



CITY OF CHARLES TOWN

PLANNING COMMISSION

AGENDA • JULY 24, 2023

Committee Meeting

CITY HALL

7:00 PM

101 E Washington Street, Charles Town, WV 25414

1. CALL TO ORDER

2. APPROVAL OF MINUTES

2.1 : Draft Minutes: June 26, 2023
[Draft Meeting Minutes 6-26-23.docx](#)

3. UNFINISHED BUSINESS

4. NEW BUSINESS

4.1 : WV2023-05: Waiver from traffic study requirements

1. [Staff Report.pdf](#)
2. [Application.pdf](#)
3. [Narrative.pdf](#)
4. [Support Documents.pdf](#)
5. [Approved Sketch Plan.pdf](#)

4.2 : BR2023-03: Norborne Glebe Recreational Facilities - Bond Initiation

1. [Staff Report.pdf](#)
2. [Application.pdf](#)
3. [Bond Estimate.pdf](#)
4. [KH Review.pdf](#)
5. [Preliminary Plans.pdf](#)

4.3 : SLD2023-07: Happy Retreat Sketch Plan

1. [Staff Report.pdf](#)
2. [Application.pdf](#)
3. [KH Review.pdf](#)
4. [Plans.pdf](#)

5. ADJOURNMENT

6. NOTICE: The Public May View the Meeting Live by Clicking on the Event Link at:

<https://www.charlestownwv.us/government/agendas-and-minutes/>



Planning Commission

101 East Washington Street

Charles Town, WV 25414

Meeting: 07/24/23

Department: Planning

Commission

Category: Report

Initiator:

SCHEDULED

AGENDA ITEM (ID #)

Draft Minutes: June 26, 2023

ATTACHMENTS:

- [Draft Meeting Minutes 6-26-23.docx](#)



CITY OF CHARLES TOWN

PLANNING COMMISSION MEETING

MINUTES • June 26, 2023

Regular Meeting

Council Chambers

7:00 PM

101 East Washington Street, Charles Town, WV 25414

1) CALL TO ORDER

Present: Jessica Derr – Acting Chair

Kevin Long

Jeff Hynes

Absent: Ann Paonessa, Angie Cummings

Meeting started at 7:00 pm.

2) APPROVAL OF MINUTES

2.1 : May 22 minutes

- Pg. 1: Chair Derr noticed an issue with a vote count, and asked staff to verify.

Motion to approve minutes subject to staff verifying the vote counts:

RESULT: APPROVED [UNANIMOUS]

MOVER: Jeff Hynes

SECONDER: Kevin Long

AYES: Jessica Derr, Kevin Long, Jeff Hynes

3) UNFINISHED BUSINESS

No unfinished business.

4) NEW BUSINESS

4.1 WV-2023-04: Public Hearing: Ali Hadavand. Casino parking requirements waiver.

Staff gave a presentation.

Off-street parking requirements for casino facilities are 35.3 spaces per every 1,000 sq ft. of gross floor area, and 1.42 spaces per gaming position. Based on Subdivision Code requirements, 44 parking spaces must be provided. Applicant seeks to have 10 spaces.

Motion to open public hearing.

RESULT:	APPROVED
MOVER:	Jeff Hynes
SECONDER:	Kevin Long
AYES:	Kevin Long, Jessica Derr, Jeff Hynes

Public comments: No public comments.

Motion to close public hearing.

RESULT:	APPROVED
MOVER:	Kevin Long
SECONDER:	Jeff Hynes
AYES:	Jeff Hynes, Kevin Long, Jessica Derr

Staff discussion: Not enough parking spots for employees.

Motion to approve the requested waiver, subject to the condition that the total number of parking spaces be at least 12:

RESULT:	APPROVED
MOVER:	Jeff Hynes
SECONDER:	Kevin Long
AYES:	Jeff Hynes, Kevin Long, Jessica Derr

4.2 BR2023-02: Public Hearing: Stanley Martin Homes LLC. Application for bond initiation for their Stone Springs project.

Staff gave a presentation.

Applicant requests a master bond in the amount of \$12,633,605.45. Phase One of this bond will be at \$5,029,592.24.

Motion to open public hearing.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Kevin Long
SECONDER:	Jeff Hynes
AYES:	Jeff Hynes, Kevin Long, Jessica Derr

Public comments: No public comments.

Motion to close public hearing.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Kevin Long
SECONDER:	Jeff Hynes
AYES:	Jeff Hynes, Kevin Long, Jessica Derr

Motion to recommend approval of the bond request:

RESULT:	APPROVED
MOVER:	Kevin Long
SECONDER:	Jeff Hynes
AYES:	Kevin Long, Jessica Derr, Jeff Hynes

4.3 SLD2023-06/Tri-State Investment Properties LLC: A sketch plan for the existing daycare facility.

Applicant seeks to expand daycare use on site.

Commissioners asked the applicant about staff-to-student ratio requirements. Applicant states that it depends on age range.

Motion to open public hearing.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Jeff Hynes
SECONDER:	Kevin Long
AYES:	Jeff Hynes, Jessica Derr, Kevin Long

No comments.

Motion to close public hearing.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Kevin Long
SECONDER:	Jeff Hynes
AYES:	Jeff Hynes, Jessica Derr, Kevin Long

Commissioners posed additional questions of how many infants would attend the daycare. Staff confirmed that parking requirements are based on number of students.

Motion to approve the application:

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Jeff Hynes
SECONDER:	Kevin Long
AYES:	Jeff Hynes, Kevin Long, Jessica Derr

4.4 SLD202206: Preliminary Plan Review: Norborne Glebe Pool

Staff gave a presentation.

Discussion about number of entrances. Applicant stated that the proposed entrance was the only feasible point of entry/exit.

Motion to approve the application, subject to the condition that the lighting be designed with acorn style tops as required by the Subdivision and Land Development Ordinance:

RESULT:	APPROVED
MOVER:	Kevin Long
SECONDER:	Jeff Hynes
AYES:	Jeff Hynes, Kevin Long, Jessica Derr

4.5 SLD2023-07: Sketch Plan Completeness Review: Happy Retreat Parking Lot

Staff presentation.

Staff confirms that the property is not within the Historic District. Historic Landmarks Committee has not had any input on the design, as the property does not lie within their jurisdiction.

This item has been reviewed by the City's Parks and Recreation board. Staff stated the item is scheduled for a Council information session in July 2023.

Motion to deem the application complete, subject to the conditions:

1. That the HLC be given a complete copy of the application and plans;
2. That the item come to the Planning Commission on July 24th for a sketch plan public hearing:

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Jeff Hynes
SECONDER:	Kevin Long
AYES:	Jeff Hynes, Kevin Long, Jessica Derr

5) ADJOURNMENT

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Jeff Hynes

SECONDER: Kevin Long**AYES:** Jeff Hynes, Kevin Long, Jessica Derr

Meeting adjourned by Jessica Derr.

6) NOTICE: The Public May View the Meeting Live by Clicking on the Event Link at:

<https://www.charlestownwv.us/government/agendas-and-minutes/>



Planning Commission

101 East Washington Street

Charles Town, WV 25414

Meeting: 07/24/23

Department: Planning

Commission

Category: Report

Initiator:

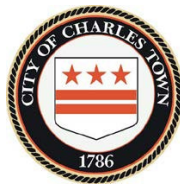
SCHEDULED

AGENDA ITEM (ID #)

WV2023-05: Waiver from traffic study requirements

ATTACHMENTS:

- [1. Staff Report.pdf](#)
- [2. Application.pdf](#)
- [3. Narrative.pdf](#)
- [4. Support Documents.pdf](#)
- [5. Approved Sketch Plan.pdf](#)



Waiver Request Staff Report
WV2023-05

Date: For the July 24th, 2023 Planning Commission meeting

Applicant: Hillside Investments LLC.

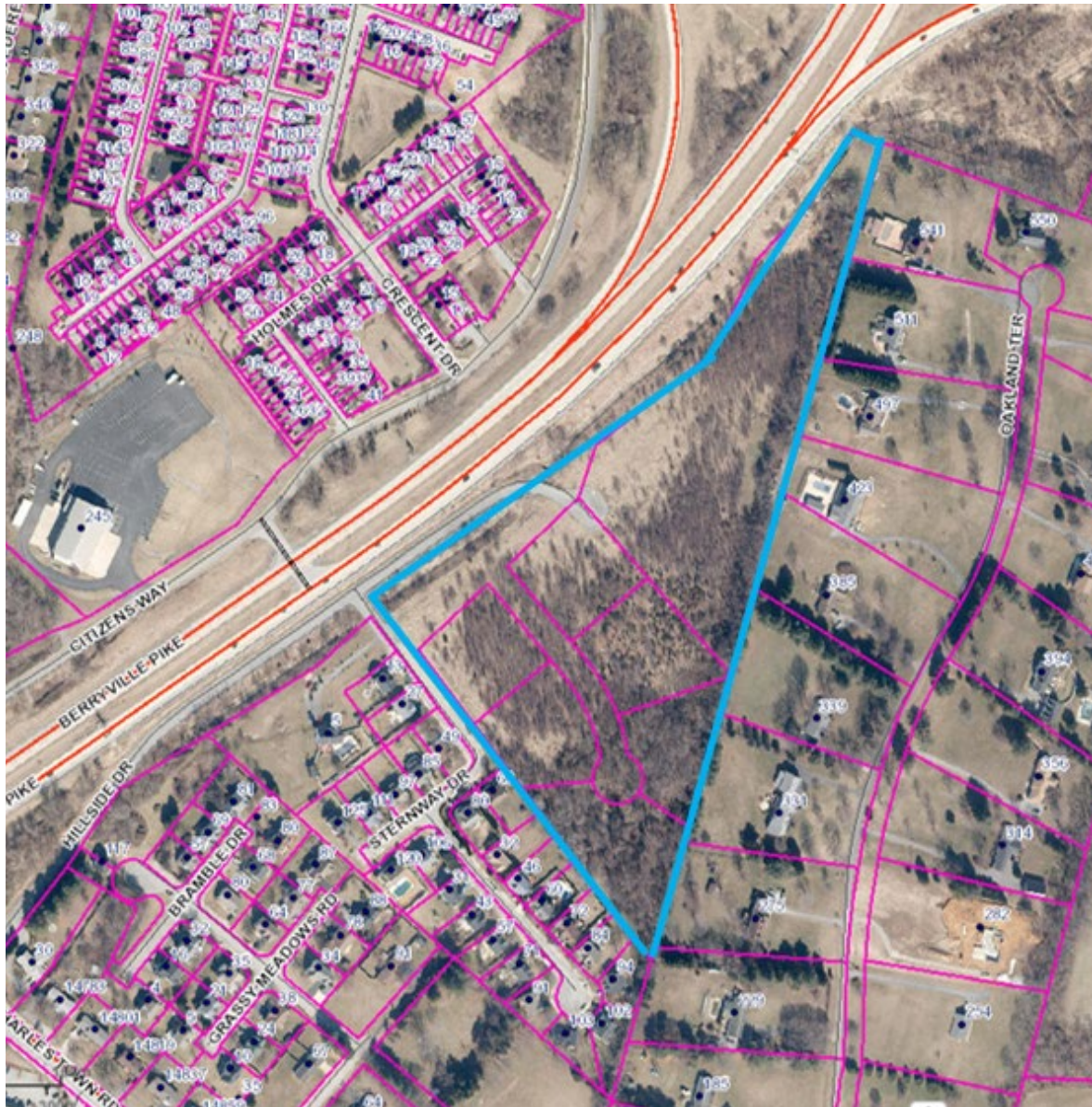
Property Owner: Hillside Investments LLC.

Report by: James Newman, City Planner, Zoning/Subdivision Administrator.

Proposal: Waiver from traffic impact study requirement

Property Location: Located on Hillside Drive. Property roughly outlined in **blue** below.

Current Zoning: Residential Medium-High Density (R-15).



PROJECT OVERVIEW

The development of 13.71 acres into 128 townhouses.

WAIVER REQUEST

The applicant is requesting a waiver from Subdivision/Land Development Ordinance section 1333.06 . This Section requires a traffic impact study when anticipated traffic from a new development crosses certain traffic generation thresholds, or when development is proposed and will impact an intersection with an existing poor level of service.

CITY SUBDIVISION ORDINANCE TRAFFIC STUDY REQUIREMENTS

Section 1333.06, Traffic Management Standards

(A) Internal circulation. A complete system of internal traffic circulation shall be provided to serve all uses in any shopping center, industrial park or other integrated-use development included in an S/LD Application. In such Subdivisions/Land Developments, internal access shall be provided in a fashion so that all uses can be mutually accessed without entering onto Primary or Major Collector Streets.

(B) Traffic Impact Study (TIS).

1. West Virginia DOH Traffic Engineering Directive 106-1, Procedures for Traffic Impact Studies (or the most recent published version), shall be followed to conduct traffic impact studies, which are required under any of the following conditions:

a. When the proposed Subdivision/Land Development is projected to generate 100 or more trips per hour during the peak generating time for the Subdivision/Land Development.

b. For smaller Subdivisions/Land Developments, under one of the following three conditions:

(1) When the proposed new approach is to an intersection already operating at level of service (LOS) "D" or worse.

(2) When the applicant or Developer is requesting a new traffic signal.

(3) When modification of an existing traffic signal is being requested.

c. An older TIS may need to be updated when the data is more than two years old.

2. A traffic impact study may not be required in situations where the West Virginia DOH is agreeable to the proposed mitigation measures without conducting a TIS.

SKETCH PLAN COMPLETENESS

The sketch plan was deemed complete by the Planning Commission on February 27th, 2023.

PLANNING COMMISSION MEETING – MARCH 27, 2023

The Planning Commission discussed the sketch plan at their March 27th meeting. There was public comment, with questions focused on the impact of additional vehicle traffic, and impact on schools. The Commission discussed the item, and granted approval of the electric meter

location waiver. The Commission closed the public hearing and tabled action to the April 24th, 2023 meeting.

PLANNING COMMISSION MEETING – APRIL 24, 2023

The Planning Commission discussed this item at their April 24th meeting. The Commission approved the sketch plan.

PLANNING COMMISSION MEETING – MAY 22, 2023

I provided an update to the Planning Commission on the potential traffic impact of the Hillside project. Based upon the Traffic Study completed by AMT Dated June 1, 2022 for the Kings Crossing residential development just south of Hillside Drive, **the current Level-Of-Service** for the subject intersection (Hillside Drive/Charles Town Road) by approach is:

- i. Eastbound Charles Town Road (AM/PM) – LOS A/LOS A (Free Flow Condition)
- ii. Westbound Charles Town Road (AM/PM) – LOS A/LOS A (Free Flow Condition)
- iii. Northbound Approach from US 340/Norborne Glebe (AM/PM) – LOS D / **LOS E** (Stop-Controlled)
- iv. Southbound Approach from **Hillside Drive** (AM/PM) – LOS B/LOS C (Stop Controlled)

This is based on current traffic patterns, and does not include the potential **development of 128 townhomes** on Hillside Drive. The May 22, 2023 staff report and all its attachments can be found in the City’s minutes stored at: <https://www.charlestownwv.us/government/agendas-and-minutes/>

LEVEL OF SERVICE

There are 6 levels of service (LoS), ranging from best (LoS A) to worst (LoS F). Per the Kings Crossing traffic impact study, those levels are classified as:

Table 3: Level of Service Criteria

Level of Service	SIGNALIZED Intersection Control Delay (sec/veh)	UNSIGNALIZED Intersection Control Delay (sec/veh)	Intersection LOS Description
A	≤ 10.0	≤ 10.0	Free flow, insignificant delays.
B	10.1-20.0	10.1-15.0	Stable operation, minimal delays.
C	20.1-35.0	15.1-25.0	Stable operation, acceptable delays.
D	35.1-55.0	25.1-35.0	Restricted flow, common delays.
E	55.1-80.0	35.1-50.0	Maximum capacity, extended delays. Volumes at or near capacity. Long queues form upstream from intersection.
F	> 80.0	> 50.0	Forced flow, excessive delays. Represents jammed conditions. Intersection operates below capacity with low volumes. Queues may block upstream intersections.

INTERSECTION VIEW



TRAFFIC IMPACT

Kimley-Horn is an engineering firm that the City hires for project review and analysis, including traffic impact analysis. Per the firm, the most recent version of the Trip Generation Manual by the Institute of Transportation Engineers states that this use would classify this as *Multifamily Housing (Low-Rise - 220)*, which generates the following trips:

Weekday Daily – 7.32 trips per/DU

AM Peak Hour – 0.56 trips/DU

PM Peak Hour – 0.67 trips/DU

Saturday Daily – 8.14 trips/DU

For 128 townhomes, that equates to:

Weekday Daily – 937 trips
AM Peak Hour – 72 trips per hour
PM Peak Hour – 86 trips per hour
Saturday Daily – 1,042 trips

KIMLEY-HORN ANALYSIS

They analyzed the traffic impact study for Kings Crossing and affirmed that the current traffic impact from Hillside Drive is between LoS B/C. The worst LoS is from the northbound ramp off of U.S. Rte. 340 (Berryville Pike) with LoS D/E, and that a traffic study may not be warranted for the impact from Hillside Drive based on the lack of traffic impact from that direction of the intersection.

(See the May 22, 2023 PC meeting packet email from Mark Phillips sent May 17, 2023 3:12:40 PM)

WEST VIRGINIA DIVISION OF HIGHWAYS ANALYSIS

WVDoH notified me via email on May 5, 2023 that:

“Based on the projected trip generation for a development of this size, combined with the projected operation of the currently programmed roundabout, we do not see a need for a TIS for this development.

The City requirement for a TIS seems to be the same as the Division of Highways. If the City requires the developer to complete the TIS, we can review it, but we just ask that the developer contact us to approve the scope before moving forward.”

(See the May 22, 2023 PC meeting packet email from Ken Clohan sent May 5, 2023 3:00:34 PM)

WAIVER CRITERIA REVIEW

Per Section 1331.12.B, waivers are:

1. Adjustments that may be made to the requirements of this Ordinance to unusual site conditions in order to achieve a better design. Waivers may not be used to circumvent the process requirements of this Ordinance. The Planning Commission shall have the authority to grant a waiver to allow a modification, change, or an alternative solution to a requirement of this Ordinance. Please note that economic hardship alone is not sufficient reason to grant an exception from the requirements.
2. Waivers from the minimum standards in this Ordinance may be granted by the Planning Commission only when the Planning Commission finds that granting a waiver will be consistent with all of the following criteria and the exception is the minimum necessary to afford relief:

a. That the design of the project will provide public benefit such as a reduction in City maintenance cost, greater open space, parkland consistent with the City parks plan, or benefits of a similar nature;

Per the applicant, the 128 townhomes will provide a benefit in the form of housing choice, and will provide the City with tens of thousands of dollars in fees, such as the \$64,000 payment for fee-in-lieu-of dedicated parkland. The parkland fee, combined with building permit fees of approximately \$3,000 per townhome unit may lead to total fee revenue of over \$400,000 over the course of the project construction lifespan.

Regarding the waiver: a traffic study does not provide a tangible public benefit in the form of additional parkland, or a fiscal benefit in the form of lower maintenance costs or fee collection. A study does provide decision makers and the community with additional information on the impacts of new development, and such knowledge is of benefit to the City as whole.

b. The waiver, if granted, will not adversely affect the public health, safety or welfare, or the rights of adjacent property owners or residents;

Per the applicant, construction on housing will begin in late 2024, with full build-out taking approximately 4 years. With the roundabout scheduled for construction in 2025, the applicant states that the majority of the housing will be built after the roundabout has become operational.

If the waiver is not granted, the applicant must perform a traffic study, which can take a month or more to complete, depending on the scope of the project. There is no guarantee from the applicant that the home will be built after the roundabout is in operation, nor is there a guarantee that the roundabout will be built in early 2025.

c. That the waiver, if granted, will be in keeping with the intent and purpose of this Ordinance;

The Code requirement is that when an intersection suffers from a LoS of D or worse a traffic study is required. The application counters with three points:

1. The number of vehicles generated from their proposed 128 townhomes is not sufficient to require a traffic impact study: they do not generate 100+ trips per hour at either morning or evening peak hour.
2. The level of service into the intersection generated by Hillside Drive is C or better, and a traffic study is only required when the LoS is D or worse.
3. WVDOT does not require a traffic study and states that impacts from traffic will be mitigated by the proposed 2025 roundabout.

Code standards are designed to ensure that the Commission and the public have an informed view on the impacts of proposed development. The purpose of the Subdivision and Land Development Ordinance is to guide future growth and development by regulating the Subdivision and physical Development of land within the jurisdiction of the City of Charles Town for the improvement of the health, safety, comfort, morals, and general public welfare of Charles Town citizens.

d. That the waiver, if granted, will result in a project of better quality and/or character. No process or procedural waivers will be granted.

Per the applicant, granting the waiver will not result in a project of lesser quality. They state that the roundabout will exceed any other possible improvements needed for site or the intersection, and that it is not apparent that traffic mitigation would even be required for their development impact.

Per the Kings Crossing traffic impact analysis:

“Both the City of Charles Town and Hagerstown/Eastern Panhandle Metropolitan Planning Organization (HEPMPO) prefer the installation of a roundabout at the Route 115 & Hillside Drive & US-340 NB ramps intersection, which operates with deficiencies under existing and background conditions. A preliminary cost estimate provided by WVDOH indicates the cost of a roundabout at this location would be approximately \$950,000.

Per discussions with WVDOH, the applicant is willing to make a one-time contribution of \$50,000 to a future intersection improvement at the Route 115 & Hillside Drive & US-340 NB ramps intersection once a project is formally programmed. No other improvements to the roadway network are recommended with the Magnolia Springs development.”

CONCLUSION

Code standards are designed to ensure that the Commission and the public have an informed view on the impacts of proposed development. The level of service at the Hillside Drive/Charles Town Road meets the requirements for a traffic study: the level of service is ‘E’ for north-bound during peak evening hours. Additional traffic from Hillside will deteriorate that level of service; the magnitude of that impact will be unknown unless a traffic study is performed.

WVDoH states that based on the projected trip generation for a development of this size, combined with the projected operation of the currently programmed roundabout, they do not see a need for a traffic study for this development. The construction of a roundabout at that intersection would ameliorate traffic problems, as pointed out by WVDoH and Kimley-Horn. The roundabout will have a completion date of 2025.

If the waiver is denied, the applicant must perform a traffic study. This will provide additional information for the Planning Commission as they review the preliminary plan, will provide additional information to the Division of Highways as they program their roundabout schedule,

and adjacent property owners will have a better understanding of the impact to their neighborhood.

If the waiver is approved, the applicant may proceed to the preliminary plan review stage.

RECOMMENDATION

Approval of the waiver request subject to conditions. The applicant states in their narrative that traffic mitigation improvements usually required when approximately 30% of the development is built. They also state that by 2025 only a small fraction of this development will actually have homes under construction.

The proposed condition is:

1. Certificates of Occupancy for the dwelling units will not be issued prior to the completion and operation of the traffic circle at the intersection of Hillside Drive and Charles Town Road/Route 115.

The project meets the requirements for a traffic study, and the construction of the new units will begin before the completion of the traffic circle. The proposed condition will ensure that limited traffic (construction traffic) is generated by this project prior to the completion of the traffic circle. The applicant will not have to perform a traffic study and will be able to grade the site and build units, and the residential vehicular impact of the new development will be mitigated by the traffic circle.

The Commission may:

1. Approve the waiver.
2. Approve the waiver with conditions.
3. Deny the waiver.
4. Table action to a later date.

Per Ordinance, the Planning Commission shall make a decision within 45 days of the receipt of the request for waiver. In granting a waiver, the Planning Commission may prescribe any conditions and safeguards that it finds are appropriate and in conformity with this Ordinance.

Waiver Application No. _____

RECEIVED

JUN 01 2023

BY: MLF



WAIVER APPLICATION

SUBDIVISION AND LAND DEVELOPMENT ORDINANCE SECTION 1331.12, (V) REQUIREMENTS

To assist staff in the review of a waiver application to the Planning Commission (PC), the applicant must supply all of the information contained in this application form. This application must be signed by all owners of the real estate which is the subject of the application. The owners may designate one or more professional agents to represent them in the application process using the spaces provided on this form.

Incomplete applications will be subject to scheduling delay. Applicants are encouraged to meet with staff prior to filing. A public hearing will be scheduled within 45 days of the receipt of a completed application.

Approval of a waiver by the Planning Commission does not relieve the applicant from other requirements including, but not limited to, signs(s), building, zoning and use permits or site plans.

As part of this application, the following must be provided:

1. \$150.00 Application Fee.
2. A Completed Application.
3. As applicable, supporting documents included, but not limited to site plan or depiction of the requested Waiver.

It is the applicant's responsibility to make a good-faith effort to provide the Subdivision Administrator, as applicable, with a current list containing the accurate names and mailing addresses of all interested parties. For purposes of this provision, "interested parties" shall mean Landowners of Adjacent Property. The applicant shall provide the addresses in order to comply with Section 1331.12.B of the Subdivision Ordinance

Legal Notices

The following shall occur at least 15 days prior to the Public Hearing: notice of the hearing shall be advertised by the Planning Commission as a Class I legal advertisement in the local newspaper, posting of a sign upon the property, and letters to adjacent and confronting land owners within 100 feet of the subject property.

Definition of a Waiver

Adjustments that may be made to the requirements of this Ordinance to unusual site conditions in order to achieve a better design. Waivers may not be used to circumvent the process requirements of this Ordinance.

The Charles Town Subdivision Ordinance

To grant a Waiver as permitted in the Subdivision Ordinance, the Planning Commission makes findings as specified in Section 1331.12(B)(2).

In order to issue a Waiver, the Commission must make the following written findings regarding the Waiver sought and all of the following can be met:

A waiver request may be granted by the Planning Commission only when it shall be determined that:

1. That the design of the project will provide public benefit such as a reduction in City maintenance cost, greater open space, parkland consistent with the City parks plan, or benefits of a similar nature;
2. The waiver, if granted, will not adversely affect the public health, safety or welfare, or the rights of adjacent property owners or residents;
3. That the waiver, if granted, will be in keeping with the intent and purpose of this Ordinance; and
4. That the waiver, if granted, will result in a project of better quality and/or character.

Note:

Additional exhibits may be required by the Subdivision Administrator or Planning Commission such as a lot location survey or site plan showing existing and proposed Structures, easements, watercourses, curb cuts and description of the uses of adjacent property that are necessary to describe existing or proposed conditions.

1. DATE June 1, 2023
2. APPLICANT'S NAME* Hillside Investments, LLC
Address: 418 S. Samuel Street Charles Town, WV
Telephone Number (304) 671-5262 Fax Number ()
Email Address mrconstructionwv@gmail.com
3. PROPERTY OWNER'S NAME Mark Roper and John Thomas
Address: 418 S. Samuel St. Charles Town, WV
Telephone Number (304) 671-5262 Fax Number ()
Email Address mrconstructionwv@gmail.com
4. LEGAL DESCRIPTION OF THE SUBJECT PROPERTY (list all parcels that apply)
Property Address: N/A (vacant)
Tax Map # and Parcel: see attached
Deed Book and Page #: see attached
Property Area in Square Feet or Acres: 13.71 acres (Total)
5. DESCRIPTION OF THE EXISTING (OR FORMER) USE(S) OF THE PROPERTY AND CURRENT ZONING:
Vacant and Zoned Residential Medium-High Density
formerly Zoned General Commercial
6. DESCRIPTION OF PROJECT AND PROPOSED USE(S) OF THE PROPERTY:
see attached.

*Applicants include: Property owner(s), Engineer(s), Surveyor(s), or Consultant(s)

7. DESCRIPTION OF ANY PROPOSED WORK TO BE DONE TO THE PROPERTY:

See attached

8. DESCRIPTION OF THE WAIVER REQUEST:

See attached.

9. LIST THE APPLICABLE SECTION(S) OF THE SUBDIVISION ORDINANCE FROM WHICH THE WAIVER IS REQUESTED:

See attached

10. JUSTIFICATION FOR THE REQUEST:

- A) Explain how the design of the project will provide public benefit such as a reduction in City maintenance costs, greater open space, parkland consistent with the City Parks Plan or benefits of a similar nature;

See attached

- B) Explain how the waiver, if granted, will not adversely affect the public health, safety, welfare or the rights of adjacent property owners or residents;

See attached.

C) Explain how the waiver, if granted, will be in keeping with the intent and purpose of this Ordinance; and;

See attached.

D) Explain how the waiver, if granted, will result in a project of better quality and/or character.

See attached

11. INTERESTED PARTY ADDRESSES, FOR PUBLIC NOTICE (including across street)
(Interested parties are defined as adjacent properties within 100 feet).

Owner	# and Street	City, State, Zip
See attached		

12. PARCEL HISTORY (List all pending or previously approved applications on the subject parcels inventoried above, including previous site plan applications if this application is a site plan amendment)

Application No.	Project Name and Phase	Status	Approval Date
See attached			

13. HAS THE PROPERTY BEEN THE SUBJECT OF ANY COURT ACTION?

☐ Yes (Please specify nature of all proceedings and current status and attach any documents showing court decisions, etc.)

☒ No

APPLICANT CERTIFICATION

I certify that, to the best of my knowledge, the submitted information and statements are true and correct. I also certify that I have received and read Section 1331.12 of the Charles Town S/LD Ordinance and relevant provisions of the Charles Town City Code.

Signature of Applicant

 Date 6-1-2023

Signature of Property Owner (If different than Applicant)

_____ Date _____

Please submit an original completed Application and specified number of Site Plan copies to the following:

Subdivision Administrator
City of Charles Town
101 E. Washington Street
Charles Town, WV 25414

FOR CITY USE ONLY

Application Number: _____ Date Application Received: _____

Fee: \$ _____ Paid: \$ _____ Check No. _____

Receipt No. _____

Subdivision Administrator Approval: _____ Date: _____

Planning Commission Approval: _____ Date: _____

Comments/Conditions: _____

Hillside Townhome Waiver Request

4. LEGAL DESCRIPTION OF THE SUBJECT PROPERTY

TAX MAP # AND PARCEL

TD: 03 / Map: 9 / Pcl: 0067.0000

TD: 03 / Map: 9B / Pcl: 0001.0000

TD: 03 / Map: 9B / Pcl: 0002.0000

TD: 03 / Map: 9B / Pcl: 0003.0000

TD: 03 / Map: 9B / Pcl: 0004.0000

TD: 03 / Map: 9B / Pcl: 0005.0000

TD: 03 / Map: 9B / Pcl: 0006.0000

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6. DESCRIPTION OF PROJECT AND PROPOSED USE(S) OF THE PROPERTY:

Applicant is proposing no more than 128 townhomes on a 13.71-acre parcel of land. Development will include open space, a tot lot, bus shelter, and buffers to surrounding properties.

7. DESCRIPTION OF ANY PROPOSED WORK TO BE DONE TO THE PROPERTY:

Convert vacant property into townhome development. All grading, stormwater management, site improvements, and bonding will be in compliance with the land development requirements of the City of Charles Town.

8. DESCRIPTION OF THE WAIVER REQUEST:

An application for a subdivision proposal prompts the requirement for a traffic impact study (TIS) according to Section 1333.06 the Charles Town Subdivision Ordinance (Bold has been added):

Section 1333.06, Traffic Management Standards

(B) Traffic Impact Study (TIS).

1. West Virginia DOH Traffic Engineering Directive 106-1, Procedures for Traffic Impact Studies (or the most recent published version), shall be followed to conduct traffic impact studies, which are required under any of the following conditions:

a. When the proposed Subdivision/Land Development is projected to generate 100 or more trips per hour during the peak generating time for the Subdivision/Land Development. **(PROJECT DOES NOT MEET THIS STANDRD)**

b. For smaller Subdivisions/Land Developments, under one of the following three conditions:

(1) When the proposed new approach is to an intersection already operating at level of service (LOS) "D" or worse. **(PROJECT DOES MEET THIS STANDRD)**

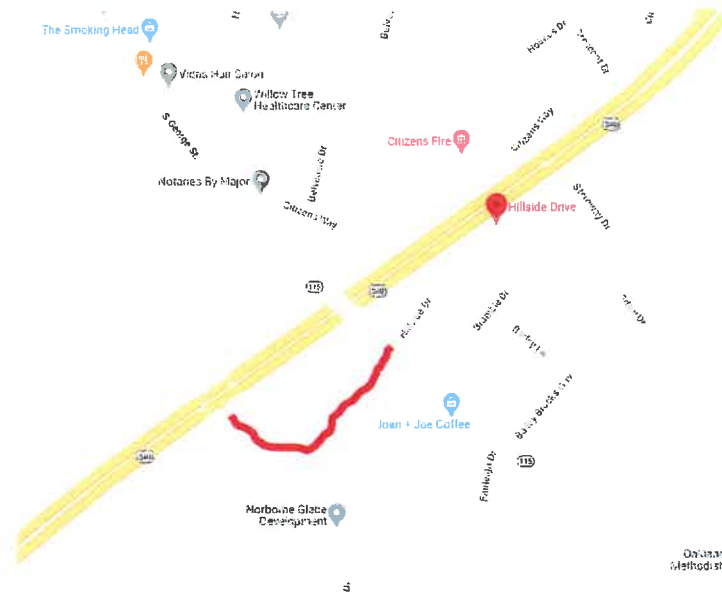
(2) When the applicant or Developer is requesting a new traffic signal. **(PROJECT DOES NOT MEET THIS STANDRD)**

(3) When modification of an existing traffic signal is being requested. **(PROJECT DOES NOT MEET THIS STANDRD)**

c. An older TIS may need to be updated when the data is more than two years old. **(PROJECT DOES NOT MEET THIS STANDRD)**

2. A traffic impact study may not be required in situations where the West Virginia DOH is agreeable to the proposed mitigation measures without conducting a TIS. **(WVDOH HAS NOT PROPOSED AN ALTERATIVE MITIGATION OPTION)**

The intersection of Hillside Drive and Route 115 (Charles Town Road, i.e., Old Rt. 9) does meet the level of service "D." This level of service "D" is only from one direction and that is the from the off/on ramp when coming off of US340 as shown in red below. All other directions the level of service is a "C" or better. This information comes from the Kings Crossing Residential Development traffic study that was completed on June 1, 2022, and is found on page 4 of the staff report, titled "Traffic Study Update," prepared for the May 22, 2023, Planning Commission meeting (attached at end of this report).



The following are email communications from both the WVDOT and the City's contract engineer noting that a traffic impact study will not result in any required improvements for the Hillside Townhome development.

- In an email, Ken Clohan, Traffic Engineer for the WV Department of Highways, stated, *"Based on the projected trip generation for a development of this size, combined with the projected operation of the currently programmed roundabout, we do not see a need for a TIS for this development."* (see attached email communication)
- The City's contract engineer, Mark Phillips, with Kimely-Horn, also notes *"With the roundabout in place at Hillside Drive and Charles Town Road the traffic impacts are mitigated and the LOS improved."* (see attached email communication)
- In another email communication, the City's contract engineer also wrote (parenthesis added for clarity of the message) *"Yes, for the northbound approach (requiring a traffic impact study)."* *"So, we could try to put them on the line to do one for that. But it would be a tough sell since their contribution to that movement may not be much."* (see attached email communication)

Based on e-mail communications from WVDOT and the City's engineer, both independent entities seem to agree that a traffic impact study would not be warranted as it would not result in necessary required improvements for the Hillside development. This seems to be based on three principal factors:

- The number of vehicles from the Hillside development itself will not trigger improvements.

