All soil erosion and sediment control measures shall be accomplished in strict accordance with the standards and specifications contained in the Virginia Erosion and Sediment Control Handbook, latest edition.

The approving authority may add to, delete, relocate, change, or otherwise modify certain erosion and sediment control measures where field conditions are encountered that warrant such modifications.

All soil erosion and sediment control measures as shown on the plan shall be place in advance of the work being performed, as far as practical.

In no case during construction shall water runoff be diverted or allowed to flow to locations where adequate protection has not been provided.

It shall be the contractor's responsibility to leave the site adequately protected against erosion, sedimentation, or any damage to any adjacent property at the end of each day's work.

All dewatering activity shall be done through an approved filter.

The contractor shall make every effort to prevent sediment laden runoff from leaving the site.

### COMPLIANCE NOTES

Contractor Shall Provide New Materials And Workmanship In Conformance With All Applicable Codes, State And Federal Laws. Local Ordinances. Industry Standards, And Other Criteria Which Would Normally Apply To The Work Of This Nature. Notify The Engineer Immediately Upon Discovering A Conflict In Codes, Ordinances, Standards, Or Other Criteria. Applicable Codes And Standards Include, But Are Not Limited To The Following:

- a. BOCA Basic Codes b. Franklin County c. VDOT - Virginia Department Of Transportation Standards And Specifications
- . Virginia Erosion And Sediment Control Handbook
- e. OSHA Occupational Safety And Health Administration ASTM - American Society For Testing And Materials
- g. IBC International Building Code (Latest Edition)

# RESPONSIBLE LAND DISTURBER :

The Responsible Land Disturber (RLD) named by the owner or land disturbance permitee associated with this project shall be responsible for supervising inspections and maintenance of all required erosion and sediment control devices approved or prescribed the Erosion And Sediment Control Program Administrator, Plan Reviewer, or Inspector for Franklin County throughout the duration of the project until final stabilization is achieved. Frequency of inspections by the RLD shall be every two weeks and after each rainfall event. Maintenance of all E&S controls shall be in accordance with the E&S handbook, current edition. The program Administrator or Inspector for Franklin County may require inspection and maintenance logs from the RLD at any time.

Address: Certification Expiration: Phone:

RLD and Certificate Number

#### NOTES : VDOT

A preconstruction meeting is required prior to commencement of permitted activities. The Developer or Designee shall contact VDOT Land Use Office five working days in advance of anticipated construction start to establish a date, time, and place for the preconstruction meeting. The primary function of the preconstruction meeting is to identify construction / inspection schedules and review the traffic management plan and associated parameters.

A Land Use Permit (LUP) shall be obtained from the Virginia Department of Transportation prior to beginning any construction within the existing state maintained right of way. The LUP may be obtained from the local VDOT land use office.

Prior to any construction, the Contractor shall consult the Engineer of Record and verify the approval of the plans by all federal, state and local agencies.

All contractors performing construction activities under the auspices of a VDOT Land Use Permit must have at least one (1) employee on-site who, at a minimum, is verified by VDOT in Basic Work Zone Traffic Control for activities involving the installation, maintenance and removal of work zone traffic control devices. An employee verified by VDOT in Intermediate or Advanced Work Zone Traffic Control must be on-site to provide supervision during workzone adjustments or changes to traffic control due to field conditions. These persons must have their certification card with them while on the project site.

Design changes, specified material changes and/or field changes from the approved plans must be submitted to VDOT prior to proceeding with the work. A letter of explanation shall accompany the revised design plans and/or engineering calculations, which must be submitted to VDOT for review and approval. Design features relating to construction or to regulation and control of traffic may be subject to change as deemed necessary by VDOT.

The Contractor shall verify the elevations of all points of connection or proposed work with VDOT Right-of Way prior to construction, to include, but not be limited to existing curbs, sanitary lines, waterlines, and other utilities / related items. The Developer shall be responsible for the relocation of any utility within existing and/or proposed right-of way required by the development.

Visual inspection, proof roll, compaction or any additional testing shall be performed as determined by VDOT. Upon discovery of Soils that are unsuitable for subgrade or other roadway construction purposes, the Contractor shall immediately contact a geotechnical engineer and VDOT. The areas of suspect material shall be excavated below plan grade as directed by a geotechnical engineer, backfilled with suitable material and compacted to current VDOT standards.

Replace any disturbed Right of Way monuments in accordance to 2016 Road and Bridge Standards RM-2. VDOT approval of these plans expires three years from date of approval, if a land use permit has not been

Any existing drainage or pavement structure on VDOT's right-of-way that is damaged during the course of the permitted work shall be repaired or replaced to the satisfaction of VDOT. Replacement shall be the selected method unless field conditions dictate repairs, as approved by VDOT.

Final rim elevations in VDOT's R/W shall not be greater than the finish grade. All valves, covers, boxes, manholes, etc. shall not be installed in ditch lines. All areas within VDOT's R/W with slopes of 3:1 or gentler shall be considered traffic bearing areas, and any utility vaults/manholes shall be installed with traffic bearing covers.

No structure shall be constructed on state maintained right of way unless said structures are shown on VDOT approved plans and covered by a VDOT Land Use Permit.

The Developer is responsible for furnishing and installing all signs deemed pertinent to the proposed development. The Contractor shall contact VDOT to establish locations for any proposed signage, or signage as deemed necessary by VDOT. Installation of any signage pertaining to the development shall occur at no expense to the Commonwealth.

If paving equipment is encroaching on travelways when installing entrance, TTC-4.2 and 5.2 of the VWAPM

Placement of landscaping shall be such that mature growth does not interfere with entrance's intersection site distance. No plantings are permitted on VDOT right-of-way.

No excavation shall remain open during hours of no work unless steel plates and steel plate signage are installed. See Section 6G.15 of the Work Area Protection Manual Rev. 2 for details.

At the end of each work day, the roadway shall be cleaned of any mud and debris. This may include sweeping and/or washing.

Any areas which have been disturbed during construction shall be restored. This includes stone, seeding, etcetera. All environmental issues shall be addressed immediately.

If the pavement has been broken or damaged during the construction process, repair of the broken or damaged section shall be the sole responsibility of the owner/contractor and shall be repaired to the satisfaction of VDOT. To prevent damage, consider saw cutting edge line to make clean joint at entrance.

The roadway shall be protected at all times from steel tracked equipment by the use of rock dust, crushed stone, or similar material.

At all times, the contractor shall be responsible for ensuring dust is kept to a minimum either by the addition of water or calcium chloride.

