DUNBAR MIDDLE SCHOOL TENNIS COURTS SITE PLAN

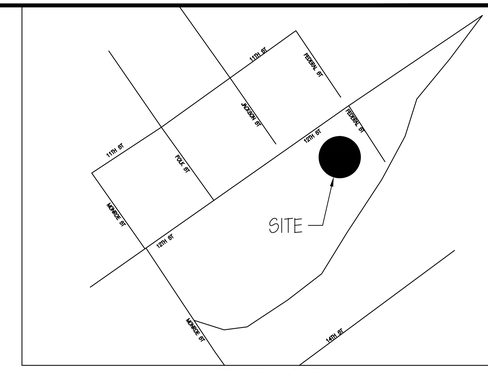
CITY OF LYNCHBURG, VIRGINIA

SITE NOTES:

1. DEVELOPER:
   CITY OF LYNCHBURG
   LYNCHBURG CITY SCHOOLS
   915 COURT ST
   LYNCHBURG, VA 24504
2. SITE INFORMATION:

TAX MAP #:	SITE ADDRESS	ZONING	OWNER
025-03-001	800 12TH STREET	R-3	CITY OF LYNCHBURG

3. SETBACKS:
   FRONT: 30'
   SIDE: 8'
   REAR: 30'
4. PROPOSED USE: TENNIS COURTS
5. CONTRACTOR TO CONTACT CITY CONSTRUCTION COORDINATOR AND MISS UTILITY (811) 48 HOURS IN ADVANCE OF ANY CONSTRUCTION ACTIVITY.
6. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST CITY OF LYNCHBURG SPECIFICATIONS AND STANDARD DETAILS.
7. CONTRACTOR TO FIELD VERIFY ALL INVERTS AND CONNECTION POINTS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. IF POTENTIAL CONFLICTS ARE DETECTED, CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY.
8. TOPOGRAPHIC INFORMATION IS BASED ON CITY GIS AND TOPOGRAPHIC SURVEY BY PERKINS & ORRISON, INC DATE 04/17/14.
9. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES THAT OCCUR BY HIS/HER FAILURE TO LOCATE OR PRESERVE THESE UTILITIES. IF, DURING CONSTRUCTION, THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN THOSE SHOWN ON THE PLANS HE/SHE SHOULD NOTIFY THE ENGINEER AND TAKE NECESSARY AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUANCE OF SERVICE.
10. DISPOSE OF TREES, STUMPS AND OTHER DEBRIS OFF SITE.
11. ANY DISCREPANCIES FOUND BETWEEN THE DRAWINGS AND SITE CONDITIONS OR ANY DISCREPANCIES OR AMBIGUITIES IN THE DRAWINGS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER. WORK DONE BY THE CONTRACTOR WITHOUT DIRECTION AFTER THE DISCOVERY OF SUCH INCONSISTENCIES SHALL BE DONE AT THE CONTRACTOR'S RISK.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL NECESSARY PERMITS BEFORE THE START OF CONSTRUCTION.
13. THE SITE IS IN FLOOD PLAIN ZONE "UNSHADED X" PER FEMA MAP PANEL# 5100930042D DATED 06/03/2008.
14. DIMENSIONS ARE FROM THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
15. ALL PAVING AND CONCRETE FLATWORK SHALL BE AS PER APPLICABLE SECTIONS OF THE VDOT ROAD AND BRIDGE STANDARDS AND SPECIFICATIONS AND THE CITY OF LYNCHBURG STANDARDS AND SPECIFICATIONS.
16. ALL FILLS TO BE PLACED IN 8" LOOSE LIFTS AND COMPACTED TO 95% STD. PROCTOR.
17. ALL DISTURBED AREAS TO RECEIVE TEMPORARY SEEDING, PERMANENT SEEDING AND MULCH.
18. CONTRACTOR TO PROVIDE THE CITY THE NAME AND CERTIFICATION NUMBER OF THE RESPONSIBLE LAND DISTURBER PRIOR TO ANY LAND DISTURBING ACTIVITY.
19. A PRE-CONSTRUCTION CONFERENCE WITH THE CERTIFIED RESPONSIBLE LAND DISTURBER AND THE DESIGNER WILL BE REQUIRED PRIOR TO THE ISSUANCE OF THE LAND-DISTURBING PERMIT. THE RESPONSIBLE LAND DISTURBER SHOULD BE PREPARED TO PROVIDE HIS CERTIFICATION NUMBER AT THIS MEETING.
20. THE FOLLOWING MUST BE COMPLETE PRIOR TO SCHEDULING THE PRE-CONSTRUCTION CONFERENCE:
    THE LIMITS OF CLEARING AND GRADING SHOULD BE CLEARLY MARKED.
    A LAND DISTURBANCE BOND MUST BE SUBMITTED.
    THE STORMWATER MAINTENANCE AGREEMENT MUST BE RECORDED AND SUBMITTED.
21. ANY EXTERIOR LIGHTING SHALL BE GLARE SHIELDED AND NON-DIRECTIONAL.
22. SEE ARCHITECTURAL PLAN FOR ACTUAL BUILDING DIMENSIONS, UTILITY CONNECTION POINTS, AND DOWNSPOUT LOCATIONS.
23. NO SITE, LOGGING, GRUBBING OR GRADING IS PERMITTED PRIOR TO ISSUANCE OF A LAND DISTURBING PERMIT. NO BURNING OF ANY DEBRIS WITHOUT PRIOR APPROVAL FROM THE FIRE MARSHALL'S OFFICE.
24. ALL SITE LIGHTING SHALL BE GLARE SHIELDED AND NON DIRECTIONAL.
25. THE PROPOSED TENNIS COURTS ARE A PUBLIC USE AND ARE PERMITTED BY RIGHT IN ACCORDANCE WITH SECTION 36.1-67.1, PUBLIC USES OF THE ZONING ORDINANCE.
26. THE SITE BALANCES. NO DISTURBANCE OF OFFSITE AREAS IS ANTICIPATED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE QUANTITIES OF CUT AND FILL FOR EARTHWORK. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR NOTIFYING THE CITY IF ANY OFFSITE AREAS ARE TO BE DISTURBED FOR EITHER BORROW AREAS, WASTE AREAS OR BOTH. SUCH BORROW OR WASTE AREAS SHALL BE APPROVED, PERMITTED SITES. ANY PERMITS ASSOCIATED WITH ANY OFFSITE CONSTRUCTION ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.



VICINITY MAP

NTS

BOUNDARY INSERT

SCALE: 1"=100'

LEGEND

EXISTING	NEW	DESCRIPTION
		BUILDING WALL
		CONC. WALKS
1340	1340	CONTOURS
×1350.6		SPOT ELEVATION
		STORM SEWER
S		SANITARY SEWER & MANHOLES
W	W	WATER LINE, VALVE & FIRE HYDRANT
UE		UNDERGROUND ELECTRIC LINE
OE		OVERHEAD ELECTRIC LINE
G		GAS LINE
		EDGE OF PAVEMENT
		CURB AND GUTTER 25.04A
		REVERSE CURB AND GUTTER 25.04AR
		TRANSITION FROM R-9 TO R-9R
X		FENCE
		TREELINE

ABBREVIATIONS

AB	ANCHOR BLOCK	HOR	HORIZONTAL	GV	GATE VALVE
BLDG	BUILDING	INV	INVERT	HB	HORIZONTAL BEND
BC	BOTTOM FACE OF CURB	IN	INVERT IN	WWM	WELDED WIRE MESH
BM	BENCHMARK	IO	INVERT OUT	W/	WITH
CL	CENTERLINE	MAX	MAXIMUM	WV	WATER VALVE
CL	CLASS	MECH	MECHANICAL		
CMP	CORRUGATED METAL PIPE	MH	MANHOLE		
CO	CLEANOUT	MIN	MINIMUM		
CONC	CONCRETE	PVC	BEGIN VERTICAL CURVE		
DI	DROP INLET	PVC	POLYVINYL CHLORIDE		
DIA	DIAMETER	PVT	END VERTICAL CURVE		
DIP	DUCTILE IRON PIPE	RCP	REINFORCED CONCRETE PIPE		
EA	EACH	SHT	SHEET		
EC	EROSION CONTROL	STR	STRUCTURE		
ELEV	ELEVATION	SW	SIDEWALK		
EP	EDGE OF PAVEMENT	T	TOP		
ES	END SECTION	TBR	TO BE REMOVED		
EX	EXISTING	TC	TOP BACK OF CURB		
FB	FACE OF BUILDING	TYP	TYPICAL		
FF	FINISHED FLOOR ELEVATION	VB	VERTICAL BEND		
FH	FIRE HYDRANT	VDOT	VIRGINIA DEPARTMENT OF TRANSPORTATION		

SHEET INDEX:

SHEET	SHEET NO.	SHEET TITLE
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C-102	3 OF 8	SITE, GRADING AND EROSION & SEDIMENT CONTROL PLAN
C-103	4 OF 8	DETAILS
C-104	5 OF 8	DETAILS
C-105	6 OF 8	DRAINAGE AREAS
C-106	7 OF 8	RETAINING WALL DESIGN
C-107	8 OF 8	RETAINING WALL DETAILS

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CONSULTANTS

COMMONWEALTH OF VIRGINIA
NORMAN B. WALTON JR.
No. 036517
12/5/14
PROFESSIONAL ENGINEER

JOB:

DUNBAR MIDDLE SCHOOL
TENNIS COURTS SITE PLAN

CITY OF LYNCHBURG, VIRGINIA

CLIENT:
LYNCHBURG CITY SCHOOLS

MARK	DATE	DESCRIPTION
4	12/05/14	PER OWNER CHANGES
3	09/11/14	REV PER CITY COMMENTS
2	08/18/14	REV PER CITY COMMENTS
1	07/25/14	PER TRC/OWNER COMMENTS

ISSUE:	04/22/14
CONTOUR INTERVAL:	2'
DESIGNED BY:	MJD/NBW
DRAWN BY:	MJD/NBW
CHECKED BY:	NBW

SHEET TITLE

COVER SHEET

SHEET
C-100

JOB NO.: 14054

SHEET NO 1 OF 8

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SHEET TITLE

EXISTING CONDITIONS

GRAPHIC SCALE
0 20 40
1"=20'

SHEET
C-101

JOB NO.: 14054
SHEET NO 2 OF 8

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EROSION AND SEDIMENT CONTROL LEGEND

3.05	SILT FENCE	SF	—x—
3.07	STORM DRAIN INLET PROTECTION	IP	
3.30	TOPSOILING	TO	—TO—
3.31	TEMPORARY SEEDING	TS	—TS—
3.32	PERMANENT SEEDING	PS	—PS—
3.35	MULCHING	MU	—MU—
3.36	SOIL STABILIZATION BLANKETS & MATTING	BM	—BM—

NOTES:

