**Permit #: 136** 

**Permit Date:** 01/25/24

**Permit Type:** Planning Commission

Case Number: PC 24-08

**PC Meeting Date:** b. 1st Tuesday of March

**BZA Meeting** Date:

Assigned Meeting 03/05/2024

Date:

**Special Meeting** 

Date:

**Applicant Is:** Contractor **Applicant Name:** Joshua White

**Applicant** Address: 2506 Winford Ave.

**Applicant City,** Nashville, TN 37211 **State, ZIP:** 

**Applicant Phone Number:** 6152569414

Applicant Email: josh.white@joshuabuilders.net

**Description:** Requesting approval of installation of pressurized sewer line through wooded area of 5025 Villa Crest Dr. This work through 5025 will allow sewer line installation from 5029 Villa Crest Dr. through 5025 Villa Crest Dr., to and through 5021 Villa Crest Dr., and then onto and across 1107 Ridgeview Dr., and into Metro sewer main; all to replace failing septic systems at 5021 and 5029 Villa Crest Dr. No trees are proposed to be removed, however some damage to root systems is anticipated due to trenching within the dripline. The Villa Crest lots are in Radnor Lake Natural Area Impact Zone (RLNAIZ) while the Ridgeview lot is not in the RLNAIZ.

**Project Cost:** 0 **Square Feet:** 0

Lot Area: 160736

Lot Coverage: 0 **Heat/cooled area:** 0

> Proposed 0 Height(ft.):

**#of stories:** 0

Lot Depth/Width

Ratio:

Avg. front setback of adjacent homes:

**Zoning District:** Zone C

Radnor Lake Yes **Impact Zone:** Steep Slope: No Plat/Subdivison:

Status: Open

**Assigned To:** Stephen Snow

5025 VILLA CREST DR

#### **Property**

14507000600

Legal Description Owner Phone Parcel # Address Owner Name Zoning BLAZY, KENT E.,

TRUSTEE

LOT 7 VILLA ESTATES

City of Oak Hill 5548 Franklin Pk, Suite 101 Nashville, TN 37220

Letter of Description for Sewer Line Project 5021, 5025, 5029 Villa Crest Dr and 1107 Ridgeview Dr Nashville, TN 37220

To Oak Hill Planning Commission:

We are requesting approval for work within steep slopes areas located at 5021 and 5029 Villa Crest Dr and 1107 Ridgeview Dr and for work within the Radnor Preserve overlay for 5021, 5025, and 5029 Villa Crest Dr to allow the installation of a small, pressurized sewer line.

This project has been necessitated by the need for the installation of private sewer lines for the two properties located at 5021 and 5029 Villa Crest Drive. These homes are currently on very dated and failing septic systems and the septic fields are located on the steep slopes areas behind the houses. The owners are needing to abandon the old septic systems and connect to the Metro sewer. The largest complication to this basic sewer necessity is that no Metro sewer main exists on Villa Crest Drive.

The alternate plan for gaining Metro sewer access for the two properties has been to create and record private sewer utility easements from each residence to the nearest existing Metro sewer main located in Ridgeview Dr below the properties. The new private sewer lines will originate at the homes up on Villa Crest, travel down the backside of the 5021 property, pass into an easement that has been granted and recorded by the adjacent neighbor located at 1107 Ridgeview below 5021, and crossing the property at 1107 and tapping into the Metro sewer main in Ridgeview. All of the utility easements for the private sewer lines to originate at the Villa Crest properties and reach the sewer main at Ridgeview have been surveyed and defined and signed by the respective property owners granting access to the owners of 5021 and 5029.

The new force main sewer line system proposed for 5021 and 5029 consist of a 1 ½" PVC sewer line coming off of a gravity fed grinder tank located behind the homes. The grinder tank pressurizes the 1½" line pushing the sewage through the line. Being that the sewer line is only a 1½" PVC line, the installation can be done by an irrigation trencher rather than a large excavator. This also gives the ability to curve the sewer line around trees that may exist in the sewer easements. No tree removal is expected for the scope of this work. Also, if roots are encountered by a trencher, the roots are cut more cleanly which is heathier for trees than the roots being torn out by a larger excavator. A cross-section and design drawings by the civil engineer for the sewer line installation is included in the submittal drawings packet along with erosion control methods for the sewer line installation.

The overall designs by the civil engineer, regarding the installation method, trenching direction of the sewer line path, and included subterrain drainage method, have also been consulted with and evaluated by a geotechnical engineer. The geotechnical engineer has also studied the 4 lots and the existing site conditions. It is the conclusion of the geotechnical engineer that this work will not create a negative impact to the stabilization of the existing steep slope areas. In addition, abandoning the old septic fields currently located within the steep slope areas will actually reduce water infiltration into the steep slopes areas and improve overall stability in these areas. The geotechnical report is included in the submission packet.

In our due diligence, even though no trees are planned to be removed, we also hired an engineer to calculate the lot coverage of existing trees for each of the 4 involved properties. According to tree retention standards of section 905 of the Woodland and Tree Protection Ordinance for Oak Hill, even if every tree located in or directly beside the sewer easements were to be removed, all 4 lots would still be well above the minimum retention standards. Please see drawings included for tree retention calculations and sewer easement locations.

We have also consulted with the arborist tree experts at Parke Tree Company on the path of the sewer route to minimize impact to existing trees and reduce root damage to the greatest extent feasible. The letter of site observation and supporting conclusion by the arborist is also included.

Also noteworthy, we have successfully used this same pressurized sewer line installation method, being currently proposed, over 10 years ago to bring a sewer line down the steep slopes of the property at 5017 Villa Crest Dr to the sewer main located in Ridgeview Dr. The sewer path and work completed at 5017 is parallel and very similar to the currently proposed path next door at 5021 Villa Crest Dr. Both the geotechnical engineer and the consulted arborist have walked the installed sewer line path from 5017 Villa Crest Dr to Ridgeview Dr. to make current site observations. The existing sewer path of the installed pressurized line shows no signs of erosion or tree loss after 10 years of continuous service to the home at 5017.

Thank you for your time!

Josh

Joshua D. White President Joshua Builders, Inc. 2506 Winford Ave. Nashville, TN 37211 (P) 615-256-9414 ext. 106 (F) 615-256-9415





#### **MEMORANDUM**

To: Mr. Stephen Snow

From: Zac Dufour, P.E.

Kimley-Horn and Associates, Inc.

Date: February 14, 2024

Subject: PC Case 24-08, 24-09, 24-10, 24-11 Villa Crest Sewer Line

We have completed our review of the Steep Slope and Radnor Lake Impact Zone Site Plans for the installation of a private sewer line and removal of septic tanks for properties located at 5029 Villa Crest, 5025 Villa Crest, 5021 Villa Crest and 1107 Ridgeview.

Please see below for engineering comments.

#### Comments

- 1. Provide better detail on slope stabilization and vegetation at the top of the trench on steep slopes. Seed and Straw is not sufficient for steep slopes.
  - a. Erosion control matting ahs been indicated and a detail has been provided.
- 2. Provide detail on the removal/filling/crushing of the septic tanks. Show location on the plans and provide construction process for this work.
  - a. Detail provided.
- 3. Geotechnical Engineer shall be on site during trenching operations and shall provide documentation to the City of Oak Hill regarding their observations and any additional recommendations that need to be implemented during construction. Geotechnical observations shall be completed once for 5029 Villa Crest and 5025 Villa Crest and at least twice for 5021 Villa Crest and 1107 Ridgeview.
  - a. Applicant has acknowledged the conditions.
- 4. The City of Oak Hill Geotechnical engineering consultant shall visit the site during trenching on steep slopes and shall be communicated with during construction by the applicants Geotechnical Engineer.
  - a. Applicant has acknowledged the conditions.

#### Recommendation

This project is recommended for approval subject to the two geotechnical conditions stated above.

c: File

#### GEO-TECHNOLOGY ASSOCIATES, INC.

GEOTECHNICAL AND
ENVIRONMENTAL CONSULTANTS





February 14, 2024

Mr. Stephen Snow Code Enforcement Officer City of Oak Hill

Re: Report of Geotechnical Review Services

1107 Ridgeview Dr. 5025 Villa Crest Dr. and 5029 Villa Crest Dr.

Oak Hill, Tennessee

#### Mr. Snow:

At your request, Geo-Technology Associates, Inc. (GTA) has reviewed geotechnical information and discussed the project with the perspective contractor (Joshua Builders, Inc.). Further, we (principal with GTA) were involved in a similar construction project with the contractor for 5017 Villa Crest Dr. in 2013.