#### Any and all complaints shall be addressed immediately.

It shall be the responsibility of the permittee to reimburse VDOT for any expenses pertaining to debris left within VDOT right-of-way creating a safety issue, damage to VDOT equipment or the traveling public, requiring corrective action from VDOT

VDOT approval of these plans expires three years from the date of approval if a Land Use Permit has not

### NOTES

This Plan Shows A Current Boundary And Topographic Survey As Conducted By Cornerstone Land Surveying. Some Features Outside Of The Limits Of Construction Were Compiled From Existing Records.

This Property Is Not Located Within A FEMA Designated Flood Zone (Zone X).

All Field Stakeout For This Project Shall Be The Contractors And/Or Owner's Responsibility.

It Shall Be The Contractor's Responsibility To Verify That All Necessary Permits For Construction Have Been Obtained Prior To Commencing

No Utilities Shall Be Covered Until Inspected By The Town of Rocky Mount Public Works Superintendent - Contact Brian Schofield At

The Contractor Shall Provide A Smooth Transition Between Existing And Proposed Pavement And Concrete Surfaces.

This Project Is To Be Constructed In Complete Compliance With The County Of Franklin, Virginia, The Virginia Department of Environmental Quality, The Virginia Department Of Transportation, and The Virginia Erosion and Sediment Control Handbook, (latest revision).

No Underground Utilities or Structures Were Located At The Time This Plan Was Prepared, And No Guarantee Is Made As To The Existence Or Nonexistence Of Any Such Underground Utilities Or Structures Shown Or Not Shown. The Contractor Is To Contact Miss Utility At Least 48 Hours Prior To The Start Of Construction.

The Replacement, Protection, And/Or Relocation Of Any And All Utilities Or Structures Shall Be The Contractor's Responsibility. All Work Is To Be Coordinated With The Respective Utility Company

The Contractor Shall Be Responsible For Raising And/Or Lowering Utility And Drainage Structures To Meet Final Grade.

Finished Contours And Spot Grades As Shown On This Plan Are Intended As A Guide Only And The Contractor May Change Them To Ensure Positive Drainage To Approved Erosion And Sediment Control Devices.

All Materials And Construction Methods Shall Meet, Or Exceed The Virginia Department Of Transportation's Road And Bridge Specifications (Latest Edition) And Work Area Protection Manual (Latest Edition).

All Fills Shall Be Made With Select Fill. All Compactions Shall Be Made In 8" Lifts And Shall Be A Minimum Of 95 % Using The Modified Proctor

The Contractor Is Directed To Dig And Locate All Utilities In Advance Of Pipelaying To Allow For Adjustments Due To Conflicts With Existing Utilities. Should A Conflict Arise, The Contractor Shall Notify The Engineer And The County Of Franklin.

Tax Number = 0300005900 Zoning = Commercial (B2) District = Gills Creek HUC = 3010101 HUP = Roanoke River Land Use = Medical Facility

# SEQUENCE OF CONSTRUCTION :

Schedule a Pre-Construction meeting with Franklin County. The Contractor Shall Contact Franklin County Department of Planning and Community Development - Development Review Coordinator Ronald Wilson (Ronald.Wilson@franklincountyva.gov or 540-483-3027) in writing, a minimum of five (5) business days in advance of the Pre-Construction meeting. Failure to do so makes this a violation of the approved plan and is a finable offense. 2) Install the E&S Measures - starting at the outfall (including the concrete level spreader) and work upslope. 3) Once the E&S Measures and Concrete Washout have been installed, the building construction may begin. 4) Grade the site for the new building pad and parking area - install additional E&S measures required. 5) Construct the new parking areas and new utilities. Maintain the E&S measures throughout construction. 6) Once it is deemed by Franklin County that adequate stabilization has been obtained, the level spreader forebay is to be

7) The Contractor shall contact Franklin County for a final site inspection. 8) Once approved, the Contractor shall remove the temporary erosion and sediment control measures.

ACCESSIBLE PARKING NOTE: Slope Of Accessible Route From The Handicapped Parking Space To The Handicapped Ramp

Identification Of Accessible Parking Spaces: In Addition To Complying With Any Applicable Provisions Of The A.D.A., All Accessible Parking Spaces Shall Be Identified By Above Grade Signs. A Sign Or Symbol Painted Or Otherwise Displayed On The Pavement Of A Parking Space Shall Not Constitute An Above Grade Sign. All Above Grade Parking Space Signs Shall Have The Bottom Of The Sign Now Lower Than Four Feet (1219mm) Nor Higher Than Seven Feet (2133mm) Above The Parking Surfaces. All Disabled Parking Signs Shall Have The Following Language: Penalty, \$100-\$500 Fine, Tow-Away Zone. Such Language May Be Placed On A Separate Sign And Attached Below Existing Above Grade Disabled Parking Signs, Provided That The Bottom Edge Of The Attached Sign Is No Lower Than Four Feet Above The Parking Surfaces.

# TRAFFIC MANAGEMENT NARRATIVE

Existing Site: The existing site is found in mature vegetation. Proposed Site:

The development proposes to include a medical facility.

Project Type: A - Simple - adding an entrance. Lanes Affected: Shoulder of north bound traffic on Route 616. Hours Work Zone Will Be Active: 730AM until 5PM - Monday through Friday.

Proposed Traffic Control: Reference: WAMP revision 2.1 in effect November 2020 TTC-1.1 (Work Beyond the Shoulder Operation) TTC-4.2 (Stationary Operation on Shoulder)

TTC-5.2 (Shoulder Operation with Minor Encroachment) TTC23-2 (Lane Closure on a Two-Lane Road using flaggers) of the Virginia Work Area Protection Manual, Revision 1. The front of the work vehicle shall be 80'-125' from the construction. Ensure that no intersections, entrances,

or pedestrian access points are affected by the work zone or the traffic control devices. Major Types Of Travelers: Commuters and local residents and commercial traffic.

Project Communications Plan: Call Lisa Lewis with VDOT (540-493-4127) to schedule a work plan or any traffic delays. Emergencies - Dial 911

Franklin County Sheriff's Office - 540-483-3000 Franklin County Public Safety - 540-483-3091 DEQ Hazardous Spill - 1-800-468-8892

Traffic shall be maintained throughout the project. Authorized work days and hours are to be in accordance with the VDOT Land Use Permit. Alternate times requested by the contractor are to be approved by VDOT.

Contractor shall contact the VDOT representative in writing (email) with a work schedule 2 weeks prior to commencing work.

It is not the intent of the Traffic Control Plan to enumerate every detail which must be considered in the construction of each work zone, but only to show the general features necessary to provide for the proper handling of traffic.

Design features relating to construction or regulation and control of traffic may be subject to change as

deemed necessary by the Virginia Department of Transportation (VDOT). All traffic control devices and signs necessary for maintenance of traffic are to be provided, installed, maintained and removed by the Contractor. Traffic control arrangement and devices within the VDOT right-of-way shall be in accordance to the Virginia Work Area Protection Manual, Latest Revision.

