

#### GENERAL NOTES

- All construction and materials shall be in accordance with the current Virginia Department of Transportation Road and Bridge Specifications, Virginia Department of Transportation Road and Bridge Standards, and Henrico County Specifications and Standards
- Incidental concrete must be Class A3 in accordance with VDOT A permit must be secured from the Henrico County Department of
- Public Works before any work is performed within an existing County right-of-way or easement.
- The Department of Public Works must be notified at least 24 hours
- The contractor shall notify the Henrico County Department of Public Utilities prior to doing any utility work.
- The location of existing utilities, as shown, is approximate. The contractor shall verify the location of existing utilities prior to any construction work.
- A permit must be obtained from the Virginia Department of Transportation for any work performed within the State right-of-way.
- The contractor shall notify "Miss Utility" at 1-800-552-7001 prior to any construction work in this area.
- When it appears that the proposed work may have some impact to adjacent private or commercial properties, the applicant must inform the property owners of the proposed work and keep them apprised of time schedules, delays, impacts, changes in pedestrian and vehicle access or traffic patterns, and final restoration plans.
- 10. When a temporary cul-de-sac is no longer required due to a road extension, the developer of the road being extended is responsible extension, the developer of the foat being at extended is, responsible for removing the temporary cul-de-sa, and extending the road and property components (cuth and guiter, gravel driveways, paved driveways, sidewalks, mailboxes, etc.) to the new road and regrading areas to finished contours acceptable to the adjacent property owners and to Henrico County.
- 11. No driveway access points shall be allowed within the radius of a
- 12. When driveways are located within roll face curb and outter, transitions to a drop inlet, curb cuts and aprons are required
- Prior to the issuance of any building permits, all signs and barricades for dead end stub roads must be in place.

#### **CURB AND GUTTER**

- 1. All curb and gutter and storm sewer/inlets located within the existing County right-of-way shall be staked by the County upon written request being made to the County Engineer or by calling 501-4619.
- 2. All curb and gutter shall be Henrico County standard curb and gutter
- This plan establishes curb and gutter elevations along the public right-of-way. The County reserves the right to modify the proposed grades, if necessary.
- 4. All curb and gutter in the County right-of-way must be wet curb and gutter. The use of dry curb and gutter is prohibited in the County right of-way.
- 5. The transition from standard six (6) inch curb to roll-faced curb shall be at intersections at the point of curvature (PC) of curb returns.
- 6. Where sidewalks are present or proposed, all driveways must be concrete from the back of curb to at least the rear of the sidewalk.
- 7. Class 57 stone must be placed under all curb and gutter and must
- 8. CG-12's must be installed at curb returns where there is existing or proposed sidewalks. In locations where there is no sidewalk being proposed, the curb must be depressed for the future location of a CG-12.

#### CONDITIONS FOR GUARDRAIL

Guardrail is typically required on sections of roadway when any of the

- 1. A roadside parallel embankment (fill slope) of 3:1 or steeper and a
- 2. A water hazard with a depth of two feet or more.
- 3. A ditch section with a depth of three feet or more (as measured from
- 4. A fixed object (such as a culvert, pipe, headwall, retaining wall, bridge pier, or abutment)
- 5. Other hazards as determined by the Traffic Engineer
- 6. Additional right-of-way or permanent easements may be required to

All guardrail must be approved by the Department of Public Works and shown on the plans, including any necessary details, type, and lengths of

#### PAVEMENT

- 1. The pavement section is subject to change based on soil conditions at the time of construction, as determined by the Construction Engineer for Henrico County.
- Any necessary pavement widening between the existing pavement and the proposed improvements is the responsibility of the
- 3. All medians for turn lanes must be VDOT Std. MS-1. For turn lanes in mediants for turn lanes miss be VOUT sig. MS-1. For turn lane eling constructed on existing roads, the old median must be emoved entirely and the solid raised median poured on the asphal ase course in accordance with the standards for MS-1 Median tandard MS-1A or variations of the same will not be permitted.
- Pavement sections for through lanes and turn lanes must be the same as the existing pavement section. These turn lanes must have
- No pavement open cuts are allowed on existing County maintained roads unless specifically approved by the Construction Engineer for Henrico County.
- of-way, no pavement disturbance is required and all utility crossings must be bored.
- Soil tests and CBR information, with an appropriate pavement design, must be performed and made available to the Construction Engineer prior to subgrade approval

#### DRAINAGE

- All storm sewer within the County right-of-way and easements must be ASTM C-76, Class III or better, reinforced concrete pipe with sealed joints in accordance with VDOT specifications.
- 2. Precast drop inlets are not permitted at locations where the grade of rrecast grop miets are not permitted at locations where the grade of the adjacent curb and gutter is less than 15%. Precast drop inlets with flat inverts are not permitted in sag locations when the total length of the required throat opening exceeds six (6) feet.
- All storm sewer within a County easement or right-of-way must have a minimum of four (4) inches of aggregate bedding material and must be backfilled in accordance with the detail on this sheet.
- 4. All drop inlets must have Type B noses.
- 5. Drop inlets on grade must be poured with the throat on the same grade as the adjoining curb and gutter.
- #4 x 8" dowels must be placed at approximately 12" c-c in all areas adjacent to abutting concrete to prevent settlement
- 7. When using non-concrete pipe for private areas, the connection to the structure in the County easement or right-of-way must be concrete. Non-concrete pipe must terminate in a concrete structure and continue concrete to the point where it ties into the County easement or right-of-way. All manholes and inlets must be concrete.
- UD-4 underdrains are required along the entire length of all proposed roads and/or road widening within the public right-of-way unless walved by the Director of Public Works.
- Irrigation is not permitted in the shoulder area within the County right-of-way unless specifically approved by the County Engineer.
- 10. CD-1 underdrains are required on all vertical sags.
- UD-2 underdrains are required in all raised grass medians and islands within the public right-of-way.
- 12. The outlet end of all underdrains must terminate in drainage structures or daylight out of fill slopes with a standard EW-12 endwall placed at the outlet end of the underdrain.

#### GRADING

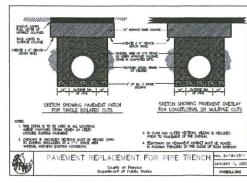
- 1. The subgrade area shall be scarified to a depth of eight inches for a minimum of two feet beyond the proposed edges of the pavement on both sides (or from the curb and gutter) and compacted to a density of not less than 95 percent.
- When materials which are unsuitable for foundation, subgrade, or other roadway purposes occur within the roadway limits, such materials must be excavated below the grade shown on the plans as directed by the gesternitical engineer or as approved by the Henrico County Construction Engineer and the areas must be backfilled with suitable material.
- All solid rock or boulders found in the roadway shall be excavated to the full roadway width to a depth of one foot below subgrade and then backfilled to the proper grade with suitable materials.
- A six (6) feet wide pedestrian shelf is required behind all curb and gutter in the County right-of-way. The shelf must be cleared/constructed at the time of road construction, including the relocation of all power poles and other above ground obstacles.
- All graded islands must be graded to %":1' rise to minimize sight
- All areas to be filled within the buildable area (ponds, sediment basins, sediment traps, wetlands, etc.) must be backfilled with structural fill and compacted to 95% compaction.
- All grading shown on lots must be done prior to building permit
- Stance.

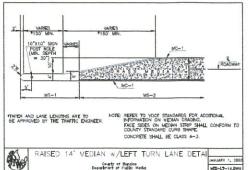
  The design and construction of basins must in compliance with the general requirements for dams in the <u>Virginia Starmwater Management Program Manual</u>. A geotechnical engineer must certify that the construction compaction requirements have been achieved. BMPs for subdivisions will not be accepted for County maintenance until the geotechnical certification is provided and accepted by the Department of Public Works.

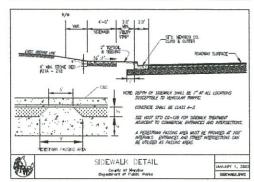
#### SURVEY

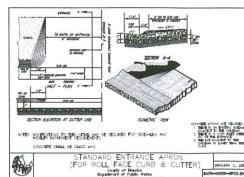
- All roadways must be cleared in the area of proposed construction prior to requesting staking from the County.
- All utility poles, fire hydrants, and other above ground obstacles located within the public right of way and in conflict with the proposed sidewalk shelf, curb and gutter, and/or the pavement widening shall be relocated at the developer's expense prior to Henrico County staking the curb and gutter.
- This plan approval establishes the curb and gutter and storm sewer/inlet elevations along the public right-of-way. These elevations (located within the existing County right-of-way) shall be staked by Henrico County upon written request being made to the County Engineer or by calling 501-4619. The County reserves the right to modify the proposed grades, if necessary,
- Prior to requesting County stakeout, all appropriate information necessary for stakeout must be provided to the Henrico County Survey Department.
- Right-of-way and baseline information must be established in the eld and clearly tied to monuments/benchmarks prior to requesting

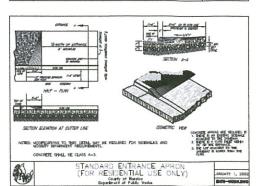
WHERE CONFLICTS EXIST. THE NOTES AND DETAILS ON THIS SHEET SUPERCEDE THE CURRENT VERSION OF THE HENRICO COUNTY DESIGN MANUAL.