Based on our review of the data, we take no exceptions to the planned installation of the pressurized sewer line as provided. We offer the following comments below which are consistent with LaBella's Geotechnical Letter Report:

- The removal of mature trees should be limited. The clearing activities along the slope should be limited to the ground cover (brush), saplings and/or dead vegetation.
- To the extent possible, the trench excavation should be performed perpendicular to the existing slope.
- The trench excavation should include a perforated drain pipe installed below the 1 ½ pipe to provide an outlet for ground water and/or surface water that may accumulate within the trench during and after construction.
- The drain pipes should be day-lighted as needed to discharge any water that may enter the trench during and after construction.
- Upon completing the trench excavation, the trench should be lined with a filter fabric (Mirafi 140N, or equivalent) prior to the placement of any stone or pipe.
- The fabric should be lapped over the stone prior to the placement of topsoil.
- The trench excavation should not be allowed to remain open for a long period of time, and the contractor should be prepared to open only what can be backfilled within timely manner.

Further, the geotechnical engineer should be on site during the installation to confirm the conditions exposed, and to provide any additional recommendations as necessary. Upon completion of the

230 Great Circle Rd, Suite 211 Nashville, TN 37228 (615) 509-6012

Report of Geotechnical Review Services 1107 Ridgeview Dr, 5025 Villa Crest Dr. and 5029 Villa Crest Dr. Oak Hill, Tennessee

February 14, 2024 Page 2 of 2

installation, the geotechnical engineer should issue a follow-up letter stating discussing the construction installation.

We trust that this letter meets your immediate needs. If you require additional information, please let us know.

Sincerely,

Geo-Technology Associates, Inc.

Daniel D. Terranova, PE



August 29, 2023 Revised January 4, 2024

Joshua White Joshua Builders Inc. 2506 Winford Avenue Nashville, TN 37211

RE: Thorne Residence – Sewer Easement Letter

5021 Villa Crest Drive, City of Oak Hill, Davidson County, Tennessee

LaBella Project No: 223504

Dear Mr. White,

As requested, on August 28, 2023, a representative from LaBella Associates D.P.C. (LaBella) performed a site visit to observe existing site conditions at 5021 Villa Crest Drive and to discuss proposed improvements relating to the sewer easement at the residences located at 5021, 5025, 5029 Villa Crest Drive and 1107 Ridgeview Drive in the City of Oak Hill, Davidson County, Tennessee, hereinafter referred to as the "project site".

We understand the proposed improvements consist of a sewer system that will require installing two (2) 1.5-inch pipes extending from the residences noted above to an existing sewer system located along Ridgeview Drive located north of the project site.

The property of 5021 Villa Crest Drive is a 2.27-acre developed parcel containing a vacant one-story residence and an asphalt driveway to the south of the residence. Topographically, the residence sits atop a ridge with a crest elevation of approximate El. 1083-feet. To the south of the residence, the topography strongly slopes downward to Villa Crest Drive at an approximate elevation of El. 1050-feet. To the north of the residence, the topography very strongly slopes downward to an approximate elevation of El. 930-feet. The project site is bound by Villa Crest Drive to the south, and residential parcels to the north, east, and west. Elevations noted herein are taken from the survey titled "Boundary & Partial Topographic Survey of Lot No. 6 Villa Estates" prepared by Donlon Land Surveying, LLC referencing the North American Vertical Datum of 1988 (NAVD88).

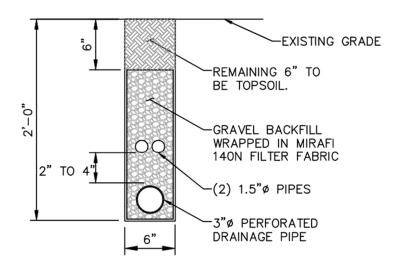
At the time of this correspondence, LaBella did not perform any field explorations to determine soil and rock conditions at the project site. Based on a review of geologic maps from the USGS Web Soil Survey and National Geologic Map Database, it is anticipated that a majority of the project site consists of Residuum overlying limestone of the Fort Payne Formation. Toward the adjacent property to the north, Colluvium may be present based on a review of the Web Soil Survey. Actual subsurface conditions may vary.

Based on a discussion with the Client, we understand that the pipes will be installed in a trench excavated approximately 6-inches wide to a depth of 24-inches. We recommend the trench be excavated perpendicular to the existing slope and away from mature trees to limit tree removal.

Exposed soil subgrades should be lightly compacted, and the trench should be filled with placed and compacted 57 Stone extending a minimum 6-inches above and below the pipes and wrapped in filter fabric (Mirafi 140N or equivalent). We recommend backfilling the remaining trench with topsoil to promote re-establishment of vegetation and placing erosion control blankets to prevent erosion. A drainage pipe, such as a 3-inch diameter perforated pipe, should be placed below the sewer pipes and



should daylight on the slope. Provisions to prevent erosion should be employed and existing drainage patterns should be considered.



TYPICAL TRENCH DETAIL

Due to the limited disturbance, it is our opinion that the proposed improvements will have limited impact on the stability of the existing slope.

These recommendations are based upon our understanding of the proposed improvements. Generally accepted soil engineering practices were used to develop the recommendations stated in this correspondence. No other warranty, expressed or implied, is made. If you have any comments or questions or require additional assistance, please contact our office.

Respectfully submitted,

LaBella Associates

Thomas M. Diver, EIT Geotechnical Engineer

Thomas Diver

Eric M. Gasiecki, PE Senior Geotechnical Engineer/Office Manager



December 14, 2023

Joshua Builders 2506 Winford Ave Nashville, TN 37211

Josh.

Pertaining to trenching and installation at 5021, 5025, 5029 Villa Crest Dr, and 1107 Ridgeview Dr, 37220:

After our review of the 4 lots, the proposed trenching and installation of 1.5 inch sewage line to be installed from the top of Villa Crest down to Ridgeview Dr. will not significantly impact the root systems of the trees surrounding the installation area. Although there is proximity within the dripline, the impact will be minimal. There is enough stem to root ratio to allow for compartmentalization of any root affected by an irrigation trencher. As a contractor and tree professional, we have performed this type of work with 100% success.

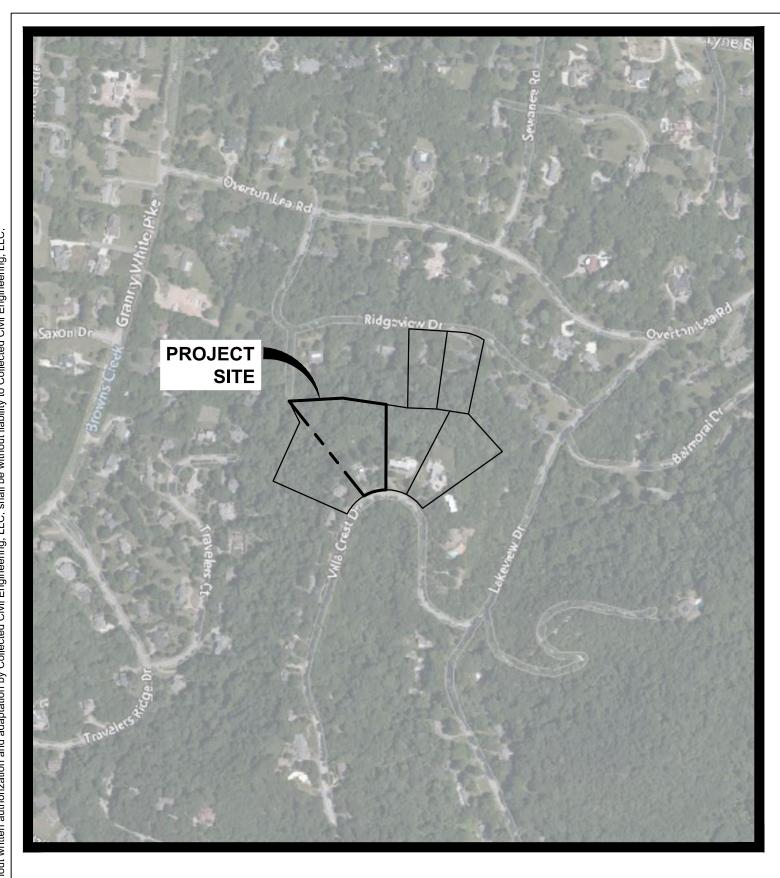
The same sewer installation and technique was successfully done on the adjacent property approximately 7 years ago with no visual impact to the of the health or structure of surrounding trees. We have reviewed the sewer line route chosen and have agreed that it has been diligently placed avoiding any and all buttress/support roots to minimize as much impact as possible.

If you have any questions, please contact us at The Parke Company at 615-350-6033.

