COMMENCEMENT OWNER/DEVELOPE NOTES ^뜻 유 MPLY WITH THE APPLICABLE

ID MATERIALS (ASTM),

IGINIA DEPARTMENT OF

MENT CONTROL HANDBOOK (ESC

OF HEALTH (VDH) AND/OR

DATIONS OF APPLICABLE

D AS PART OF THIS CONTRACT. 품

ALL WORK WITHIN PUBLIC R/W SHALL ADHERE TO THE CITY OF ROA AND RESTORATION STANDARDS. COPIES OF THESE STANDARDS ARE THE CITY OR ONLINE IN *.PDF FORMAT AT WWW.ROANOKEVA.GOV. SPECIFIC AREAS TO ADDRESS INCLUDE:

A. WIDTHS AND DEPTHS OF PAVEMENT RESTORATION INCLUDING EITH OR MILL AND OVERLAY.

B. PAVEMENT MARKING REPLACEMENT OR ADDITIONS WHERE DISTURE RELOCATED.

C. SIGNALIZED INTERSECTIONS: AFTER LOOP DETECTOR LOCATION E ALL LOOPS DISTURBED SHALL BE REPLACED OR REPAIRED WITHIN TO ANYS N DEBRIS SHALL BE COL ACT. NO LESS TO LL DAMAGED MATERIA FILL, BACKFILL OR TO DISPOSE OF OFFSITE. D IN ACCORDANCE WITH THE TER RECEPTACLE SHALL BE
JS EXCAVATED MATERIAL NOT L BECOME THE PROPERTY OF S, WITHOUT INJURY TO THE DISTURBED EITHER ROANOKE EXCAVATION ARE AVAILABLE AT 유

OBTAIN AND F 70 ARCHITECTURAL SUPPLY CITY OF WAY OF . STREET OPENING I DRAWINGS REQUIRED OF-WAY. FOR SCORING PATTERNS. В

PERMITS

AND

징

WIHTIN

BOND,

AND

GRADING CLEAR, GR ORGANIC N TO THE EX TRENCHING OWN WERE RIP: ALL VEGETATION AND OVERBURDEN INCLUDING AND ANY UNSATISFACTORY SOIL MATERIALS, SHALL GRADING PLAN. NOTES

COMPACTION: FILL MATERIAL SHALL BE PLACED IN LIFTS NOT EXCEEDING SIX (6) INCHES AND COMPACTED TO NINETY-FIVE (95) PERCENT OF ITS MAXIMUM DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D698 (STANDARD PROCTOR). SEPARA PROCTORS SHALL BE RUN FOR EACH SOIL TYPE BEING USED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INFORM THE TESTING AGENCY OF SOURCES OF FOR BACKFILL MATERIAL OTHER THAN THAT OBTAINED ON-SITE. WAY: ALL TRENCHING, BACKFILLING WAY SHALL CONFORM TO THE CITY REMENTS INCLUDING TESTING AND IN AND PATCHING WITHIN PUIL
OF ROANOKE AND WVWA SINSPECTION PROCEDURES.

AND

PER

¥D0T

REQUIREMENTS

NOTES ALL CONSTRUE WITH THE VO UTILITIES Z ODS AND MATERIALS SHALL E & BRIDGE STANDARDS & SPEC JIREMENTS OF THE CITY OF R 0 LAYING ᅻ BE IN ECIFICATIONS,"

DRAINAGE DRAINAL ATURAL TO THE TING DOV NOTES TOR SHALL IN THROUGH ON AND NO EDRAINAGE S To 유

MATERIALS: RAIN WATE POLYVINYL—CHLORIDE F AND CONFORMING TO A SHALL BE CAST IRON A RECONDITIONING EXISTING SURFACES TO REMAIN: RECONDITION EXISTING SURFACES DAMAGED BY-CONTRACTOR'S OPERATIONS, INCLUDING STORAGE OF MATERIALS AND EQUIPMENT, AND MOVEMENT OF VEHICLES. ALSO RECONDITION EXISTING LANDSCAPE AREAS WHERE MINOR REGRADING IS REQUIRED. FLOOD: THE SUBJECT FLOOD BOUNDARY. TER COLLECTION PIPE AND PIPE (PVC) INSTALLED INSTALLED INSTALLED IN ASTAM F-405 AND VDOTAL AS APPROVED BY THE \overline{S} NOT LED PER MANUFACTURER'S INSTRUCTIONS VDOT SECTION 240. ALL VISIBLE OUTLETS THE ARCHITECT. 유 Ħ H 100

