

STANDARD CITY OF ROANOKE CONSTRUCTION PROCEDURE REQUIREMENTS

NOTICE: ALL LANDOWNERS, DEVELOPERS AND CONTRACTORS

FAILURE TO COMPLY WITH THE CONSTRUCTION PROCEDURE REQUIREMENTS LISTED BELOW MAY RESULT IN THE COSTLY REMOVAL OF STRUCTURES, TIME DELAYS OR THE ISSUANCE OF A STOP WORK ORDER.

- 1. RIGHT-OF-WAY EXCAVATION PERMIT - PRIOR TO THE COMMENCEMENT OF ANY DIGGING, ALTERATION OR CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY (STREETS, ALLEYS, PUBLIC EASEMENTS), A RIGHT-OF-WAY EXCAVATION PERMIT SHALL BE APPLIED FOR AND OBTAINED BY THE CONTRACTOR FROM THE CITY OF ROANOKE.
2. LAND DISTURBANCE PERMIT - AN APPROVED EROSION AND SEDIMENT CONTROL PLAN FOR ANY BORROW/FILL SITES ASSOCIATED WITH THE PROJECT MUST BE SUBMITTED PRIOR TO THE ISSUANCE OF A LAND DISTURBANCE PERMIT.
3. PLANS AND PERMITS - A COPY OF THE PLANS AS APPROVED BY THE CITY (SIGNED BY THE PROPER CITY OFFICIALS) AND ALL PERMITS ISSUED BY THE CITY SHALL BE AVAILABLE AT THE CONSTRUCTION SITE AT ALL TIMES OF ONGOING CONSTRUCTION.
4. LOCATION OF UTILITIES - THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.
5. CONSTRUCTION ENTRANCE - THE CONTRACTOR SHALL INSTALL AN ADEQUATE CONSTRUCTION ENTRANCE FOR ALL CONSTRUCTION RELATED EGRESS FROM THE SITE. SIZE AND COMPOSITION OF CONSTRUCTION ENTRANCE SHALL BE AS SHOWN ON THE PLANS.
6. STREETS TO REMAIN CLEAN - IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT THE PUBLIC STREET ADJACENT TO THE CONSTRUCTION ENTRANCE REMAINS FREE OF MUD, DIRT, DUST, AND/OR ANY TYPE OF CONSTRUCTION MATERIALS OR LITTER AT ALL TIMES.
7. BARRICADES/DITCHES - THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF ALL EXCAVATED DITCHES AND SHALL FURNISH AND ENSURE THAT ALL BARRICADES PROPER AND NECESSARY FOR THE SAFETY OF THE PUBLIC ARE IN PLACE.
8. SEWER AND PAVEMENT REPLACEMENT - CONSTRUCTION OF SANITARY SEWERS AND THE REPLACEMENT OF PAVEMENT SHALL BE IN ACCORDANCE WITH APPROVED STANDARDS AND SPECIFICATIONS OF THE CITY OF ROANOKE AND THE WESTERN VIRGINIA WATER AUTHORITY.
9. APPROVED PLANS/CONSTRUCTION CHANGES - ANY CHANGE OR VARIATION FROM CONSTRUCTION DESIGN AS SHOWN ON THE OFFICIALLY APPROVED PLANS SHALL BE APPROVED BY THE EROSION AND SEDIMENT CONTROL AGENT PRIOR TO SAID CHANGES OR VARIATION IN CONSTRUCTION BEING MADE.
10. FINAL ACCEPTANCE/CITY - THE OWNER OR DEVELOPER SHALL FURNISH THE CITY OF ROANOKE'S PLANNING BUILDING AND DEVELOPMENT DEPARTMENT WITH A FIELD SURVEYED FINAL CORRECT SET OF AS-BUILT PLANS OF THE NEWLY CONSTRUCTED STORM RAIN AND/OR STORMWATER MANAGEMENT FACILITIES PRIOR TO FINAL ACCEPTANCE AND ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE CITY. AS-BUILT PLANS SHALL BE PROVIDED IN THE STATE PLANE VIRGINIA SOUTH COORDINATE SYSTEM, NAD 1983, FIPS 4502 FEET, US SURVEY FEET, DATUM NAD 83, IN THE FORM OF 1 PAPER COPY AND 1 DIGITAL AUTOCAD FILE.

GENERAL DEMOLITION NOTES

UNLESS OTHERWISE STATED HEREIN, ALL EXISTING PHYSICAL IMPROVEMENTS LOCATED WITHIN THE LIMITS OF "DISTURBED AREA" OR "AREA OF WORK" ARE TO BE REMOVED FROM THE SITE IN THEIR ENTIRETY. IN THE EVENT THAT THERE ARE QUESTIONS REGARDING THE DISPOSITION OF CERTAIN IMPROVEMENTS, THE CONTRACTOR SHALL VERIFY WITH THE ENGINEER PRIOR TO ENGAGING IN ANY DEMOLITION WORK RELATIVE TO THE ITEM(S) IN QUESTION.

DEMOLITION SHALL INCLUDE, UNLESS OTHERWISE NOTED ON DRAWINGS, REMOVAL OF EXISTING OBJECTS OR IMPROVEMENTS, WHETHER INDICATED ON THE DRAWINGS OR NOT, THAT WOULD IN THE OPINION OF THE OWNER, PREVENT OR INTERFERE WITH THE PROGRESS OR COMPLETION OF THE PROPOSED WORK.

PERMITS, FEES AND LICENSES SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR, INCLUDING DISPOSAL CHARGES AS REQUIRED.

WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE GOVERNING AUTHORITIES IN DEMOLITION OF EXISTING PAVEMENT, CURBS AND GUTTERS, DRAINAGE STRUCTURES AND UTILITIES AS MAY BE REQUIRED.

CONTRACTOR SHALL SAW-CUT ALL JOINTS WHERE EXISTING CURBING, PAVEMENT AND SIDEWALK IS TO BE DEMOLISHED AND NEW CONSTRUCTION JOINS THE EXISTING.

ALL EXISTING CURBING, CONCRETE SIDEWALK, ENTRANCES, BUILDING FOUNDATIONS AND TREES AND BRUSH THAT ARE DEMOLISHED SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR. DEMOLITION DEBRIS, ETC. SHALL NOT BE USED AS FILL MATERIAL ON THE SITE.

REFER TO PROJECT MANUAL FOR DIRECTION GOVERNING ABANDONMENT OR REMOVAL OF EXISTING UTILITIES.

CONTRACTOR SHALL PROVIDE THE FOLLOWING PROTECTIONS AT THE JOB SITE:

MAKE ARRANGEMENTS, BEFORE INITIATING DEMOLITION, FOR RELOCATING, DISCONNECTION, REROUTING, ABANDONING, OR SIMILAR ACTION AS MAY BE REQUIRED RELATIVE TO UTILITIES AND OTHER UNDERGROUND PIPING, TO PERMIT WORK TO PROCEED WITHOUT DELAY.

ARRANGEMENTS SHALL BE MADE IN ACCORDANCE WITH REGULATIONS OF AUTHORITIES OF UTILITIES MENTIONED, SUCH AS OVERHEAD / UNDERGROUND POWER AND TELECOMMUNICATION LINES AND EQUIPMENT, GAS PIPING, STORM SEWERS, SANITARY SEWERS, OR WATER PIPING.

CONTRACTOR SHALL NOT USE WATER WHEN IT MAY CREATE HAZARDOUS OR OBJECTIONABLE CONDITIONS SUCH AS ICE, FLOODING AND/OR POLLUTION.

ENSURE SAFE PASSAGE OF PERSONS AROUND ALL AREAS OF DEMOLITION.

CONDUCT OPERATIONS TO PREVENT DAMAGE TO ADJACENT BUILDINGS, STRUCTURES, OTHER FACILITIES, OR INJURY TO PERSONS.

PROMPTLY REPAIR DAMAGES CAUSED TO ADJACENT FACILITIES BY DEMOLITION OPERATIONS AT NO COST TO THE OWNER.

MAINTAIN EXISTING UTILITIES INDICATED TO REMAIN, KEEP IN SERVICE, AND PROTECT AGAINST DAMAGE DURING DEMOLITION OPERATIONS.

PREVENT INTERRUPTION OF EXISTING UTILITIES SERVING OCCUPIED OR USED FACILITIES, EXCEPT WHEN AUTHORIZED IN WRITING BY AUTHORITIES HAVING JURISDICTION.

PROVIDE TEMPORARY SERVICES DURING INTERRUPTIONS TO EXISTING UTILITIES AS ACCEPTABLE TO OWNER AND GOVERNING AUTHORITIES.

PROVIDE TRAFFIC CONTROL MEASURES AS DEEMED NECESSARY FOR CONTROL OF VEHICULAR ROUTES DURING TIMES OF DEMOLITION OR RECONSTRUCTION WITHIN OR ADJACENT TO PUBLIC STREETS OR OTHER OFF-SITE VEHICULAR ROUTES. CONTROLS MAY INCLUDE, BUT NOT BE LIMITED TO, CONES, BARRELS, BARRICADES, SIGNAGE (STATIC AND/OR MARQUEE) AND FLAGMEN.

USE WATER SPRINKLING AND OTHER SUITABLE METHODS TO LIMIT DUST AND DIRT RISING AND SCATTERING IN AIR TO LOWEST PRACTICAL LEVEL. COMPLY WITH GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.

CLEAN ADJACENT STRUCTURES AND IMPROVEMENTS OF DUST, DIRT, AND DEBRIS CAUSED BY DEMOLITION OPERATIONS. RETURN ADJACENT AREAS TO CONDITIONS EXISTING PRIOR TO THE START OF WORK, OR BETTER.

GENERAL NOTES

ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO THE CONSTRUCTION STANDARDS AND SPECIFICATIONS OF THE CITY OF ROANOKE, VDOT, AND/OR THE WESTERN VIRGINIA WATER AUTHORITY, AS APPLICABLE.

MEASURES TO CONTROL EROSION AND SILTATION MUST BE PROVIDED FOR PRIOR TO PLAN APPROVAL. PLAN APPROVAL IN NO WAY RELIEVES THE DEVELOPER OR CONTRACTOR OF THE RESPONSIBILITIES CONTAINED IN EROSION AND SILTATION CONTROL POLICIES.

AN APPROVED SET OF PLANS AND ALL PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE.

FIELD CORRECTIONS SHALL BE APPROVED BY THE CITY OF ROANOKE DEPARTMENT OF PLANNING BUILDING AND DEVELOPMENT PRIOR TO SUCH CONSTRUCTION.

FIELD CONSTRUCTION SHALL HONOR PROPOSED DRAINAGE DIVIDES AS SHOWN ON PLANS.

CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AT THE JOB SITE.

CONSTRUCTION DEBRIS SHALL BE CONTAINED IN ACCORDANCE WITH THE VIRGINIA LITTER CONTROL ACT. NO LESS THAN ONE LITTER RECEPTACLE SHALL BE PROVIDED ON-SITE.

THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS OF CLEANING MUD FROM TRUCKS AND/OR OTHER EQUIPMENT PRIOR TO ENTERING PUBLIC OR PRIVATE STREETS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT THE STREETS ARE IN A CLEAN, MUD AND DUST FREE CONDITION AT ALL TIMES.

THE CONTRACTOR SHALL SUPPLY ALL UTILITY COMPANIES WITH COPIES OF APPROVED PLANS, ADVISING THEN THAT ALL GRADING AND INSTALLATION SHALL CONFORM TO APPROVED PLANS.

LOCATION OF UNDERGROUND UTILITIES IS BASED ON AVAILABLE RECORDS. CONTRACTOR SHALL FIELD-VERIFY LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION, AND NOTIFY ENGINEER IMMEDIATELY UPON DISCOVERY OF CONDITIONS THAT WILL AFFECT INSTALLATION OF PROPOSED IMPROVEMENTS.

CONTRACTORS SHALL NOTIFY UTILITIES OF PROPOSED CONSTRUCTION AT LEAST TWO, BUT NOT MORE THAN TEN WORKING DAYS IN ADVANCE. AREA PUBLIC UTILITIES MAY BE NOTIFIED THROUGH MISS UTILITY AT (800) 552-7001.

