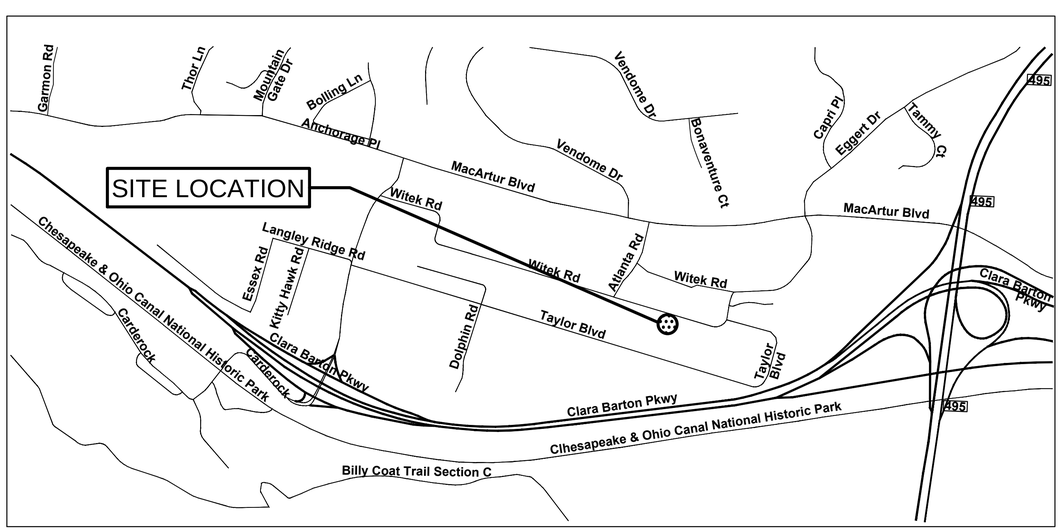
CARDEROCK
PROTOTYPE MATERIALS STORAGE FACILITY
NSF-CARDEROCK, BETHESDA, MARYLAND
JANUARY 26, 2015
A/E # N40080-14-P-2031



VICINITY MAP

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SYM	DESCRIPTION	DATE	APPR
	FINAL DESIGN	01/26/15	
	REVISED 95% SUBMISSION	12/11/14	
	95% SUBMISSION	08/09/13	
	CONCEPT SUBMISSION	07/09/13	

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STATE OF MARYLAND
PAUL DAVID NOURSE
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DES SNH | DRW SNH
REVIEWED BY HAC
PM/DM
CHIEF ENG/ARCH

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND WASHINGTON
IPT ~ PWD
NSF CARDEROCK
BETHESDA, MD
CARDEROCK
PROTOTYPE MATERIALS STORAGE FACILITY
COVER SHEET

CODE ID. NO. 80091 | SIZE D
SCALE: AS SHOWN
MAXIMO NO.
STA. PROJ. NO.
WORK ORDER NO. 1182246
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
SHEET OF
G001

DRAWFORM REVISION: 01 MAY 2006

ABBREVIATIONS FOR CIVIL DRAWINGS

A	AREA
AC	ACRE
ABP	ANGLE OF BULK PLANE
ATFP	ANTITERRORISM FORCE PROTECTION
BC	BACK OF CURB
BEAP	BASE EXTERIOR ARCHITECTURAL PLAN
BM	BENCH MARK
BMP	BEST MANAGEMENT PRACTICES
BOL	BOLLARD
BW	BOTTOM OF WALL
C/C FACTOR	RUNOFF COEFFICIENT
CD	CHECK DAM
C&G	CURB AND GUTTER
CFS	CUBIC FEET PER SECOND
CL	CENTERLINE
CLR.	CLEAR/CLEARANCE
CMF	CONCRETE MONUMENT FOUND
CO	CLEAN OUT
CONC.	CONCRETE
CULV.	CULVERT
CVI	COMMERCIAL VEHICLE INSPECTION
CVR.	COVER
D.B.	DEED BOOK
DD	TEMPORARY DIVERSION DIKE
DIA.	DIAMETER
D.I.P.	DUCTILE IRON PIPE
DT	DECIDUOUS TREE
DWG	DRAWING
EG	EDGE OF GRAVEL
ELEC.	ELECTRICAL
ELEV.	ELEVATION
EP	EDGE OF PAVEMENT
E & S	EROSION & SEDIMENTATION CONTROL
ESMT.	EASEMENT
EX.,EXIST.	EXISTING
FDN	FOUNDATION
FFE	FINISHED FLOOR ELEVATION
FH	FIRE HYDRANT
FO	FIBEROPTIC LINE
G	GAS
GALV.	GALVANIZED
GB	GUTTER BUDDY
HC	HEADER CURB
HCR	HANDICAP RAMP
HP	HIGH POINT
HWY.	HIGHWAY
INC	INCREMENTAL
INV.	INVERT
IPF	IRON PIPE FOUND
IPS	IRON PIPE SET
JB	JUNCTION BOX
LAT	LATERAL
LB/LBS	POUNDS
LONG	LONGITUDE
LP	LIGHT POLE, LOW POINT
MAX.	MAXIMUM
MIN.	MINIMUM
MH	MANHOLE
MM	MEET AND MATCH
MSHA	MARYLAND STATE HIGHWAY ADMINISTRATION
MUTCD	MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
NAVFAC	NAVAL FACILITIES ENGINEERING COMMAND
NCPC	NATIONAL CAPITAL PLANNING COMMISSION
NIC	NOT IN CONTRACT
NMMC	NATIONAL MILITARY MEDICAL CENTER
NTS	NOT TO SCALE
OHE	OVERHEAD ELECTRICAL
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PP	POWER POLE
PERM.	PERMANENT
PG.	PAGE
PKNF	PK NAIL FOUND
PRC	POINT OF REVERSE CURVATURE
PWSCA	PRINCE WILLIAM COUNTY SERVICE AUTHORITY
PVC	POLYVINYL CHLORIDE
R/W, R.O.W.	RIGHT OF WAY
RCP	REINFORCED CONCRETE PIPE
REM.	REMOVE
RR	REMOVE AND RELOCATE, RAILROAD
RTE.	ROUTE
S/W	SIDEWALK
SAF	SAFETY FENCE
SAN. SEW.	SANITARY SEWER
SEC.	SECTION
SF	SQUARE FEET/SILT FENCE
SSF	SUPER SILT FENCE
STD.	STANDARD
STM.DRN.STM.SEW.	STORM DRAIN, STORM SEWER
SWM	STORMWATER MANAGEMENT
TBR	TO BE REMOVED
TC	TOP OF CURB
TCCP	TEMPORARY TRAFFIC CONTROL PLAN
TELE	TELECOMMUNICATIONS EQUIPMENT
TP	TELEPHONE POLE/TREE PROTECTION
TRANS	TRANSFORMER, TRANSITION
TW	TOP OF WALL
TYP.	TYPICAL
UFC	UNIFIED FACILITIES CRITERIA
UGE	UNDERGROUND ELECTRICAL
UGT	UNDERGROUND TELECOMMUNICATIONS
USGS	UNITED STATES GEOLOGICAL SURVEY
UVSS	UNDER-VEHICLE SURVEILLANCE SYSTEM
VOL.	VOLUME
W/L, W/M, WAT	WATER LINE, WATER MAIN
WRNMMC	WALTER REED NATIONAL MILITARY MEDICAL CENTER
WSE	WATER SURFACE ELEVATION
WTP	WATER TREATMENT PLANT
YR	YEAR
ZD	ZONING DESIGNATION