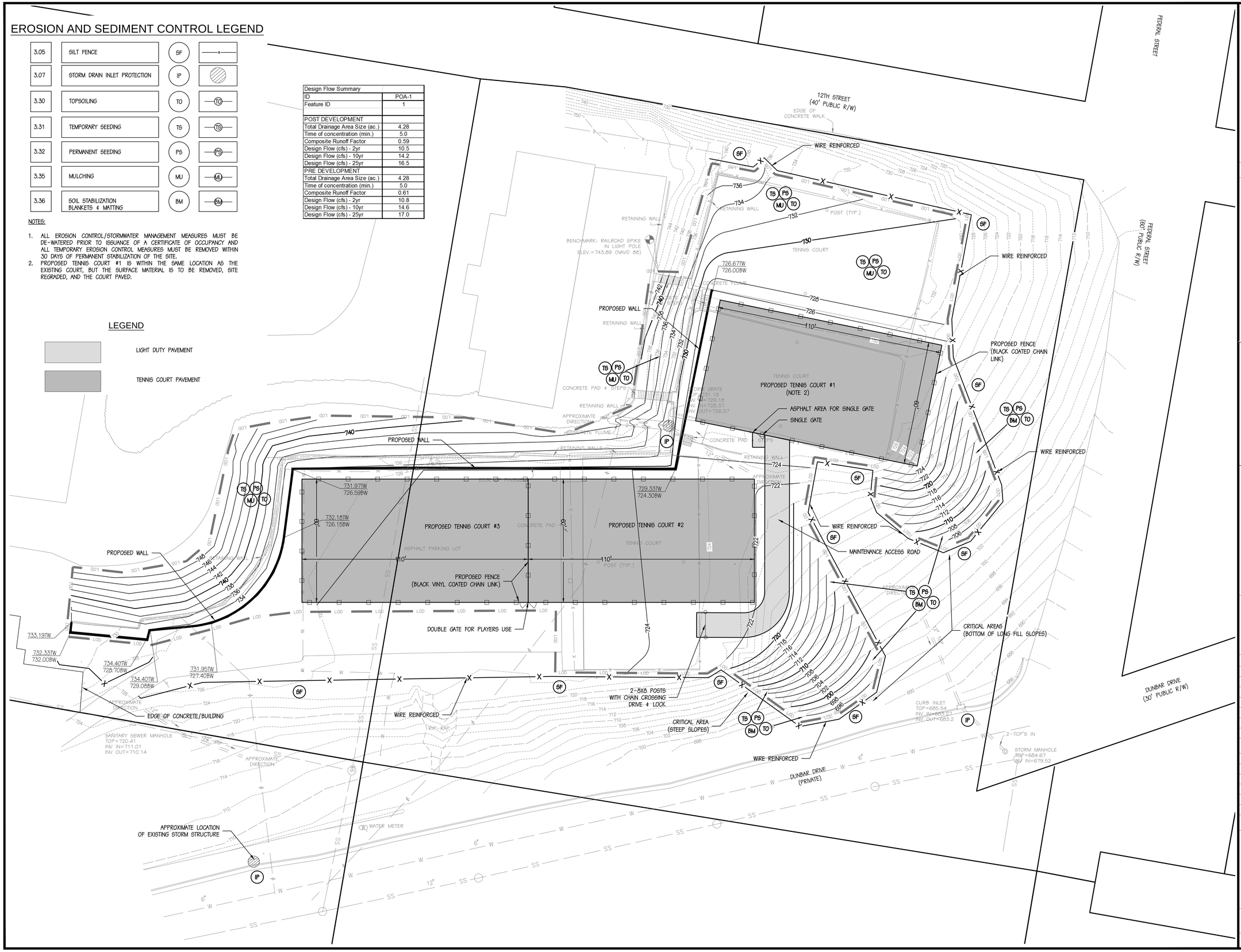
1. ALL EROSION CONTROL/STORMWATER MANAGEMENT MEASURES MUST BE DE-WATERED PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY AND ALL TEMPORARY EROSION CONTROL MEASURES MUST BE REMOVED WITHIN 30 DAYS OF PERMANENT STABILIZATION OF THE SITE.
2. PROPOSED TENNIS COURT #1 IS WITHIN THE SAME LOCATION AS THE EXISTING COURT, BUT THE SURFACE MATERIAL IS TO BE REMOVED, SITE REGRADED, AND THE COURT PAVED.

Design Flow Summary	
ID	POA-1
Feature ID	1
POST DEVELOPMENT	
Total Drainage Area Size (ac.)	4.28
Time of concentration (min.)	5.0
Composite Runoff Factor	0.59
Design Flow (cfs) - 2yr	10.5
Design Flow (cfs) - 10yr	14.2
Design Flow (cfs) - 25yr	16.5
PRE DEVELOPMENT	
Total Drainage Area Size (ac.)	4.28
Time of concentration (min.)	5.0
Composite Runoff Factor	0.61
Design Flow (cfs) - 2yr	10.8
Design Flow (cfs) - 10yr	14.6
Design Flow (cfs) - 25yr	17.0

LEGEND

LIGHT DUTY PAVEMENT

TENNIS COURT PAVEMENT



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SHEET TITLE

SITE, GRADING AND EROSION & SEDIMENT CONTROL PLAN

GRAPHIC SCALE
0 20 40
1"=20'

SHEET
C-102

JOB NO.: 14054
SHEET NO 3 OF 8

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EROSION AND SEDIMENT CONTROL NARRATIVE

DESCRIPTION: THIS PROJECT CONSISTS OF THE RECONSTRUCTION OF THE 3 TENNIS COURTS AND IMPROVEMENTS TO THE EXISTING RETAINING WALL AT DUNBAR MIDDLE SCHOOL. APPROXIMATELY 1.27 ACRES WILL BE DISTURBED WITH THIS PROJECT.

EXISTING SITE CONDITIONS: THE PROPOSED DEVELOPMENT AREA IS PARTIALLY MANAGED GRASS OR TURF AND THE REMAINDER OF THE SITE IS PAVED.

POTENTIAL POLLUTION SOURCES: THERE ARE NO SIGNIFICANT POLLUTION SOURCES. STOCKPILES OF DIRT AND MATERIALS USED IN CONSTRUCTION WILL BE USED AND REMAIN COVERED WHEN NOT IN USE. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS SHALL BE PREVENTED FROM BECOMING A POLLUTANT SOURCE BY SCREENING OUTFALLS, AND PICKING UP DEBRIS DAILY. SEDIMENT AND EROSION CONTROLS WILL BE MAINTAINED AS REQUIRED BY THE VIRGINIA EROSION AND SEDIMENT CONTROL LAWS AND REGULATIONS UNDER THE GUIDANCE OF THE DEPARTMENT OF ENVIRONMENTAL QUALITY.

SEQUENCE OF MAJOR SOIL DISTURBANCE ACTIVITIES:
- INSTALL PERIMETER ESC MEASURES
- INSTALL RETAINING WALL
- DEMOLISH EXISTING CONCRETE AND PAVEMENT
- GRADE ACCESS ROAD AND TENNIS COURTS
- PAVE ROAD AND TENNIS COURTS
- STABILIZE SITE

BIDDING FOR THIS PROJECT IS ANTICIPATED FOR JANUARY 2015. BUILDING CONSTRUCTION IS ESTIMATED TO COMMENCE EARLY SPRING AND TO BE COMPLETED WITHIN 3 MONTHS.

ADJACENT PROPERTIES AND OFFSITE AREAS: THE SITE IS BOUND TO THE NORTH BY 12TH STREET, TO THE EAST BY FEDERAL STREET, TO THE SOUTH BY DUNBAR DR (PRIVATE) AND TO THE WEST BY THE REMAINDER OF THE SCHOOL CAMPUS.

SOILS: UL - URBAN LAND.

RECEIVING WATERS: THE SITE WILL INITIALLY DRAIN INTO THE CITY'S STORM SEWER SYSTEM, WHICH ULTIMATELY DISCHARGES INTO THE CITY'S WASTEWATER TREATMENT FACILITY.

STORMWATER MANAGEMENT: THE SITE WILL REDUCE RUNOFF PER THIS DEVELOPMENT AS THE IMPERVIOUS AREA IS DECREASED FROM 31,177 SQ FT TO 26,718 SQ FT. NEVERTHELESS, THE SITE ULTIMATELY DISCHARGES INTO THE CITY'S WASTEWATER TREATMENT FACILITY AND IS EXEMPT FROM STORMWATER MANAGEMENT REQUIREMENTS.

STORMWATER QUALITY: THE SITE WILL ULTIMATELY DISCHARGE INTO THE CITY'S WASTEWATER TREATMENT FACILITY WHICH EXEMPTS THE SITE FROM STORMWATER QUALITY REQUIREMENTS.

CRITICAL AREAS: THE CRITICAL AREA IS THE LOW SIDE OF THE DEVELOPMENT SITE. THE LOW SIDE OF THE SITE WILL BE PROTECTED WITH SILT FENCE. THE SILT FENCE SHALL BE CHECKED WEEKLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL AND REPAIR OR REPLACED AS NEEDED.

EROSION AND SEDIMENT CONTROL MEASURES: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL DESIGN AND SEDIMENT CONTROL MEASURES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE LATEST VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

STRUCTURAL MEASURES:

SILT FENCE BARRIERS - 3.05 SILT FENCE BARRIERS SHALL BE PLACED AT THE DOWNSTREAM PERIMETER OF THE SITE, AS SHOWN ON THE PLANS. SILT FENCE BARRIERS SHALL BE CHECKED WEEKLY, AND ESPECIALLY AFTER EACH RAINFALL EVENT, TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. IF ANY BARRIER IS DAMAGED DUE TO CONSTRUCTION ACTIVITIES, NATURAL CAUSES, OR ANY OTHER REASON, THE BARRIER SHALL BE REPAIRED OR REPLACED IMMEDIATELY. IF TRASH OR SEDIMENTATION REACHES ONE-HALF THE HEIGHT OF THE BARRIER, THE BARRIER SHALL BE CLEANED, AND RESTORED TO PROPER FUNCTIONING CONDITION.

STORM DRAIN INLET PROTECTION - 3.07
THERE IS AN INLET THAT WILL NEED TO BE PROTECTED DURING CONSTRUCTION. THE CONTRACTOR SHALL INSPECT THESE AFTER EACH RAINFALL EVENT TO ASSURE THEY ARE FUNCTIONING PROPERLY.

VEGETATIVE MEASURES:

TEMPORARY SEEDING - 3.31 THE CONTRACTOR IS TO IMPLEMENT TEMPORARY SEEDING WITHIN 7 DAYS TO AREAS DORMANT FOR 14 DAYS AND WHERE CONSTRUCTION IS NOT COMPLETE. AREAS WHICH FAIL TO ESTABLISH A VEGETATIVE COVER ADEQUATE ENOUGH TO PREVENT RILL EROSION SHOULD BE RESEEDED AS SOON AS THEY ARE IDENTIFIED.