THE SUBJECT SITE LIES WITHIN ZONE "X" OF THE ONE-HUNDRED YEAR FLOOD PLAIN AS SHOWN ON ON FEMA FLOOD INSURANCE RATE MAPS (FIRM MAP NUMBER 51161C0163G, EFFECTIVE DATE 09/28/2007).

ALL WORK SHALL BE SUBJECT TO INSPECTION BY CITY OF ROANOKE INSPECTORS.

GRADE STAKES SHALL BE SET FOR ALL STORM DRAIN, AS APPLICABLE.

THE SITE WORK CONTRACTOR(S) SHALL COMPLY WITH LOCAL CODES IN OBSERVING EROSION CONTROL MEASURES, BOTH ON AND OFF THE SITE. REFER TO THE VIRGINIA UNIFORM CODING SYSTEM CONTAINED IN THE VIRGINIA SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION, FOR DETAILS AND SPECIFICATIONS OF EROSION CONTROL ITEMS SHOWN ON THESE PLANS.

ALL FINISH GRADE CONTOURS AND SPOT ELEVATIONS SHOWN HEREIN ARE TO THE UPPER ELEVATION OF THE SPECIFIC ELEMENT. THE CONTRACTOR SHALL ACCOUNT FOR THE THICKNESS OF THE FINISH SURFACE (TOPSOIL, PAVEMENT, ETC.) IN GRADING OF THE SITE.

SHEET INDEX

Table with 2 columns: SHEET #, TITLE. Includes entries for C-01 NOTES AND LEGEND, C-02 EXISTING CONDITIONS AND SITE DEMOLITION PLAN, C-03 DIMENSIONAL LAYOUT PLAN, C-04 GRADING, EROSION CONTROL, & STORM DRAIN PLAN, C-05 NEW STORM DRAIN PROFILES; SODDING, SPRIGGING & IRRIGATION REQUIREMENTS, C-06 EROSION CONTROL NARRATIVE, MEASURES & CONSTRUCTION SEQUENCING, C-07 DETAILS - SOIL EROSION & SEDIMENTATION CONTROL.

ANY VARIATION FROM APPROVED PLANS MUST BE APPROVED BY THE CITY OF ROANOKE

ABBREVIATIONS and LEGEND section. Includes symbols for arrow head, approx, asphalt, bottom of curb, etc., and a legend for existing and new conditions like 100.5, 100.5, spot elevation, contours, etc.

WESTERN VIRGINIA WATER AUTHORITY NOTES

THERE ARE NO EXISTING OR PROPOSED DOMESTIC WATER OR SANITARY SEWER SERVICES ASSOCIATED WITH THIS PROJECT.

FIELD IRRIGATION WILL BE PROVIDED BY RE-USE OF THE EXISTING IRRIGATION SUPPLY FACILITIES.

ENGINEER'S NOTES

CALDWELL WHITE ASSOCIATES ASSUMES NO RESPONSIBILITY FOR ADEQUACY OF PLANS OR FOR INFORMATION ON PLANS UNTIL SUCH PLANS HAVE BEEN APPROVED BY THE REQUIRED PUBLIC AGENCIES.

ANY WORK COMMENCED ON A PROJECT PRIOR TO PLAN APPROVAL IS AT SOLE RISK OF THE OWNER.

CALDWELL WHITE ASSOCIATES DOES NOT GUARANTEE THE COMPLETION OR QUALITY OF PERFORMANCE OF THE CONTRACTS OR THE COMPLETION OR QUALITY OF PERFORMANCE OF CONTRACTS BY SUBCONTRACTORS OR OTHER THIRD PARTIES.

SOURCE OF TOPOGRAPHIC MAPPING IS A COMBINATION OF FINISH GRADE CONTOURS FROM CONSTRUCTION PLANS AND A FIELD RUN TOPOGRAPHIC SURVEY PERFORMED BY CALDWELL WHITE ASSOCIATES.

PROPERTY BOUNDARY INFORMATION SHOWN HEREIN IS TAKEN FROM CONSTRUCTION PLANS BY CWA FOR THE HIGH SCHOOL AND THE STADIUM. AT THE TIME OF THOSE PROJECTS, FORMAL BOUNDARY SURVEYS WERE PERFORMED BY CWA.

NAME OF DEVELOPMENT: PATRICK HENRY HIGH SCHOOL

EVENT OFFICIALS' PARKING AND LOWER PRACTICE FIELD REGRADING

LOCATION: 2102 GRANDIN ROAD, S.W. CITY OF ROANOKE, VIRGINIA 24015

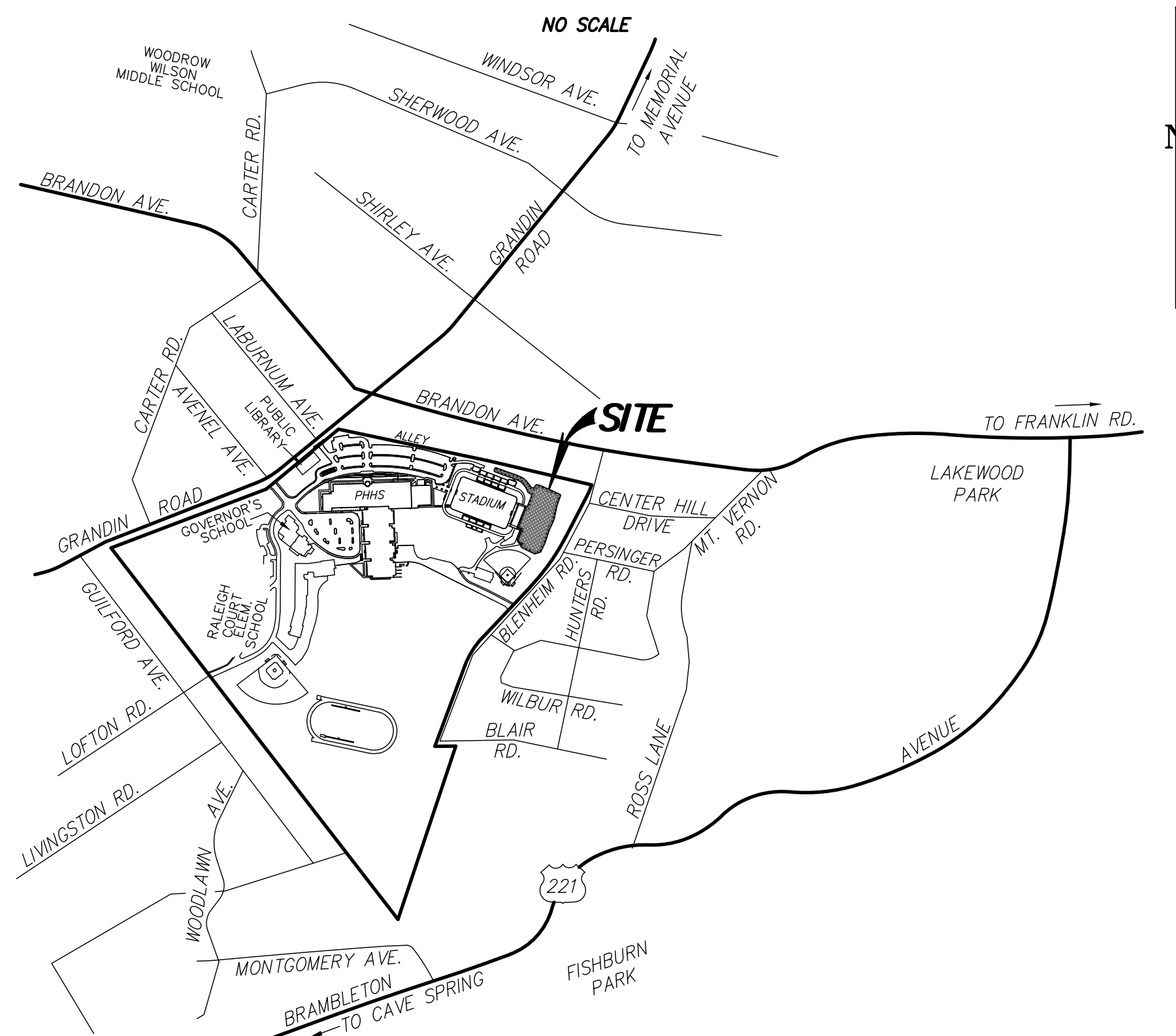
OWNER: ROANOKE CITY PUBLIC SCHOOLS, 40 DOUGLASS AVENUE, N.W. ROANOKE, VA 24012. ATTN: MR. JEFF SHAWVER - CHIEF OF PHYSICAL PLANTS (540) 853-6306. CITY OF ROANOKE, VA APPROVAL BLOCK (CITY REF: CP24-0008)

CONTRACTOR (SUBJECT TO BID)

DISTURBED AREA 1.54 ACRE = 67,260 SQ. FT.

TAX PARCEL 1460101

VICINITY MAP



MISCELLANEOUS NOTES

TAX PARCEL: (AS SHOWN TO THE RIGHT)
EXISTING USE: INSTITUTIONAL (PUBLIC SCHOOL)
PROPOSED USE: (UNCHANGED)
PROPERTY ZONING: INPUD - WITH CONDITIONS - ORDINANCE 41769

REVISIONS table with columns: No., Date, Remarks, By. Includes one revision dated 04-25-2024 by CLW.

Professional Engineer Seal for Corbin L. White, License No. 23843, dated 04-25-2024.

CWA CALDWELL WHITE ASSOCIATES logo and contact information: 4203 MELROSE AVENUE, N.W. P.O. BOX 6260 ROANOKE, VIRGINIA 24017-0260 (540) 366-3400

PROPERTY OF
THE CITY OF ROANOKE
(PATRICK HENRY HIGH SCHOOL
CAMPUS)
TAX PARCEL 1460101
CURRENTLY ZONED INPUD - WITH
CONDITIONS

PROPOSED DISTURBED AREA =
67,260 SQ. FT. = 1.54 AC.

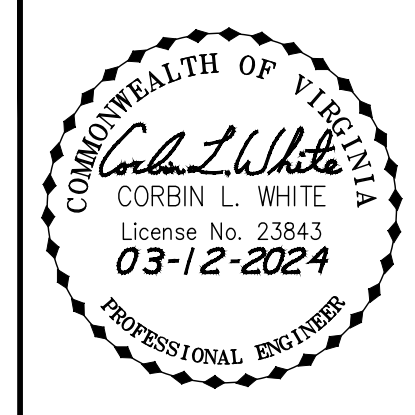
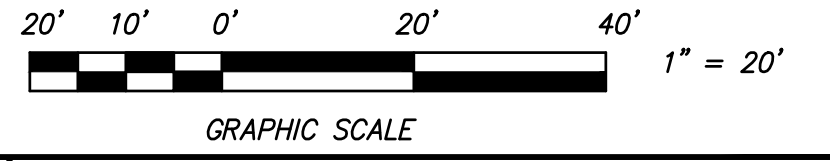
INDICATES EXISTING
GRAVEL SURFACES TO
BE REMOVED (TYP)

EXISTING TURF PRACTICE FIELD TO BE REGRADED TO IMPROVE SURFACE DRAINAGE

EXISTING STORM DRAIN

- STRUCTURES**
- 703 STORM DRAIN MANHOLE
RM=1040.00
INV. IN=1035.30
INV. OUT=1035.20
 - 704 STORM DRAIN MANHOLE
RM=1039.75
INV. IN (703A)=1034.82
INV. IN (755A)=1030.38
INV. OUT=1029.10
 - 705 STORM DRAIN MANHOLE
RM=1038.70
INV. IN (704A)=1028.54
INV. IN (761A)=1030.17
INV. OUT=1028.50
 - 706 VDOT STD. DI-1
TOP=1033.70
INV. IN=1027.25
INV. OUT=1027.25
 - 760 STORM DRAIN MANHOLE
RM=1036.20 (AT TOP OF BASE STONE)
INV. IN (SUB-DRAIN COLLECTORS)=1031.32
INV. OUT=1031.22
 - 761 STORM DRAIN MANHOLE
RM=1039.00
INV. IN (760A)=1031.04
INV. OUT=1031.00
- PIPES**
- 703A 38" NEW 18" CONC. PIPE @ 1.00%
 - 704A 223" NEW 48" CONC. PIPE @ 0.25%
 - 705A 165" NEW 48" CONC. PIPE @ 0.73%
 - 706A 98" NEW 15" CONC. PIPE @ 12.8 %
 - 755A 84"-15" CONC. PIPE @ 1.00%
 - 760A 18"-15" HDPE PIPE @ 1.00%
 - 761A 84"-15" CONC. PIPE @ 1.25%