WATER NOTES

STANDARDS: CONSTRUCTION OF ALL WATER LINES, STRUCTURES, AND PAVEMENT REPLACEMENT SHALL CONFORM TO THE REQUIREMENTS OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) "ROAD AND BRIDGE STANDARDS AND SPECIFICATIONS" AND THE COMMONWEALTH OF VIRGINIA/STATE BOARD OF HEALTH (VDH) "WATER WORKS REGULATIONS" LATEST EDITIONS, AS MINIMUM STANDARDS, AS WELL AS THOSE OF THE WESTERN VIRGINIA WATER AUTHORITY (WVWA). SEE DETAILS. THOSE A total of described a locations. The surface at warehouse

HIS WORK. & COVER: IN N AREAS 3 OF FINIS S OF WANTED S WATER LINE ID SUBGRADE E CONSTRUCTION, GRADES SE PRIOR TO THE COMMENCE (3)

THE CONTRACTOR SHALL COMPLY WITH THE PERTAINING TO SEPARATION OF WATER AND AND TO STATE WATER WORKS SANITARY SEWER.

MATERIALS AND BEDDING:
JOINTS. DUCTILE IRON PI
FITTINGS SHALL CONFORM
SHALL BE BITUMINOUS CC
C-104/ANSI 21.50 AND SINDICATED OTHERWISE. B
AND SPEC. BEDDING: WATER PIPE SHALL BE DUCTILE IRON WITH PUSH-ON E IRON PIPE SHALL CONFORM TO AWWA C-151/ANSI 21.51 AND CONFORM TO AWWA C-110/ANSI 21.10. THE PIPE AND FITTINGS MINOUS COATED AND CEMENT LINED IN ACCORDANCE WITH AWWA 50 AND SHALL BE CLASS 50, AS A MINIMUM, UNLESS SPECIFIED RWISE. BEDDING AND BACKFILLING SHALL BE PER VDOT STANDAF RDS RDS MS-19 lan as in the minimum s impervious su surfaces at o

PIPE SHALL BE TYPE K COPPER TUBING. ALL COMPRESSION FITTINGS. FITTINGS FOR SERVICE LINES C-800-05. TRANSITION TO CPVC INSIDE BUILDING.

e and pertinent appanying drainage ards are met as

action responses are included on this sheet as well age calculation package. MS-19 are considered and appropriate for this project.

SERVICE: WATER SERVICE I CONNECTIONS SHALL USE (SHALL MEET AWWA SPEC.

LOCATE AND UNCOVER OF PAVED AREAS AND

SURFACE & COVER: 1
(3) FEET OVER THE (
FINISHED SUBGRADE I
COVER OVER PROPOS

SEPARATION: THE CONTRACTOR SH REGULATIONS PERTAINING TO SEPAI THE SEWER CANNOT MAINTAIN TEN EDGE TO EDGE OR EIGHTEEN (18) I (BELOW WATERLINE), THE SEWER SH MECHANICAL JOINT WATER PIPE AN WITHOUT LEAKAGE PRIOR TO BACKE MATERIAL & BEDDING: PIPE AND SDR-35 AND SHALL CONFORM TO STANDARD AND SPEC. (CLASS B ACCORDING TO VDOT STANDARDS. ID FITTINGS SHALL BE POLYVINYL CHLORIDE (PVC)
TO ASTM D-3034. BEDDING SHALL BE PER VDOT
B MIN.). ALL TRENCHES SHALL BE COMPACTED

FINISH GRADE:
MANHOLES AFT
THE TOPS TO F MANHOLE
PRECAST (
SEAL GAS)
WITH AN A TAPS: ALL CONNECTIONS TO EX E CONNECTIONS: PIPE S T OPENINGS AND JOINED ASKET. TRANSITIONS BE L'ADAPTER COUPLING AF RADE: THE CONTRACTOR :
S AFTER PAVEMENT/SURF
TO FINAL ROAD GRADES R SHALL LOCATE AND UNCOVER ALL SRFACE TREATMENT OF PAVED AREASES, IF NECESSARY. VALL BE CONNECTED TO MANHOLES THROUMITH EITHER A FLEXIBLE BOOT ADAPTER WEEN ALLOWABLE TYPES OF PIPE SHALL PROVED BY THE WVWA WITHIN THE RIGHT-OR A PIPE BE MADE -OF-WAY.

OSION & SEDIMENT CONTROL NOTES

usturbing activities:
h, upon approval of t
ved. Trapped sedime
ures shall be perman to c during DE(

all erosion control measures at least every 2 weeks and ducing rainfall event. Any necessary repairs or cleanup to rosion control devices shall be made immediately. The lated with this project shall maintain written monitoring DEQ Stormwater Compliance Specialist upon request.