PERMANENT SEEDING - 3.32 ALL AREAS THAT ARE TO REMAIN GRASSED TO BE PERMANENT SEEDED AS SOON AS PRACTICAL. SEEDING REQUIREMENTS ARE INCLUDED IN THE PLANS. AREAS WHERE VEGETATION FAILS TO ESTABLISH SHALL BE RESEEDED IMMEDIATELY. CONTRACTOR TO DETERMINE WHY ORIGINAL SEED FAILED TO ESTABLISH AND CORRECT AS NECESSARY SO RESEEDING WILL GERMINATE.

MULCHING - 3.35 MULCH ALL AREAS WHICH RECEIVE TEMPORARY AND/OR PERMANENT SEEDING. INSPECT REGULARLY AND AFTER EACH STORM EVENT. APPLY ADDITIONAL MULCH TO ERODED AREAS. INSPECT MATS AND NETTING AFTER EACH RAINFALL AND REINSTALL AS NEEDED DUE TO BLOW-OUT OR BREAKAGE. CONTINUE TO INSPECT UNTIL GRASSES ARE ESTABLISHED.

SOIL STABILIZATION BLANKETS & MATTING - 3.36 ALL SOIL STABILIZATION BLANKETS AND MATTING SHOULD BE INSPECTED PERIODICALLY FOLLOWING INSTALLATION, PARTICULARLY AFTER RAINSTORMS TO CHECK FOR EROSION AND UNDERMINING. ANY DISLOCATION OR FAILURE SHOULD BE REPAIRED IMMEDIATELY. IF WASHOUTS OR BREAKAGE OCCURS, RE-INSTALL THE MATERIAL AFTER REPAIRING DAMAGE TO THE SLOPE OR DITCH.

MAINTENANCE: ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSPECTED BY THE CONTRACTOR ON A REGULAR BASIS TO ASSURE THEY ARE WORKING PROPERLY. CORRECTIONS SHALL BE MADE AS NECESSARY TO ASSURE PROPER OPERATION OF ALL MEASURES. MAINTAIN MEASURES AS NOTED IN THE STRUCTURAL MEASURES SECTION. ALL EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT MEASURES MUST BE DE-WATERED PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY AND ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES MUST BE REMOVED WITHIN 30 DAYS OF PERMANENT STABILIZATION OF THE SITE.

EROSION AND SEDIMENT CONTROL GENERAL NOTES:

ES-1) UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS VR 625-02-00 EROSION AND SEDIMENT CONTROL REGULATIONS.
ES-2) THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRECONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.
ES-3) A LAND DISTURBANCE PERMIT IS REQUIRED PRIOR TO INITIATING ANY SITE WORK.
ES-4) A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
ES-5) EROSION AND SEDIMENT CONTROLS SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND DISTURBING ACTIVITY (MS-4). EARTHEN STRUCTURES SHALL BE SEEDED IMMEDIATELY UPON INSTALLATION (MS-5).
ES-6) THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.
ES-7) PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN 7 DAYS AFTER FINAL GRADE IS REACHED (MS-1).
ES-8) ALL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES (MS-2).
ES-9) ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION, OR AFTER THE MEASURES ARE NO LONGER NEEDED (MS-18).
ES-10) SILT FENCE SHALL BE CLEANED OUT WHEN SEDIMENT REACHES ONE HALF THE HEIGHT OF THE BARRIER AND WHENEVER DIRECTED BY THE CITY EROSION AND SEDIMENT CONTROL OFFICIAL. SEDIMENT SHALL BE IMMEDIATELY STABILIZED UP GRADIENT OF EROSION AND SEDIMENT CONTROL MEASURES.
ES-11) ALL MEASURES SHALL BE UTILIZED AND CONTINUOUSLY MAINTAINED DURING THE CONSTRUCTION PERIOD UNTIL ALL DISTURBED AND DENUDED AREAS ARE STABILIZED. NO AREA SHALL REMAIN DENUDED FOR MORE THEN THREE CALENDAR DAYS WHEN CONSTRUCTION IS NOT IN PROGRESS.
ES-12) THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES WEEKLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ALL NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.
ES-13) PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION AND SEDIMENT CONTROL PLAN TO THE LOCAL PLAN APPROVING AUTHORITY.
ES-14) ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
ES-15) DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.
ES-16) ALL EROSION CONTROL/STORMWATER MANAGEMENT MEASURES MUST BE DE-WATERED PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
ES-17) THE LIMITS OF CLEARING AND GRADING SHOULD BE MARKED ON THE SITE PRIOR TO THE PRE-CONSTRUCTION CONFERENCE.
ES-18) NO SITE WORK, LOGGING, GRUBBING OR GRADING IS PERMITTED PRIOR TO ISSUANCE OF A LAND DISTURBING PERMIT. NO BURNING OF ANY DEBRIS WITHOUT PRIOR APPROVAL FROM THE FIRE MARSHAL'S OFFICE.
ES-19) A PRE-CONSTRUCTION CONFERENCE WITH THE OWNER OR THEIR AGENT, THE CERTIFIED RESPONSIBLE LAND DISTURBER AND THE DESIGNER WILL BE REQUIRED PRIOR TO THE ISSUANCE OF THE LAND-DISTURBING PERMIT. THE RESPONSIBLE LAND DISTURBER SHOULD BE PREPARED TO PROVIDE HIS CERTIFICATION NUMBER AT THIS MEETING.
ES-20) A LAND DISTURBANCE BOND MUST BE SUBMITTED FOR THE PROJECT PRIOR TO THE PRE-CONSTRUCTION CONFERENCE.
ES-22) PRIOR TO OBTAINING A LAND DISTURBANCE PERMIT, THE LIMITS OF CLEARING AND GRADING SHALL BE STAKED, A PRE-CONSTRUCTION MEETING WILL BE HELD ON SITE WITH THE CITY, DEVELOPER/OWNER, CONTRACTOR(S), RLD AND ENGINEER AND A LAND DISTURBANCE BOND/LETTER OF CREDIT MUST BE SUBMITTED TO THE CITY.
ES-23) A SOIL TEST IS REQUIRED PRIOR TO FINAL STABILIZATION TO DETERMINE FERTILIZER APPLICATION RATES FOR THE ESTABLISHMENT OF GRASS ON THE SITE. PLEASE CONTACT VIRGINIA COOPERATIVE EXTENSION OR A GEOTECHNICAL FIRM (WITH SOIL TESTING FACILITIES) TO OBTAIN A SOILS REPORT FOR NUTRIENT APPLICATION REQUIREMENTS.

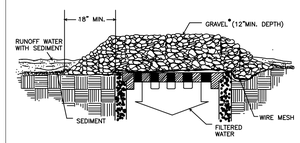
SITE SPECIFIC SEEDING MIXTURES FOR PIEDMONT AREA

MINIMUM CARE LAWN	TOTAL LBS. PER ACRE
-COMMERCIAL OR RESIDENTIAL	175-200 LBS.
- KENTUCKY 31 OR TURF-TYPE TALL FESCUE	95-100%
- IMPROVED PERENNAL RYEGRASS	0-5%
- KENTUCKY BLUEGRASS	0-5%
HIGH-MAINTENANCE LAWN	200-250 LBS.
- KENTUCKY 31 OR TURF-TYPE TALL FESCUE	100%
GENERAL SLOPE (3:1) OR LESS	
- KENTUCKY 31 FESCUE	128 LBS.
- RED TOP GRASS	2 LBS.
- SEASONAL NURSE CROP*	20 LBS.
	150 LBS.
LOW-MAINTENANCE SLOPE (STEEPER THAN 3:1)	
- KENTUCKY 31 FESCUE	108 LBS.
- RED TOP GRASS	2 LBS.
- SEASONAL NURSE CROP*	20 LBS.
- CROWNVETCH**	150 LBS.

*USE SEASONAL NURSE CROP IN ACCORDANCE WITH SEEDING DATES AS STATED BELOW:
- FEBRUARY 16TH THROUGH APRIL
- MAY 1ST THROUGH AUGUST 15TH
- AUGUST 16TH THROUGH OCTOBER
- NOVEMBER THROUGH FEBRUARY 15TH

**SUBSTITUTE SERICEA LESPEDEZA FRO CROWNVETCH EAST OF FARMVILLE, VA. (MAY THROUGH SEPTEMBER USE HULLED SERICEA, ALL OTHER PERIODS, USE UNHULLED SERICEA). IF FLATPEA IS USED IN LIEU OF CROWNVETCH, INCREASE RATE TO 30 LBS/ACRE. ALL LEGUME SEED MUST BE PROPERLY INOCULATED. WEEPING LOVEGRASS MAY BE ADDED TO ANY SLOPE OR LOW-MAINTENANCE MIX DURING WARMER SEEDING PERIODS; ADD 10-20 LBS./ACRE IN MIXES.

GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER



SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE.

SOURCE: VA. DSWC PLATE: 3.07-2

CONSTRUCTION OF A SILT FENCE (WITH WIRE SUPPORT)

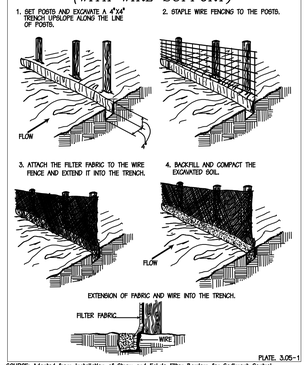
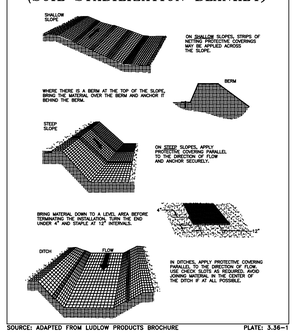


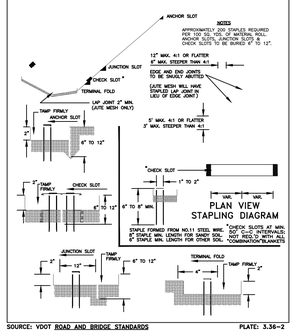
PLATE. 3.05-1
SOURCE: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood & Wyant

TYPICAL ORIENTATION OF TREATMENT – 1 (SOIL STABILIZATION BLANKET)