All pavement striping and roadway signage shall be in accordance with the latest version of the manual of uniform traffic control devices (MUTCD)

All work performed under this contract shall be coordinated with any other contract and/or state forces work being done in the same area.

The contractor's equipment shall be stored outside of the Right-of-Way, Design Clear Zone and deflection

If significant traffic backups occur during working hours, the Contractor shall make the area safe for the traveling public and the lane and/or shoulder closure shall be removed.

It is the responsibility of the Contractor to determine which TTC detail applies for each specific work conditions encountered. Additional TTC details may be required. It is the responsibility of the Contractor to provide for safe travel around the work zones in accordance with all applicable VDOT requirements.

All flaggers shall be state certified and have their certification cards in their possession when performing flagging duties.

STATE MINIMUM STANDARDS

1. Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 14 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.

2. During construction of the project, soil stock piles and borrow areas shall be stabilized or protected with sediment trapping measures. The applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as borrow areas and soil intentionally transported from the project site.

3. A 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.

constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance 5. Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after

4. Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be

6. Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin.

a. The minimum storage capacity of a sediment trap shall be 134 cubic yards per acre of drainage area and the trap shall only control drainage areas less than three acres. b. Surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or equal to three acres shall be controlled by a sediment basin. The minimum storage capacity of a sediment basin shall be 134 cubic yards per acre of drainage area. The outfall system shall, at a minimum, maintain the structural integrity of the basin during a

25-year storm of 24-hour duration. Runoff coefficients used in runoff calculations shall correspond to a bare earth

condition or those conditions expected to exist while the sediment basin is utilized. 7. 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.

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.

9. Whenever water seeps from a slope face, adequate drainage or other protection shall be provided. 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. 11. Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel

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.

13. When a live watercourse must be crossed by construction vehicles more than twice in any six-month period, a temporary vehicular stream crossing constructed of nonerodible material shall be provided

14. All applicable federal, state and local requirements pertaining to working in or crossing live watercourses shall be

15. The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed. 16. Underground utility lines shall be installed in accordance with the following standards in addition to other applicable

a. 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 in a manner that 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

e. Restabilization shall be accomplished in accordance with this chapter.

f. Applicable safety requirements shall be complied with.

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. This provision shall apply to individual development lots as well as to larger land-disturbing activities.

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 VESCP 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

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

## EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION
10. Soil Stabilization Blankets (Section 3.36)
The project consists of the construction of a new nursing home over an existing managed turf Soil Stabilization Blankets will aid in erosion control by creating microclimates for field. Including new utilities, stockpile areas, and roads required to service the site.

EXISTING SITE CONDITIONS
The existing site is clear, consistently sloped, with a good stand of grass. Soils are firm, and indetified as 7D - Clifford Fine Sandy Loam Complex (B soils).

ADJACENT PROPERTIES
The site is bounded to the north, south, east and west by property owned by

OFF-SITE AREAS
Any work done on a fill/borrow site outside of the proposed project area may require a separate erosion and sediment control plan and/or additional erosion and sediment control measures as deemed necessary by the Franklin County approving authority.

CRITICAL EROSION AREAS

All of drainage shall leave the site to the northeast and will be collected in the proposed detention basin. During construction, this will function a sediment basin. All efforts shall be made to prevent sediment laden runoff from leaving the property and entering the recieving

EROSION AND SEDIMENT CONTROL MEASURES
All measures to be in accordance with the Virginia Erosion and Sediment Control Handbook,

. Temporary Construction Entrance (Section 3.02) One temporary construction entrance will be installed. Vehicles will be washed to limit

tracking onto public roads. Should tracking occur the road will be immediately cleaned. 2. Silt Fence (Section 3.05) Temporary silt fences will be installed as indicated on the site plan. . Temporary Seeding (Section 3.31)

Temporary seeding will be placed on all disturbed areas that will not be brought to final grade within 14 days. Temporary seeding will aid in the reduction of dust and sediment 4. Permanent Seeding (Section 3.32) After final grading permanent seeding will be employed to reduce erosion and sediment yield. seeding specifications: permanent seeding will be Kentucky 31, blended to contain 4 or more

varieties, with no one variety exceeding 30 %. The seeding will be applied at 200 lb. per acre. on slopes 2:1 or greater a mixture of Crown Vetch (50 %), Perennial Ryegrass (40 %), and Redtop (10%) will be used. All seeding, with required associated practices, will be in accordance with all applicable sections of the Virginia Erosion and Sediment Control

5. Inlet Protection (Section 3.07) Inlet protection will be placed at all storm structure inlets to prevent sediment from entering

3. Sediment Basins (Section 3.14)

the system. 6. Construction Road Stabilization (Section 3.03) All roads and parking areas on the site shall be stabilized with gravel (6" of VDOT #1 Stone)

7. Outlet Protection (Section 3.18) Outlet Protection will be placed at all storm structure outlets to clean and slow sediment lader 8. Rock Check Dam (Section 3.20)

Check Dams Will Filter sediment laden runoff as concentrated flow in conveyance channels.

Sediment Basins will allow sediment laden runoff to settle and will filter at the stone outlet

immediately after grading. Traffic is prohibited from entering drainage swales or streams

young vegetation to mature.

TEMPORARY STABILIZATION
Any denuded areas left dormant for longer than 14 days will be seeded temporarily with fast germinating vegetation immediately following grading. MANAGEMENT STRATEGIES Construction will be sequenced so that grading operations can begin and end as

quickly as possible. Install all erosion and sediment control measures as the first step in construction. Other measures will be installed as work progresses into those areas. Temporary seeding or other stabilization will follow immediately after grading. The job superintendent shall be responsible for the installation and maintenance of all erosion and sediment control practices. After achieving adequate stabilization, the temporary erosion and sediment control

PERMANENT STABILIZATION
All areas disturbed by construction which do not receive buildings or paving shall be

stabilized with permanent seeding as specified by the Virginia Erosion and Sediment Control Handbook, current edition. All seeding shall be tacked and mulched and placed immediately after reaching finished grade.

measures will be cleaned and removed.

STORMWATER MANAGEMENT
MS-19 and stormwater quantity requirements have been met via the energy balance equation. Further, this project proposes a disturbance of more than one acre in size. An Existing GP is active for this site. This plan modifies that permit.

each significant rainfall. In particular. Silt fence will be checked regularly for undermining or deterioration of the fabric.