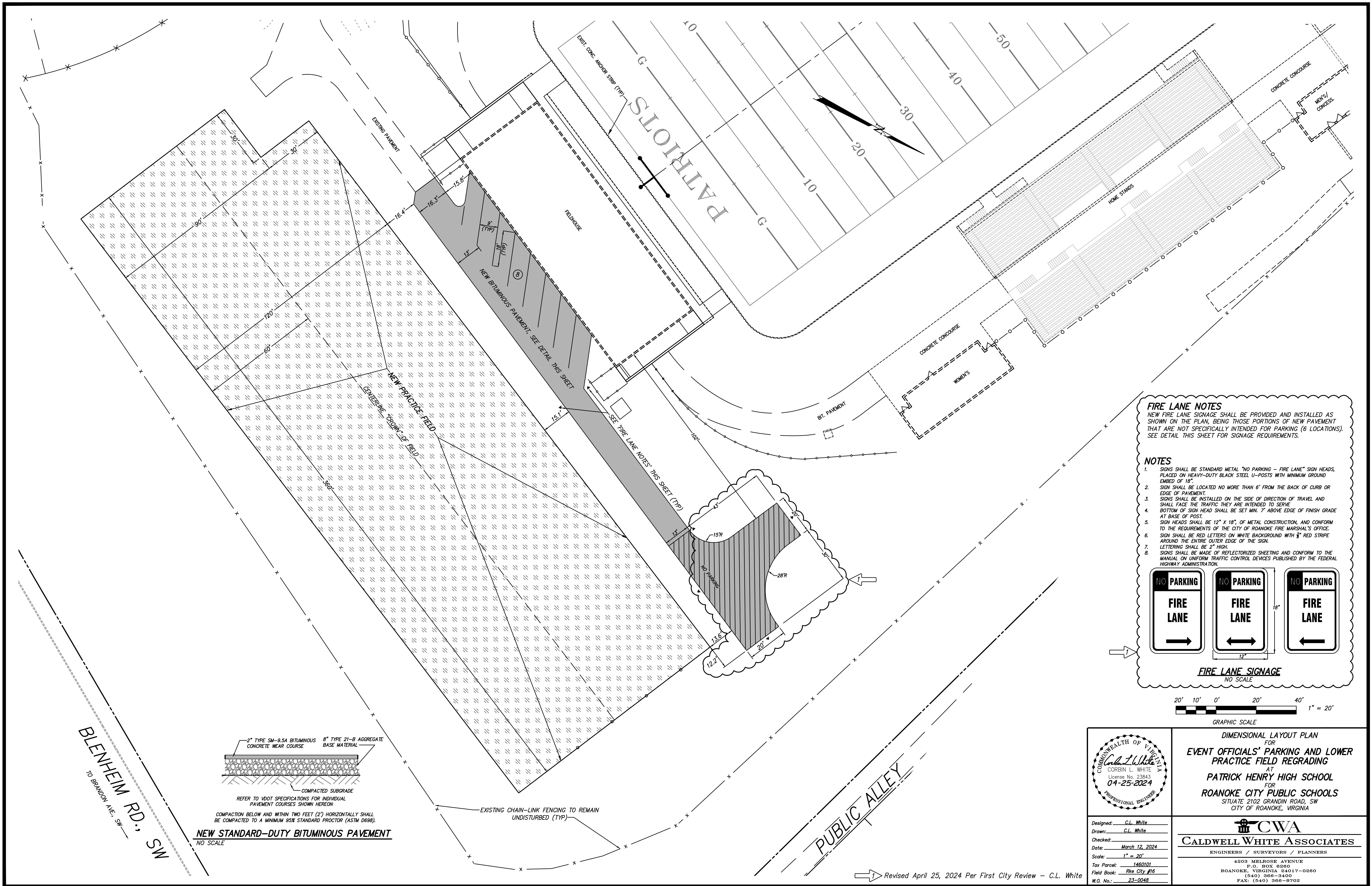
SEE GENERAL DEMOLITION NOTES, SHEET C-01



EXISTING CONDITIONS & SITE DEMOLITION PLAN
FOR
EVENT OFFICIALS' PARKING AND LOWER
PRACTICE FIELD REGRADED
AT
PATRICK HENRY HIGH SCHOOL
FOR
ROANOKE CITY PUBLIC SCHOOLS
SITUATE 2102 GRANDIN ROAD, SW
CITY OF ROANOKE, VIRGINIA

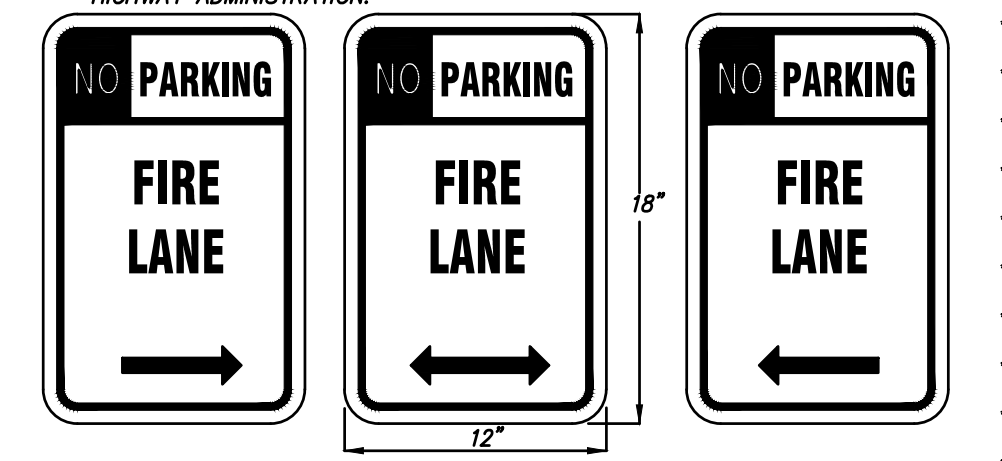
Designed: C.L. White
Drawn: C.L. White
Checked:
Date: March 12, 2024
Scale: 1" = 20'
Tax Parcel: 1460101
Field Book: Rke City #16
W.O. No.: 23-0048

CWA
CALDWELL WHITE ASSOCIATES
ENGINEERS / SURVEYORS / PLANNERS
4203 MELROSE AVENUE
P.O. BOX 6260
ROANOKE, VIRGINIA 24017-0260
(540) 366-3400
FAX: (540) 366-8702

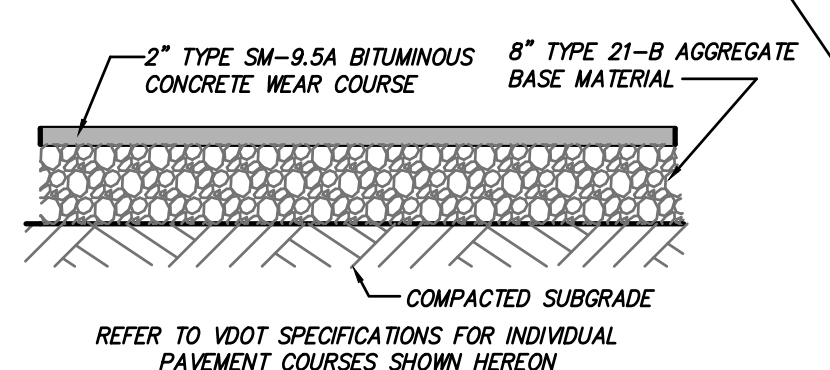
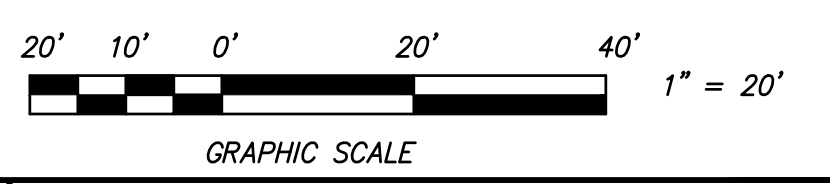


FIRE LANE NOTES
 NEW FIRE LANE SIGNAGE SHALL BE PROVIDED AND INSTALLED AS SHOWN ON THE PLAN, BEING THOSE PORTIONS OF NEW PAVEMENT THAT ARE NOT SPECIFICALLY INTENDED FOR PARKING (6 LOCATIONS). SEE DETAIL THIS SHEET FOR SIGNAGE REQUIREMENTS.

- NOTES**
1. SIGNS SHALL BE STANDARD METAL "NO PARKING - FIRE LANE" SIGN HEADS, PLACED ON HEAVY-DUTY BLACK STEEL U-POSTS WITH MINIMUM GROUND EMBED OF 18".
 2. SIGN SHALL BE LOCATED NO MORE THAN 6' FROM THE BACK OF CURB OR EDGE OF PAVEMENT.
 3. SIGNS SHALL BE INSTALLED ON THE SIDE OF DIRECTION OF TRAVEL AND SHALL FACE THE TRAFFIC THEY ARE INTENDED TO SERVE.
 4. BOTTOM OF SIGN HEAD SHALL BE SET MIN. 7" ABOVE EDGE OF FINISH GRADE AT BASE OF POST.
 5. SIGN HEADS SHALL BE 12" X 18", OF METAL CONSTRUCTION, AND CONFORM TO THE REQUIREMENTS OF THE CITY OF ROANOKE FIRE MARSHAL'S OFFICE.
 6. SIGN SHALL BE RED LETTERS ON WHITE BACKGROUND WITH 1/2" RED STRIPE AROUND THE ENTIRE OUTER EDGE OF THE SIGN.
 7. LETTERING SHALL BE 2" HIGH.
 8. SIGNS SHALL BE MADE OF REFLECTORIZED SHEETING AND CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.



FIRE LANE SIGNAGE
 NO SCALE

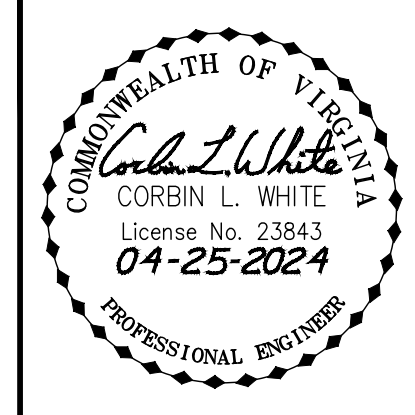


COMPACTED SUBGRADE
 REFER TO VDOT SPECIFICATIONS FOR INDIVIDUAL PAVEMENT COURSES SHOWN HEREON.
NEW STANDARD-DUTY BITUMINOUS PAVEMENT
 NO SCALE

EXISTING CHAIN-LINK FENCING TO REMAIN UNDISTURBED (TYP)