Dan Beasley & Penn Mayhew (ISA Certified Arborist SO-10909A)







# VILLA CREST SEWER

# 5025 VILLA CREST DRIVE NASHVILLE, TN 37220

	INDEX OF DRAWINGS		
SHEET NO.	DESCRIPTION		
C0.00	COVER SHEET		
C0.50	OVERALL SITE PLAN		
C0.01	NOTES & LEGEND		
C1.00	EXISTING VS PROPOSED TREE CANOPY COVER		
C1.10	TREE PROTECTION FIGURE		
C2.00	SANITARY SEWER EPSC PLANS		
C6.00	SANITARY SEWER DESIGN PLANS		

# **LOCATION MAP**

1"=500'

# PROJECT TEAM

**CIVIL ENGINEER** 

PETER ROMANO P.E.
COLLECTED CIVIL ENGINEERING
921B WOODLAND STREET
NASHVILLE, TN 37206
(615) 917-0191
PETER@COLLECTEDCIVIL.COM

#### **OWNER**

KENT E. BLAZY, TRUSTEE 5025 VILLA CREST DR OAK HILL, TN 37220

#### CONTRACTOR

JOSH WHITE
JOSHUA BUILDERS, INC.
2506 WINFORD AVE.
NASHVILLE, TN 37211
615.256.9415
JOSH.WHITE@JOSHUABUILDERS.NET

#### PROJECT INFORMATION

PROJECT ADDRESS: 5025 VILLA CREST DRIVE NASHVILLE, TN 37220 TAX MAP NO. OH-25

AREA: 0.00 ACRES

EXISTING ZONING: RESIDENTIAL C SURROUNDING ZONING: RESIDENTIAL C

### **AREA**

TOTAL PROJECT AREA: 3.69± ACRES

TOTAL PROJECT DISTURBANCE AREA: 0.06± ACRES

TOTAL PROPOSED PROJECT IMPERVIOUS

# PROJECT DESCRIPTION

PROPOSED SANITARY SEWER DESIGN WITH TREE PROTECTION

#### SURVEY

BASE MAP INFORMATION TAKEN FROM A TOPOGRAPHIC, UTILITY AND BOUNDARY SURVEY PREPARED BY "DONLON LAND SURVEYING, INC" DATED 3/31/2023. COLLECTED CIVIL ENGINEERING, LLC AND ANY OF THEIR CONSULTANTS ASSUMES NO RESPONSIBILITY OR LIABILITY FOR ANY ERRORS OR OMISSIONS RESULTING FROM THE AFOREMENTIONED SURVEY.

## FLOODPLAIN

ACCORDING TO THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP (FIRM), DAVIDSON COUNTY, TENNESSEE, COMMUNITY PANEL NUMBER 47037C0358H DATED APRIL 5, 2017, THE PROJECT SITE LIES WITHIN FLOOD ZONE X, AREAS DETERMINED TO BE OUTSIDE 500—YEAR FLOODPLAIN.







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# **VILLA CREST SEWER**

5025 VILLA CREST DR NASHVILLE, TN 37220

ISSUED FOR: LAND DISTURBANCE PERMIT		
PROJECT NUMBER:	DATE:	
23056-02	1/30/24	
DRAWN BY:	REVIEWED BY:	
PM	PR	
NORTH ARROW:	SCALE:	



REVISIONS		
NO:	DATE:	DESCRIPTION:
1	2/14/24	RESPONSE TO CITY COMMENTS

DRAWING NAME:

**COVER SHEET** 

DRAWING NUMBER:

CO.00

ALL UNDERGROUND UTILITIES ARE SHOWN IN THEIR RELATIVE POSITION AND ARE FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR TO VERIFY THEIR ACTUAL LOCATION IN THE FIELD PRIOR TO THE COMMENCEMENT OF

ANY CONDITION ENCOUNTERED IN THE FIELD DIFFERING FROM THOSE SHOWN HEREON, SHALL BE REPORTED TO THE DESIGN ENGINEER BEFORE CONSTRUCTION IS TO PROCEED.

#### GENERAL CONSTRUCTION:

THE CONTRACTOR SHALL PROTECT EXISTING PROPERTY LINE MONUMENTATION. ANY MONUMENTATION DISTURBED OR DESTROYED, AS JUDGED BY THE ENGINEER OR OWNER, SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE AND UNDER THE SUPERVISION OF A TENNESSEE STATE LICENSED LAND SURVEYOR.

ALL PAVEMENT RESTORATION SHALL MEET AND MATCH EXISTING GRADES. ALL SAWCUT LINES SHALL BE PARALLEL AND CURVILINEAR TO EXISTING OR PROPOSED CURBING AND SHALL BE A CONSTANT DISTANCE OF 18" MIN AWAY.

NOTIFY ENGINEER 48 HOURS PRIOR TO INITIALIZATION OF ANY WORK ON SITE. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE PLANS WITHOUT PRIOR REVIEW FROM THE

FNGINFFR CONTRACTOR IS RESPONSIBLE FOR EMPLOYING AND MAINTAINING ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING CONSTRUCTION.

CONTRACTOR IS RESPONSIBLE FOR PROPERLY & SAFELY MAINTAINING AREA BETWEEN ALL ADJOINING NO WORK, STORAGE OR TRESPASS SHALL BE PERMITTED BEYOND THE SITE PROPERTY LINES OR PUBLIC

RIGHT-OF-WAY. ALL EXISTING LAWN AREA, CURBING, PAVING, SIDEWALKS, CULVERTS OR OTHER PUBLIC OR PRIVATE PROPERTY DAMAGED BY TRENCHING OR EXCAVATION OPERATIONS SHALL BE REPLACED OR REPAIRED TO A CONDITION EQUAL TO EXISTING AS ORDERED BY ENGINEER (AOBE). MAILBOXES, SIGN POSTS, ETC SHALL BE PROTECTED OR REMOVED AND REPLACED EXACTLY AS THEY WERE BEFORE BEING DISTURBED. REMOVE AND REPLACE AFFECTED CURBING AND SIDEWALK TO NEAREST JOINT. REMOVE PAVEMENT AND REPLACE TO SAW CUT LINE, SAW CUT IN STRAIGHT LINE TO POINT NEEDED TO BLEND GRADE, REMOVE LAWN AND REPLACE TO MINIMUM LIMIT OF EXCAVATION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL FIELD LAYOUT. THE CONTRACTOR SHALL TAKE TIES TO ALL UTILITY CONNECTIONS AND PROVIDE MARKED-UP AS BUILT PLANS FOR ALL UTILITIES SHOWING TIES TO CONNECTIONS, BENDS, VALVES, LENGTHS OF LINES AND INVERTS. AS-BUILT PLANS SHALL BE REVIEWED BY THE OWNER AND THE ENGINEER AND THE CONTRACTOR SHALL PROVIDE ANY CORRECTION OR ADDITIONS TO THE SATISFACTION OF THE OWNER AND THE ENGINEER BEFORE UTILITIES WILL BE ACCEPTED.

#### PAVING:

NO VEHICULAR TRAFFIC OF ANY SORT SHALL BE PERMITTED ON THE SURFACE OF SUBBASE COURSE MATERIAL ONCE IT HAS BEEN FINE GRADED, COMPACTED, AND IS READY FOR PAVING. SUBBASE MATERIAL SO PREPARED FOR PAVING SHALL BE PAVED WITHIN THREE DAYS OF PREPARATION.

SUBBASE AGGREGATE MATERIAL AND THE VARIOUS ASPHALT CONCRETE MATERIALS CALLED FOR IN THESE DRAWINGS SHALL CONFORM WITH THE REFERENCED SECTION OF THE TENNESSEE STATE DEPARTMENT OF TRANSPORTATION (TDOT) AND CITY OF CHATTANOOGA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, LATEST EDITION. CONSTRUCTION SHALL BE AS FURTHER SET FORTH IN THOSE SPECIFICATIONS AND

AS OTHERWISE PROVIDED FOR IN THESE DRAWINGS PLACE ASPHALT CONCRETE MIXTURE ON PREPARED SURFACE, SPREAD AND STRIKE-OFF USING A SELF-PROPELLED PAVING MACHINE, WITH VIBRATING SCREED. PLACEMENT IN INACCESSIBLE AND SMALL AREAS

PROVIDE JOINTS BETWEEN OLD AND NEW PAVEMENTS OR BETWEEN SUCCESSIVE DAY'S WORK. TACK COAT WHEN SPECIFIED OR CALLED OUT ON THE DRAWINGS OR REQUIRED BY THE REFERENCED SPECIFICATION SHALL CONFORM WITH THE FOLLOWING

A. TACK COAT SHALL MEET THE MATERIAL REQUIREMENTS OF THE TENNESSEE STATE DEPARTMENT OF TRANSPORTATION (TDOT) AND CITY OF CHATTANOOGA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, LATEST EDITION. TACK COAT SHALL BE IN ACCORDANCE WITH THOSE SPECIFICATIONS AND AS OTHERWISE PROVIDED FOR IN THESE DRAWINGS B. REMOVE LOOSE AND FOREIGN MATERIAL FROM ASPHALT SURFACE BEFORE PAVING NEXT COURSE. USE

POWER BROOMS, BLOWERS OR HAND BROOM. C. APPLY TACK COAT TO ASPHALT PAVEMENT SURFACES & AND SURFACES OF CURBS, GUTTERS, MANHOLES, AND OTHER STRUCTURES PROJECTING INTO OR ABUTTING PAVEMENT. DRY TO A "TACKY" CONSISTENCY TACK COAT ENTIRE VERTICAL SURFACE OF ABUTTING EXISTING PAVEMENT.