In general, all erosion and sediment control measures will be checked daily and after

Sediment shall be removed when the level of sediment deposition reaches halfway to

The seeded areas shall be checked regularly to ensure that a good stand is

maintained. Areas should be fertilized and reseeded as needed. The contractor shall inspect all erosion control devices immediately after each significant rainfall and daily during periods of prolonged or heavy rainfall and repair all structures as necessary with in 24 hours of a measurable rain event (0.25").

# FRANKLIN COUNTY STANDARD NOTES

1. Franklin County Case #

pipe to inlet connections.

2. The Franklin County Department of Planning and Community Development must be notified in writing five (5) business days prior to commencing with construction to schedule a pre-construction meeting. See the Sequence of Construction for details. Failure to do so constitutes a violation of the approved plans and is a finable offense.

3. The Registered Land Disturber or their site representative will be required to maintain and update the Stormwater

6. Approval of these plans by Franklin County Department of Planning and Community Development is not a

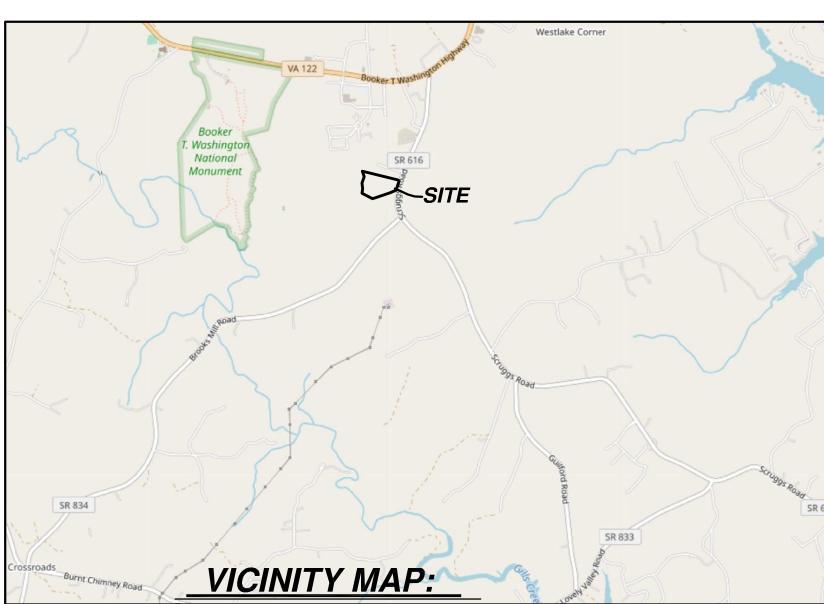
Pollution Prevention Plan (SWPPP) as necessary. The SWPPP must remain available for inspection at all times. 4. The Franklin County Department of Planning and Community Development Erosion and Sediment Control/Stormwater Management (ESC/SWM) Site Inspector must be notified in writing forty-eight (48) hours in advance of the construction of any critical components of all ESC/SWM installations (and noted dates in the SWPPP).

5. Franklin County Department of Planning and Community Development reserves the right to alter these plans, during the construction phase and as field conditions may warrant. Changes to the construction plans must have Franklin County approval prior to the work being done (and noted changes/dates will be added to the SWPPP).

representation, quarantee or warranty of any kind and shall create no liability upon the County, its Officials or Employees. 7. Storm drain pipes shall have water tight connections and a rubber gasket shall be provided on the pipe or inlet at the

8. Approved plans remain valid for the current 2014 Virginia Department of Environmental Quality Permit Cycle only (5 9. No Occupancy Permit shall be issued until all improvements (drainage, erosion and sediment control, stormwater management, etc.) have been completed and the as-built plans have been accepted by the Franklin County Department of Planning and Community Development.

10. An As-built/record plan shall be provided to the Franklin County Department of Planning and Community Development within sixty (60) days after completion of construction for approval. The ESČ/SWM surety (letter of credit. performance bond, or escrow account) will not be fully released until all items have been approved as constructed.