- LOS D is only from one direction and that is a short on/off ramp. Charles Town Road operates at a level of service “A” – traffic flows freely in both directions. Exiting Hillside Drive is rated level of service “C”.
- A roundabout will be installed by the WVDOH. The WVDOH has accepted the Kings Crossing Traffic Study, which clearly notes that no improvements are needed at this intersection due to the fact that the WVDOH will be installing a roundabout.

9. LIST THE APPLICABLE SECTION(S) OF THE SUBDIVISION ORDINANCE FROM WHICH THE WAIVER IS REQUESTED:

Standards found in Article 1333.06(B)(1)(b)(1) Traffic Management Standards. This subsection requires a traffic impact study (TIS) when the “When the proposed new approach is to an intersection already operating at level of service (LOS) “D” or worse.

10. JUSTIFICATION FOR THE REQUEST:

A) Explain how the design of the project will provide public benefit such as a reduction in City maintenance costs, greater open space, parkland consistent with the City Parks Plan or benefits of a similar nature;

The proposed Hillside development will provide a public benefit in the form of a townhome community offering needed dwelling units in the City. The applicant will be making a payment in the amount of \$500.00 per unit to the City to be used for parks and recreation amenities. The anticipated sum for the one-time payment is \$64,000.00, based upon the projected number of townhomes in the development. The applicant will be providing open space in the development with a tot-lot and bus shelter for the residents of this development and the adjacent development to use. The city does not maintain the state roads, as such the city maintenance cost is neutral.

B) Explain how the waiver, if granted, will not adversely affect the public health, safety, welfare or the rights of adjacent property owners or residents;

The waiver will not affect the public health, safety, welfare or the rights of adjacent property owners or residents since the West Virginia Department of Highways will be installing a roundabout in 2025. This roundabout will be installed before this development has many homes under construction. Construction of new homes will not start until late 2024. This development will take approximately 4 years to build out to full completion. Traffic improvements are typically not required to be installed with the first home being constructed. Traffic improvements are usually required when approximately 30% of the development is built. By 2025, only a small fraction of this development will actually have homes under construction. Any improvements that MAY have been required by a traffic impact study would not be installed until possibly 2026 based upon the foregoing statement. As previously mentioned, the roundabout will already have been installed in this location in 2025. Further, as detailed in emails provided, the WVDOH and City engineer implied that no improvements would be identified in a traffic impact study.

C) Explain how the waiver, if granted, will be in keeping with the intent and purpose of this Ordinance; and;

The intent and purpose of the Ordinance is to provide for adequate traffic improvements when a development is proposed. There are reasons the subdivision ordinance requires a traffic impact study when there is a level of service "D" or worse. The logic does not apply to this development for the reasons noted, hence the request for the waiver. Additionally, this development does not meet the 100 peak hour traffic trips that typically indicates the need for a traffic impact study. Again, the WVDOH and City engineer implied that no required improvements would be identified in a traffic impact study. By the time this development even begins to have a modest increase in traffic, the roundabout will be installed, and it will more than adequately handle the relatively limited number of vehicle trips from this development.

D) Explain how the waiver, if granted, will result in a project of better quality and/or character.

Granting the waiver will not result in a project of lesser quality. Any traffic improvement that MIGHT be identified for this development would not include a roundabout. The roundabout that is slated for this intersection will exceed any possible improvements and the roundabout will be installed *before* this development would be required to make any improvements, if such improvements are even identified.

11. INTERESED PARTY ADDRESSES, FOR PUBLIC NOTICE

Owner	# and Street	City, State, Zip
MOWERY GLENN M JR & DIANE C	5 STERNWAY DR	CHARLES TOWN, WV 25414
GLENN ROBERT E & KESHA L	13 STERNWAY DR	CHARLES TOWN, WV 25414
SMITH GARY N	27 STERNWAY DR	CHARLES TOWN, WV 25414
DAVIS DANEESHA R	49 STERNWAY DR	CHARLES TOWN, WV 25414
SULLIVAN DAVID A	85 STERNWAY DR	CHARLES TOWN, WV 25414
MAYAH CHARLES P & MARGARET K	66 STERNWAY DR	CHARLES TOWN, WV 25414
DOUGHERTY JAMES F & CATHERINE M	80 STERNWAY DR	CHARLES TOWN, WV 25414
POTTER SUSAN B	32 EDAW DR	CHARLES TOWN, WV 25414
DELANEY ROBERT N & LAURIE L	46 EDAW DR	CHARLES TOWN, WV 25414
UBERT JUSTIN & REBECCA	60 EDAW DR	CHARLES TOWN, WV 25414
OWEN PETER G & LEIGH A	72 EDAW DR	CHARLES TOWN, WV 25414
PATTERSON BRITNEY	84 EDAW DR	CHARLES TOWN, WV 25414
TROXEL ANTHONY T & BETHANY	94 EDAW DR	CHARLES TOWN, WV 25414
WALTERS JOHN G	229 OAKLAND TER	CHARLES TOWN, WV 25414

HIPSLEY GLENN A & SUSAN L	275 OAKLAND TER	CHARLES TOWN, WV 25414
MCMILLAN BARBARA E & JOHN E	331 OAKLAND TER	CHARLES TOWN, WV 25414
MATTHEWS MARC F & LISA C	339 OAKLAND TER	CHARLES TOWN, WV 25414
SPITZER KAY S	385 OAKLAND TER	CHARLES TOWN, WV 25414
GRENIER TRAVIS E & SHELLEY L	423 OAKLAND TER	CHARLES TOWN, WV 25414
TRUMAN SCOTT A & DONNA S	497 OAKLAND TER	CHARLES TOWN, WV 25414
GRIMES WILEY E & PENNY	541 OAKLAND TER	CHARLES TOWN, WV 25414

12. PARCEL HISTORY

Application No.	Project Name/Phase	Status	Approval Date
ZMA 2022-02	Rezoning	Approved	12/5/2022
SLD 2022-04	Sketch Plan	Approved	4/24/2023

(A) Internal circulation. A complete system of internal traffic circulation shall be provided to serve all uses in any shopping center, industrial park or other integrated-use development included in an S/LD Application. In such Subdivisions/Land Developments, internal access shall be provided in a fashion so that all uses can be mutually accessed without entering onto Primary or Major Collector Streets.

(B) Traffic Impact Study (TIS).

1. West Virginia DOH Traffic Engineering Directive 106-1, Procedures for Traffic Impact Studies (or the most recent published version), shall be followed to conduct traffic impact studies, which are required under any of the following conditions:

a. When the proposed Subdivision/Land Development is projected to generate 100 or more trips per hour during the peak generating time for the Subdivision/Land Development.

b. For smaller Subdivisions/Land Developments, under one of the following three conditions:

(1) When the proposed new approach is to an intersection already operating at level of service (LOS) "D" or worse.

(2) When the applicant or Developer is requesting a new traffic signal.

(3) When modification of an existing traffic signal is being requested. c. An older TIS may need to be updated when the data is more than two years old.

2. A traffic impact study may not be required in situations where the West Virginia DOH is agreeable to the proposed mitigation measures without conducting a TIS.

KIMLEY-HORN REVIEW OF KINGS CROSSING TRAFFIC STUDY

On May 9th, I sent Kimley-Horn the King's Crossing traffic study, and had three questions. The questions are in bold, with responses following:

"1. What is the current level of service for the intersection of Hillside Drive/Charles Town Road?

- a. Based upon the Traffic Study completed by AMT Dated June 1, 2022 for the Kings Crossing Residential Development the current LOS for the subject intersection by approach is as follows (Page 52 Table 4 – 2021 Existing Conditions Analysis):
- i. Eastbound Charles Town Road (AM/PM) – LOS A/LOS A (Free Flow Condition)
 - ii. Westbound Charles Town Road (AM/PM) – LOS A/LOS A (Free Flow Condition)
 - iii. Northbound Approach from US 340/Norborne Glebe (AM/PM) – LOS D / **LOS E** (Stop-Controlled)
 - iv. Southbound Approach from Hillside Drive (AM/PM) – LOS B/LOS C (Stop Controlled)

v.

2. How will Kings Crossing impact that intersection?

- a. Based upon the Traffic Study completed by AMT Dated June 1, 2022 for the Kings Crossing Residential Development the 2025 Full Build and Full Build With Improvements LOS for the subject intersection by approach is as follows (Page 52 Table 4 – 2021 Existing Conditions Analysis):
- i. 2025 Full-Build (Kings Crossing) w/ no improvements:
 - 1. Eastbound Charles Town Road (AM/PM) – LOS A/LOS A (Free Flow Condition)

From: [Clohan, Kenneth L](#)
To: [James Newman](#)
Cc: [Kevin A McDonald](#); [Greg Avers](#); [Donald R Meadows](#); [Perry J Keller](#)
Subject: Re: Charles Town -Traffic Impact Inquiry
Date: Friday, May 5, 2023 3:00:34 PM
Attachments: [2023-04-14 Plans Revised.pdf](#)

James,

Thank you for the information.

Based on the projected trip generation for a development of this size, combined with the projected operation of the currently programmed roundabout, we do not see a need for a TIS for this development.

The City requirement for a TIS seems to be the same as the Division of Highways. If the City requires the developer to complete the TIS, we can review it, but we just ask that the developer contact us to approve the scope before moving forward.

Regarding plan review, it is generally helpful to be able to review the plans at all stages since the need for a TIS or roadway improvements should be able to be determined with the sketch plan. If the developer finds that road improvements will be too costly, they may decide to change the size of the development before spending money on detailed plans.

Ken Clohan

On Mon, May 1, 2023 at 11:23 AM James Newman <JNewman@charlestownwv.us> wrote:

Good morning,

Thank you Ken. I see that on page 9 the Level of Service at Hillside/Charles Town Rd is 'E' during PM Peak Hours. Is there a general LOS that is experienced during non-peak times at that intersection? I ask because our Ordinance requires a Traffic Impact Study "When the proposed new approach is to an intersection already operating at level of service (LOS) "D" or worse", but that language is vague and doesn't specify if that only applies to peak hours or to how the intersection operates on average.

For the review process: we require that applicants obtain a WVDoH permit and provide that information on their plans prior to us approving those plans. When would WVDoH like to have plans? Just as we get the sketch plan (which is subject to change), or at preliminary or final plan stages when more details are provided?

I've attached a copy of the sketch plan that we have for Hillside.

reference for all traffic analyses.

- i. The Hillside Development Proposed 127 Townhouse units per the Sketch Plan Provided. Per the ITE 10th Edition Trip Gen Manual Land Use Code 220 each Townhouse unit will develop the following trips per period specified:
 1. AM Peak – 0.56 Trips/Dwelling Unit, PM Peak – 0.67 Trips/Dwelling Unit, Daily Trips – 7.32 Trips/Dwelling Unit
- ii. These numbers multiplied by the 127 Townhouse Units would equate to the following number of trips:
 - a. AM Peak – 72 AM Peak Hour Trips
 - b. PM Peak – 86 PM Peak Hour Trips
 - c. Weekday – 930 Total Daily Trips
- a. Based on the additional trips those numbers could be modeled into an additional traffic study to derive the impact to the intersection of Hillside Drive and Charles Town Road. Based upon the existing and proposed Hillside Development Roadway Network it could be assumed that all trips will enter the intersection at the Southbound Hillside Drive Approach to Charles Town Road and “split” based upon assumed origin-destination data and Trip Distribution variables,

Please let me know if you have any further questions or need anything else. I derived as much as I could but the key goes back to my comments regarding Kings Crossing and ensuring they implement the Roundabout ASAP in their development program. With the Roundabout in place at Hillside Drive and Charles Town Road the traffic impacts are mitigated and LOS improved. Without the roundabout one can assume that the failing LOS would only exacerbated and made worse by the additional trips associated with the Hillside Development.

Thanks,

Mark R Phillips, P.E. (VA, WV)

Kimley-Horn | 11400 Commerce Park Dr, Reston, VA 20191

Direct: 703-870-3631 | Mobile: 540-454-6294

Connect with us: [Twitter](#) | [LinkedIn](#) | [Facebook](#) | [Instagram](#) | [Kimley-Horn.com](#)

Celebrating 15 years as one of FORTUNE's 100 Best Companies to Work For

From: James Newman <JNewman@charlestownwv.us>

Sent: Tuesday, May 9, 2023 2:17 PM

To: Phillips, Mark <Mark.Phillips@kimley-horn.com>

Subject: Traffic Study

Hi Mark,

Our Planning Commission will be delving into the Hillside Development (see attached) on May 22nd. They'd like to know, based on the TIA for Kings Crossing (see attached), answers to the following:

1. What is the current level of service for the intersection of Hillside Drive/Charles Town Road?

From: [Phillips, Mark](#)
To: [James Newman](#)
Subject: RE: Charles Town -Traffic Impact Inquiry
Date: Wednesday, May 17, 2023 3:12:40 PM

Yes for the northbound approach. So we could try to put them on the line to do one for that. But it may be a tough sell since their contribution to that movement may not be much.

-Mark

Mark R Phillips, P.E. (VA,WV)

Kimley-Horn | 11400 Commerce Park Dr, Reston, VA 20191

Direct: 703-870-3631 | Mobile: 540-454-6294

Connect with us: [Twitter](#) | [LinkedIn](#) | [Facebook](#) | [Instagram](#) | [Kimley-Horn.com](#)

Celebrating 15 years as one of FORTUNE's 100 Best Companies to Work For

From: James Newman <JNewman@charlestownwv.us>

Sent: Wednesday, May 17, 2023 3:11 PM

To: Phillips, Mark <Mark.Phillips@kimley-horn.com>

Subject: RE: Charles Town -Traffic Impact Inquiry

I apologize for any confusion I caused. I just want to know what the current level of service is at Hillside/Charles Town Road.

One of the requirements for requiring a traffic study is:

"When the proposed new approach is to an intersection already operating at level of service (LOS) "D" or worse."

I just want to know if the current Level of Service is at D or worse. I thought the text meant it is currently at E during peak evening hours.

From: Phillips, Mark <Mark.Phillips@kimley-horn.com>

Sent: Wednesday, May 17, 2023 3:07 PM

To: James Newman <JNewman@charlestownwv.us>

Subject: RE: Charles Town -Traffic Impact Inquiry

James that is the northbound approach. I thought the specific ask was regarding the southbound approach? Regarding Hillside which is to the north.

Mark R Phillips, P.E. (VA,WV)

Kimley-Horn | 11400 Commerce Park Dr, Reston, VA 20191

Direct: 703-870-3631 | Mobile: 540-454-6294

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P:\Projects\22063\001\00111697 Concept Sketch\C100-Sketch Plan.dwg, SK-4, 4/14/2023 10:25:18 AM



SEE SHEET SK-5

SEE SHEET SK-5

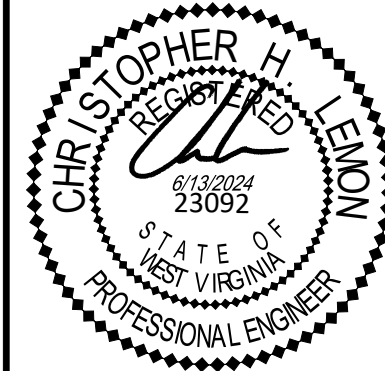
SKETCH PLAN

HILLSIDE

691/432 MAP 9 PARCEL 67

LOTS 2A (RESIDUE) & 2B

JEFFERSON COUNTY, WV



PROJECT: 22063.001.00

DRAWING NO: 111667

SCALE: AS SHOWN

DATE: JANUARY 18, 2023

DESIGN: SSK/DHL

DRAWN: PJS/DHL

CHECKED: SSK

SHEET No.

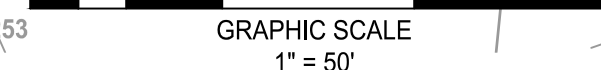
SK-4

christopher
consultants

now
IMEG

4601 Forbes Blvd. Suite 140
Lanham, MD 20706 P 240.296.1574
engineering • surveying • land planning

SK-5





Planning Commission

101 East Washington Street

Charles Town, WV 25414

Meeting: 07/24/23

Department: Planning

Commission

Category: Report

Initiator:

SCHEDULED

AGENDA ITEM (ID #)

BR2023-03: Norborne Glebe Recreational Facilities - Bond Initiation

ATTACHMENTS:

- [1. Staff Report.pdf](#)
- [2. Application.pdf](#)
- [3. Bond Estimate.pdf](#)
- [4. KH Review.pdf](#)
- [5. Preliminary Plans.pdf](#)



Bond Initiation Request

Date: For the July 24, 2023 Planning Commission meeting

Applicant: Arcadia Land Inc.

Report by: James Newman, City Planner, Zoning/Subdivision Administrator.

Proposal: A bond initiation in the amount of \$65,460.25.

Norborne Glebe Pool



The parcel with the pool location is outlined in [cyan](#).

BACKGROUND

The applicant, Arcadia Land Inc., has submitted a bond initiation request for the construction of a pool, recreational amenities, and a parking lot. The applicant is requesting a bond initiation in the amount of \$65,460.25. This amount will cover land disturbance requirements (such as silt fencing).

Upon review of the request the City Engineer, Kimley-Horn, has determined that the bond initiation amount is a reasonable request, and consistent with the scope of work and approved project documents.

Performance bonds shall be required for public and other physical Improvements to be constructed under an approved Final Subdivision/Land Development Application. Such Improvements shall include, without limitation, Road, curb, gutter, sidewalk, trails, storm Drainage, traffic signalization and control, water and sanitary sewer infrastructure, and any other site-related Improvements required by the City of Charles Town for vehicular and pedestrian ingress and egress, for public access roadways, for Structures necessary to insure stability of critical slopes, for necessary utilities, and for Stormwater Management Facilities.

BOND COMMITTEE

The Bond Committee was unable to convene to review the request.

RECOMMENDATION

The City Engineer has reviewed the bond reduction request and recommend the bond initiation request be **approved**.

Bond Request No. _____

Norborne Glebe - Pool
Land Disturbance Bond



BOND REQUEST AND REDUCTION

To assist the Subdivision Administrator in the review of a Bond Request Application, the Applicant must utilize this form to supply the City with the information prescribed under Article 1335 and Section 1332 of the Subdivision and Land Development Ordinance. The submission of this form, along with the prescribed information and required fees, shall serve as the Applicant's Bond Request Application as required by Ordinance Article 1335.

1. DATE May 31, 2023

2. APPLICATION TYPE ☒ Bond | Initiation ☐ Bond | Reduction

☐ Bond | Reallocation ☐ Bond | Release**

3. PROJECT NAME Norborne Glebe Subdivision - Pool

Address N/A

4. APPLICANT'S NAME* Arcadia Land, Inc. Attn: Gary Endler

Address 108 N. George Street - 2nd Floor Charles Town, WV 25414

Telephone Number 703-771-8000 Fax Number ()

Email Address gendler@arcadiacompanies.com

5. PROPERTY OWNER'S NAME Arcadia Land, Inc, Attn: Gary Endler

Address 108 N George Street - 2nd Floor Charles Town, WV 25414

Telephone Number 703-771-8000 Fax Number ()

Email Address gendler@arcadiacompanies.com

*Applicants include: Property owner(s), Engineer(s), Surveyor(s), or Consultant(s)

**Requires a Public Hearing and landscaping surety for one year after release

Bond Request No. _____

10. BOND RELEASE ATTACHMENTS.

The following shall be included with this request:

- A. To the extent not previously submitted pursuant to bond reduction request, copies of inspection and test reports if work was inspected and tested by a third-party inspector.
- B. Certification that all bonded Improvements, other than Improvements accepted by West Virginia Department of Highways (WVDOH), have been completed in accordance with the approved plans, profiles, and specifications and the requirements of any applicable manual. For Improvements to be accepted for maintenance by WVDOH, such Certification shall state that the Improvements have been installed and inspected in accordance with WVDOH's requirements.
- C. A copy of the City-approved As-Built Drawings as required for facilities within public rights-of-way or Easements submitted pursuant to Section 1332.10 of this Ordinance.

Date of As-Built _____ Prepared By _____

- D. A letter from a Professional Engineer or Professional Land Surveyor certifying that property corners and Monuments have been set as required under this Ordinance.
- E. Documentation of acceptance by WVDOH for public roadways and rights-of-way, or a maintenance and indemnification agreement and bond approved by the Planning Commission for public roadways that have been completed in accordance with WVDOH standards but which, due to factors other than their quality of construction, are not eligible for acceptance by WVDOH.
- F. For private roadways, a letter of acceptance by the entity responsible for maintenance and a Latent Defects Indemnification Agreement and Bond in accordance with this Section.
- G. Private Roadway Maintenance Bonds. Before a Performance Agreement and surety for private roadway construction shall be released, a Latent Defects Indemnification Agreement and Bond shall be provided by the applicant/Developer and approved by the Planning Commission. The guarantee provided by such Agreement and Bond must be for a period of two (2) years following the date of performance bond release, and must be in an amount equal to no less than 5% of the original performance bond estimate in accordance with Section 1335.07 (F) of the Subdivision Ordinance.
- H. Landscaping Surety. Surety is required to ensure the landscaping shown on the Major S/LD plans is maintained for one (1) year. The one (1) year shall start from the date at which the surety for the site has been released, with the exception of this landscaping surety. The landscaping surety amount shall not be less than \$5,000.00 or 10% of the total landscaping cost for the project, which every is greater.

Bond Request No. _____

APPLICANT CERTIFICATION

I certify that, to the best of my knowledge, the submitted information and statements are true and correct. I also certify that I have received and read Article 1335 of the S/LD Ordinance.

Signature of Applicant

 _____ Date 5/31/2023

Signature of Property Owner (If different than Applicant)

_____ Date _____

Please submit an original completed Application, 1 digital copy and 1 paper copy of the As-Built Plans (if applicable) to the following:

Subdivision Administrator
City of Charles Town
101 E. Washington Street
Charles Town, WV 25414

Please also send a copy of the completed Application as well as the As-Built to the following:

Hatch/Chester Engineers
Attn: Elizabeth Adamowicz
705 Quince Orchard Road, Suite 310
Gaithersburg, MD 20878

FOR CITY USE ONLY

Application Number: _____ Date Application Received: _____

Fee: \$ _____ Check No. _____

Receipt No. _____

Site Inspection Date: _____ Inspector: _____

Subdivision Administrator Approval: _____ Date: _____

Engineer Approval: _____ Date: _____

Planning Commission Approval: _____ Date: _____

City Council Approval: _____ Date: _____

Comments: _____

CITY OF CHARLES TOWN

LAND DISTURBANCE BOND UNIT COST LIST AND BOND REDUCTION FORM

This form shall be used to calculate the amount of the bond required to guarantee public improvements to be constructed under the approved Final S/LD Application. This form shall also be used in calculating the amount of bond reductions to be approved by the Planning Commission. **Note:** No bond shall be reduced until completion of at least thirty (30) percent of the physical improvements secured by the bond.

PROJECT NAME:	Norborne Glebe - Pool						
PREPARED BY:	Greenway Engineering						
DATE OF SUBMISSION	26-May-23						
ITEM	BOND ESTIMATE				BOND REDUCTION		
	UNIT	UNIT COST	QUANTITY	EXTENSION	QUANTITY	EXTENSION	% COMPLETE
MOBILIZATION GENERAL							
Mobilization	LS	\$6,250.00	1	\$6,250.00	0.0	\$0.00	
Field Office	EA	\$3,000.00		\$0.00	0.0	\$0.00	
Job Sign	EA	\$1,150.00		\$0.00	0.0	\$0.00	
EROSION & SEDIMENT CONTROL							
Curb Inlet Protection	EA	\$176.80	7	\$1,237.60	0.0	\$0.00	
Grate Inlet Protection	EA	\$200.00	0	\$0.00	0.0	\$0.00	
Rock Check Dam	SY	\$47.87	0	\$0.00	0.0	\$0.00	
Outlet Protection	SY	\$78.00	0	\$0.00	0.0	\$0.00	
Temporary Seeding	SY	\$0.77	0	\$0.00	0.0	\$0.00	
Permanent Seeding	SY	\$3.64	4,750	\$17,290.00	0.0	\$0.00	
Clearing and Grubbing	Acre	\$6675.00	3	\$16,687.50	0.0	\$0.00	
Silt Fence	LF	\$3.25	2,399	\$7,796.75	0.0	\$0.00	
Super Silt Fence	LF	\$5.40	0	\$0.00	0.0	\$0.00	
Level Spreader	SY	\$0.00	0	\$0.00	0.0	\$0.00	
Stabilized Construction Entrance	EA	\$2990.00	1	\$2,990.00	0.0	\$0.00	
TOPSOIL REPLACEMENT							
Fine Grading	SY	\$1.09	1,759	\$1,919.07	0.0	\$0.00	
Respread Topsoil	SY	\$0.92	4,750	\$4,370.00	0.0	\$0.00	
SPECIAL ITEMS							
Sediment Trap	LS			\$0.00	0.0	\$0.00	
Sediment Basin	LS			\$0.00	0.0	\$0.00	
Subtotal				\$56,621.85			

TOTAL ESTIMATE OF COMPLETED WORK:

SubTOTAL: \$56,621.85
 CONTINGENCIES: 10.0% \$5,662.19
 TOTAL W/ CONTINGENCY: \$62,284.04
 BOND PERIOD: 5 Years
 ANNUAL INFLATION FACTOR: 1.02% \$3,176.49

TOTAL ESTIMATE OF REDUCTION:

SubTOTAL: \$0.00
 CONTINGENCIES: \$0.00
 TOTAL: \$0.00
 INFLATION: \$0.00
 Grand Total: \$0.00

Grand Total:	\$65,460.52	Bond Remaining:	\$65,460.52
--------------	-------------	-----------------	-------------

|

|

[Handwritten signature]

ARCADIA DEVELOPMENT CO.
ADC EAST MANUAL
108 N GEORGE ST FL 2
CHARLES TOWN, WV 25414

90.7162/3222

1008

May 31, 2023

Pay to the order of City of Charles Town \$200.00
Two Hundred & 00/100 dollars

CHASE
JPMorgan Chase Bank, N.A.
www.Chase.com

for

[Signature]

⑆322271627⑆

8889103501008

CITY OF CHARLES TOWN

LAND DISTURBANCE BOND UNIT COST LIST AND BOND REDUCTION FORM

This form shall be used to calculate the amount of the bond required to guarantee public improvements to be constructed under the approved Final S/LD Application. This form shall also be used in calculating the amount of bond reductions to be approved by the Planning Commission. **Note:** No bond shall be reduced until completion of at least thirty (30) percent of the physical Improvements secured by the bond.

PROJECT NAME:	Norborne Glebe - Pool							
PREPARED BY:	Greenway Engineering							
DATE OF SUBMISSION	26-May-23							
BOND ESTIMATE					BOND REDUCTION			City Use Only
ITEM	UNIT	UNIT COST	QUANTITY	EXTENSION	QUANTITY	EXTENSION	%COMPLETE	% Approved
MOBILIZATION GENERAL								
Mobilization	LS	\$6,250.00	1	\$6,250.00	0.0	\$0.00		
Field Office	EA	\$3,000.00		\$0.00	0.0	\$0.00		
Job Sign	EA	\$1,150.00		\$0.00	0.0	\$0.00		
EROSION & SEDIMENT CONTROL								
Curb Inlet Protection	EA	\$176.80	7	\$1,237.60	0.0	\$0.00		
Grate Inlet Protection	EA	\$200.00	0	\$0.00	0.0	\$0.00		
Rock Check Dam	SY	\$47.87	0	\$0.00	0.0	\$0.00		
Outlet Protection	SY	\$78.00	0	\$0.00	0.0	\$0.00		
Temporary Seeding	SY	\$0.77	0	\$0.00	0.0	\$0.00		
Permanent Seeding	SY	\$3.64	4,750	\$17,290.00	0.0	\$0.00		
Clearing and Grubbing	Acre	\$6675.00	3	\$16,687.50	0.0	\$0.00		
Silt Fence	LF	\$3.25	2,399	\$7,796.75	0.0	\$0.00		
Super Silt Fence	LF	\$5.40	0	\$0.00	0.0	\$0.00		
Level Spreader	SY	\$0.00	0	\$0.00	0.0	\$0.00		
Stabilized Construction Entrance	EA	\$2990.00	1	\$2,990.00	0.0	\$0.00		
TOPSOIL REPLACEMENT								
Fine Grading	SY	\$1.09	1,759	\$1,919.07	0.0	\$0.00		
Respread Topsoil	SY	\$0.92	4,750	\$4,370.00	0.0	\$0.00		
SPECIAL ITEMS								
Sediment Trap	LS			\$0.00	0.0	\$0.00		
Sediment Basin	LS			\$0.00	0.0	\$0.00		
Subtotal				\$56,621.85				

TOTAL ESTIMATE OF COMPLETED WORK:

TOTAL ESTIMATE OF REDUCTION:

SubTOTAL:		\$56,621.85
CONTINGENCIES:	10.0%	\$5,662.19
TOTAL W/ CONTINGENCY:		\$62,284.04
BOND PERIOD:	5	Years
ANNUAL INFLATION FACTOR:	1.02%	\$3,176.49

SubTOTAL:	\$0.00
CONTINGENCIES:	\$0.00
TOTAL:	\$0.00
INFLATION :	\$0.00
Grand Total:	\$0.00

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Grand Total:	\$65,460.52	Bond Remaining:	\$65,460.52
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Memorandum

To: Daniel Murphy
Project Manager
Greenway Engineering
151 Windy Hill Lane
Winchester, VA 22602

From: Mark Phillips, P.E.
Alex Bachy

Through: James Newman
City of Charles Town
101 E Washington Street
Charles Town, WV 25414

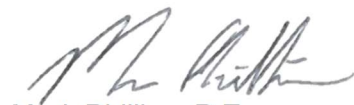
Date: June 1, 2023

Subject: Norborne Glebe Subdivision - Pool Bond Initiation Review

This memorandum summarizes our review of the Bond Initiation request for the Norborne Glebe Subdivision Pool (dated May 31, 2023, prepared by Greenway Engineering) for a proposed pool within the existing residential community. The site is currently zoned Neighborhood Residential. The Bond is for \$65,460.52 using the Final Subdivision/Land Development Plat for the Norborne Glebe Subdivision Pool. Kimley-Horn's review of this application is limited to the Bond Initiation Application provided by the Applicant. Based upon our review we have no comments and believe the bond initiation request is consistent with the scope of work for the project and approved project documents.

Thank you for the opportunity to review this Bond Initiation request. In the meantime, please feel free to contact us at 703-870-3631 should you have any questions.

KIMLEY-HORN & ASSOCIATES, INC.



Mark Phillips, P.E.
Project Manager
Associate

ZONED NEIGHBORHOOD RESIDENTIAL (NR)

1. ADDED PICKLEBALL COURT.
2. ADDED HALF COURT BASKETBALL.
3. REVISED TRAILS AND SIDEWALKS FOR CONNECTIVITY WITH NEW RECREATIONAL AMENITIES AND TO TIE INTO EXISTING SIDEWALK AND ACCESSIBLE ROUTE.
4. REVISED WATERLINE SERVICE AND SANITARY LATERAL CONNECTION INTO BUILDING.
5. UPDATED LIMITS OF DISTURBANCE AND E&S CONTROLS.

CHRIS BLAIR, PLS
GREENWAY ENGINEERING, INC.

"This Preliminary Plan was approved by the City of Charles Town, on the _____ day of _____, 20_____, subject to any conditions specified hereon.

All expenses incurred with respect to improvements for all utility services, paving, grading, landscaping, curbs, gutters, sidewalks, road lighting, road signs, flood protection devices, drainage structures and all other improvements that may be required shall be the responsibility of the subdivider and not the City.

Secretary of the Planning Commission	Date
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THESE PLANS ARE IN CONFORMANCE WITH CITY OF CHARLES TOWN STANDARDS
AND ORDINANCES. ANY DEVIATION OR CHANGE IN THESE PLANS SHALL BE
APPROVED BY THE ZONING ADMINISTRATOR PRIOR TO CONSTRUCTION

MISS UTILITY OF WEST VIRGINIA (MUWV) AT 811 OR 1-800-245-4848, 48 HOURS PRIOR TO THE START OF WORK. EXCAVATORS MUST NOTIFY ALL PUBLIC UTILITY OPERATORS WHO MAINTAIN UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED EXCAVATING OR BLASTING AND HAVE THOSE FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION. THE EXCAVATOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL COUNTY REQUIREMENTS, WEST VIRGINIA CODE AND REGULATIONS.

Contractors shall notify all public utility operators who maintain underground utility lines in the area of proposed excavating or blasting at least two (2) working days, but not more than ten (10) working days, prior to commencement of excavation or demolition. Names and telephone numbers of the operators of underground utility lines appear below. These numbers shall also be used to serve in an emergency condition.

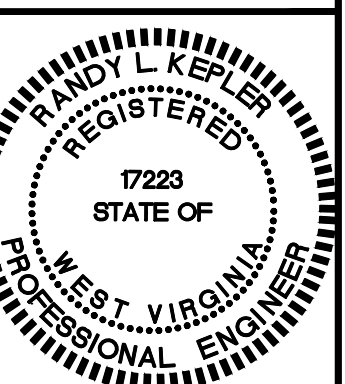
Soil Conservation: Eastern Panhandle Conservation District
151 Aikens Center, Suite 2
Martinsburg, WV 25404
(304) 263-4376

"This property is in an area designated as a special flood area, as shown on Community Map/panel Number 54037C0138E, Effective date 12/18/2009."