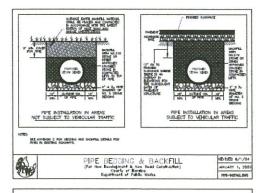


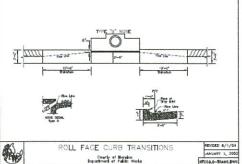


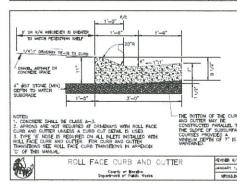


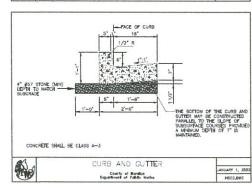


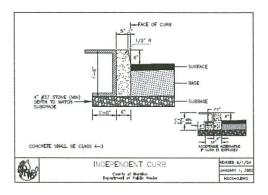










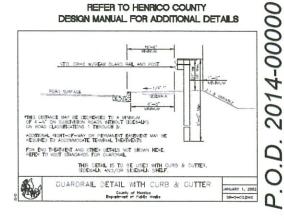


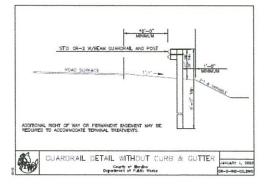


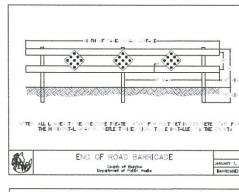
## County Of Henrico Department of Public Works

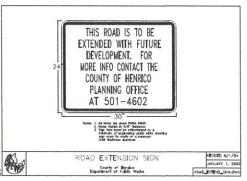
STANDARD CONSTRUCTION NOTES AND DETAILS

#### REFER TO HENRICO COUNTY DESIGN MANUAL FOR ADDITIONAL DETAILS











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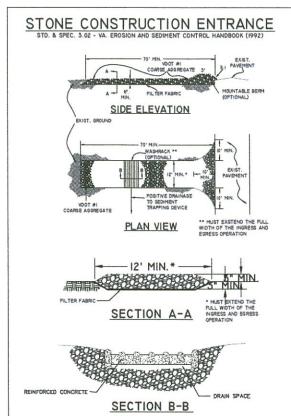
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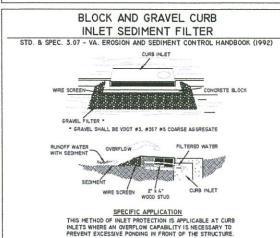
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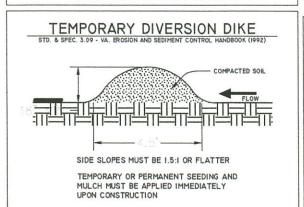
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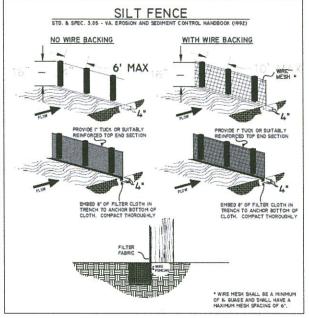
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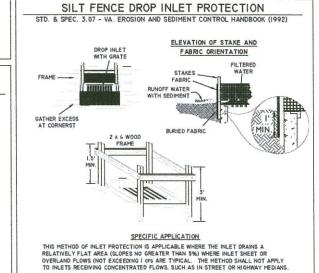
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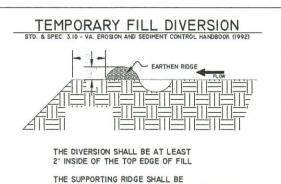












CONSTRUCTED WITH A UNIFORM HEIGHT ALONG

ITS ENTIRE LENGTH TO PREVENT BREACHING.

#### **OUTFALL ADEQUACY**

In accordance with Minimum Standard 19 of the Virginia Brosion and Sediment Control Regulations and the Henrico County Design Manual, adequacy of off-site receiving channels or pipes must be verified by addressing one of the following Adequacy Situations:

- A. The drainage area from the project at the discharge point is less than or equal to one percent of the total drainage area at the discharge point and the 10-year storm is contained within the channel banks (Project Drainage Area and Total Drainage area are required),

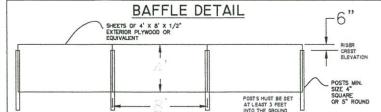
  OR
- B. Natural channels must be analyzed to demonstrate that (1) the 10-year storm will not overfoo the channel banks and (2) the 2-year storm will not cause erosion of the channel bed and banks (Q <sub>Coperty</sub>, Q <sub>50</sub> V<sub>Alteredity</sub> and V<sub>2</sub> are required), except Q <sub>Coperty</sub> and Q <sub>50</sub> are not applicable if the channel is in the 100-year floodplain, RPA,SPA.
- C. Man-made channels must be analyzed to demonstrate that (1) the 10-year storm will not overlop the channel banks and (2) the 2-year storm will not cause erosion of the channel bed or banks (Q <sub>Capaday</sub>, Q <sub>10</sub>, V<sub>Attowalder</sub>, and V<sub>2</sub> are required). OR
- D. Pipes and storm sewer systems must be analyzed to demonstrate that the 10-year storm will be contained within the system ( Q<sub>Cassilly</sub>, Q<sub>36</sub>, and Hydrautic Grade Line calculations are required),
- OR

  E. Runoff is discharged through an energy dissipator at the limits of the 100-year floodplain, RPA buffer, or SPA buffer.

Adequacy Situation	Project Drainage Area	Total Drainage Area	Q Capacity	Q 10	V <sub>Allowable</sub>	V <sub>2</sub>	Cross-section, Profile, <u>and</u> Calculations Shown on Sheet (s)
D	0.62 ac.	0.99 ac.	7.79 ds	7.62 cfs			pipe calc on sheet 8
							·L
	Situation	Situation Drainage Area	Situation Drainage Area Drainage Area	Situation Drainage Area Drainage Area Capacity	Situation Drainage Area Drainage Area Capacity Q 10	Situation Drainage Area Drainage Area Capacity Q 10 VAlorable	Situation Drainage Area Drainage Area Capacity Q 10 VAtowate V2

County = the carrying capacity of the channel or pipe in CFS

Abouts = the maximum velocity (in FPS) that the channel lining can withstand without eroding Generally, scaled channel cross-sections must be provided every fifty (50) feet and at the most constricted locations of all outfall channels for a minimum of 150 feet of profile.



County Of Henrico Department of Public Works

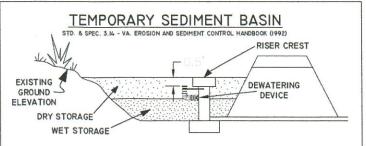
EROSION AND SEDIMENT CONTROL - STANDARD DETAILS/CALCS

50/10 DETEN	LION	SUMM.	ARY		
	(OFS)	AREA (ACRES)	c	I	C ADJ. FACTOR
O <sub>10</sub> PRE-DEVELOPMENT (A)					
Q <sub>50</sub> POST-DEVELOPMENT (ON-SITE BYPASS) (B)					
Q <sub>59</sub> Post-development (off-site through project) (C)					
Q <sub>50</sub> ALLOWABLE (A - B + C)					
Q <sub>50</sub> FROM BASIN/PIPE (ROUTED)	1				

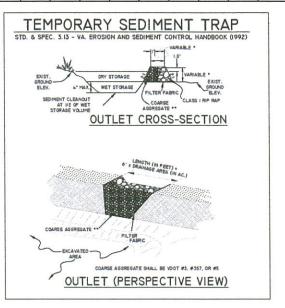
\*PROJECT IS REDUCING TOTAL IMPERVIOUS AREA FOR SITE, THUS 50/10 DETENTION IS ALREADY MET.

		W-4 5								SEC	MENT	BASINS					BAFFLE			BAR	ne:	
Basin #	Drainage Area (acres)	Volume Required & (Cu. Yd.)	Volume Provided eb (Cu. Yd.)	Volume Required (Cu. Yd.) A	Volume Provided ab (Cu. Yd.)	Bottom Elevation	Riser Crest Elevation	Riser Diomete	Dewatering Device Elevation	Dewatering Device Diamete	25- Yr. Storn Elevation	Ernergency Spillway Elevation	Anti-Vortex Device Diamete	Top of Dam Elevation	Top of Dam Width	Flowlength to Width Ratio	Baffle Length	Top of Batfle	Pipe Length	Pipe Diameter	invert in	Invert Out

Total Drainage Area - the total desinage area to the discharge point in acres  $Q_{10}$  = the peak discharge at the discharge point for the 10-year storms in CFS



Top # Met Storage  Met Storage  Area (acres)  Nolume (Cu. Yd.)  Providen (Cu. Yd.)  Elevation (Cu. Yd.)  Providen (Cu. Yd.)  Elevation (Cu. Yd.)  Providen (Cu. Yd.)	9	Bottom	Top of Berm Elevation	of Berm Width	Dimensions (L x W)
69	levation tilet Leng (Feet)	Bottom	of Ber Jevation	of Ber Mdth	nosion W ×
	, ш 9	<u> </u>	<sup>Σ</sup>	Top	Dime





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DESIGN CONTACT: Jeff Stgul DRAWING SCALE: N/A DATE: 6/5/2015