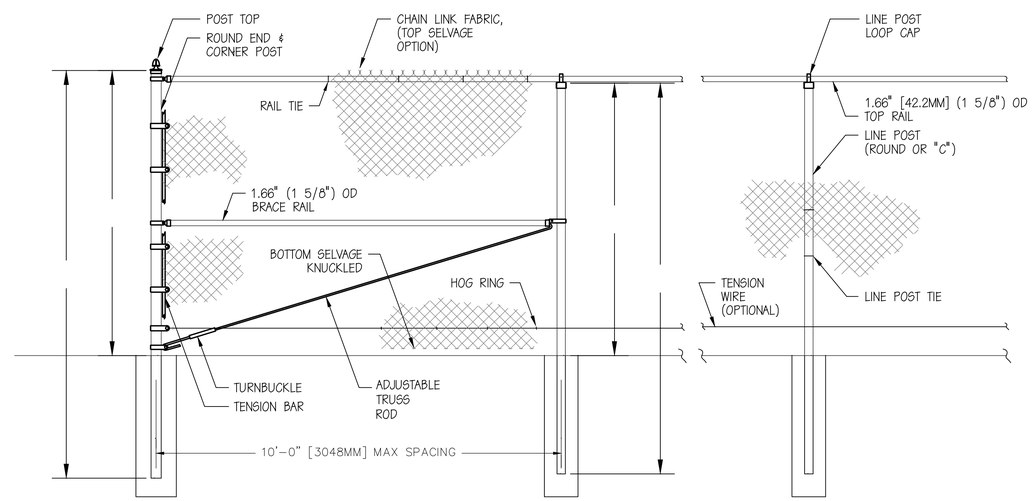


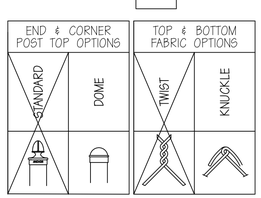
SOURCE: ADAPTED FROM LUDLOW PRODUCTS BROCHURE PLATE: 3.36-1

TYPICAL TREATMENT – 1 (SOIL STABILIZATION BLANKET) INSTALLATION CRITERIA



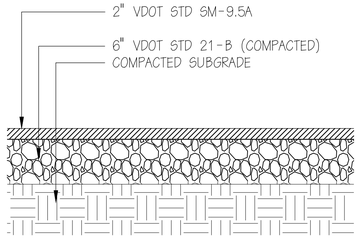
SOURCE: VDOT ROAD AND BRIDGE STANDARDS PLATE: 3.36-2



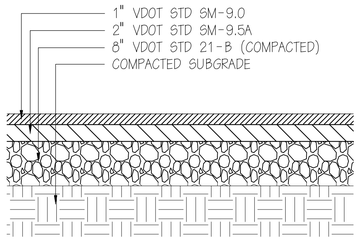


FENCE SECTION ELEVATION - ROUND END POSTS

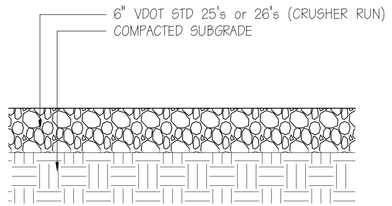
FENCE NOTES:
1. FENCE TO BE 10' HEIGHT
2. FENCE FABRIC SHALL BE BLACK VINYL COATED 9 GAUGE FENCE.
3. TOP RAIL TO BE 1-5/8" RAILS (COATED)
4. 4" Φ TERMINAL POSTS (COATED
5. 3" Φ LINE POSTS @ 10' O-C (EVENLY SPACED)
6. FOOTING WIDTH TO BE (4)X POST WIDTH. MINIMUM DEPTH 42"
7. GATES SHALL BE 7' X 4' WELDED WITH LOCKABLE LATCHES
8. TRANSOM OVERTOP 7' GATE TO 10' HEIGHT WITH TOPRAIL



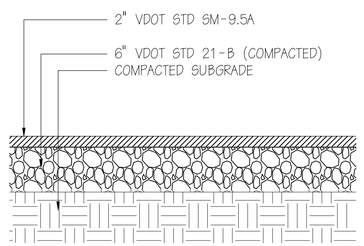
LIGHT DUTY PAVEMENT SECTION
NOT TO SCALE
NOTE: AGGREGATE BASE #21B TO BE PRIMED AND SEALED



TENNIS COURT PAVEMENT SECTION
NOT TO SCALE



MAINTENANCE ACCESS ROAD
NOT TO SCALE



MAINTENANCE ACCESS ROAD BID ALTERNATE
NOT TO SCALE
NOTE: AGGREGATE BASE #21B TO BE PRIMED AND SEALED

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NORMAN B. WALTON JR.
No. 036517
12/5/14
PROFESSIONAL ENGINEER

JOB:

DUNBAR MIDDLE SCHOOL
TENNIS COURTS SITE PLAN

CITY OF LYNCHBURG, VIRGINIA

CLIENT:
LYNCHBURG CITY SCHOOLS

MARK	DATE	DESCRIPTION
4	12/05/14	PER OWNER CHANGES
3	09/11/14	REV PER CITY COMMENTS
2	08/18/14	REV PER CITY COMMENTS
1	07/25/14	PER TRC/OWNER COMMENTS

ISSUE:	04/22/14
CONTOUR INTERVAL:	2'
DESIGNED BY:	MJD/NBW
DRAWN BY:	MJD/NBW
CHECKED BY:	NBW

SHEET TITLE

DETAILS

SHEET C-103

JOB NO.: 14054 SHEET NO 4 OF 8

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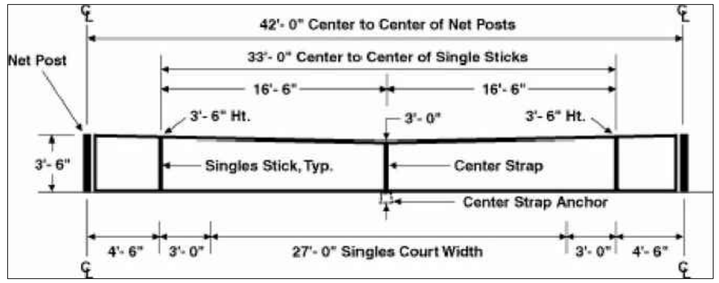
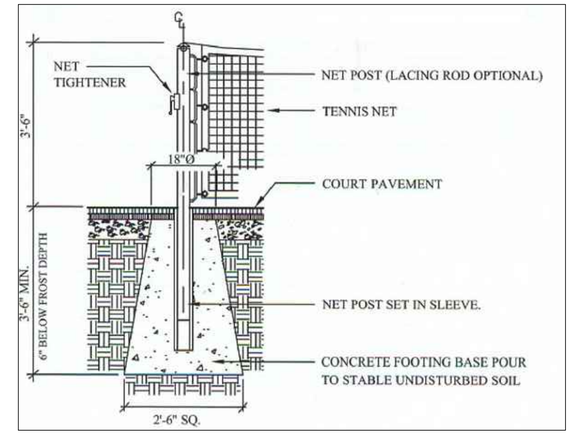


TENNIS COURT NET

NOT TO SCALE

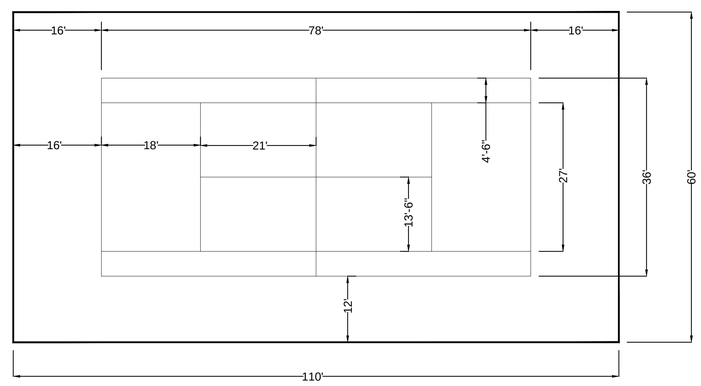
TENNIS COURT NET AND NET POSTS NOTES (PER ITF):

1. NET SHALL BE SUSPENDED BY A METAL CABLE ATTACHED TO TWO NET POSTS SEPARATED 42 FEET APART AT A HEIGHT OF 3.5 FEET.
2. NET SHALL FULLY EXTEND BETWEEN BOTH POSTS WITH NO GAPS AND BE MADE OF SUFFICIENTLY SMALL MESH TO ENSURE A BALL CANNOT PASS THROUGH.
3. THE HEIGHT OF THE NET SHALL BE 3 FEET AT THE CENTER, WHERE IT SHALL BE HELD DOWN TIGHTLY BY A COMPLETELY WHITE STRAP.
4. A COMPLETELY WHITE BAND SHALL COVER THE METAL CABLE AND THE TOP OF THE NET.
5. MAXIMUM DIAMETER OF THE METAL CABLE SHALL BE 1/3 INCH.
6. MAXIMUM WIDTH OF THE STRAP SHALL BE 2 INCHES.
7. BAND SHALL BE BETWEEN 2 AND 2.5 INCHES DEEP ON EACH SIDE.
8. NET POSTS SHALL NOT BE MORE THAN 6 INCHES SQUARE OR IN DIAMETER.
9. SINGLES STICKS SHALL NOT BE MORE THAN 3 INCHES SQUARE OR IN DIAMTER.
10. NET POSTS AND SINGLES STICKS SHALL NOT BE MORE THAN 1 INCH ABOVE THE TOP OF THE NET CORD.



TENNIS COURT NET POST

NOT TO SCALE



TENNIS COURT # 1

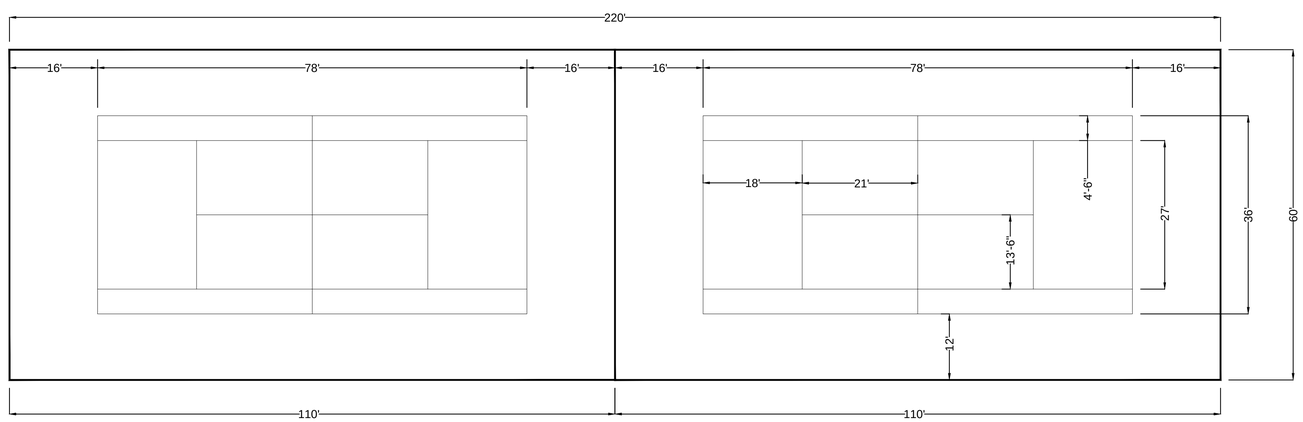
NOT TO SCALE

TENNIS COURT SURFACE NOTES:

1. COURT EXTERIOR AND INTERIOR FINISH COATING SHALL BE 100% ACRYLIC TRU-FLEX SMOOTH COLORED FINISH COAT (TRC-08X) INSL-X BY BENJAMIN MOORE, OR EQUIVALENT. PROVIDE COLOR PALETTE TO OWNER FOR INTERIOR COURT COLOR AND EXTERIOR COURT COLOR.
2. LINE MARKINGS SHALL BE 100% ACRYLIC TRU-FLEX LINE MARKING PAINT (TRC-038), INSL-X BY BENJAMIN MOORE, OR EQUIVALENT. COLOR SHALL BE WHITE.

