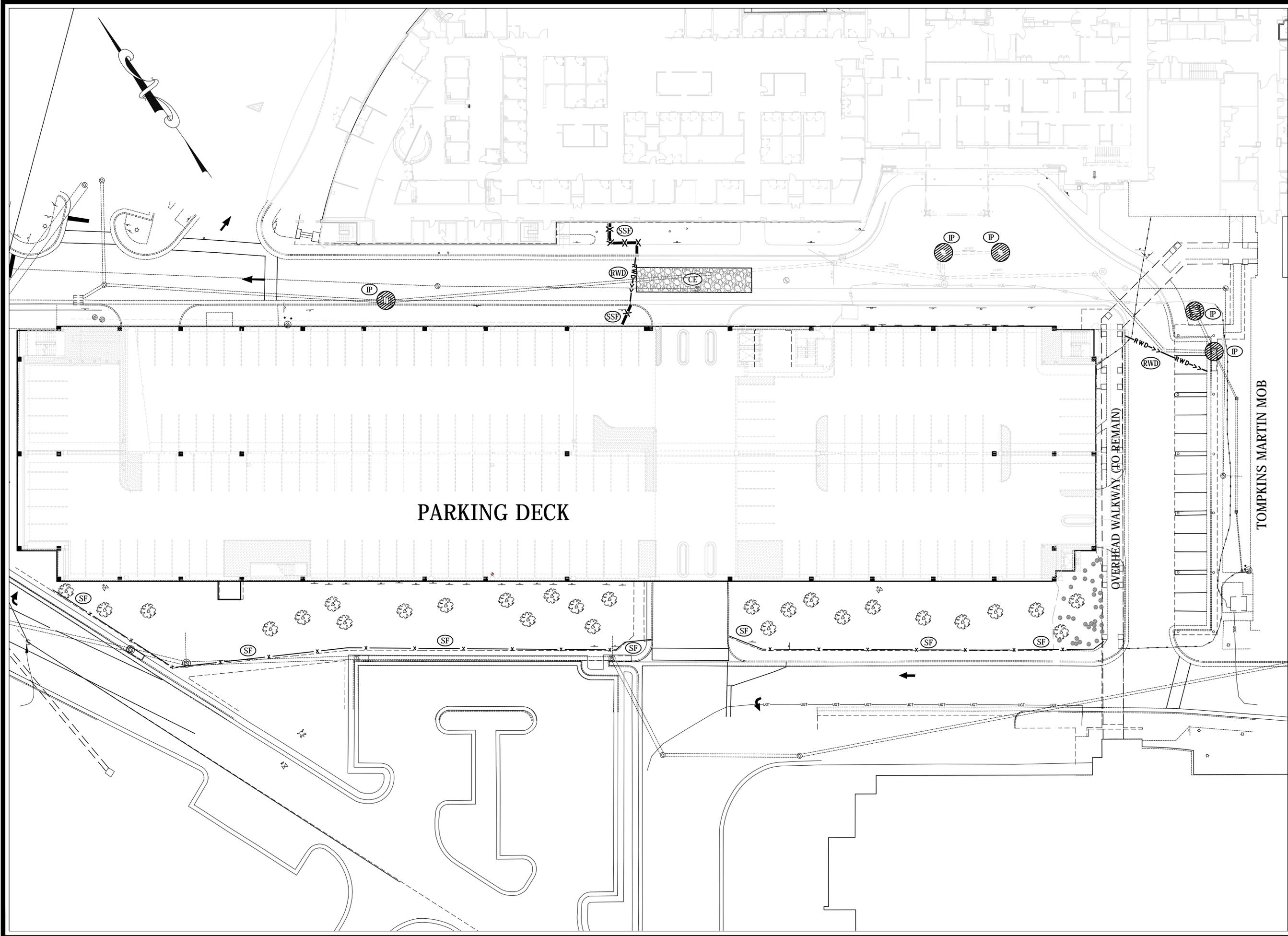
DATE:	11-4-16
SCALE:	H:1"=20', V:1"=5'
DESIGNED BY:	MMB
DRAWN BY:	LT
CHECKED BY:	
FILE NAME:	20518-1MODEL
JOB NO.:	20518-1
PLAN NO.:	