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#### MINIMUM STANDARDS

#### FOR EROSION AND SEDIMENT CONTROL

- Any area that has reached final grade must receive temporary or permanent soil stabilization within seven days. Areas not at final grade that will remain dormant longer than 30 days must have temporary soil stabilization within seven days. Areas that will be dormant longer than one year must have permanent soil stabilization.
- MS-2 All soll stockpiles and borrow areas must be stabilized or protected with sediment trapping measures. Temporary protection and permanent stabilization shall be applied to all on-site soil stockpiles and borrow areas and soil intentionally transported from the project site.
- Permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform, mature enough to survive and will inhibit erosion.
- Sediment basins and trans, and perimeter FSC measures intended to tran sediment must be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.
- Stabilization measures shall be applied to earthen structures such as dams, dikes, and diversions mmediately upon installation
- MS-6 Sediment basin and trap design information. \*\*
- MS-7 Cut and fill slopes must 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.
- Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume, or slope drain structure.
- MS-9 Whenever water seeps from a slope face, adequate drainage or other protection must be
- MS-10 Inlet protection is required for all storm inlets that will be made operable during construction
- MS-11 Before newly constructed storm water conveyance systems are made operational, adequate outlet protection and any required channel lining must be installed in both the conveyance channel and receiving channel.
- MS-12 When work in a live watercourse is performed, precautions must be taken to minimize encroachment, control sediment transport, and stabilize the work area to the greatest extent during construction. Non-erodible material shall be used for the construction of causeways and rdams. Earthen fill may be used if armored by non-erodible cover materials.
- MS-13 When a live watercourse must be crossed by construction vehicles more than twice in any sixmonth period, a temporary vehicular stream crossing constructed of non-erodible material must
- MS-14 All applicable federal, state, and local regulations related to working in or crossing live
- MS-15 The bed and banks of a watercourse shall be stabilized immediately after work in the
- MS-16 Underground utility lines shall be installed in accordance with the following standards in additions to other applicable criteria:
  - No more than 500 linear feet of trench may be opened at one time.
  - b. Excavated material shall be placed on the uphill side of trenches.
  - c. Effluent from dewatering operations shall be filtered or passed through an approved sediment trapping device, or both, and discharged so that it does not adversely affect flowing streams or off-site property.
  - d. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.
  - e. Re-stabilization shall be accomplished in accordance with these regulations.
  - Comply with all applicable safety regulations
- MS-17 Construction entrances are required at all access points to the construction site. 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 applies to individual development lots as well as to larger land-disturbing activities.
- MS-18 All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, unless otherwise authorized by the local program authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures must be permanently stabilized to prevent
- MS-19 Adequate outfall information \*\*
- \*\* MS-6 and MS-19 deal with the design aspects of the plan. For further information, please consult the latest edition of the Virginia Erosion and Sediment Control Handbook. Also, refer to the sediment basin/trap design tables and the adequate outfall table located on the "Erosion and Sediment Control -

Any variance to the above listed minimum standards must be requested and approved in writing.

#### **UTILITY NOTES**

All excavated material is to be placed on the uphill side of trench.

All storm and sanitary sewer lines not in streets are to be mulched and seeded within 7 days after

Construction access roads shall be located on the uphill side of the trench or over the trench

All construction discharge water shall be adequately filtered to remove silt prior to discharge into

Material used for backfilling trenches shall be properly compacted in order to minimize erosion and

All work must be in compliance with applicable safety regulations.

All stream crossings and stream diversions require approval from the Environmental Engineer prior to any instream work (see STREAM CROSSINGS / DIVERSIONS / WORK IN STREAMS

#### SILT FENCE NOTES

Silt fence and filter fabric must be entrenched.

Posts for silt fences shall be either 2-inch diameter oak, 4-inch diameter pine or 1.33 pounds per linear foot steel. Posts will be a minimum of 5 feet in length. Steel posts shall have projections for

Wire fence reinforcement for silt fences using standard strength filter cloth shall be a minimum of 42 inches in height, a minimum of 14 gauge and shall have a maximum mesh spacing of 6 inches.

Post shall be spaced a maximum of 10 feet apart at the barrier location and driven securely into the ground (min. of 12 inches) when extra strength fabric is used. Without the wire support fence, post spacing shall not exceed 6 feet.

When extra strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the post

Sediment must be removed when deposits reach approximately one - half the height of the barrier.

Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform with the existing grade, prepared, and seeded.

Under no circumstances should silt fence be installed in live streams.

Silt fence shall be removed upon completion of the project.

#### STREAM CROSSINGS / DIVERSIONS / WORK IN STREAMS

When a live watercourse must be crossed by construction vehicles or temporarily diverted, a plan/sketch showing appropriate details of the crossing/diversion must be submitted for approval to Henrico County's Environmental Engineer prior to any work involving the stream. The plan shall include but is not limited to: all pipes, mats, channel details, erosion control devices, sequence for construction, etc. Guidelines for pipe diameters can be found in table 3.24-A of the Virgini Erosion and Sediment Control Handbook. Channel liners will be in accordance with Section 3.25 of

No motorized equipment will at any time be within a waterway unless supported by floatation equipment or a temporary construction pad composed of clean non-erodible material (rocks, rip-

Clearing and grubbing of wetland areas will be kept to a minimum. All wetlands temporarily disturbed during construction will be restored to their original elevation, by removing excess material, grading and seeding with a wetland seed mix. In no case shall wetland areas be reseeded with any species of fescue

The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse

#### BMP INSPECTIONS / CERTIFICATIONS

Inspections of proposed BMPs must be conducted at two phases of construction - "rough grading" and "final conformance". County staff, the Developer or his/her representative, and Developer's engineer should be present at the inspections.

The Developer or his/her representative is responsible for notifying the Environmental Inspector at the appropriate times during construction when the inspections should occur. Failure to request the inspections may result in delay of final acceptance of the BMP. Three inches of topsoil is required for areas of the BMP that will be stabilized with vegetation

The Developer's Engineer/Surveyor will provide a letter of conformance once the final conformance inspection has been performed and all issues resolved

Prior to release of the Erosion and Sediment Control bond, the Developer's Engineer/Surveyor will provide a BMP Certification using standard County forms

#### RESPONSIBLE LAND DISTURBER (RLD) POLICY

As a prerequisite to engaging in the land-disturbing activities shown on this plan, the individual responsible for carrying out the plan and holding a certificate of competence shall be identified (the

- 1. Attend the Pre-Construction meeting and sign the approved plans.
- Inspect the ESC measures periodically at least once every two weeks, or within 48 hours of any runoff producing storm event.
- 3. For projects with site area of 1 acre or greater, submit inspection reports using a standard form supplied by the County to the Environmental Inspector listing all deficiencies or stating no deficiencies were found, and
- 4. Coordinate the implementation and maintenance of all erosion and sediment control measures in accordance with the approved plan.

#### MOSQUITO CONTROL NOTES

All construction sites and erosion and sediment control measures must be inspected and maintained to eliminate or minimize areas that promote mosquito breeding. Remove or empty all containers and trapped water in tarps. Fill and grade tire ruts or other imperfections in grade. Any standing water that remains for FIVE (5) days or more must be treated with an appropriate larvicide, including water in sediment basins and traps.

When a mosquito breeding area is found, removal or treatment of the area is required immediately Inspection and treatment questions may be directed to Henrico County at (804) 501-7333. Other pesticide application questions should be directed to the Virginia Department of Agricultural & Consumer Services (VDACS) at (804) 371-6560.

#### GENERAL EROSION AND SEDIMENT CONTROL NOTES

Henrico County's Environmental Inspector (804-727-8328) must be contacted at least 48 hours prior to any land disturbing activity.

All activities on the site must comply with Chapter IO of the Henrico County Code.

All erosion and sediment control (ESC) measures must be placed prior to, or as the first step in grading. The preliminary limits of disturbance must be the minimum necessary to allow installation of the ESC measures and should include all areas necessary for installing the initial ESC measures, including stockpiles, borrow areas, staging areas, etc. Disturbance outside of the preliminary limits of land disturbance may not occur until the Environmental Inspector has approved the ESC measure installation.

If additional ESC devices are found necessary during construction, they must be installed as directed by the Environmental Inspector for Henrico County.

Unless otherwise approved by the Environmental Engineer, all runoff must drain to a sediment basin or trap during all phases of construction

All ESC devices must be installed and maintained in accordance with the latest version of the Virginia Erosion and Sediment Control Handbook and the Virginia Erosion and Sediment Control

A construction entrance must be constructed and properly maintained in accordance with Std. & Spec. 3.05 -- Construction Entrance, in the latest version of the Virginia Erosion and Sediment Control Handbook. If mud tracking becomes a problem, the Environmental Inspector will require additional measures (i.e. wash rack).

If dust becomes a problem during construction, a water truck will be required on-site at all times and dust must be controlled in accordance with Std. & Spec. 3.39 - Dust Control, in the latest version of the Virginia Erosion and Sediment Control Handbook.

Dewatering of footings, excavated trenches, sediment basins/traps, etc. must be done in accordance with Std. & Spec. 3.26 - Dewatering Structure, in the latest version of the Virginia Erosion and Sediment Control Handbook. The Environmental Inspector must approve the method prior to beginning dewatering.

All temporary stockpile locations must be shown on the plan. Stockpiles may remain in place one year from the final plan approval date, unless the Director of Public Works grants an extension in response to a written request

Any soil or fill material intentionally transported from the project site must be taken to an approved location, such as an active landfill or other active site that is operating under an approved Erosion

In subdivision developments, temporary sediment basins/traps must remain in place until at least 80% of homes that drain to the basins/traps are complete and the associated disturbed areas are stabilized. Sediment basins/traps cannot be removed without approval of the Environmental Inspector. Once the temporary sediment basin/traps have been removed, the developer, contractor, and/or homebuilder are responsible for erosion and sediment control on individual lots until stabilization is achieved

In the event a contractor dumps, discharges or spills any oil or chemical that reaches or has the potential to reach a waterway, the contractor shall immediately notify all appropriate jurisdictional State, Federal, and County (501-5000) agencies and shall take immediate actions for containment and removal of the oil or

### SEEDING NOTES

All stabilization/seeding will be accomplished in accordance with the Virginia Erosion and Sedimentation Control Handbook

Any disturbed area not paved, sodded, or built upon, will have a vegetative cover prior to final inspection, and in the opinion of the Environmental Engineer will be meture enough to control soil erosion satisfactorily and survive severe weather conditions.

Stream diversion areas, waterways, banks, and related areas will be seeded and mulched immediately after work in watercourse is completed. In no case shall wetland areas be reseeded

Winterization - any disturbed area not paved, sodded, or built upon by October 15 is to be seeded

Permanent or temporary soil stabilization shall be applied to denuded areas with in seven (7) days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven (7) days to denuded areas that may not be at final grade, but will remain dormant for longer than thirty (30) days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.

Electric power, telephone, and gas supply trenches must be compacted, seeded, and mulched within 7 days after backfill.

All temporary earth berms, diversions, and silt dams are to be mulched and seeded for vegetative cover immediately after grading. Straw or hay mulch is required. The same applies to all stockpiles, on site as well as soil (intentionally) transported from the project site.

Nutrients shall be applied in accordance with manufacturer's recommendations or an approved nutrient management plan and shall not be applied during rainfall events.