TENNIS COURT LINE MARKING NOTES (PER ITF):

1. EACH BASELINE SHALL BE DIVIDED IN HALF BY A CENTER MARK, 4 INCHES IN LENGTH WHICH SHALL BE DRAWN INSIDE THE COURT PARALLEL WITH THE SINGLES SIDELINES.
2. THE CENTER SERVICE LINE AND CENTER MARK SHALL BE 2 INCHES WIDE.
3. ALL OTHER LINES OF THE COURT SHALL BE BETWEEN 1 AND 2 INCHES WIDE, EXCEPT THE BASE LINE WHICH MAY BE UP TO 4 INCHES WIDE.
4. ALL COURT MEASUREMENTS SHALL BE MADE TO OUTSIDE OF THE LINES AND ALL LINES OF THE COURT SHALL BE OF THE SAME COLOR CLEARLY CONTRASTING WITH THE COLOR OF THE SURFACE.



TENNIS COURT # 2 & 3

NOT TO SCALE

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JOB:

DUNBAR MIDDLE SCHOOL
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CITY OF LYNCHBURG, VIRGINIA

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ISSUE:	04/22/14
CONTOUR INTERVAL:	2'
DESIGNED BY:	MJD/NBW
DRAWN BY:	MJD/NBW
CHECKED BY:	NBW

SHEET TITLE

TENNIS COURT DETAILS

SHEET
C-104

JOB NO.: 14054

SHEET NO 5 OF 8

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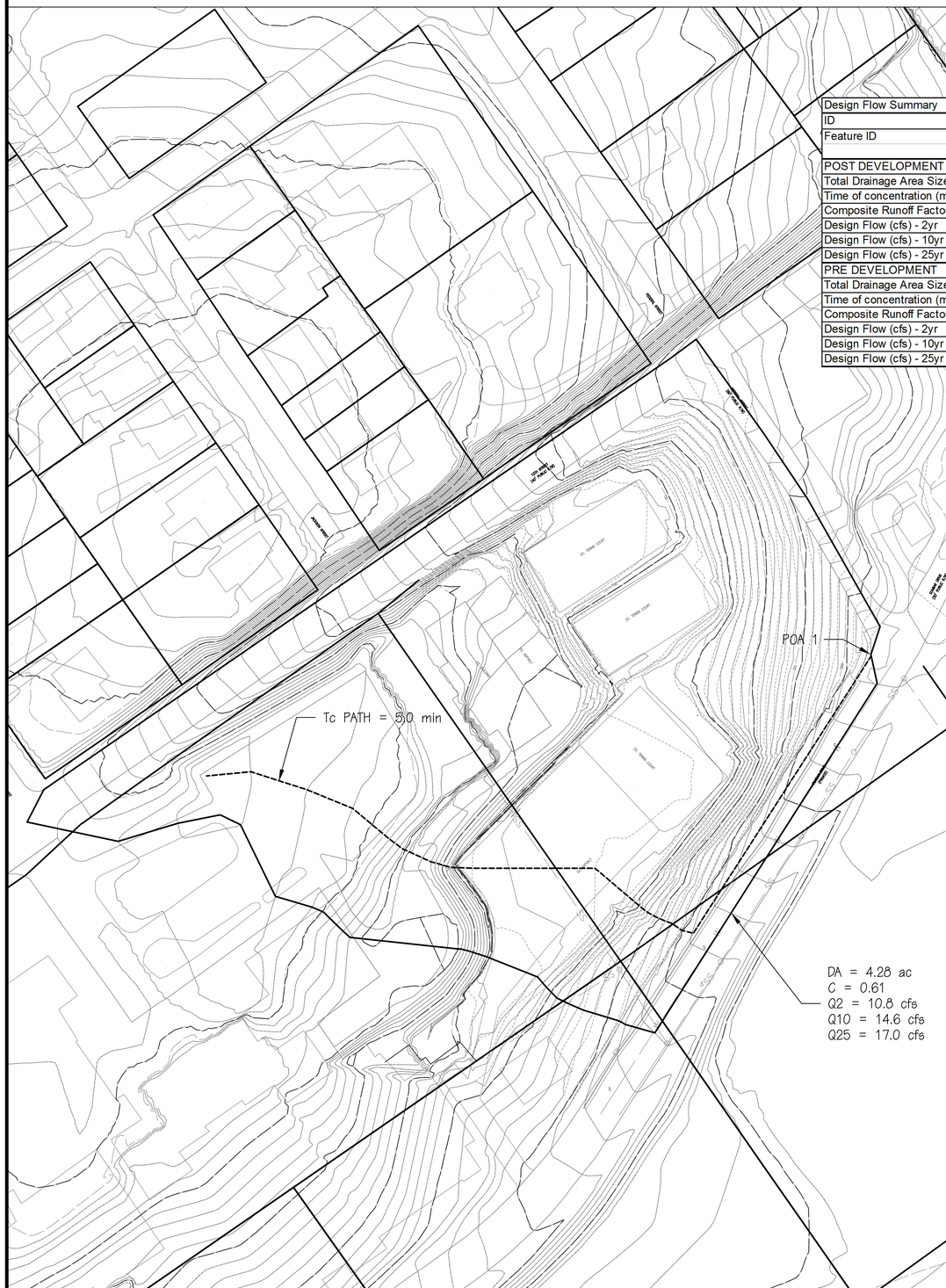
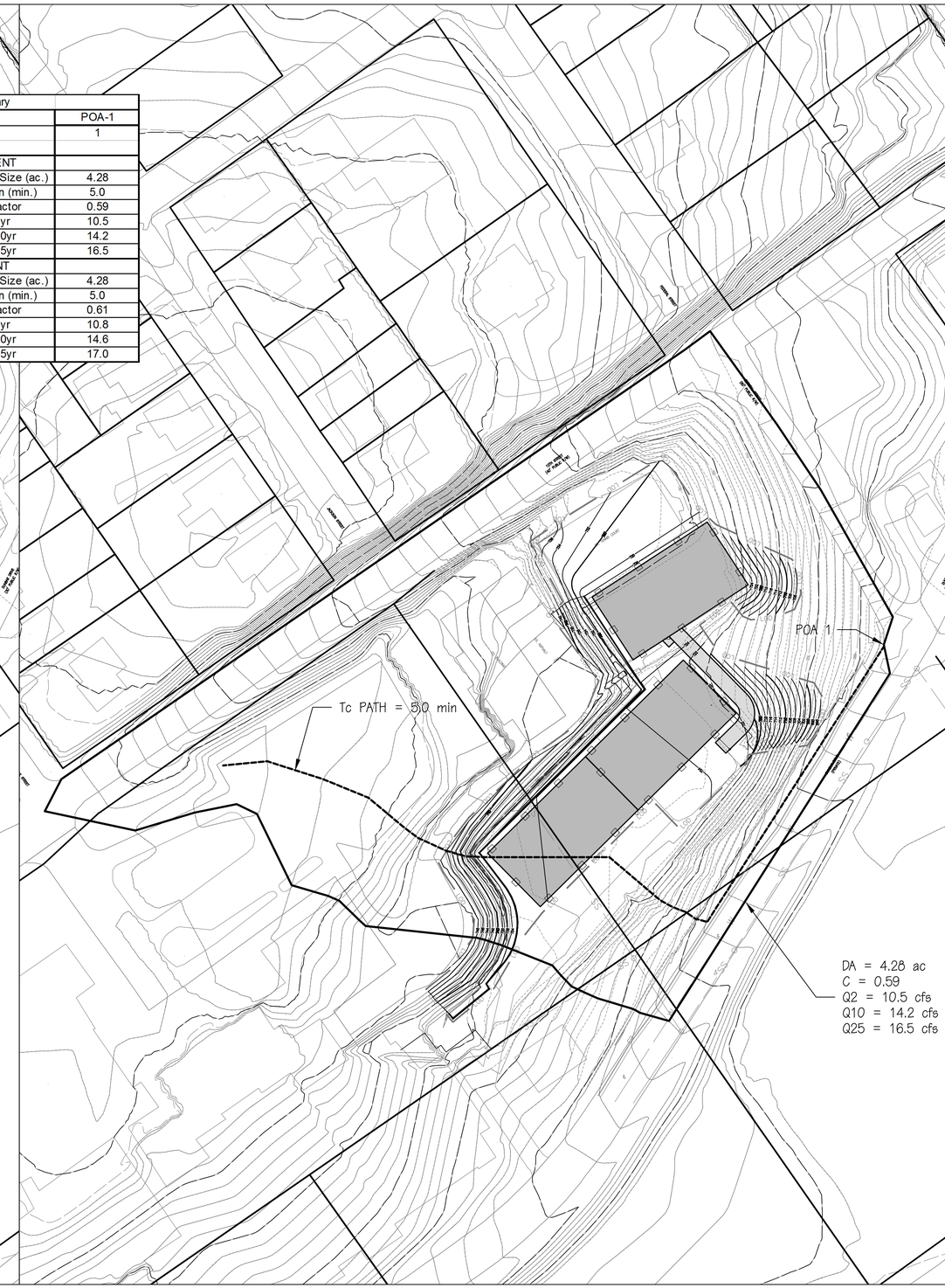
Design Flow Summary	
ID	POA-1
Feature ID	1
POST DEVELOPMENT	
Total Drainage Area Size (ac.)	4.28
Time of concentration (min.)	5.0
Composite Runoff Factor	0.59
Design Flow (cfs) - 2yr	10.5
Design Flow (cfs) - 10yr	14.2
Design Flow (cfs) - 25yr	16.5
PRE DEVELOPMENT	
Total Drainage Area Size (ac.)	4.28
Time of concentration (min.)	5.0
Composite Runoff Factor	0.61
Design Flow (cfs) - 2yr	10.8
Design Flow (cfs) - 10yr	14.6
Design Flow (cfs) - 25yr	17.0



PRE-DEVELOPMENT DRAINAGE AREA



POST-DEVELOPMENT DRAINAGE AREA

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ISSUE:	04/22/14
CONTOUR INTERVAL:	2'
DESIGNED BY:	MJD/NBW
DRAWN BY:	MJD/NBW
CHECKED BY:	NBW

SHEET TITLE

DRAINAGE AREAS

GRAPHIC SCALE
0 50 100
1"=50'