AFTER COMPLETION OF PAVING AND SURFACING OPERATIONS. CLEAN SURFACES OF EXCESS OR SPILLED ASPHALT, GRAVEL OR STONE MATERIALS TO THE SATISFACTION OF THE ENGINEER.

LAYOUT:

\_\_\_\_\_ \_ \_ \_ LOT LINE

— — — — EASEMENT LINI

---- ROAD CENTER LINE

GRAVEL DRIVEWAY

CONCRETE

ROAD LINING & STRIPING

—————— WORKLIMITS

• • • • • GUIDERAII

STRIPE PAVEMENT AS INDICATED ON THE PLANS AND/OR IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REQUIREMENTS.

COLOR: DOUBLE CENTER LINE - YELLOW EDGE LINES - WHITE CROSSWALKS - WHITE

PARKING STALL - WHITE 3. PAINT SHALL BE THERMOPLASTIC PER TDOT STANDARD SPECIFICATIONS.

#### SANITARY SEWER NOTE:

. SANITARY SEWER PUMP STATIONS AND FORCEMAIN SHOWN HEREON DESIGNED BY OTHERS

#### **DEMOLITION NOTES**

REFER TO REQUIREMENTS OUTLINED IN THE EROSION & SEDIMENTS CONTROL PLANS & NOTES PRIOR TO COMMENCEMENT OF WORK PROVIDE, ERECT, AND MAINTAIN TEMPORARY BARRIERS AND SECURITY DEVICES.

MAINTAIN EXISTING UTILITIES TO REMAIN IN SERVICE AND PROTECT THEM AGAINST DAMAGE DURING SELECTIVE DEMOLITION OPERATIONS. DO NOT INTERRUPT EXISTING UTILITIES SERVING OPERATING FACILITIES, EXCEPT WHEN AUTHORIZED IN WRITING BY OWNER AND AUTHORITIES HAVING JURISDICTION. 4. NOTIFY ADJACENT OWNERS OF WORK THAT MAY AFFECT THEIR PROPERTY, POTENTIAL NOISE, UTILITY OUTAGE, OR

DISRUPTION. COORDINATE WITH OWNER. PREVENT MOVEMENT OR SETTLEMENT OF ADJACENT STRUCTURES. PROVIDE BRACING AND SHORING.

LOCATE AND IDENTIFY ALL EXISTING UTILITIES WITHIN THE CONSTRUCTION AREA. DISCONNECT AND SEAL OR CAP OFF UTILITY SERVICES THAT WILL BE AFFECTED BY THIS PROJECT. NOTIFY AFFECTED UTILITY COMPANIES BEFORE STARTING WORK AND COMPLY WITH THEIR REQUIREMENTS. VERIFY THAT UTILITIES HAVE BEEN DISCONNECTED AND CAPPED.

DEMOLISH AND REMOVE COMPONENTS IN AN ORDERLY AND CAREFUL MANNER.

PROTECT EXISTING FEATURES THAT ARE NOT TO BE DEMOLISHED. CONDUCT OPERATIONS WITH MINIMUM INTERFERENCE TO PUBLIC OR PRIVATE ACCESSES.

10. MAINTAIN EGRESS AND ACCESS AT ALL TIMES. DO NOT CLOSE OR OBSTRUCT ROADWAYS, OR SIDEWALKS WITHOUT PERMITS. COORDINATE W/ AUTHORITY HAVING JURISDICTION. 11. CEASE OPERATIONS IMMEDIATELY IF ADJACENT STRUCTURES APPEAR TO BE IN DANGER. NOTIFY AUTHORITY

12. ROUGH GRADE AND COMPACT AREAS AFFECTED BY DEMOLITION TO MAINTAIN SITE GRADES AND CONTOURS. 13. FIELD VERIFY EXISTING CONDITIONS AND CORRELATE WITH REQUIREMENTS INDICATED ON DEMOLITION PLAN TO DETERMINE EXTENT OF SELECTIVE DEMOLITION REQUIRED.

14. CONDUCT DEMOLITION OPERATIONS AND REMOVE DEBRIS TO ENSURE MINIMUM INTERFERENCE WITH SELECTIVE

DEMOLITION OPERATIONS. 15. CONDUCT DEMOLITION OPERATIONS TO PREVENT INJURY TO PEOPLE AND DAMAGE TO ADJACENT BUILDINGS AND FACILITIES TO REMAIN. ENSURE SAFE PASSAGE OF PEOPLE AROUND SELECTIVE DEMOLITION AREA. 16. USE WATER MIST. TEMPORARY ENCLOSURES AND OTHER SUITABLE METHODS TO LIMIT THE SPREAD OF DUST AND DIRT. COMPLY WITH GOVERNING ENVIRONMENTAL PROTECTION REGULATIONS. DO NOT USE WATER WHEN IT MAY DAMAGE EXISTING CONSTRUCTION, SUCH AS CAUSING ICING, FLOODING, AND TRANSPORTING POLLUTANTS. 17. REMOVE AND TRANSPORT DEBRIS IN A MANNER THAT WILL PREVENT SPILLAGE ON ADJACENT SURFACES AND

18. CLEAN ADJACENT STRUCTURES AND IMPROVEMENTS OF DUST, DIRT AND DEBRIS CAUSED BY SELECTIVE DEMOLITION OPERATIONS. RETURN ADJACENT AREAS TO CONDITION EXISTING BEFORE START OF SELECTIVE

19. PROMPTLY DISPOSE OF DEMOLISHED MATERIALS. ALL DEBRIS RESULTING FROM DEMOLITION ACTIVITIES SHALL BE DISPOSED OF OFF-SITE AT A FACILITY APPROVED TO RECEIVE THE DEBRIS. DO NOT ALLOW DEMOLISHED MATERIALS TO ACCUMULATE ON-SITE. DO NOT BURN DEMOLISHED MATERIALS ON-SITE.

BLASTING OF BEDROCK IS NOT ANTICIPATED AT THIS SITE IN ORDER TO COMPLETE THE PROPOSED DEVELOPMENT. HOWEVER, THESE NOTES ARE INCLUDED SHOULD UNFORESEEN CONDITIONS REQUIRE THE NEED FOR BLASTING TO 1. ALL RECOMMENDED SAFETY REQUIREMENTS AND STANDARDS REFERENCED AND ANY LOCAL RESTRICTIONS SHALL BE APPLIED AS REQUIRED FOR SAFETY, SECURITY, AND SPECIFICALLY RELATED DETAILS FOR BLASTING PROCEDURES.

AT ALL TIMES, FEDERAL, STATE, AND LOCAL LAWS AND ORDINANCES WILL BE FOLLOWED CONCERNING THE TRANSPORTATION AND STORAGE OF EXPLOSIVES. 2. A MINIMUM OF FOUR (4) WEEKS PRIOR TO COMMENCEMENT OF THE INITIAL BLASTING OPERATIONS, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AGENCIES AS APPROPRIATE: POLICE AGENCIES, GAS AND ELECTRIC

SERVICE COMPANIES, TELEPHONE AND CABLE OPERATING COMPANIES, WATER AND SEWER, TDOT, AND LOCAL FIRE, RESCUE, AND AMBULANCE SERVICES. 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE RESULTING FROM THE USE OF EXPLOSIVES. EXPLOSIVES

SHALL BE STORED IN A SECURE MANNER IN COMPLIANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND

ORDINANCES. 4. THE CONTRACTOR SHALL NOTIFY EACH PROPERTY AND UTILITY OWNER HAVING A BUILDING, STRUCTURE, OR OTHER INSTALLATION ABOVE OR BELOW GROUND IN PROXIMITY TO THE SITE OF THE WORK OF HIS INTENTION TO USE EXPLOSIVES. NOTICE SHALL BE GIVEN SUFFICIENTLY IN ADVANCE TO ENABLE THE OWNERS TO TAKE STEPS TO PROTECT THEIR PROPERTY. NOTICE SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR DAMAGE RESULTING FROM HIS BLASTING OPERATIONS.