#### RESOURCE PROTECTION AREAS, STREAM PROTECTION AREAS, WETLANDS, AND WATERS OF THE U.S.

Prior to beginning any land disturbing activity, all Resource Protection Areas (RPAs). Stream Protection Areas (SPAs), wetlands, and Waters of the U.S. (WOUS) not permitted for impact shall be delineated for protection with orange safety fence or non-tearable yellow and black barricade tape. This includes, but is not limited to, clearing limits associated with roadways, utilities, and

Additional restoration or replanting may be required for RPAs, SPAs, wetlands, and WOUS disturbed during construction.

## ENVIRONMENTAL SITE ASSESSMENT INFORMATION

Plans must accurately show all RPA, SPA, and RMA features

#### RESOURCE PROTECTION AREAS (RPA): YES (NO) 1. Is there a tributary stream located on the parcel?... YES (NO) 2 Are there any tidal wetlands present on the parcel? 3. Are there any non-tidal wetlands connected by surface flow ... YES NO and continuous to tidal wetlands or tributary streams? YES (NO) Q 4. Are there any tidal shores on the parcel? ..

characteristics designated as Resource Protection Areas (RPAs)? If the answer to any of the above questions is "YES", the parcel contains a

Does the site lie within 100 feet of any of the above site .....

## RESOURCE MANAGEMENT AREAS (RMA):

6.	Are there any special flood hazard areas (100-year floodplain)YES (Q) located on the parcel?
7.	Are highly erodible soils, including sleep slopes, present onYES (NO) the parcel and contiguous to any of the above RPA features?
8	Does the parcel contain any highly permeable soils
9.	Does any portion of the parcel lie within 100 feet of a
10.	Does the entire site (outside of the RPA) lie within a

## STREAM PROTECTION AREAS (SPA):

11.	Is there any non-perennial stream with greater than 100 acr of contributing drainage area located on the parcel?	esYES (NO
12.	Does any of the site lie within 50 feet of the stream bank of a SPA stream?	YES (\(\bar{\D}\)

13.	Are there any wetlands/waters of the United States
14.	Is development or land disturbance proposed in any

Parcels containing RPAs/RMAs/SPAs must satisfy all requirements of the Henrico County Code applicable to development within Chesapeake Bay Preservation Areas. Land disturbance in wetlands and/or waters of the United States requires either a evidence of U.S. Army Corps of Engineers/Virginia Department of Environmental Quality (DEQ) permits or a certification from a principal in the engineering firm that the proposed wetland impacts are authorized by law.

I hereby certify that the above information is based on a field visit at (project name) MINI PRICE WAREHOUSE II

12-12-14 and that I have reviewed all maps and other documentation deemed necessary to certify the



12-21-14

My Virginia License or Certificate Number is: 000927

### **ACKNOWLEDGMENTS**

I hereby acknowledge that prior to any land disturbing activity, all buffer areas and wetlands as defined in the Henrico County code shall be conspicuously flagged or otherwise identified and not disturbed unless authorized by law, and that the applicant shall notify the Engineering and Environmental Services Division (EESD) upon completion of flagging. (Contact the EESD at 727-8328 to arrange a pre-construction meeting to verify the limits of flagging.)

I hereby certify that no more land is being disturbed than is necessary to provide for the desired

I hereby certify that all erosion and sediment control measures shall be maintained, and the owner and/or agent will inspect the erosion and sediment control measures at least once every two week period, and within 48 hours following rainstorm events during construction to ensure compliance with the approved plan. Records of self-inspection shall be maintained on the site and available for

I hereby acknowledge that the U.S. Army Corps of Engineers and/or Virginia Department of Environmental Quality may have additional jurisdiction over wetlands not regulated by Henrico

I hereby acknowledge that a Virginia Pollutant Discharge Elimination System (VPDES) permit application fincluding a Virginia Stormwater Management Program (VSMP) permit application), if required, has been made for land disturbing activities of 2,500 square feet or greater

Signature (Owner/Developer): Mid. 10 11

Name (please print): MICHAEL D. SIFEN

Date: 12-21-14

YES (NO)

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0 HENRIC

WAREHOUSE

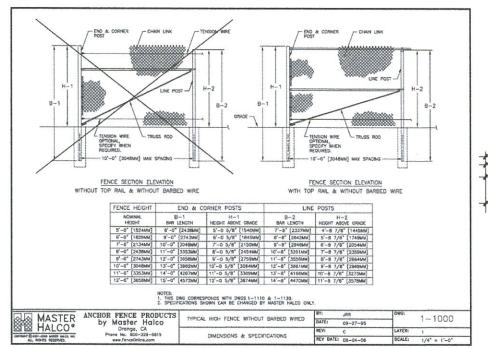
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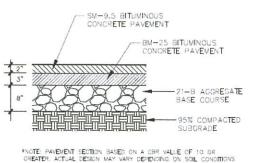
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ESIGN CONTACT: Jeff Stau RAWING SCALE: N/A DATE: 6/5/2015

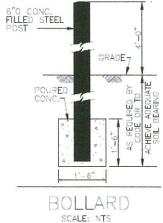
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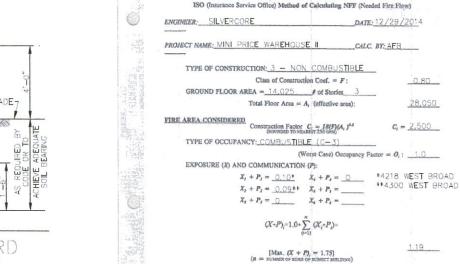
JOB #: 140070











NEEDED FIRE FLOW

SIGNATURE

HENRICO COUNTY DPU FIRE FLOW ESTIMATE FORM

 $NFF = (C_i)(O_i)(X+P)_i$ 

TOTAL:

Required Fire Flow - Rounded (if < 2500 nearest 250) if > 2500 nearest 500

\* Fire Hydrants Required:

Automatic Sprinklers (YES  $\times$  NO ) Reduction Factor 50 % x NFF =

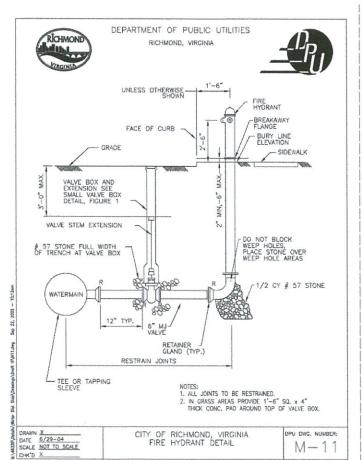
I CERTIFY THAT THE ABOVE INFORMATION IS TRUE AND CORRECT.

\* Commercial area requires 350 Ft. Mayoum Hose Lay.

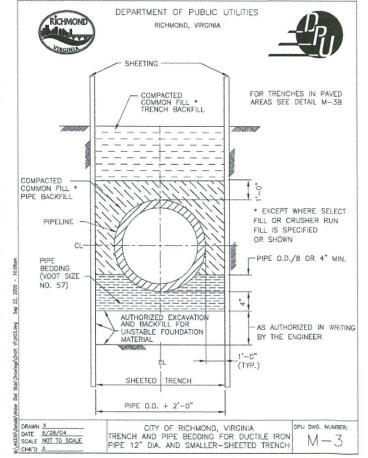
NFF = 2,975

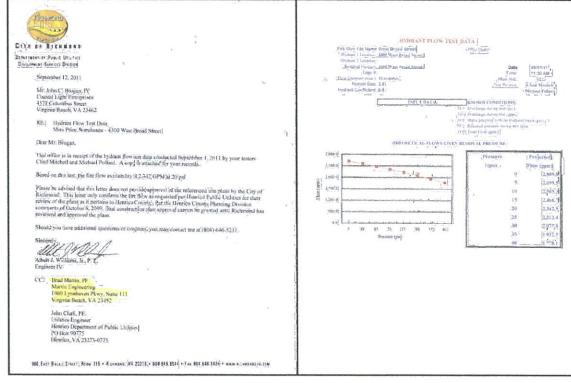
- 1,488 1,488

1,500 gpm



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NPF CALCULATION PROCEDURE DESCRIBED BY A.W.W.A. M.S.L. L.S.C.'S 1980 COMMERCIAL FIRE RATING SCHEDULE AND L.S.C.'S 1980 FIRE SCHEDULE. 9/94 Form F-9 PETREY I STAUS

S DETAIL

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8 S NOTES

DESIGN CONTACT: Jeff Stau DRAWING SCALE: N/A DATE: 6/5/2015

SHEET

JOB #: 140070

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COUNTY OF HENRICO

\*\*LEMPOND COMMONISTER

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Govern D. Whenevaldel, ET-LL, ViewStandingment

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October 38, 2069

R2: POD-91-09 Talerouis # POCCOM9-00140 Mini Prior Wershouse

The Phroding Commission at its meeting on Orbitales 18, 2009, granted your empares for agreemed of a plan of the elegance in conjugate by Chapter 25, Struktur 18-106 of the Elevatro Chapter Chapter of sententific to entering freedings and construct a three-more 19,13,100 again pack to elevatron varieties. The J. Theorem tells is based on the sentilities of W. Elevatro Struktur (18, Hawin 2008, aggreemental). J. Allo Struktur (18, Hawin 2008, aggreemental).

- The convex shall senter into the neterousy occupants with the Department of Public Difficien
- The convert shall entire that the necessary contraves who the suppretunest or protein contrates for required law to perfect whether and strong. The Directive of the Department of Public URSien shall represent the plan of development. For seasthandism of public strong and convert, prior to beginning may scantinearies of these solidates. The Department of Public Utilities shall be realished at least 48 forms prior to the
- start of any County water or source constraints.
  The publish let shall be subject to the resultaneous of Chapter 14, Section 74-95 of the Henden County Code.
- Henchen Christin Gade.