Plan with all attachments, reports, etc. shall be retained by the contracto at least three (3) years from the date that the site is finally stabilized.

RESPONSIBLE LAND DISTURBER
Upon award of the Construction
a Respansible Land Disturber, wh
Quality. The name of this perso
to the State and local ESC plan
along with copies of their certific
Responsible Land Disturber for th
for carrying out the land—disturb
Responsible Land Disturber chang
the Land Disturbing Permit will b
Hereinafter RLD shall be interprethe this plan, narrative, and the
the "Operator". who is certified by the Department of Environmental rson is to be designated in writing by the Contractor an approving authorities, the A/E, and the Owner liftication prior to any land disturbance. The this project shall be in charge of and is responsible urbing activities on this project. Should the certified ange at any time during the life of this project then I become void and a new Permit must be obtained. Stretch as the Responsible Land Disturber. Relative to the issued land disturbance permit the RLD shall be

The existing front and rear concrete docks will undisturbed, and new concrete docks installed. planters and graveled areas in place of some ill eliminate existing parking adjacent to Salem iminate abandoned railroad tracks and replace

/ metal warehou ea. Two—thirds () one—third will

use structure will be removed an of the existing concrete building be replaced with a permeable

of approximately 0.10 clabove, the existing state of the disturbed areas of the outdoor patio are where utilities enter parking lot will the parking asphalt will re—striped. An existing one story structure the stone base of the structure will not be laced over the stone base. s will be disturbed as part of this project. As base is not intended to be disturbed in most associated with construction of the permeable and at the back of the existing four—story property. **¥**∷

eveloped, constracks. No a the building southeast consisting of two existing buing areas of the project site of a consisting to the northeast and the constant of the constant of the consisting building the consisting of two existing building the consisting building the consisting of two existing building the consisting building the consisting building the consisting of the project site of the project site of the project site of the project site of the consisting building building the consisting building bui

CRITICAL EROSION AREAS
There are no critical erosin flat and previously developments. associated with this site. The site is relatively reas result from excavation of an y contained by adjacent existing impervious the disturbed sub grade.

IN AREAS
CROWN OF
PRIOR TO
SED LINES SEWER CONSTRUCTION, GRADES SHALL BE THREE HE PIPE TO BE LAID OR WITHIN SIX (6) INCHES OF E COMMENCEMENT OF THIS WORK. MINIMUM CLEAR ALL BE THREE (3) FEET.

R SHALL COMPLY WITH THE STATE WATER WORKS SEPARATION OF WATER AND SANITARY SEWER. WHEN TEN (10) FEET HORIZONTAL SEPARATION MEASURED 18) INCHES VERTICAL SEPARATION EDGE TO EDGE IR SHALL BE CONSTRUCTED OF AWWA APPROVED E AND PRESSURE TESTED IN PLACE TO FIFTY (50) PSI ACKFILLING.

ВΥ Construction shall be seque is as brief as possible. The RLD shall notify the Architect inspected and approved all in-pla SO

MS−4

RMANENT VEGETATION

permanent vegetative cover shall be established on denuded permanent vegetation shall sidered established until a ground cover is achieved that, is ture enough to survive and will inhibit erosion.

ING AND STABILIZATION OF SEDIMENT TRAPPING MEASURES diment basins and traps, perimeter dikes, sediment barriers asures intended to trap sediment shall be constructed as a firm of a sure of the sediment shall be constructed as a firm of the sediment of the sediment shall be made functional before up turbance takes place. TEMPORARY RIGHT OF WAY DIVERSION

MS-3 N/A

PERMA A peri otherw conside

Limits of disturbance shall be honored. line installation shall be limited to within centerline. ding the Any disturbance r ten (10) feet of

Ensure and demonstrate compliance with applicable State and/or local wastewater disposal, sanitary sewer or septic system regulations.

regularly ed areas.

Right—of—Way Diversion shall be checked integrity. Replace any damaged or erode

UNDERGROUND UTILITY INSTALLATION
Underground utility lines shall be installed in accordance with standards in addition to other applicable criteria:

1. No more than 500 linear feet of trench may be open at 2. Excavated material shall be placed on the uphill side of 3. Effluent from dewatering operations shall be filtered or papproved sediment trapping device, or both, and discharg that does not adversely affect flowing streams or aff-sit 4. Re-establishment of disturbed area shall be accomplished the ESC Handbook and contract documents.