5. THE CONTRACTOR SHALL SCHEDULE AND CONDUCT PRE-BLAST SURVEYS WITH PROPERTY OWNERS LOCATED IN THE AREA POTENTIALLY AFFECTED BY AIRBLAST OVERPRESSURE AND GROUND VIBRATION OR AS REQUIRED. 6. THE CONTRACTOR SHALL IMPLEMENT ENGINEERING MEASURES IN ORDER TO MINIMIZE THE POTENTIAL IMPACTS OF DUST, NOISE AND GROUND VIBRATION. BLAST VIBRATION CONTROL WILL BE ACHIEVED BY LIMITING THE CHARGE PER DELAY SO THAT THE PEAK PARTICLE VELOCITY REMAINS BELOW THE SPECIFIED LEVELS 7. A APPROPRIATELY QUALIFIED, LICENSED BLASTING SPECIALIST, WITH EXPERIENCE SHALL BE ONSITE AND SUPERVISE BLASTING OPERATIONS. AT ALL TIMES, THE BLASTING AREA SHALL BE RESTRICTED TO BLASTING OPERATIONS AND

AUTHORIZED PERSONNEL ONLY. 8. PROTECTIVE MEASURES INCLUDING INSTALLATION OF SIGNAGE, NOTIFICATION OF NEARBY RESIDENTS, TRAFFIC CONTROL AS NECESSARY ALONG NEARBY ROADS, AUDIBLE PRE-BLAST WARNINGS, AND USE OF BLAST MATS SHALL 9. DELIVERY AND TRANSPORT OF EXPLOSIVES FROM THE POWDER MAGAZINES TO THE BLAST AREA WILL BE BY

VEHICLES SPECIFICALLY DESIGNED FOR THIS USE BY THE CRITERIA OUTLINED IN THE SAFETY REQUIREMENTS. ONLY AUTHORIZED PERSONS WILL TRANSPORT AND HANDLE THE EXPLOSIVES AS DESIGNATED BY THE ISSUING AUTHORITY OF THOSE LICENSES FOR THIS PURPOSE. 10.MONITORING OF PEAK PARTICLE VELOCITY (INCHES/SECOND) AND PEAK AIRBLAST OVERPRESSURE (PSI) SHALL BE

PERFORMED DURING ALL BLASTS.

#### ALL UNDERGROUND UTILITIES ARE SHOWN IN THEIR RELATIVE POSITION AND ARE FOR INFORMATIONAL PURPOSES

ONLY. CONTRACTOR TO VERIFY THEIR ACTUAL LOCATION IN THE FIELD PRIOR TO THE COMMENCEMENT OF 2. ANY CONDITION ENCOUNTERED IN THE FIELD DIFFERING FROM THOSE SHOWN HEREON, SHALL BE REPORTED TO THE DESIGN ENGINEER BEFORE CONSTRUCTION IS TO PROCEED.

3. SEWER MAINS IN RELATION TO WATER MAINS: WHERE POSSIBLE, SEWERS SHALL BE LAID AT LEAST 10 (TEN) FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN. VERTICAL SEPARATION SHALL BE MAINTAINED TO PROVIDE 18 (EIGHTEEN) INCHES BETWEEN TOP OF SEWER AND BOTTOM OF THE WATER MAIN AT UTILITY CROSSINGS. WHEN NOT POSSIBLE TO OBTAIN THE PROPER VERTICAL SEPARATION, SEWER PIPE SHALL BE PRESSURE RATED AND TESTED @ 150psi, 10 (TEN) FEET ON EACH SIDE OF THE WATER MAIN BEING CROSSED.

4. ALL PROPOSED UTILITIES SHALL TERMINATE 5 FEET FROM ANY PROPOSED BUILDING FACE. CONTRACTOR TO COORDINATE WITH BUILDING PLANS FOR ANY CONNECTIONS.

MAINTENANCE OF SURFACE DRAINAGE DURING THE COURSE OF THE WORK.

5. ALL STORM SEWER SHALL BE RCP (REINFORCED CONCRETE PIPE) UNLESS OTHERWISE SPECIFIED. 6. ALL SANITARY SEWER GRAVITY MAINS SHALL BE 8" PVC SDR 35 UNLESS OTHERWISE SPECIFIED. 7. ALL WATER PIPE SHALL BE STEEL PIPE UNLESS OTHERWISE SPECIFIED. COORDINATE W/ LOCAL WATER

8. CONTRACTOR TO VERIFY STATUS OF ALL UTILITY SERVICES PRIOR TO INTERRUPTION. 9. EXPLORATORY EXCAVATIONS SHALL BE PERFORMED BY THE CONTRACTOR AT ALL UTILITY CONNECTION LOCATIONS AND AS NEEDED TO VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING WORK. 10. BEFORE CONSTRUCTING LINES TO CONNECT TO EXISTING UTILITIES, VERIFY EXISTING UTILITY INVERTS AND NOTIFY

THE ENGINEER IF ANY VARIATION FROM THE PLAN IS REQUIRED. 11. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING UTILITIES IN SERVICE FOR THE DURATION OF THE WORK. 12. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIRED PERMITS AND ASSOCIATED CONDITIONS 13. CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING UTILITY TRENCHES AND EXCAVATIONS AND FOR THE

#### GRADING NOTES:

SANITARY SEWER LINE

W/ HEADWALI

ELECTRIC LINE

5 FT CONTOUR

STORM DRAIN LINE & STRUCTURES

**GRADING & EROSION CONTROL:** 

. TREE LINE

PRIOR TO SITE DISTURBANCE, CONTRACTOR TO INSTALL EROSION & SEDIMENT CONTROL MEASURES. 2. IF ROCK IS ENCOUNTERED DURING CONSTRUCTION & REMOVAL BY BLASTING IS REQUIRED, THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVALS AND PERMITS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.

3. ALL BLASTING OPERATIONS WILL ADHERE TO TENNESSEE STATE AND LOCAL AUTHORITY ORDINANCES GOVERNING THE USE OF EXPLOSIVES. THE STATE REGULATIONS ARE CONTAINED IN TENNESSEE CODE - TITLE 68 CHAPTER 105 HEALTH, SAFETY AND ENVIRONMENTAL PROTECTION BLASTING AND EXPLOSIVES. 4. STRIP ALL TOPSOIL PRIOR TO COMMENCING EARTHWORK OPERATIONS, TOPSOIL MAY BE STORED AND REUSED IN

LAWN AND PLANTING AREAS ONLY. TOPSOIL AND SEED ALL AREAS DISTURBED BY CONSTRUCTION THAT ARE TO REMAIN GREEN. 5. BOX ALL TREES AND HOUSE ALL SHRUBS AND HEDGES BEFORE PLACING EARTH AGAINST OR NEAR THEM. ORNAMENTAL TREES, SHRUBS AND HEDGES WHICH MUST BE REMOVED DURING CONSTRUCTION SHALL BE HEALED IN AND RE-PLANTED IN AS GOOD A CONDITION AS THEY WERE BEFORE THEIR REMOVAL. ANY DAMAGED TREES,

SHRUBS, AND/OR HEDGES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. 6. ALL EARTHWORK SHALL BE SMOOTHLY AND EVENLY BLENDED INTO EXISTING CONDITIONS. NO WORK, STORAGE OR TRESPASS SHALL BE PERMITTED BEYOND THE BOUNDARIES OF ANY EASEMENT OR PROPERTY LINE. 7. REMOVE ALL VEGETATION, TREES, STUMPS, GRASSES, ORGANIC SOILS, DEBRIS AND DELETERIOUS MATERIALS

WITHIN THE AREAS SLATED FOR CONSTRUCTION. 8. IF PREVIOUSLY UNKNOWN CULTURAL, ARCHEOLOGICAL, OR HISTORIC REMAINS OR ARTIFACTS ARE DISCOVERED IN THE COURSE OF CONSTRUCTION OF THIS PROJECT, THE PROJECT SPONSORS SHALL SUSPEND CONSTRUCTION OPERATIONS IN THE PERTINENT AREA AND SHALL NOTIFY THE PROJECT ENGINEER. CONSTRUCTION IN THAT AREA SHALL RESUME ONLY AFTER COMPLETION OF FEDERAL, TRIBAL, AND STATE COORDINATION TO DETERMINE WHETHER PROTECTION OR RECOVERY OF THE REMAINS IS WARRANTED, OR WHETHER THE SITE IS ELIGIBLE FOR LISTING IN THE NATIONAL REGISTER OF HISTORIC PLACES.

··----- DRAINAGE SWALE

------

ORANGE CONSTRUCTION FENCE

RIPRAP

EROSION CONTROL BARRIER — STRAW WATTLE

TEMPORARY DIVERSION SWALE

STABILIZED CONSTRUCTION ENTRANCE

SPOILS STORAGE AREA

EROSION CONTROL BLANKET

SYMBOLS:

#### TOPSOIL STOCKPILE AREA:

EXISTING EXCESS TOPSOIL SHALL BE REMOVED AND STORED IN TOPSOIL STOCKPILES SUFFICIENTLY REMOVED FROM OTHER EXCAVATION OR DISTURBANCE TO AVOID MIXING. SILT FENCE SHALL BE INSTALLED AROUND TOPSOIL

SITE PREPARATION: COMPLETE ROUGH GRADING AND FINAL GRADE, ALLOWING FOR DEPTH OF TOPSOIL TO BE ADDED.