APPROVAL BLOCK

# FRANKLIN COUNTY CASE #

FOR: FRANKLIN COUNTY COMMUNITY DEVELOPMENT

FOR: VIRGINIA DEPARTMENT OF TRANSPORTATION

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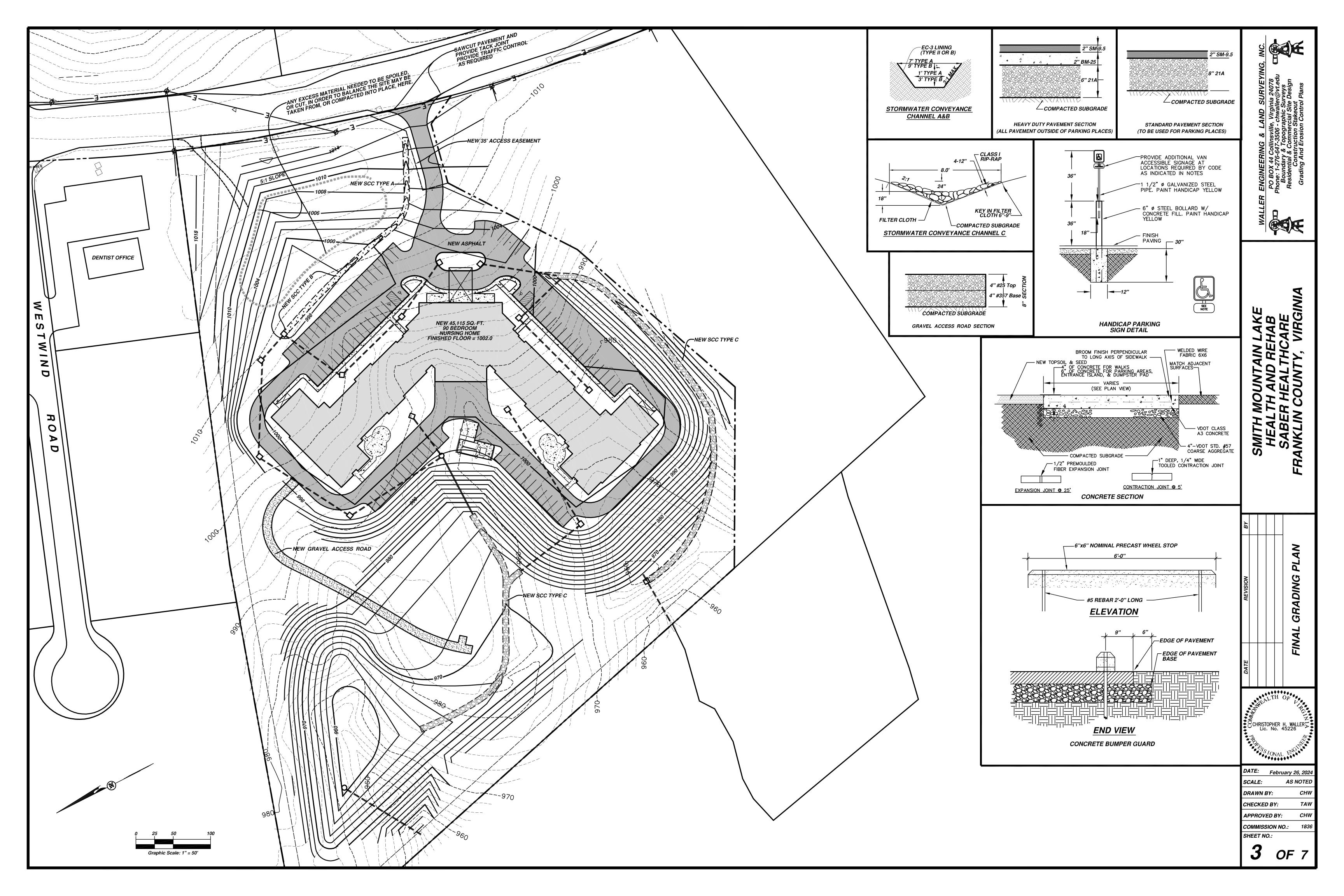
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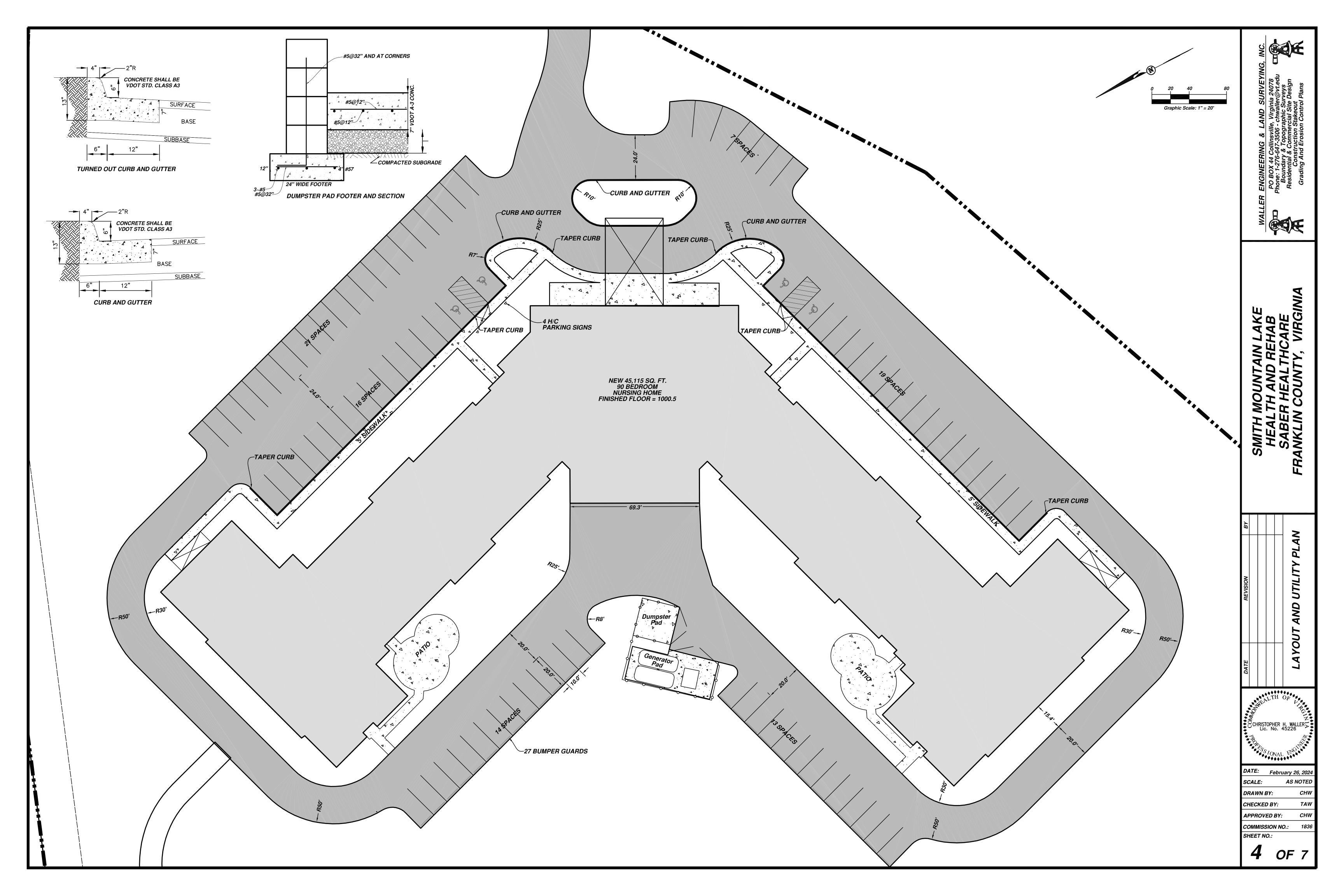