DATE	REVISIONS

**BFG**  
 BAGBY, FOROUGH and GOODPASTURE, PLLC  
 CIVIL ENGINEERS AND LAND SURVEYORS  
 1802 PETERSON PARK DRIVE, SUITE 102  
 FREDERICKSBURG, VIRGINIA 22401  
 TELEPHONE: (540) 373-5178  
 FAX: (540) 373-6881

SEAL OF THE BOARD OF PROFESSIONAL ENGINEERS  
 MICHAEL M. BAGBY  
 Lic. No. 11765  
 PROFESSIONAL ENGINEER  
 COMMONWEALTH OF VIRGINIA

EROSION AND SEDIMENT CONTROL PLAN - PHASE I  
 MARY WASHINGTON HOSPITAL  
 OBSERVATION UNIT ADDITION  
 GPIN # 7779-47-5961  
 CITY OF FREDERICKSBURG, VIRGINIA

DATE:	11-4-16
SCALE:	1" = 10'
DESIGNED BY:	MMB
DRAWN BY:	LT
CHECKED BY:	
FILE NAME:	20518-1MODEL
JOB NO.:	20518-1
PLAN NO.:	



I. PROJECT DESCRIPTION

This project consists of the construction of an 20,360 sf Observation Unit Addition in support of the Emergency Department at Mary Washington Hospital. The project is located between the existing Mary Washington Hospital Parking Deck and the Existing Emergency Department. The existing access road between the Parking Deck and the Emergency Department will be blocked as a result of this project. The project also includes re-routing an existing sanitary sewer line to the west side of the existing Parking Deck and relocating an existing Fire Department Connection (FDC) serving the hospital.

A total of .90 Acres will be disturbed as a result of this project. The disturbance area includes work within the immediate area of the Observation Unit Addition and the construction limits required to re-route the gravity sanitary sewer and the fire department connection.

Stormwater Management, quality and quantity control, for the project is provided in existing SWMB # 2 as constructed with the original Mary Washington Hospital project. Runoff Reduction Calculations included on Sheet 12 indicates that no TP Load Reduction is required for this Redevelopment Project since impervious area is being reduce as a result of this project.

II. PROJECT AREA SOIL TYPES

The soils within the project area have been classified as "Urban Land - Udults Complex, smoothed" by the Natural Resources Conservation Service. The soil has been assigned Hydrologic Soil Group B.

III. ENVIRONMENTALLY SENSITIVE AREAS:

The entire site has previously been developed. There are not environmentally sensitive areas associated with this site.

III. EROSION AND SEDIMENT CONTROL MEASURES

The primary means of Erosion and Sediment control for this project will be the installation of super silt fence and right of way protection at the northerly and southerly limits of the proposed project limits. Inlet Protection will be provided at all existing inlets prior to demolition activities within the area of the proposed Observation Unit addition. Silt fence will be installed along the limits of the proposed sanitary sewer and fire lane re-routing. A construction entrance will be provided at the end of the existing access road to the north of the proposed addition.

Once all earth-moving activities have been completed, the entire site will be stabilized with seeding or sodding as the final erosion and sediment control measure. Permanent seeding will consist of sowing 100 pounds per acre of tall fescue, 12 pounds per acre of annual rye grass, 3 tons per acre of lime and 1200 pounds per acre of 10-10-10 fertilizer, and 2 tons per acre of straw mulch.

Temporary seeding will be necessary if construction is delayed for greater than 20 days while this site is denuded. Under winter conditions, the area will be seeded with 60 pounds per acre of annual rye grass, 2 tons per acre of lime, 550 pounds per acre of 10-10-10 fertilizer, and 2 tons per acre of straw mulch. Under summer conditions, the site will be seeded with 60 pounds per acre of German Millet, 2 tons per acre of lime, 550 pounds per acre of 10-10-10 fertilizer, and 2 tons per acre of straw mulch.