SCARIFY ALL COMPACT, SLOWLY PERMEABLE, MEDIUM AND FINE TEXTURED SUBSOIL AREAS. SCARIFY AT APPROXIMATELY RIGHT ANGLES TO THE SLOPE DIRECTION IN SOIL AREAS THAT ARE STEEPER THAN 5%. REMOVE REFUSE, WOODY PLANT PARTS, STONES OVER 3 INCHES IN DIAMETER, AND OTHER LITTER.

SOIL PREPARATION SHALL BE PROVIDED ON ALL AREAS TO BE PLANTED. AND ON TURF AREAS WHERE SPECIFIED. FUTURE SOIL MIXES AND TOPSOIL SHALL IMPROVE SOIL TEXTURE, TILTH, AND BIOLOGICAL ACTIVITY OF THE PLANTING BED SOIL. ALL PLANTING SOIL, TOPSOIL, MULCH, "SOIL CONDITIONERS" AND OTHER ADDITIVES AND AMENDMENTS ARE SUBJECT TO TESTING AND APPROVAL OF THE OWNER, PROJECT LANDSCAPE ARCHITECT AND/OR ENGINEER.

THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:

PH RANGE 6.0 - 7.0ORGANIC MATTER 25% SOLUBLE SALTS NOT TO EXCEED 500PPM SOLUBLE SALT CONCENTRATION 10DS/M MAX. PHYSICAL CONTAMINANTS

<1%. DRY WEIGHT BASIS CHEMICAL CONTAMINANTS MEET OR EXCEED US EPA

FOLLOWING INFORMATION SHALL BE PROVIDED: -SPECIFIC LOCATIONS FROM WHICH THE MANURE AND ORGANIC COMPOST WERE OBTAINED -AGRICULTURAL TEST RESULTS SHOWING MIXTURE COMPOSITION AND ANALYSIS

ADDITIONAL SOIL MATERIALS AND AMENDMENTS SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS, STICKS, OR OTHER SIMILAR OBJECTS LARGER THAN 1". THE MIXTURE SHALL ALSO BE FREE FROM CLAY SUBSOIL, MOUNTAIN PEAT, LUMPS, PLANTS OR THEIR ROOTS, WEED STOLONS, AND SEEDS. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE PLANTING AREA THAT MAY BE HARMFUL TO PLANT GROWTH. OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE SOIL MATERIALS SHALL BE FREE OF NOXIOUS WEEDS.

ESTING SHALL BE DONE BY A QUALIFIED SOILS LABORATORY, IN ACCORDANCE WITH "METHODS OF SOILS ANALYSIS

CONTRACTOR'S EXPENSE. UPON REQUEST OF THE OWNER, PROJECT LANDSCAPE ARCHITECT AND/OR ENGINEER, THE

-AGRONOMY #9" AS PUBLISHED BY THE AMERICAN SOCIETY OF AGRONOMY, AND TESTING SHALL BE AT THE

#### **SOIL AMENDMENTS**

SOIL MATERIAL AMENDMENTS SHALL BE A MIXTURE OF TWENTY-FIVE PERCENT (25%) GROUND AGED MANURE (OR COMPARABLE, APPROVED SUBSTITUTE) AND FIFTY PERCENT (50%) COMPOSTED ORGANIC MATTER. THE MANURE AND ORGANIC COMPOST SHALL BE COARSELY GROUND AND THOROUGHLY MIXED TOGETHER TO ENSURE AN EVEN COMPOSITION. THE MIX SHALL HAVE A CARBON TO NITROGEN RATIO RANGING FROM 15:1 TO 30:1, AND SHALL

ILLI INE FOLLOWING MICONA	INICAL ANALISIS.	
	%PASSING	%RETA
" SCREEN	100	0
" SCREEN	90-100	0-10
SCREEN	50-80	20-50
100 MESH SIEVE	0-15	85-10

COMPOST USED SHALL BE A WELL DECOMPOSED, STABLE, WEED FREE ORGANIC MATTER SOURCE. IT SHALL BE DERIVED FROM: YARD TRIMMINGS, AGRICULTURAL, FOOD, OR INDUSTRIAL RESIDUALS. THE PRODUCT SHALL CONTAIN NO SUBSTANCES TOXIC TO PLANTS, HUMANS, OR ANIMALS AND SHALL BE REASONABLY FREE (<1% BY DRY WEIGHT) OF MAN-MADE FOREIGN MATTER. THE COMPOSTED MATERIAL WILL POSSESS NO OBJECTIONABLE ODORS AND SHALL NOT RESEMBLE THE RAW MATERIAL FROM WHICH IT WAS DERIVED.

GOOD TOPSOIL IS HIGHLY DESIRABLE, AND MAY EQUAL THE VALUE OF SOIL AMENDMENTS AS FAR AS ENCOURAGING GROWTH. WHEN GOOD TOPSOIL EXISTS ON SITE, THE CONTRACTOR MAY BE REQUIRED TO STRIP AND STOCK PILE TOPSOIL, AND REDISTRIBUTE TOPSOIL AT A LATER TIME IN THE CONSTRUCTION PROCESS. TOPSOIL SHALL BE A FERTILE SANDY CLAY LOAM. TOPSOIL SHALL BE TAKEN FROM THE TOP 18-24" OF A WELL-DRAINED SITE, AND BE FREE FROM CLAY SUBSOIL, STONES, LUMPS, PLANTS OR THEIR ROOTS, STICKS, STOLONS, SEEDS, HIGH SALT CONTENT, AND OTHER MATERIALS HARMFUL TO PLANT LIFE, AND SHALL BE SCREENED AND MEET THE FOLLOWING MECHANICAL ANALYSIS:

	%PASSING	%RETAINED
REEN	100	0
REEN	97–100	0-3
MESH SIEVE	60-40	40-60

ROOT STOCK OF ALL MATERIAL TO BE PLANTED SHALL BE KEPT MOIST AT ALL TIMES DURING TRANSPORTATION AND ON-SITE STORAGE. SET AND MAINTAIN THE PLANTS UPRIGHT AND STRAIGHT THROUGHOUT THE ENTIRE ON SITE STORAGE AND PLANTING PROCESS.

TOPSOIL SHALL BE DISTRIBUTED TO A MINIMUM UNIFORM DEPTH OF 4" OVER THE AREA. IT SHALL NOT BE PLACED WHEN IT IS PARTLY FROZEN, MUDDY, OR ON FROZEN SLOPES OR OVER ICE, SNOW, OR STANDING WATER. TOPSOIL PLACED AND GRADED ON SLOPES STEEPER THAN 5% SHALL BE PROMPTLY FERTILIZED, SEEDED,

# MULCHED AND STABILIZED WITH A SLOPE STABILIZATION BLANKET.

GENERAL EROSION AND SEDIMENT CONTROL NOTES: 1. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE IN STRICT COMPLIANCE WITH TDEC'S "TENNESSEE

EROSION & SEDIMENT CONTROL HANDBOOK" DATED AUGUST 2012 OR LATEST EDITION. EXCESS SOIL TO BE STOCKPILED WITHIN THE LIMITS OF SITE DISTURBANCE IF NOT USED IMMEDIATELY FOR GRADING PURPOSES. INSTALL SILT FENCE AROUND SOIL STOCKPILES. APPLY SURFACE STABILIZATION AND RESTORATION MEASURES.

A. AREAS UNDERGOING CLEARING OR GRADING AND ANY AREAS DISTURBED BY CONSTRUCTION ACTIVITIES WHERE WORK IS DELAYED, SUSPENDED, OR INCOMPLETE AND WILL NOT BE REDISTURBED FOR 21 DAYS OR MORE SHALL BE STABILIZED WITH TEMPORARY VEGETATIVE COVER WITHIN 14 DAYS AFTER CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS CEASED (SEE SPECIFICATIONS FOR TEMPORARY VEGETATIVE COVER).

CONSTRUCTION HAS TEMPORARILY OR PERMANENTLY CEASED (SEE SPECIFICATIONS FOR TEMPORARY VEGETATIVE COVER). AREAS UNDERGOING CLEARING OR GRADING AND ANY AREAS DISTURBED BY CONSTRUCTION ACTIVITIES WHERE WORK IS COMPLETE AND WILL NOT BE REDISTURBED SHALL BE STABILIZED AND RESTORED WITH PERMANENT VEGETATIVE COVER AS SOON AS SITE AREAS ARE AVAILABLE AND WITHIN 14 DAYS AFTER WORK IS

COMPLETE. (SEE SPECIFICATIONS FOR PERMANENT VEGETATIVE COVER). SEEDING FOR PERMANENT VEGETATIVE COVER SHALL BE WITHIN THE SEASONAL LIMITATIONS. PROVIDE STABILIZATION WITH TEMPORARY VEGETATIVE COVER WITHIN 14 DAYS AFTER WORK IS COMPLETE, FOR SEEDING OUTSIDE PERMITTED SEEDING PERIODS.