5. Applicable safety regulations shall be complied with.

DISPLAY & STATUS OF PLAN
Plan must be maintained on—site and kept available from the date of commencement of construction to stabilization. Note that this narrative and RLD's log all certifications are part of the plan (keep with this the date of final you inspection repositions of inspection repositions of inspection repositions. times

PERMANENT STABILIZATION
Permanent or temporary soil stabilization shall be applied to denude within seven (7) days after final grade is reached on any portion or Temporary soil stabilization shall be applied within seven (7) days to areas that may not be at final grade but will remain dormant for thirty (30) days. Permanent stabilization shall be applied to areas be left dormant for more than one year. IAGEMENT STRATEGIES
The RLD shall be responsible for the installation and maintenance erosion and sediment control practices maintaining them in good effective operating condition. when the local governing official se erosion and sediment control

Temporary seeding or other stabilization shall follow within grading, or installation if a temporary measure. that the duration required for the utility 7 days

materials, garbage, State, except as au

MS-6 N/A MS-5

DIMENT BASINS
Idiment traps and sediment basins shall be designed and constructed based on the total drainage area to be served by the trap or basin. The minimum storage capacity of a sediment trap shall be 134 cubic yards and three acres.

In three acres area and the trap shall only control drainage areas less areas greater than or equal to three acres shall be controlled by a sediment asin. The minimum storage capacity of a sediment basin shall be 134 bic yards per acre of drainage area. The outfall system shall, at a inimum, maintain the structural integrity of the basin during a twenty—five areas shall correspond to a bare earth condition or those conditions shall correspond to a bare earth condition or those conditions pected to exist while the sediment basin is utilized.

ADJUST

Where sediment is transported onto a public road surface, the road shall be cleaned thoroughly at the end of each day, at a minimum. Sediment shall be removed by shoveling or sweeping. Cleared sediment shall be returned to the point of likely origin or other suitable location. The generation of dust shall be minimized. Bulk clearing of accumulated sediment shall not include flushing the area with water. Street washing shall be allowed only after sediment has been so removed. N/A

MS-8 <u>CUT AND FILL SLOPES</u>
Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.

All sediment removed from sediment trapping measures or clean operations shall be appropriately wasted so as not to become a sediment problem elsewhere.

MS-9 MS-10

SEEPS FROM A SLOPE FACE on shall be provided.

MS-11 N/A IZATION OF OUTLETS newly constructed stormwater conveyance channels or pipes are made lonal, adequate outlet protection and any required temporary or nent channel lining shall be installed in both the conveyance channel sceiving channel.

Work in a live watercourse is work in a live watercourse in ize encroachment, control so the greatest extent perial shall be used for the case fill may be used for the radiation. e is performed, pre of sediment transpo possible during of construction of construction of construction of constructures

<u>APPLICABLE REGULATIONS</u> All applicable federal, state and local regulations crossing live watercourses shall be met. crossed by construction vehicles more than, a temporary vehicular stream crossing al shall be provided.

MS-14 N/A

N/A

MS-16

Z X

UTILITY Underg standa No mo LITY CONSTRUCTION

derground utility lines shall be installed in accordance with the following ndards in addition to other applicable criteria:

more than 500 linear feet of trench may be opened at one time. avated material shall be placed on the uphill side of trenches. Usent from dewatering operations shall be filtered or passed through an proved sediment trapping device, or both, and discharged in a manner at does not adversely affect flowing streams or off—site property. The terial used for backfilling trenches shall be properly compacted in order to simize erosion and promote stabilization.

Stabilization shall be accomplished in accordance with these regulations. plicable safety regulations shall be complied with.

CONSTRUCTION ACCESS ROUTES
Where construction vehicle access routes intersect paved or public roads, provisions shall be made to minimize the transport of sediment by vehicular tracking onto the paved surface. Where sediment is transported onto a paved or public road surface, the road surface shall be cleaned thoroughly at the end of each day. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual development lots as well as to larger land—disturbing activities.