BLENHEIM RD., SW
 TO BRANDON AVE., SW

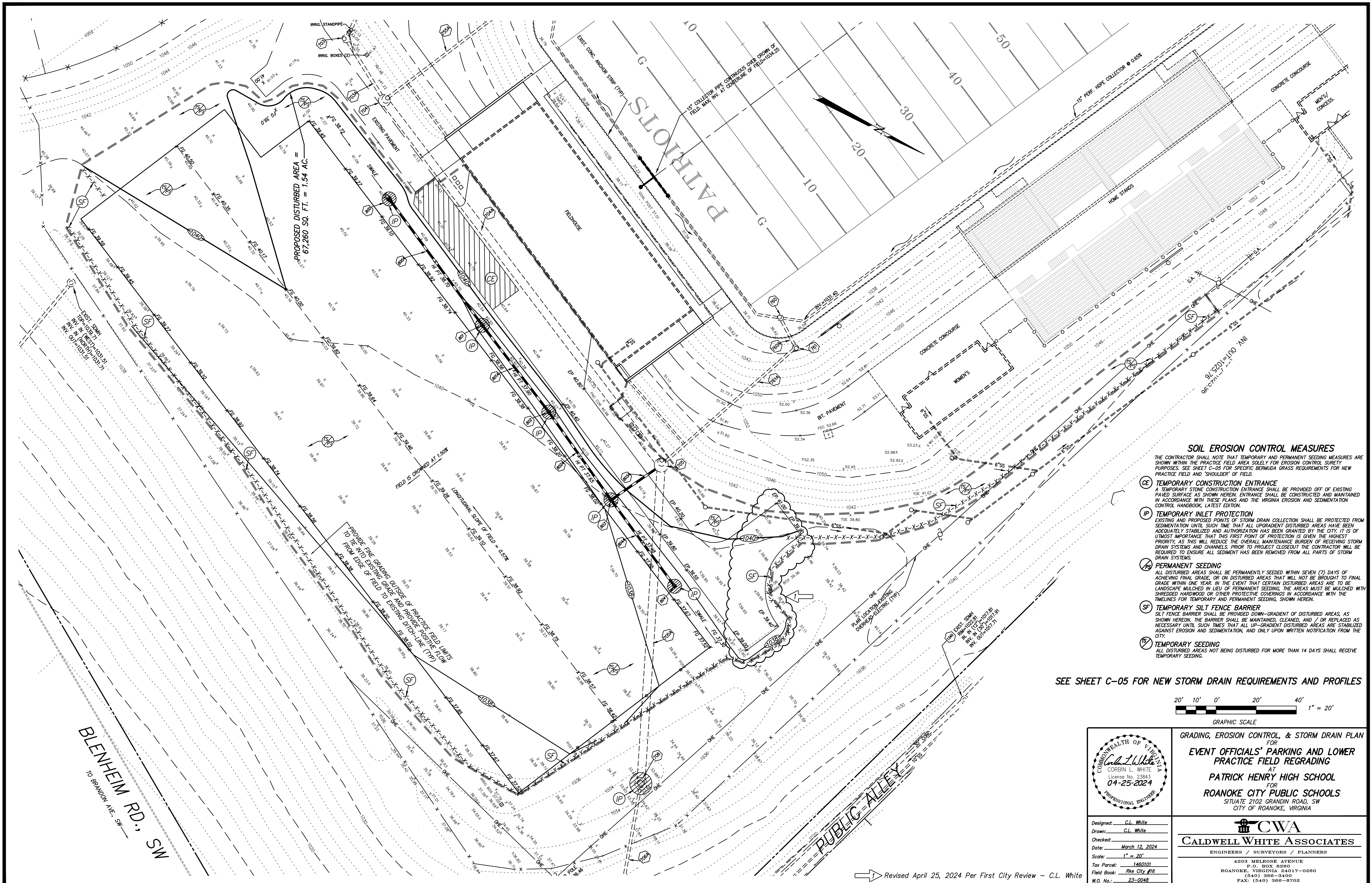
Revised April 25, 2024 Per First City Review - C.L. White



Designed: C.L. White
 Drawn: C.L. White
 Checked: C.L. White
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 Field Book: Rke City #16
 W.O. No.: 23-0048

DIMENSIONAL LAYOUT PLAN
 FOR
EVENT OFFICIALS' PARKING AND LOWER PRACTICE FIELD REGRADING
 AT
PATRICK HENRY HIGH SCHOOL
 FOR
ROANOKE CITY PUBLIC SCHOOLS
 SITUATE 2102 GRANDIN ROAD, SW
 CITY OF ROANOKE, VIRGINIA

CWA
CALDWELL WHITE ASSOCIATES
 ENGINEERS / SURVEYORS / PLANNERS
 4203 MELROSE AVENUE
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 ROANOKE, VIRGINIA 24017-0260
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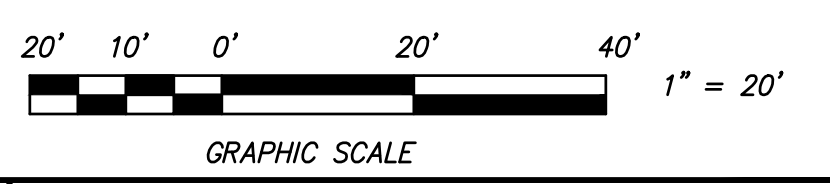


SOIL EROSION CONTROL MEASURES

THE CONTRACTOR SHALL NOTE THAT TEMPORARY AND PERMANENT SEEDING MEASURES ARE SHOWN WITHIN THE PRACTICE FIELD AREA SOLELY FOR EROSION CONTROL SURETY PURPOSES. SEE SHEET C-05 FOR SPECIFIC BERMUDA GRASS REQUIREMENTS FOR NEW PRACTICE FIELD AND 'SHOULDER' FIELD.

- TC **TEMPORARY CONSTRUCTION ENTRANCE**
 TEMPORARY STONE CONSTRUCTION ENTRANCE SHALL BE PROVIDED OFF OF EXISTING PAVED SURFACE AS SHOWN HEREIN. ENTRANCE SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THESE PLANS AND THE VIRGINIA EROSION AND SEDIMENTATION CONTROL HANDBOOK, LATEST EDITION.
- IP **TEMPORARY INLET PROTECTION**
 EXISTING AND PROPOSED POINTS OF STORM DRAIN COLLECTION SHALL BE PROTECTED FROM SEDIMENTATION UNTIL SUCH TIME THAT ALL UPGRADIENT DISTURBED AREAS HAVE BEEN ADEQUATELY STABILIZED AND AUTHORIZATION HAS BEEN GRANTED BY THE CITY. IT IS OF UTMOST IMPORTANCE THAT THIS FIRST POINT OF PROTECTION IS GIVEN THE HIGHEST PRIORITY, AS THIS WILL REDUCE THE OVERALL MAINTENANCE BURDEN OF RECEIVING STORM DRAIN SYSTEMS AND CHANNELS. PRIOR TO PROJECT CLOSEOUT THE CONTRACTOR WILL BE REQUIRED TO ENSURE ALL SEDIMENT HAS BEEN REMOVED FROM ALL PARTS OF STORM DRAIN SYSTEMS.
- PS **PERMANENT SEEDING**
 ALL DISTURBED AREAS SHALL BE PERMANENTLY SEEDING WITHIN SEVEN (7) DAYS OF ACHIEVING FINAL GRADE, OR ON DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE WITHIN ONE YEAR. IN THE EVENT THAT CERTAIN DISTURBED AREAS ARE TO BE LANDSCAPE MULCHED IN LIEU OF PERMANENT SEEDING, THE AREAS MUST BE MULCHED WITH SHREDED HARDWOOD OR OTHER PROTECTIVE COVERINGS IN ACCORDANCE WITH THE TIMELINES FOR TEMPORARY AND PERMANENT SEEDING, SHOWN HEREIN.
- SF **TEMPORARY SILT FENCE BARRIER**
 SILT FENCE BARRIER SHALL BE PROVIDED DOWN-GRADE OF DISTURBED AREAS, AS SHOWN HEREON. THE BARRIER SHALL BE MAINTAINED, CLEANED, AND / OR REPLACED AS NECESSARY UNTIL SUCH TIME THAT ALL UP-GRADE DISTURBED AREAS ARE STABILIZED AGAINST EROSION AND SEDIMENTATION, AND ONLY UPON WRITTEN NOTIFICATION FROM THE CITY.
- TS **TEMPORARY SEEDING**
 ALL DISTURBED AREAS NOT BEING DISTURBED FOR MORE THAN 14 DAYS SHALL RECEIVE TEMPORARY SEEDING.

SEE SHEET C-05 FOR NEW STORM DRAIN REQUIREMENTS AND PROFILES



BLENHEIM RD. SW
TO BRANDON AVE. SW

Revised April 25, 2024 Per First City Review - C.L. White

	<p>GRADING, EROSION CONTROL, & STORM DRAIN PLAN FOR EVENT OFFICIALS' PARKING AND LOWER PRACTICE FIELD REGRADING AT PATRICK HENRY HIGH SCHOOL FOR ROANOKE CITY PUBLIC SCHOOLS SITUATE 2102 GRANDIN ROAD, SW CITY OF ROANOKE, VIRGINIA</p>
	<p>CALDWELL WHITE ASSOCIATES ENGINEERS / SURVEYORS / PLANNERS 4203 MELROSE AVENUE P.O. BOX 6260 ROANOKE, VIRGINIA 24017-0260 (540) 366-3400 FAX: (540) 366-8702</p>
<p>Designed: C.L. White Drawn: C.L. White Checked: _____ Date: March 12, 2024 Scale: 1" = 20' Tax Parcel: 1460101 Field Book: Rke City #16 W.O. No.: 23-0048</p>	

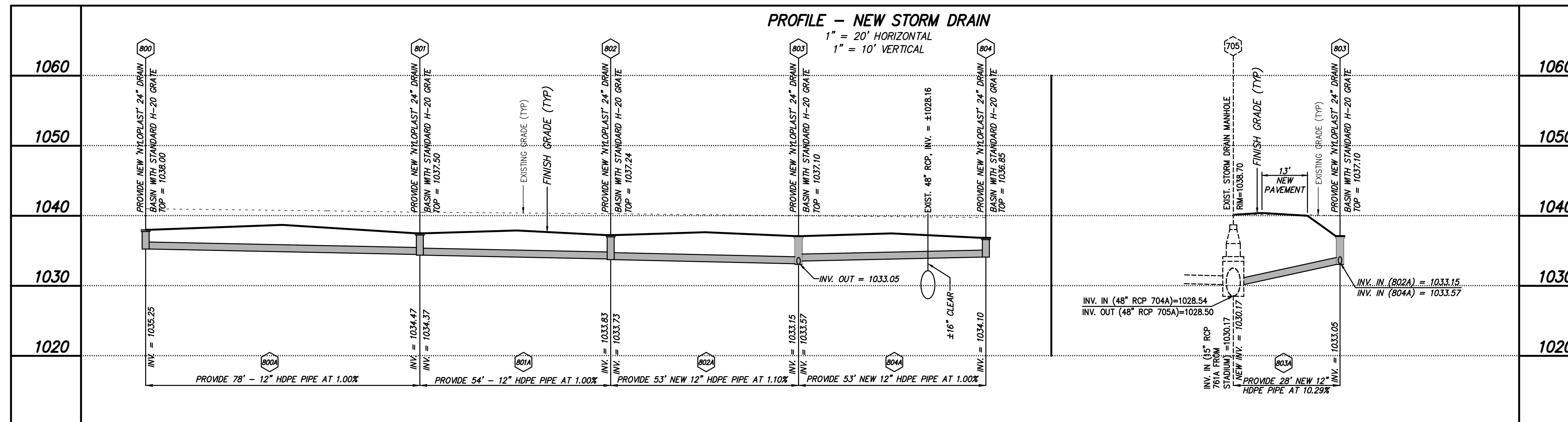
NEW STORM DRAIN

ALL NEW STORM DRAIN STRUCTURES SHALL BE 24" DRAIN BASINS AS MANUFACTURED BY NYLOPLAST, OR ENGINEER APPROVED EQUAL. GRATES SHALL BE STANDARD DUCTILE IRON, RATED FOR MINIMUM H-20 LOADING. DRAIN BASINS SHALL BE INSTALLED AND BEDDED PER MANUFACTURER'S REQUIREMENTS. PARTICULAR ATTENTION SHALL BE PAID TO COMPACTION OF MATERIAL BELOW THE FRAME AND COVER, TO AVOID SETTLEMENT AND/OR TIPPING OF THE FRAME AND COVER.

NEW STORM DRAIN PIPE SHALL BE DOUBLE-WALL HDPE (SMOOTH INTERIOR, CORRUGATED EXTERIOR), TYPE N-12 AS MANUFACTURED BY ADS OR ENGINEER APPROVED SIMILAR.

HDPE PIPE SHALL BE BEDDED AND BACKFILLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

INTERCONNECTION TO EXISTING MANHOLE SHALL BE CORED, AND EITHER MADE SOIL TIGHT USING NON-SHRINK GROUT, OR INTERCONNECTED USING A FLEXIBLE BOOT AS GENERALLY USED FOR SANITARY SEWER.



PRACTICE FIELD STABILIZATION – BERMUDA GRASS SODDING

The base bid for this project is to provide and install Bermuda Grass sodding of the 42,300 square foot practice area, as well as for a minimum 3' wide 'shoulder' strip around the field perimeter, for a total sod area of 45,216 square feet. All disturbed areas beyond these limits that are not to be hard-surfaced shall receive erosion control permanent seeding measures as outlined in these plans. Practice field stabilization shall be performed by a contractor experienced in the placement and maintenance of Bermuda Grass sodding.