  The pullons preservabili to receive on the pursuant matter entit foundatives to this printed lines. All feet their set performs the relative to the color with the enters with the entitle in other with the enters with the enters with the enters with the enters with printed and the enters of the provided. It experience indicates the provided and the enters of the provided and the provided

- The piem of divologours plans shall be revised as successed on the stall plan dated Gesabor 18, 1868, which shall be so needs a part of this appears in all Gesabor 18, 1868, which shall be so needs a part of this appears in all Gesabor 18, 1868, and the revised plans, including the desirable distance, evident needs and written plans, shall in exhalited by the design causing the desirable control of the state of the st

- lor Habring shell be designed and surveyed to direct the light cort given room; from
- comparison. "Making theil for hedgined and cancegor in direct the light and gloss record from an extra calculating proper and first seats." The situ intensities depending one problem than the situation of the situation. The situation of the control of the situation of the situa

City of Rickmond

Dan Barry, LLG October 28, 2009 Page 3

- 36. Ugest complaints of the league-states and paics to the conditionism of the personant economy years, the consec that flurally a recentact by the engineer or find received with segment the POD plan, to the other that all contents the flural contents are not given to the property of the property of the property of the Planning Contraction when not given to the encounty experience to sub-other archered by the Planning Contraction on the fact the property of the arChereleguest replication on the fact the property of the arChereleguest replication on the fact the property of the arChereleguest replication on the fact the property of the Planning Contraction on the fact the property of the property of the archered property in the contraction of the archered property of the property of the archered property of the Contraction.
  21. Verified metal the practice of the apparent of the material public passes passes.
  22. The same of this development, as defigiented in this approval, that it is that state after material and public assessment property of the proper
- Implemented.

  It is inc. including parking, purewards restablings, signings, car's seel scotte, demyster conversal, forces, highers and other tile improvement shall be proquity militational for good condition of all times. Any successor, reveals shall be read as allowly restance. The descriptor shall provide the Poplanets as required by the Department of Phalic Delition and Private and P

- poment.
  Any processary reflects devisings swiller waves said unway concernate trains to detailed it; a few sempletts to the Orney's Message poler is final approval of the construction plant. The mortematic field relatings are all difficult for a throw an expressed plant with the general to the Consuly Advance; plant to the general to the Consuly Advance; plant to the present to the Consuly advance; plant to express to support to any conspicuous young to the final to the Consulty Advance; plant to the conferred to the Consulty Advance; plant to the support to the plant to the Consulty Advance; plant at least violat; (40) they pulse to requestly accompany more than the Consult of the Consulty Advance; the consultation of the Consultation
- purment.
  Devictions from County standards for personnels, each or curb and guiter design shall be
  approved by the County Engineer prior to Scotl approved of the construction plant by the
  Department of Pathia Watter.
- Dispartnesse of Public Works.

  20. Outside incoming shall not be pensilited.

  20. Outside incoming shall not be pensilited.

  20. The inection of all entering major questions shall not encounted to propose of the incoming better from the pensility of the incoming better, when the interior pensility is and to described on the leadings as III building research opinions; shall be patient to enter the building, and all applicance that the extension of the interior pensility is not measures an deventabled appropriate by the Dissease of Philading or the Fauncing Commissions of the time of the appropriate.

  21. Bridgers that the City of United the reviewed and approved construction plans there the period of that the located while for the United States.

There may be a requirement for a Westerda Purroll from the U.S. Army Corps of Segments. Partlet information on male a requirement therefore betwined by consuming the Corps at 327-3761.

Abu, you should be assure that a premit or premits crup by suggisted from the Virginia Department of Eurisansential Quality (DEQ), Florm contest DEQ at (804) 527-5625 to

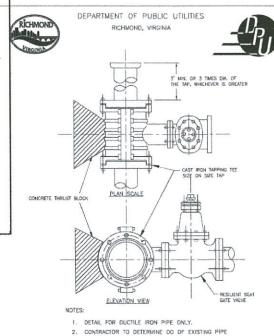
Paramet is Sociles 24-15(f) of the Code of Haustes, this appeared dead empire on <u>Ormbor 28</u>, 2811, wakes training permits have been obtained the construction in perceduce forwards, or a valuely non-parameterization of appearable has been guested by the Obstance of Planning as provided effects, or sincher extension of appearable to observations provided by Sentine 15.7-23(1) of the Code of Virolate.

The approval of this plan of development axisation only the respicurous of Compar 24, Bastian-34-106 of the Horsion County Code. The applicant shall be respectful for assuring all non-standard permits as implanted by law. A capp of the plan approved by the Parasing Commission is residually upon request.

When applying the year building people, please aloub too sets of the appeared construction plans and role to note POB-31-88.

Listin A. Altanto for B. Joseph Rasserson, Nr. ANCE Discover of Presence

Depthy Zoning Coefficients on Differential Ground Depth of the Read Brace Associational Depth of the Depth of the Read Brace Association Delitikes, Chief of Davigu. Depth of the Read of Public Works. Depth of the Pethod Defth of the Chief Fee Marchall



- CONTRACTOR TO DETERMINE OD OF EXISTING PIPE FOR SLEEVE SUITABILITY.
- 3. CITY TO PROVIDE TAPPING SLEEVE AND VALVE.
- 4. CONTRACTOR TO INSTALL SLEEVE.

5. GITY TO PERFORM TAPPING.

DRAWN X
DATE 5/22/04
SCALE NOT TO SCALE
CHK'D X CITY OF RICHMOND, VIRGINIA TYPICAL WATER MAIN TAPPING SLEEVE AND TAPPING VALVE DETAIL

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END

DEPARTMENT OF PUBLIC UTILITIES RICHMOND, VIRGINIA THRUST RESTRAINT TABLE



		8"		12"		16"		Tee*		educer
Dani Fed	Bore	Polywrop	Bare	Polywrap	Bore	Polywrop	Bare	Polywrop	Bare	Polywrop
Dead End	78"	111'	1121	160*	146"	209"	-	-	-	~
11.25° HB	3	4'	5	5	6	7'	t <sub>al</sub>	-	100	-
22.5° HB	7'	8'	10"	11'	13'	14"	-	-	-	-
45° HB	14'	16"	20"	22'	26'	29	-	-	-	-
90° HB	34	36'	49"	54	63'	70"	-	-	-	-
11.25° VB (down)	11'	16	16"	23	21'	29'	-	-	-	_
22.5° VB (down)	22'	32"	32"	46'	41"	59'	-	_	~	-
45' VB (down)	46	66	67"	95'	86	123	_	-	-	-
11.25° VB (up)	3,	4'	5	5'	6	7"	-	-00	-	
22.5* VB (up)	7'	8'	10"	11"	13	14	-	-	-	-
45° VB (up)	14'	16'	20	22'	26	29,	wite	April		
12"x8" Tee	_	_	-		-		66	94"		
8"x 8" Tee	-	-		-	-	-	65	93"	-	-
12"x12" Tee	-	-	-	-	-	-	104	149	-	-
16"x8" Tee	-	+	-	-	-	-	62	89'		
16"x12" Tee	-	-	-	-	-	-	95	135	-	
16"x16" Tee	-	-	-		-	~	133	130	-	
8 x6 Reducer	-	-	-	-	-	-	-	inte	33	46
12"x8" Reducer	-	-	Jan	-	-	-	-	nier .	59	65
12"x10" Reducer		-	All		-	-	seg	-	33	
16"x12" Reducer	-	-	-	-	-	-	-	-	62	89'

, RESTRAINED JOINTS ARE BASED ON THE FOLLOWING LAYERING CONDITIONS:

Restrained Joints Based on: Laying Condition: Type 5 Soil Condition: Coh-gram Depth of Cover: 3.5 ft. Design Pressure: 250 psi Sofety Factor: 1.5

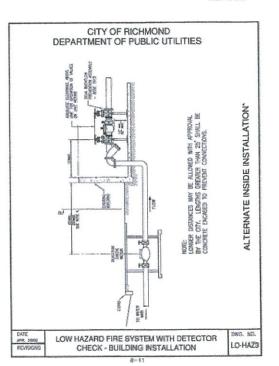
RESTRAINED JOINT LENGTHS ARE TO BE CONFIRMED BY ENGINNER BASED ON PROJECT CONDITIONS.

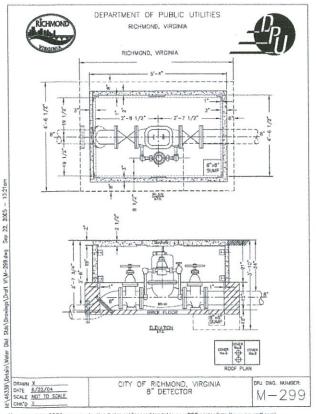
DRAWN X DATE 6/28/04 SCALE NOT TO SCALE CHK'D X

CITY OF RICHMOND, VIRGINIA RESTRAINED JOINT TABLE

DPU DWG. NUMBER

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You created this PDF from an application that is not licensed to print to novePDF printer (http://www.novapdf.com)

You created this PDF from an application that is not licensed to print to novaPDF printer (http://www.novapdf.com) DEPARTMENT OF PUBLIC UTILITIES RICHMOND RICHMOND, VIRGINIA LABEL "W" OR WATER FLUSH WITH GRADE ---SECTION BACKFILL 6" MIN GRAVEL TO UNDISTURBED EARTH BUTTERFLY VALVE OPERATOR OR SMALL GATE VALVE 14 1/2" -NOTES: 2. PROVIDE MIDDLE SECTION TO EXTEND FOR DEEP BOXES 3. ADJUST BOX TOP FOR STREET PAVEMENT OVERLAY, IF OVERLAY IS PERFORMED 4.IN GRASS AREAS PROVIDE 1'-6" SQ. x 4" THICK CONC. PAD AROUND TOP OF VALVE BOX DRAWN X DATE 5/28/04 SCALE NOT TO SCALE CITY OF RICHMOND, VIRGINIA SMALL VALVE BOX DPU DWG. NUMBER: M-1