IV. SEQUENCE OF EROSION AND SEDIMENT CONTROL CONSTRUCTION

PHASE I:

1. Install super silt fence and ROW protection at the northern limits of the project area.
2. Install Construction entrance.
3. Install inlet protection at all existing inlets within the project area.
4. Install ROW protection at the southerly end of the project area.
5. Install silt fence along the routing of the proposed sanitary sewer and fire line routing.

PHASE II:

1. Insure that all Phase I Erosion and Sediment control measures are functioning properly.
2. Construct proposed sanitary sewer and tie to existing sewer line with doghouse manhole.
3. Construct proposed storm sewer and tie to existing storm sewer with two doghouse manholes as indicated on the plans.
4. Block existing piping at sanitary sewer and storm sewer doghouse manholes and redirect flow to new piping.
5. Remove existing sanitary and storm sewer piping within project area.
6. Install Inlet Protection at all open pipes and at all Stormwater Inlets during construction.
7. Grade Parking Lot area and install utilities as indicated on the plans.
8. Permanent or Temporary Soil Stabilization shall be applied to denuded areas within seven days after Final Grade is reached on any portion of the site, if final construction has not been scheduled to proceed. Temporary Soil Stabilization shall be applied within seven days to denuded areas that may not be at Final Grade but will remain dormant (undisturbed) for longer than 30 days. Permanent Stabilization shall be applied to areas that are left dormant for more than one year.

V. EROSION AND SEDIMENT CONTROL MAINTENANCE

Mary Washington Healthcare, through its contractor, will be ultimately responsible for maintaining all Erosion and Sediment Control Measures during the life of the project. The procedures listed below shall be followed in maintaining each Erosion and Sediment Control Measure.

A. Construction Entrance

1. The area of the entrance should be cleared of all vegetation, roots, and other objectional material. Stone & filter cloth shall be placed to the specified dimensions.
2. Additional stone shall be added to the construction entrances as warranted.
3. A wash rack shall be added at the construction entrance if the Erosion and Sediment Control measures are unsuccessful in keeping sediment off of public rights-of-way.

B. Inlet Protection

1. The structure shall be inspected after each rainfall and repairs made as needed.
2. Sediment shall be removed and the inlet protection restored to its original dimensions when the sediment has accumulated to one-half the design depth of the inlet protection. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
3. Inlet protection shall be removed and the area stabilized when the remaining drainage area has been properly stabilized.

C. Super Silt Fence / Silt Fence

1. The silt fence installation shall be inspected after every rainfall event and at least daily during prolonged rainfall. Any necessary repairs will be made immediately.
2. Accumulated sediments will be removed as necessary to keep the fence functional. In all cases, deposits will be removed when accumulation has reached 1/2 the above ground height of the fence.
3. All undercutting or erosion of the toe anchor will be repaired immediately with compacted fill materials.
4. The owner shall adhere to all manufacturers recommendations for replacing filter fabric fence due to weathering.

D. Right of Way Diversion

1. Inspect ROW Diversion after every rainfall event and repair as necessary. At least once every two weeks, whether a storm has occurred or not, the measure shall be inspected and repairs made if needed. Reshape diversion at the end of each working day if the measure has been damaged by vehicular traffic.

D. Removal of Temporary Erosion and Sediment Control Measures

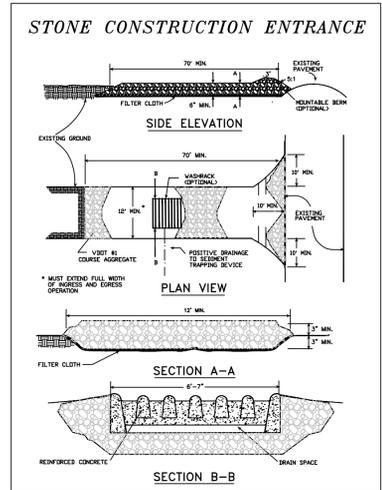
All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, unless otherwise authorized by the local program administrator. Trapped sediment and disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.