STRIPPING OF SURFICIAL SOILS

The contractor shall strip and stockpile existing surficial soils that will be required for replacement on disturbed areas outside the practice field which are not to receive hard surfacing. The stockpile shall be located within the approved limits of disturbance. Suggested location is in the area of the proposed 'tee-turnaround'. Protect stockpile(s) with perimeter silt fence and temporary seeding measures as specified herein. Areas to receive topsoil replacement shall receive six inches (6") of topsoil, all other stripped topsoil shall be removed from the property and disposed of by the contractor.

ROUGH GRADING

Perform rough grading operations to reach subgrade elevation of areas to be sodded. Subgrade is defined as being at elevations below finish grade that will allow the placement of surficial soils prior to placing sod. Subgrade in areas to receive sod shall be held lower than adjacent areas to be seeded, to account for the sod thickness, coordinate anticipated sod thickness with supplier.

Compaction of subgrade soils shall be only to the extent provided by movement of the equipment used for field grading, generally +/- 80% of Standard Proctor (ASTM D698).

TOPSOIL PREPARATION AND PLACEMENT

Immediately prior to placement of topsoil, the top four inches (4") of subgrade materials shall be tilled or disked to allow bonding of topsoil to subgrade soils.

Topsoil shall be commercial grade, blended at 70% soil / 30% silica sand, shall be free of weed seed and clumps or rocks in excess of one inch (1") on their largest dimension, and any other deleterious materials which would preclude achieving a smooth surface. Imported topsoil shall have test results verifying pH of 6.0 to 7.5, and defining whether fertilizer, lime, or other amendments are required.

If fertilizers, lime, or other amendments are required by the soil testing, these items shall be uniformly incorporated into the topsoil by tilling, diskings, or other means approved by the Engineer.

Upon completion of topsoiling, and within four calendar days of sod placement, the field shall be rolled with a smooth drum roller specifically intended for use in final smoothing for sod placement. Care shall be taken to not use too heavy a drum on these rollers, to prevent over-compaction of soils. In the event of runoff producing rainfall events during this period, the field shall be allowed ample drying time, and shall be re-rolled prior to sodding.

ACCEPTABLE SOD VARIETIES

Tacoma 31 Bermuda or Patriot Bermuda are the only acceptable varieties.

SOD PLACEMENT

Immediately prior to sod placement, the contractor shall lightly irrigate the field to allow sod to properly bond with underlying soils, without wetting so much as to leave footprint or sod carrying equipment imprints that may affect achieving a smooth and uniform finish sod surface. Depending on ambient temperature, wind, and expected duration of sod placement, it may be required to water only portions of the field in advance of sodding, to prevent over-drying of the soil layer.

Place sod in accordance with sod supplier's recommendations. It is expected that sod will be:

- Installed within 48 hours of sod harvest,
- Installed in a running bond pattern,
- Installed such that free edges of sod will properly 'key' into topsoil layers that are to receive permanent seeding measures, to prevent drying of roots of outer limits of sod,
- Topdressed with topdressing sand as required to infill creases and low pieces and to help conserve moisture,
- Smooth drum rolled to ensure evenness and smoothness
- Immediately watered heavily to wet the entire depth of the sod and top portion of the root zone

CONTRACTOR REQUIRED MAINTENANCE FOLLOWING SOD PLACEMENT

Contractor will be responsible for all aspects of the sodded field for the initial 30 calendar days after placement, or through first cutting, whichever is longer, including but not limited to watering, re-rolling, and replacing dead, dying or distressed sod areas with new.

ALTERNATE PRACTICE FIELD STABILIZATION – BERMUDA GRASS SPRIGGING

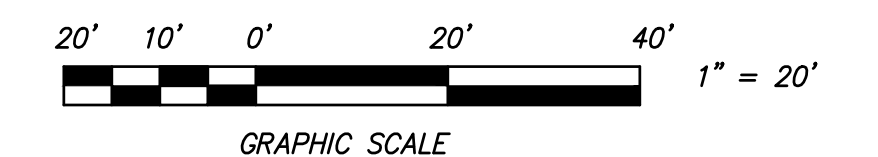
A Bid Alternate is requested to replace the Bermuda grass Sodding with Bermuda grass Sprigging. As with the sodding, Tacoma 31 Bermuda or Patriot Bermuda are the only acceptable varieties.

- Field preparation shall be identical to that required for sodding, except that top of topsoil elevations shall be uniform with those areas to receive permanent seeding measures.
- Sprigs shall be placed as soon as possible following harvest. Time may vary depending on state of dormancy of the parent grass, coordinate closely with supplier.
- Sprigs shall be broadcast over the area by a contractor specializing in sprig placement, using equipment specifically designed for that purpose.
- Included in placement of the sprigs is cutting or pressing into the soil, covering with one-half inch of topdressing, and rolling to firm the seedbed to ensure sprig to soil contact, and immediate watering.
- Sprigs shall be watered immediately after planting, and watered several times daily for several weeks until the turfgrass establishes a root system. Do not sprig more area than can be immediately watered.
- Light, frequent irrigation (4 to 6 times daily) shall be provided until the turfgrass roots become established.
- Contractor's post-sprigging responsibility will match that required for sodding.

PRACTICE FIELD IRRIGATION

The contractor is responsible for providing, installing, and testing a new underground irrigation system to provide coverage of the new practice field and a minimum 3' wide 'shoulder' strip around the field perimeter, for a total coverage area of 45,216 square feet. System to include all required piping, heads, fittings, timers and controls, and all appurtenances required to install a complete and functioning irrigation system. The System shall include means of blowing out the system in advance of freezing temperatures that may cause damages to the system.

- The System shall ensure even water distribution across the entire field to prevent dry patches or areas of excessive watering.
- Installation of the System shall be coordinated with the grading contractor to allow installation of supply piping and stubbing of head supply risers, as may be applicable for each individual system, upon completion of the rough grading operations. Backfilling of any trenches shall be compacted to levels identical to areas surrounding trenches, to avoid settlement over trenches.
- System installation shall be complete, tested, and deemed fully functional prior to placement of sodding or sprigging, such that sod or sprigs may be watered immediately following installation.
- New irrigation system shall be capable of providing one-half inch (1/2") of uniform water coverage per hour.



	<p>NEW STORM DRAIN PROFILES; SODDING, SPRIGGING & IRRIGATION REQUIREMENTS FOR EVENT OFFICIALS' PARKING AND LOWER PRACTICE FIELD REGRADING AT PATRICK HENRY HIGH SCHOOL FOR ROANOKE CITY PUBLIC SCHOOLS SITUATE 2102 GRANDIN ROAD, SW CITY OF ROANOKE, VIRGINIA</p>
	<p>CWA CALDWELL WHITE ASSOCIATES ENGINEERS / SURVEYORS / PLANNERS 4203 MELROSE AVENUE P.O. BOX 6260 ROANOKE, VIRGINIA 24017-0260 (540) 366-3400 FAX: (540) 366-8702</p>
<p>Designed: C.L. White Drawn: C.L. White Checked: C.L. White Date: March 12, 2024 Scale: 1" = 20' Tax Parcel: 1460101 Field Book: Rke City #16 W.O. No.: 23-0048</p>	

SOIL EROSION CONTROL NARRATIVE

PROJECT DESCRIPTION:

THE PURPOSE OF THIS PROJECT IS PRIMARILY TO REGRADE AN EXISTING MONO-PITCH ATHLETIC PRACTICE FIELD TO CONSTRUCT A CROWNED FIELD, THEREBY IMPROVING DRAINAGE AND MAKING THE FIELD MORE USABLE FOLLOWING RAINFALL EVENTS. A SECONDARY PURPOSE IS TO CONSTRUCT EIGHT (8) NEW EVENT-ONLY PARKING STALLS AT THE FIELD HOUSE FOR EVENT OFFICIALS AND COACHES. THE SUBJECT PROPERTY LIES AT THE EASTERN LIMITS OF THE PATRICK HENRY HIGH SCHOOL CAMPUS AT 2102 GRANDIN ROAD IN THE CITY OF ROANOKE, VIRGINIA. THE TOTAL DISTURBED AREA OF THE PROJECT IS ESTIMATED TO BE 67,260 SF = 1.54 AC.

90' FOOTAGE OF DIST. AREA REVISED

EXISTING SITE CONDITIONS:

THE SITE IS CURRENTLY A GRASS COVERED ATHLETIC PRACTICE FIELD AND AN EXISTING GRAVEL ACCESS DRIVE WHICH IS TO BE REMOVED. THE FIELD AREA CURRENTLY DRAINS EASTERLY IN SHEET FLOW TO A DITCH AT THE EDGE OF THE FIELD WHICH DRAINS INTO A CLOSED STORM DRAIN SYSTEM, WHILE THE MAJORITY OF THE GRAVEL DRIVE AREA DRAINS IN SHEET FLOW TO THE ADJACENT PUBLIC ALLEY. THE SUBJECT SITE LIES WITHIN "ZONE 'X'" AS SHOWN ON FEMA FLOOD INSURANCE RATE MAP (FIRM) 51161C0163G, EFFECTIVE DATE 09/28/2007.

EXISTING SOIL CONDITIONS:

TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THERE HAVE BEEN NO SITE-SPECIFIC GEOTECHNICAL INVESTIGATIONS PERFORMED FOR THE SUBJECT PROPERTY. THE USDA WEB SOIL SURVEY IDENTIFIES THE SOILS IN THE AREA OF PROPOSED CONSTRUCTION AS BELONGING TO THE SOIL UNIT GROUP(S) SHOW BELOW:

UNIT CODE	NAME	CHARACTERISTICS	DEPTH TO RESTRICTIVE FEATURE	DRAINAGE CLASS	RUNOFF CLASS	DEPTH TO WATER TABLE	HYDROLOGIC SOIL GROUP
52	UDORMENTS-URBAN LAND COMPLEX	PRIMARYLY AREAS WHICH HAVE BEEN PREVIOUSLY FILLED OR DEVELOPED, AND ARE NOT NATIVE SOILS	> 80 INCHES	VARIES	VARIES	> 80 INCHES	D

ADJACENT PROPERTY:

THE PROJECT SITE IS BOUNDED TO THE NORTH BY PERSINGER AVENUE (ALLEY), TO THE EAST BY BLEHHEIM ROAD, AND TO THE SOUTH AND WEST BY THE REMAINDER OF THE SCHOOL CAMPUS.

OFF-SITE AREAS:

THE LOCATION OF ALL OFF-SITE DISTURBED AREAS ASSOCIATED WITH THE CONSTRUCTION PROJECT SHALL BE PROVIDED TO ROANOKE CITY DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT. AN EROSION CONTROL PLAN OR MEASURES MAY BE REQUIRED FOR THESE AREAS. THE CITY OF ROANOKE OR ITS APPROVED AGENT RESERVES THE RIGHT TO PLACE A STOP WORK ORDER ON THE SUBJECT SITE AND ANY OFF-SITE ASSOCIATED AREAS, SHOULD APPROVED PLANS AND PERMITS NOT EXIST FOR ALL SITES.

CRITICAL AREAS

1. IT IS IMPERATIVE THAT PROTECTIONS BE INSTALLED ALONG THE PERIMETER OF THE WORK AREA, TO PROTECT AGAINST SEDIMENTATION OF THE EXISTING DITCH LINE AND THE EXISTING STORM DRAIN COLLECTION SYSTEMS.
2. PROTECTIONS SHALL BE PROVIDED DOWN GRADIENT OF ANY DISTURBED SOILS, TO FILTER SEDIMENT LADEN RUNOFF PRIOR TO LEAVING THE SITE AND ENTERING THE WATERWAYS.

STORMWATER RUNOFF:

SEE RESPONSE TO MINIMUM STANDARD MS-19 BELOW.

EROSION AND SEDIMENT CONTROL MEASURES:

UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE "VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK", THIRD EDITION.