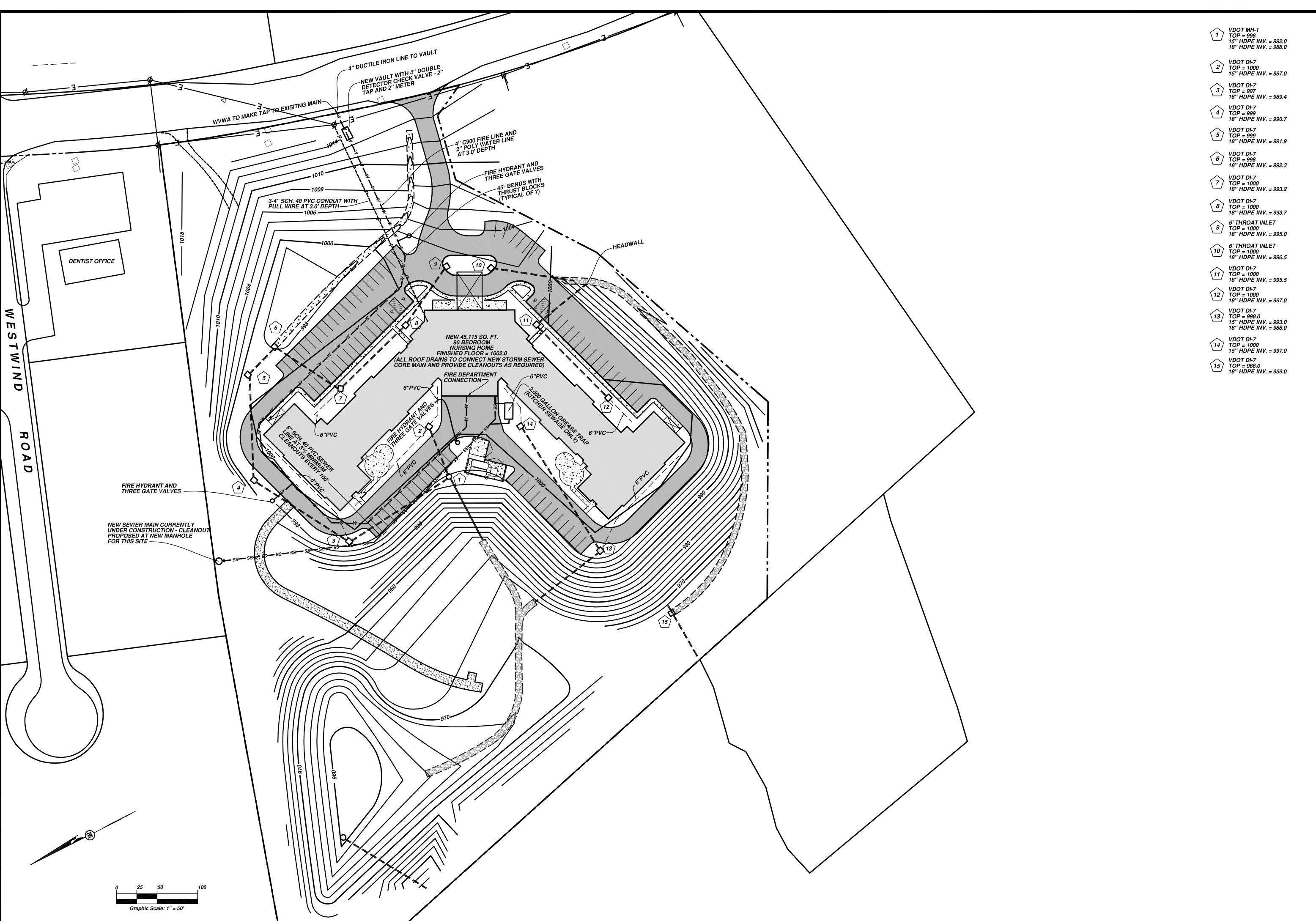
DATE: February 26, 2024 AS NOTEL SCALE: DRAWN BY: CHW CHECKED BY:

CHW APPROVED BY: COMMISSION NO.: SHEET NO.:







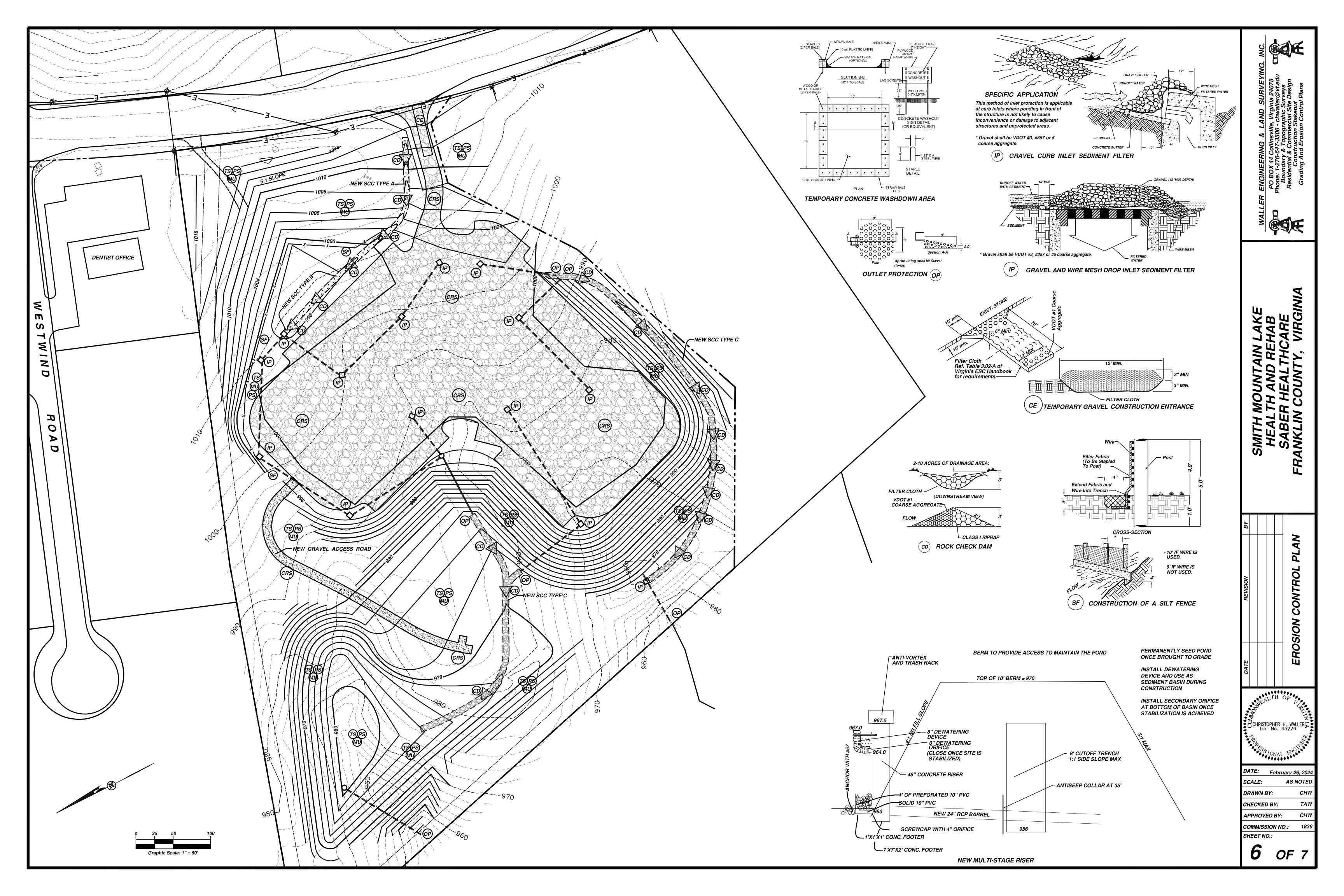


CHRISTOPHER H. WALLER Lic. No. 45226

DATE: February 26, 2024 AS NOTED SCALE: DRAWN BY: CHECKED BY:

APPROVED BY: COMMISSION NO.:

SHEET NO.:



Guidance:

Standard

Option:

Guidance:

Standard

Option:

Standard:1

**Typical Traffic Control** 

1. Sign spacing distance should be 350'-500' where the posted speed limit is 45 mph or less, and 500'-800'

2. Care should be exercised when establishing the limits of the work zone to insure maximum possible sight

3. To maintain efficient traffic flow in a flagging operation on a two-lane roadway, the maximum time

distance in advance of the flagger station and transition, based on the posted speed limit and at least

equal to or greater than the values in Table 6H-3. Generally speaking, motorists should have a clear line

motorists should be stopped at a flagger station is 8 minutes for high volume roadways (average daily

5. Flagging stations shall be located far enough in advance of the work space to permit approaching

6. All flaggers shall be state certified and have their certification card in their possession when

8. A shadow vehicle with at least one high intensity amber rotating, flashing, or oscillating light shall

9. If the queue of traffic reaches the BE PREPARED TO STOP (W3-4) sign then the signs, and if used the

10. When a highway-rail crossing exists within or upstream of the transition area and it is anticipated that

12. Cones may be eliminated when using a pilot vehicle operation or when the total roadway width is 20 feet

13. For low-volume situations with short work zones on straight roadways where the flagger is visible to road

14. When used<sup>2</sup>, three portable temporary rumble (PTRS) strips shall be installed across the entire

users approaching from both directions, a single flagger, positioned to be visible to road users approaching

travel lane adjacent to the BE PREPARED TO STOP (W3-4) sign. The portable temporary rumble

strips shall be monitored and adjusted as necessary during the work shift to ensure proper

placement on the roadway. When the PTRS are installed, the RUMBLE STRIPS AHEAD (W20-

(Figure TTC-23.2)

queues resulting from the lane closure might extend through the highway-rail grade crossing, the temporary traffic control zone should be extended so that the transition area precedes the highway-rail

A SLOW (W21-V10) sign<sup>2</sup> may be required in this area to give advance warning of the operation ahead

7. Cone spacing shall be based on the posted speed and the values in Table 6H-4 on Page 6H-6.

traffic to reduce speed and/or stop before passing the work space and allow sufficient distance for

departing traffic in the left lane to return to the right lane before reaching opposing traffic (see

traffic of 500 or more vehicles per day) to a maximum of 12 minutes for low volume roadways (less than

Lane Closure on a Two-Lane Roadway Using Flaggers

(Figure TTC-23.2)

**NOTES** 

where the posted speed limit is greater than 45 mph.

Table 6H-3 on Page 6H-5).

of sight from the graphic flagger symbol sign to the flagger.

be parked 80'-120' in advance of the first work crew.

PTRS<sup>1</sup> should be readjusted at greater distances.

from both directions, may be used (see Chapter 6E).

V26) sign shall also be utilized.

1: Revision 1 - 4/1/2015

2: Revision 2 - 9/1/2019

500 vehicles per day). For additional information see Section 6E.07.<sup>2</sup>

4. Portable Temporary Rumle Strips (PTRS) shall be used as noted in Section 6F.99.

performing flagging duties (see Section 6E.01, Qualifications for Flaggers).

by slowing approaching traffic prior to reaching the flagger station or queued traffic.

crossing (see Figure TTC-56 for additional information on highway-rail crossings).

11. At night, flagger stations shall be illuminated, except in emergencies (see Section 6E.08).

September 2019

1. For required sign assemblies for multi-lane roadways see Note 1, TTC-4.

high-intensity amber rotating, flashing, or oscillating lights.

8. Channelizing device spacing shall be at the following:

Speed Limit

control devices shall be placed as needed.

7. Taper length (L) and channelizing device spacing shall be at the following:

the posted speed limit is 45 mph or less.

(Figure TTC-5.2)

**NOTES** 

2. Sign spacing should be 1300'-1500' for Limited Access highways. For all other roadways, the sign

3. When work takes up part of a lane on a high volume roadway; vehicular traffic volumes, vehicle mix,

4. The ROAD WORK AHEAD (W20-1) sign on an intersecting roadway may be omitted where drivers

emerging from that roadway will encounter another advance warning sign prior to this activity area.

5. A shadow vehicle with either an arrow board operating in the caution mode, or at least one high-

6. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber

intensity amber rotating, flashing, or oscillating light shall be parked 80' - 120' in advance of the

rotating, flashing, or oscillating lights. Vehicle hazard warning signals can be used to supplement

the closure operation is on a Limited Access highway, the minimum lane width is 11 feet.

Remarks

L=S2W/60

L=S2W/60

L=S2W/60

L=SW

Location

Spacing

Travelway

Limited Access highways shall use a 1000' merging taper regardless of the posted speed, a 750' shifting taper for posted speeds < 65 mph and a 1000' shifting taper for posted speeds ≥ 65 mph.²

Shoulder Taper = 1/3 L Minimum

Channelizing Device Spacing

\*Construction access spacing may be increased to this distance, but shall not exceed one access per 1/4 mile.

used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain

9. On roadways with paved shoulders having a width of 8 feet or more, channelizing devices shall be

10. The buffer space length The buffer space length shall be as shown in Table 6H-3 on Page 6H-5 for

11. A truck-mounted attenuator (TMA) shall be used on Limited Access highways and multi-lane

12. When a side road intersects the highway within the temporary traffic control zone, additional traffic

Speed Limit

40' 80' \*Construction Access 80' 120'

spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where

speed and capacity should be analyzed to determine whether the affected lane should be closed. Unless

the lane encroachment analysis permits a remaining lane width of 10 feet, the lane should be closed. If

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September 2019

Speed Limit

September 2019

- 1. For long-term stationary work (more than 3 days) on divided highways having a median wider than 8', sign assemblies on both sides of the roadway shall be required as shown (ROAD WORK AHEAD (W20-1), RIGHT SHOULDER CLOSED AHEAD (W21-5bR), RIGHT SHOULDER CLOSED (W21-5aR)<sup>1</sup>), even though only one shoulder is being closed. For operations less than 3 days in duration, sign assemblies will only be required on the side where the shoulder is being closed.
- 2. Sign spacing should be 1300'-1500' for Limited Access highways. For all other roadways, the sign spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where
- 4. For short duration operations of 60 minutes or less, all signs and channelizing devices may be eliminated if a vehicle with activated high-intensity amber rotating, flashing, or oscillating lights is used.
  - rotating, flashing, or oscillating lights. Vehicle hazard warning signals can be used to supplement high-intensity amber rotating, flashing, or oscillating, lights.