LIST OF SERVICES: CIVIL ENGINEERING | GIS | LAND SURVEYING | ENVIRONMENTAL | ANALYTICAL LABORATORY | QUALITY CONTROL TESTING & INSPECTIONS

NORBORNE GLEBE
POOL
PRELIMINARY SUBDIVISION/LAND DEVELOPMENT PLAT
CITY OF CHARLES TOWN-JEFFERSON COUNTY, WV

**NORBORNE GLEBE
POOL**



DATE: 04/26/2023

SCALE: AS NOTED

DESIGNED BY: AM/CW

LE NO. 4542A

SHEET 1 OF 22

2-06-SP

GENERAL NOTES		WATER AND SEWER NOTES		WATER AND SEWER NOTES (CONT.)		LEGEND																																											
1. Methods and materials used in the construction of the improvements herein shall conform to current Jefferson County Construction Standards and Specifications and/or current WVDOT Standards and Specifications. 2. The Engineer shall not have control over or charge of and shall not be responsible for construction means, methods, techniques, sequences or procedures nor for safety precautions and programs in connection with work shown on these plans. The Engineer is not responsible for the contractor's schedules or failure to carry out the work. The Engineer is not responsible for acts or omissions of the contractor, subcontractor, or their agents or employees, or any other person performing portions of the work. 3. The Contractor, Owner or Developer shall be responsible for securing any third party inspection/testing service to insure construction compliance with these plans and specifications. It is Greenway Engineering's recommendation that a third party inspection/testing service be employed to ensure that project is completed and materials installed meet the details and specifications in these plans. 4. The location of existing utilities shown in these plans are taken from existing records and available asbuilt data. It shall be the contractors responsibility to verify the exact horizontal and vertical location of all existing utilities as needed prior to construction. The contractor shall be responsible for the digging of all test holes that may be required, whether recommended or not by these plans, to determine the exact location and elevation of existing utilities. If any conflicts arising from this existing utility verification or if during the course of construction, any object of an unusual nature is encountered, the contractor shall cease work in that area and immediately notify Greenway Engineering at (540) 662-4185 and/or the proper authority. Greenway Engineering or any engineer associated with these plans shall not be responsible or liable for any construction cost that may be associated with the installation or reinstallation any utility or other improvements if not notified of any discrepancies between actual field conditions and the approved plan. 5. The approval of these plans in no way relieve the developer, the contractor, or their agents of any legal responsibility which may be required by the code of West Virginia or any other ordinance enacted by the County nor does it guarantee the issuance of any required permit by the County, WVDOT or any other Agency. 6. An approved set of plans and all applicable permits must be available at the construction site at all times during construction. A representative of the developer must be available at all times. 7. The contractor shall provide adequate means of cleaning mud from trucks and/or other equipment prior to entering public streets, and it is the contractors responsibility to clean streets, alley dust, and to take whatever measures are necessary to insure that public streets are maintained in a clean, mud and dust free condition at all times. 8. The developer will be responsible for any damage to the existing streets and utilities which occurs as a result of his construction project within or contiguous to the existing right-of-way. 9. Warning signs, markers, barricades or flagmen should be in accordance with the State and Federal Manual on Uniform Traffic Control Devices (MUTCD). 10. All unsuitable material shall be removed from the construction limits of the site plan before placing embankment. 11. All pavement sections shown on these approved plans are based on a minimum CBR value of 6 and are for preliminary design only. Final pavement design shall be based upon actual field tested CBR values. The Contractor or Developer shall be responsible for field tests per WVDOT standards to obtain actual CBR values for final design. Final pavement designs will be approved by WVDOT and/or the Owner/Developer, which ever applicable, prior to installation. 12. All springs shall be capped and piped to the nearest storm sewer manholes or curb inlet. The pipe shall be minimum 6" diameter. 13. When grading is proposed within easements of utilities, letters of permission from all involved companies must be provided to the City prior to issuance of grading and/or site development permits. 14. a. Notification shall be given to the Jefferson County Public Sewer District two weeks prior to construction so they can arrange to have a project representative during construction. The District would like to be in the pre-construction project meetings with the contractor. b. Notification shall be given to the City of Charles Town Utility Board prior to construction of water lines. Information should also be obtained from the appropriate authority concerning permits, cut sheets, and connections to existing lines. 15. The Developer and/or Contractor shall be responsible to supply all utility companies with copies of the approved plans and advise them that all grading shall conform to the approved plans, and further that the utility companies shall be responsible for honoring these plans and the finished grades in the installation of their utility lines. 16. All utilities to be located underground. 17. Contractors shall notify operators who maintain underground utility lines in the area of proposed excavating or blasting at least two (2) working days, but not more than ten (10) working days, prior to commencement of excavation or demolition. 18. The developer will be responsible for the relocation of any utilities which is required as a result of his project. The relocation should be done prior to construction. 19. All parking lot/street light and dry utility design shall be performed and provided separately by others. All dry utility and or lighting information shown herein is as specified by others and is included for informational purposes only, as directed by the Owner, Developer and/or public agency requirements. Greenway Engineering has not performed the lighting and/or dry utility design and does not warrant and is not responsible for the degree and/or adequacy of illumination on this project or the adequacy of the dry utility to service the site. 20. All sanitary sewers, water mains and appurtenances shall be constructed in accordance with the current standards and specifications of Jefferson County. 21. All stormwater piping and structures shown on these plans are only accurate to the inlet or manhole locations as shown hereon. Detail design of stormwater structures were not provided to Greenway Engineering. Actual pipe alignments will be based upon developed structural shop drawings as provided by the manufacturer. Contractor shall make adjustments to pipe alignments base on provided shop drawings. Greenway Engineering will not be held responsible or liable for any discrepancies or changes caused by the structural design. Contractor may submit shop drawings to Greenway Engineering for review and approval at contractor's expense. Shop drawings will be reviewed for compliance with design plans. The Owner or Developer will be responsible for any redesign as a result of structural shop drawing design. 22. Controlled fills shall be compacted to 95% of maximum density as determined by method "A" per standard proctor AASHTO-T99, ASTM-D698, or VTM-1 as applicable. Density shall be certified by a registered professional engineer and results submitted to Jefferson County, prior to pavement construction. If a geotechnical report has been prepared, it should supersede the requirements in this note. 23. Refer to Geotechnical Engineer for methods, materials and details for construction of all earthwork activities. 24. Any retaining wall 2 ft. or greater in height shall require the issuance of a separate building permit. 25. Construction debris shall be containerized. No less than one litter receptacle shall be provided at the construction site. 26. Greenway Engineering, Inc. (GE) issued this plan set based on project criteria dictated by the client and municipal codes. This plan set is not considered complete or appropriate for construction until ALL necessary agencies have given approval AND this plan set is signed and sealed by a licensed professional. Any work, planning, scheduling, material purchases and/or construction prior to approvals and licensed/professional sealing will be performed at the risk of the personnel authorizing work. GE shall be held harmless from any costs, time delay and/or material changes incurred on work started before this plan set receives approvals and seals.		1. Easements shall be given to the Charles Town Utility Board for the construction and maintenance of sewer facilities, as depicted herein. 2. Installation and maintenance of water and sewer lines shall be in accordance with the WV Department of Health, , the City of Charles Town, and the Charles Town Utility Board requirements. 3. Complete water lateral prior to final paving. 4. Water lines to have a minimum of forty-two inches (42") of cover to crown of pipe. Water lines to have seal of the National Sanitation Foundation. Mechanical joints or slip-on joints with rubber gaskets are preferred by the Health Department. 5. Provide concrete thrust blocking at all water line intersections and direction changes. 6. All water mains must be AWWA C900, CL235 PVC. All sanitary sewer be PVC ASTM 3034 SDR-35 unless otherwise specified. 7. Water easements are to be dedicated to the Charles Town Utility Board. 8. Storm drain easements are to be dedicated to the City of Charles Town. 9. Sanitary sewer and force main easements are to be dedicated to the Charles Town Utility Board. 10. A horizontal separation of at least 10 foot must be maintained between sanitary sewer and potable water lines except when they are crossing. When water and sewer lines cross, the water line shall be at least 18 inches above the sewer line. <u>Summary of Water Requirements - Charles Town Utility Board, Charles Town, WV</u> 1. All water mains must be AWWA C900, CL235 PVC. Line extensions must have permitted approval prior to installation. 2. All service lines to be minimum 200 PSI PVC or copper. Final Line size will depend on the type of service. The City will not allow any galvanized lines or fittings. A standard shut off valve must be installed on the property side of the meter for the owner's use; the meter valve is for the city use only. 3. All meters, vaults, and crooks will be set at the property line; the CTUB will install the meters. 4. All service lines will be no deeper than 36" at the meter location to allow access to the setter by the meter installers. Deeper service lines may be acceptable if a crossing conflict is encountered or site conditions dictate. 5. The CTUB will supply the meters, setter and boxes. All non-metallic lines will be installed with tracer ribbon. (Located 6" above the newly installed service line with 3" wide detectable tape.) 6. All multi-meter installations, such as a business or apartment complex are to be set in an outside vault, or an accessible mechanical room, and are to be supplied by the owner. These areas are to be inspected prior to the availability of water service. 7. Fire Hydrants must be American Darling Mark B62S 5/14" valve opening with 6" base or equal. 8. Valves are to be AWWA C515 gate valves resilient seated opening left. Valve boxes must be screw type Tyler #562S or equal. All valve riser sleeves are to be cast iron with cap. PVC risers to be approved on a use basis by the CTUB Water Representatives. 9. All valves, bends (45's, 22's and 90's), tees and elbows shall have mechanical restraints (such as mega lugs) and thrust blocks. 10. The CTUB must inspect all work. The contractor must give 24-hour notice to the CTUB for an inspection request. The CTUB may request as-built sketches, photos etc. (as back up) 11. All West Virginia Public Service Commission and WV Health Department, rules and regulations, applying to water and sewer must be followed, and all local state and federal permits and approvals must be obtained prior to performing any water or sewer extensions or upgraded work. <u>Submittals</u> 1. Prior to the installation of any material or equipment on the project supplied by the Contractor, the Contractor shall submit to the City, three (3) copies of all shop drawings, laying schedules, manufacturer specifications, certification and drawings in accordance with the General Conditions (Water/Sewer) One copy is for the application file. One copy is for the final inspection compliance. One copy is for inspection review or comments to be completed prior to beginning work. A copy of a current WV Contractors License and proof of Liability Insurance must accompany the submittal. 2. City will require as-built drawings and a copy of submittals for all pipe and and appurtenances used on the project. As-bults shall be furnished in both PDF and AutoCAD formats. An O&M Manual containing, at a minimum, all submittals is to be furnished. <u>Field Copies of Construction Information</u> The Contractor shall keep a minimum of one (1) complete copy of the Contract construction plans and specifications (including all revisions and addendums), and all shop drawings issued at the project site. All information shall be kept in a neat and good order and shall be made available for the City's Representative to use at his request. <u>Open Excavation</u> 1. The depth of trenches shall be such that the location of the proposed pipes will conform with the lines and grades shown on the plans. The shape of all trenches above and within the pipe zone, the construction methods employed, the general protections requirements, the general excavation requirements, the general trenching requirements, and the minimum regulations for trench shoring, shall conform with the regulations set forth under OSHA Regulations 29CFR part 1926 650, 651 & 652. No trenching excavation work shall be performed which is not in accordance with those regulations. 2. The shape of the trenches in the "pipe zone" (which shall be construed to be that portion of the trench between the trench bottom and an elevation 1 foot above the top of the pipe) shall conform to the configuration identified as "Typical Bedding" on "Pipe Bedding Drawing #1". The contractor is herein advised that if trench widths in the pipe zone exceed the outside diameter of the pipe plus two feet, and if the City determines that such excessive widths will result in a structural loading for which the pipe is not designed, he shall be required to bed the pipe on a concrete cradle at no additional cost. 3. The Contractor shall shape trenches which are located adjacent to existing above ground or underground structures and/or facilities or in other confined areas, so that such structures and facilities are properly protected against damage or disturbance from settlement or displacement. Adequate sheeting, shoring and/or bracing shall be installed and maintained to provide such protection and the Contractor shall be responsible for all damages resulting to such proposed and existing structures, pipelines, and/or facilities as the result of his failure to use and maintain adequate trench wall support, as well as a result of any other construction activities. The bottoms of all trenches shall be excavated to a depth of 6 inches below the bottom of the proposed lines to accommodate the bedding hereinafter specified. <u>Pipe Installation</u> 1. Before any pipe is installed in trenches, it shall be inspected for damage and the inside of the pipe shall be swabbed to remove loose dirt and foreign objects. No damaged pipe will be permitted to be installed. 2. All pipes shall be installed to the lines and grades shown on the drawings. No pipes shall be constructed in trenches in which water flows or is pooled and, all pipes shall be carefully handled in the ditch to keep the jointing ends and materials free from dirt during installation. During shut down periods and at the end of each day, all open ends of pipe shall be suitably plugged to prevent the inflow of water, dirt, foreign objects, etc. <u>Pipe Bedding and Pipe Zone Backfill Material</u> All proposed pipelines shall be supported on stone dust or #10's small diameter stone. The material shall be placed to a minimum depth of 6 inches below the bottom of the pipe and 6 inches above the top of the pipe. The material shall be placed in the pipe zone in such a manner as to not disturb, displace, or otherwise misalign the installed pipelines. <u>Backfill Material Above the Pipe Zone</u> The material used above the pipe zone shall be such that a satisfactory compaction can be made. At no time shall material bigger than 2 inches in diameter be used. But any material used must be approved by the City before hand. After approval, the entire depth within the backfilled area shall be compacted to provide the minimum percentage of density specified for each area of classification. <u>Special Backfill Material Below the Pipe Zone</u> Where muck, quicksand, soft clay, swampy or other material is encountered in the trench bottom, which in the opinion of the City is unsuitable for pipe foundation subgrade or backfill, such material shall be removed to a depth satisfactory to the City. The trench shall then be backfilled to grade with acceptable City approved material, mechanically compacted in successive layers. <u>Ductile Iron Pipe and Fittings</u> Ductile iron pipe and fittings under this Contract shall be furnished by the Contractor. All pipes will be slip type joint unless otherwise noted and all fittings will be mechanical joint. <u>PVC Pipe and Fittings</u> No glue joints are to be used within the CTUB water or JCPSD right of way. Onsite sewer laterals are to be schedule 40 PVC Pipe or equivalent. <u>Fire Hydrants</u> Hydrants shall be furnished and installed complete where shown on the drawings and as approved by the CTUB. This installation shall be adapted to the location of the hydrant so as to make the best installation possible. (note: hydrants no-more than 500 ft apart) <u>Service Connections for Water Lines</u> 1. Service connections shall be made as indicated on the Contract Drawings. 2. The Contractor shall furnish all fittings required to make the necessary connections. All service line connections shall be made in the presence of the CTUB representative. <u>Valves and Boxes</u> Each valve installed underground shall be equipped with a valve box furnished by the Contractor and installed by the Contractor. <u>Anchoring and Blocking</u> 1. All bends in excess of 10 deg. plugs, caps, tees, and wyes branches along pipelines shall be adequately blocked or anchored to prevent the lines from pulling apart under pressure (see typical concrete blocking). 2. Lugged fitting and tie rods, clamps collars, restrained joints, and anchoring fittings may be substituted in lieu of blocking after having received the approval of the CTUB. Concrete used for blocking and anchoring pipelines in trenches shall consist of concrete as specified elsewhere in these specifications. <u>Pressure and Leakage Tests</u> All pipeline shall be tested by the Contractor according with AWWA and witnessed by the CTUB Representative. The Contractor shall furnish all equipment, apparatus, temporary blocking, pumps, taps and gauges to conduct the tests. <u>Blow Off</u> Blow off valves shall not be installed.	<u>Minimum Pipe Size and System Design</u> 1. The minimum size of water pipe shall be six-inch diameter. This may be increased at the discretion of the City if hydraulic modeling indicates that a larger size is needed to provide pressure and/or headflow in the area. 2. Dead ends shall be minimized by looping of all mains. 3. Where dead-end mains occur they should be provided with a fire hydrant, for flushing purposes. 4. No flushing device shall be directly connected to any sewer. <u>Separation of Water Services & Mains from Other Utilities</u> 5 foot horizontal separation from all non-sewer utility lines - electric, phone, etc. <u>Parallel Installation</u> 1. Normal conditions - Water mains shall be laid at least ten feet horizontally from any sanitary sewer, storm sewer or sewer manhole, whenever possible; the distance shall be measured edge-to-edge. 2. Unusual conditions - When local conditions prevent a horizontal separation of 10 feet, a water main may be laid closer to a storm sewer provided that: A. The bottom of the water main is at least 18 inches above the top of the sewer B. Where this vertical separation cannot be obtained, the water main will be sleeved and all voids will be filled. <u>Crossings</u> 1. Normal conditions - Water mains crossing house sewers, storm sewers or sanitary sewer shall be laid to provide a separation of at least 18 inches between the bottom of the water main and the top of the sewer, whenever possible. 2. Unusual conditions - When local conditions prevent a vertical separation as described, the following construction shall be used: 3. Water mains passing under sewer shall be protected by providing: A. A vertical separation of at least 18 inches between the bottom of the sewer and the top of the water main. B. Adequate structural support for the sewers to prevent excessive deflection of the joints and settling on and breaking the water mains; C. That the length of the water pipe be centered at the point of crossing so that the joints will be equidistant and as far as possible from the sewer. D. Water line shall be sleeved and the void area filled. 4. Sewer manholes - No water pipe shall pass through or come within 5 feet of any part of a sewer manhole. <u>Private Fire Protection Service</u> No pipe or fixtures connected with a private fire service served by the CTUB shall be connected with pipes or fixtures supplied with water from any other source.	EXISTING INTERMEDIATE CONTOUR EXISTING INDEX CONTOUR PROPOSED CONTOUR EXISTING EDGE OF PAVEMENT PROPOSED EDGE OF PAVEMENT EXISTING CURB AND GUTTER PROPOSED CURB AND GUTTER TRANSITION TO REVERSE CURB EXISTING TELEPHONE LINE PROPOSED TELEPHONE LINE EXISTING STORM SEWER WITH INLET PROPOSED STORM SEWER WITH INLET EXISTING SANITARY SEWER WITH MANHOLE PROPOSED SANITARY SEWER WITH MANHOLE PROPOSED SAN. LAT. CLEANOUT EXISTING ELECTRIC SERVICE PROPOSED ELECTRIC SERVICE EXISTING GAS LINE PROPOSED GAS LINE EXISTING WATERLINE W/ TEE PROPOSED WATERLINE W/ TEE EXISTING FIRE HYDRANT/VALVE/METER PROPOSED FIRE HYDRANT/VALVE/METER PROPOSED REDUCER PROPERTY LINE EXISTING EASEMENT PROPOSED EASEMENT PROPOSED CENTERLINE EXISTING CENTERLINE EXISTING TREE LINE FLOW LINE FENCELINE EXISTING UTILITY POLE/GUIDE WIRE EXISTING TELEPHONE PEDESTAL SIGNS PARKING INDICATOR INDICATES THE NUMBER OF TYP. PARKING SPACES HANDICAP PARKING VEHICLES PER DAY COUNT PROPOSED BUILDING ENTRANCE SANITARY MANHOLE IDENTIFIER STORM DRAIN STRUCTURE IDENTIFIER EXISTING SPOT ELEVATION PROPOSED SPOT ELEVATION LIGHT POLE	704 Foxcroft Avenue Martinsburg, West Virginia 25401 Telephone: (304) 620-5111 Fax: (540) 722-9528 www.greenwayeng.com GREENWAY ENGINEERING PROUDLY SERVING VIRGINIA & WEST VIRGINIA OFFICES IN: WINCHESTER, VA & MARTINSBURG, WV																																												
GENERAL NOTES NORBORNE GLEBE POOL PRELIMINARY SUBDIVISION/LAND DEVELOPMENT PLAT CITY OF CHARLES TOWN-JEFFERSON COUNTY, WV		WVDOT NOTES WV1. All work, construction methods and materials shall conform with the West Virginia Division of Highways "STANDARD SPECIFICATIONS ROADS AND BRIDGES Adopted January 1, 2000" and Supplemental Specifications dated January 1, 2001. All work on this project shall also conform with The Soil Conservation Service Erosion and Sediment Control Regulations and any other state, federal, or local regulations applicable. In the event of conflict between any of these standards, specifications, or plans, the most stringent shall govern. WV2. All construction shall comply with the latest U.S. Department of Labor Occupational Safety & Health Administration. WV3. When working on WVDOT right-of-way, all traffic control, whether permanent or temporary, shall be in accordance with "Traffic Control for Street and Highway Construction and Maintenance Operations" dated November 1994 as published by WVDOT. WV4. Design features relating to construction or to regulation, control and safety of traffic may be subject to change as deemed necessary by WVDOT. WV5. Prior to initiation of work, Contractor shall be responsible for acquiring all necessary WVDOT land use permits for any work on WVDOT right-of-way. WV6. If required by the local WVDOT Residency Office, a preconstruction conference must be arranged and held by the engineer and/or developer with the attendance of the contractor, various County agencies, utility companies and WVDOT prior to initiation of work. WV7. Contractor shall notify the local WVDOT Residency Office when work is to begin or cease for any undetermined length of time. WVDOT will also require 48 hours notice for any inspection. WV8. The Contractor will be responsible for maintaining adequate access to the project from the adjacent public roadway through construction and maintenance of a construction entrance in accordance with the Soil Conservation Service Erosion & Sediment Control Handbook. Furthermore, access to other properties affected by this project shall be maintained through construction. WV9. Contractor shall ensure adequate drainage is achieved and maintained on the site during and at the end of construction. WV10. All water and sewer lines within existing or proposed WVDOT right-of-way are to have minimum 36" cover and, when possible, to be installed under roadway drainage facilities. WV11. Any unusual subsurface conditions encountered during the course of construction shall be immediately brought to the attention of the engineer and WVDOT. Work shall cease in that vicinity until an adequate design can be determined by the engineer and approved by WVDOT. WV12. All undercut areas and borrow material shall be inspected and approved by WVDOT Inspector prior to placement of fill. WV13. All roadway fill, base, subsurface material and backfill of utility/storm sewer trenches shall be compacted in 6" lifts to 98% of theoretical maximum density as determined by AASHTO T-99 Method A, within plus or minus 2% of optimum moisture for the full width of any dedicated street right-of-way. At the direction of WVDOT Inspector density tests performed by a qualified independent agency shall be conducted as required in the WVDOT Road and Bridge Specifications. A copy of all tests shall be submitted to WVDOT prior to final WVDOT approval. WV15. The installation of any entrances and mailboxes within any dedicated street right-of-way shall meet WVDOT minimum design standards and is the developer's responsibility. WV16. If required by the local WVDOT Residency Office, copies of all invoices for materials within any dedicated street right-of-way must be provided to the WVDOT Inspector prior to acceptance of work. Unit and total prices may be obscured. WV17. Prior to acceptance by WVDOT of any streets, any required street signage and/or pavement markings must be installed by the developer. WV18. WVDOT District 5 Permit #05-05-0130.		Zoning and Area Tabulations - Pool <table><tr><td>Street Address</td><td>Candlewood Drive</td></tr><tr><td>Parcel Identification No:</td><td>03 12020900000000</td></tr><tr><td>Zoned</td><td>NR (Neighborhood Residential)</td></tr><tr><td>Total Area</td><td>3,380 AC</td></tr><tr><td>Sensitive Areas</td><td>0.000 AC</td></tr><tr><td>Parking/Pool Areas</td><td>0.970 AC</td></tr><tr><td>SWM Areas</td><td>0.000 AC</td></tr><tr><td>Maximum Lot Coverage</td><td>70%</td></tr><tr><td>Total Lot Coverage</td><td>29%</td></tr><tr><td>Required Parking (Per Prince William County DCSM)</td><td></td></tr><tr><td>Pool = 1 Space per 150 SF Surface Area</td><td></td></tr><tr><td>4,971 SF Surface Area / 150 =</td><td>33 Spaces</td></tr><tr><td>Pool House = 1 Space per 250 SF</td><td></td></tr><tr><td>1,674 SF / 250 =</td><td>7 Spaces</td></tr><tr><td>Total Required Parking</td><td>40 Spaces</td></tr><tr><td>Total Proposed Parking</td><td>40 Spaces</td></tr><tr><td>Minimum Lot Size</td><td>6000 SF</td></tr><tr><td>Front Yard Setback</td><td>5 FT</td></tr><tr><td>Rear Yard Setback</td><td>15 FT</td></tr><tr><td>Side Yard Setback</td><td>20 FT</td></tr><tr><td>Maximum Building Height</td><td>40 FT</td></tr><tr><td>Maximum Building Stories</td><td>3 Stories</td></tr></table>		Street Address	Candlewood Drive	Parcel Identification No:	03 12020900000000	Zoned	NR (Neighborhood Residential)	Total Area	3,380 AC	Sensitive Areas	0.000 AC	Parking/Pool Areas	0.970 AC	SWM Areas	0.000 AC	Maximum Lot Coverage	70%	Total Lot Coverage	29%	Required Parking (Per Prince William County DCSM)		Pool = 1 Space per 150 SF Surface Area		4,971 SF Surface Area / 150 =	33 Spaces	Pool House = 1 Space per 250 SF		1,674 SF / 250 =	7 Spaces	Total Required Parking	40 Spaces	Total Proposed Parking	40 Spaces	Minimum Lot Size	6000 SF	Front Yard Setback	5 FT	Rear Yard Setback	15 FT	Side Yard Setback	20 FT	Maximum Building Height	40 FT	Maximum Building Stories	3 Stories
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Rev. No. 4 Date 06/15/2023 DATE: 04/26/2023 SCALE: N/A DESIGNED BY: AM/CW FILE NO. 4542A SHEET 2 OF 22 22-06-SP		PROJ. NO. 22-06-SP DATE: 04/26/2023 SCALE: N/A DESIGNED BY: AM/CW FILE NO. 4542A SHEET 2 OF 22 22-06-SP																																															

704 Foxcroft Avenue
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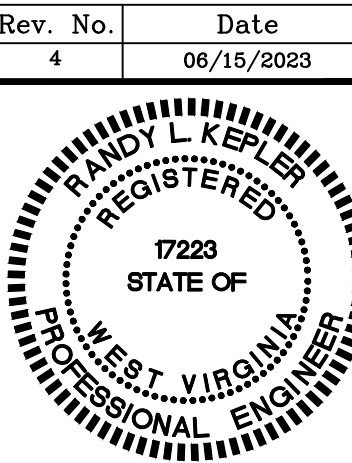


GENERAL NOTES

NORBORNE GLEBE

POOL

PRELIMINARY SUBDIVISION/LAND DEVELOPMENT PLAT
CITY OF CHARLES TOWN-JEFFERSON COUNTY, WV



DATE: 04/26/2023

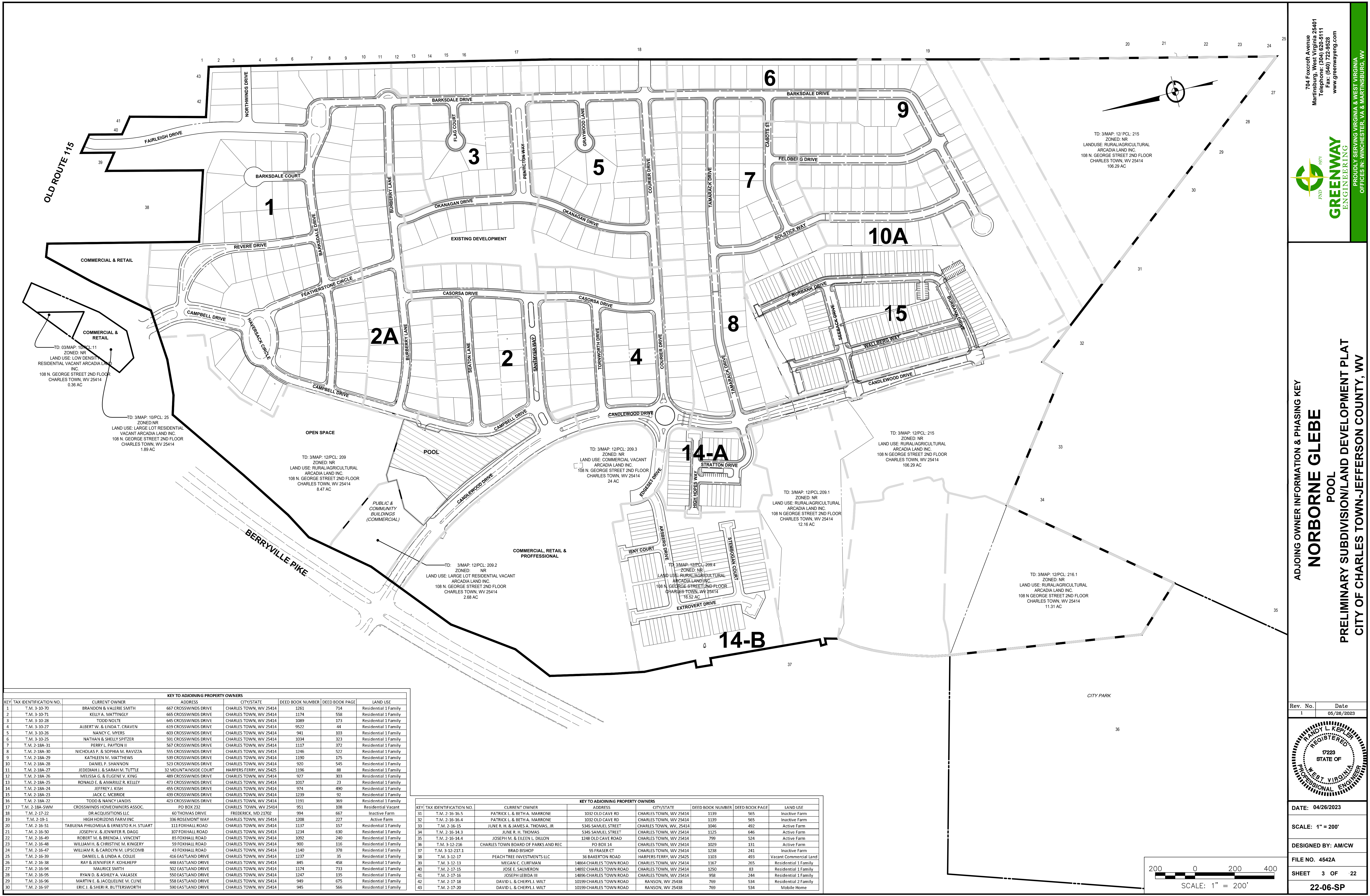
SCALE: N/A

DESIGNED BY: AM/CW

FILE NO. 4542A

SHEET 2 OF 22

22-06-SP



KEY TO ADJOINING PROPERTY OWNERS					
KEY TAX IDENTIFICATION NO.	CURRENT OWNER	ADDRESS	CITY/STATE	DEED BOOK NUMBER	DEED BOOK PAGE
1	T.M. 3-10-70	BRANDON & VALERIE SMITH	667 CROSSWINDS DRIVE	CHARLES TOWN, WV 25414	1261
2	T.M. 3-10-71	KELLY A. MATTINGLY	665 CROSSWINDS DRIVE	CHARLES TOWN, WV 25414	1174
3	T.M. 3-10-28	TODD NOLTE	645 CROSSWINDS DRIVE	CHARLES TOWN, WV 25414	1089
4	T.M. 3-10-27	ALBERT W. & LINDA T. CRAVEN	619 CROSSWINDS DRIVE	CHARLES TOWN, WV 25414	9522
5	T.M. 3-10-26	NANCY C. MYERS	603 CROSSWINDS DRIVE	CHARLES TOWN, WV 25414	941
6	T.M. 3-10-25	NATHAN & SHELLEY SPITZER	591 CROSSWINDS DRIVE	CHARLES TOWN, WV 25414	1034
7	T.M. 2-18A-31	FERRY L. PAYTON II	567 CROSSWINDS DRIVE	CHARLES TOWN, WV 25414	1117
8	T.M. 2-18A-30	NICHOLAS P. & SOPHIA M. RAVIZZA	555 CROSSWINDS DRIVE	CHARLES TOWN, WV 25414	1246
9	T.M. 2-18A-29	KATHLEEN M. MATTHEWS	539 CROSSWINDS DRIVE	CHARLES TOWN, WV 25414	1190
10	T.M. 2-18A-28	DANIEL P. SHANNON	523 CROSSWINDS DRIVE	CHARLES TOWN, WV 25414	920
11	T.M. 2-18A-27	JEDEDIAH J. & SARAH M. TUTTLE	32 MOUNTAINSIDE COURT	HARPERS FERRY, WV 25425	1196
12	T.M. 2-18A-26	MELISSA G. & EUGENE V. KING	489 CROSSWINDS DRIVE	CHARLES TOWN, WV 25414	927
13	T.M. 2-18A-25	RONALD E. & ANABRIEL R. KELLEY	473 CROSSWINDS DRIVE	CHARLES TOWN, WV 25414	1017
14	T.M. 2-18A-24	JEFFREY J. KISH	455 CROSSWINDS DRIVE	CHARLES TOWN, WV 25414	974
15	T.M. 2-18A-23	JACK C. MCBRIDE	439 CROSSWINDS DRIVE	CHARLES TOWN, WV 25414	1239
16	T.M. 2-18A-22	TODD & NANCY LANDIS	423 CROSSWINDS DRIVE	CHARLES TOWN, WV 25414	1191
17	T.M. 2-18A-SWM	CROSSWINDS HOMEOWNERS ASSOC.	PO BOX 232	CHARLES TOWN, WV 25414	951
18	T.M. 2-17-22	DR ACQUISITIONS LLC	60 THOMAS DRIVE	FREDERICK, MD 21702	994
19	T.M. 2-19-1	HIGH HORIZONS FARM LLC	395 ROSEMONT WAY	CHARLES TOWN, WV 25414	1208
20	T.M. 2-16-51	TABUENA PHILOMELA & ERNESTO R.H. STUART	111 FOXHALL ROAD	CHARLES TOWN, WV 25414	1137
21	T.M. 2-16-50	JOSEPH V. & JENNIFER R. DAGG	107 FOXHALL ROAD	CHARLES TOWN, WV 25414	1234
22	T.M. 2-16-49	ROBERT M. & BRENDA J. VINCENT	85 FOXHALL ROAD	CHARLES TOWN, WV 25414	1092
23	T.M. 2-16-48	WILLIAM H. & CHRISTINE M. KINGERY	59 FOXHALL ROAD	CHARLES TOWN, WV 25414	900
24	T.M. 2-16-47	WILLIAM R. & CAROLYN M. LIPSCOMB	43 FOXHALL ROAD	CHARLES TOWN, WV 25414	1140
25	T.M. 2-16-39	DANIEL L. & LINDA A. COLLIE	416 EASTLAND DRIVE	CHARLES TOWN, WV 25414	1237
26	T.M. 2-16-38	RAY & JENNIFER P. KOHLHEPP	448 EASTLAND DRIVE	CHARLES TOWN, WV 25414	845
27	T.M. 2-16-34	MAURICE SMITH	502 EASTLAND DRIVE	CHARLES TOWN, WV 25414	1174
28	T.M. 2-16-35	RYAN D. & ASHLEY A. VALASEK	550 EASTLAND DRIVE	CHARLES TOWN, WV 25414	1247
29	T.M. 2-16-36	MARTIN E. & JACQUELINE M. CLINE	558 EASTLAND DRIVE	CHARLES TOWN, WV 25414	949
30	T.M. 2-16-37	ERIC J. & SHERI R. BUTTERSWORTH	590 EASTLAND DRIVE	CHARLES TOWN, WV 25414	945