1. REGARDLESS OF FUTURE DEVELOPMENT PLANS, THE CONTRACTOR SHALL IMMEDIATELY INSTALL EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLANS. THIS WORK SHALL BE COORDINATED IN ORDER TO PROTECT AREAS FROM THE WORK WHICH IS TO FOLLOW. CONTROL AT CENTERS OF FLOW AND OTHER POINTS OF CONCENTRATION SHOWN HEREIN SHALL BE CONSTRUCTED FIRST.
2. FOLLOWING INSTALLATION OF THE PERIMETER CONTROLS, THE SITEWORK CONTRACTOR SHALL BEGIN EARTHWORK OPERATIONS. THE CONTRACTOR SHALL IMMEDIATELY PROCEED WITH CLEARING, GRUBBING, AND GRADING OPERATIONS. DENUIDED AREAS INDICATED ON THESE PLANS TO RECEIVE PERMANENT SEEDING (STD & SPEC 3.32) SHALL BE SEEDDED WITHIN SEVEN (7) DAYS AFTER FINAL GRADING, AND SHALL BE IN STRICT ACCORDANCE WITH THE "VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK", THIRD EDITION.
3. IN GENERAL, ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL, IN PARTICULAR:
 - A. THE CONSTRUCTION ENTRANCE (STD & SPEC 3.02) SHALL BE MAINTAINED IN A CONDITION TO PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAYS.
 - B. ALL SILT FENCE BARRIERS (STD & SPEC 3.05) SHALL BE CHECKED REGULARLY FOR UNDERMINING AND SEDIMENT BUILDUP.
 - C. INLET PROTECTION MEASURES SHALL BE INSPECTED TO INSURE FILTRATION MEASURES ARE EFFECTIVE, AND ARE NOT CHOKED WITH SILT. CLEAN AS NECESSARY TO PREVENT EXCESSIVE PONDING.
 - D. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHALL BE FERTILIZED AND RESEED AS NEEDED.
4. THE SOIL EROSION CONTROL MEASURES INSTALLED FOR THIS CONTRACT SHALL REMAIN IN PLACE UNTIL REMOVAL IS APPROVED BY THE CITY OF ROANOKE INSPECTOR, AT WHICH TIME IT SHALL BE THE SITEWORK CONTRACTOR'S RESPONSIBILITY TO REMOVE ALL TEMPORARY MEASURES FROM THE SITE UNLESS OTHERWISE REQUIRED HEREIN, AND STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH THESE PLANS.

MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES:

- SILT FENCE BARRIERS SHALL BE INSPECTED DAILY AND CLEANED OR REPLACED AS REQUIRED. CLEAN SILT FENCE WHEN SILT MEASURES ONE-HALF THE HEIGHT OF THE FENCE, OR AS REQUIRED.
- STORM DRAIN COLLECTION POINTS SHALL BE PROTECTED USING INLET PROTECTION MEASURES AS OUTLINED HEREIN. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF EXCESS SEDIMENT FROM THE STORM DRAIN STRUCTURES AT ALL TIMES UNTIL THE PROJECT IS COMPLETED AND TURNED OVER TO OWNER.
- PUBLIC STREETS AND ADJACENT PAVED AREAS SHALL REMAIN IN A DUST AND MUD-FREE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD. SHOULD OFF-SITE SEDIMENTATION OCCUR, IT IS THE CONTRACTOR'S RESPONSIBILITY TO RETURN ALL AFFECTED AREAS TO A CONDITION EQUAL TO OR BETTER THAN THE ORIGINAL CONDITION, AT NO ADDED COST TO THE OWNER.
- DISTURBED AREAS THAT ARE NOT PERMANENTLY STABILIZED WITHIN FOURTEEN (14) DAYS SHALL BE PERMANENTLY SEEDDED IN ACCORDANCE WITH STANDARD AND SPECIFICATION 3.31 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.
- ALL PROTECTIVE MEASURES WHICH PERTAIN TO, OR INCLUDE CUT AND FILL SLOPES (SILT FENCE, DIVERSION DIKES, ETC.) SHALL BE INSTALLED AND MAINTAINED AS THE SLOPES COME TO GRADE. ADDITIONAL DIVERSION DIKES WILL BE REQUIRED TO PROTECT DISTURBED AREAS, UNTIL SUCH TIME THAT THE STORM DRAIN SYSTEM IS IN PLACE, AND FUNCTIONALLY PROTECTED FROM SEDIMENT INFILTRATION. TEMPORARY SEEDING OF SLOPES IS TO BE PERFORMED ON A WEEKLY BASIS, UNLESS THE SLOPES ARE TO FINAL GRADE. SLOPES AT FINAL GRADE ARE TO BE PERMANENTLY SEEDDED WITHIN SEVEN DAYS OF REACHING FINAL GRADE.
- THE CONTRACTOR IS REQUIRED TO PROVIDE AND MAINTAIN ALL EROSION CONTROL MEASURES AT THEIR OPTIMUM PERFORMANCE, SUCH THAT ADJOINING AREAS AND DRAINAGEWAYS ARE PROVIDED THE BEST AVAILABLE PROTECTION AT EVERY PHASE OF CONSTRUCTION. IT IS IMPERATIVE THAT SEDIMENT TRANSFER FROM THIS SITE IS MINIMIZED.

PERMANENT STABILIZATION:

UPON ACHIEVING FINISH GRADE ELEVATIONS, ALL DISTURBED AREAS NOT TO RECEIVE HARD SURFACING SHALL BE PERMANENTLY SEEDDED (STD & SPEC 3.32) AS OUTLINED HEREON AND ON THE SOIL EROSION CONTROL PLAN AND DETAIL SHEETS, UNLESS OTHER STABILIZATION MEASURES SUCH AS LANDSCAPE MULCHING ARE PROVIDED.

MAINTENANCE:

THE RESPONSIBLE LAND DISTURBER ON RECORD FOR THIS PROJECT IS RESPONSIBLE FOR IMPLEMENTATION, MAINTENANCE, AND REMOVAL OF ALL EROSION CONTROL MEASURES, AS APPLICABLE.

ALL MEASURES REQUIRED HEREIN SHALL BE MAINTAINED AS OUTLINED IN "CRITICAL AREAS" AND "EROSION AND SEDIMENT CONTROL MEASURES" SECTIONS ABOVE.

GENERAL COMMENTS:

1. THE SITEWORK CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.
2. THE TOWN OF BEDFORD OR THEIR AUTHORIZED AGENT RESERVES THE RIGHT TO ADD TO, DELETE, OR OTHERWISE CHANGE EROSION CONTROL DEVICES AS MAY BE DEEMED NECESSARY, BY WRITTEN NOTIFICATION TO THE CONTRACTOR.
3. NO WORK SHALL PROCEED ON THE SITE UNTIL THE PROPER AUTHORIZATION OR PERMIT HAS BEEN OBTAINED FROM THE CITY OF ROANOKE.
4. THE ENGINEER, CALDWELL WHITE ASSOCIATES, ASSUMES NO RESPONSIBILITY FOR ANY WORK BEING PERFORMED.

STATE IMPOSED MINIMUM STANDARDS

THE FOLLOWING STANDARDS ARE TO BE PROVIDED OR ADDRESSED ON EVERY DEVELOPMENT PROJECT EXCEEDING 10,000 S.F. IN AREA OF DISTURBANCE. THESE STANDARDS ARE CONSIDERED A MINIMUM AND MAY REQUIRE ADDITIONAL MEASURES AS DEEMED NECESSARY BY THE LOCAL APPROVING AUTHORITY OR THE CONSULTING ENGINEER.

No.	CRITERIA, TECHNIQUE OR METHOD	REMARKS
1	PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUIDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE HAS BEEN REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUIDED AREAS THAT MAY BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN FOURTEEN (14) DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE (1) YEAR.	SELF-EXPLANATORY; SEE PERMANENT AND TEMPORARY SEEDING REQUIREMENTS HEREIN.
2	DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.	PROTECT EARTHEN STOCKPILES WITH SILT FENCE AND TEMPORARY SEEDING
3	A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUIDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT, IN THE OPINION OF THE LOCAL PROGRAM ADMINISTRATOR OR DESIGNATED AGENT, IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.	SELF EXPLANATORY - ALL DISTURBED AREAS TO BE STABILIZED WITH GRASS OR HARD SURFACING
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.	SELF EXPLANATORY - REFER TO SILT FENCE REQUIREMENTS
5	STABILIZATION METHODS SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.	NOT APPLICABLE TO SUBJECT DEVELOPMENT
6	SEDIMENT TRAPS AND BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN.	NOT APPLICABLE TO SUBJECT DEVELOPMENT
7	CUT AND FILL SLOPES SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE (1) YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZATION MEASURES UNTIL THE PROBLEM IS CORRECTED.	SELF-EXPLANATORY
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.	SELF-EXPLANATORY
9	WHenever water seeps from a slope face, adequate drainage or other protection shall be provided.	REPORT EVIDENCE OF SEEPS TO ENGINEER IMMEDIATELY UPON DISCOVERY. ADDITIONAL MEASURES MAY BE REQUIRED.
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.	PROVIDE INLET PROTECTIONS PRIOR TO PLACING SYSTEMS INTO SERVICE
11	BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS 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.	NOT APPLICABLE TO SUBJECT DEVELOPMENT
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.	NOT APPLICABLE TO SUBJECT DEVELOPMENT
13	WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX (6) MONTH PERIOD, A TEMPORARY STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL.	NOT APPLICABLE TO SUBJECT DEVELOPMENT
14	ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET. THE BEDS AND BANKS OF ANY WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.	NOT APPLICABLE TO SUBJECT DEVELOPMENT
15	THE BEDS AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.	NOT APPLICABLE TO SUBJECT DEVELOPMENT
16	UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA: 1) NO MORE THAN 500 LINEAR FEET OF ANY TRENCH MAY BE OPENED AT ONE TIME. 2) EXCAVATED MATERIAL SHALL BE PLACED ON THE UPWILL SIDE OF TRENCHES. 3) EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION. 5) STABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS. 6) APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.	SELF-EXPLANATORY. NEW PIPELINE CONSTRUCTION SHALL CONFORM TO THESE REQUIREMENTS.
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.	PROVIDE NEW TEMPORARY CONSTRUCTION ENTRANCE PER REQUIREMENTS CONTAINED HEREIN.
18	ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN THIRTY (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 THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.	REMOVAL OF TEMPORARY MEASURES SHALL BE IN ACCORDANCE WITH MS-18.
19	PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASES 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. STREAM RESTORATION AND RELATION PROJECTS THAT INCORPORATE NATURAL CHANNEL DESIGN CONCEPTS ARE NOT MAN-MADE CHANNELS AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS. 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 TO 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 NOR CAUSE EROSION OF CHANNEL BED OR BANKS. (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 PIPES ARE PREVIOUSLY CONSTRUCTED IN MAN-MADE CHANNELS, THE APPLICANT SHALL: (1) IMPROVE THE CHANNELS 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 WHICH 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 DISSIPATORS 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 MANAGEMENT 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. L. ANY PLAN APPROVED PRIOR TO JULY 1, 2014, THAT PROVIDES FOR STORMWATER MANAGEMENT THAT ADDRESSES ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS SHALL SATISFY THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS IF THE PRACTICES ARE DESIGNED TO (1) DETAIN THE WATER QUALITY VOLUME AND TO RELEASE IT OVER 48 HOURS; (2) DETAIN AND RELEASE OVER A 24-HOUR PERIOD THE EXPECTED PEAK FLOW RATE RESULTING FROM THE ONE-YEAR, 24-HOUR STORM; AND (3) REDUCE THE ALLOWABLE PEAK FLOW RATE RESULTING FROM THE 1.5, 2, AND 10-YEAR, 24-HOUR STORMS TO A LEVEL THAT IS LESS THAN OR EQUAL TO THE PEAK FLOW RATE FROM THE 1.5-YEAR STORM. M. FOR PLANS APPROVED AFTER JULY 1, 2014, THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS OF § 810-1-561 A OF THE ACT AND THIS SUBSECTION SHALL BE SATISFIED BY COMPLIANCE WITH THE VELOCITY REQUIREMENTS IN THE STORMWATER MANAGEMENT ACT (§ 810-1-563 ET SEQ. OF THE CODE OF VIRGINIA) AND ATTENDANT REGULATIONS, UNLESS SUCH LAND-DISTURBING ACTIVITIES ARE IN ACCORDANCE WITH § 41AC50-60-48 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMMP) PERMIT REGULATIONS. N. COMPLIANCE WITH THE WATER QUALITY MINIMUM STANDARDS SET OUT IN 41AC50-60-66 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMMP) PERMIT REGULATIONS SHALL BE DEEMED TO SATISFY THE REQUIREMENTS OF MINIMUM STANDARD 19.	WATER QUALITY: THE ENGINEER HAS PROVIDED THE CITY OF ROANOKE WITH COMPUTATIONS OUTLINING THE NEED FOR 0.13 LB/YEAR OF TOTAL PHOSPHORUS REDUCTION. THIS REQUIREMENT WILL BE MET THROUGH THE PURCHASE OF NUTRIENT CREDITS FROM A VIRGINIA DEQ AUTHORIZED NUTRIENT CREDIT BANK. RUNOFF QUANTITY - CHANNEL PROTECTION & FLOOD PROTECTION: THE ENGINEER HAS PROVIDED THE CITY OF ROANOKE WITH COMPUTATIONS SHOWING THAT THE PROPOSED DEVELOPMENT WILL RESULT IN A REDUCTION OF IMPERVIOUS SURFACES AND THEREFORE WILL YIELD LOWER RATES OF RUNOFF UNDER POST-DEVELOPMENT CONDITIONS THAN UNDER PRE-DEVELOPMENT CONDITIONS FOR ANY GIVEN DESIGN STORM AS THERE IS NO INCREASE IN RUNOFF ASSOCIATED WITH THIS REDEVELOPMENT. THE REQUIREMENTS OF REQUIREMENTS OF § 41AC25-870-66 HAVE BEEN MET.