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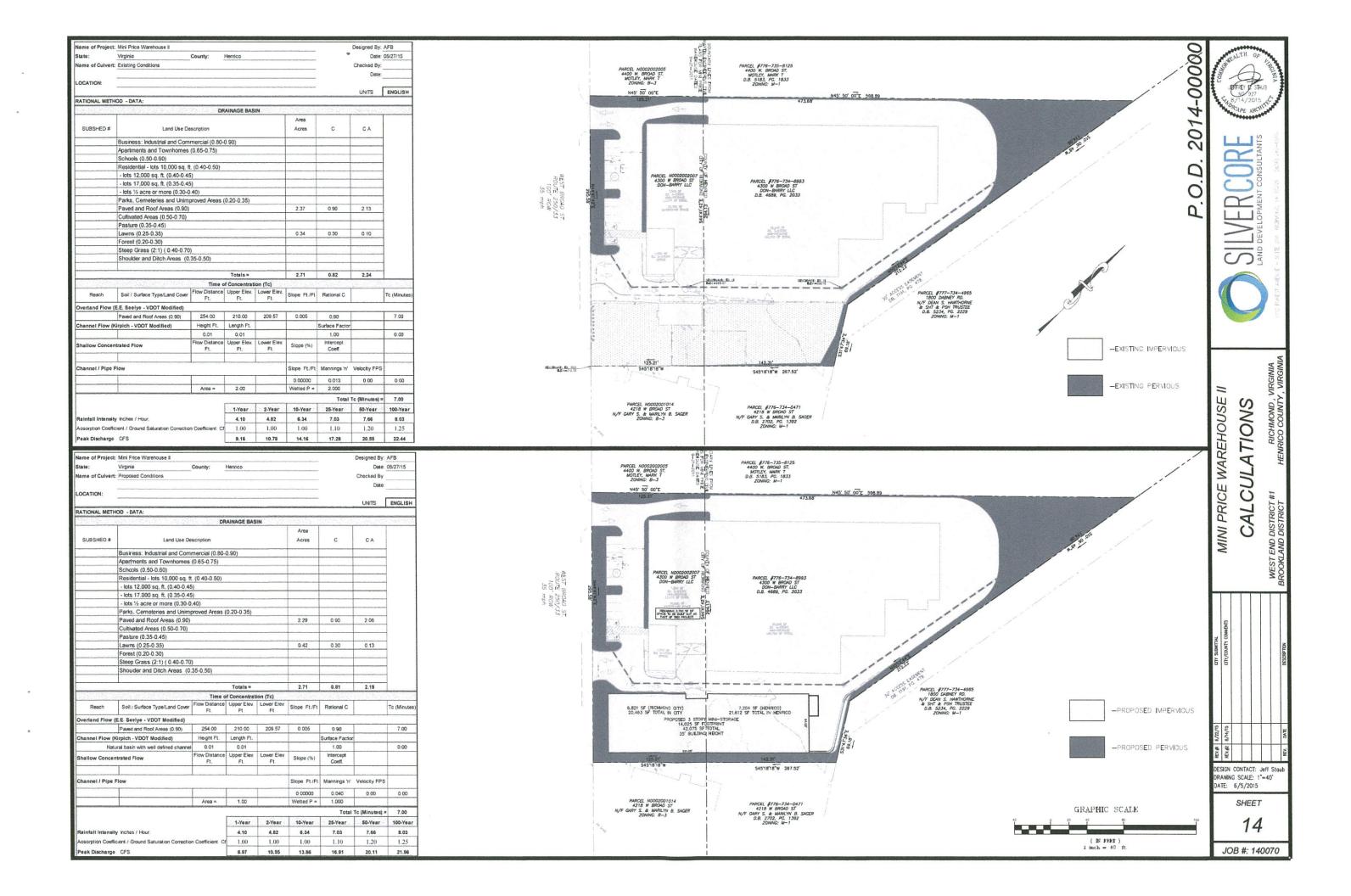
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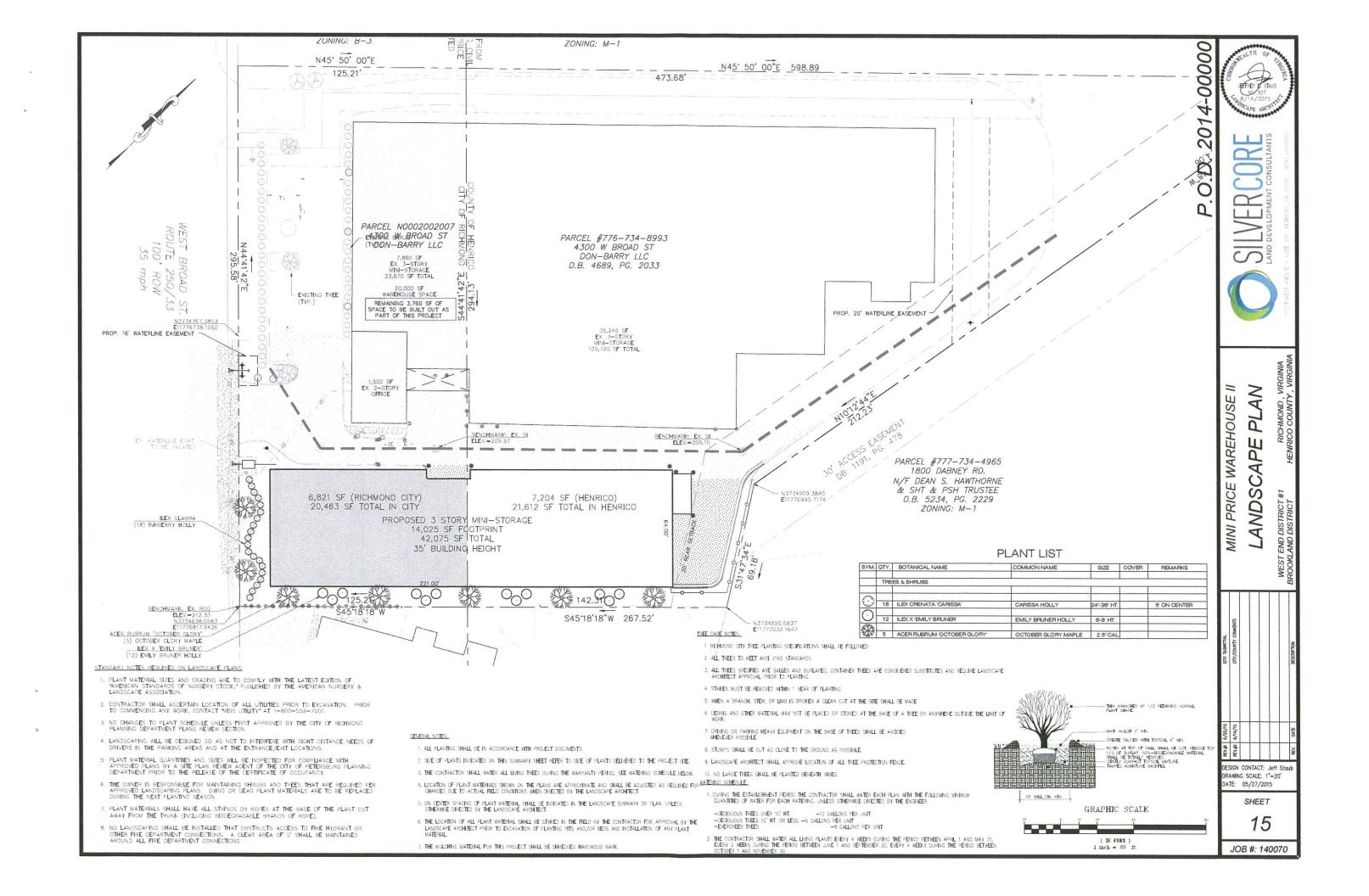
DESIGN CONTACT: Jeff Staul DRAWING SCALE: N/A DATE: 6/5/2015

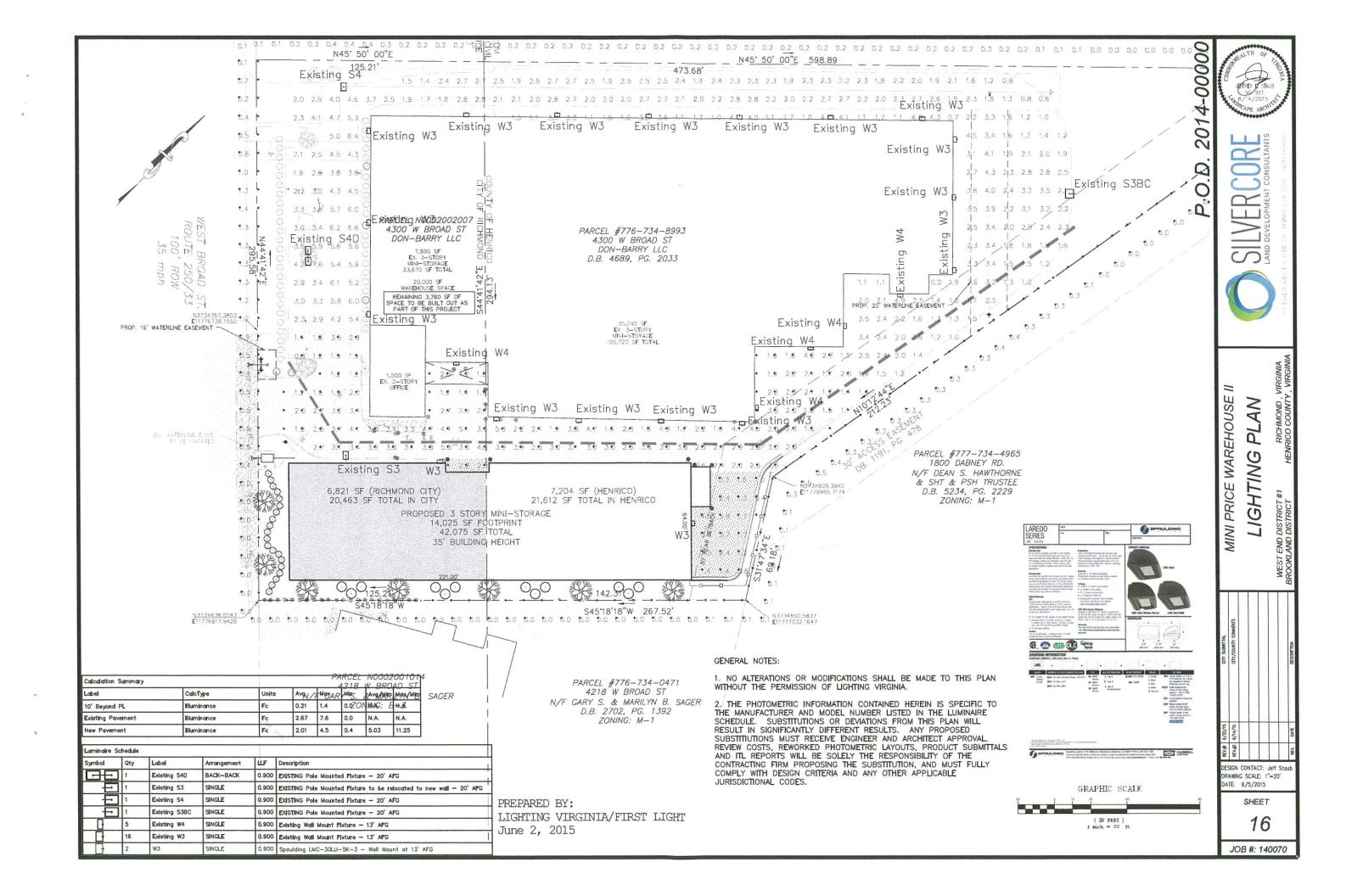
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JOB #: 140070