KEY TO ADJOINING PROPERTY OWNERS					
KEY TAX IDENTIFICATION NO.	CURRENT OWNER	ADDRESS	CITY/STATE	DEED BOOK NUMBER	DEED BOOK PAGE
31	T.M. 2-16-16.5	PATRICK L. & BETH A. MARRONE	1032 OLD CAVE RD	CHARLES TOWN, WV 25414	1139
32	T.M. 2-16-16.4	PATRICK L. & BETH A. MARRONE	1032 OLD CAVE RD	CHARLES TOWN, WV 25414	1139
33	T.M. 2-16-15	JUNE R. H. & JAMES A. THOMAS, JR	5345 SAMUEL STREET	CHARLES TOWN, WV 25414	1046
34	T.M. 2-16-14.3	JUNE R. H. THOMAS	5345 SAMUEL STREET	CHARLES TOWN, WV 25414	1125
35	T.M. 2-16-14.4	JOSEPH M. & EILEEN L. DILLON	1248 OLD CAVE ROAD	CHARLES TOWN, WV 25414	799
36	T.M. 3-12-216	CHARLES TOWN BOARD OF PARKS AND REC	PO BOX 14	CHARLES TOWN, WV 25414	1029
37	T.M. 3-12-217.1	BRAD BISHOP	55 FRASER CT	CHARLES TOWN, WV 25414	1238
38	T.M. 3-12-17	PEACH TREE INVESTMENTS LLC	36 BAKERTON ROAD	HARPERS FERRY, WV 25425	1103
39	T.M. 3-12-13	MIGAN C. CURFMAN	14864 CHARLES TOWN ROAD	CHARLES TOWN, WV 25414	1167
40	T.M. 2-17-15	JOSE E. SALMERON	14892 CHARLES TOWN ROAD	CHARLES TOWN, WV 25414	1250
41	T.M. 2-17-16	JOSEPH LEBIDA III	14896 CHARLES TOWN ROAD	CHARLES TOWN, WV 25414	958
42	T.M. 2-17-18	DAVID L. & CHERYL J. WILT	10199 CHARLES TOWN ROAD	RANSON, WV 25438	769
43	T.M. 2-17-20	DAVID L. & CHERYL J. WILT	10199 CHARLES TOWN ROAD	RANSON, WV 25438	769

ADJOINING OWNER INFORMATION & PHASING KEY

NORBORNE GLEBE

POOL

PRELIMINARY SUBDIVISION/LAND DEVELOPMENT PLAT

CITY OF CHARLES TOWN-JEFFERSON COUNTY, WV

Rev. No.	Date
1	05/26/2023

DATE: 04/26/2023

SCALE: 1" = 200'

DESIGNED BY: AM/CW

FILE NO. 4542A

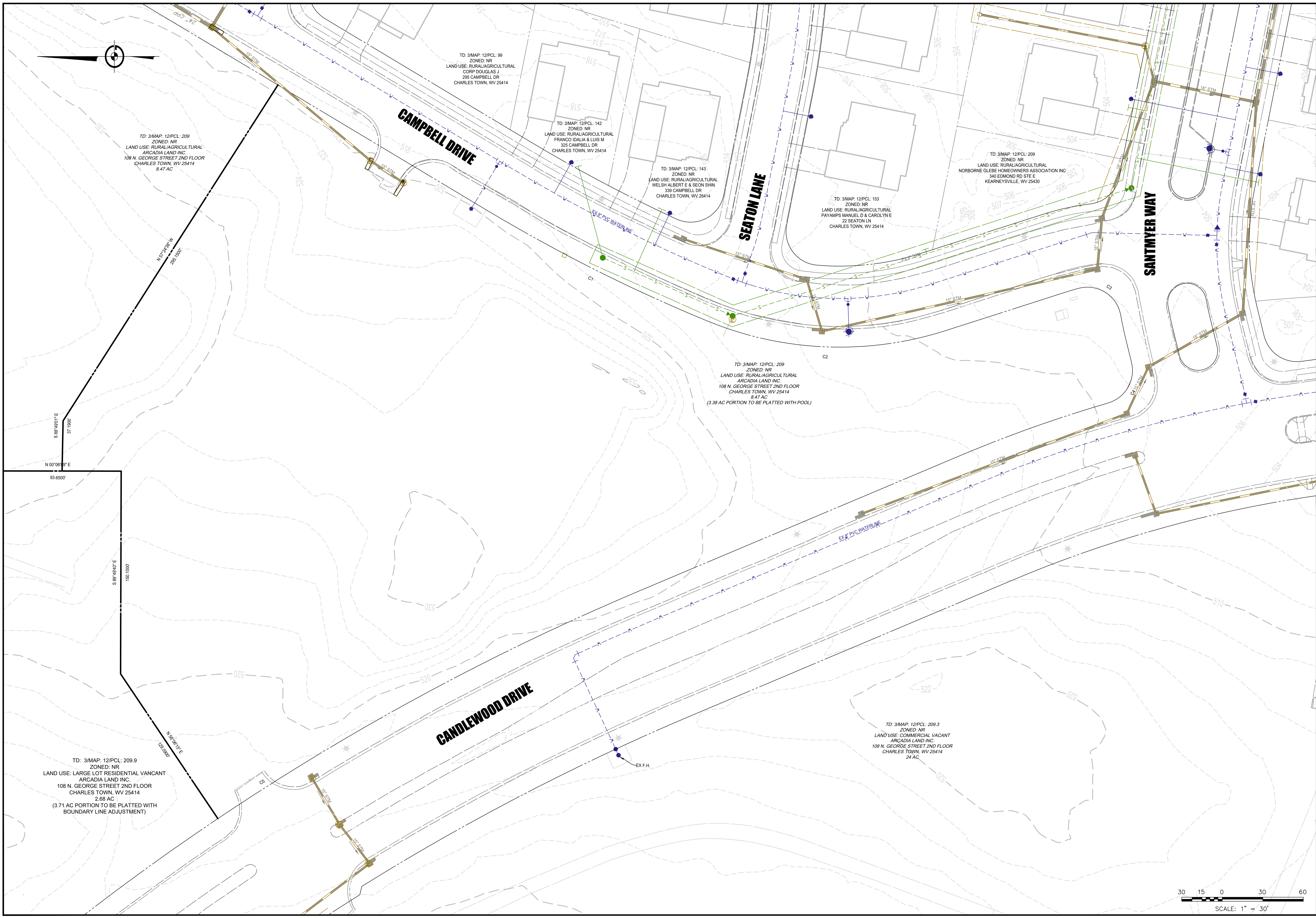
SHEET 3 OF 22

22-06-SP

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EXISTING CONDITIONS

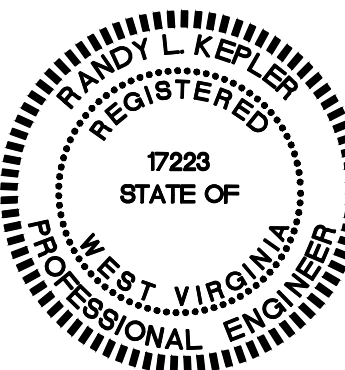
NORBORNE GLEBE

POOL

PRELIMINARY SUBDIVISION/LAND DEVELOPMENT PLAT

CITY OF CHARLES TOWN-JEFFERSON COUNTY, WV

Rev. No.	Date
1	05/26/2023



DATE: 04/26/2023

SCALE: 1" = 30'

DESIGNED BY: AM/CW

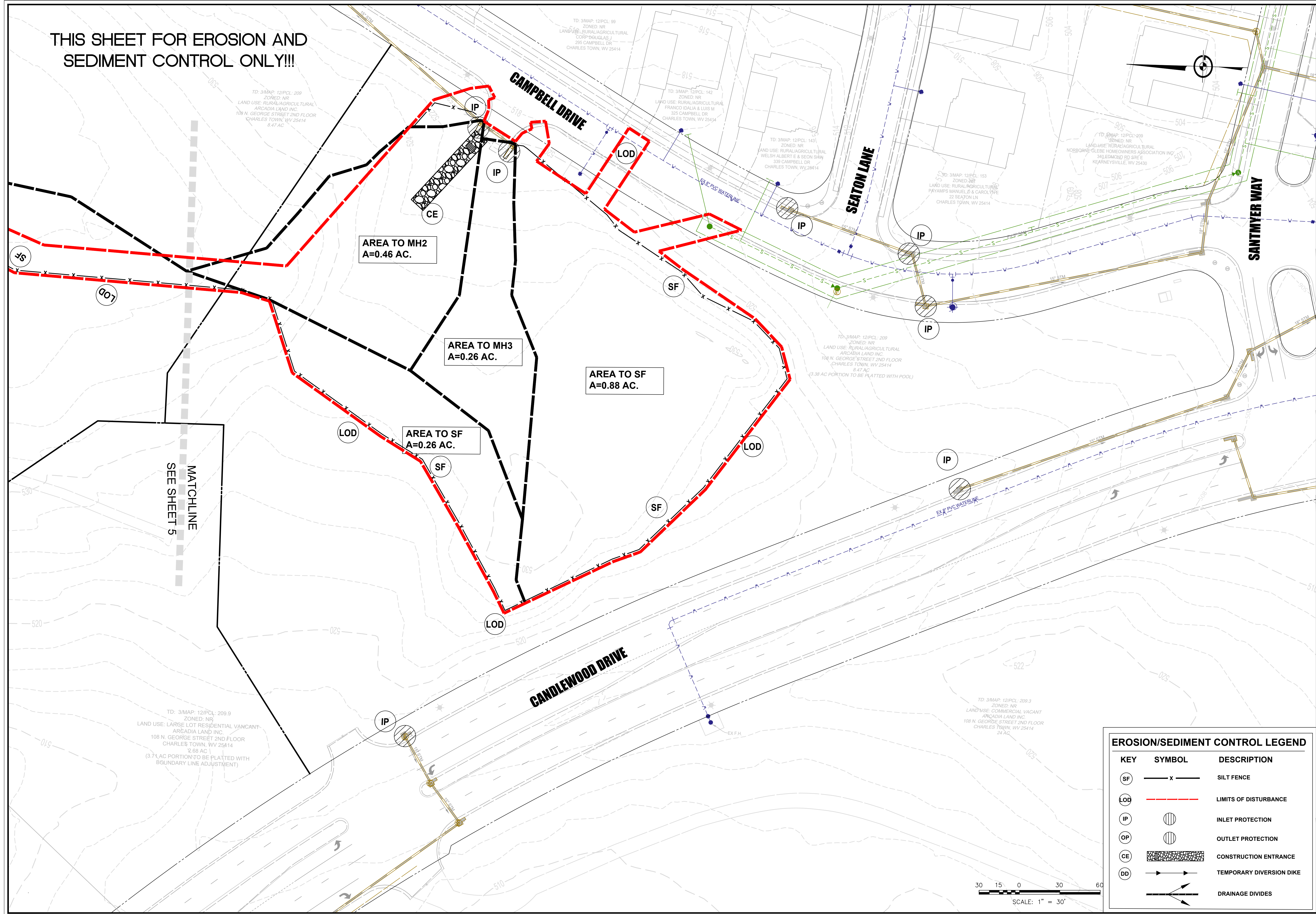
FILE NO. 4542A

SHEET 3A OF 22

22-06-SP

53

THIS SHEET FOR EROSION AND
SEDIMENT CONTROL ONLY!!!



EROSION/SEDIMENT CONTROL LEGEND		
KEY	SYMBOL	DESCRIPTION
(SF)	— x —	SILT FENCE
(LOD)	— — —	LIMITS OF DISTURBANCE
(IP)	⊘	INLET PROTECTION
(OP)	⊙	OUTLET PROTECTION
(CE)	▨	CONSTRUCTION ENTRANCE
(DD)	→ → →	TEMPORARY DIVERSION DIKE
	— ↗ —	DRAINAGE DIVIDES

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E&S PHASE I

NORBORNE GLEBE POOL

PRELIMINARY SUBDIVISION/LAND DEVELOPMENT PLAT

CITY OF CHARLES TOWN-JEFFERSON COUNTY, WV

Rev. No.	Date
1	05/26/2023

RANDY L. KEPLER
REGISTERED
17223
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER

DATE: 04/26/2023

SCALE: 1" = 30'

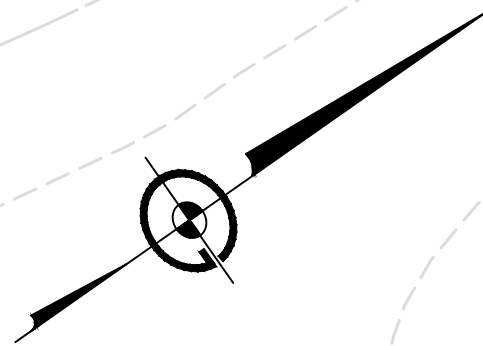
DESIGNED BY: AM/CW

FILE NO. 4542A

SHEET 4 OF 22

22-06-SP

THIS SHEET FOR EROSION AND
SEDIMENT CONTROL ONLY!!!



MATCHLINE
SEE SHEET 4

MATCHLINE
SEE BELOW

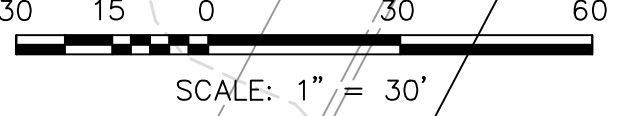
MATCHLINE
SEE ABOVE

TD: 3MAP: 12/PCL: 49
ZONED: NR
LAND USE: RURAL/AGRICULTURAL
MILLS, JEREMY & MARLEEN
148 HAVERSACK CIRCLE
CHARLES TOWN, WV 25414

TD: 3MAP: 12/PCL: 48
ZONED: NR
LAND USE: RURAL/AGRICULTURAL
LARKIN, BRYAN S
132 HAVERSACK CIRCLE
CHARLES TOWN, WV 25414

TD: 3MAP: 12/PCL: 47
ZONED: NR
LAND USE: RURAL/AGRICULTURAL
HARRIS, RAYE ANNE
120 HAVERSACK CIRCLE
CHARLES TOWN, WV 25414

TD: 3MAP: 12/PCL: 46
ZONED: NR
LAND USE: RURAL/AGRICULTURAL
BRITCH, TAD A & BRITTANY H
106 HAVERSACK CIRCLE
CHARLES TOWN, WV 25414



EROSION/SEDIMENT CONTROL LEGEND		
KEY	SYMBOL	DESCRIPTION
(SF)	— x —	SILT FENCE
(LOD)	— — —	LIMITS OF DISTURBANCE
(IP)	⊘	INLET PROTECTION
(OP)	⊙	OUTLET PROTECTION
(CE)	▨	CONSTRUCTION ENTRANCE
(DD)	→ →	TEMPORARY DIVERSION DIKE
	— > —	DRAINAGE DIVIDES

REVERE DRIVE

CAMPBELL DRIVE

Rev. No. 1 Date 05/26/2023

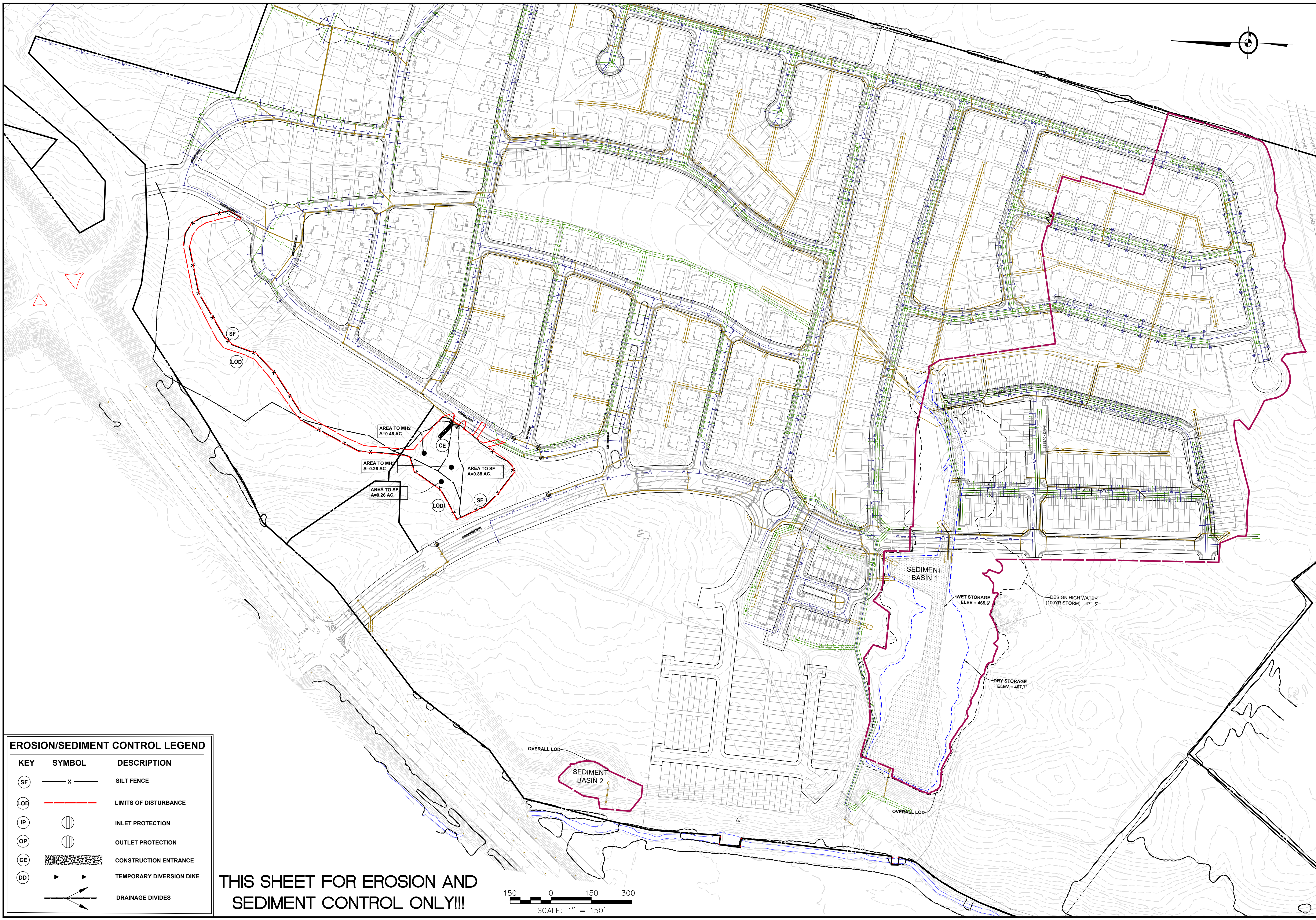
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SCALE: 1" = 30'
DESIGNED BY: AM/CW
FILE NO. 4542A
SHEET 5 OF 22
22-06-SP

TRAIL E&S PHASE I
NORBORNE GLEBE POOL
PRELIMINARY SUBDIVISION/LAND DEVELOPMENT PLAT
CITY OF CHARLES TOWN-JEFFERSON COUNTY, WV

GREENWAY
ENGINEERING

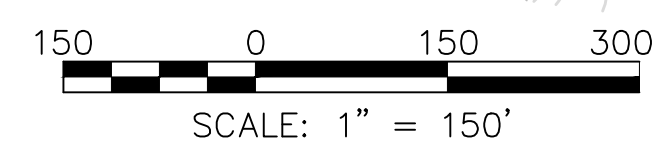
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Fax: (540) 722-9528
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OFFICES IN: WINCHESTER, VA & MARTINSBURG, WV



EROSION/SEDIMENT CONTROL LEGEND		
KEY	SYMBOL	DESCRIPTION
(SF)	— X —	SILT FENCE
(LOD)	---	LIMITS OF DISTURBANCE
(IP)	⊘	INLET PROTECTION
(OP)	⊙	OUTLET PROTECTION
(CE)	●	CONSTRUCTION ENTRANCE
(DD)	→	TEMPORARY DIVERSION DIKE
	—	DRAINAGE DIVIDES

THIS SHEET FOR EROSION AND
SEDIMENT CONTROL ONLY!!!



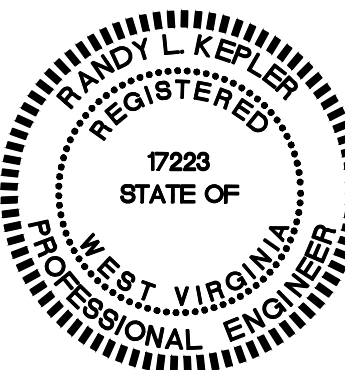


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OVERALL E&S PHASE 1
NORBORNE GLEBE
POOL
PRELIMINARY SUBDIVISION/LAND DEVELOPMENT PLAT
CITY OF CHARLES TOWN-JEFFERSON COUNTY, WV

Rev. No.	Date
2	06/01/2023



DATE: 04/26/2023

SCALE: 1" = 150'

DESIGNED BY: AM/CW

FILE NO. 4542A

SHEET 5A OF 22

22-06-SP

THIS SHEET FOR EROSION AND
SEDIMENT CONTROL ONLY!!!

MATCHLINE
SEE SHEET 7

AREA TO MH2
A=0.46 AC.

AREA TO MH3
A=0.45 AC.

AREA TO EX. MH
A=0.59 AC.

AREA TO EX. MH
A=0.41 AC.

AREA TO EX. MH
A=0.66 AC.

SANDLEWOOD DRIVE

CAMPBELL DRIVE

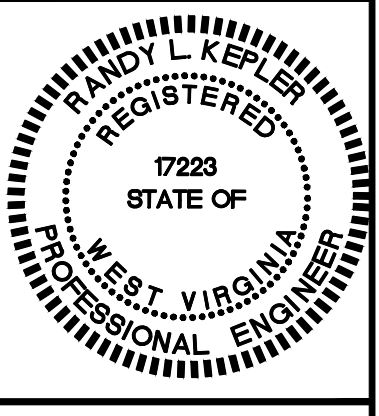
SEATON LANE

SANTMYER WAY

EROSION/SEDIMENT CONTROL LEGEND

KEY	SYMBOL	DESCRIPTION
(SF)	— x —	SILT FENCE
(LOD)	— — — — —	LIMITS OF DISTURBANCE
(IP)	⊘	INLET PROTECTION
(OP)	⊘	OUTLET PROTECTION
(CE)	▨	CONSTRUCTION ENTRANCE
(DD)	→ → →	TEMPORARY DIVERSION DIKE
	— < —	DRAINAGE DIVIDES

Rev. No.	Date
1	05/26/2023



DATE:	04/26/2023
SCALE:	1" = 30'
DESIGNED BY:	AM/CW
FILE NO.	4542A
SHEET	6 OF 22
22-06-SP	

E&S PHASE II

NORBORNE GLEBE

POOL

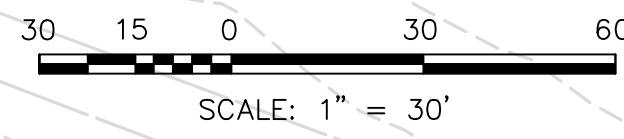
PRELIMINARY SUBDIVISION/LAND DEVELOPMENT PLAT
CITY OF CHARLES TOWN-JEFFERSON COUNTY, WV



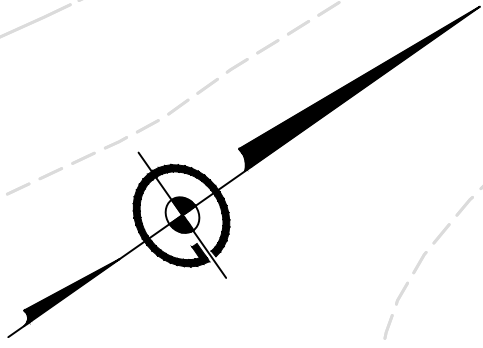
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OFFICES IN: WINCHESTER, VA & MARTINSBURG, WV



THIS SHEET FOR EROSION AND
SEDIMENT CONTROL ONLY!!!



TD: 3/MAP: 12/PCL: 209
ZONED: NR
LAND USE: RURAL/AGRICULTURAL
108 N. GEORGE STREET 2ND FLOOR
CHARLES TOWN, WV 25414

LOD
SF

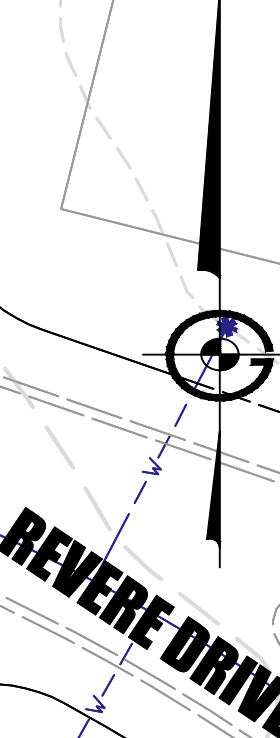
6' ASPHALT TRAIL

SF

MATCHLINE
SEE BELOW

MATCHLINE
SEE SHEET 6

TD: 3/MAP: 12/PCL: 46
ZONED: NR
LAND USE: RURAL/AGRICULTURAL
BRITCH TAD A & BRITTANY H
108 HAVERSACK CIRCLE
CHARLES TOWN, WV 25414



REVERE DRIVE

TD: 3/MAP: 12/PCL: 209
ZONED: NR
LAND USE: RURAL/AGRICULTURAL
ARCADIA LAND INC.
108 N. GEORGE STREET 2ND FLOOR
CHARLES TOWN, WV 25414

LOD

SF

6' ASPHALT TRAIL

SF

LOD

CAMPBELL DRIVE

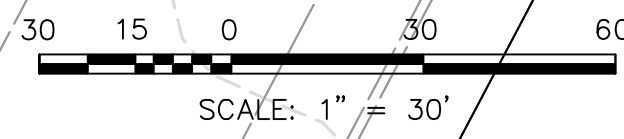
TD: 3/MAP: 12/PCL: 47
ZONED: NR
LAND USE: RURAL/AGRICULTURAL
HARRIS RAYE ANNE
120 HAVERSACK CIRCLE
CHARLES TOWN, WV 25414

TD: 3/MAP: 12/PCL: 48
ZONED: NR
LAND USE: RURAL/AGRICULTURAL
LARKIN BRYAN S
132 HAVERSACK CIRCLE
CHARLES TOWN, WV 25414

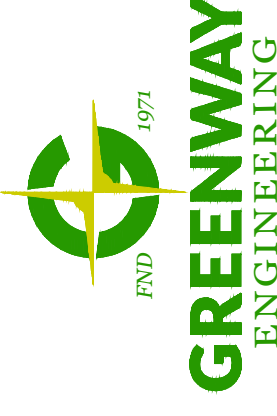
TD: 3/MAP: 12/PCL: 49
ZONED: NR
LAND USE: RURAL/AGRICULTURAL
MILLS JEREMY & MARLEN
148 HAVERSACK CIRCLE
CHARLES TOWN, WV 25414

EROSION/SEDIMENT CONTROL LEGEND

KEY	SYMBOL	DESCRIPTION
SF	— x —	SILT FENCE
LOD	— — —	LIMITS OF DISTURBANCE
IP	⊘	INLET PROTECTION
OP	⊘	OUTLET PROTECTION
CE	▨	CONSTRUCTION ENTRANCE
DD	→ → →	TEMPORARY DIVERSION DIKE
	← ← ←	DRAINAGE DIVIDES



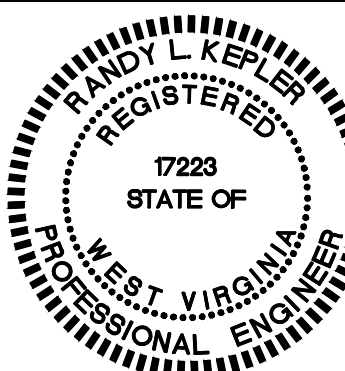
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OFFICES IN: WINCHESTER, VA & MARTINSBURG, WV

TRAIL E&S PHASE II
NORBORNE GLEBE POOL
PRELIMINARY SUBDIVISION/LAND DEVELOPMENT PLAT
CITY OF CHARLES TOWN-JEFFERSON COUNTY, WV

Rev. No.	Date
1	05/26/2023



DATE: 04/26/2023
SCALE: 1" = 30'
DESIGNED BY: AM/CW
FILE NO. 4542A
SHEET 7 OF 22
22-06-SP

EROSION AND SEDIMENT CONTROL NARRATIVE

Description: The Project delineated hereon is located in the City of Charles Town, WV. This plan proposes construction of the Pool and associated roads and utilities. Approximately 2.75 acres will be disturbed for construction.

Date of construction: Construction will begin following plan approval and is estimated to take up to 2 years to complete the project.

Offsite areas: Top soil will be stripped from graded areas and stockpiled for use in final grading and permanent stabilization. Stockpiles will be kept on site and clear of all construction activities. The stockpiles will be stabilized with temporary seeding and protected with silt fence.

Erosion And Sediment Control Measures: Unless otherwise indicated, all vegetative and structural erosion and sediment control measures shall be constructed and maintained according to the minimum standards and specifications of the West Virginia Erosion and Sediment Control Handbook.

Management Strategies:

Construction shall be sequenced such that grading operations will begin and end as quickly as possible.

The site superintendent shall be responsible for the installation and maintenance of all erosion and sediment control measures. Maintenance of these measures throughout the project is critical to the effectiveness of the program.

After areas above controls have been stabilized, the controls shall be cleaned up and removed.

Electric power, telephone, storm, sanitary, water & gas supply trenches (as applicable) are to be compacted, seeded and mulched within four (4) days after backfilling. No more than 500 feet are to be open at any one time.

All cut and fill slopes are to be seeded and mulched within four (4) days of completion of grading.

Drainage swales shall be stabilized with check dams until vegetation has been well established, at which time the temporary check dams shall be removed.

Devices listed above are considered minimum erosion and sediment controls. Additional control measures may be necessary due to contractor phasing or other unforeseen conditions. It is the contractor's responsibility to provide additional measures to those shown, as needed, in order to control erosion and contain sediment on site. All measures shall be installed according to the standards and specifications in the West Virginia erosion and sediment control handbook.

Maintenance Program:

All control measures shall be inspected daily by the site superintendent or his representative and within 24 hours after any storm event greater than 0.25 inches of rain per 24-hour period. Any damaged structural measures are to be repaired by the end of the day. Seeded areas shall be checked regularly to ensure that a good stand of grass is maintained. All areas shall be fertilized and reseeded as needed until grass is established.

Trapped sediment is to be removed as required to maintain 50% trap efficiency and disposed of by spreading on site.

Inlet protection shall be checked regularly for sediment build-up. If the gravel outlet is clogged by sediment, it shall be removed and cleaned or replaced immediately.

The contractor is responsible for keeping existing public roads in a clean, dust and mud free, condition at all times.

Erosion and sediment control program:

- Hold pre-construction meeting on site with inspector.
- Install construction entrance.
- Clearing and grubbing for sediment control devices only.
- Placement of sediment control devices.
- Obtain inspector's approval prior to beginning grading operations.
- Clear and grub remainder of site.
- Rough grade site.
- Install drainage devices with sediment control.
- Final grading.
- Restoration and stabilization of disturbed areas.
- Remove erosion and sediment control measures with the approval of the inspector.

Note: City of Charles Town Public Officials retain the right to add and/or modify these erosion and sediment control measures during the construction process, within reason, to ensure adequate protection to the public and the environment.

Seeding schedule (soil stabilization):

- All permanent seeding shall be in accordance with the West Virginia Erosion & Sediment Control Manual.
- Spread topsoil at a minimum depth of four (4) inches.
- Incorporate pulverized agricultural limestone into the topsoil at a rate of 92 lbs. per 1,000 square feet (2 tons per acre).
- Fertilize with 10-10-10 fertilizer at a rate of 23 lbs per 1,000 square feet (1,000 lbs per acre).
- Seed all areas with a seed mix consisting of 67% Kentucky 31 Tall Fescue and 33% Red Top Clover.
- Mulch all seeded areas with straw mulch applied at a rate of 3,500 lbs per acre anchored with cutback or emulsified asphalt applied at a rate of 200 gallons per acre.

Dust control:

- Temporary seeding shall be applied to all disturbed areas subject to little or no construction traffic.
- All haul roads and other heavy traffic routes shall be sprinkled with water until the surface is wet and repeated as needed to control dust.

Stormwater Management Narrative:

The existing Stormwater Management Facility was approved to service the full build out of the development within its drainage area. The existing pond, as designed, meets the 1999 Virginia Stormwater Management Handbook, which is one of the practices allowable by the City of Charles Town Code. Chapter 2 of the VSMH states sites are allowed to use the Technology-based water quality criteria so that for land development, "the post developed stormwater runoff from the impervious cover shall be treated by an appropriate BMP as required by the post-developed condition percent impervious cover as specified in Table 2-3." Table 2-3 allows an Extended Detention facility to be utilized when the impervious cover is from 22-37%. Our conservative calculations have the existing pond and it contributing drainage area (both currently developed and the proposed full build-out of the remaining drainage area) to be 37% impervious and therefore meeting the technology based criteria. No additional measures are anticipated.

MINIMUM CONSTRUCTION STANDARDS

An erosion and sediment control program adopted with this plan must be consistent with the VSECH for 9VAC25-840-40 minimum standards:

- 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.
- 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.
- 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.
- Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.
- Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation.
- Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin.
 - The minimum storage capacity of a sediment trap shall be 134 cubic yards per acre of drainage area and the trap shall only control drainage areas less than three acres.
 - 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 100-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.
- 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.
- Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure.
- Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.
- 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.
- 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 and receiving channel.
- 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.
- 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.
- All applicable federal, state and local requirements pertaining to working in or crossing live watercourses shall be met.
- The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.
- Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:
 - No more than 500 linear feet of trench may be opened at one time.
 - Excavated material shall be placed on the uphill side of trenches.
 - 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.
 - Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.
 - Restabilization shall be accomplished in accordance with this chapter.
 - Applicable safety requirements shall be complied with.
- 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.
- 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.