SHEET
C-105

JOB NO.: 14054
SHEET NO 6 OF 8

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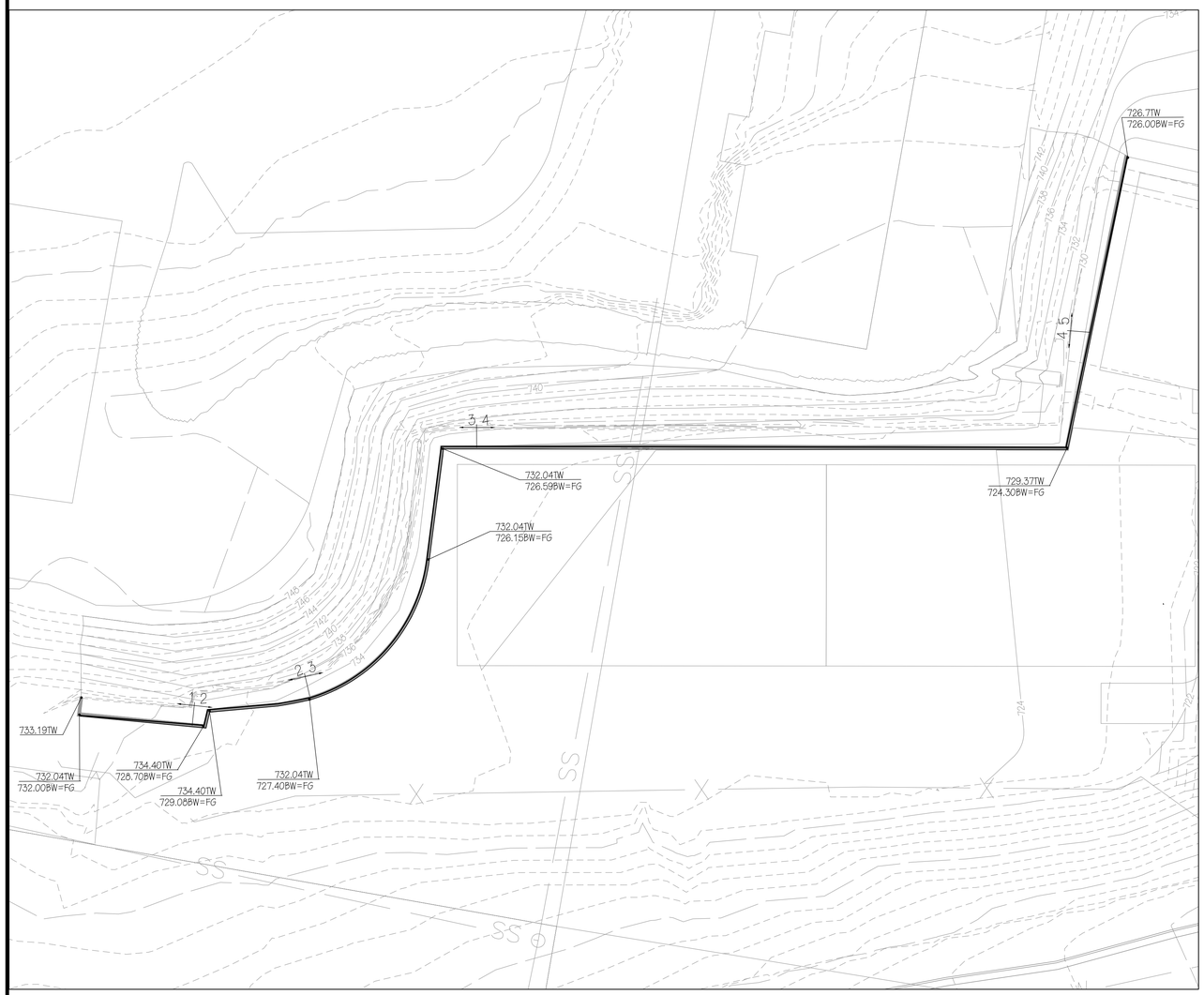
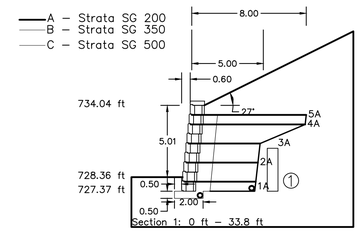


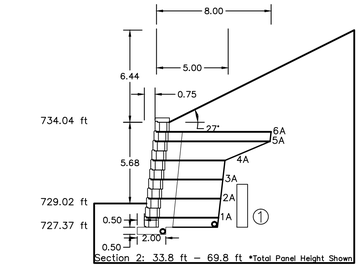
NOTES:

1. THIS PLAN DESIGED WITH CORNERSTON CLASSIC BLOCK WITH STRATA SG 200 GRID. CONTRACTOR MAY USE ALTERNATE BLACK AND GRID. THE DESIGN OF SUCH SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

GRAPHIC SCALE
0 20 40
1"=20'



1 Setback distance is approximate and does not consider curves, radii or corners.
2 Geogrids placed in the slope above the wall are used in the internal compound stability calculations and in the contributory area calculation of the top wall geogrid.
3 Place the geogrid, in the reinforced base, at the height of one block from the bottom of the trench.



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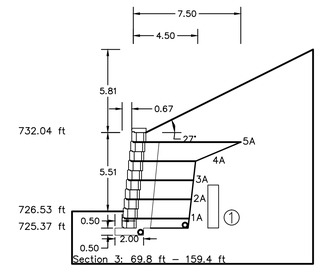

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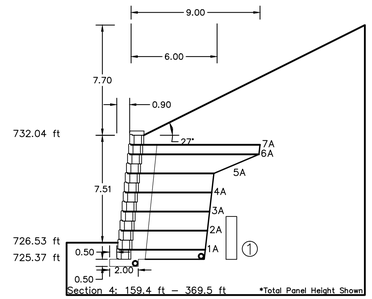
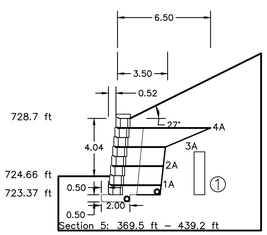


1 Setback distance is approximate and does not consider curves, radii or corners.
2 Geogrids placed in the slope above the wall are used in the internal compound stability calculations and in the contributory area calculation of the top wall geogrid.
3 Place the geogrid, in the reinforced base, at the height of one block from the bottom of the trench.

GRAPHIC SCALE
0 5 10
HORIZONTAL 1"=5'
VERTICAL 1"=10'



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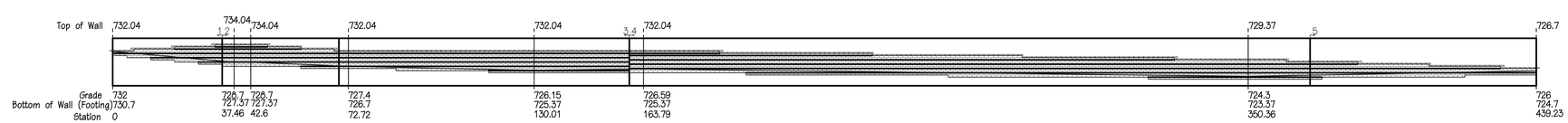
2 Geogrids placed in the slope above the wall are used in the internal compound stability calculations and in the contributory area calculation of the top wall geogrid.
3 Place the geogrid, in the reinforced base, at the height of one block from the bottom of the trench.

(1) APPROXIMATE LOCATION OF EXISTING RETAINING WALL TO REMAIN.



Section	1	2	3	4	5
Top	734.04	734.04	732.04	732.04	728.7
Bottom	727.37	727.37	725.37	725.37	723.37
Section Cut	33.79	33.79	159.39	159.39	369.45
Station End	33.79	69.78	159.39	369.45	439.23

GRAPHIC SCALE
0 20 40
HORIZONTAL 1"=20'
VERTICAL 1"=10'

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ISSUE:	04/22/14
CONTOUR INTERVAL:	2'
DESIGNED BY:	MJD/NBW
DRAWN BY:	MJD/NBW
CHECKED BY:	NBW

SHEET TITLE

RETAINING WALL DESIGN

SHEET
C-106

JOB NO.: 14054
SHEET NO. 7 of 8

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CONSTRUCTION

INSPECTION

A. THE OWNER IS RESPONSIBLE FOR VERIFYING THAT THE MATERIALS SUPPLIED BY THE CONTRACTOR MEET ALL THE REQUIREMENTS OF THE SPECIFICATION. THIS INCLUDES ALL SUBMITTALS FOR MATERIALS AND DESIGN, QUALIFICATIONS AND PROPER INSTALLATION OF WALL SYSTEM.

B. CONTRACTOR'S FIELD CONSTRUCTION SUPERVISOR SHALL HAVE DEMONSTRATED EXPERIENCE AND BE QUALIFIED TO DIRECT ALL WORK AT THE SITE.

EXCAVATION

A. CONTRACTOR SHALL EXCAVATE TO THE LINES AND GRADES SHOWN ON THE PROJECT GRADING PLANS. CONTRACTOR SHALL TAKE PRECAUTIONS TO MINIMIZE OVER-EXCAVATION. OVER-EXCAVATION SHALL BE FILLED WITH COMPACTED INFILL MATERIAL, OR AS DIRECTED BY THE WALL DESIGN ENGINEER, AT THE CONTRACTOR'S EXPENSE.

B. CONTRACTOR SHALL VERIFY LOCATION OF EXISTING STRUCTURES AND UTILITIES PRIOR TO EXCAVATION. CONTRACTOR SHALL ENSURE ALL SURROUNDING STRUCTURES ARE PROTECTED FROM THE EFFECTS OF WALL EXCAVATION. EXCAVATION SUPPORT, IF REQUIRED, IS THE RESPONSIBILITY OF THE CONTRACTOR.

FOUNDATION PREPARATION

A. FOLLOWING THE EXCAVATION, THE FOUNDATION SOIL SHALL BE EXAMINED BY THE OWNER'S ENGINEER TO ASSURE ACTUAL FOUNDATION SOIL STRENGTH MEETS OR EXCEEDS THE ASSUMED DESIGN BEARING STRENGTH. SOILS NOT MEETING THE REQUIRED STRENGTH SHALL BE REMOVED AND REPLACED WITH INFILL SOILS, AS DIRECTED BY THE OWNER'S GEOTECHNICAL ENGINEER.

B. FOUNDATION SOIL SHALL BE PROOF-ROLLED AND COMPACTED TO 95% STANDARD PROCTOR DENSITY AND INSPECTED BY THE OWNER'S GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF LEVELING PAD MATERIALS.

LEVELING PAD CONSTRUCTION

A. LEVELING PAD SHALL BE PLACED AS SHOWN ON THE FINAL, P.E.-SEALED RETAINING WALL PLANS WITH A MINIMUM THICKNESS OF 6 INCHES. THE LEVELING PAD SHOULD EXTEND LATERALLY AT LEAST A DISTANCE OF 6 INCHES FROM THE TOE AND HEEL OF THE LOWERMOST SRW UNIT.