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

MS-18

ROTECTION OF DOWNSTREAM PROPERTIES AND WATERWAYS reperties and waterways downstream from development sites shall be rotected from sediment deposition, erosion and damage due to increases in blume, velocity and peak flow rate of stormwater runoff for the stated equency storm of 24—hour duration in accordance with the following tandards and criteria. Stream restoration and relocation projects that incorporate natural channel design concepts are not man—made channels and hall be exempt from any flow rate capacity and velocity requirements for atural or man—made channels: oncentrated stormwater runoff leaving a development site shall be ischarged directly into an adequate natural or man—made receiving channel, ipe or storm sewer system. For those sites where runoff is discharged into pipe or pipe system, downstream stability analyses at the outfall of the pipe or pipe system shall be performed.

dequacy of all channels and pipes shall be verified in the following manner: applicant shall demonstrate that the total drainage area to the point of ysis within the channel is one hundred times greater than the contributing nage area of the project in question; or OTRIBUTING DRAINAGE AREA OF THE PROJECT IS 0.972 ACRES. CONTRIBUTING DRAINAGE AREA OF THE PROJECT IS 0.972 ACRES. THE POINT OF ANALYSIS ATERSHED IS OVER 100X GREATER THAN THE CONTRIBUTING DRAINAGE AREA OF THE ROJECT. SEE DRAINAGE AREA OF THE CONTRIBUTING DRAINAGE AREA OF THE ROJECT. SEE DRAINAGE AREA OF THE CONTRIBUTING DRAINAGE AREA OF THE ROJECT. SEE DRAINAGE AREA OF THE CONTRIBUTING DRAINAGE AREA OF THE ROJECT. SEE DRAINAGE AREA OF THE CONTRIBUTING DRAINAGE AREA OF THE ROJECT. SEE DRAINAGE AREA OF THE CONTRIBUTING DRAINAGE AREA OF THE ROJECT. SEE DRAINAGE AREA OF THE CONTRIBUTING DRAINAGE AREA OF THE ROJECT. SEE DRAINAGE AREA OF THE

STABIL During stabiliz respon soil s transp ZATION OF DENUDED AREAS ent or temporary soil stabilization shall be applied to denuded areas seven days after final grade is reached on any portion of the site. ary soil stabilization shall be applied within seven days to denuded that may not be at final grade but will remain dormant for longer days. Permanent stabilization shall be applied to areas that are to dormant for more than one year.

JZATION OF SOIL STOCKPILES construction of the project, soil stockpiles and borrow areas shall censtruction of the project, soil stockpiles and borrow areas shall zed or protected with sediment trapping measures. The applicant sible for the temporary protection and permanent stabilization of stockpiles on site as well as borrow areas and soil intentions orted from the project site.

channels or pipes are not adequate, the applicant shall:

Improve the channels to a condition where a 10-year storm will not overtop the banks and a two-year storm will not cause erosion to the channel, the bed, or the banks; or

Improve the pipe or pipe system to a condition where the 10-year storm is contained within the appurtenances;

Develop a site design that will not cause the pre-development peak runoff rate from a two-year storm to increase when runoff outfalls into a natural channel or will not cause the pre-development peak runoff rate from a combination of channel improvement, stormwater detention or other measures which is satisfactory to the VESCP authority to prevent downstream erosion.

Baskervil

The poplicant shall provide evidence of permission to make the improvements.

All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development condition of the subject project.

In hydrologic analyses an option that includes stormwater detention, he shall obtain approval from the VESCP of a plan for maintenance of the facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance. And in the project of the facility and the person responsible for performing the maintenance of the facility and the person responsible for performing the maintenance. And in energy dissipators shall be placed at the outfall of all detention facilities are precessory to provide a stabilized transition from the facility to the exceiving channel, and in existing development from the facility to the exceiving channel, pipe or pipe system, or to a detention facility.

In applying these stormwater management criteria, individual lots or parceis 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 a residential, commercial or industrial development project. Hydrologic parameters that reflect the ultimate development project. Hydrologic parameters that reflect the projects and waterways shall be enabled to exist the state.

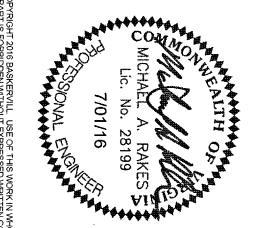
NA measures used to protect properties and waterways shall be employed in the entry of thems, streams and other waters of the state.

NA hyl plan approved prior to July 1, 2014, that provides for stormwater monagement that our managements for natural or man-made channels shall satisfy the flow rate capacity and velocity requirements to a protect properties and waterways shall be employed in the project programment of the provides of the project of the state of the project of the capacity and velocity requirements for natural or management t

403 SALEM LLC

2.140313.0 403 SALEM AVE

403 - 409 SALEM AVENUE SW ROANOKE, VA 24016



7/1/16 - ISSUE FOR PERMIT

DATE 7/25/16 8/25/16 REVISIONS
ADDENDUM 1
ADDENDUM 2

NUMBER 1 2

CIVIL -NOTES

5VED 2016