- Properties and waterways downstream from development sites shall be protected from sediment deposition, erosion and damage due to increases in volume, velocity and peak flow rate of stormwater runoff for the stated frequency storm of 24-hour duration in accordance with the following standards and criteria. Stream restoration and relocation projects that incorporate natural channel design concepts are not man-made channels and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels.
 - Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or man-made receiving channel, pipe or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system, downstream stability analyses at the outfall of the pipe or pipe system shall be performed.
 - Adequacy of all channels and pipes shall be verified in the following manner:
 - The applicant shall demonstrate that the total drainage area to the point of analysis within the channel is one hundred times greater than the contributing drainage area of the project in question; or
 - (a) Natural channels shall be analyzed by the use of a two-year storm to verify that stormwater will not overtop channel banks nor cause erosion of channel bed or banks.
 - (b) All previously constructed man-made channels shall be analyzed by the use of a 10-year storm to verify that stormwater will not overtop its banks and by the use of a two-year storm to demonstrate that stormwater will not cause erosion of channel bed or banks; and
 - (c) Pipes and storm sewer systems shall be analyzed by the use of a 10-year storm to verify that stormwater will be contained within the pipe or system.
 - If existing natural receiving channels or previously constructed man-made channels or pipes are not adequate, the applicant shall:
 - Improve the channels to a condition where a 10-year storm will not overtop the banks and a two-year storm will not cause erosion to the channel, the bed, or the banks; or
 - Improve the pipe or pipe system to a condition where the 10-year storm is contained within the appurtenances;
 - Develop a site design that will not cause the pre-development peak runoff rate from a two-year storm to increase when runoff outfalls into a natural channel or will not cause the pre-development peak runoff rate from a 10-year storm to increase when runoff outfalls into a man-made channel; or
 - Provide a combination of channel improvement, stormwater detention or other measures which is satisfactory to the VESCP authority to prevent downstream erosion.
 - The applicant shall provide evidence of permission to make the improvements.
 - All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development condition of the subject project.
 - If the applicant chooses an option that includes stormwater detention, he shall obtain approval from the VESCP of a plan for maintenance of the detention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance.
 - Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipators shall be placed at the outfall of all detention facilities as necessary to provide a stabilized transition from the facility to the receiving channel.
 - All on-site channels must be verified to be adequate.
 - Increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property shall be diverted to a stable outlet, adequate channel, pipe or pipe system, or to a detention facility.
 - In applying these stormwater management criteria, individual lots or parcels in a residential, commercial or industrial development shall not be considered to be separate development projects. Instead, the development, as a whole, shall be considered to be a single development project. Hydrologic parameters that reflect the ultimate development condition shall be used in all engineering calculations.
 - All measures used to protect properties and waterways shall be employed in a manner which minimizes impacts on the physical, chemical and biological integrity of rivers, streams and other waters of the state.
 - Any plan approved prior to July 1, 2014, that provides for stormwater management that addresses any flow rate capacity and velocity requirements for natural or man-made channels shall satisfy the flow rate capacity and velocity requirements for natural or man-made channels if the practices are designed to (i) detain the water quality volume and to release it over 48 hours; (ii) detain and release over a 24-hour period the expected rainfall resulting from the one year, 24-hour storm; and (iii) reduce the allowable peak flow rate resulting from the 1, 5, 2, and 10-year, 24-hour storms to a level that is less than or equal to the peak flow rate from the site assuming it was in a good forested condition, achieved through multiplication of the forested peak flow rate by a reduction factor that is equal to the runoff volume from the site when it was in a good forested condition divided by the runoff volume from the site in its proposed condition, and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels as defined in any regulations promulgated pursuant to § 62-1-44, 15-54 or 62-1-44, 15-65 of the Act.
 - For plans approved on and after July 1, 2014, the flow rate capacity and velocity requirements of § 62-1-44, 15-62 A of the Act and this subsection shall be satisfied by water quantity requirements in the Stormwater Management Act (§ 62-1-44, 15-24, et seq. of the Code of Virginia) and attendant regulations, unless such land-disturbing activities are in accordance with 9VAC25-870-48 of the Virginia Stormwater Management Program (VSMP) Regulation or are exempt pursuant to subdivision C 7 of § 62-1-44, 15-34 of the Act.
 - Compliance with the water quantity minimum standards set out in 9VAC25-870-56 of the Virginia Stormwater Management Program (VSMP) Regulation shall be deemed to satisfy the requirements of this subdivision 19.

SOIL TABULATIONS			
MAP UNIT SYMBOL	MAP UNIT NAME	ACRES IN AOI	PERCENT OF AOI
PmB	Poplimento silt loam, 3 to 8 percent slopes	1.0	15.5%
	Poplimento silt loam, 8 to 15 percent slopes	0.0	0.4%
PpB	Poplimento silt loam, 3 to 8 percent slopes, very rocky	4.4	68.2%
	Popliment silt loam, 8 to 15 percent slopes, very rocky	0.9	14.4%
PrC	Poplimento-Rock outcrop complex, 8 to 15 percent slopes	0.1	1.5%
TOTALS FOR AREA OF INTEREST		6.5	100%

PUBLIC NOTICE SIGN
N.T.S.

For Info on NPDES
Stormwater Permit

To comment on Sediment Control Plan:

Call: 800-654-5227

or
DEP.Plan@wv.gov
DEP 601 57TH Street SE, Charleston WV 25304

Application date:

NORBORNE GLEBE POOL
(XXX) XXX-XXXX

NOTES:
1. THE SIGN WILL BE A MINIMUM OF 24"x24" WITH 1.6" AND 0.8" LETTERS.

SEEDING		
TABLE 3.31-B ACCEPTABLE TEMPORARY SEEDING PLANT MATERIALS "QUICK REFERENCE FOR ALL REGIONS"		
Planting Dates	Species	Rate (lbs./acre)
Sept. 1 - Feb. 15	50/50 Mix of Annual Ryegrass (Lolium multi-florum) & Cereal (Winter) Rye (Secal cereale)	50 - 100
Feb. 16 - Apr. 30	Annual Ryegrass (Lolium multi-florum)	60 - 100
May 1 - Aug. 31	German Millet (Setaria italica)	50
TABLE 3.32-C SITE SPECIFIC PERMANENT SEEDING MIXTURES FOR APPALACHIAN MOUNTAIN AREA		
Minimum Care Lawn	Total Lbs. Per Acre	
- Commercial or Residential	200-250 lbs.	
- Kentucky 31 or Turf-Type Tall Fescue	90-100%	
- Improved Perennial Ryegrass *	0-10%	
- Kentucky Bluegrass	0-10%	
High-Maintenance Lawn		
Minimum of three (3) up to five (5) varieties of bluegrass from approved list for use in Virginia.	125 lbs.	
General Slope (3:1 or less)		
- Kentucky 31 Fescue	128 lbs.	
- Red Top Grass	2 lbs.	
- Seasonal Nurse Crop**	20 lbs.	
	150 lbs.	
Low-Maintenance Slope (Steeper than 3:1)		
- Kentucky 31 Fescue	108 lbs.	
- Red Top Grass	2 lbs.	
- Seasonal Nurse Crop**	20 lbs.	
- Crownvetch ***	20 lbs.	
	150 lbs.	
* Perennial Ryegrass will germinate faster and at lower soil temperatures than fescue, thereby providing cover and erosion resistance for seedbed.		
** Use seasonal nurse crop in accordance with seeding dates as stated below:		
March, April through May 15th.....	Annual Rye	
May 16th through August 15th.....	Foxtail Millet	
August 16th through Sept. Oct.....	Annual Rye	
November through February.....	Winter Rye	
*** If Flatpea is used, increase to 30 lbs./acre. All legume seed must be properly inoculated. Weeping Lovegrass may also be included in any slope or low-maintenance mixtures during warmer seeding periods; add 10-20 lbs./acre in mixes.		
Seeding Seed shall be evenly applied with a broadcast seeder, drill, cultipacker seeder or hydrosower. Small grains shall be planted no more than one inch deep. Grasses and legumes shall be planted with no less than 1/4" soil cover.		



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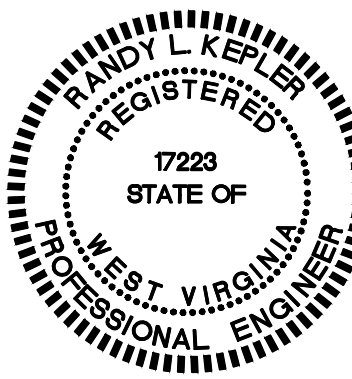
E&S NARRATIVE

NORBORNE GLEBE

POOL

PRELIMINARY SUBDIVISION/LAND DEVELOPMENT PLAN
CITY OF CHARLES TOWN-JEFFERSON COUNTY, WV

Rev. No.	Date
1	05/26/2023



DATE: 04/26/2023

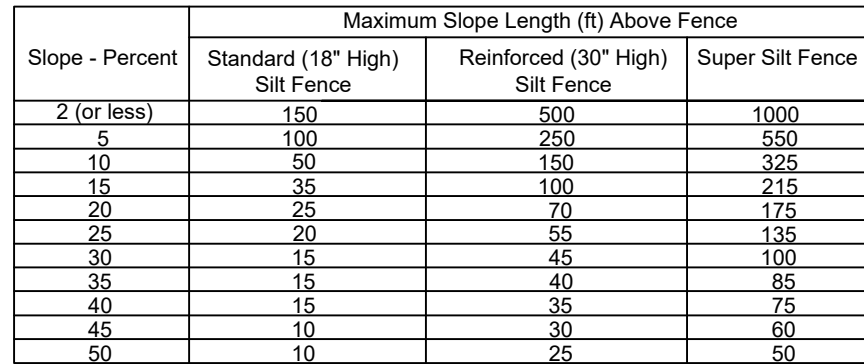
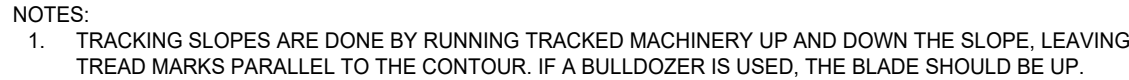
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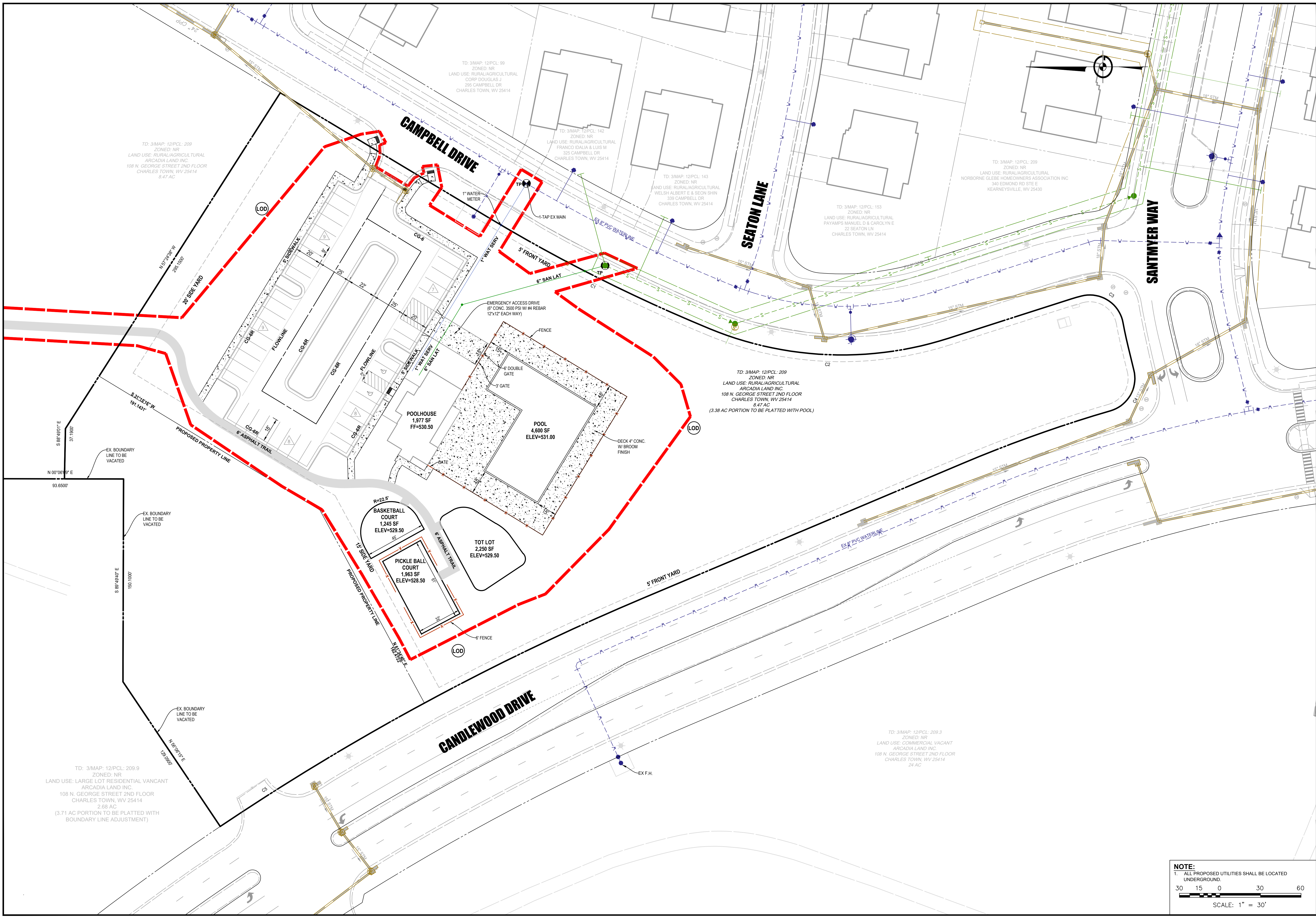
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SHEET 8 OF 22

22-06-SP





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LAYOUT & UTILITY PLAN

NORBORNE GLEBE

POOL

PRELIMINARY SUBDIVISION/LAND DEVELOPMENT PLAN

CITY OF CHARLES TOWN-JEFFERSON COUNTY, WV

Rev. No.

3

Date

06/14/2023

RANDY L. KEPLER

REGISTERED

17223

STATE OF

WEST VIRGINIA

PROFESSIONAL ENGINEER

DATE:

04/26/2023

SCALE:

1" = 30'

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FILE NO.

4542A

SHEET

10 OF 22

22-06-SP

NOTE:
1. ALL PROPOSED UTILITIES SHALL BE LOCATED UNDERGROUND.

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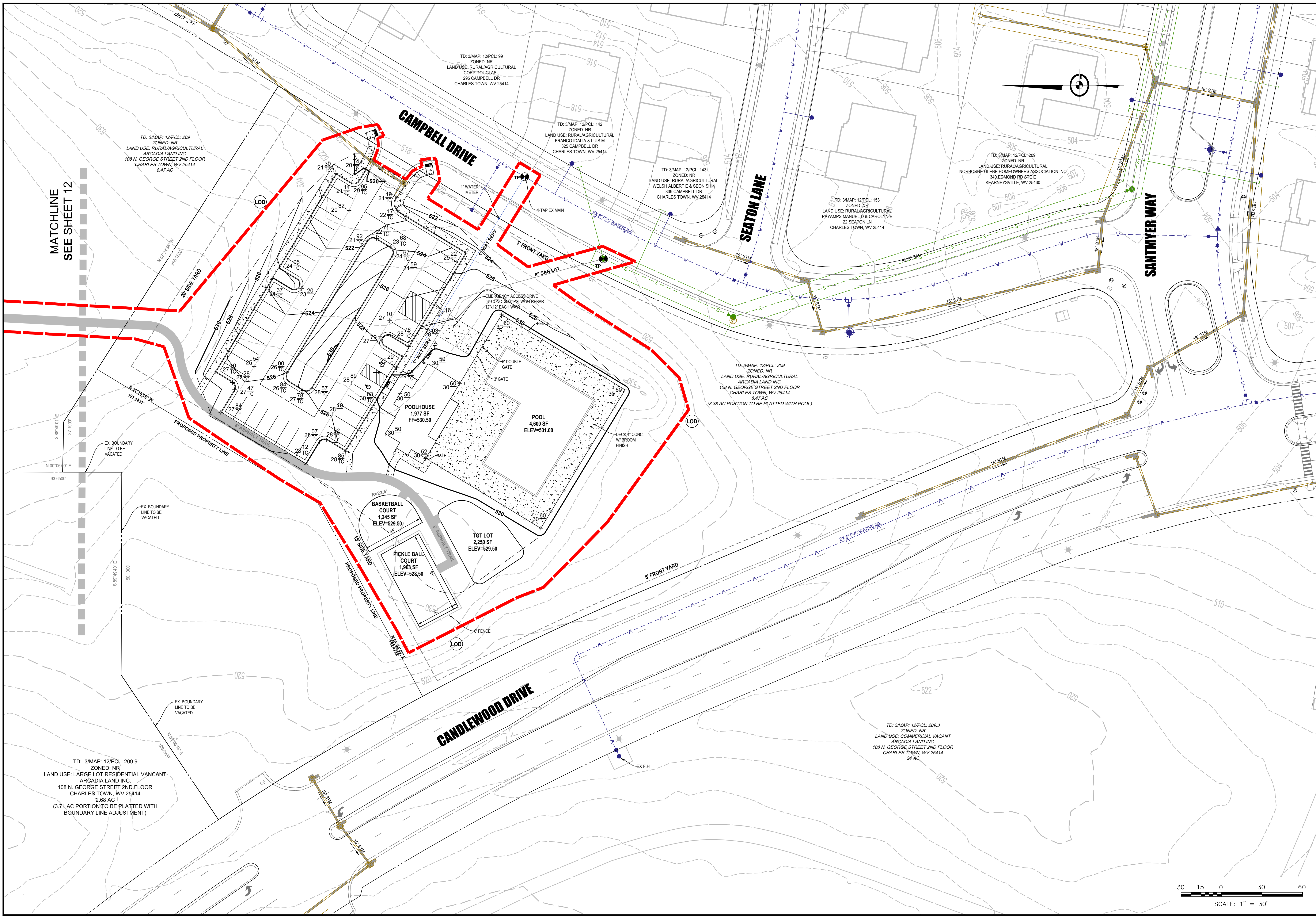
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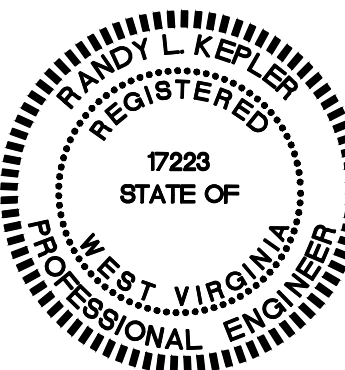
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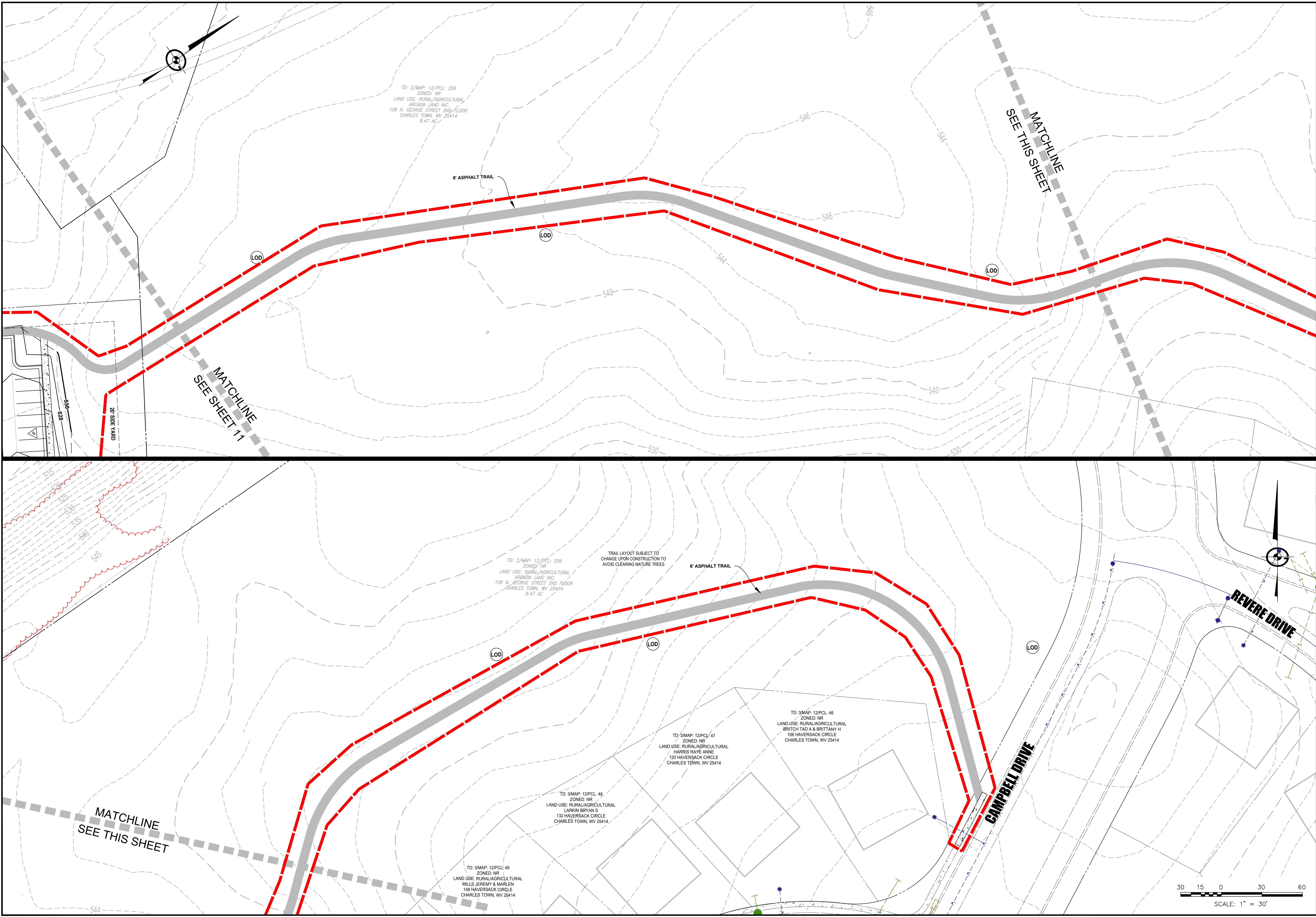
GRADING PLAN
NORBORNE GLEBE
POOL
PRELIMINARY SUBDIVISION/LAND DEVELOPMENT PLAT
CITY OF CHARLES TOWN-JEFFERSON COUNTY, WV

Rev. No.	Date
1	05/26/2023



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SHEET 11 OF 22
22-06-SP

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TRAIL LAYOUT PLAN
NORBORNE GLEBE
POOL
PRELIMINARY SUBDIVISION/LAND DEVELOPMENT PLAT
CITY OF CHARLES TOWN-JEFFERSON COUNTY, WV

Rev. No.	Date
1	05/26/2023

RANDY L. KEPLER
REGISTERED
17223
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER

DATE: 04/26/2023

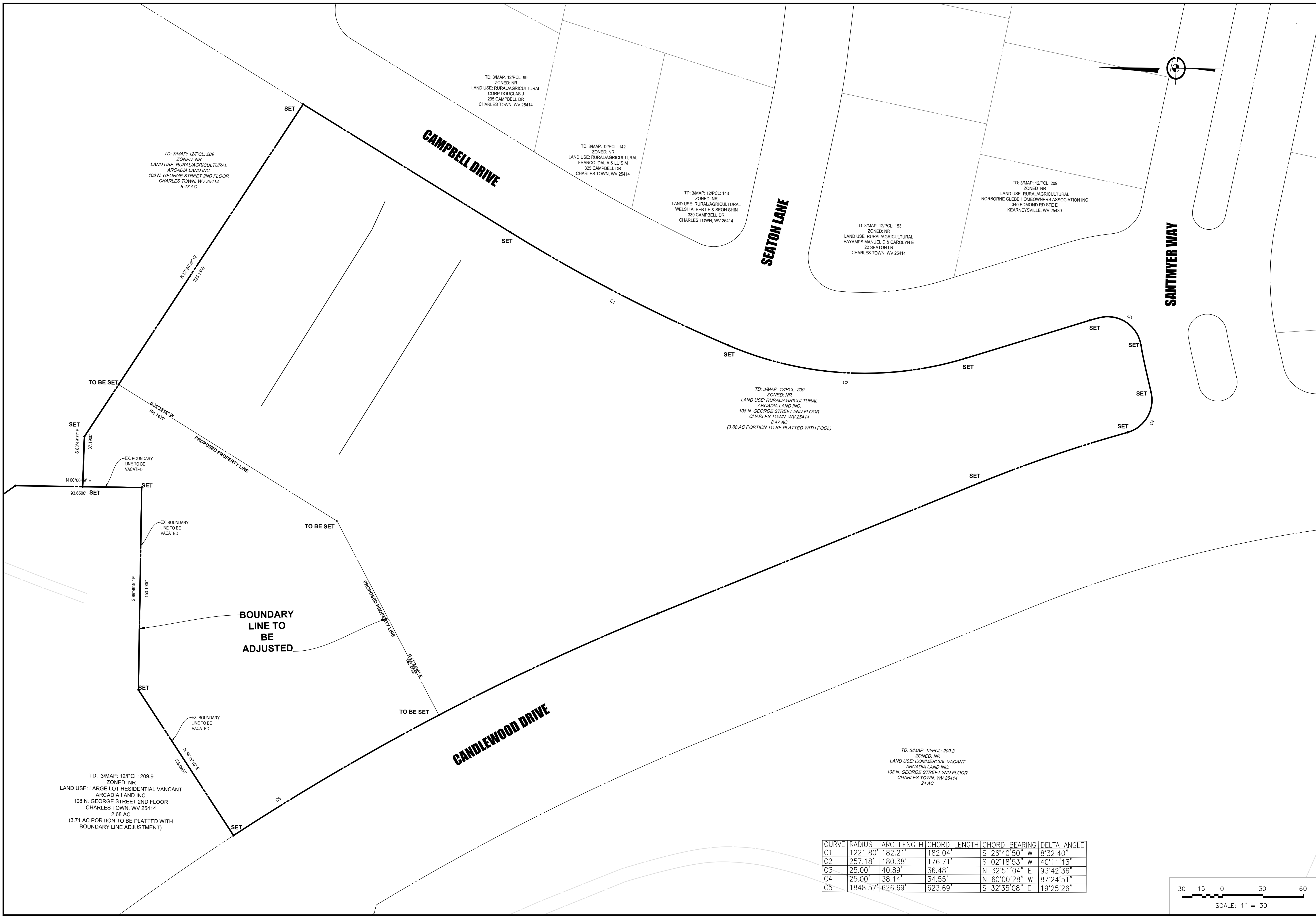
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SHEET 12 OF 22

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PRELIMINARY PLAN
NORBORNE GLEBE
POOL
PRELIMINARY SUBDIVISION/LAND DEVELOPMENT PLAT
CITY OF CHARLES TOWN-JEFFERSON COUNTY, WV

Rev. No. 1
Date 05/26/2023

RANDY L. KEPLER

REGISTERED

17223

STATE OF WEST VIRGINIA

PROFESSIONAL ENGINEER

DATE: 04/26/2023

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SHEET 13 OF 22

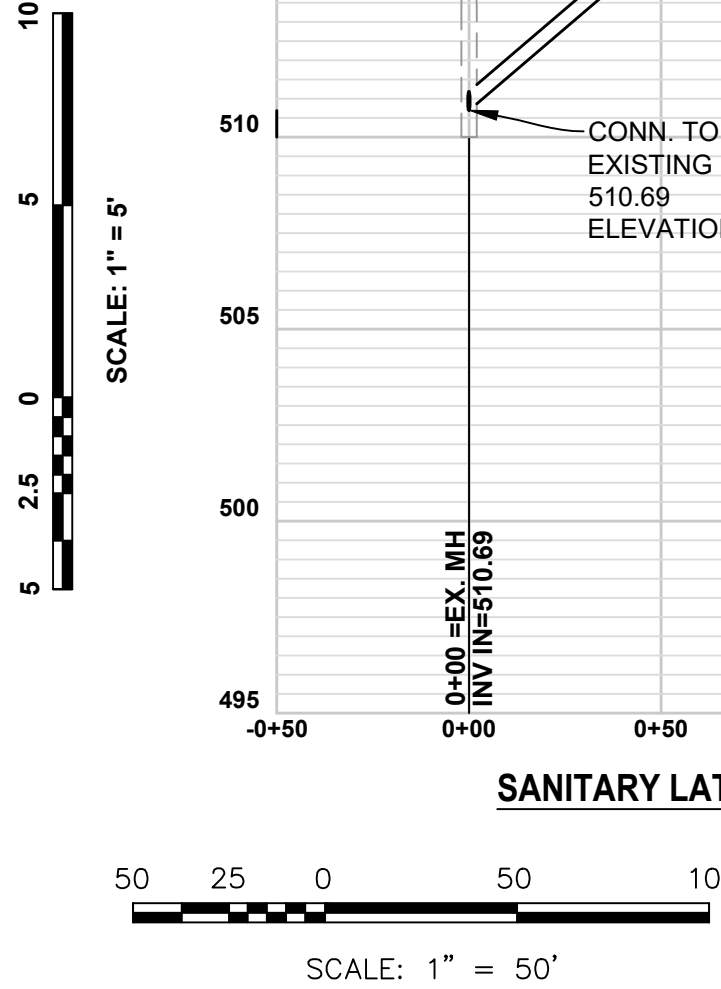
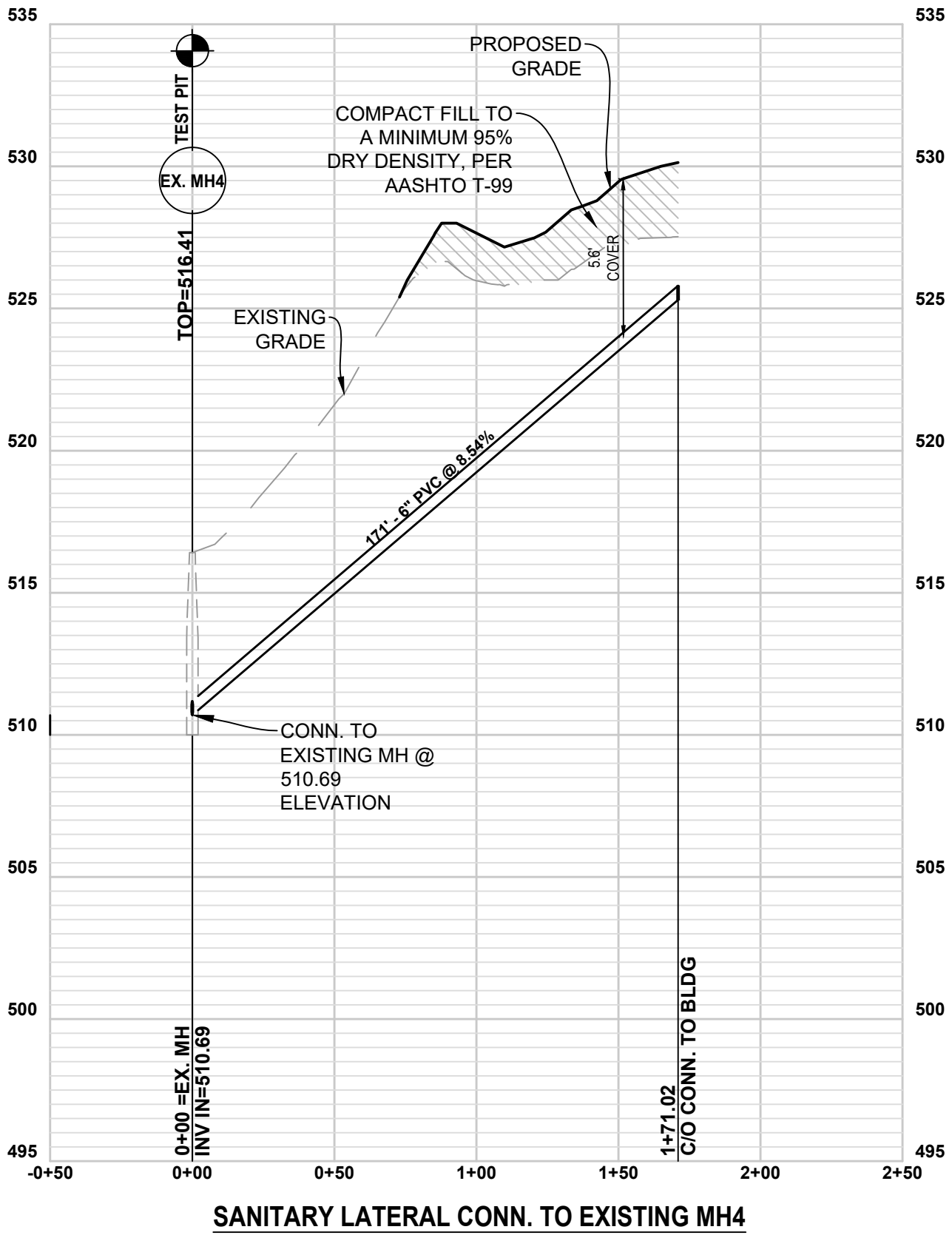
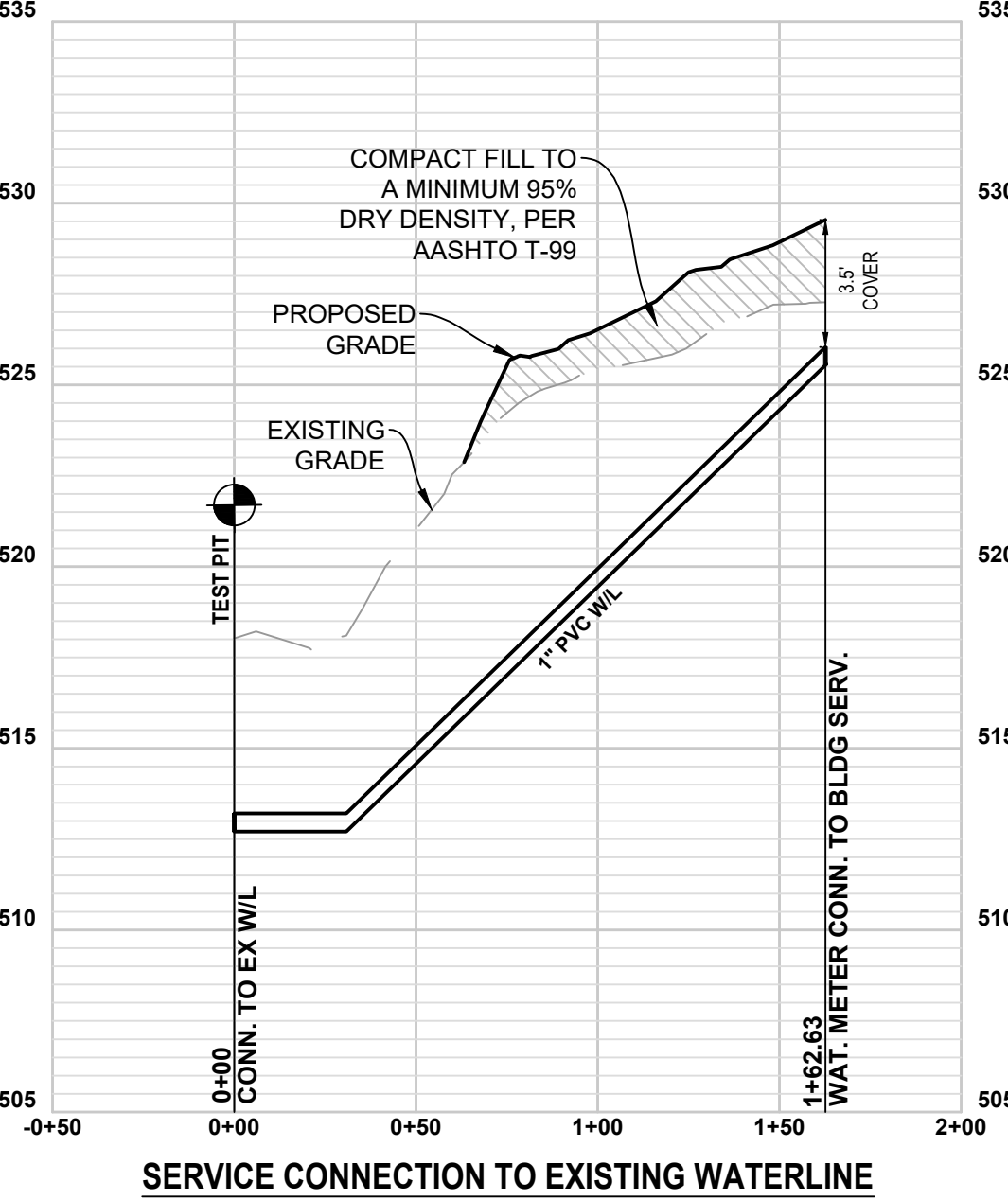
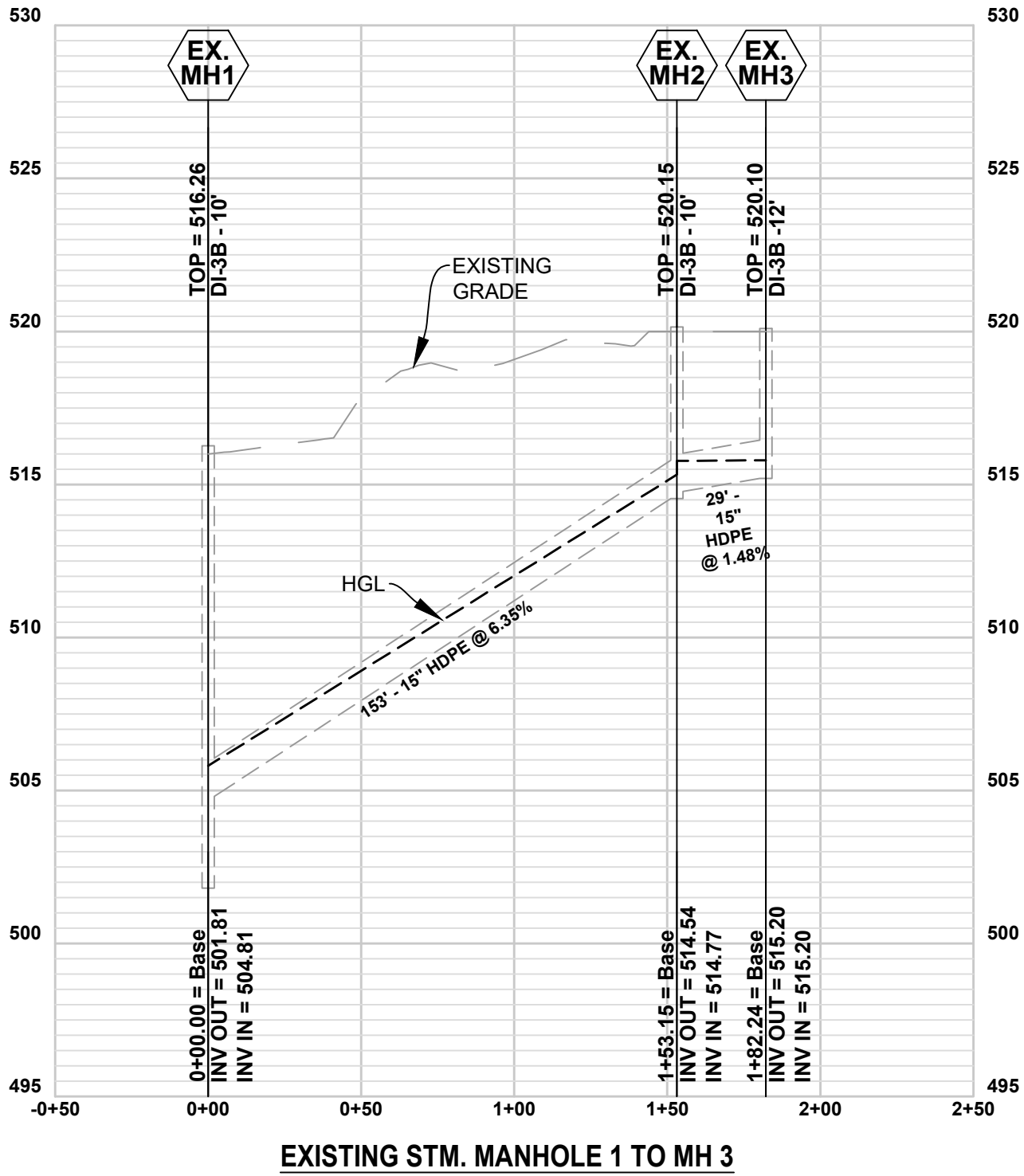
22-06-SP