B. GRANULAR LEVELING PAD MATERIAL SHALL BE COMPACTED TO PROVIDE A FIRM, LEVEL BEARING SURFACE ON WHICH TO PLACE THE FIRST COURSE OF UNITS. WELL-GRADED SAND CAN BE USED TO SMOOTH THE TOP 1/4 INCH TO 1/2 INCH OF THE LEVELING PAD. COMPACTION WILL BE WITH MECHANICAL PLATE COMPACTORS TO ACHIEVE 95% OF MAXIMUM STANDARD PROCTOR DENSITY (ASTM D 698).

SRW UNIT INSTALLATION

A. ALL SRW UNITS SHALL BE INSTALLED AT THE PROPER ELEVATION AND ORIENTATION AS SHOWN ON THE FINAL, P.E.-SEALED WALL PLANS AND DETAILS OR AS DIRECTED BY THE WALL DESIGN ENGINEER. THE SRW UNITS SHALL BE INSTALLED IN GENERAL ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE SPECIFICATIONS AND DRAWINGS SHALL GOVERN IN ANY CONFLICT BETWEEN THE TWO REQUIREMENTS.

B. FIRST COURSE OF SRW UNITS SHALL BE PLACED ON THE LEVELING PAD. THE UNITS SHALL BE LEVELED SIDE-TO-SIDE, FRONT-TO-REAR AND WITH ADJACENT UNITS, AND ALIGNED TO ENSURE INTIMATE CONTACT WITH THE LEVELING PAD. THE FIRST COURSE IS THE MOST IMPORTANT TO ENSURE ACCURATE AND ACCEPTABLE RESULTS. NO GAPS SHALL BE LEFT BETWEEN THE FRONT OF ADJACENT UNITS. ALIGNMENT MAY BE DONE BY MEANS OF A STRING LINE OR OFFSET FROM BASE LINE TO THE BACK OF THE UNITS.

C. ALL EXCESS DEBRIS SHALL BE CLEANED FROM TOP OF UNITS AND THE NEXT COURSE OF UNITS INSTALLED ON TOP OF THE UNITS BELOW.

D. PRIOR TO PLACEMENT OF NEXT COURSE, THE LEVEL AND ALIGNMENT OF THE UNITS SHALL BE CHECKED AND CORRECTED WHERE NEEDED.

E. LAYOUT OF CURVES AND CORNERS SHALL BE INSTALLED IN ACCORDANCE WITH THE WALL PLAN DETAILS OR IN GENERAL ACCORDANCE WITH SRW MANUFACTURER'S INSTALLATION GUIDELINES. WALLS MEETING AT CORNERS SHALL BE INTERLOCKED BY OVERLAPPING SUCCESSIVE COURSES.

F. PROCEDURES C. THROUGH E. SHALL BE REPEATED UNTIL REACHING TOP OF WALL UNITS, JUST BELOW THE HEIGHT OF THE CAP UNITS.

GEOSYNTHETIC REINFORCEMENT PLACEMENT

A. ALL GEOSYNTHETIC REINFORCEMENT SHALL BE INSTALLED AT THE PROPER ELEVATION AND ORIENTATION AS SHOWN ON THE FINAL P.E.-SEALED RETAINING WALL PLAN PROFILES AND DETAILS, OR AS DIRECTED BY THE WALL DESIGN ENGINEER.

B. AT THE ELEVATIONS SHOWN ON THE FINAL PLANS, (AFTER THE UNITS, DRAINAGE MATERIAL AND BACKFILL HAVE BEEN PLACED TO THIS ELEVATION) THE GEOSYNTHETIC REINFORCEMENT SHALL BE LAID HORIZONTALLY ON COMPACTED INFILL AND ON TOP OF THE CONCRETE SRW UNITS, TO WITHIN 1 INCH OF THE FRONT FACE OF THE UNIT BELOW. EMBEDMENT OF THE GEOSYNTHETIC IN THE SRW UNITS SHALL BE CONSISTENT WITH SRW MANUFACTURER'S RECOMMENDATIONS. CORRECT ORIENTATION OF THE GEOSYNTHETIC REINFORCEMENT SHALL BE VERIFIED BY THE CONTRACTOR TO BE IN ACCORDANCE WITH THE GEOSYNTHETIC MANUFACTURER'S RECOMMENDATIONS. THE HIGHEST-STRENGTH DIRECTION OF THE GEOSYNTHETIC MUST BE PERPENDICULAR TO THE WALL FACE.

C. GEOSYNTHETIC REINFORCEMENT LAYERS SHALL BE ONE CONTINUOUS PIECE FOR THEIR ENTIRE EMBEDMENT LENGTH. SPLICING OF THE GEOSYNTHETIC IN THE DESIGN-STRENGTH DIRECTION (PERPENDICULAR TO THE WALL FACE) SHALL NOT BE PERMITTED. ALONG THE LENGTH OF THE WALL, HORIZONTALLY ADJACENT SECTIONS OF GEOSYNTHETIC REINFORCEMENT SHALL BE BUTTED IN A MANNER TO ASSURE 100% COVERAGE PARALLEL TO THE WALL FACE.

D. TRACKED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY ON THE GEOSYNTHETIC REINFORCEMENT. A MINIMUM OF 6 INCHES OF BACKFILL IS REQUIRED PRIOR TO OPERATION OF TRACKED VEHICLES OVER THE GEOSYNTHETIC. TURNING SHOULD BE KEPT TO A MINIMUM. RUBBER-TIRED EQUIPMENT MAY PASS OVER THE GEOSYNTHETIC REINFORCEMENT AT SLOW SPEEDS (LESS THAN 5 MPH).

E. THE GEOSYNTHETIC REINFORCEMENT SHALL BE FREE OF WRINKLES PRIOR TO PLACEMENT OF SOIL FILL. THE NOMINAL TENSION SHALL BE APPLIED TO THE REINFORCEMENT AND SECURED IN PLACE WITH STAPLES, STAKES OR BY HAND TENSIONING UNTIL REINFORCEMENT IS COVERED BY 6 INCHES OF FILL.

DRAINAGE AGGREGATE AND DRAINAGE MATERIAL PLACEMENT

A. DRAINAGE AGGREGATE SHALL BE INSTALLED TO THE LINE, GRADES AND SECTIONS SHOWN ON THE FINAL P.E.-SEALED RETAINING WALL PLANS. DRAINAGE AGGREGATE SHALL BE PLACED TO THE MINIMUM THICKNESS SHOWN ON THE CONSTRUCTION PLANS BETWEEN AND BEHIND UNITS (A MINIMUM OF 1 CUBIC FOOT FOR EACH EXPOSED SQUARE FOOT OF WALL FACE UNLESS OTHERWISE NOTED ON THE FINAL WALL PLANS).

B. DRAINAGE COLLECTION PIPES SHALL BE INSTALLED TO MAINTAIN GRAVITY FLOW OF WATER OUTSIDE THE REINFORCED-SOIL ZONE. THE DRAINAGE COLLECTION PIPE SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON THE FINAL CONSTRUCTION DRAWINGS. THE DRAINAGE COLLECTION PIPE SHALL DAYLIGHT INTO A STORM SEWER OR ALONG A SLOPE, AT AN ELEVATION BELOW THE LOWEST POINT OF THE PIPE WITHIN THE AGGREGATE DRAIN. DRAINAGE LATERALS SHALL BE SPACED AT A MAXIMUM 50-FOOT SPACING ALONG THE WALL FACE.

BACKFILL PLACEMENT

A. THE REINFORCED BACKFILL SHALL BE PLACED AS SHOWN IN THE FINAL WALL PLANS IN THE MAXIMUM COMPACTED LIFT THICKNESS OF 8 INCHES AND SHALL BE COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY (ASTM D 698) AT A MOISTURE CONTENT WITHIN 2% OF OPTIMUM. THE BACKFILL SHALL BE PLACED AND SPREAD IN SUCH A MANNER AS TO ELIMINATE WRINKLES OR MOVEMENT OF THE GEOSYNTHETIC REINFORCEMENT AND THE SRW UNITS.

B. ONLY HAND-OPERATED COMPACTION EQUIPMENT SHALL BE ALLOWED WITHIN 3 FEET OF THE BACK OF THE WALL UNITS. COMPACTION WITHIN THE 3 FEET BEHIND THE WALL UNITS SHALL BE ACHIEVED BY AT LEAST THREE PASSES OF A LIGHTWEIGHT MECHANICAL TAMPER, PLATE, OR ROLLER.

C. AT THE END OF EACH DAY'S OPERATION, THE CONTRACTOR SHALL SLOPE THE LAST LEVEL OF BACKFILL AWAY FROM THE WALL FACING AND REINFORCED BACKFILL TO DIRECT WATER RUNOFF AWAY FROM THE WALL FACE.

D. AT COMPLETION OF WALL CONSTRUCTION, BACKFILL SHALL BE PLACED LEVEL WITH FINAL TOP OF WALL ELEVATION. IF FINAL GRADING, PAVING, LANDSCAPING AND/OR STORM DRAINAGE INSTALLATION ADJACENT TO THE WALL IS NOT PLACED IMMEDIATELY AFTER WALL COMPLETION, TEMPORARY GRADING AND DRAINAGE SHALL BE PROVIDED TO ENSURE WATER RUNOFF IS NOT DIRECTED AT THE WALL NOR ALLOWED TO COLLECT OR POND BEHIND THE WALL UNTIL FINAL CONSTRUCTION ADJACENT TO THE WALL IS COMPLETED.

SRW CAPS

A. SRW CAPS SHALL BE PROPERLY ALIGNED AND GLUED TO UNDERLYING UNITS WITH A FLEXIBLE, HIGH-STRENGTH CONCRETE ADHESIVE. RIGID ADHESIVE OR MORTAR ARE NOT ACCEPTABLE.

B. CAPS SHALL OVERHANG THE TOP COURSE OF UNITS BY 3/4 INCH TO 1 INCH. SLIGHT VARIATION IN OVERHANG IS ALLOWED TO CORRECT ALIGNMENT AT THE TOP OF THE WALL.