LEGEND FOR CIVIL DRAWINGS

	EXISTING	NEW/PROPOSED
PROPERTY LINE		
STREET CENTERLINE		℄
CONTOURS	24	190
CURB AND GUTTER		TRANS. CG-6R
EDGE OF PAVEMENT		
STORM SEWER	D D	VARIOUS PROP. STORM STRUCTURES
SANITARY SEWER	S S	s s s
WATERMAIN	W W	W W
UNDERGROUND ELECTRIC	E E	E E
UNDERGROUND COMMUNICATION	COMUGX	UGT
FENCE LINE		
WATER METER		
WATER VALVE		
GAS VALVE	GV	
FIRE HYDRANT		
UTILITY POLE		
TRAFFIC SIGNAL POLE	TL	
STREET LIGHT		
SPOT SHOT	+23.45	X 0.00
TELEPHONE MANHOLE	(T)	
STORM DRAIN MANHOLE	(D)	
SANITARY SEWER MANHOLE	(S)	
ELECTRIC MANHOLE	(E)	
WATER MANHOLE	(W)	
CLEAN OUT	CO	
RIP RAP		
STORM STRUCTURE LABEL	1	5
SANITARY STRUCTURE LABEL	2	5
SIGN		
TREE/BUSH		
TREE LINE.........................		
LIMITS OF GRADING		LOD
TEST HOLE		GAS
PARKING SPACES NUMBER	7	13
BENCHMARK		
BUILDING WALL		
DOOR LOCATION		MAIN DOOR
BORING LOCATION........................		B-10

GENERAL NOTES

1. BENCHMARK INFORMATION:
   BENCHMARK BM#1
   TOP SMH, ELEV. = 127.63
   N 476177.0569, E 1259511.4892

   BENCHMARK BM#2
   TOP FLANGE BOLT, ELEV. = 130.12
   N 476036.9565, E 1259797.4978

   THE ABOVE BENCHMARK DATA IS BASED ON INFORMATION OF RECORD AND IS PROVIDED TO ACCOMMODATE DESIGN REVIEWS. BECAUSE BENCHMARKS ARE SUBJECT TO CHANGE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING THIS INFORMATION, AND SHALL NOTIFY PENNONI ASSOCIATES (703)449-6700 OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

2. ALL CONSTRUCTION SHALL CONFORM TO CURRENT UFC AND/OR MARYLAND STATE HIGHWAY ADMINISTRATION STANDARDS AND SPECIFICATIONS. THE MOST STRINGENT STANDARDS SHALL TAKE PRECEDENCE.

3. CONTRACTOR SHALL VERIFY FIELD CONDITIONS PRIOR TO AND DURING CONSTRUCTION AND NOTIFY THE CONTRACTING OFFICER IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND APPROVED PLAN. SHOULD CONFLICTS BE DISCOVERED WITHIN THE INFORMATION PRESENTED IN THIS PLAN, THE CONTRACTOR SHALL STOP WORK RELATED TO THE DISCREPANCY UNTIL THE DISCREPANCY IS RESOLVED WITH THE CONTRACTING OFFICER AND THE ENGINEER.

4. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION AND FOR ANY DAMAGES THAT MAY OCCUR DUE TO THEIR FAILURE TO LOCATE AND PROTECT THESE UNDERGROUND FACILITIES. OBTAIN DIGGING PERMITS PRIOR TO START OF EXCAVATION BY CONTACTING THE CONTRACTING OFFICE 15 CALENDAR DAYS IN ADVANCE. SCAN THE CONSTRUCTION SITE WITH ELECTROMAGNETIC OR SONIC EQUIPMENT, AND MARK THE SURFACE OF THE GROUND WHERE EXISTING UNDERGROUND UTILITIES ARE DISCOVERED. VERIFY THE ELEVATIONS OF EXISTING PIPING, UTILITIES, AND ANY TYPE OF UNDERGROUND OBSTRUCTION NOT INDICATED OR SPECIFIED TO BE REMOVED BUT INDICATED OR DISCOVERED DURING SCANNING IN THE LOCATIONS TO BE TRAVERSED BY PIPING AND OTHER WORK TO BE INSTALLED. VERIFY ELEVATIONS BEFORE INSTALLING NEW WORK CLOSER THAN NEAREST MANHOLE OR OTHER STRUCTURE AT WHICH AN ADJUSTMENT IN GRADE CAN BE MADE. USE OF SCANNING EQUIPMENT MUST BE HERETO CERTIFIED BY NSWC SAFETY OFFICE FOR USE ON THE BASE. CONTACT THE PROJECT LEADER FOR INSTRUCTIONS ON OBTAINING THIS CERTIFICATION.

5. ALL UTILITIES ARE TO BE RELOCATED AT THE CONTRACTOR'S EXPENSE. ALL UTILITY INTERRUPTIONS SHALL BE SCHEDULED 15 CALENDAR DAYS IN ADVANCE AND SHOULD BE SCHEDULED FOR AFTER HOURS.

6. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING ROADS AND UTILITIES WHICH MAY OCCUR AS A RESULT OF THEIR CONSTRUCTION WITHIN OR CONTIGUOUS TO EXISTING ROADWAYS.

7. CONTROLLED FILLS SHALL BE IN ACCORDANCE WITH THE APPROVED GEOTECHNICAL REPORT. DENSITY SHALL BE CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER. NOTE: SURFACE OR UNSUITABLE MATERIAL MUST BE HAULED OFFSITE AND DISPOSED OFF PER APPLICABLE LOCAL, STATE & FEDERAL REGULATIONS.

8. ALL COMPACTION SHALL BE IN ACCORDANCE WITH THE APPROVED GEOTECHNICAL REPORT AND IN ACCORDANCE WITH GEOTECHNICAL CONSTRUCTION REQUIREMENTS.

9. ALL FINISHED GRADING, SEEDING, SODDING, OR PAVING SHOULD BE DONE IN SUCH A MANNER AS TO PRECLUDE THE PONDING OF WATER ON THE SITE, PARTICULARLY ADJACENT TO STORM INLETS.

10. NO GRAVE, OBJECT, STRUCTURE MARKING A PLACE OF BURIAL, OR OTHER ARCHEOLOGICAL SITE IS KNOWN TO EXIST ON THIS SITE.

11. ◐ DENOTES TEST HOLE REQUIRED TO DETERMINE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DIGGING OF TEST HOLES PRIOR TO BEGINNING OF ANY CONSTRUCTION ON THE PROJECT. IF CONFLICTS ARE DISCOVERED AS A RESULT OF TEST HOLE FINDINGS, NOTIFY THE CONTRACTING OFFICER IMMEDIATELY AND DO NOT START WORK UNTIL THE CONFLICTS ARE RESOLVED.

12. EXISTING MANHOLE FRAMES AND COVERS AND VALVE BOXES AND COVERS SHALL BE ADJUSTED OR RE-CONSTRUCTED, AS NECESSARY, TO MATCH FINISHED GRADES, WHETHER INDICATED ON PLANS OR NOT.

13. THE APPROVAL OF THIS PLAN DOES NOT CONSTITUTE THE APPROVAL OF FUTURE WORK OR WORK BY OTHERS.

14. CONTRACTOR TO TRANSITION CURB AND GUTTER, TO MEET AND MATCH EXISTING CURB AND GUTTER, AROUND CURB RETURNS WHERE POSSIBLE. TRANSITIONS SHALL BE BUILT TO INSURE POSITIVE DRAINAGE.