VESCH TABLE 6-1: GENERAL EROSION AND SEDIMENT CONTROL NOTES:

- ES-1: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS 41AC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS.
- ES-2: THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE- CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.
- ES-3: ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.
- ES-4: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- ES-5: PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.
- 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: 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-8: DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.
- ES-9: THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUN-OFF PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

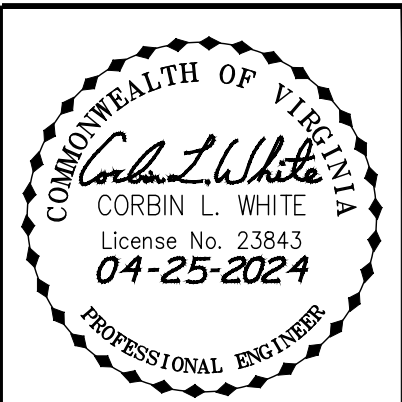
CONSTRUCTION SEQUENCING - SITE SPECIFIC

DURING ALL PHASES OF THIS PROJECT, THE CONTRACTOR SHALL LIMIT LAND DISTURBANCE TO THE AREAS SHOWN HEREIN. ANY LAND DISTURBANCE, SOIL COMPACTION, OR ANY TYPE OF IMPACT TO THE SOILS BEYOND THE APPROVED LIMITS OF CONSTRUCTION MAY RESULT IN A STOP WORK ORDER, NEW DESIGN REQUIREMENTS, ADDITIONAL REVIEW TIME, AND ADDITIONAL CONSTRUCTION REQUIREMENTS.

1. AS A FIRST STEP IN SITE DEVELOPMENT, THE CONTRACTOR SHALL INSTALL THE NEW SILT FENCE BARRIERS AND INLET PROTECTION MEASURES ON THE EXISTING GRATE INLET.
2. ONCE THESE PROTECTIONS ARE IN PLACE, THE NEW STORMWATER INLETS AND PIPING MAY BE INSTALLED, WITH INLET PROTECTIONS PLACED ON EACH NEW INLET AS THEY ARE COMPLETED.
3. REMOVE EXISTING CRUSHED STONE, STRIP SURFICIAL SOILS FROM THE SITE, STOCKPILE AS NEEDED FOR ON-SITE REPLACEMENT, AND DISPOSE OF EXCESS AT AN APPROVED OFF-SITE FACILITY. PROVIDE SILT FENCE AT STOCKPILE PERIMETER AND PROVIDE TEMPORARY SEEDING OF STOCKPILE. UPON COMPLETION OF STRIPPING, CUTS AND FILLS MAY THEN PROCEED TO ROUGH GRADE FOR THE PRACTICE FIELD AND PARKING AREA.
4. UPON REACHING SUBGRADE, REPLACE TOPSOIL ON AREAS TO RECEIVE PERMANENT SEEDING. SEE SHEET C-05 FOR STABILIZATION REQUIREMENTS FOR THE PRACTICE FIELD. PLACE BASE STONE ON AREAS TO BE PAVED.
5. PROVIDE PERMANENT SEEDING AND WATER AS REQUIRED TO FOSTER GERMINATION.
6. ONCE THE SITE IS CONSIDERED STABILIZED BY THE CITY INSPECTOR, THE CONTRACTOR SHALL REMOVE THE TEMPORARY MEASURES AND PERMANENTLY STABILIZE THOSE AREAS AFFECTED BY REMOVAL OF TEMPORARY MEASURES.
7. ONCE THE SITE IS FULLY CONSTRUCTED AND STABILIZED, THE CONTRACTOR SHALL REQUEST PROJECT CLOSEOUT FROM THE CITY INSPECTOR.

LAND DISTURBANCE NOTES

ALL OFF-SITE DISPOSAL OF MATERIALS, AND ASSOCIATED FEES, WILL BE THE SITEWORK CONTRACTOR'S RESPONSIBILITY, AND IS TO BE PERFORMED IN A LEGAL FASHION (APPROVED WASTE SITE). ALL HAULING IS TO BE PERFORMED IN STRICT ACCORDANCE WITH LOCAL, STATE, AND FEDERAL RULES AND REGULATIONS PERTAINING THERETO.



Designed: C.L. White
 Drawn: C.L. White
 Checked: _____
 Date: March 12, 2024
 Scale: As Shown
 Tax Parcel: 1460101
 Field Book: Rke City #16
 W.O. No.: 23-0048

EROSION CONTROL NARRATIVE, MEASURES & CONSTRUCTION SEQUENCING

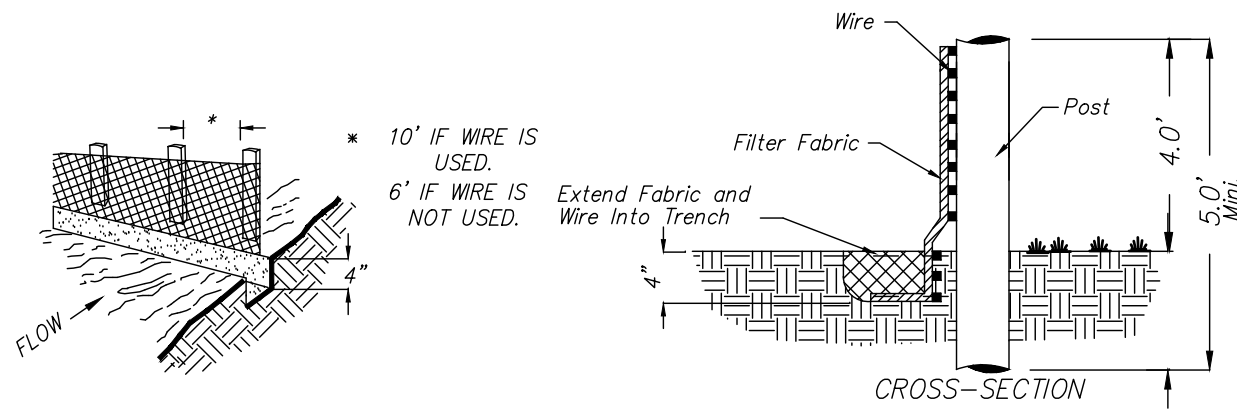
FOR EVENT OFFICIALS' PARKING AND LOWER PRACTICE FIELD REGRAIDING AT PATRICK HENRY HIGH SCHOOL FOR ROANOKE CITY PUBLIC SCHOOLS SITUATE 2102 GRANDIN ROAD, SW CITY OF ROANOKE, VIRGINIA



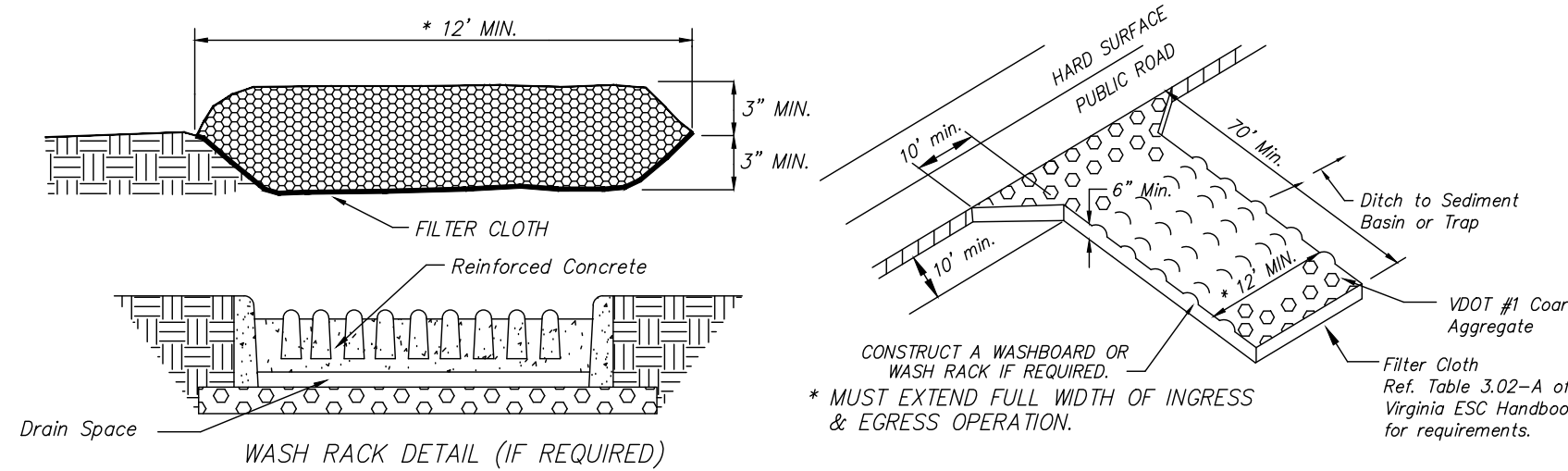
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Revised April 25, 2024 Per First City Review - C.L. White

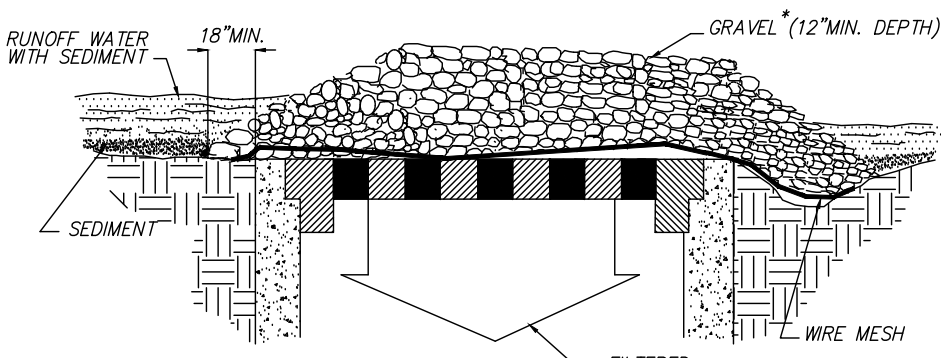
NO.	TITLE	KEY	SYMBOL
3.01	SAFETY FENCE	(SAF)	
3.02	TEMPORARY GRAVEL CONSTRUCTION ENTRANCE	(CE)	
3.03	CONSTRUCTION ROAD STABILIZATION	(CRS)	
3.04	STRAW BALE BARRIER	(STB)	
3.05	SILT FENCE	(SF)	
3.06	BRUSH BARRIER	(BB)	
3.07	STORM DRAIN INLET PROTECTION	(IP)	
3.08	CULVERT INLET PROTECTION	(CIP)	
3.09	TEMPORARY DIVERSION DIKE	(DD)	
3.10	TEMPORARY FILL DIVERSION	(FD)	
3.11	TEMPORARY RIGHT-OF-WAY DIVERSION	(RWD)	
3.12	DIVERSION	(DV)	
3.13	TEMPORARY SEDIMENT TRAP	(ST)	
3.14	TEMPORARY SEDIMENT BASIN	(SB)	
3.15	TEMPORARY SLOPE DRAIN	(TSD)	
3.16	PAVED FLUME	(PF)	
3.17	STORMWATER CONVEYANCE CHANNEL	(SCC)	
3.18	OUTLET PROTECTION	(OP)	
3.19	RIPRAP	(RR)	
3.20	ROCK CHECK DAMS	(CD)	
3.21	LEVEL SPREADER	(LS)	
3.22	VEGETATIVE STREAMBANK STABILIZATION	(VSS)	
3.23	STRUCTURAL STREAMBANK STABILIZATION	(SSS)	
3.24	TEMPORARY VEHICULAR STREAM CROSSING	(VSC)	
3.25	UTILITY STREAM CROSSING	(USC)	
3.26	DEWATERING STRUCTURE	(DS)	
3.27	TURBIDITY CURTAIN	(TC)	
3.28	SUBSURFACE DRAIN	(SD)	
3.29	SURFACE ROUGHENING	(SR)	
3.30	TOPSOILING	(TO)	
3.31	TEMPORARY SEEDING	(TS)	
3.32	PERMANENT SEEDING	(PS)	
3.33	SODDING	(SO)	
3.34	BERMUDA GRASS AND ZOYSIAURASS ESTABLISHMENT	(BE/ZE)	
3.35	MULCHING	(MU)	
3.36	SOIL STABILIZATION BLANKETS AND MATTING	(B/M)	
3.37	TREES, SHRUBS, VINES AND GROUND COVERS	(VEG)	
3.38	TREE PRESERVATION AND PROTECTION	(TP)	
3.39	DUST CONTROL	(DC)	



(SF) CONSTRUCTION OF A SILT FENCE (STD & SPEC 3.05)



(CE) TEMPORARY GRAVEL CONSTRUCTION ENTRANCE (STD & SPEC 3.02)



(IP) GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER (STD & SPEC 3.07)

DISTURBED AREAS SHALL BE PERMANENTLY SEEDDED WITHIN SEVEN (7) DAYS OF ACHIEVING FINAL GRADE, OR ON DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE WITHIN ONE YEAR.