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	1221.80'	182.21'	182.04'	S 26°40'50" W	8°32'40"
C2	257.18'	180.38'	176.71'	S 02°18'53" W	40°11'13"
C3	25.00'	40.89'	36.48'	N 32°51'04" E	93°42'36"
C4	25.00'	38.14'	34.55'	N 60°00'28" W	87°24'51"
C5	1848.57'	626.69'	623.69'	S 32°35'08" E	19°25'26"

STORM INLET CALCULATIONS																																
Structure Name	Inlet			DA (AC)	C	CA	I (in/hr)	Q (cfs)	Qb (cfs)	Qi (cfs)	S (ft/ft)	Sx (ft/ft)	T (ft)	W (ft)	W/T	Sw (ft/ft)	Sw/Sx	Eo	a	S'w = a/(12W)	Se=Sx+S'w(Eo) (ft/ft)	Lt (ft)	L, Spec Length	L/Lt	E (%)	Qi (cfs)	Qb, Co (cfs)	Sag Inlets Only			d/h	T @ Sag
	Inlet ID	Length (ft)																										Ponding Depth (ft)	Curb Opening Height (ft)			
MH2	DI-38 - 10'	10.00	0.46	0.63	0.29	6.54	1.90	0.00	1.90	0.01	0.02	7.05	2.00	0.28	0.08	4.17	0.75	3.52		0.15	0.13	9.09	10.00	1.10	1.00	1.90	0.00	0.27	-	-	-	
MH1	DI-38 - 10'	10.00	0.00	0.50	0.00	6.54	0.00	0.00	0.00	0.01	0.02	0.00	2.00	0.00	0.08	4.17	0.00	3.52		0.15	0.02	0.00	10.00	1.00	0.00	0.00	0.00	0.00	-	-	-	

STORM SEWER PIPE CALCULATIONS																		
From	To	DA (Acres)	Runoff Coef. C	CA (Increm.)	CA (Accum.)	Tc (min)	Rainfall (in/hr)	Runoff Q, (cfs)	Invert Up (ft)	Invert Down (ft)	Length (ft)	Slope (%)	Diameter (in)	Capacity (cfs)	Velocity (fps)	Increm Flow Time (min)	Flow Time (min)	Pipe Material
MH3	MH2	0.45	0.63	0.28	0.28	5.00	6.54	1.85	515.20	514.77	29.09	1.48	15.00	9.15	5.55	0.09	0.09	HDPE
MH2	MH1	0.46	0.63	0.29	0.57	5.00	6.54	3.74	514.54	504.81	153.15	6.35	15.00	18.97	11.41	0.22	0.22	HDPE

HYDRAULIC GRADE LINE CALCULATIONS																						
Inlet No.	Outlet W.S.E. (ft)	Do (in)	Qo (cfs)	Lo (ft)	Sfo (%)	Hf (ft)	JUNCTION LOSS										Final H	Inlet W.S.E. (ft)	Rim Elev (ft)			
							Vo (fps)	Ho (ft)	Qi (cfs)	Vi (fps)	Qi/Vi	Vi^2/2g	Hi (ft)	Angle (deg)	K	Hb (ft)				Ht (ft)	1.3Ht	0.5Ht
MH3	515.77	15.00	1.85	29.09	0.07	0.02	5.55	0.14	1.85	5.55	10.28	0.48	0.17	6.06	0.08	0.04	0.71	0.92	0.46	1.38	506.73	520.15
MH2	505.81	15.00	3.74	153.15	0.30	0.45	11.41	0.51	1.85	5.55	10.28	0.48	0.17	6.06	0.08	0.04	0.71	0.92	0.46	1.38	506.73	520.15



NOTE:
EXISTING UTILITIES SHOWN PER PREVIOUS DESIGN DATA.
CONTRACTOR TO FIELD VERIFY FIELD CONDITIONS.

UTILITY PROFILES
NORBORNE GLEBE POOL
PRELIMINARY SUBDIVISION/LAND DEVELOPMENT PLAT
CITY OF CHARLES TOWN-JEFFERSON COUNTY, WV

Rev. No.	Date
3	06/14/2023

DATE: 04/26/2023
SCALE: H:1"=50'
V:1"=5'
DESIGNED BY: AM/CW
FILE NO. 4542A
SHEET 14 OF 22
22-06-SP

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SCOPE OF WORK
THE LANDSCAPE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR AND EQUIPMENT TO COMPLETE ALL LANDSCAPE WORK AS SHOWN ON THE PLANS AND SPECIFICATIONS.

STANDARDS
ALL PLANT MATERIAL WILL CONFORM TO THE CURRENT ISSUE OF THE AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION (ANLA). PLANT MATERIAL MUST BE SELECTED FROM NURSERIES THAT HAVE BEEN INSPECTED AND CERTIFIED BY STATE PLANT INSPECTORS. COLLECTED MATERIAL MAY BE USED ONLY WHEN APPROVED BY OWNER'S REPRESENTATIVE. NOMENCLATURE WILL BE IN ACCORDANCE WITH HORTUS III BY L.H. BAILEY.

IT IS THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO MAKE EVERY REASONABLE EFFORT TO FIND THE PLANTS SPECIFIED BY THE LANDSCAPE ARCHITECT. THE LANDSCAPE CONTRACTOR MAY OFFER SUBSTITUTIONS TO THE LANDSCAPE ARCHITECT FOR HIS/HER CONSIDERATION. THE LANDSCAPE CONTRACTOR WILL NOTIFY THE LANDSCAPE ARCHITECT IF THERE ARE ANY KNOWN DISEASES OR INSECT RESISTANT SPECIES THAT CAN BE SUBSTITUTED FOR A SELECTED PEST-PRONE PLANT. THE CONTRACTOR SHALL SUBMIT A BASE BID AS PER PLAN PLUS PRICE CLARIFICATIONS FOR ALL RECOMMENDED SUBSTITUTIONS.

IT IS THE INTENT TO ELIMINATE POST-BID SUBSTITUTIONS. HOWEVER, IN THE EVENT THAT THE CONTRACT MATERIAL HAS BECOME UNAVAILABLE, AN APPROPRIATE SUBSTITUTION MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE.

THE LANDSCAPE CONTRACTOR SHALL NOTIFY UTILITY COMPANIES AND/OR THE GENERAL CONTRACTOR IN ADVANCE OF CONSTRUCTION TO LOCATE UTILITIES.

IF THERE IS A CONFLICT WITH UTILITIES AND THE PLANTING, THE LANDSCAPE ARCHITECT SHALL BE RESPONSIBLE FOR RELOCATING PLANTS PRIOR TO THE PLANTING PROCESS. ANY COST DUE TO RELOCATING AFTER PLANTING SHALL BE BORNE BY THE OWNER. IF PLANTS ARE TO BE INSTALLED IN AREAS THAT SHOW OBVIOUS POOR DRAINAGE, AND THE PLANTS ARE INAPPROPRIATE FOR THAT CONDITION, THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT AND OWNER. IF THEY DEEM NECESSARY, THE PLANTS SHALL BE RELOCATED, THE CONTRACT SHALL BE ADJUSTED TO ALLOW FOR DRAINAGE CORRECTION AT A NEGOTIATED COST, OR THE PLANT SELECTION MODIFIED BY THE LANDSCAPE ARCHITECT TO ACCOMMODATE THE POOR DRAINAGE.

THE STANDARD WARRANTY IS FOR ONE (1) YEAR PERIOD, EXCLUDING BULBS, SOD AND ANNUALS, COMMENCING ON THE DATE OF INITIAL ACCEPTANCE. ALL PLANTS SHALL BE ALIVE AND IN SATISFACTORY GROWTH AT THE END OF THE GUARANTEE PERIOD; ANY MATERIAL THAT IS 25% DEAD OR MORE SHALL BE CONSIDERED DEAD AND MUST BE REPLACED AT NO CHARGE. A TREE SHALL BE CONSIDERED DEAD WHEN THE LEADER HAS DIED BACK, OR 25% OF THE CROWN IS DEAD. REPLACEMENTS SHALL BE MADE DURING THE NEXT PLANTING PERIOD. REPLACEMENTS SHALL BE OF THE SAME TYPE, SIZE AND QUALITY AS ORIGINAL SPECIES UNLESS OTHERWISE NEGOTIATED.

1. THE SIZE OF CONTAINER-GROWN SHRUBS IS MEASURED BY HEIGHT AND WIDTH OF THE PLANT. CONTAINER-GROWN TREES ARE MEASURED BY THE SAME STANDARDS LISTED IN B.3. ABOVE. THE ROOT SYSTEM OF CONTAINER-GROWN PLANTS SHALL BE WELL DEVELOPED AND WELL DISTRIBUTED THROUGH OUT THE CONTAINER.

2. ALL CONTAINER-GROWN TREES AND SHRUBS THAT HAVE CIRCLING (GIRDLING) AND MATTED ROOTS SHALL BE TREATED IN THE FOLLOWING MANNER PRIOR TO PLANTING: SEPARATE THE ROOTS BY HAND, UNTANGLING SO CIRCLING ROOTS WILL NOT DAMAGE FUTURE OF THE PLANT. SEE PLANTING PROCEDURES FOR ALL CONTAINER-GROWN TREES & SHRUBS IN THIS SECTION.

3. ALL CONTAINER-GROWN PLANTS SHOULD BE GROUPED AND WATERED DAILY UNTIL THEY ARE PLANTED IN THE LANDSCAPE, THE SOIL SHALL BE KEPT MOIST WITH THE EQUIVALENT OF ONE-INCH OF RAINFALL PER WEEK.

4. PRUNING SHALL BE DONE BEFORE PLANTING OR DURING THE PLANTING OPERATION. PRUNING DETAIL FOR TREES IN THIS SECTION.

5. ALL PLANT MATERIAL IN TRANSIT SHALL BE COVERED TO KEEP MATERIAL FROM DRYING OUT. THE COVERING SHALL COMPLY WITH THE STATE AND LOCAL LAWS PERTAINING TO THE TRANSPORT OF MATERIALS.

6. TREES SHALL BE PLACED IN AN UPRIGHT POSITION WITH THE ROOTBALL COVERED BY MULCH AND KEPT MOIST. TREES AND SHRUBS SHOULD NOT BE LEFT ON SITE UNPLANTED FOR MORE THAN 24-HOURS WITHOUT ADEQUATE WATER TO INSURE ROOT SURVIVAL.

A. PLANTS MAY BE SUBJECT TO INSPECTION AND APPROVAL BY THE OWNER OR OWNER'S REPRESENTATIVE AT THE PLACE OF GROWTH OR HOLDING YARD FOR CONFORMITY TO SPECIFICATION REQUIREMENTS AS TO QUALITY, SIZE AND VARIETY.

B. PLANTS DAMAGED IN HANDLING OR TRANSPORTATION CAN BE REJECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.

C. STATE NURSERY INSPECTION CERTIFICATES SHALL BE FURNISHED TO THE LANDSCAPE ARCHITECT UPON REQUEST.

A. PLANTS WILL BE IN ACCORDANCE WITH THE CURRENT ANLA'S STANDARDS AND CONFORM IN GENERAL TO REPRESENTATIVE SPECIES.

B. BALLED AND BURLAPPED (B&B)

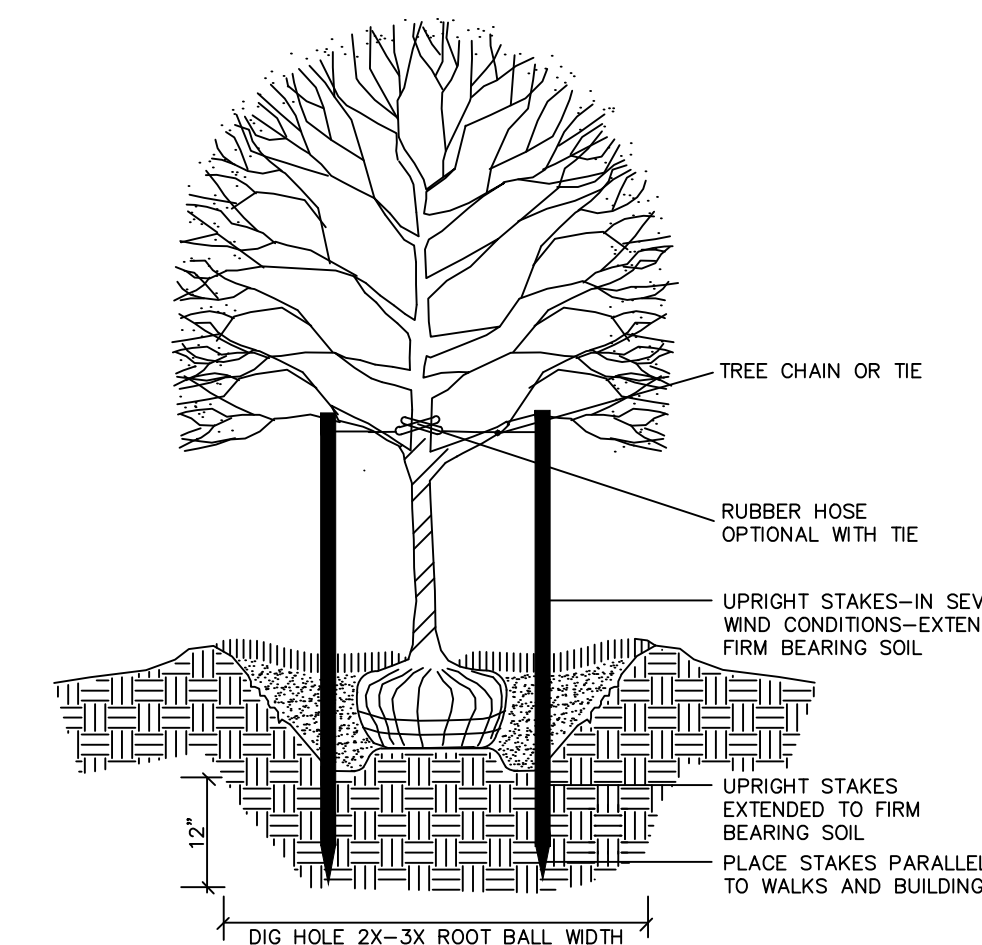
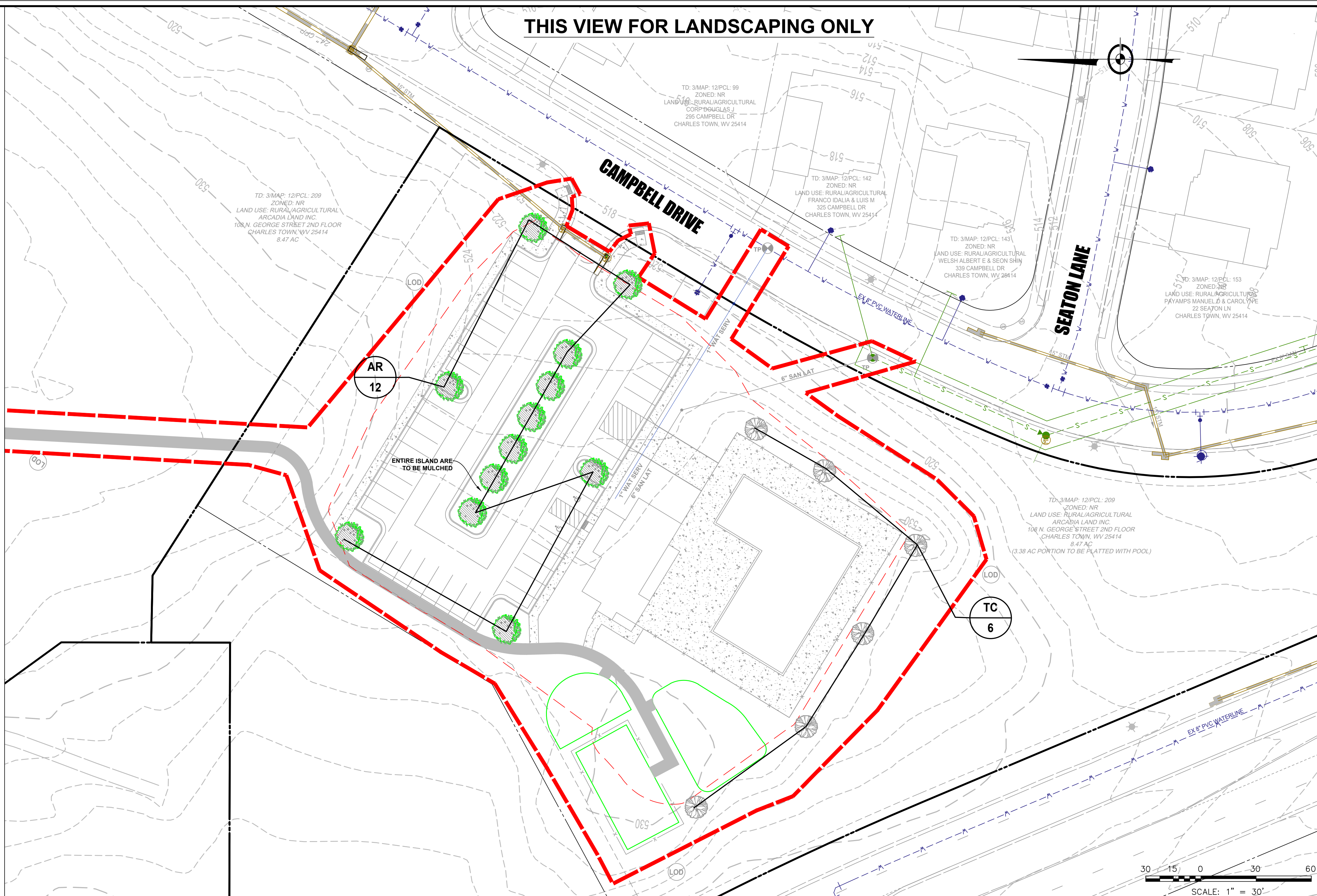
1. BALLED AND BURLAPPED PLANTS SHALL BE DUG WITH FIRM ROOT BALLS FREE OF NOXIOUS WEEDS. THERE SHOULD BE NO EXCESS SOIL ON TOP OF THE ROOTBALL OR AROUND THE TRUNK
2. BALL SIZES SHALL BE IN ACCORDANCE WITH ANLA STANDARDS.
3. CALIPER AND HEIGHT MEASUREMENT: IN SIZE GRADING B&B SINGLE TRUNK TREES, CALIPER SHALL TAKE PRECEDENCE OVER HEIGHT. CALIPER OF THE TRUNK SHALL BE TAKEN 6" ABOVE GROUND LEVEL, UP TO AND INCLUDING 4" CALIPER SIZE) AND 12" ABOVE THE GROUND LEVEL FOR LARGER TREES. FOR MULTIPLE-TRUNK TREES, HEIGHT MEASUREMENT SHALL TAKE PRECEDENCE OVER CALIPER.

1) ALL PLANTING SHALL CONFORM WITH SECTION 1333.15, BUFFER AND SCREENING STANDARDS, AND/OR SECTION 1333.16, LANDSCAPING STANDARDS OF THE CHARLESTOWN SUBDIVISION AND LAND DEVELOPMENT ORDINANCE

2) ANY PLANT SUBSTITUTIONS MUST BE APPROVED IN WRITING BY THE CHARLESTOWN DEPARTMENT OF COMMUNITY DEVELOPMENT ZONING AND PLANNING DIVISION.

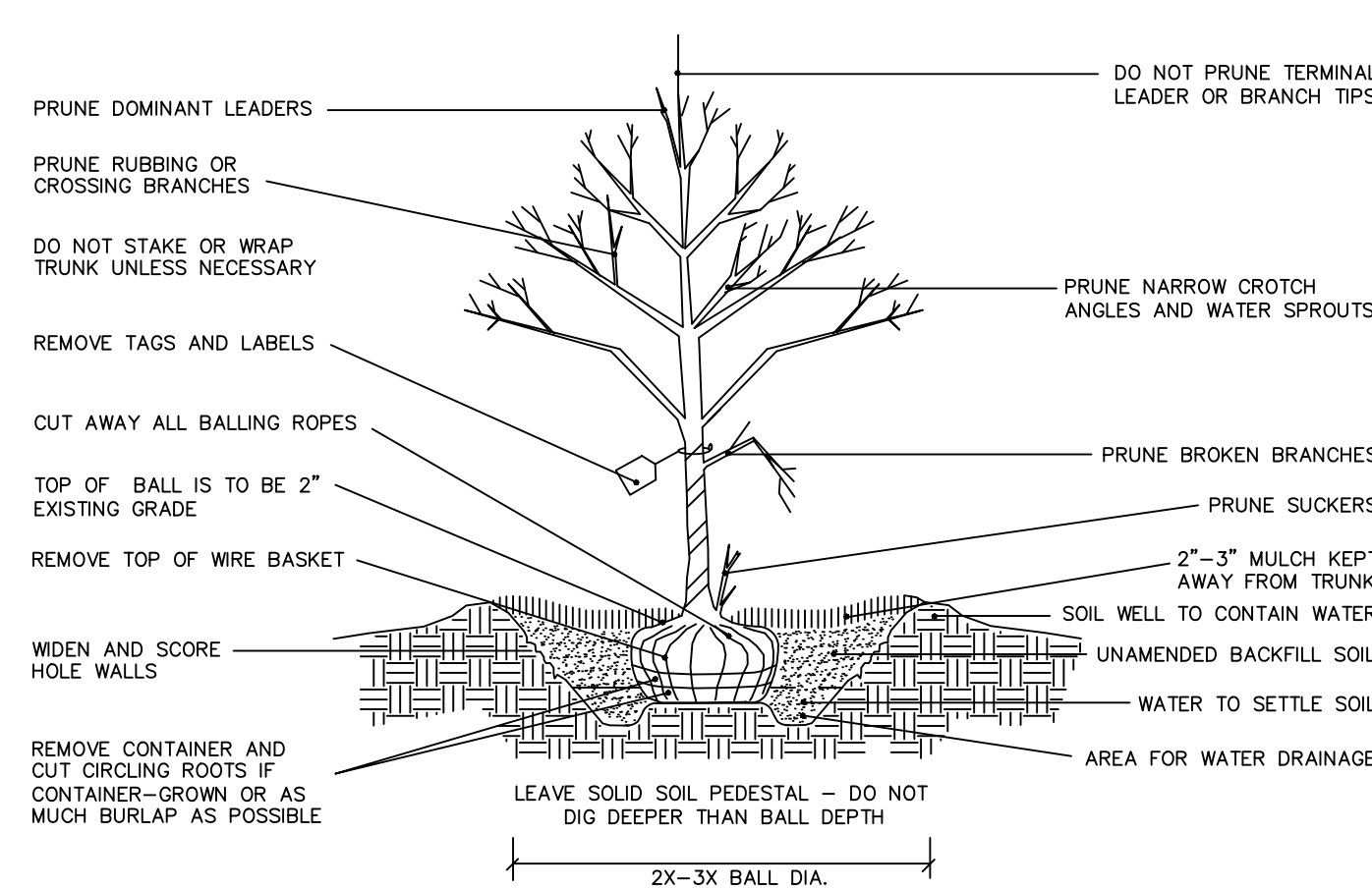
3) ANY TREES LOCATED ON AN INDIVIDUAL LOT WILL BE INSTALLED PRIOR TO THE REQUEST FOR AN OCCUPANCY PERMIT FOR THAT SPECIFIC LOT. ALL OTHER LANDSCAPING SHOWN ON THIS PLAN WILL BE INSTALLED PRIOR TO BOND RELEASE.

4.) ALL GRADED/DISTURBED AREAS WITHIN THE PROJECT LIMITS EXCEPT FOR BUT NOT LIMITED TO WALKS, ROADS, DRIVES, TEMPORARY EASEMENTS UNDER CULTIVATION, AND AREAS DESIGNATED AS PLANTING BEDS SHALL BE SODDED OR SEED



TREE PLANTING - VERTICAL STAKES

TREES <4" CAL. SCALE: NOT TO SCALE




 TREE PLANTING DETAIL
 TREES <4" CAL. SCALE: NOT TO SCALE

PLANT SCHEDULE				
ABB	BOTANIC NAME	COMMON NAME	QUANTITY	SIZE
PROPOSED TREE PLANTINGS				
Ar*	Acer Rubrum 'Franksred'	Red Sunset Red Maple	12	2" cal, B&B
Tc*	Tilia chordata 'Greenspire'	Greenspire Littleleaf Linden	6	2" cal, B&B

18 total trees

POOL PARKING LOT LANDSCAPING:
1 TREE SHALL BE PROVIDED FOR EVERY 2,000 SQUARE FEET OF IMPERVIOUS AREA FOR THE FIRST 100,000 SQUARE FEET OF THE TOTAL SITE.
24,252 SQFT PARKING LOT AREA: 24,252/2000 SQFT= 12 TREES REQ

POOL AREA:
1 TREE SHALL BE PROVIDED FOR EVERY 2,000 SQUARE FEET OF IMPERVIOUS ARE FOR THE FIRST 100,000 SQUARE FEET OF THE TOTAL SITE.
12,694 SQFT POOL AREA: 12,694/2000 SQFT= 6 TREES REQ

LEGEND

 Deciduous Trees
(Street Trees/Parking
Lot Landscaping)

 Deciduous Trees
(Street Trees/Parking
Lot Landscaping)

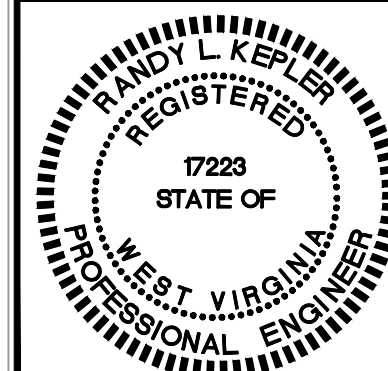
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CITY OF CHARLES TOWN-JEFFERSON COUNTY, WV

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Rev. No.	Date
1	05/26/2023



DATE: 04/26/2023

SCALE: 1" = 30'

DESIGNED BY: AM/CW/

FILE NO. 4542A

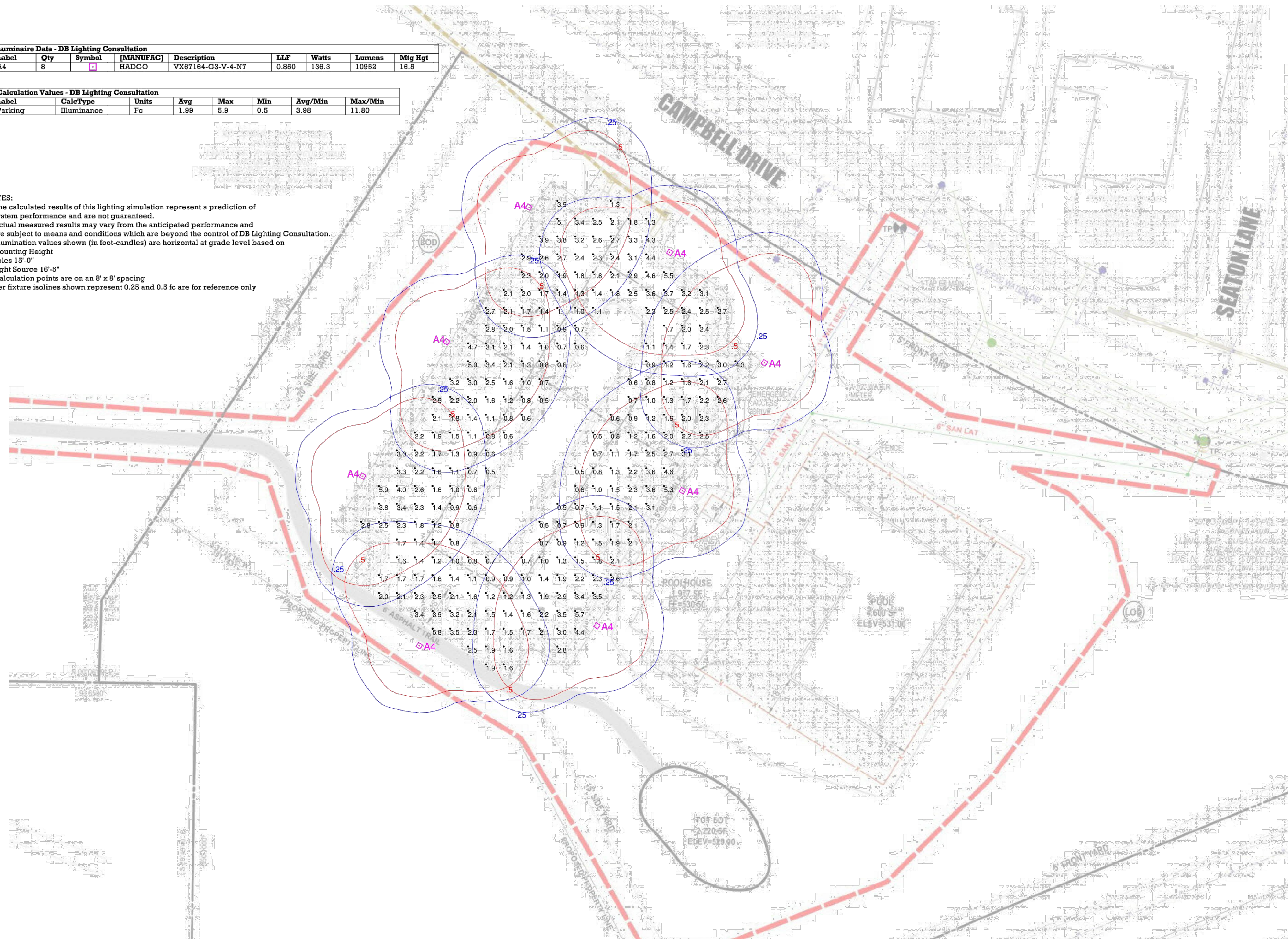
22-06-SP

Luminaire Data - DB Lighting Consultation								
Label	Qty	Symbol	[MANUFAC]	Description	LLF	Watts	Lumens	Mtg Hgt
A4	8		HADCO	VX67164-G3-V-4-N7	0.850	136.3	10952	16.5

Calculation Values - DB Lighting Consultation							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Parking	Illuminance	Fc	1.99	5.9	0.5	3.98	11.80

NOTES:

1. The calculated results of this lighting simulation represent a prediction of system performance and are not guaranteed.
2. Actual measured results may vary from the anticipated performance and are subject to means and conditions which are beyond the control of DB Lighting Consultation.
3. Illumination values shown (in foot-candles) are horizontal at grade level based on Mounting Height
Poles 15'-0"
Light Source 16'-5"
4. Calculation points are on an 8' x 8' spacing
5. Per fixture isolines shown represent 0.25 and 0.5 fc are for reference only



Scale: 1 inch= 20 Ft.

DB Lighting Consultation (DBLC) assumes no responsibility for any errors in the IES files, background images, or other information provided to DBLC to be used in these calculations. Actual or measured results may vary due to manufacturer tolerances, component malfunctions, obstructions, varying surface reflectance's and other field conditions. The owner assumes all responsibility for compliance with federal, state and/or local codes and regulations.