4VACS0-30-40 Minimum Standards.

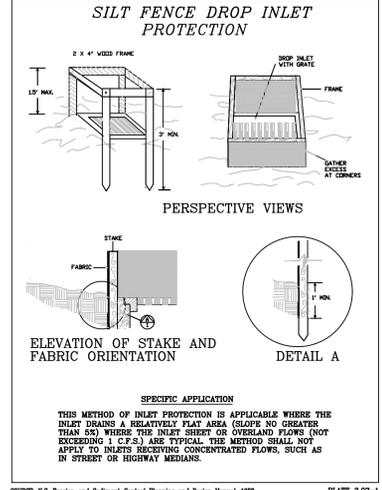
An erosion and sediment control program adopted by a district or locally must be consistent with the following criteria, techniques and methods:

1. Permanent of temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 30 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.
2. During construction of the project, soil stockpiles and borrow areas shall be stabilized or protected with sediment trapping measures. The applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as borrow areas and soil intentionally transported from the project site.
3. A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that is, uniform, mature enough to survive and will inhibit erosion.
4. Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.
5. Stabilization measures shall be applied to earthen structures such as dams, dikes and diversion immediately after installation.
6. Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin.
  - a. The minimum storage capacity of a sediment trap shall be 134 cubic yards per acre of drainage area and the trap shall only control drainage areas less than three acres.
  - b. Surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or equal to three acres shall be controlled by a sediment basin. The minimum storage capacity of a sediment basin shall be 134 cubic yards per acre of drainage area. The outfall system shall, at a minimum, maintain the structural integrity of the basin during a twenty-five year storm of 24-hour duration. Runoff coefficients used in runoff calculations shall correspond to a bare earth condition or those conditions expected to exist while the sediment basin is utilized.
  - c. Pipes and storm sewer systems shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.
  8. Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure.
  9. Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.
  10. All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.
  11. Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.
  12. When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Nonerodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be used for these structures if armored by nonerodible cover materials.
  13. When a live watercourse must be crossed by construction vehicles more than twice in any six-month period, a temporary vehicular stream crossing constructed of nonerodible material shall be provided.
  14. All applicable federal, state and local regulations pertaining to working in or crossing live watercourses shall be met.
  15. The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.
  16. Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:
    - a. No more than 500 linear feet of trench may be opened at one time.
    - b. Excavated material shall be placed on the uphill side of trenches.
    - c. Effluent from dewatering operations shall be filtered or passed through an approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams or off-site property.
    - d. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.
    - e. Restoration shall be accomplished in accordance with these regulations.
    - f. Applicable safety regulations shall be complied with.