15. AT LOCATIONS WHERE THE FINAL SURFACE COURSE OF ASPHALT PAVEMENT IS TO BE HEELED INTO THE EXISTING SURFACE COURSE, THE EXISTING SURFACE COURSE IS TO BE SCARIFIED TO A MINIMUM DEPTH OF 1" AND A TACK COAT APPLIED PRIOR TO FINAL PAVING TO INSURE A SMOOTH, WELL BONDED JOINT.

16. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION (MSHA) STANDARDS AND SPECIFICATIONS, MONTGOMERY COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION (MCDPW&T) STANDARDS, WASHINGTON SUBURBAN SANITARY COMMISSION (WSSC) STANDARDS AND SPECIFICATIONS AND THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) EROSION AND SEDIMENT CONTROL HANDBOOK (MDE-E&S).

    A. THE STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION BOOK OF STANDARDS IS AVAILABLE ONLINE AT:
    http://www.sha.state.md.us.BusinessWithSHA/bizStdsSpecs/desManualStdPub/publicationsonline/ohd/bookstd/index.asp

    B. THE 2011 MARYLAND STANDARDS & SPECIFICATIONS FOR SOIL EROSION & SEDIMENT CONTROL IS AVAILABLE ONLINE AT:
    http://www.mde.maryland.gov/programs/water/stormwatermanagementprogram/soilerosionandsedimentcontrol/pages/programs/waterprograms/sedimentandstormwater/erosionsedimentcontrol/esc_standards.aspx

    C. THE MONTGOMERY COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION BOOK OF STANDARDS IS AVAILABLE ONLINE AT:
    http://www.montgomerycountymd.gov/content/dpwt/capital/dcd/htm/standards.htm

    D. THE WSSC BOOK OF STANDARD DETAILS FOR CONSTRUCTION IS AVAILABLE ONLINE AT:
    http://www.wssc.dst.md.us/cfdocs.dsgpage/details2002.cmf

    E. THE MSHA SPECIFICATIONS ARE AVAILABLE ONLINE AT:
    http://www.marylandroads.com/Home.aspx

    F. THE MARYLAND EROSION AND SEDIMENT CONTROL HANDBOOK IS AVAILABLE ONLINE AT:
    http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/SoilErosionandSedimentControl

    G. "UNIFIED FACILITIES CRITERIA (UFC) – Design Procedures" UFC 1-300-09N (25 May 2005; including Change 9, 1 July 2013) IS AVAILABLE ONLINE AT:
    http://www.wbdg.org/ccb/DOD/UFC/ufc_1_300_09n.pdf

17. A PARTIAL TEMPORARY CLOSURE OF ONE LANE ONLY OF WITEK ROAD MAY BE ALLOWED IF SHOWN TO BE NECESSARY. CONTRACTOR SHALL REQUEST ANY SUCH CLOSURE IN WRITING AT LEAST 14 DAYS PRIOR TO REQUESTED CLOSURE. NO CLOSURE WILL BE ALLOWED WITHOUT WRITTEN PERMISSION FROM THE CONTRACTING OFFICER.

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	CONCEPT SUBMISSION	07/09/13	

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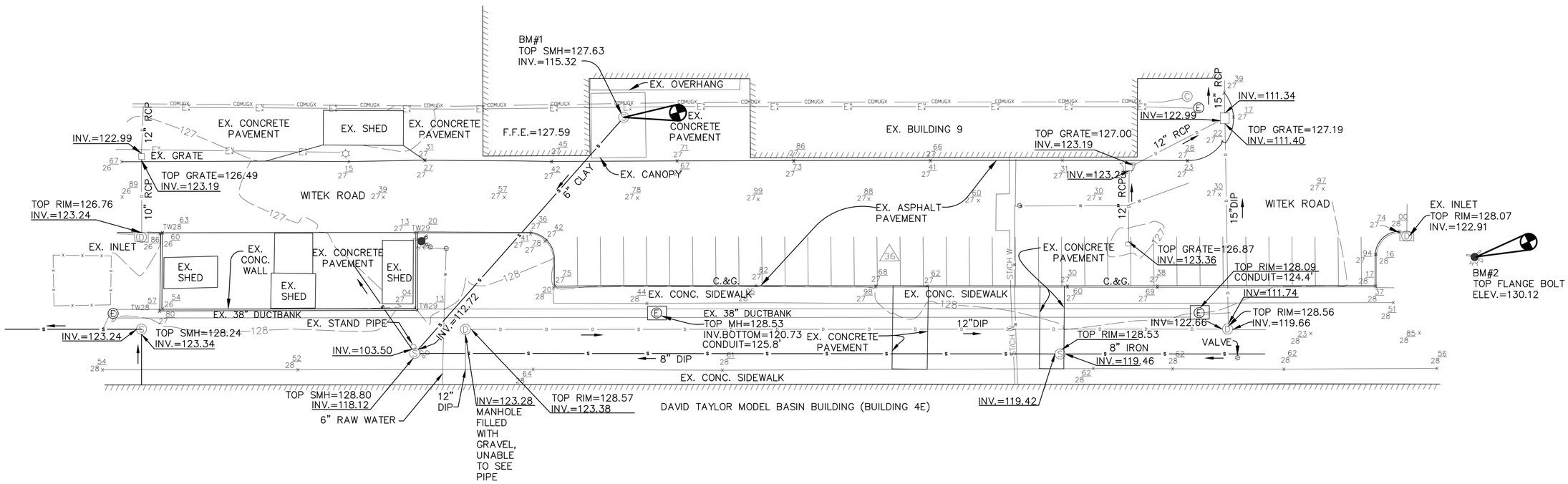
REGISTERED PROFESSIONAL ENGINEER
1/26/2015

DES SNH DRW SNH
REVIEWED BY HAC
PM/DM
CHIEF ENG/ARCH

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND WASHINGTON
IPT ~ PWD
NSF CARDEROCK BETHESDA, MD
CARDEROCK
PROTOTYPE MATERIALS STORAGE FACILITY
CIVIL LEGEND & GENERAL NOTES

CODE ID. NO. 80091 SIZE D
SCALE: AS SHOWN
MAXIMO NO.
STA. PROJ. NO.
WORK ORDER NO. 1182246
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
SHEET OF
C001

DRAWFORM REVISION: 01 MAY 2006



NOTES

1. NO TITLE REPORT FURNISHED. THIS SURVEY IS NOT A COMPREHENSIVE RECORD OF APPURTENANCES OR ENCUMBRANCES OF RECORD OR IN USE.
2. THE VERTICAL DATUM IS NAVD 88.
3. THE HORIZONTAL DATUM IS NAD 83.
4. THIS FIELD RUN TOPOGRAPHIC SURVEY WAS PERFORMED BY PENNONI ASSOCIATES IN NOVEMBER 2012.