B. STABILIZATION SHALL BE PROVIDED FOR SLOPES 35% OR GREATER WITHIN 7 DAYS IN AREAS WHERE

4. SEEDED AREAS TO BE MULCHED WITH STRAW OR HAY MULCH IN ACCORDANCE WITH VEGETATIVE COVER THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT

CONTROL MEASURES THROUGHOUT THE COURSE OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST BY SPRINKLING EXPOSED SOIL AREAS PERIODICALLY WITH WATER AS REQUIRED. THE CONTRACTOR IS TO SUPPLY ALL EQUIPMENT AND WATER.

WHEN ALL DISTURBED AREAS ARE STABLE, ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL 8. ALL SWALES SHALL HAVE STONE CHECK DAMS AT REGULAR INTERVALS PER RESPECTIVE DETAIL WHETHER

INDICATED ON THE DRAWINGS OR NOT.

## COMPACTION REQUIREMENTS

LOCATION	COMPACTION	TESTING FREQUENCY
PIPE TRENCH BACKFILL (IN PAVED AREAS)	95% ASTM D1557	1 SERIES OF TESTS FOR EACH 150 FT OR LESS OF TRENCH LENGTH. SERIES INCLUDE 3 COMPACTION TESTS SPREAD EVENLY ALONG TRENCH PROFILE.
PIPE TRENCH BACKFILL (IN UNPAVED AREAS)	90% ASTM D1557	1 SERIES OF TESTS FOR EACH 150 LF OR LESS OF TRENCH LENGTH. SERIES INCLUDE 3 COMPACTION TESTS SPREAD EVENLY ALONG TRENCH PROFILE.
PIPE BEDDING AND PIPE ZONE BACKFILL	95% ASTM D1557	1 TEST FOR EACH 150 FT OR LESS OF TRENCH LENGTH.
PAVEMENT SUBBASE AND LAST LIFT OF SELECT GRANULAR FILL (FILL BETWEEN SHEET PILES)	95% ASTM D1557	1 TEST FOR EVERY 2,000 SQ FT, OF LIFT AREA BUT NO FEWER THAN TWO TESTS PER LIFT

#### SANITARY MANHOLE SIGN CLEANOUT CATCH BASIN WATER SHUT OFF VALVE DRAINAGE MANHOLE WATER VALVE CURB INLET-RIGHT POST AND LUMINAIRE CURB INLET-CENTER CURB INLET-LEFT SOIL BORING TEST PIT

#### EROSION AND SEDIMENT CONTROL MEASURES

PERMANENT VEGETATIVE COVER (AFTER CONSTRUCTION)

2. SEED MIXTURE FOR USE ARE SHOWN IN THE TABLE BELOW:

B. PREPARE SEEDBED BY LOOSENING SOIL TO A DEPTH OF 4 INCHES.

F. INCORPORATE LIME AND FERTILIZER IN THE TOP 4 INCHES OF TOPSOIL

Best

Mar 20 - Apr 30

Mar 20 - Apr 20

Aug 15 - Sept 1

Mar 20 – Apr 20

Mar 20 - Apr 1

'Aug 15 — Sept 1

SOURCE: MODIFIED VERSION OF THE "PREFERRED" MIX TABLE 7.9-1 AND THE

"ALLOWABLE" MIX TABLE 7.9-2 IN THE TDEC EROSION & SEDIMENT CONTROL

Apr 1

BRING AREA TO BE SEEDED TO REQUIRED GRADE. A MINIMUM OF 4" OF TOPSOIL IS REQUIRED.

E. FERTILIZER: USE 5-10-5 (NPK) OR EQUIVALENT. APPLY AT RATE OF 4 LBS/1000 SF.

C. REMOVE ALL STONES OVER 1 INCH IN DIAMETER, STICKS AND FOREIGN MATTER FROM THE SURFACE.

Marginal

Aug 15 - Aug 30

Apr 20 - June 15

Sept 1 - Sept 15

Apr 1 - June 10

Aug 15 - Aug 30

April 20 - June 15

Sept 1 - Sept 15

Aug 15 - Aug 30

Sept 1 - Sept 15

Apr 1 - June 10

Aug 15- Aug 30

Mar 5 — Mar 20

Apr 20 - June 15

Sept 1 - Sep 15

Apr 1 — June 10

Apr 1 - June 10

Mar 5 – Mar 20

Mar 1 — Mar 20

Rate/Mix (lb/ac PLS)

Agrostis perennans

black-eved susan

0.5 monarda (bergamot)

) little bluestem

4 Maryland senna

0 little bluestem partridge pea

2 black-eyed susan

Agrostis perennans

0.5 monarda (bergamot)

Tennessee811

KNOW WHAT'S BELOW.

CALL BEFORE YOU DIG

0 little bluestem black-eyed susan

4 Maryland senna

45 red fescue\*

100 hard fescue\*

50 chewing fescue\*

0.5 monarda (bergamot)

4 purpletop

5 Browntop Millet\* (nurse crop)

15 Browntop Millet\* (nurse crop)

15 Browntop Millet\* (nurse crop)

5 Browntop Millet\* (nurse crop)

1. SITE PREPARATION

D. LIME TO PH OF 6.5.

Zone

>2500 FT FLEV

STEEP SLOPES

<2500 ft elev;

>2500 ft elev.;

Shallow soils

<2500 ft elev.

>2500 ft elev.;

Moderate slopes

<2500 ft elev.;

lModerate slopes

>2500 ft elev.:

<2500 ft elev.;

High maintenance

HANDBOOK, DATED AUGUST 2012

High maintenance

(Allowable)

Shallow soils

steep slopes

G. SMOOTH AND FIRM THE SEEDBED.

DAMAGE TO SURFACE WATERS RESULTING FROM EROSION AND SEDIMENTATION SHALL BE MINIMIZED BY STABILIZING DISTURBED AREAS AND BY REMOVING SEDIMENT FROM CONSTRUCTION SITE DISCHARGES. 2. AS MUCH AS IS PRACTICAL, EXISTING VEGETATION SHALL BE PRESERVED. FOLLOWING THE COMPLETION OF CONSTRUCTION ACTIVITIES IN ANY PORTION OF THE SITE, PERMANENT VEGETATION SHALL BE ESTABLISHED ON

3. SITE PREPARATION ACTIVITIES SHALL BE PLANNED TO MINIMIZE THE SCOPE AND DURATION OF SOIL DISRUPTION.

4. PERMANENT TRAFFIC CORRIDORS SHALL BE ESTABLISHED AND "ROUTES OF CONVENIENCE" SHALL BE AVOIDED. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT ALL POINTS OF ENTRY ONTO THE PROJECT SITE.

#### MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES

INSPECT ALL AREAS THAT HAVE RECEIVED VEGETATION EVERY SEVEN DAYS & AFTER EVERY RAIN EVENT. ALL AREAS DAMAGED BY EROSION OR WHERE SEED HAS NOT ESTABLISHED SHALL BE REPAIRED AND RESTABILIZED

SCHEDULE CONSTRUCTION OPERATIONS TO MINIMIZE THE AMOUNT OF DISTURBED AREAS AT ANY ONE TIME DURING THE COURSE OF WORK. APPLY TEMPORARY SOIL STABILIZATION PRACTICES SUCH AS MULCHING, SEEDING, AND SPRAYING (WATER). STRUCTURAL MEASURES (MULCH, SEEDING) SHALL BE INSTALLED IN DISTURBED AREAS BEFORE SIGNIFICANT BLOWING PROBLEMS DEVELOP. WATER SHALL BE SPRAYED AS NEEDED. REPEAT AS NEEDED, BUT AVOID EXCESSIVE SPRAYING, WHICH COULD CREATE RUNOFF AND EROSION PROBLEMS.