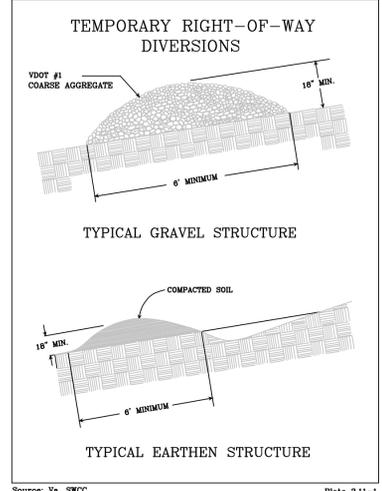
17. Where construction vehicle access routes intersect paved or public roads, provisions shall be made to minimize the transport of sediment by vehicular tracking onto the paved surface. Where sediment is transported onto a paved or public road surface, the road surface shall be cleaned thoroughly at the end of each day. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual development lots as well as to larger land-disturbing activities.
18. All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, unless otherwise authorized by the local program authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measure shall be permanently stabilized to prevent further erosion and sedimentation.
19. Properties and waterways downstream from development sites shall be protected from sediment deposition, erosion and damage due to increase in volume, velocity and peak flow rate of stormwater runoff for the stated frequency storm of 24-hour duration in accordance with the following standards and criteria:
  - a. Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or man-made receiving channel, pipe or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system, downstream stability analyses at the outfall of the pipe or pipe system shall be performed.
  - b. Adequacy of all channels and pipes shall be verified in the following manner:
    - (1) The applicant shall demonstrate that the total drainage area of the point of analysis within the channel is one hundred times greater than the contributing drainage area of the project in question; or
    - (2) (a) Natural channels shall be analyzed by the use of a two-year storm to verify that stormwater will not overtop channel banks or cause erosion of channel bed or banks; and
    - (b) All previously constructed man-made channels shall be analyzed by the use of a ten-year storm to verify that stormwater will not overtop its banks and by the use of a two-year storm to demonstrate that stormwater will not cause erosion of channel bed or banks; and
    - (c) Pipes and storm sewer systems shall be analyzed by the use of a ten-year storm to verify that stormwater will be contained within the pipe or system.
  - c. If existing natural receiving channels or previously constructed man-made channels or pipes are not adequate, the applicant shall:
    - (1) Improve the channel to a condition where a ten-year storm will not overtop the banks and a two-year storm will not cause erosion to the channel bed or banks; or
    - (2) Improve the pipe or pipe system to a condition where the ten-year storm is contained within the appurtenances; or
    - (3) Develop a site design that will not cause the pre-development peak runoff rate from a two-year storm to increase when runoff outfalls into a natural channel or will not cause the pre-development peak runoff rate from a ten-year storm to increase when runoff outfalls into a man-made channel; or
    - (4) Provide a combination of channel improvement, stormwater detention or other measures which is satisfactory to the plan-approving authority to prevent downstream erosion.
  - d. The applicant shall provide evidence of permission to make the improvements.
  - e. All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development of the subject project.
  - f. If the applicant chooses an option that includes stormwater detention he shall obtain approval from the locality of a plan for maintenance of the detention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance.
  - g. Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipaters shall be placed at the outfall of all detention facilities as necessary to provide a stabilized transition from the facility to the receiving channel.
  - h. All on-site channels must be verified to be adequate.
    - i. Increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property shall be diverted to a stable outlet, adequate channel, pipe or pipe system, or to a detention facility.
    - j. In applying these stormwater runoff criteria, individual lots or parcels in a residential, commercial or industrial development shall not be considered to be separate development projects. Instead, the development, as a whole, shall be considered to be a single development project. Hydrologic parameters that reflect the ultimate development condition shall be used in all engineering calculations.
    - k. All measures used to protect properties and waterways shall be employed in a manner which minimizes impacts on the physical, chemical and biological integrity of rivers, streams and other waters of the state.



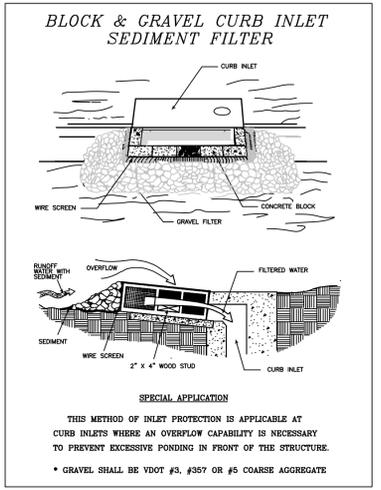
SOURCE: ADAPTED FROM 1983 Maryland Standards for Soil erosion and Sediment Control, and Va. DSWC Plate 3.07-1



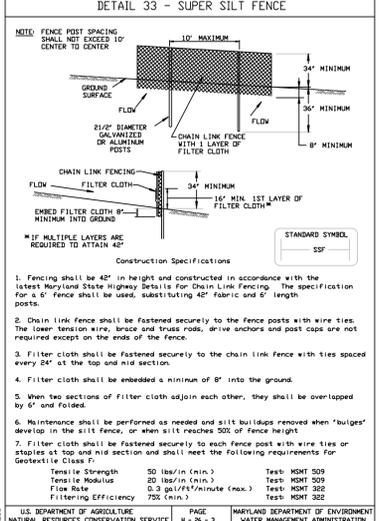
SOURCE: NC Erosion and Sediment Control Planning and Design Manual, 1998 Plate 3.07-1