20 10 0 10 20
1"=20'

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DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND WASHINGTON
IPT ~ PWD
NSF CARDEROCK
BETHESDA, MD
CARDEROCK
PROTOTYPE MATERIALS STORAGE FACILITY
EXISTING CONDITIONS SURVEY

CODE ID. NO. 80091 | SIZE D
SCALE: AS SHOWN
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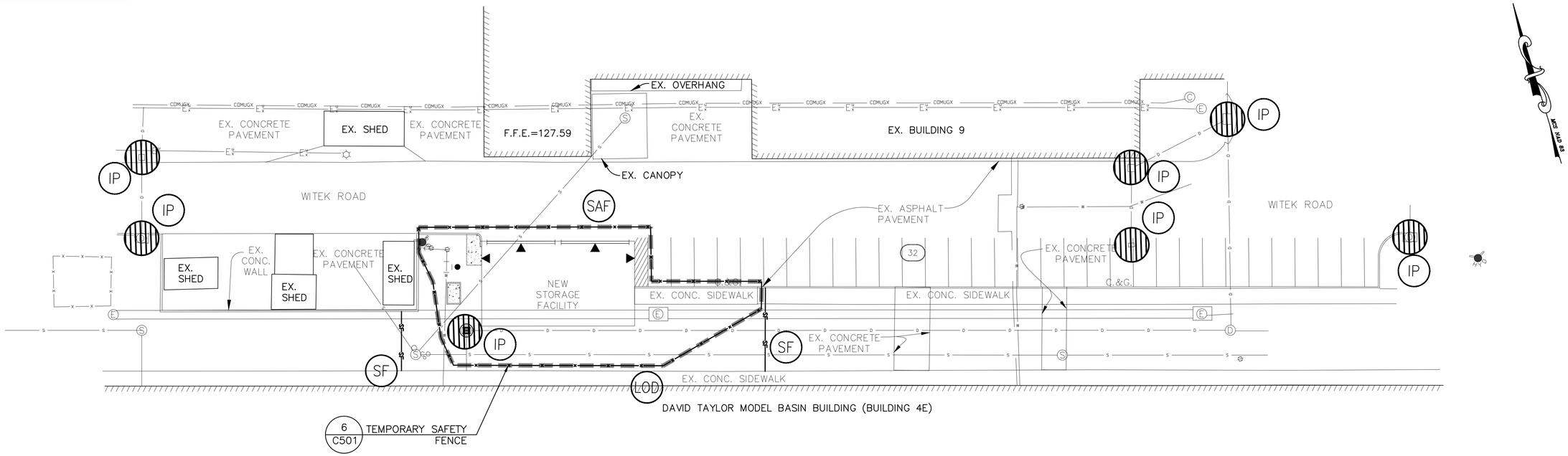
STA. PROJ. NO.
WORK ORDER NO. 1182246
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
SHEET OF
C100

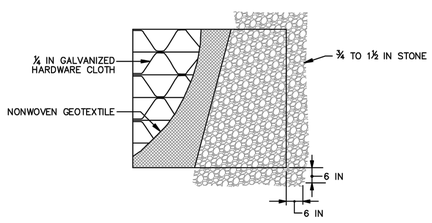
DRAWFORM REVISION: 01 MAY 2006



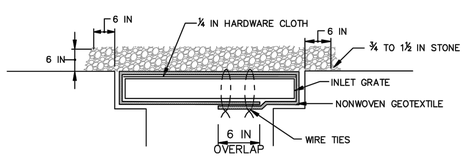
IP DETAIL E-9-2 AT-GRADE INLET PROTECTION

STANDARD SYMBOL: AGIP

MAXIMUM DRAINAGE AREA = 1 ACRE



PLAN / CUT AWAY VIEW



CROSS SECTION

CONSTRUCTION SPECIFICATIONS

1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
2. LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE.
3. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE GRATE.
4. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. 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.

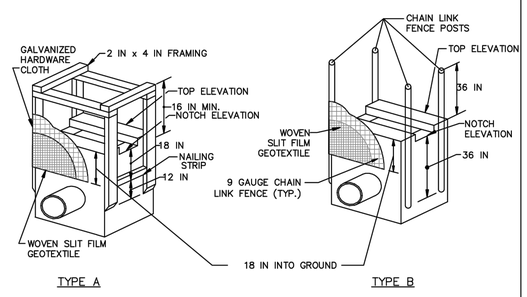
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

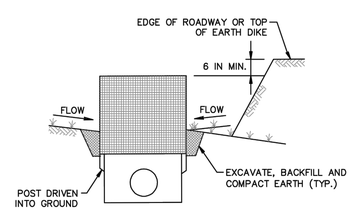
IP DETAIL E-9-1 STANDARD INLET PROTECTION

STANDARD SYMBOL: SIP

TYPE A MAXIMUM DRAINAGE AREA = ¼ ACRE
TYPE B MAXIMUM DRAINAGE AREA = 1 ACRE



ISOMETRIC VIEW



SECTION FOR TYPE A AND B

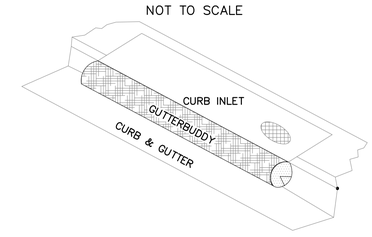
1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

IP INLET AND CURB OPENING PROTECTION

NOT TO SCALE



NOTE:
GUTTERBUDDY IS AVAILABLE IN LENGTHS OF 3', 6', 12' AND 16'. GUTTERBUDDY HAS A 9" DIAMETER. SHOULD BE PURCHARDED IN A LENGTH OF 24" LONGER THAN INLET LENGTH SO AS TO PROVIDE PROTECTIVE OVERLAP ON INLET OPENING. SHOULD BE CLEANED IF THERE IS A VISUAL BUILD UP OF DEBRIS AROUND THE GUTTERBUDDY.

NOTE: PROVIDE INLET PROTECTION IN ACCORDANCE WITH DEQ STANDARD SPECIFICATION 3.07 OR AS APPROVED BY THE ENGINEER.

EROSION & SEDIMENT CONTROL LEGEND

SILT FENCE	SF	SF SF SF SF
STORM DRAIN INLET PROTECTION	IP	
TEMPORARY SAFETY FENCE 6 / C501	SAF	

EROSION & SEDIMENT CONTROL NOTES

1. THIS PLAN SHOWS APPROXIMATELY 4,960 SQUARE FEET OF DISTURBANCE. THIS PLAN DOES NOT REQUIRE AN EROSION & SEDIMENT CONTROL PERMIT BECAUSE THE GRADING DOES NOT DISTURB OVER 5,000 SQUARE FEET OF LAND AREA. (REF. "MARYLAND STORMWATER MANAGEMENT GUIDELINES FOR STATE & FEDERAL PROJECTS", CHAPTER 3.2 EXEMPTIONS, PARAGRAPH B, APRIL 15, 2010).
2. THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS OUTSIDE THE INDICATED LIMITS OF DISTURBANCE. ALL MATERIALS DEPOSITED OUTSIDE THE INDICATED LIMITS OF DISTURBANCE SHALL BE REMOVED IMMEDIATELY.
3. CONSTRUCTION IS WITHIN THE SECURED PERIMETER OF THE NSWCCD. SAFETY FENCE SHALL BE REQUIRED TO PROTECT THE CONSTRUCTION SITE. SEE DETAIL ON DWG# C501.
4. SEE GENERAL NOTES ON SHEET C001.
5. SEE ADDITIONAL EROSION AND SEDIMENT CONTROL NOTES AND DETAILS ON DWG# C102.