CONSTRUCTION ADJACENT TO COMPLETED WALL

A. THE OWNER OR OWNER'S REPRESENTATIVE IS RESPONSIBLE FOR ENSURING THAT CONSTRUCTION BY OTHERS ADJACENT TO THE WALL DOES NOT DISTURB THE WALL OR PLACE TEMPORARY CONSTRUCTION LOADS ON THE WALL THAT EXCEED DESIGN LOADS, INCLUDING LOADS SUCH AS WATER PRESSURE, TEMPORARY GRADES, OR EQUIPMENT LOADING. HEAVY PAVING OR GRADING EQUIPMENT SHALL BE KEPT A MINIMUM OF 3 FEET BEHIND THE BACK OF THE WALL FACE. EQUIPMENT WITH WHEEL LOADS IN EXCESS OF 150 PSF LIVE LOAD SHALL NOT BE OPERATED WITHIN 10 FEET OF THE FACE OF THE RETAINING WALL DURING CONSTRUCTION ADJACENT TO THE WALL. CARE SHOULD BE TAKEN BY THE GENERAL CONTRACTOR TO ENSURE WATER RUNOFF IS DIRECTED AWAY FROM THE WALL STRUCTURE UNTIL FINAL GRADING AND SURFACE DRAINAGE COLLECTION SYSTEMS ARE COMPLETED.

DESIGN PARAMETERS

SOIL

A. THE FOLLOWING SOIL PARAMETERS, AS DETERMINED BY THE OWNER'S GEOTECHNICAL ENGINEER SHALL BE USED FOR THE PREPARATION OF THE FINAL DESIGN:

	UNIT WEIGHT (G) (PCF)	INTERNAL FRICTION ANGLE (F) (DEGREES)	COHESION (C)
REINFORCED FILL	120	27	0
RETAINED SOIL	120	27	0
FOUNDATION SOIL	120	27	0

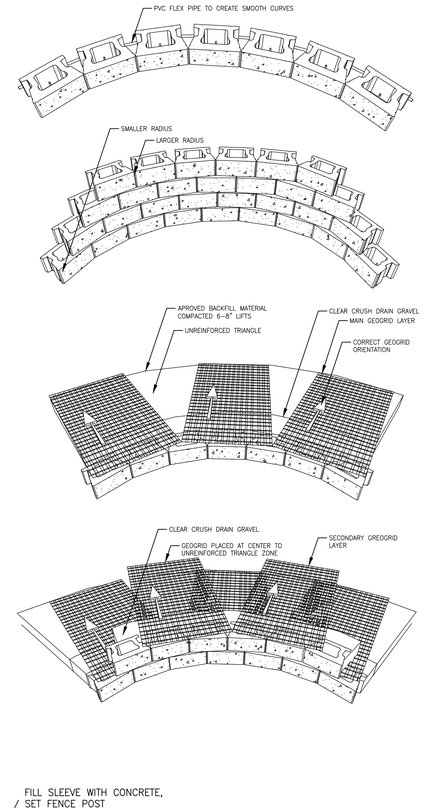
SOIL CLASSIFICATION: SM (SILTY SAND). CLASSIFICATION BASED ON VISUAL INSPECTION OF SOILS, NOT LABARATORY TESTING.

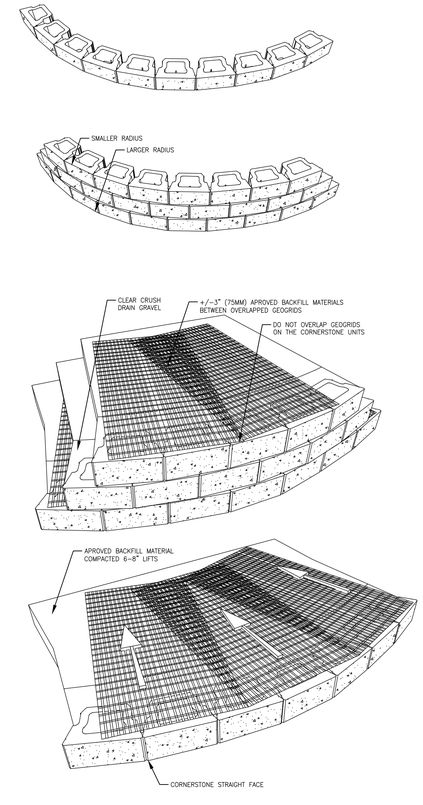
(IF INTERNAL FRICTION ANGLES ARE NOT AVAILABLE FOR THE ABOVE SECTION, THE SPECIFIER CAN PROVIDE THE USCS SOIL TYPE CLASSIFICATION FOR THE REINFORCED, RETAINED, AND FOUNDATION SOILS AND/OR ATTACH THE GEOTECHNICAL INVESTIGATION REPORT FOR THIS PROJECT.)

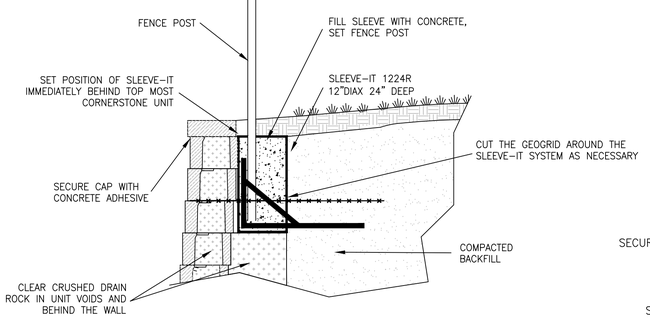
B. SHOULD THE ACTUAL SOIL CONDITIONS OBSERVED DURING CONSTRUCTION DIFFER FROM THOSE ASSUMED FOR THE DESIGN, DESIGN SHALL BE REVIEWED BY THE WALL DESIGN ENGINEER AT THE OWNER'S GEOTECHNICAL ENGINEER'S DIRECTION.

C. THIS WALL WAS DESIGNED USING CORNERSTONE 100 BLOCK WITH STRATA SG200 GEOSYNTHETIC REINFORCEMENT. SHOULD THE MATERIALS CHANGE, THIS DESIGN WILL NEED TO BE RE-EVALUATED BY THE ENGINEER.

D. ANY SOFT, SATURATED SOIL ENCOUNTERED IN SUBGRADE SHALL BE UNDERCUT AND REEPLACED WITH CRUSHED STONE TO STABILIZE THE FOUNDATION SUBGRADE OR AS DIRECTEED BY THE ENGINEER.

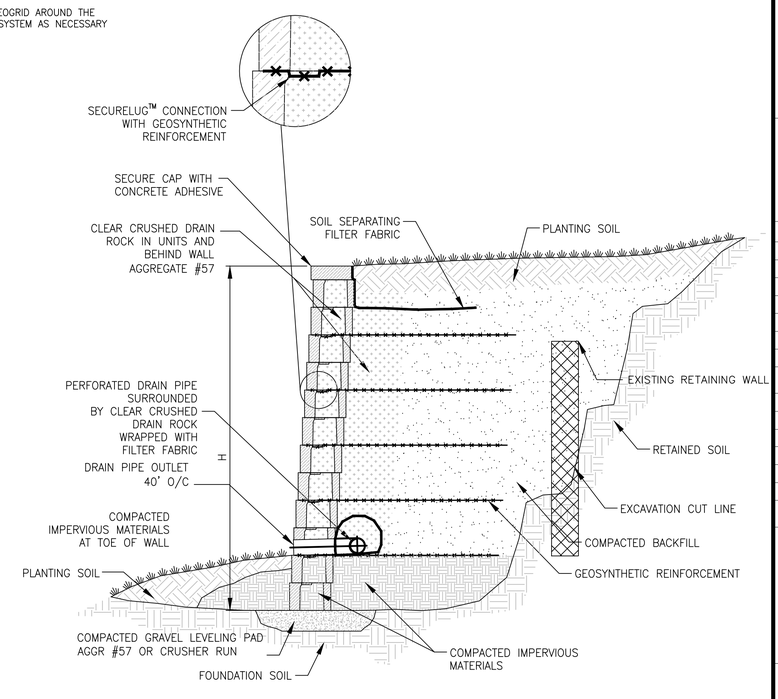




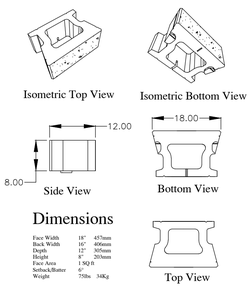


DETAIL OF FENCE POST INSTALLATION USING SLEEVE-IT 1224R

NOTE: FENCING SYSTEMS APPROVED FPR USE WITH SLEEVE-IT 1224R ARE LIMITED TO THE FOLLOWING HEIGHTS: CHAIN LINK - UP TO 8 FT, PRIVACY - UP TO 6 FT (WOODEN, PVC, METAL). POST SIZE 4"X4" MAX. WITH THE FENCING LIMITATIONS ABOVE, THE SLEEVE-IT SYSTEM MEETS SECTION 1607.7.1 OF THE IBC FOR FENCES AND GUARDS.

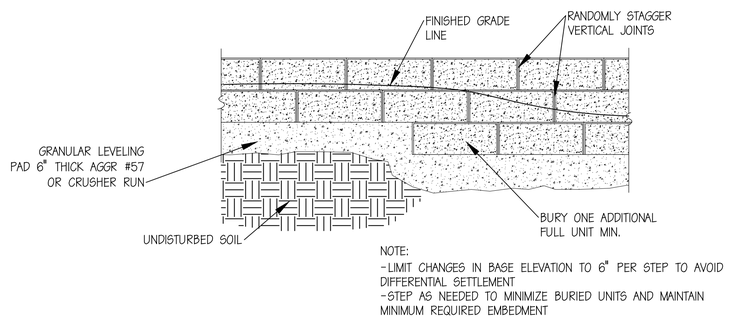


ALLEN BLOCK CLASSIC



Dimensions

Face Width	18"	457mm
Back Width	16"	406mm
Depth	12"	305mm
Height	8"	203mm
Face Area	1 SQ ft	
Setback/Batter	6°	
Weight	75lbs	34Kg



NOTE:
- LIMIT CHANGES IN BASE ELEVATION TO 6" PER STEP TO AVOID DIFFERENTIAL SETTLEMENT
- STEP AS NEEDED TO MINIMIZE BURIED UNITS AND MAINTAIN MINIMUM REQUIRED EMBEDMENT

STEPPING BASE DETAIL

SCALE: NONE

PERKINS & ORRISON
ENGINEERS ▲ PLANNERS ▲ SURVEYORS

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CONSULTANTS

COMMONWEALTH OF VIRGINIA
NORMAN B. WALTON JR.
No. 036517
12/5/14
PROFESSIONAL ENGINEER

JOB:

DUNBAR MIDDLE SCHOOL
TENNIS COURTS SITE PLAN

CITY OF LYNCHBURG, VIRGINIA

CLIENT:

LYNCHBURG CITY SCHOOLS

MARK	DATE	DESCRIPTION
4	12/05/14	PER OWNER CHANGES
3	09/11/14	REV PER CITY COMMENTS
2	08/18/14	REV PER CITY COMMENTS
1	07/25/14	PER TRC/OWNER COMMENTS

ISSUE:	04/22/14
CONTOUR INTERVAL:	2'
DESIGNED BY:	MJD/NBW
DRAWN BY:	MJD/NBW
CHECKED BY:	NBW

SHEET TITLE

RETAINING WALL DETAILS

SHEET

C-107

JOB NO.: 14054

SHEET NO 8 OF 8

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