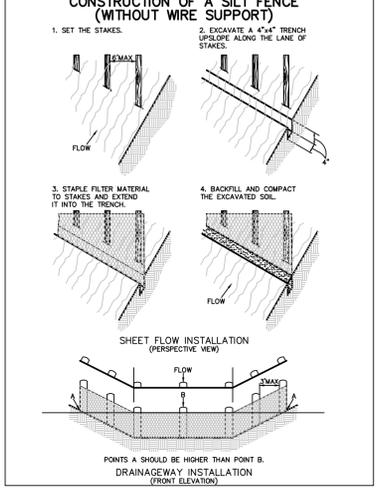
SOURCE: Va. SWCC Plate 3.11-1



SOURCE: VA DSWC PLATE 3.07-8



U.S. DEPARTMENT OF AGRICULTURE PAGE 10 MARLAND DEPARTMENT OF ENVIRONMENT NATURAL RESOURCES CONSERVATION SERVICE 8-28-3 WATER MANAGEMENT ADMINISTRATION



THIS PROJECT SHALL MEET ALL MINIMUM STANDARD REQUIREMENTS AS STATED ABOVE

EROSION AND SEDIMENT CONTROL COST ESTIMATE

ITEM	QUANTITY	UNIT COST	TOTAL COST
CONSTRUCTION ENTRANCE	1 EA.	\$ 1,500.00 EA.	\$ 1,500.00
SUPER SILT FENCE	50 L.F.	\$ 20.00/L.F.	\$ 1,000.00
SILT FENCE	475 L.F.	\$ 5.00/L.F.	\$ 2,375.00
INLET PROTECTION	10 EA.	\$ 150.00 EA.	\$ 1,500.00
SEEDING	1.0 AC.	\$ 1,500.00/AC.	\$ 1,500.00
<b>TOTAL EROSION &amp; SEDIMENT CONTROL COST</b>			<b>\$ 7,875.00</b>
<b>BOND REQUIRED @ 125%</b>			<b>\$ 9,844.00</b>