20 10 0 10 20
1"=20'

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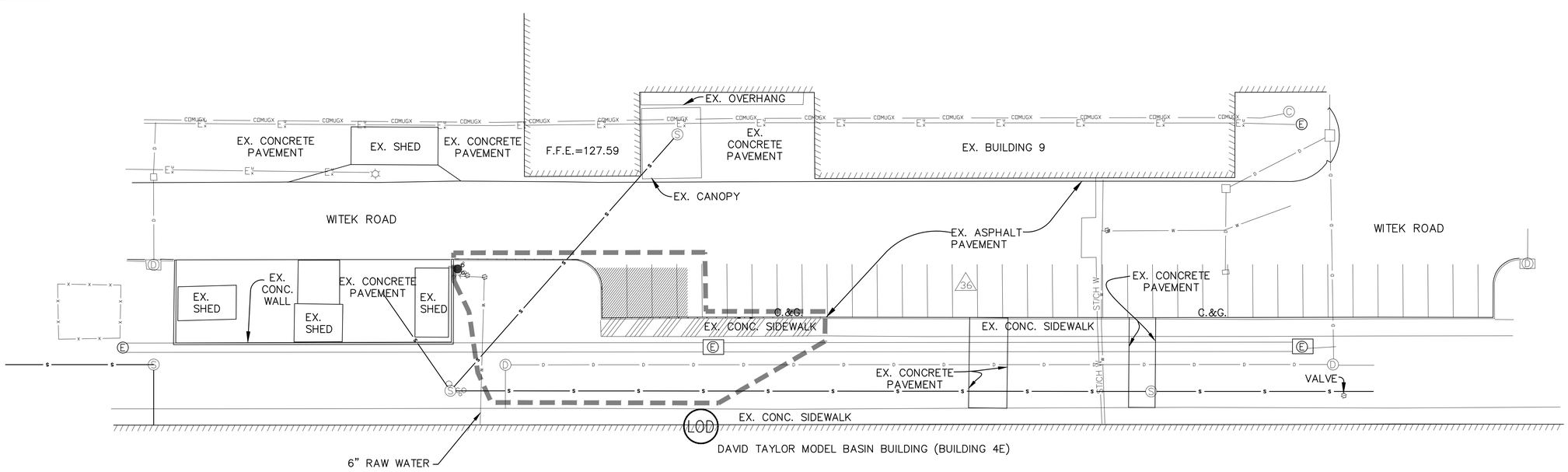
EROSION AND SEDIMENT CONTROL PLAN

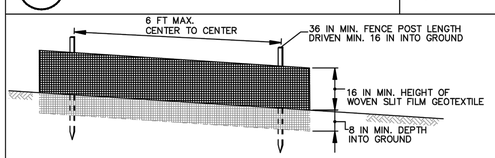
CODE ID. NO. 80091 | SIZE D
SCALE: AS SHOWN
MAXIMO NO.
STA. PROJ. NO.
WORK ORDER NO. 1182246
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
SHEET OF
C101

DRAWFORM REVISION: 01 MAY 2006

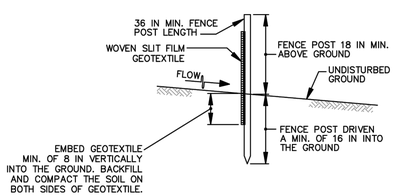


DETAIL E-1 SILT FENCE

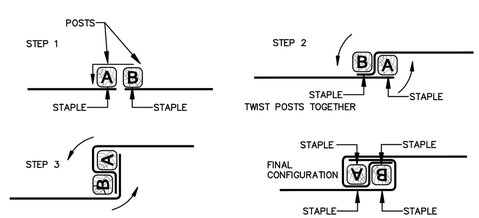
STANDARD SYMBOL —SF—



ELEVATION



CROSS SECTION



JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW)

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL —SF—

CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1¾ X 1¾ ± 1/16 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DEMOLITION LEGEND

- EX. ASPHALT PAVEMENT TO BE REMOVED
- EX. CONCRETE TO BE REMOVED
- EX. CURB TO BE REMOVED

NOTES

1. THE CONTRACTOR SHALL ENSURE CONTINUITY OF ALL EXISTING UTILITIES FOR THE DURATION OF CONSTRUCTION.

20 10 0 10 20
1"=20'

DATE	DESCRIPTION	STM	APPR
01/26/15	FINAL DESIGN		
12/11/14	REVISED 95% SUBMISSION		
08/09/13	95% SUBMISSION		
07/09/13	CONCEPT SUBMISSION		

PENNONI ASSOCIATES INC.
14532 Lee Road
Chantilly, VA 20151
T 703.449.6700
F 703.449.6713

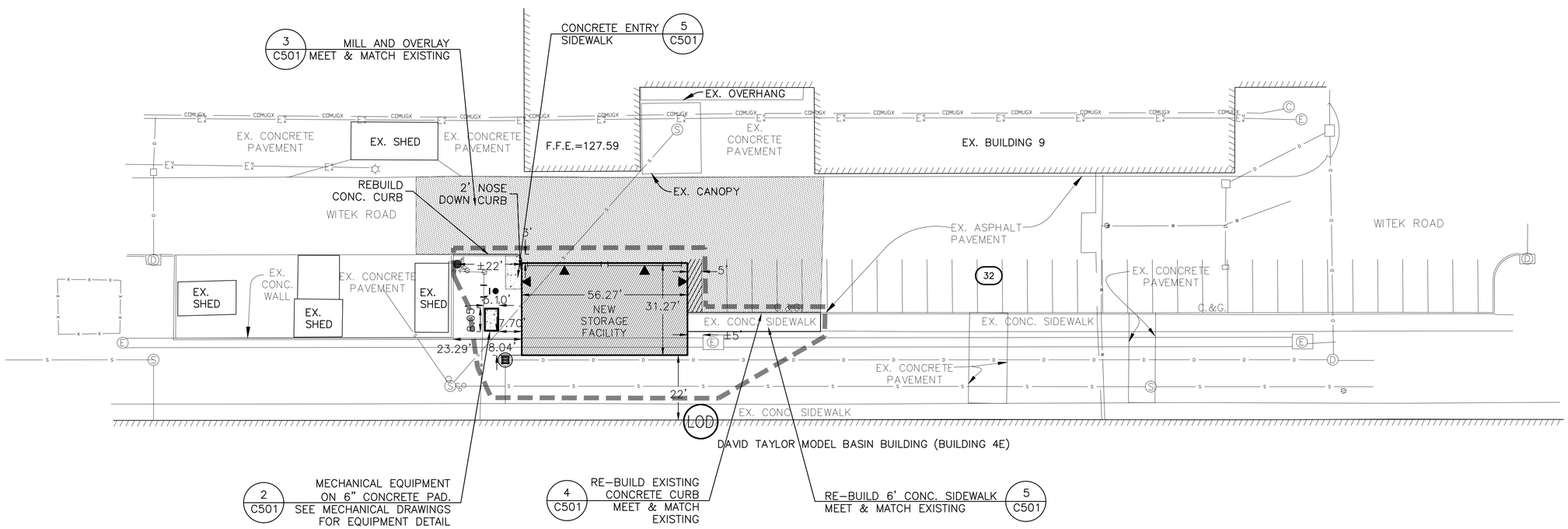
STATE OF MARYLAND — Paul David Newman — 19188 — REGISTERED PROFESSIONAL ENGINEER
1/26/2015

DES SNH | DRW SNH
REVIEWED BY HAC
PM/DM
CHIEF ENG/ARCH

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND WASHINGTON
IPT ~ PWD
NSF CARDEROCK
BETHESDA, MD
CARDEROCK
PROTOTYPE MATERIALS STORAGE FACILITY
DEMOLITION PLAN

CODE ID. NO. 80091 | SIZE D
SCALE: AS SHOWN
MAXIMO NO.
STA. PROJ. NO.
WORK ORDER NO. 1182246
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
SHEET OF
C102

DRAWFORM REVISION: 01 MAY 2006



LEGEND

- NEW PVMT MARKING PER SHA STANDARDS & SPECIFICATIONS
- MILL & OVERLAY TO MEET AND MATCH EXISTING PAVEMENT (3 C501)
- NEW CONCRETE (5 C501) (2 C501)

NOTES

1. THE CONTRACTOR SHALL ENSURE CONTINUITY OF ALL EXISTING UTILITIES FOR THE DURATION OF CONSTRUCTION.
2. ALL NEW PAVEMENT MILL & OVERLAY SHALL MEET AND MATCH EXISTING PAVEMENT. SEE DETAILS ON SHEET C501.