Prepared For:
Dan Murphy

Prepared by:
DB Lighting Consultation
407-924-4113



Greenway Engineering

151 Windy Hill Ln.,
Winchester, VA 22602

Revisions			Rev	Date	Comments
			01	01/01/2020	01/01/2020
			02	01/01/2020	01/01/2020
			03	01/01/2020	01/01/2020
			04	01/01/2020	01/01/2020
			05	01/01/2020	01/01/2020
			06	01/01/2020	01/01/2020

Project Name: **Norborne Glebe Parking**

Project ID Number: 2023-700

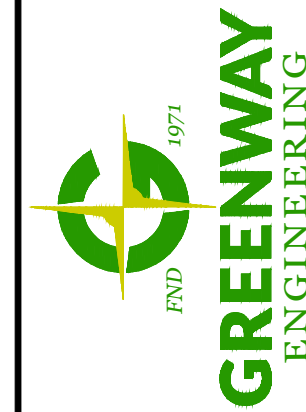
Date: 04/20/2023

24" x 36"
Page 1 of 1

LIGHTING PLAN
NORBORNE GLEBE
POOL
PRELIMINARY SUBDIVISION/LAND DEVELOPMENT PLAN
CITY OF CHARLES TOWN-JEFFERSON COUNTY, WV

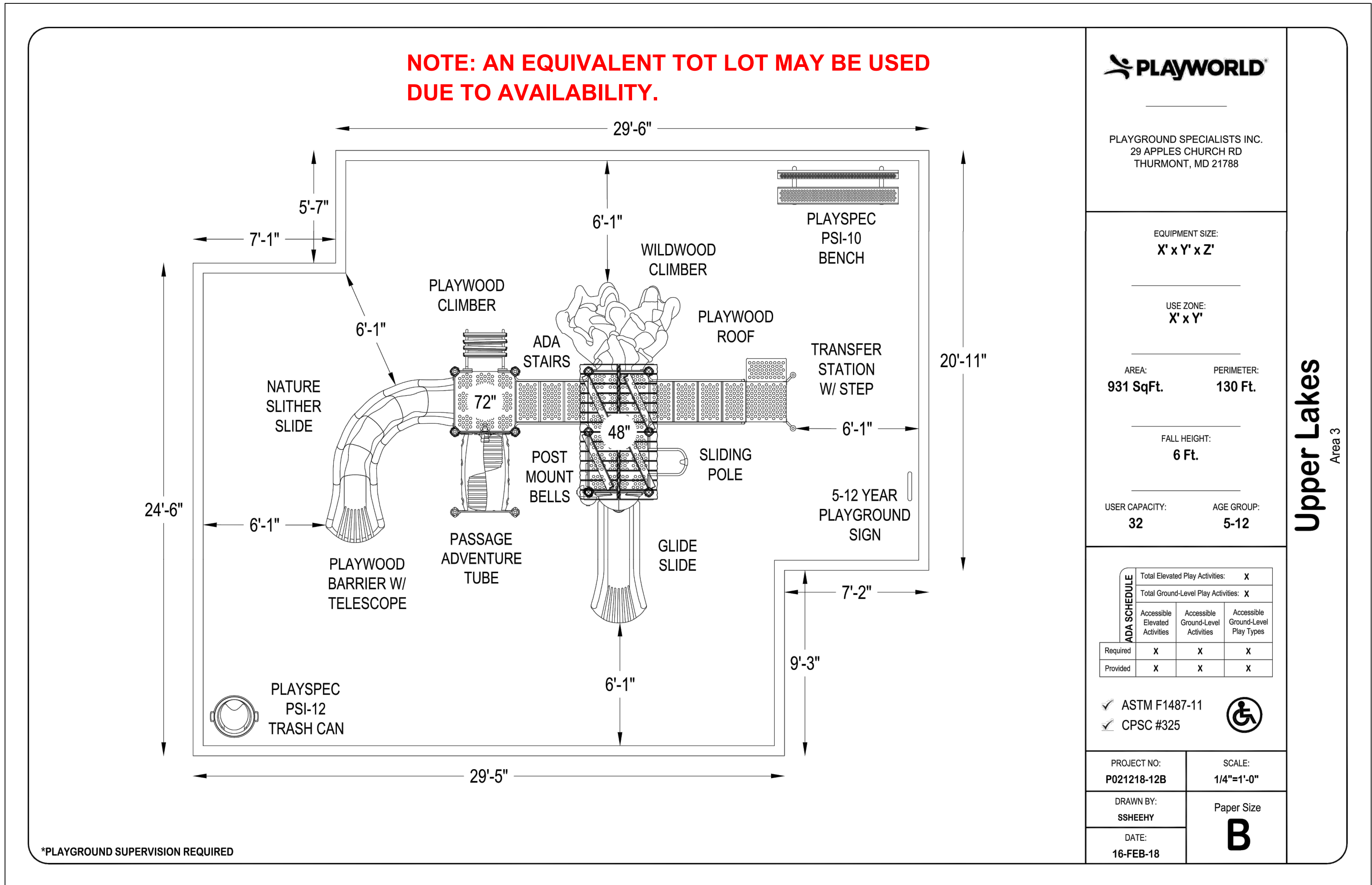
Rev. No.	Date
	
DATE: 04/26/2023	
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DESIGNED BY: AM/CW	
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SHEET	18 OF 22
22-06-SP	

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NOTE:
 FIXTURE TYPE AND COUNT TO BE CONFIRMED BY
 OWNER AND POWER COMPANY PRIOR TO ORDERING.

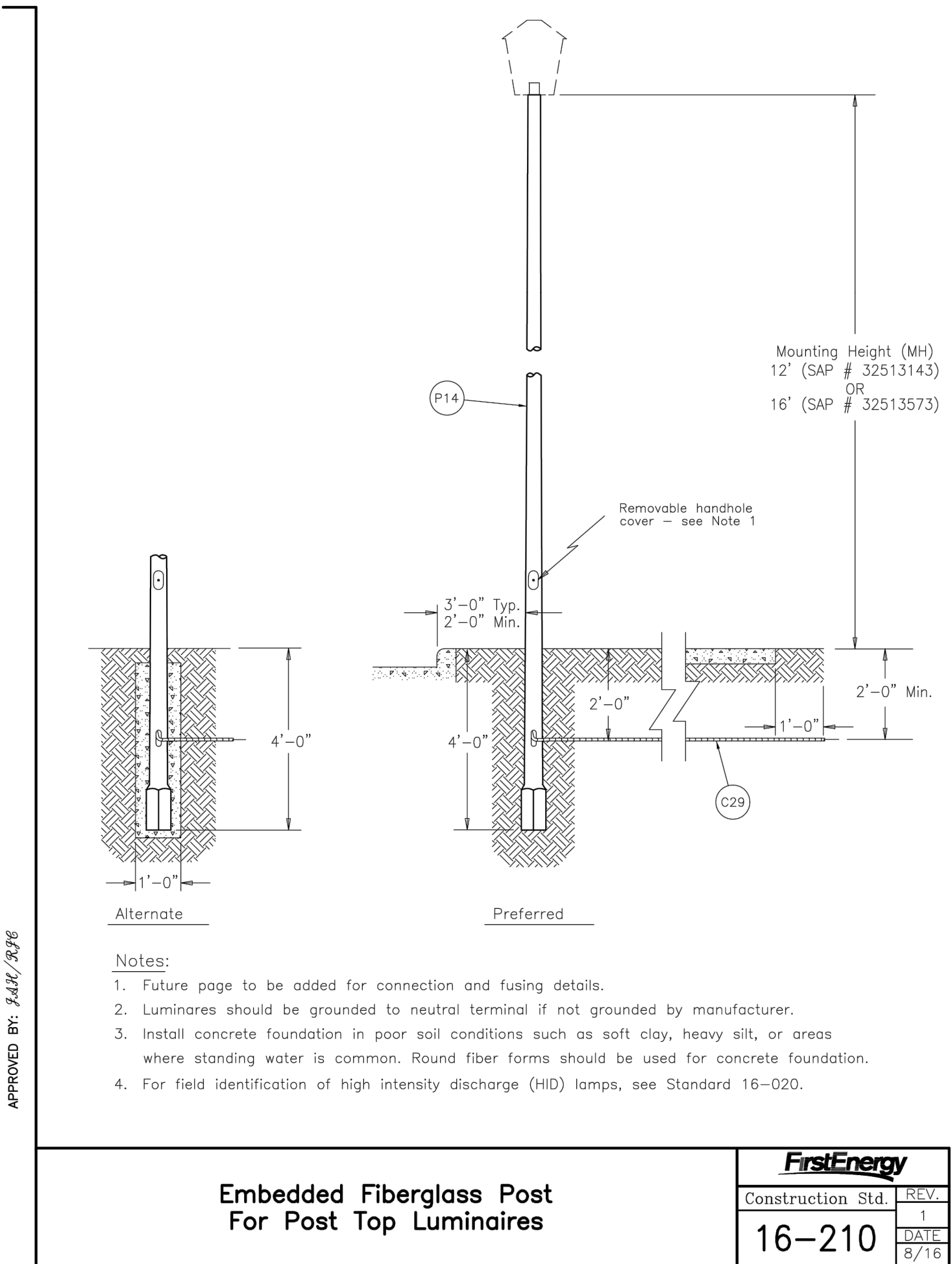


Notes:
1. Use specified Lighting or an approved equal.
2. Light pole base detail to be provided by the lighting designer/contractor.

SECTION 1333.14. LIGHTING STANDARDS
(A) Public Street Lighting. Street lights are required for all new Public Streets in accordance with the following standards:
1. Lights shall be provided along all City Streets and shall conform to Article 926, Underground Utilities, of the Charles Town Codified Ordinance.
2. Lights shall be provided at all entrances, intersections, and Cul-de-sacs.
3. Lights shall be spaced no more than two hundred (200) feet apart in residential areas, and no more than three hundred (300) feet apart in non-residential areas.
4. Lights shall use a white metal halide lighting system.
5. Lights shall conform to the power provider's requirements pertaining to watts, lumens, downlight reflectors and residential shields.
6. Lights shall be mounted on flat black poles with acorn style tops, unless otherwise specified by the Planning Commission.
7. Lights proposed within Land Developments and Subdivisions shall be provided without any installation or equipment costs incurred by the City of Charles Town.

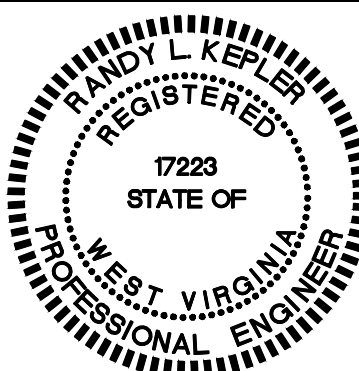
Potomac Edison, WV EMU

Picture	Description	Wattage	Type	Lumens
	Open Luminaire (note 5)	100	HPS	9500
	Open Luminaire	100	HPS	9500
	Cobra Head	175	MV	8150
		100	HPS	9500
		200	HPS	22000
		400	HPS	50000
		400	MH	36000
	Shoebox	100	HPS	9500
		200	HPS	22000
		400	HPS	50000
		100	HPS	9500
		200	HPS	22000
		400	HPS	50000
		100	HPS	9500
		200	HPS	22000
		400	HPS	50000
		400	MH	36000
	Floodlight	200	HPS	22000
		400	HPS	50000
		400	MH	36000
		1000	MH	90000
		1000	MH	90000
	Colonial Post Top	100	HPS	9500
		175	MH	11600
	Colonial Post Top			



SITE DETAILS
NORBORNE GLEBE
POOL
PRELIMINARY SUBDIVISION/LAND DEVELOPMENT PLAT
CITY OF CHARLES TOWN-JEFFERSON COUNTY, WV

Rev. No. Date



DATE: 04/26/2023

SCALE: N/A

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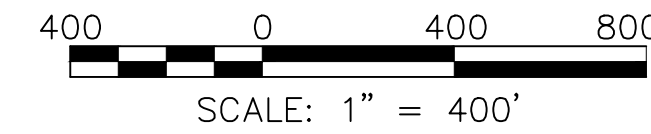
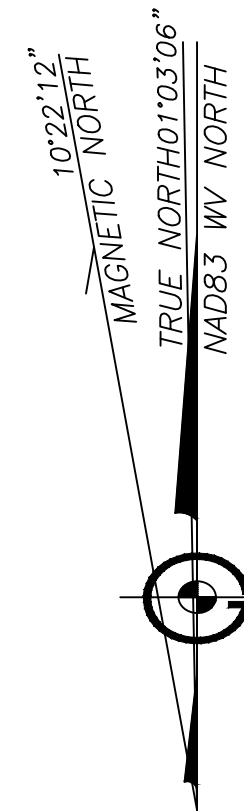
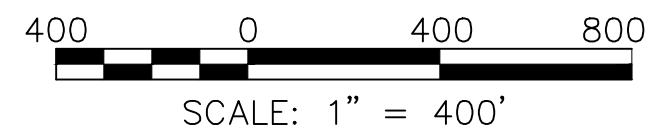
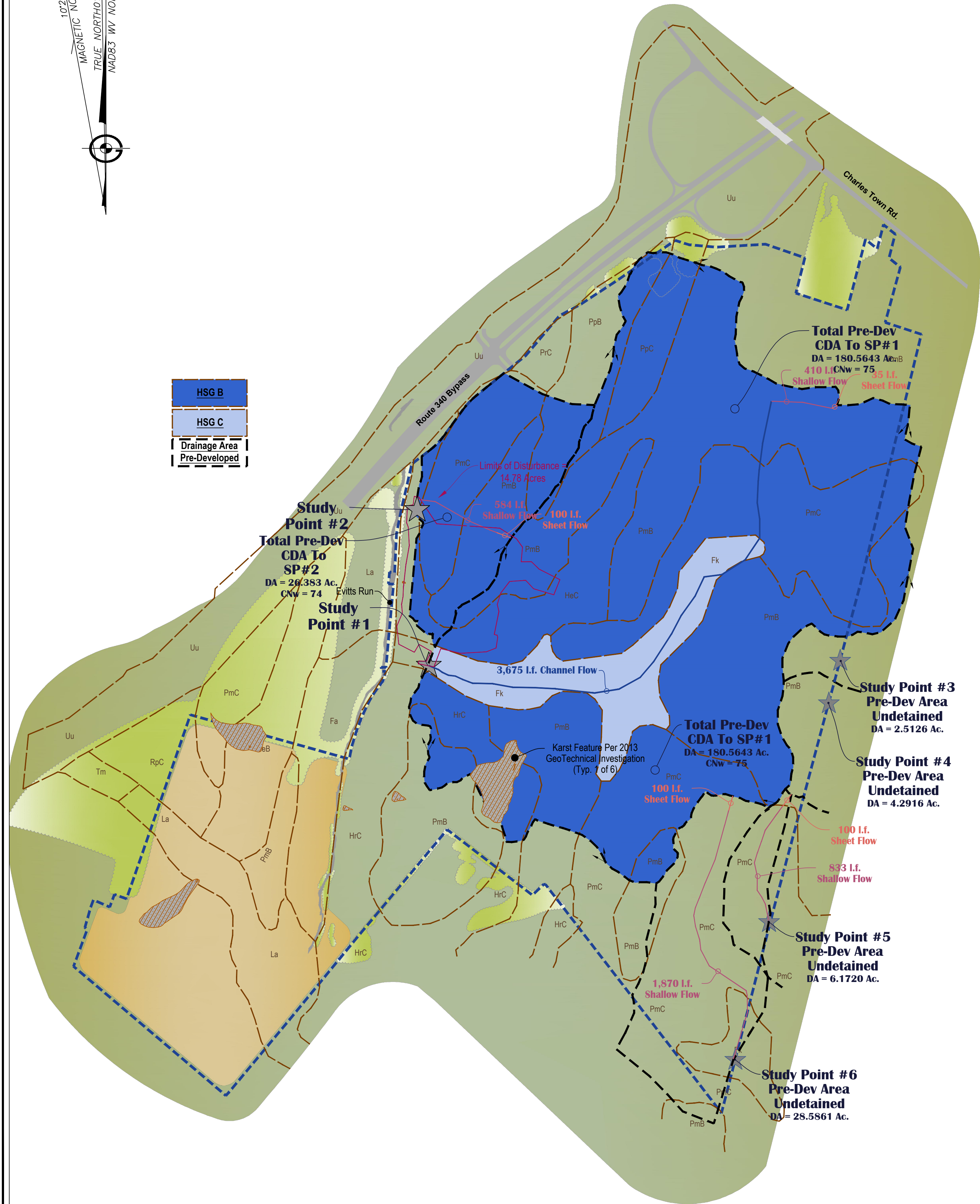
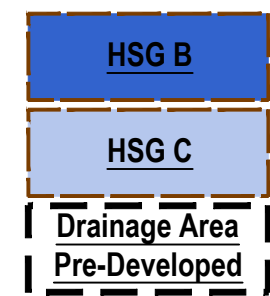
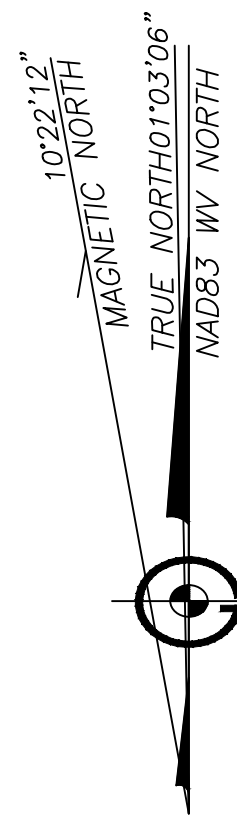
SHEET 19 OF 22

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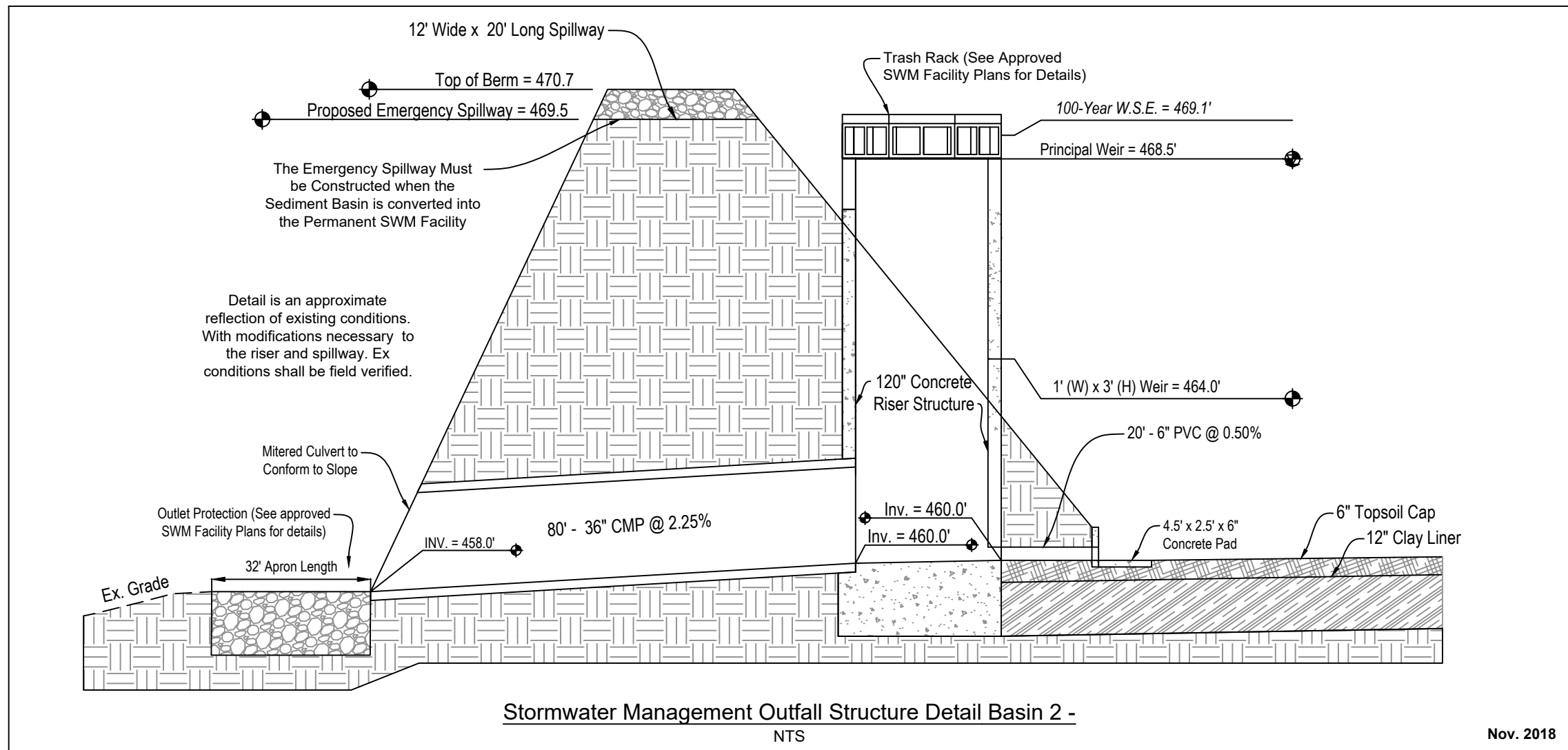
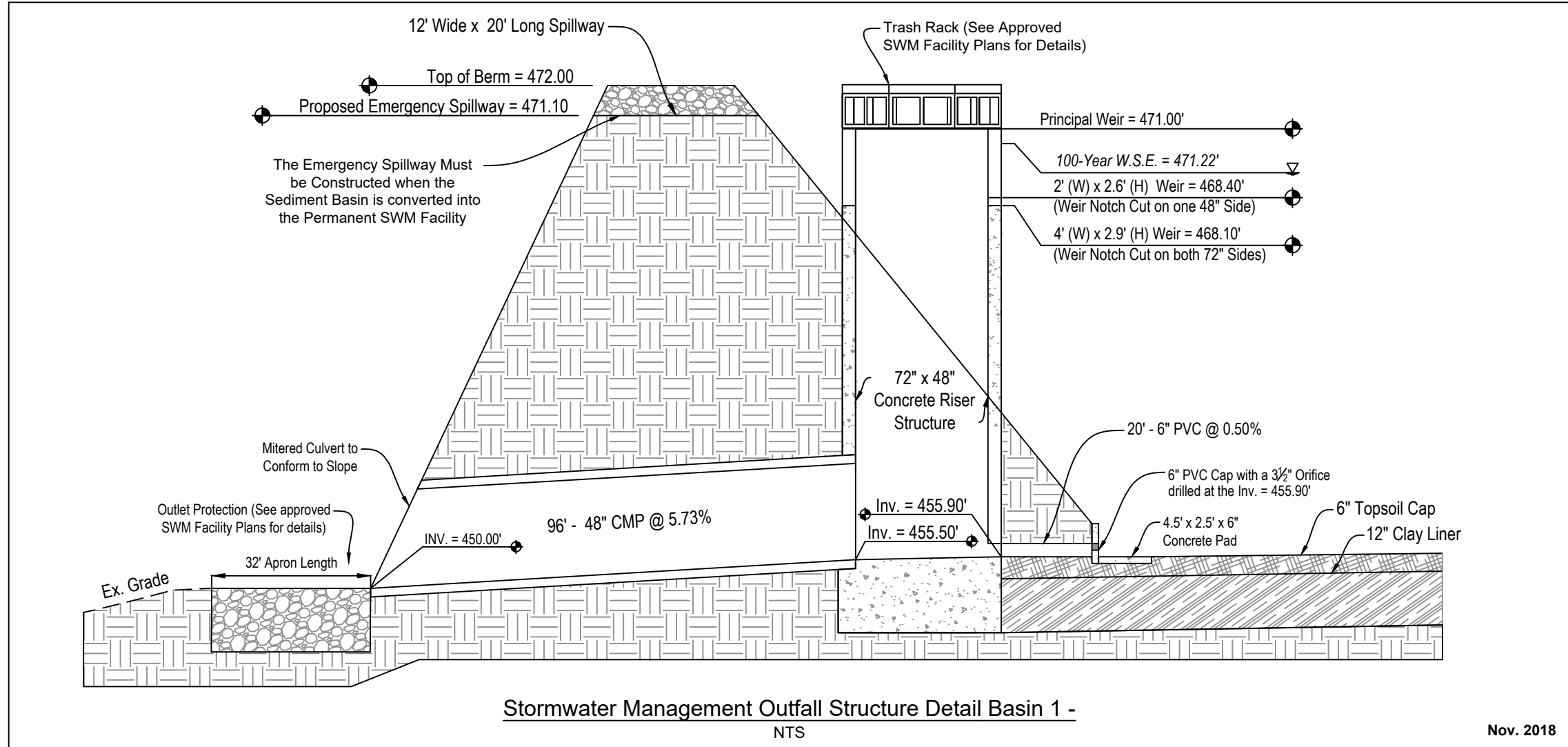
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SWM PLAN
NORBORNE GLEBE POOL
PRELIMINARY SUBDIVISION/LAND DEVELOPMENT PLAN
CITY OF CHARLES TOWN-JEFFERSON COUNTY, WV

Rev. No.	Date

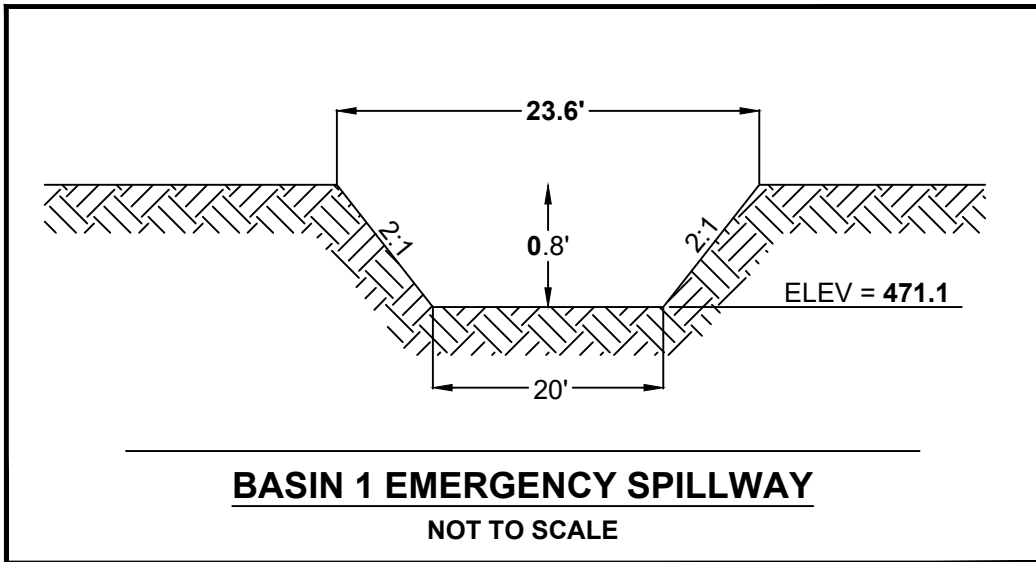
DATE: 04/26/2023
SCALE: 1"=400'
DESIGNED BY: AM/CW
FILE NO. 4542A
SHEET 20 OF 22
22-06-SP



SWM Facility Data Reference Note:
The Outfall Structure Dimensions and Elevations are Design Elevations referenced from the Approved "Site Plan for Stormwater Management Facility - Norborne Glebe" dated 2001.

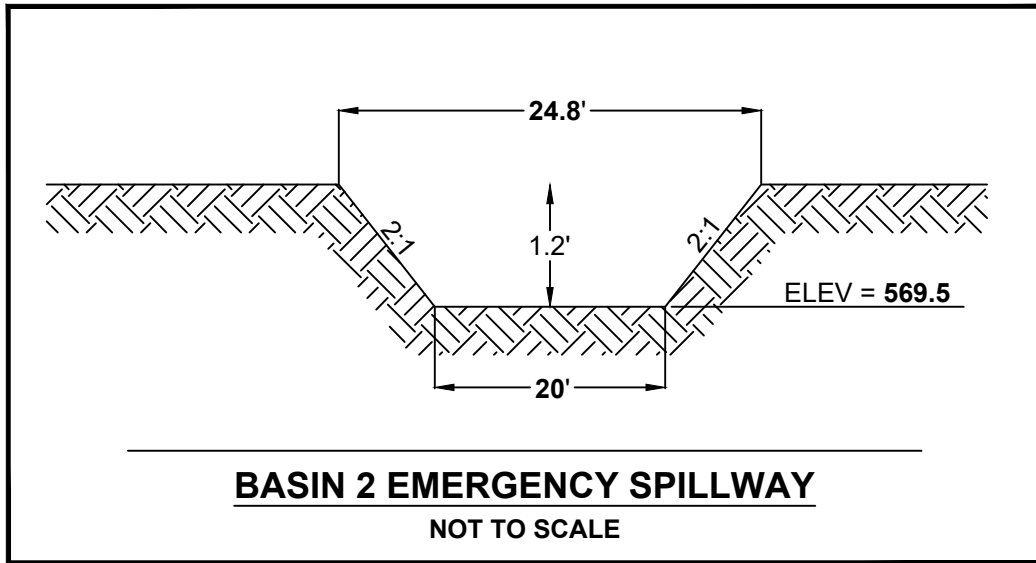
Storage Volumes represent the current constructed state of the SWM Facility. These Volumes were derived from 2' interval contours and spot elevations, from a 2013 Aerial Survey. Modified to represent construction of 14A.

The Facility was constructed as a Sediment Basin, had achieved stabilization and was in functional operation. The facility is unaltered from this condition as of November, 2018.



- Notes:**
- **Area within design high water area to remain at grades shown on E&S Phase I plan until stabilization and transition to E&S Phase II plan
 - Contractor to coordinate with Geotechnical Engineer to ensure wet area is stable and can hold water prior to construction

SEDIMENT BASIN 1 VOLUMES			
Elevation	C.Y.	C.F.	Acre-Ft
458	98	2,640.6	0.06062
459	315	8,504.8	0.19524
460	714	19,286.9	0.44277
461	1,391	37,559.4	0.86225
462	2,553	68,916.6	1.58211
463	4,397	118,718.2	2.72539
464	6,956	187,813.5	4.31161
465	10,697	288,821.0	6.63042
466	15,561	420,136.3	9.645
467	21,971	593,214.7	13.61833
468	30,182	814,907.6	18.70771
469	40,793	1,101,407.2	25.28483
470	53,725	1,450,562.8	33.30034
471	69,875	1,886,611.1	43.31063
472	89,143	2,406,868.7	55.2541



- Notes:**
- **Area within design high water area to remain at grades shown on E&S Phase I plan until stabilization and transition to E&S Phase II plan
 - Contractor to coordinate with Geotechnical Engineer to ensure wet area is stable and can hold water prior to construction

SEDIMENT BASIN 2 VOLUMES			
Elevation	C.Y.	C.F.	Acre-Ft
462	510	13,770.9	0.31614
463	846	22,846.2	0.52448
464	1,218	32,878.1	0.75478
465	1,626	43,899.1	1.00778
466	2,072	55,943.2	1.28428
467	2,557	69,045.1	1.58506
468	3,083	83,245.5	1.91105
469	3,651	98,584.8	2.2632
470	4,263	115,093.9	2.64219
470.7	4,718	127,387.6	2.92442

Study Point #1						
Pre-Development Weighted Curve Number (CNw)						
Drainage Area	Soils Group	Land Use		CN		
161.378 Ac.	HSG B	Farmstead		74		
19.186 Ac.	HSG C	Farmstead		82		
Total D.A. = 180.564					CNw = 75	
Study Point #1						
Pre-Development Time of Concentration (Tc) Calculation						
Segment	Segment Length	Segment Slope (%)	Flow Velocity	Manning's "n"	Surface	Time of Concentration
Sheet Flow	35 lf	2.00%	0.09 fps	0.240	Dense Grass	6.5 mins.
Shallow Concentrated	410 lf	2.50%	2.55 fps		Unpaved	2.7 mins.
					(Kv=16.1 fps)	
Channel Flow	3,675 lf	1.00%	1.60 fps	0.080	Capacity = 32.01 cfs	38.3 mins.
Area = 20.0 sf, Perim = 25.0', r = 0.80'						
Total Tc = 47.5 Minutes						
Study Point #1						
Pre-Development Discharge Summary						
24 Hour Storm Event	Inflow = Outflow	Peak Elevation				
	(cfs)	(feet)				
1 Year	48.42	454.50				
2 Year	77.15	454.74				
5 Year	125.80	455.03				
10 Year	170.60	455.25				
25 Year	239.12	455.52				
50 Year	299.15	455.72				
100 Year	366.55	455.92				
Post-Development Study Point #1						
Weighted Curve Number (CNw)						
Drainage Area (Acres)	Land Use*		Soils Group	CN		
32.238	Paved Road & R/W Area		HSG B	94		
1.165	Paved Road & R/W Area		HSG C	96		
19.387	Open Space - Good Grass cover		HSG B	61		
3.762	Open Space - Good Grass cover		HSG C	74		
2.013	Open Spaces - Medians in R/W		HSG B	61		
7.123	SWM Area, 100% Impervious		HSG C	98		
1.709	SFA Lots, 65% Impervious		HSG B	85		
0.105	SFA Lots, 65% Impervious		HSG C	90		
112.373	SFD Lots, 38% Impervious		HSG B	75		
8.979	SFD Lots, 38% Impervious		HSG C	83		
8.318	Commercial Lots, 85% Impervious		HSG B	92		
Total D.A. = 197.172 Ac.			CNw = 79			
Study Point #1						
Post-Development Time of Concentration (Tc) Calculation						
Segment	Segment Length	Segment Slope (%)	Flow Velocity	Manning's "n"	Surface	Time of Concentration
Sheet Flow	30 lf	3.30%	0.15 fps	0.150	Short Grass	3.2 mins.
Shallow Concentrated	997 lf	1.80%	2.16 fps		Unpaved	7.7 mins.
					(Kv=16.1 fps)	
Pipe Flow	275 lf	0.75%	6.76 fps	0.012	Capacity = 21.22 cfs	0.7 mins.
24" HDPE (Ex. Str. # 200 - Ex. Str.# 501, Area = 3.1 sf, Perim. 6.3' r=0.50')						
Channel Flow	430 lf	0.65%	12.35 fps	0.028	Capacity = 293.30 cfs	0.6 mins.
mooth Alum. (Ex. Str. # 600 - Ex. Str.# 200, Area = 23.8 sf, Perim. 17.3' r=1.38')						
Channel Flow	1,469 lf	0.50%	6.24 fps	0.035	Capacity = 1,030.39 cfs	3.9 mins.
Area = 165 sf, Perim. 55.0' r=3.00'						
Total Flow Length = 3,201 lf						Total Tc = 16.1 Minutes
Study Point #1						
Post-Development Discharge Summary						
24 Hour Storm Event	Inflow	Primary Outflow	Peak Elevation	Storage	Storage	
	(cfs)	(cfs)	(feet)	(cubic feet)	(Acre-feet)	
1 Year	75.81	0.95	466.91	508,476	11.6730	
2 Year	108.73	1.08	468.12	741,130	17.0140	
5 Year	162.65	12.36	468.65	867,672	19.9190	
10 Year	217.37	32.95	469.15	994,301	22.8260	
25 Year	296.71	80.71	469.57	1,239,195	28.4480	
50 Year	365.70	120.12	470.61	1,427,026	32.7600	
100 Year	442.72	171.17	471.22	1,629,492	37.4080	

Study Point #2			
Pre-Development Weighted Curve Number (CNw)			
Drainage Area	Soils Group	Land Use	CN
26.383 Ac.	HSG B	Farmstead	74
Total D.A. = 26.383		CNw = 74	