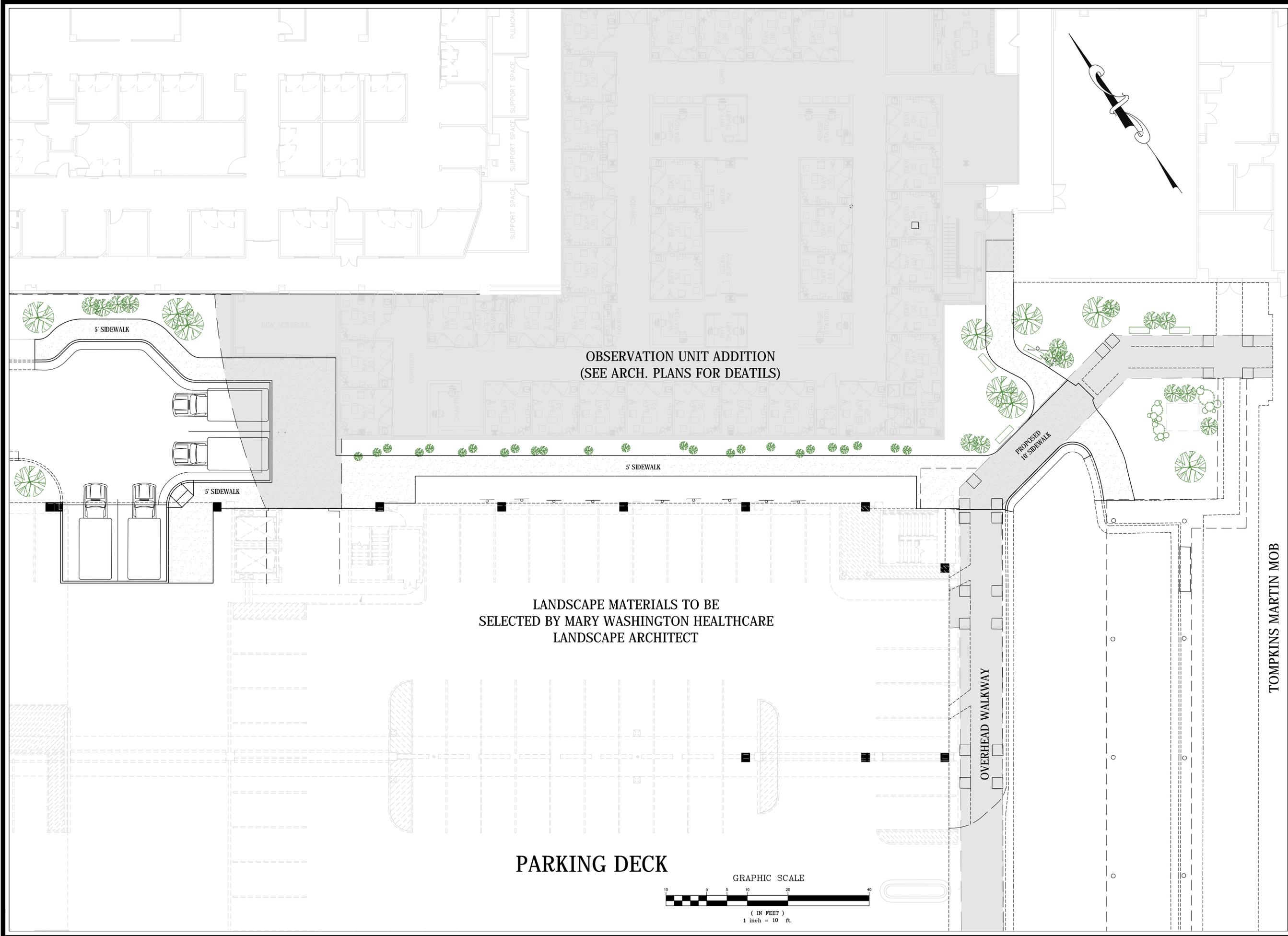
REVISIONS	DATE

**BFG**  
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 TELEPHONE: (540) 373-5178  
 FAX: (540) 373-6681

**PROFESSIONAL SEAL**  
 MICHAEL M. BAGBY  
 Lic. No. 11765  
 STATE OF VIRGINIA

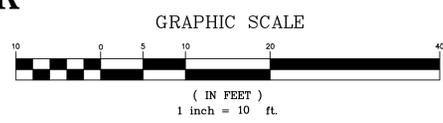
**E & S CONTROL PLAN - NOTES AND DETAILS**  
 MARY WASHINGTON HOSPITAL  
 OBSERVATION UNIT ADDITION  
 GPIN # 7779-47-5961  
 CITY OF FREDERICKSBURG, VIRGINIA

DATE:	11-4-16
SCALE:	NONE
DESIGNED BY:	MMB
DRAWN BY:	LT
CHECKED BY:	
FILE NAME:	MODEL
JOB NO.	20518-1
PLAN NO.	



LANDSCAPE MATERIALS TO BE  
SELECTED BY MARY WASHINGTON HEALTHCARE  
LANDSCAPE ARCHITECT

PARKING DECK



DATE	REVISIONS

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SEAL OF THE BOARD OF PROFESSIONAL ENGINEERS  
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LANDSCAPING PLAN  
MARY WASHINGTON HOSPITAL  
OBSERVATION UNIT ADDITION  
GPIN # 7779-46-5961  
CITY OF FREDERICKSBURG VIRGINIA

DATE:	11-4-16
SCALE:	1" = 10'
DESIGNED BY:	MMB
DRAWN BY:	LT
CHECKED BY:	
FILE NAME:	20518-1model
JOB NO.	20518-1
PLAN NO.	