20 10 0 10 20
1"=20'

SYM	DESCRIPTION	DATE	APPR
	FINAL DESIGN	01/26/15	
	REVISED 95% SUBMISSION	12/11/14	
	95% SUBMISSION	08/09/13	
	CONCEPT SUBMISSION	07/09/13	

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1/26/2015

DES SNH | DRW SNH
REVIEWED BY HAC
PM/DM
CHIEF ENG/ARCH

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND WASHINGTON
IPT ~ PWD

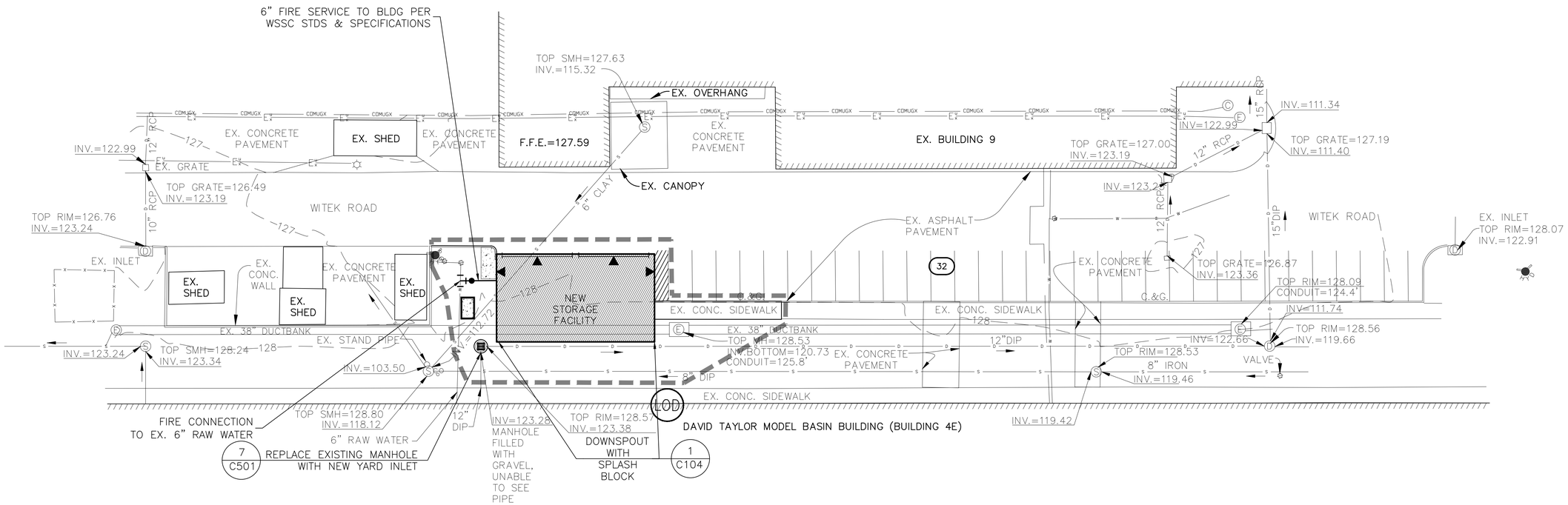
NSF CARDEROCK
BETHESDA, MD

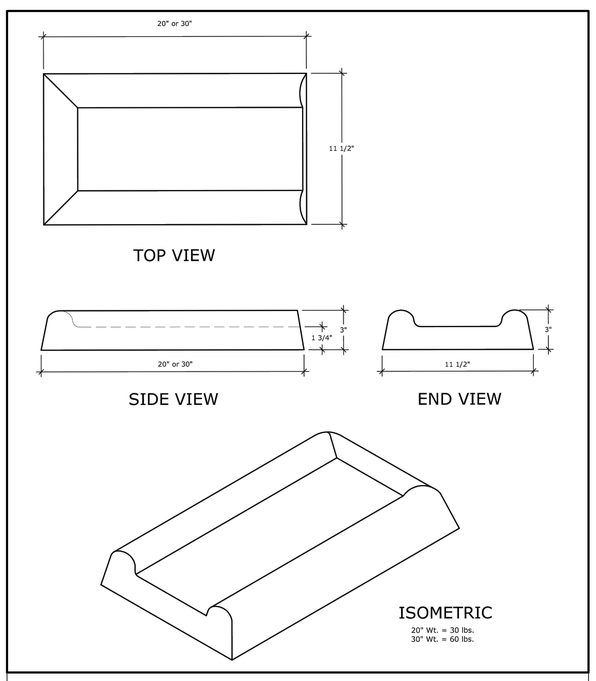
CARDEROCK PROTOTYPE MATERIALS STORAGE FACILITY

SITE PLAN

CODE ID. NO. 80091 | SIZE D
SCALE: AS SHOWN
MAXIMO NO.
STA. PROJ. NO.
WORK ORDER NO. 1182246
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
SHEET OF
C103

DRAWFORM REVISION: 01 MAY 2006





1 C104 PRECAST CONCRETE SPLASH BLOCK

20 10 0 10 20
1"=20'

SYM	DESCRIPTION	DATE	APPR
	FINAL DESIGN	01/26/15	
	REVISED 95% SUBMISSION	12/11/14	
	95% SUBMISSION	08/09/13	
	CONCEPT SUBMISSION	07/09/13	

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STATE OF MARYLAND
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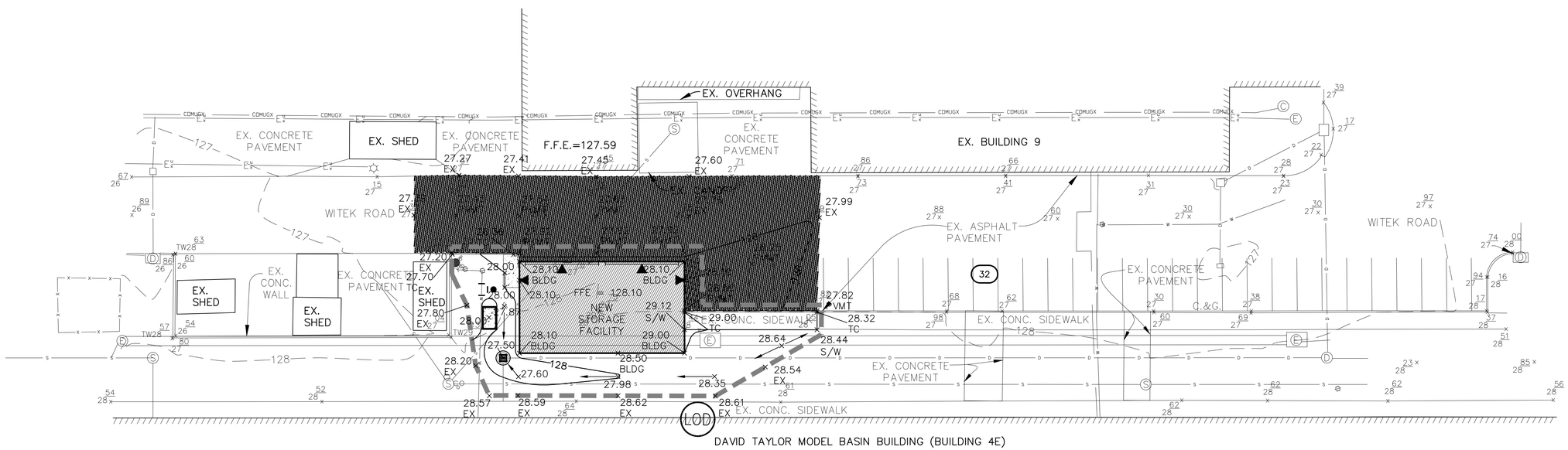
PROFESSIONAL ENGINEER
1/26/2015