Speed Limit (mph)	L	ane Wi	dth (Fee	t)		Speed	L				
	9	10	11	12	Remarks	Limit (mph)	9	10	11	12	Remark
25	95	105	115	125	L=S2W/60	50	450	500	550	600	L=SW
30	135	150	165	180	L=S2W/60	55	495	550	605	660	L= SW
35	185	205	225	245	L=S2W/60	60	540	600	660	720	L=SW
40	240	270	295	320	L=S2W/60	65	585	650	715	780	L=SW
45	405	450	495	540	L=SW	70	630	700	770	840	L=SW
Limite	d Acces	ss highv	vays sh	all use a	1000' merging taper see T		rdless c	of the po	sted sp	eed, fo	r shifting
				5	Shoulder Taper	= 1/3 L Minim	um				
Channe	lizing d	levice s	pacing	shall b	e at the follow	ving:					
					Channelizing I		ina				

- Spacing Spacing 20' 40' Travelway
- within the traveled way. 9. The buffer space length shall be as shown in Table 6H-3 on Page 6H-5 for the posted speed limit.
- 10. A truck-mounted attenuator (TMA) shall be used on the shadow vehicle on Limited Access highways and multi-lane roadways with posted speed limit equal to or greater than 45 mph for operations with a duration greater than 60 minutes.
- 11. When a side road intersects the highway within the temporary traffic control zone, additional traffic control devices shall be placed as needed.

Standard

the posted speed limit is 45 mph or less.

3. The SHOULDER WORK (W21-5) sign on an intersecting roadway may be omitted where drivers emerging from that roadway will encounter another advance warning sign prior to this activity area.

5. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber

6. Taper length (L) shall be at the following:

					Taper L	ength L					
Speed Limit (mph)	L	ane Wi	dth (Fee	t)	Remarks	Speed	L				
	9	10	11	12		Limit (mph)	9	10	11	12	Remarks
25	95	105	115	125	L=S2W/60	50	450	500	550	600	L=SW
30	135	150	165	180	L=S2W/60	55	495	550	605	660	L= SW
35	185	205	225	245	L=S2W/60	60	540	600	660	720	L=SW
40	240	270	295	320	L=S2W/60	65	585	650	715	780	L=SW
45	405	450	495	540	L=SW	70	630	700	770	840	L=SW
Limite	d Acce	ss highv	ways sh		a 1000' merging taper see 1 Shoulder Taper	Table 6H.22		of the po	sted sp	eed, fo	r shifting
Channe	lizing o	device s	pacing	shall b	e at the follow	ving:					
					Channelizing I	Device Spac	ing				
7/2/10/200	70.7 <b>4.4</b> 7.0000	Sp	eed Lim	it	2000 000 00 20 000	Speed Li	mit			5	Speed Limit

\*Construction access spacing may be increased to this distance, but shall not exceed one access per ¼ mile. 8. On roadways with paved shoulders having a width of 8 feet or more, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain

1: Revision 1 - 4/1/2015 2: Revision 2 - 9/1/2019

September 2019

### **Typical Traffic Control** Work Beyond the Shoulder Operation

(Figure TTC-1.1) **NOTES** 

- 1. The minimum distance between the sign and work vehicle should be 1300'-1500' on Limited Access highways, and on all other roadways 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limited is 45 mph or less.
- 2. The ROAD WORK AHEAD (W20-1) sign may be replaced with other appropriate signs such as the SHOULDER WORK (W21-5) sign. The SHOULDER WORK sign may be used for work adjacent to
- 3. The ROAD WORK AHEAD sign may be omitted where the work space is behind a barrier, more than 4 feet behind vertical curb (Standard CG-2 and CG-6) on urban roadways, or outside of the clear zone for all other roadways. For clear zone values see Page A-4 of Appendix A.
- 4. For short-term, short duration or mobile operations, all signs and channelizing devices may be eliminated if a vehicle with activated high-intensity amber rotating, flashing, or oscillating lights is used.

- 5. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber rotating, flashing, or oscillating lights. Vehicle hazard warning signals can be used to supplement high-intensity amber rotating, flashing, or oscillating lights.
- 6. If the work space is in the median of a divided highway, an advance warning sign shall also be placed on the left side of the directional roadway.

1: Revision 1 - 4/1/2015

September 2019 Lane Closure on a Two-Lane Roadway Using Flaggers

SEE NOTES 2, 3, 5 & 6 FLAGGER STATION SEE TABLE 6H-3 (CENTER TO CENTER)
OSTED/STATUTORY SPEED LIMI 10 FEET 41 - 55 MPH 15 FEET 20 FEET SHADOW VEHICLE PTRS SEE NOTE 4 REQUIRED SEE TABLE 6H-3 -50' - 100' FLAGGER STATION SEE NOTES 2, 3, 5 & 6 SEE NOTE 10 ROADWAY CENTER LINE SEE NOTE 15 NOTE 1 **SEE NOTE 4 & 14** NOTE 1

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(Figure TTC-1.1) EDGE OF PAVEMENT SEE NOTE 3 WORK VEHICLE SEE NOTE ' W20-1 SEE NOTES WORK 2 AND 3

Work Beyond the Shoulder Operation

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Page 6H-16

Standard:

first work crew.

Location

Spacing

within the traveled way.<sup>2</sup>

the posted speed limit.

1: Revision 1 - 4/1/2015

2: Revision 2 - 9/1/2019

Speed Limit

September 2019

(Figure TTC-5.2)

roadways with posted speed limit equal to or greater than 45 mph.

**Shoulder Operation with Minor Encroachment** 

G20-2 (V) 80' - 120' SHADOW VEHICLE REQUIRED TMA OPTIONAL SEE NOTE 11 ILLUMINATED FLASHING AMBER (CAUTION MODE) TYPE B OR C SEE NOTE 10 SEE NOTE 7 CHANNELIZING **DEVICES SPACING** SEE NOTE 8 SEE NOTE 2 SHOULDER — SEE NOTE 2 ROAD WORK W21-5bR

- SEE NOTE

WORK

Stationary Operation on a Shoulder (Figure TTC-4.2)

G20-2 (V) 80' - 120' SHADOW VEHICLE REQUIRED TMA REQUIREMENT SEE NOTE 1 ILLUMINATED FLASHING AMBER (CAUTION MODE) TYPE B OR C SEE NOTE 6 CHANNELIZING DEVICES SPACING SEE NOTE 7 - SEE NOTE 2 SHOULDER SEE NOTE 2 W21-5bR

- SEE NOTE 2

WORK

CHRISTOPHER H. WALLER Lic. No. 45226 DATE: February 26, 202 AS NOTEL SCALE:

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Page 6H-

DRAWN BY: CHECKED BY: APPROVED BY: COMMISSION NO.:

SHEET NO.:

1: Revision 1 - 4/1/2015 2: Revision 2 - 9/1/2019

> 55 MPH

1: Revision 1 - 4/1/2015

1: Revision 1 – 4/1/2015 2: Revision 2 – 9/1/2019 1: Revision 1 – 4/1/2015

WORK