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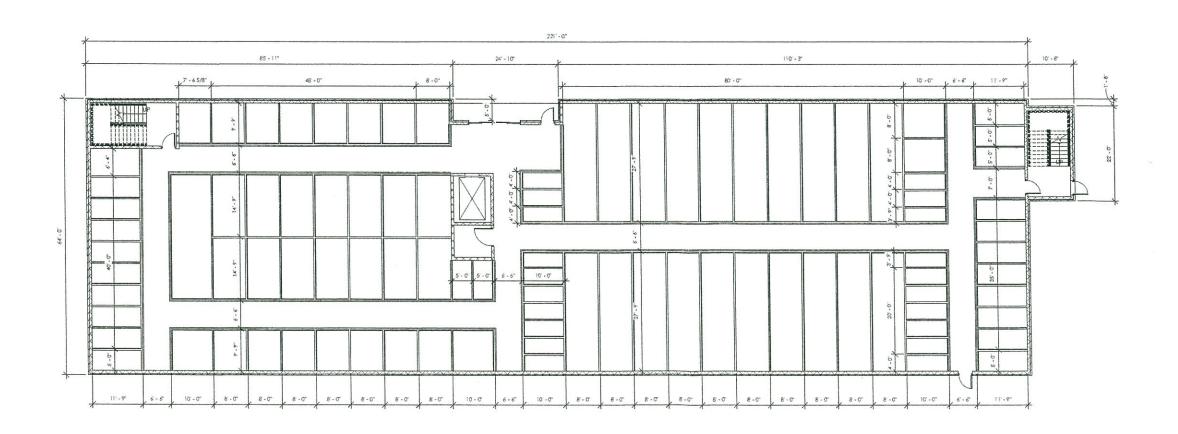




# **RECEIVED**

JUL 0 2 2015

LAND USE ADMINISTRATION



BUILDING 2 FOR

MINI-PRICE WAREHOUSE

WEST BROAD STREET RICHMOND, VIRGINIA

COVINGTON AS Southport Errich
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AND THE COLOR OF T

05/28/15

 CHA PROJECT
 15090

 ISSUE DATE
 05/28/15

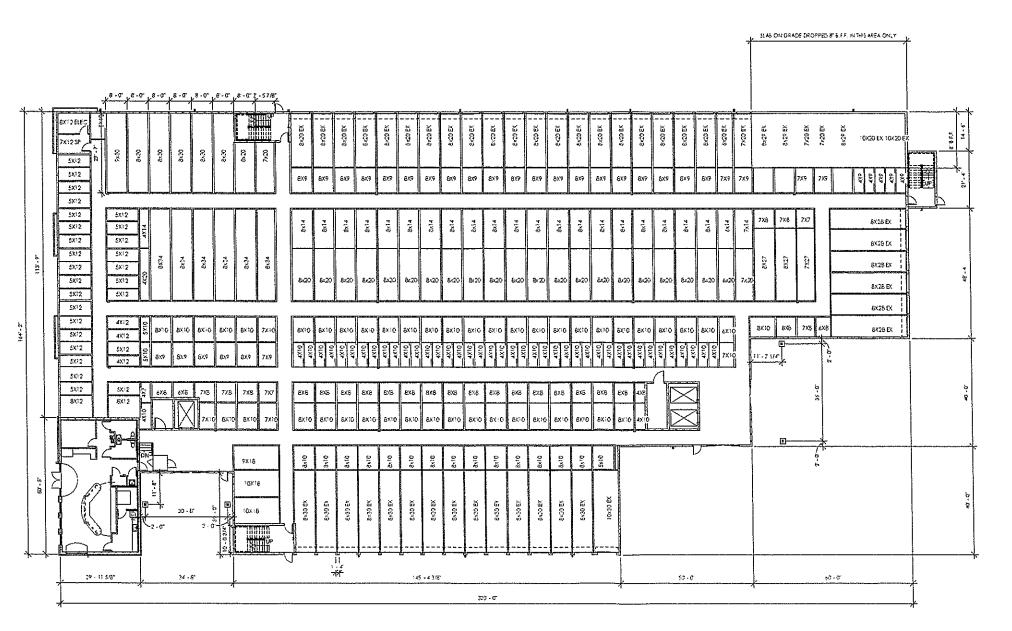
 REVISION NO.
 DATE

PHASE 2 FIRST FLOOR PLAN

A1.0

OVERALL FIRST FLOOR PLAN

MA 64:2015 1:05:49 PM



EXISTING PHASE 1

MINI-PRICE WAREHOUSE

WEST BROAD STREET RICHMOND, VIRGINIA

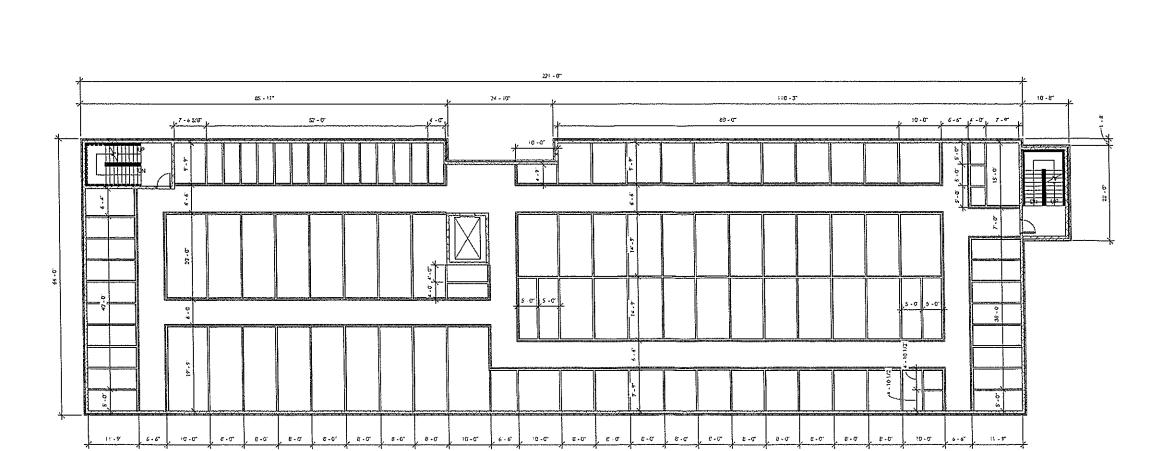
COVINGTON of Sathbart Gride
HENDRIX
ANDERSON Method State Co



CHA PROJECT 09045
USUE DATE 01/22/14
REVISION NO. DATE

OVERALL FIRST FLOOR PLAN-EXISTING PHASE I

A1.1



BUILDING 2 FOR

MINI-PRICE WAREHOUSE

WEST BROAD STREET RICHMOND, VIRGINIA

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05/28/15

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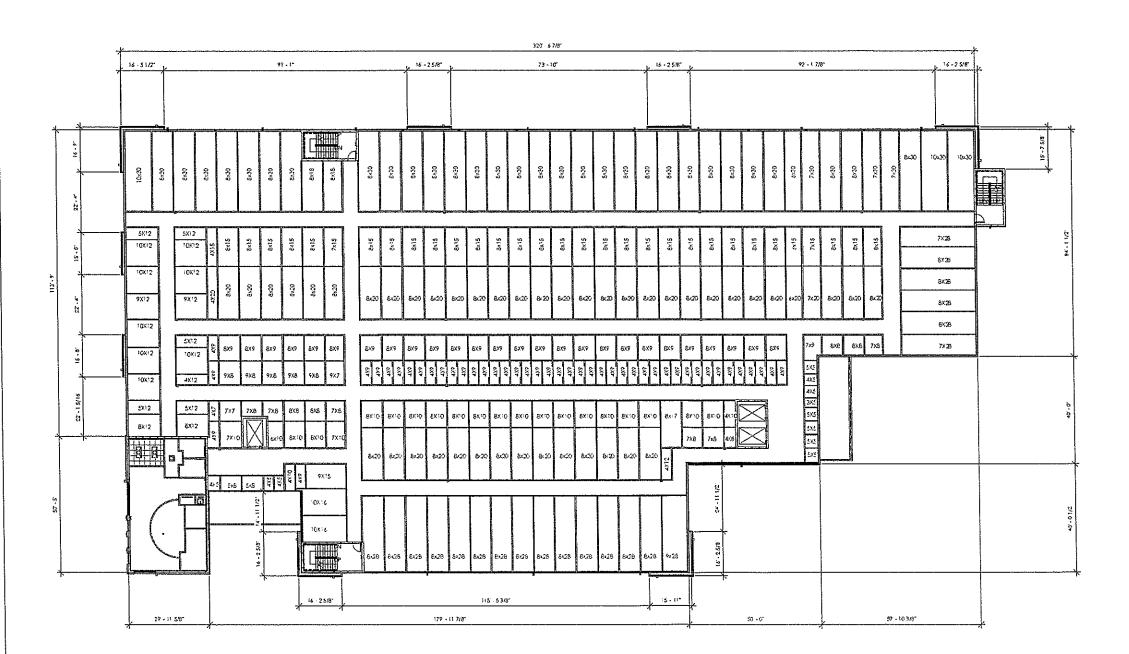
 ISSUE DATE
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PHASE 2 SECOND FLOOR PLAN