DES SNH | DRW SNH
REVIEWED BY HAC
PM/DM
CHIEF ENG/ARCH

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND WASHINGTON
IPT ~ PWD
NSF CARDEROCK
BETHESDA, MD
CARDEROCK
PROTOTYPE MATERIALS STORAGE FACILITY
UTILITY PLAN

CODE ID. NO. 80091 | SIZE D
SCALE: AS SHOWN
MAXIMO NO.
STA. PROJ. NO.
WORK ORDER NO. 1182246
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
SHEET OF
C104

DRAWFORM REVISION: 01 MAY 2006



NOTES:

1. CONTRACTOR SHALL PREVENT WATER PONDING AND SHALL ENSURE POSITIVE DRAINAGE TO DIRECT STORMWATER RUNOFF TO STORM INLETS AND AWAY FROM BUILDING.
2. IN DETERMINING THE EXTENT OF THE MILLING AND RESURFACING, THE CONTRACTOR SHALL TAKE SPECIAL PRECAUTIONS TO ENSURE POSITIVE DRAINAGE AND PREVENT SURFACE PONDING.
3. AT LOCATIONS WHERE THE FINAL SURFACE COURSE OF ASPHALT PAVEMENT IS TO BE HEELED INTO THE EXISTING SURFACE COURSE, THE EXISTING SURFACE COURSE IS TO BE SCARIFIED TO A MINIMUM DEPTH OF 1" AND A TACK COAT APPLIED PRIOR TO FINAL PAVING TO INSURE A SMOOTH, WELL BONDED JOINT.

20 10 0 10 20
1"=20'

SYM	DESCRIPTION	DATE	APPR
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	REVISED 95% SUBMISSION	12/11/14	
	95% SUBMISSION	08/09/13	
	CONCEPT SUBMISSION	07/09/13	

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STATE OF MARYLAND
Paul David Hourst
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PROFESSIONAL ENGINEER
1/26/2015

DES SNH | DRW SNH
REVIEWED BY HAC
PM/DM
CHIEF ENG/ARCH

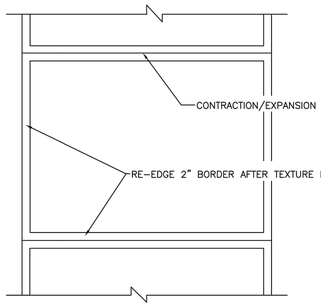
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND WASHINGTON
IPT ~ PWD

NSF CARDEROCK
BETHESDA, MD
CARDEROCK
PROTOTYPE MATERIALS STORAGE FACILITY

GRADING PLAN

CODE ID. NO. 80091 | SIZE D
SCALE: AS SHOWN
MAXIMO NO.
STA. PROJ. NO.
WORK ORDER NO. 1182246
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
SHEET OF
C105

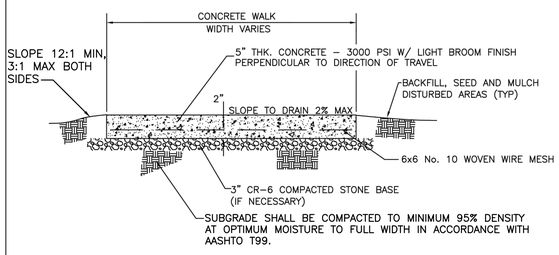
DRAWFORM REVISION: 01 MAY 2006



PLAN
N.T.S.

DISTANCE BETWEEN JOINTS:

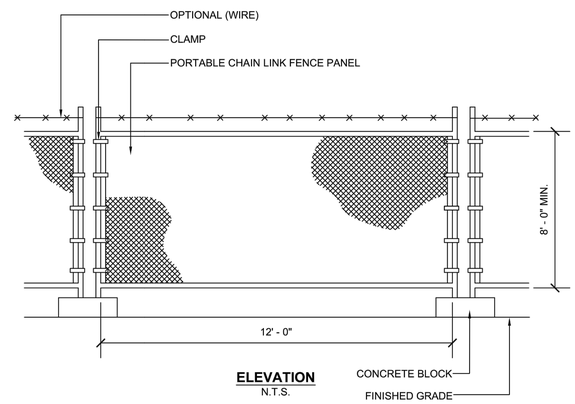
CONTRACTION: TOOLED = WIDTH OF WALK
EXPANSION: 1/2" BIT. FIBER @ 24' MAX.



SECTION
N.T.S.

NOTE:
SLOPE CONCRETE WALK AS PER PLAN MEET FINISH GRADE FLUSH BOTH SIDES

5 C103 CONCRETE WALK
(PER MARYLAND–NATIONAL CAPITAL PARK AND PLANNING COMMISSION)

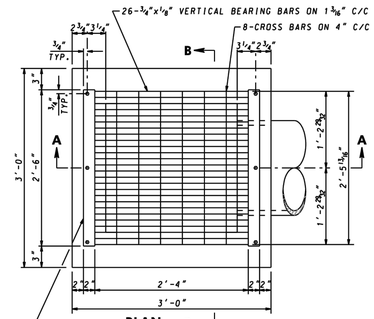


ELEVATION
N.T.S.

NOTES:

1. IF CONSTRUCTION FENCE IS USED AS A COMBINED TREE PROTECTION FENCE, METAL BARS SHALL BE PROVIDED ON THREE SIDES TO ANCHOR THE CONCRETE BLOCK TO THE GROUND SO FENCE CANNOT BE MOVED DURING CONSTRUCTION.
2. TO BE INSTALLED AROUND THE ENTIRE CONSTRUCTION SITE AT LIMITS OF WORK AND FOR TREE PROTECTION AS NOTED. PROVIDE GATES WITH PADLOCKS AS REQUIRED.

6 C103 **CONSTRUCTION FENCE**
The Maryland-National Capital Park and Planning Commission
Montgomery County Department of Parks
Detail No.
JUNE 2007



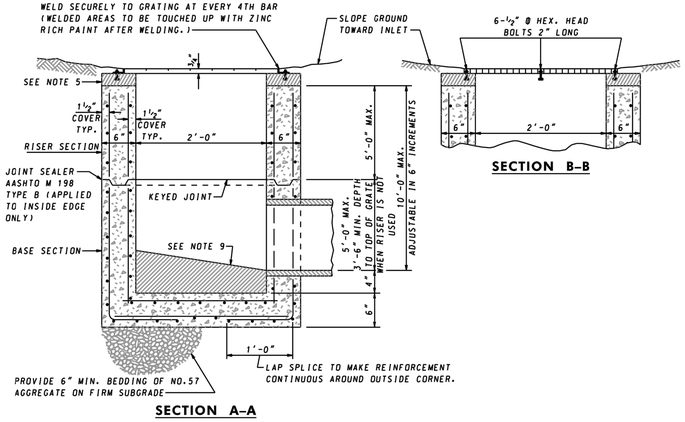
PLAN

2- 2"x 1 1/4"x 3/16"x2'-6" L (CENTERED ON GRATE) TRIM VERTICAL LEG OF ANGLE TO 3/4" IN HEIGHT WELD SECURELY TO GRATING AT EVERY 4TH BAR (WELDED AREAS TO BE TOUCHED UP WITH ZINC RICH PAINT AFTER WELDING.)