CIVIL ENGINEERING

921B Woodland Street Nashville, TN 37206

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# **VILLA CREST SEWER**

5025 VILLA CREST DR NASHVILLE, TN 37220

ISSUED FOR: LAND DISTURBANCE PERMIT PROJECT NUMBER: DATE: 23056-02 1/30/24 DRAWN BY: REVIEWED BY: PM NORTH ARROW: SCALE:



		REVISIONS
NO:	DATE:	DESCRIPTION:
1	2/14/24	RESPONSE TO CITY COMMENTS

**NOTES & LEGEND** 

DRAWING NUMBER:







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ISSUED FOR:

LAND DISTURBANCE PERMIT

PROJECT NUMBER:

23056-02

DRAWN BY:

PM

PR

NORTH ARROW:

SCALE:

1" = 50'

50



		REVISIONS
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**OVERALL SITE PLAN** 

DRAWING NUMBER:

C0.50







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PM	PR
NORTH ARROW:	SCALE:
	1" = 40'

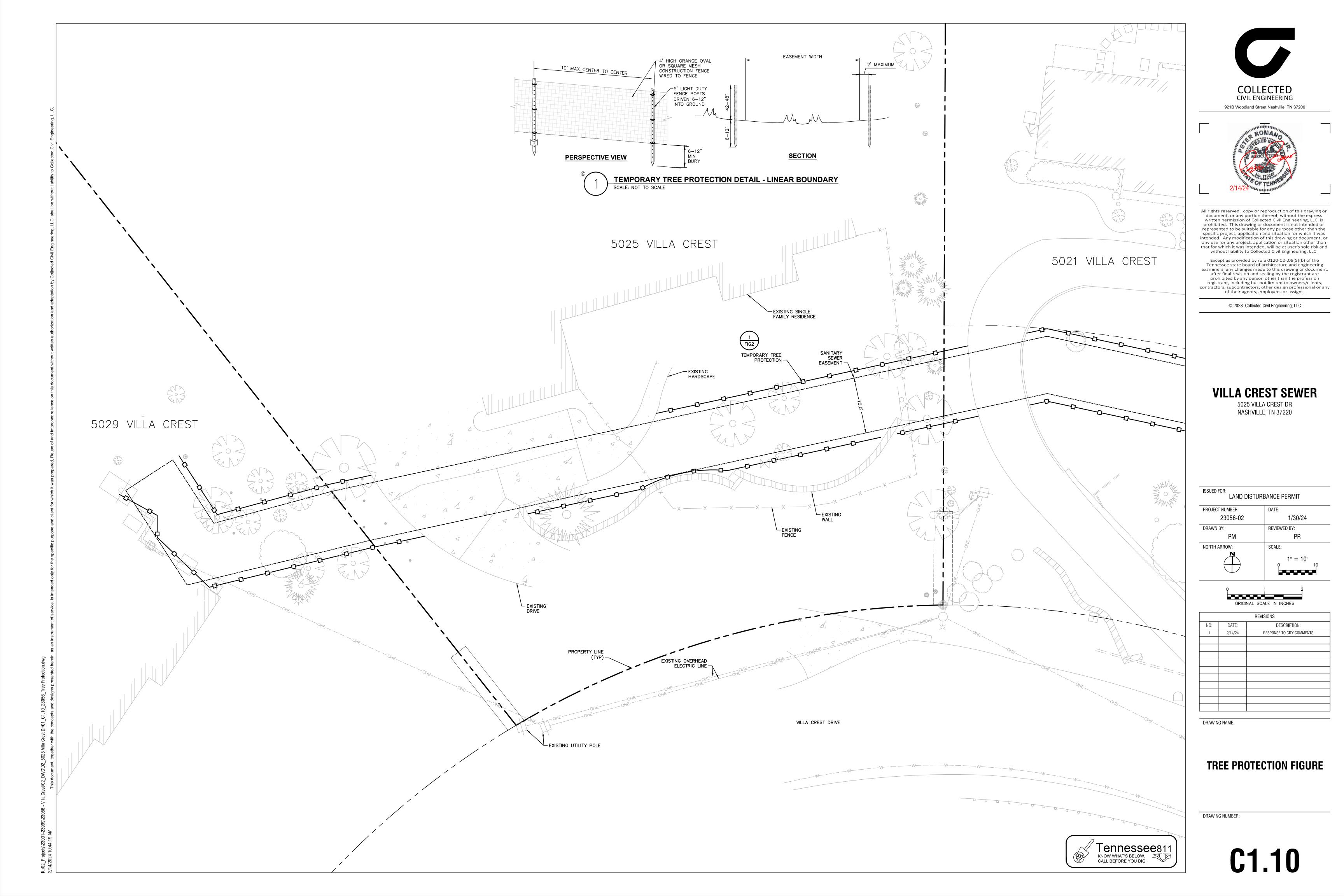
# ORIGINAL SCALE IN INCHES REVISIONS NO: DATE: DESCRIPTION: 1 2/14/24 RESPONSE TO CITY COMMENTS

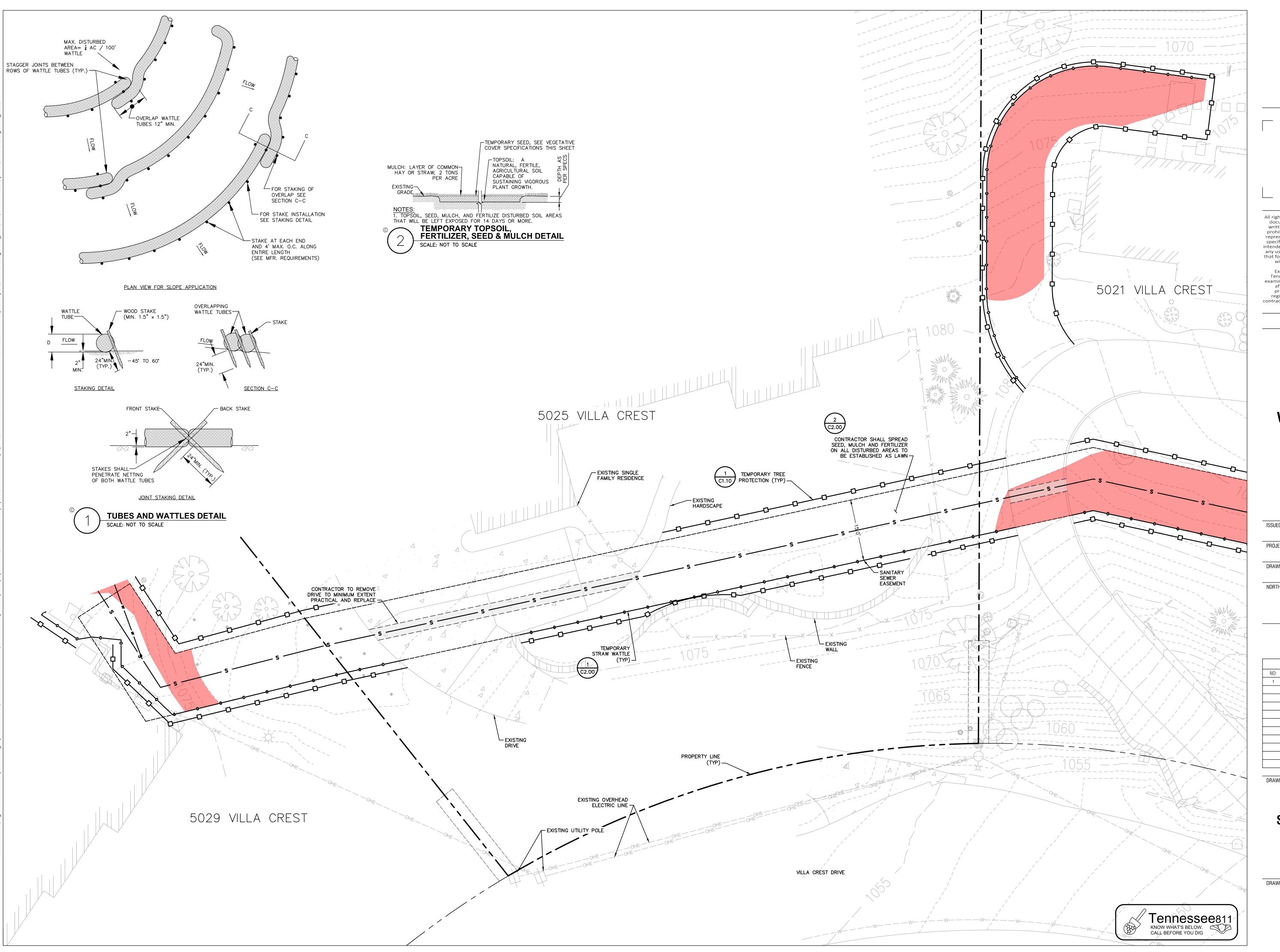
DRAWING NAME:

EXISTING VS PROPOSED TREE CANOPY COVER

DRAWING NUMBER:

C1.00









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1	2/14/24	RESPONSE TO CITY COMMENTS
	2 NAME:	

**SANITARY SEWER EPSC PLANS** 

DRAWING NUMBER:

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# **VILLA CREST SEWER**

5025 VILLA CREST DR NASHVILLE, TN 37220

ISSUED FOR:

LAND DISTURBANCE PERMIT

PROJECT NUMBER:
23056-02

DRAWN BY:

PM

PR

NORTH ARROW:

SCALE:

1" = 10'
0 10



	UEAISIONS		
NO:	DATE:	DESCRIPTION:	
1	2/14/24	RESPONSE TO CITY COMMENTS	

# SANITARY SEWER DESIGN PLANS

C6.00