PERMANENT SEEDING SPECIFICATIONS FOR APPALACHIAN / MOUNTAIN AREA

LAND USE	SPECIES	APPLICATION RATES
MINIMUM CARE LAWN (COMMERCIAL OR RESIDENTIAL)	TALL FESCUE(1) PERENNIAL RYEGRASS (2) KENTUCKY BLUEGRASS	90-100% 0-10% 0-10% TOTAL 200-250LBS/ACRE

HIGH-MAINTENANCE LAWN	MINIMUM OF THREE UP TO FIVE VARIETIES OF KENTUCKY BLUEGRASS FROM APPROVED LIST FOR USE IN VIRGINIA(1)	TOTAL 125 LBS/ACRE
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GENERAL SLOPE (3:1 OR LESS)	TALL FESCUE (1) RED TOP GRASS OR CREEPING RED FESCUE SEASONAL NURSE CROP (3)	128 LBS 2 LBS 20 LBS TOTAL 150 LBS/ACRE
-----------------------------	--	--

LOW-MAINTENANCE SLOPE (STEEPER THAN 3:1)	TALL FESCUE (1) RED TOP GRASS OR CREEPING RED FESCUE SEASONAL NURSE CROP (3) CROWN VETCH (4)	108 LBS 2 LBS 20 LBS 20 LBS TOTAL 150 LBS/ACRE
--	---	--

- (1) WHEN SELECTING VARIETIES OF TURFGRASS, USE THE VIRGINIA CROP IMPROVEMENT ASSOCIATION (VCA) RECOMMENDED TURFGRASS VARIETY LIST. QUALITY SEED WILL BEAR A LABEL INDICATING THAT THEY ARE APPROVED BY VCA. A CURRENT TURFGRASS VARIETY LIST IS AVAILABLE AT THE LOCAL COUNTY EXTENSION OFFICE OR THROUGH VCA AT 804-746-4684.
- (2) PERENNIAL RYEGRASS WILL GERMINATE FASTER AND AT LOWER SOIL TEMPERATURES THAN TALL FESCUES, THEREBY PROVIDING COVER AND EROSION RESISTANCE FOR SEEDS.
- (3) USE SEASONAL NURSE CROP IN ACCORDANCE WITH SEEDING DATES AS STATED BELOW:
MARCH, APRIL - MAY 15TH - ANNUAL RYE
MAY 16TH - AUGUST 15TH - FODDER MILET
AUGUST 16TH - SEPTEMBER, OCTOBER - ANNUAL RYE
NOVEMBER-FEBRUARY - WINTER RYE
- (4) ALL LEGUME SEED MUST BE PROPERLY INOCULATED, IF FLATPEA IS USED, INCREASE TO 30 LBS/ACRE. IF WEEPING LOVEGRASS IS USED, INCLUDE IN ANY SLOPE OR LOW MAINTENANCE MIXTURE DURING WARMER SEEDING PERIODS, INCREASE TO 30-40 LBS/ACRE.

FERTILIZER & LIME

- APPLY 10-20-10 FERTILIZER AT A RATE OF 500 LBS/ACRE (OR 12 LBS/1000 SQUARE FEET)
- APPLY PULVERIZED AGRICULTURAL LIMESTONE AT A RATE OF 2 TONS/ACRE (OR 90 LBS/1000 SQUARE FEET)

NOTE:

- A SOIL TEST IS NECESSARY TO DETERMINE THE ACTUAL AMOUNT OF LIME REQUIRED TO ADJUST THE SOIL PH OF SITE.
- INCORPORATE THE LIME AND FERTILIZER INTO THE TOP 4-6 INCHES OF SOIL BY DISKING OR OTHER MEANS.
- WHEN APPLYING SLOWLY AVAILABLE NITROGEN, USE RATES AVAILABLE IN "EROSION & SEDIMENT CONTROL TECHNICAL BULLETIN #4, 2003 NUTRIENT MANAGEMENT FOR DEVELOPMENT SITES" AT <http://www.deq.virginia.gov/Portals/0/DEQ/Water/Publications/ESCTechnicalBulletin4.pdf>.

MULCH:

- IF REQUIRED, SHALL BE USED OVER ALL SEEDING AREAS AND SHALL BE APPLIED IN ACCORDANCE WITH SECTION 1.75 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.

SOIL CONDITIONING:

- INCORPORATION OF LIME AND FERTILIZER, SELECTION OF CERTIFIED SEED, MULCHING, MAINTENANCE OF NEW SEEDLINGS, AND RESEEDING SHALL BE IN ACCORDANCE WITH SPECIFICATIONS CONTAINED WITHIN THE VIRGINIA SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION. ADDITIONAL SEEDING TO BE PERFORMED AS REQUIRED BY THE INSPECTOR.

SEED APPLICATION:

- APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER ON A FIRM, FRIABLE, SEEDBED. MAXIMUM SEEDING DEPTH SHALL BE 1/4" INCH.

(PS) PERMANENT SEEDING MIXTURE (STD & SPEC 3.32)

DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A PERIOD OF MORE THAN 14 DAYS SHALL BE STABILIZED WITH TEMPORARY SEEDING MEASURES AS SHOWN HEREON, AND AS FURTHER DETAILED AS "STANDARD AND SPECIFICATION 3.31 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK", LATEST EDITION. IN ADDITION TO AREAS OF GENERAL GRADING THAT WILL NOT BE FINE-GRADED FOR GREATER THAN 14 DAYS, THE FOLLOWING SPECIFIC ERAS MEASURES SHALL BE STABILIZED WITH TEMPORARY SEEDING IMMEDIATELY UPON COMPLETION OF CONSTRUCTION OF THE TEMPORARY MEASURE:

- SOIL STOCKPILES
- DIKES, DAMS, AND SIDES OF SEDIMENT BASINS
- TEMPORARY ROADWAY EMBANKMENTS

PRIOR TO SEEDING, INSTALL NECESSARY EROSION CONTROL PRACTICES SUCH AS DIKES, WATERWAYS, AND BASINS. PROVIDE PLANTS AS SPECIFIED HEREIN, OR ENGINEER-APPROVED EQUAL.

LIME APPLICATION:

ADJUSTING THE SOIL PH BETWEEN 6.25 TO 6.5 IS EXTREMELY IMPORTANT FOR GRASS ESTABLISHMENT. A SOIL TEST IS NECESSARY TO DETERMINE THE ACTUAL AMOUNT OF LIME REQUIRED TO ADJUST THE SOIL PH OF DENuded SITES. HOWEVER, WHEN A SOIL TEST HAS NOT BEEN PERFORMED, APPLY 2 TONS/ACRE (90 POUNDS/1,000 SQUARE FEET) OF PULVERIZED AGRICULTURAL GRADE LIMESTONE.

FERTILIZER SHALL BE APPLIED AS 450 LBS/ACRE OF 10-10-10 OR EQUIVALENT NUTRIENTS. LIME (AS APPLICABLE) AND FERTILIZER SHALL BE INCORPORATED INTO THE TOP 4 TO 6 INCHES OF SOIL BY DISKING OR OTHER MEANS. WHEN APPLYING SLOWLY AVAILABLE NITROGEN, USE RATES AVAILABLE IN "EROSION & SEDIMENT CONTROL TECHNICAL BULLETIN #4, 2003 NUTRIENT MANAGEMENT FOR DEVELOPMENT SITES" AT <http://www.deq.virginia.gov/Portals/0/DEQ/Water/Publications/ESCTechnicalBulletin4.pdf>.

SURFACE ROUGHENING SHALL BE REQUIRED WHERE AREAS TO BE SEEDDED HAVE BEEN COMPACTED, CRUSTED, OR HARDENED BY CONSTRUCTION TRAFFIC. AS REQUIRED, SEEDBEDS SHALL BE ROUGHENED IN ACCORDANCE WITH STANDARD AND SPECIFICATION 3.29 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. (TRACKING WITH BULLDOZER CLEATS SHALL BE USED IN SANDY SOILS.)

SEEDING:

SEED SHALL BE EVENLY APPLIED WITH THE SAME MEANS SPECIFIED HEREIN FOR PERMANENT SEEDING. SMALL GRAINS SHALL BE PLANTED NO MORE THAN ONE INCH DEEP. GRASSES AND LEGUMES SHALL BE PLANTED WITH NO LESS THAN 1/4" OF SOIL COVER.

MULCHING:

SEEDINGS MADE IN FALL FOR WINTER COVER AND DURING HOT AND DRY SUMMER MONTHS SHALL BE MULCHED ACCORDING TO STANDARD AND SPECIFICATION 3.35 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, EXCEPT THAT FIBER MULCH MAY NOT BE USED. STRAW MULCH SHALL BE USED DURING THESE PERIODS.

TEMPORARY SEEDINGS MADE UNDER FAVORABLE SOIL AND SITE CONDITIONS DURING OPTIMUM SPRING AND FALL SEEDING DATES MAY NOT REQUIRE MULCH.

RE-SEEDING:

AREAS WHICH FAIL TO ESTABLISH VEGETATIVE COVER ADEQUATE TO PREVENT RILL EROSION SHALL BE RE-SEEDDED AS SOON AS SUCH AREAS ARE IDENTIFIED.

ACCEPTABLE TEMPORARY SEEDING PLANT MATERIALS BY RANGE OF PLANTING DATES:

09/01 to 02/15	ANNUAL RYEGRASS @ 50 LB / ACRE
	WINTER RYE @ 50 LB / ACRE
02/16 to 04/30	ANNUAL RYEGRASS @ 100 LB / ACRE
05/01 to 08/31	GERMAN MILLET @ 50 LB / ACRE

(TS) TEMPORARY SEEDING (STD & SPEC 3.31)

CALDWELL WHITE
CORBIN L. WHITE
License No. 23843
03-12-2024
PROFESSIONAL ENGINEER

DETAILS - SOIL EROSION & SEDIMENTATION CONTROL
FOR
EVENT OFFICIALS' PARKING AND LOWER PRACTICE FIELD REGRADING
AT
PATRICK HENRY HIGH SCHOOL
FOR
ROANOKE CITY PUBLIC SCHOOLS
SITUATE 2102 GRANDIN ROAD, SW
CITY OF ROANOKE, VIRGINIA

Designed: C.L. White
Drawn: C.L. White
Checked: C.L. White
Date: March 12, 2024
Scale: As Shown
Tax Parcel: 1460101
Field Book: Rke City #16
W.O. No.: 23-0048

CWA
CALDWELL WHITE ASSOCIATES
ENGINEERS / SURVEYORS / PLANNERS
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