GENERAL NOTES

1. CONCRETE TO BE MIX NO.6 (4500 PSI).
2. REINFORCING-2 LAYERS OF 4x4-W4.0x W4.0 WELDED WIRE FABRIC.
3. THREADED PLASTIC INSERTS TO BE PROVIDED FOR HANDLING.
4. GRATING SHALL BE STEEL "IRVING X-BAR TYPE AA" OR APPROVED EQUIVALENT. ALL MATERIAL TO BE HOT DIPPED GALV.
5. GRADE AND SLOPE ADJUSTMENTS TO BE COMPLETED IN THE FIELD USING CONC. MIX NO.6 OR BRICK AND MORTAR. MIN. ONE LAYER OF BRICK OR 3" OF CONCRETE.
6. PIPE OPENINGS TO BE PROVIDE AS REQUIRED. FOR SIZE, LOCATION AND INVERT ELEVATIONS REFER TO PLANS.
7. PLACEMENT OF SUBGRADE DRAINAGE WILL BE AS DIRECTED BY THE ENGINEER OR AS NOTED ON THE PLANS.
8. MINIMUM DEPTH PAYMENT PER "EACH" INLET INCLUDES DEPTHS UP TO 3'-6" MEASURED FROM THE PIPE INVERT TO THE TOP OF THE GRATE. VERTICAL DEPTH PAYMENT PER LINEAR FOOT FOR DEPTHS IN EXCESS OF 3'-6".
9. INVERT TO BE CONCRETE OR BRICK AND SHALL SLOPE 2" PER FOOT TOWARD OUTLET OR AS DIRECTED BY THE ENGINEER. (INVERT PROVIDED IN THE FIELD)

NOTE EXPANSION ANCHORS MAY BE USED INSTEAD OF BOLTS.



SECTION A–A

SECTION B–B

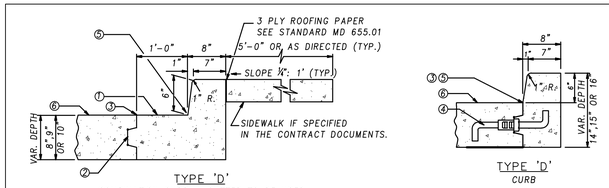
SPECIFICATION 305	CATEGORY CODE ITEMS	
APPROVED	Kirk G. McAllister, DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT	
SHA State Highway Administration	APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
	APPROVAL 4-5-87	APPROVAL 6-23-87
	REVISED 10-1-01	REVISED
	REVISED	REVISED
	REVISED	REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

PRECAST YARD INLET

STANDARD NO. MD 381.02

7 C103 PRECAST YARD INLET



TYPE 'D'
COMBINATION CURB & GUTTER TO BE USED ADJACENT TO PARKING LOCATIONS DESIGNED FOR PERSONS WITH DISABILITIES

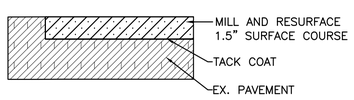
TYPE 'D'
CURB

① SLOPE GUTTER PAN ½" PER FOOT TOWARD FLOW LINE ON ALL ROADWAYS INCLUDING SUPERELEVATED SECTIONS, EXCEPT INTERCHANGE RAMPS.
② PROVIDE KEY AND LONGITUDINAL TIE BAR AS REQUIRED; SEE NOTE A
③ ROADWAY PAVEMENT CONSTRUCTION JOINT
④ LONGITUDINAL TIE DEVICE "J" BAR MODIFIED
⑤ FLOW LINE
⑥ ROADWAY PAVEMENT SLOPE

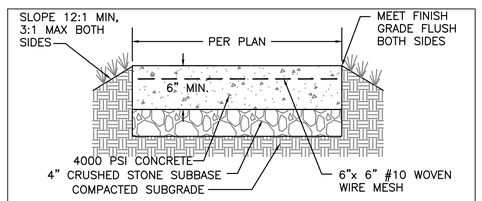
NOTES

A. RIGID PAVEMENT ROADWAY ADJACENT TO COMBINATION CURB AND GUTTER AND CLOSED SECTION ROADWAY USING RIGID PAVEMENT WITH COMBINATION CURB AND GUTTER SHALL BE KEYED AND TIED AT THE ROADWAY PAVEMENT CONSTRUCTION JOINT. REFER TO STANDARD MD 572.61 FOR METHOD OF KEYWAY AND LONGITUDINAL TIE DEVICES. SPACING OF THE TIE BARS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS. RIGID PAVEMENT AND CURB SHALL BE CONSTRUCTED AS INDICATED. TIE DEVICES AND KEYS ARE NOT REQUIRED WHEN USING FLEXIBLE PAVEMENT FOR ROADWAY.
B. MAXIMUM JOINT SPACING FOR CONCRETE CURB AND COMBINATION CURB & GUTTER IS 10'. SEE SPECIFICATION FOR LOCATIONS AND DESCRIPTION OF TREATMENT FOR THE TYPES OF JOINTS USED.
C. TYPE C OR D COMBINATION CURB AND GUTTER SHALL BE USED FOR ALL APPLICABLE NEW CONSTRUCTION AND IN THOSE AREAS WHERE THE COMBINATION CURB AND GUTTER IS TO BE REPLACED IN KIND.
D. TYPE C OR D CURB SHALL BE USED FOR THE REPLACEMENT OF LIKE KIND OF CURB ONLY. NOT TO BE USED FOR NEW CONSTRUCTION EXCEPT WHERE INDICATED ON APPROPRIATE INLET STANDARDS.

4 C103 CONCRETE CURB AND GUTTER



3 C103 PAVEMENT OVERLAY



SUBGRADE SHALL BE COMPACTED TO MINIMUM 95% DENSITY AT OPTIMUM MOISTURE TO FULL WIDTH IN ACCORDANCE WITH AASHTO T99.

2 C103 6" CONCRETE PAD FOR MECHANICAL EQUIPMENT
SEE STRUCTURAL DRAWINGS FOR CONCRETE SPECIFICATIONS

NOTE:

1. ALL SITE CONSTRUCTION SHALL BE PER CURRENT UFC AND SHA STANDARDS & SPECIFICATIONS. IN CASE OF CONFLICT BETWEEN SHA AND UFC, THE HIGHER STANDARD SHALL APPLY.

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	CONCEPT SUBMISSION	07/09/13	

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STATE OF MARYLAND Paul David Hoover REG. No. 19185 REGISTERED PROFESSIONAL ENGINEER
1/26/2015

DES SNH DRW SNH
REVIEWED BY HAC
PM/DM
CHIEF ENG/ARCH

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND WASHINGTON
IPT ~ PWD
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CARDEROCK
PROTOTYPE MATERIALS STORAGE FACILITY
SITE DETAILS

CODE ID. NO. 80091 SIZE D
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