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OVERALL SECOND FLOOR PLAN



MINI-PRICE WAREHOUSE
WEST BROAD STREET RICHMOND, VIRGINIA

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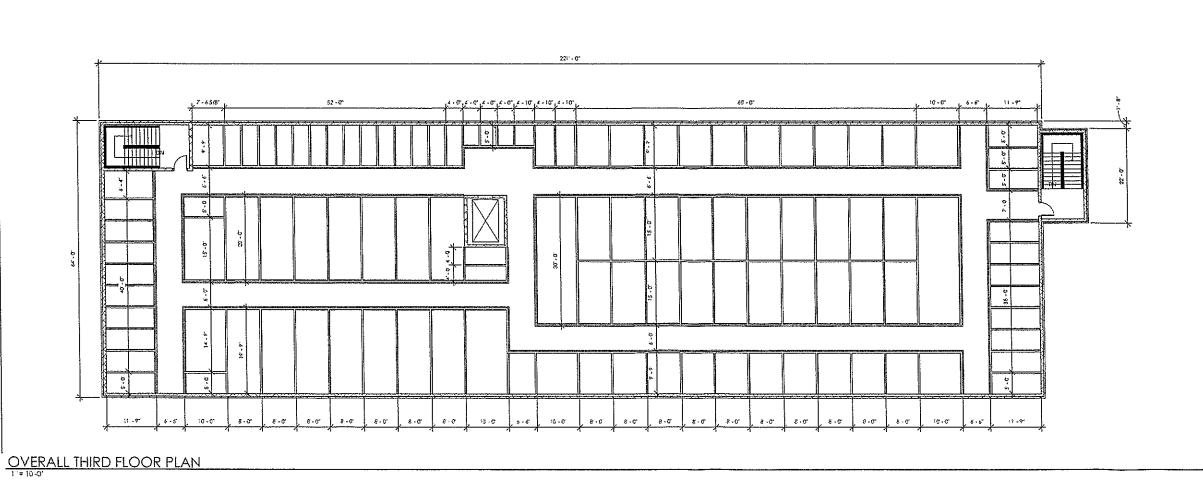
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 REVISIONING
 DATE

OVERALL SECOND FLOOR PLAIN
- EXISTING PHASE T

A2.1



BUILDING 2 FOR

MINI-PRICE WAREHOUSE

WEST BROAD STREET RICHMOND, VIRGINIA

COVINGTON (% Mulliper) Over H E N D R I X Visit Jeen Vi

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05/28/15

CHA PROJECT	15080
ISSUE DATE	05/28/15
REVISION NO.	<u>natr</u>

PHASE 2 THIPD FLOOR PLAN

A3.0

EXISTING PHASE 1

MINI-PRICE WAREHOUSE

WEST BROAD STREET RICHMOND, VIRGINIA

COVINGTON to Settlem Order HENDRIX ANDERSON



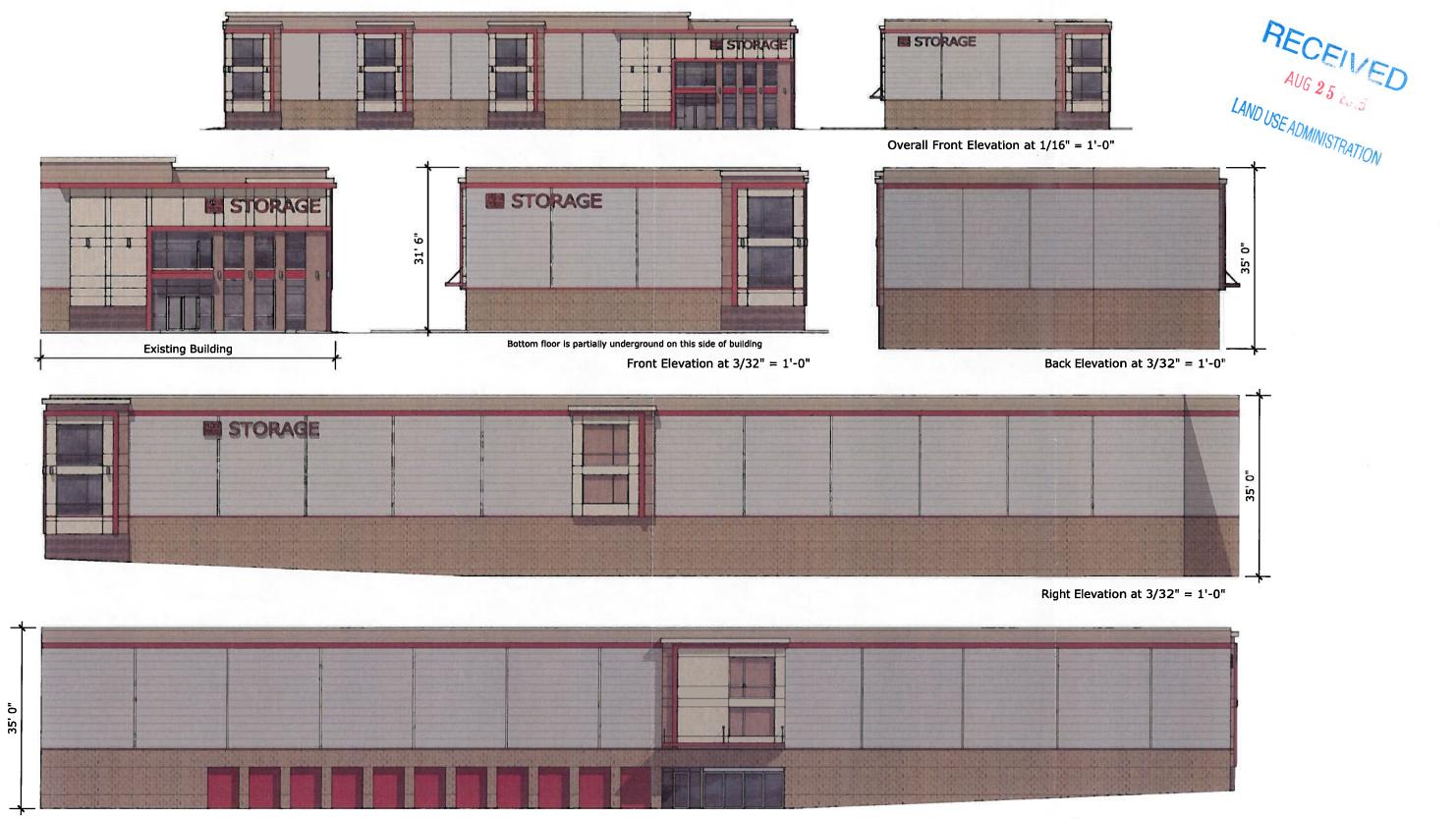


CHA PROJECT	0904
ISSUE DATE	01/22/1
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OVER ALL THIRD FLOOR PLAN -EXISTING PHASE 1

A3.1

OVERALL THIRD FLOOR PLAN



Left Elevation at 3/32" = 1'-0"





Mini Price Storage: 4300 West Broad Street Expansion







Mini Price Storage: 4300 West Broad Street Expansion







Mini Price Storage: 4300 West Broad Street Expansion





**OPERTY OF** 



Dean Drive 3 Beach, Va. 23452

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1 486-7658

LLINGS@ INALSIGN.COM

Price

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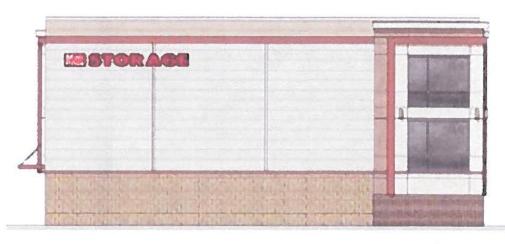
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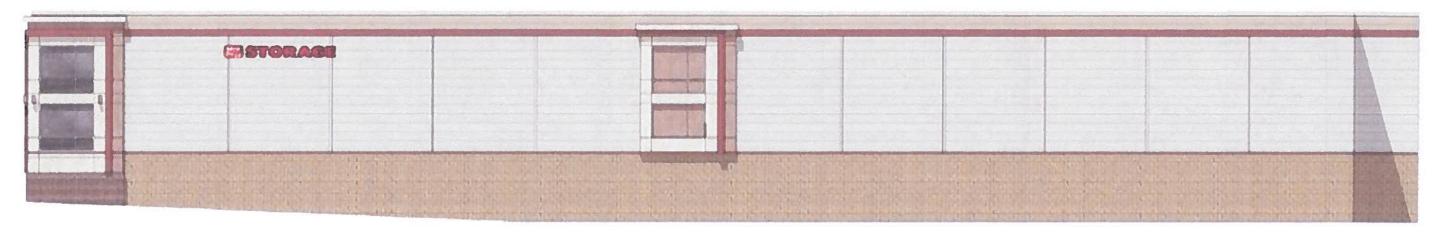


# Mini Price STORAGE

SIGN A: CHANNEL LED LETTERS ON RACEWAY



FRONT ELEVATION



RIGHT ELEVATION