Study Point #2					
Pre-Development Time of Concentration (Tc) Calculation					
Segment	Segment Length	Segment Slope (%)	Manning s "n"	Surface	Time of Concentration
Sheet Flow	100 lf	5.00%	0.240	Dense Grass	10.4 mins.
Shallow Concentrated	584 lf	6.00%		Short Grass Pasture	5.7 mins.
				Total Tc =	16.1 Minutes

Study Point #2	
Pre-Development Discharge Summary	
24 Hour Storm Event	Inflow = Outflow
	(cfs)
1 Year	7.16
2 Year	10.92
5 Year	17.28
10 Year	23.17
25 Year	32.26
50 Year	41.59
100 Year	51.40

Study Point #2	
Post-Development Time of Concentration (Tc) Calculation	
Total Flow Length = 1,035 lf	Total Tc = 5 Minutes

Post-Development Study Point #2			
Weighted Curve Number (CNw)			
Drainage Area (Acres)	Land Use*	Soils Group	CN
0.322	Paved Road & R/W Area	HSG B	94
1.234	Open Space - Good Grass cover	HSG B	61
1.28	SFD Lots, 37% Impervious	HSG B	75
15.291	Commercial Lots, 85% Impervious	HSG B	92
Total D.A. = 18.127 Ac.		CNw = 89	

Study Point #2					
Post-Development Discharge Summary					
24 Hour Storm Event	Inflow	Primary Outflow	Peak Elevation	Storage	Storage
	(cfs)	(cfs)	(feet)	(cubic feet)	(Acre-feet)
1 Year	16.99	4.67	464.88	42,558	0.9770
2 Year	22.31	9.85	465.84	53,971	1.2390
5 Year	30.44	16.51	466.70	65,035	1.4930
10 Year	37.38	21.32	467.32	73,529	1.6880
25 Year	47.41	26.28	468.24	86,989	1.9970
50 Year	55.83	35.69	468.69	93,872	2.1550
100 Year	65.01	52.69	469.06	99,535	2.2850

Pre-Development Weighted Curve Number (CNw)			
Drainage Area	Soils Group	Land Use	CN
28.586	HSG B	Farmstead	74
Total D.A. = 28.586 Ac		CNw = 74	

Study Point #6					
Pre-Development Time of Concentration (Tc) Calculation					
Segment	Segment Length	Segment Slope (%)	Manning s "n"	Surface	Time of Concentration
Sheet Flow	100 lf	3.30%	0.240	Dense Grass	12.3 mins.
Shallow Concentrated	1,870 lf	3.00%		Short Grass Pasture	25.7 mins.
				Total Tc =	38.0 Minutes

Study Point #3			
Pre-Development Weighted Curve Number (CNw)			
Drainage Area	Soils Group	Land Use	CN
2.513	HSG B	Farmstead	74
Total D.A. = 2.513		CNw = 74	

Study Point #3	
Pre-Development Time of Concentration (Tc) Calculation	
Total Flow Length = 398 If	Total Tc = 5 Minutes

Study Point #3		
Pre-Development Discharge Summary		
24 Hour Storm Event	Flow	Runoff Volumes
	(cfs)	(acre-ft)
1 Year	0.76	0.116
2 Year	1.26	0.174
5 Year	2.12	0.274
10 Year	2.91	0.367
25 Year	4.13	0.510
50 Year	5.21	0.637
100 Year	6.42	0.781

Post-Development Study Point #3			
Weighted Curve Number (CNw)			
Drainage Area (Acres)	Land Use*	Soils Group	CN
0.26	Paved Road & R/W Area	HSG B	94
0.7	SFD Lots, 37% Impervious	HSG B	75
Total D.A. = 0.96 Ac.			CNw = 77

Study Point #3	
Post-Development Time of Concentration (Tc) Calculation	
Total Flow Length = 260 If	Total Tc = 5 Minutes

Study Point #3		
Post-Development Discharge Summary		
24 Hour Storm Event	Flow	Runoff Volumes
	(cfs)	(acre-ft)
1 Year	0.54	0.070
2 Year	0.78	0.098
5 Year	1.16	0.143
10 Year	1.51	0.184
25 Year	2.02	0.245
50 Year	2.46	0.298
100 Year	2.94	0.358

Study Point #6	
Pre-Development Discharge Summary	
Flow	Runoff Volumes
(cfs)	(acre-ft)
8.12	1.309
13.02	1.973
21.31	3.104
28.95	4.154
40.62	5.778
50.84	7.217
82.32	8.850

Study Point #6	
Post-Development Time of Concentration (Tc) Calculation	
Total Flow Length = 100 If	Total Tc = 5 Minutes

Study Point #6			
Post-Development Discharge Summary			
24 Hour Storm Event	Flow	Runoff Volumes	Segment Length
	(cfs)	(acre-ft)	
1 Year	0.54	0.070	
2 Year	0.78	0.098	
5 Year	1.16	0.143	
10 Year	1.51	0.184	
25 Year	2.02	0.245	
50 Year	2.46	0.298	
100 Year	2.94	0.358	

Study Point #6			
Post-Development Discharge Summary			
24 Hour Storm Event	Flow	Runoff Volumes	Segment Length
	(cfs)	(acre-ft)	
1 Year	0.54	0.070	
2 Year	0.78	0.098	
5 Year	1.16	0.143	
10 Year	1.51	0.184	
25 Year	2.02	0.245	
50 Year	2.46	0.298	
100 Year	2.94	0.358	

Development Study Point #6			
Weighted Curve Number (CNw)			
Land Use *	Soils Group	CN	
Paved Road & R/W Area	HSG B	94	
Farmsteads	HSG B	74	
SFD Lots, 37% Impervious	HSG B	75	
Total D.A. = 28 Ac.			CNw = 74

Study Point #6	
Post-Development Discharge Summary	
24 Hour Storm Event	Runoff Volumes
	(cfs)
1 Year	0.54
2 Year	0.78
5 Year	1.16
10 Year	1.51
25 Year	2.02
50 Year	2.46
100 Year	2.94

Study Point #4			
Pre-Development Weighted Curve Number (CNw)			
Drainage Area	Soils Group	Land Use	CN
4.29	HSG B	Farmstead	74
Total D.A. = 4.29		CNw = 74	

Study Point #4	
Post-Development Time of Concentration (Tc) Calculation	
Total Flow Length = 364 lf	Total Tc = 5 Minutes

Study Point #4		
Pre-Development Discharge Summary		
24 Hour Storm Event	Flow	Runoff Volumes
	(cfs)	(acre-ft)
1 Year	1.29	0.198
2 Year	2.15	0.298
5 Year	3.61	0.468
10 Year	4.97	0.627
25 Year	7.06	0.871
50 Year	8.89	1.088
100 Year	10.96	1.334

Post-Development Study Point #4			
Weighted Curve Number (CNw)			
Drainage Area (Acres)	Land Use *	Soils Group	CN
1.6	SFD Lots, 37% Impervious	HSG B	75
Total D.A. = 4.29 Ac.			CNw = 75

Study Point #4	
Post-Development Time of Concentration (Tc) Calculation	
Total Flow Length = 600 lf	Total Tc = 5 Minutes

Study Point #4		
Post-Development Discharge Summary		
24 Hour Storm Event	Flow	Runoff Volumes
	(cfs)	(acre-ft)
1 Year	0.54	0.079
2 Year	0.87	0.118
5 Year	1.43	0.183
10 Year	1.95	0.244
25 Year	2.74	0.337
50 Year	3.43	0.419
100 Year	4.21	0.512

n (Tc) Calculation	
Surface	Time of Concentration
Dense Grass	12.8 mins.
Short Grass Pasture	21.8 mins.
Total Tc = 34.6 Minutes	

Summary	
Runoff Volumes	
(acre-ft)	
1.112	
1.675	
2.633	
3.523	
4.898	
6.117	
7.500	

SEDIMENT B	
Elevation	C. Y.
458	98
459	315
460	714
461	1,391
462	2,553
463	4,397
464	6,956
465	10,697
466	15,561
467	21,971
468	30,182
469	40,793
470	53,725
471	69,875
472	89,143

Study Point #5			
Pre-Development Weighted Curve Number (CNw)			
Drainage Area	Soils Group	Land Use	CN
6.172	HSG B	Farmstead	74
Total D.A. = 6.172 Ac			CNw = 74

Study Point #5					
Pre-Development Time of Concentration (Tc) Calculation					
Segment	Segment Length	Segment Slope (%)	Manning s "n"	Surface	Time of Concentration
Sheet Flow	100 lf	3.00%	0.240	Dense Grass	12.8 mins.
Shallow Concentrated					8.9 mins.
833 lf					5.00%
Short Grass Pasture					8.9 mins.
Total Tc =					21.7 Minutes

Study Point #5		
Pre-Development Discharge Summary		
24 Hour Storm Event	Flow	Runoff Volumes
	(cfs)	(acre-ft)
1 Year	1.86	0.284
2 Year	2.86	0.428
5 Year	4.53	0.673
10 Year	6.05	0.900
25 Year	8.36	1.252
50 Year	10.38	1.563
100 Year	12.63	1.916

Post-Development Study Point #5			
Weighted Curve Number (CNw)			
Drainage Area (Acres)	Land Use*	Soils Group	CN
0.052	Paved Road & R/W Area	HSG B	94
4.145	Farmsteads	HSG B	74
1.015	SFD Lots, 37% Impervious	HSG B	75
Total D.A. = 18.127 Ac.			CNw = 74

Study Point #5					
Post-Development Time of Concentration (Tc) Calculation					
Segment	Segment Length	Segment Slope (%)	Manning s "n"	Surface	Time of Concentration
Sheet Flow	100	3.00%	0.240	Dense Grass	12.8 mins.
Shallow Concentrated					9.9 mins.
930 lf					5.00%
Short Grass Pasture					9.9 mins.
Total Tc =					18.4 Minutes

Study Point #5		
Post-Development Discharge Summary		
24 Hour Storm Event	Flow	Runoff Volumes
	(cfs)	(acre-ft)
1 Year	1.59	0.240
2 Year	2.45	0.362
5 Year	3.88	0.569
10 Year	5.19	0.761
25 Year	7.18	1.058
50 Year	8.92	1.321
100 Year	10.85	1.620

SEDIMENT BASIN 2 VOLUMES			
Elevation	C.Y.	C.F.	Ac
462	510	13,770.9	0.3
463	846	22,846.2	0.5
464	1,218	32,878.1	0.7
465	1,626	43,899.1	1.0
466	2,072	55,943.2	1.2
467	2,557	69,045.1	1.5
468	3,083	83,245.5	1.8
469	3,651	98,584.8	2.2
470	4,263	115,093.9	2.6
470.7	4,718	127,387.6	2.9

Acres-Ft	C.Y.	C.F.	Ac
6.63042	9.645	13,618.33	0.3
9.645	18,707.71	25,284.83	0.5
13.61833	33,300.34	43,310.63	0.7
18.70771	55.2541		1.0

SWM COMPS NORBORNE GLEBE POOL PRELIMINARY SUBDIVISION/LAND DEVELOPMENT PLAT CITY OF CHARLES TOWN-JEFFERSON COUNTY, WV		 GREENWAY ENGINEERING 704 Foxcroft Avenue Martinsburg, West Virginia 25401 Telephone: (304) 625-5111 Fax: (304) 722-8628 www.greenwayeng.com
Rev. No.	Date	
		
DATE: 04/26/2023		
SCALE: N/A		
DESIGNED BY: AM/CW		
FILE NO. 4542A		
SHEET	22 OF	22
22-06-SP		
		PROUDLY SERVING VIRGINIA & WEST VIRGINIA OFFICES IN WINCHESTER, VA & MARTINSBURG, WV



Planning Commission

101 East Washington Street

Charles Town, WV 25414

Meeting: 07/24/23

Department: Planning

Commission

Category: Report

Initiator:

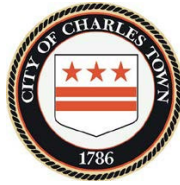
SCHEDULED

AGENDA ITEM (ID #)

SLD2023-07: Happy Retreat Sketch Plan

ATTACHMENTS:

- [1. Staff Report.pdf](#)
- [2. Application.pdf](#)
- [3. KH Review.pdf](#)
- [4. Plans.pdf](#)



Sketch Plan Completeness Report
SLD2023-07

Date: For the July 24, 2023 Planning Commission meeting

Applicant: Stromberg, Garrigan, and Associates Inc.

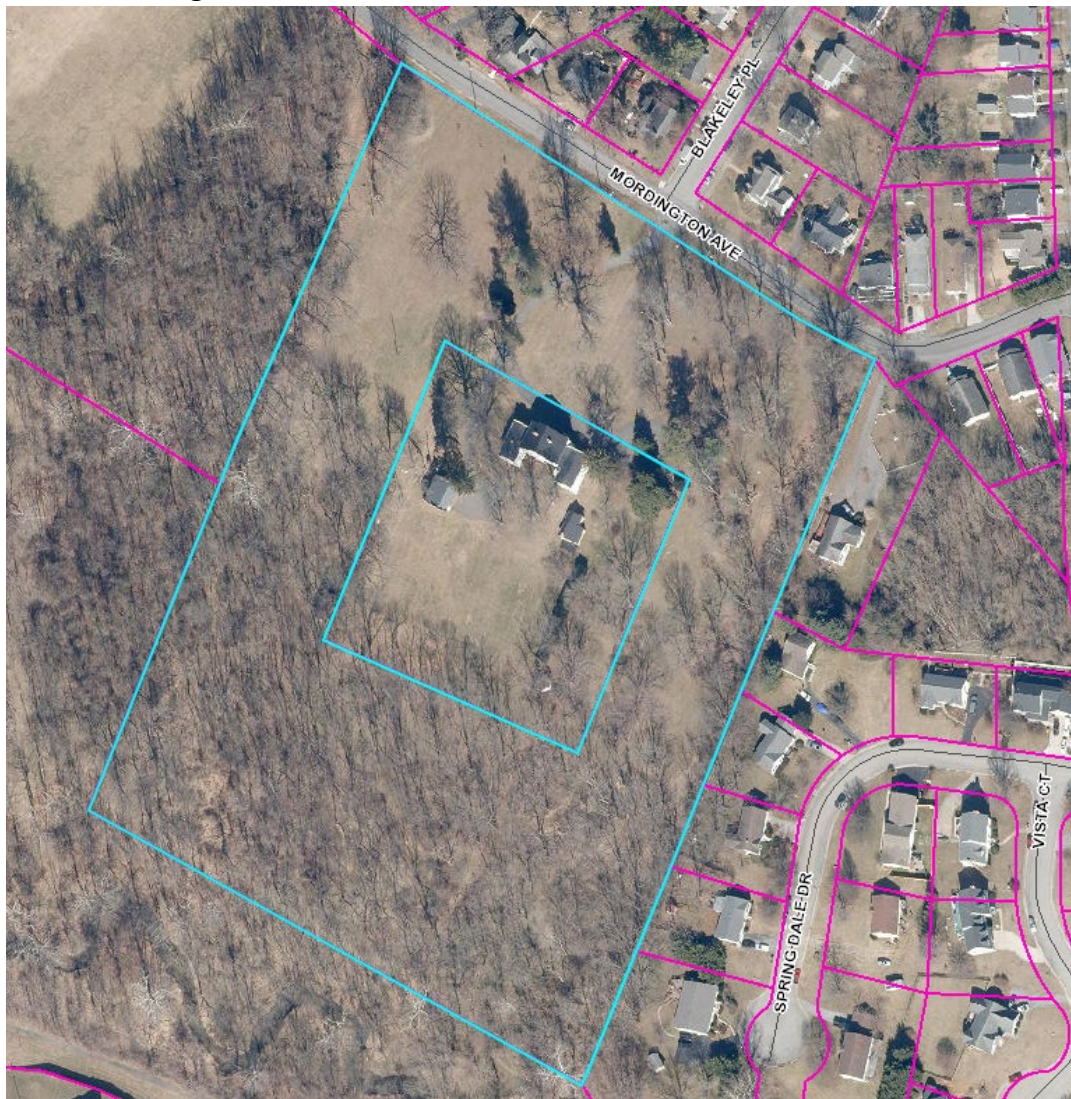
Property Owner: Parcel 3-5-6 is owned by Friends of Happy Retreat. Parcel 3-5-6.0001 is owned by the City of Charles Town Board of Parks and Recreation Commission.

Report by: James Newman, City Planner, Zoning/Subdivision Administrator.

Proposal: Construction of a parking lot.

Property Location: TD 3 / Map: 5 / Pcl: 6, 6.0001, located on Mordington Avenue.

Current Zoning: Old Town Residential.



PROJECT OVERVIEW

The property is 12.3 acres in size. The applicant has an existing cultural center on site, and is seeking to expand the parking lot.

CITY COUNCIL

The applicant gave a presentation to City Council on July 17, 2023. They explained the purpose of their project and provided details on grading the site, managing stormwater runoff, and landscaping. Council inquired about the safety of the stormwater ponds, cost of pervious vs. impervious surfacing material for the parking lot, and maintenance requirements.

DEFINITION

A Cultural Center is defined as:

A use providing for display, performance, or enjoyment of heritage, history, or the arts. This use allows for the combination of the uses as follows, but is not limited to: museums, art performances, corporate retreats, art galleries, historic interpretation/reenactment, cultural activities, weddings, or interpretive sites, but does not include commercially-operated businesses.

ADJACENT USES AND ZONING

Adjacent uses comprise residential units, as well as the Jefferson County Board of Education offices. All adjacent residential units are zoned Old Town Residential; the Board of Education offices are zoned Old Town Mixed Use Commercial.

ZONING REVIEW

The property is zoned Old Town Residential (OTR). It is **not** located within the Historic Overlay District.

Setbacks

Front: 20 feet or Front Setbacks shall vary no more than 10% from the average Setbacks of the three Adjacent Properties to each side.

Sides: 10 ft.

Rear: 20 ft.

Density

Not applicable.

Lot coverage

Up to 70% of the lot may be developed. The applicant is developing (2.5 acres) 20% of the 12.3 acre site. The total impervious area of the parking lot is 26,400 sq. ft. (this figure does not include the entrance and exit drives, nor does it include the sidewalks).

Parking

There is no required parking for a cultural center. The applicant is proposing 70 parking spaces, including 4 handicap parking spaces.

Street Connections

There is an existing entrance onto Mordington Avenue. That existing entrance would stay as an entrance lane, and a new exit lane would be built, also connecting to Mordington Avenue.

There are 7 access drive standards in the Subdivision Ordinance:

1. *The horizontal alignment of Access Drives shall conform to the requirement for Streets, as stated in Section 1333.02 of this Ordinance.*

This requirement can be met during the preliminary plans when additional engineering details are required. The access road must be designed in such a way as to safely intersect with Mordington Avenue.

2. *The horizontal alignment of Access Drives shall be measured along the centerline. Horizontal curves shall be used at all angle changes in excess of two (2) degrees. All curves shall be tangential arcs. The minimum horizontal curve radius shall be seventy five (75) feet.*

This requirement can be met during the preliminary plans when additional engineering details are required.

3. *There shall be no more than two (2) entrances to the same property. Two (2) entrances to the same property must be located a minimum of 150 feet apart, measured from centerline to centerline.*

This requirement is met. There will be only two access drives for the property. They are more than 150 ft. apart from each other.

4. *No Access Drive shall be constructed closer than 100 feet to the nearest intersection.*

This requirement is met. The new access drive is more than 100 ft. from the nearest intersection.

5. *Access Drives shall not be located less than fifteen (15) feet from an adjoining property unless used as a shared Access Drive between the two abutting properties. Property owners must record an easement allowing cross access to and from the properties served by the shared Access Drive. The easement must include a joint maintenance agreement defining the responsibilities of the property owners.*

This requirement is met. The new access drive is more than 15 feet from the nearest adjacent property lines.

6. *Access Drives travel lanes shall have a minimum width of twenty-four (24) feet; however, sufficient design information must be submitted to indicate that the number of travel lanes and width proposed have been designed to accommodate the anticipated traffic to and from the development.*

This requirements is not met. The road width is approximately 12 feet. However, the new access drive will be an exit only, while the existing access drive will be an entrance only road. The 24 ft. width requirement assumes that the drive will be used for both entrance and exit traffic. The typical roadway section sued for this type of road and described in Subdivision Ordinance appendix A calls for a road width of 10 ft per lane,

including curb and gutter. Therefore, the 12 ft. width is sufficient for the purpose of the new access road.

7. *The maximum slope of embankments adjacent to Access Drives shall not exceed 1V:3H unless a retaining wall is used to ensure that the earth is stabilized.*

This requirement can be met during the preliminary plans when additional engineering details are required.

Landscaping

In parking lots with over 25 spaces, there must be one tree shade tree planted per every 10 parking spaces, which the plan meet. Additionally, at least 5% of the parking to must be devoted to interior landscaping. Landscaping is not required to be shown in detail on a sketch plan. Interior landscape areas within the parking lot is currently shown as 6,580 square feet, totaling 24.9% of the overall parking lot area.

Buffers

A 6ft. tall opaque buffer is required between residential and non-residential uses. The plans show existing and proposed landscaping which will act as a buffer against lights from vehicles maneuvering within the parking lot.

Lighting

Lighting is not required to be shown on a sketch plan. Required lighting for parking lots must have acorn-style tops similar in design to what is used in the City's historic downtown.

Stormwater

Stormwater control facilities are not required to be shown on a sketch plan; they are required on a preliminary and final plan. The City's Engineering firm, Kimley-Horn, had no comments at this stage about stormwater control facilities.

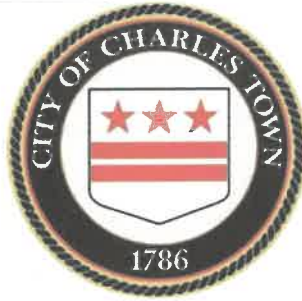
COMPREHENSIVE PLAN

The 2040 Comprehensive Plan identifies this property as Public/Quasi-public land.

CONCLUSION

The application and design are generally in conformance with Code requirements. Based on the provided information the sketch plan should be **approved**.

Sketch Plan Application No. _____



RECEIVED
JUN 1 2023
BY: JP

SKETCH PLAN APPLICATION

SUBDIVISION AND LAND DEVELOPMENT ORDINANCE

ARTICLE 1332, SUBDIVISION AND LAND DEVELOPMENT APPLICATION & APPROVAL REQUIREMENTS

To assist the Subdivision Administrator in the review of a Sketch Plan Application, the Applicant must utilize this form to supply the City with the information prescribed under Section 1332.03 of the Charles Town S/LD Ordinance. The submission of this form, along with the prescribed information and required fees, shall serve as the Applicant's Sketch Plan Application as required by Ordinance Section 1332.03. Applicant is responsible to ensure the standards of Ordinance Section 1332.04, Sketch Plan Requirements, are met and provided herein is a checklist of the Sketch Plan requirements.

1. DATE June 1, 2023

2. APPLICATION TYPE* ☐ Zoning Use Permit, Special Exception Use and Sketch Plan requirements found in the Supplemental Regulations of the Zoning Ordinance
- Submit Three (3) 11" x 17" copies of the Sketch Plan shall be submitted and in Adobe PDF format
- ☒ Major S/LD Development
- Submit Three (3) 18" x 24" copies of the Sketch Plan shall be submitted and in Adobe PDF format

*There are two types of Sketch Plan submissions:

1. For Zoning Use Permit, Special Exception Use and Sketch Plan requirements found in the Supplemental Regulations of the Zoning Ordinance. Submission standards are found in Section 1332.04(D).
2. For a Sketch Plan for a Major S/LD application, submission standards are found in Section 1332.04(E)

3. APPLICANT'S NAME* Stromberg / Garrigan & Associates, Inc. (Michael Stromberg)

Address: 102 E Main Street, Suite 300, Somerset, PA 15501

Telephone Number (814) 443-1073 Fax Number (814) 444-0484

Email Address mstromberg@s-ga.com

4. PROPERTY OWNER'S NAME Friends of Happy Retreat, Inc. (Bill Senseney)

Address: P.O. Box 1427, Charles Town, WV 25414

Telephone Number (304) 724-7956 Fax Number ()

Email Address billsenseney@hotmail.com

5. LEGAL DESCRIPTION OF THE SUBJECT PROPERTY (list all parcels that apply)

Property Address: 600 Mordington Avenue, Charles Town, WV

Tax Map # and Parcel: Tax Map #5, Parcel 6 (FOHR); Tax Map #5, Parcel 6.1 (CTBPRC)

Deed Book and Page #: DB 1158, Page 721 (FOHR); DB 1158, Page 718 (CTBPRC)

Property Area in Square Feet or Acres: 12.313 acres total (2.313 acres FOHR, 10 acres CTBPRC)

6. DESCRIPTION OF PROJECT AND PROPOSED USE(S) OF THE PROPERTY:

The Happy Retreat facility is a cultural heritage site and currently hosts occasional events on the property. The goal of this project is to create improved access and a permanent parking facility for the site so it is better equipped to hold events on a more frequent basis. No new building structures are proposed as a part of this project, only supporting infrastructure for vehicles and pedestrians, plus the associated earthwork and stormwater management needed for the improvements. The effort is led by Friends of Happy Retreat but will require approval from the Charles Town Board of Parks & Recreation Commissioners (CTBPRC), which owns 10 acres of the 12.3 acre facility.

7. DESCRIPTION OF THE EXISTING (OR FORMER) USE(S) OF THE PROPERTY AND CURRENT ZONING:

Current zoning is Old Town Residential. The site is a historic site and the former home of Charles Washington dating back to the 18th century. It was used as a home by a series of other owners in the intervening years. other owners in the intervening years. It is now owned by non-profit Friends of Happy Retreat, Inc. (Parcel 6) and the Charles Town Board of Park and Recreation Commissioners (Parcel 6.1) after a 2015 subdivision and conveyance of the property. It is now being preserved as a cultural heritage site.

*Applicants include: Property owner(s), Engineer(s), Surveyor(s), or Consultant(s)

8. ARE THERE ANY ANTICIPATED WAIVERS OR VARIANCES? IF YES, PROVIDE DETAILS.

No waivers/variances are anticipated at this time, however, final parking generation requirements for the future restored Happy Retreat facility are being reviewed. While this effort is being led by Friends of Happy Retreat, the CT Board of Parks & Rec will have to approve actions on their portions of the property. FOHR last met with CTBPRC on 4/27/2023 to review the plans for the project.

9. HAS THE PROPERTY BEEN THE SUBJECT OF ANY COURT ACTION?

☐ Yes (Please specify nature of all proceedings and current status and attach any documents showing court decisions, etc.)

☒ No

10. PARCEL HISTORY (List all pending or previously approved applications on the subject parcels inventoried above, including previous site plan applications if this application is a site plan amendment)

Application No.	Project Name and Phase	Status	Approval Date

11. INTERESTED PARTY ADDRESSES, FOR PUBLIC NOTICE (including across street)
(Interested parties are defined as adjacent properties within 100 feet).

Owner	# and Street	City, State, Zip
Charles Town Board of Parks & Rec Comm	(Evitts Run)	Charles Town, WV 25414
Board of Education	110 Mordington Avenue	Charles Town, WV 25414
Graves, Mark A & Amy E Collins	185 Mordington Avenue	Charles Town, WV 25414
Johns, Alice C	187 Mordington Avenue	
Glassford, David J	144 Blakeley Place	Charles Town, WV 25414
Schottler, Robert J III & Sarah L Whitacre	145 Blakeley Place	
Wilt, Angela L & David T	611 Mordington Avenue	Charles Town, WV 25414
Roll, Bethanny M	621 Mordington Avenue	
Kay, Marcella	620 Mordington Avenue	Charles Town, WV 25414
Thai Hung Viet	6602 Patrick Ct	Centreville, VA 20120
Murphy, Sean B & Candice D	131 Springdale Drive	Charles Town, WV 25414
Obianwu, Anthony O	141 Springdale Drive	
Solomon, Diana L	151 Springdale Drive	
Mayfield, Jennifer W & Mitchell D.	161 Springdale Drive	Charles Town, WV 25414

APPLICANT CERTIFICATION

I certify that, to the best of my knowledge, the submitted information and statements are true and correct. I also certify that I have received and read Section 1332.02 of the Charles Town S/LD Ordinance and relevant provisions of the Charles Town City Code.

Signature of Applicant

Michael Stoneman Date 6/1/2023

Signature of Property Owner (If different than Applicant)

Walter Doherty Date 6/1/2023

PRESIDENT
FRIENDS OF
HAPPY RETIREE

Please submit an original completed Application and specified number of Site Plan copies to the following:

Subdivision Administrator
City of Charles Town
101 E. Washington Street
Charles Town, WV 25414

FOR CITY USE ONLY

Application Number: _____ Date Application Received: _____

Fee: \$ _____ Paid: \$ _____ Check No. _____

Receipt No. _____

Subdivision Administrator Approval: _____ Date: _____

Planning Commission Approval: _____ Date: _____

Comments: _____



CHARLES TOWN, WEST VIRGINIA
Department of Community Development
 Division of Planning and Zoning
 101 East Washington Street, P.O. Box 14
 Charles Town, West Virginia 25414

Phone: (304) 725-2311

File Number: _____

Staff Initials: _____

Fees Paid: _____

Fax (304) 725-1014

<https://goo.gl/KGzDMZ>

Sketch Plan Review Checklist
Amended 2017 Subdivision Ordinance

(please check one) ☒ **Major S/LD Application or**
☐ **Zoning Use Permit, Special Exception Use, or Sketch Plan (requirements found in the Supplemental Regulations of the Zoning Ordinance)**

Project Name: Happy Retreat Parking Lot & Circulation Project

Property Owner Information

Property Owner: Friends of Happy Retreat, Inc.
 Mailing Address: P.O. Box 1427
 City: Charles Town State: WV Zip Code: 25414
 Phone Number: 304-724-7956 Email: billenseney@hotmail.com
 Signature: Walter Washington for Pres. Dent Date: 6/1/2023

Applicant's Registered Engineer or Surveyor or Design Consultant

Name: Stromberg / Garrigan & Associates, Inc.
 Mailing Address: 102 E Main Street, Suite 300
 City: Somerset State: PA Zip Code: 15501
 Phone Number: 757-228-1962 Email: mstromberg@s-ga.com

Physical Property Details

Physical Address: 600 Mordington Avenue
 City: Charles Town State: WV Zip Code: 25414
 Tax District: _____ Map No: 5 Parcel No: 6 & 6.1
 Parcel Size: 12.313 total acres Deed Book: 1158 Page No: 718 & 721

Zoning of Subject Property			Is the Project to Be:	Is Property In:
Urban Reserve (UR)	Residential Medium-High Density (R-15)	Neighborhood Commercial (NC)	Planned Unit Development (PUD)	Historic Overlay District (HOD)
General Commercial (GC)	Old Town Residential (OT-R)		No	Floodplain Overlay District (FOD)
Old Town Mixed Use Commercial (OT-MUC)	Neighborhood Residential (NR)			

City Use Only	1st Review	2nd Review	3rd Review	4th Review
Submittal Date				
Zoning Administrator				
City Planner				
GIS/Addressing				
Return Date				

Conditions of Approval (Attach Additional Comments As Needed)

Instructions

1. This checklist is provided as a quick reference guide only. The Consultant/Developer is responsible for reading the regulations and fully complying with all the requirements. All references to the Subdivision Ordinance and Zoning Ordinance are cited for informational purposes only.
2. The checklist shall be completed by the Engineer/Surveyor or Design Consultant and attached to the Sketch Plan review submission.

Required Submittal Information

- ☐ 1 Check for Application Fees *(check to be delivered separately)*
- ☒ 1 Completed Application and Checklist (Signed by owner)
- ☒ 3 Sets of Sketch Plans and Adobe PDF Format

Sub-Section	Ordinance Requirements: (See instructions on page 2)	Engineer /Surveyor	1st Review	2nd Review	3rd Review	4th Review	Review Key	
							✓	Ok
							O	Incomplete
							N/A	Not Applicable
							X	Unacceptable
Sub-Section	SUBDIVISION ORDINANCE Section 1332.04, Sketch Plan Requirements							
A	THERE ARE TWO TYPES OF SKETCH PLAN SUBMISSIONS: Sections in Red and Blue are depict the different types.							
A1 and D	For: • Zoning Use Permit • Special Exception Use • Sketch Plan requirements found in the Supplemental Regulations of the Zoning Ordinance The following information shall be provided for Sketch Plan review:							
D1	Three (3) 11" x 17" copies of the Sketch Plan shall be submitted and in Adobe PDF format.							
D2	The Sketch Plan shall be drawn to a 1"=50' scale							
D2	The Sketch Plan must illustrate the following elements in such a way that the Subdivision Administrator or authorized designee can determine if the proposed Subdivision or Land Development meets the criteria of this Ordinance, as applicable:							
D2a	Existing conditions, including boundary lines of the property							
D2b	A land use plan, showing the location, arrangement and approximate boundaries of all proposed land uses							
D2c	Vicinity map, north arrow, scale (written and graphic) and date							
D2d	Name of proposed project or other identifying title and date plan was prepared. Name and address of the Engineer, Surveyor, Architect, Landscape Architect, Land Planner or Property Owner who prepared the plan							
D2e	Current zoning and total area of the property							
D2f	Maximum and proposed density							
D2g	Available utilities							
D2h	All existing sanitary sewer facilities and combined sewer facilities							
D2i	Depict location or statement of proposed water and sewer supply and other utility improvements							
D2j	Existing covenants							
D2k	General layout of any proposed number of Lots, average Lot sizes and any proposed commercial uses, including any associated parking. Include proposed height of structures							
D2l	Statement of total acreage of the tract being subdivided or developed							
D2m	Location of proposed Street layout, including connections to adjoining streets or vacant lots							
D2n	The location of sidewalks, trails and crosswalks							
D2o	Proposed open space and/or recreation areas, including notes on the plan describing the proposed use, activity area and/or improvement							
D2p	Any other information requested by the Subdivision Administrator in order for the Subdivision Administrator to make an accurate determination.							
A2 and E	For a Major S/LD Application. The following information shall be provided for Sketch Plan review:							
E1	Three (3) 18" x 24" copies of the Sketch Plan shall be submitted and in Adobe PDF format.	✓						
E2	The Sketch Plan shall be drawn to a 1"=50' scale	✓						
E2	The Sketch Plan must illustrate the following elements in such a way that the Subdivision Administrator or authorized designee can determine if the proposed Subdivision or Land Development meets the criteria of this Ordinance:							
E2a	Existing conditions, including boundary lines of the property	✓						
E2b	A land use plan, showing the location, arrangement and approximate boundaries of all proposed land uses	✓						

	Ordinance Requirements: (See instructions on page 2)	Engineer /Surveyor	1st Review	2nd Review	3rd Review	4th Review	Review Key	
							✓	Ok
							O	Incomplete
							N/A	Not Applicable
							X	Unacceptable
E2c	Vicinity Map, North arrow, scale (written and graphic) and date	✓						
E2d	Names of the abutting owners, adjoining lot lines and structures on abutting lots within 100 feet of the property	✓						
E2e	Title of the proposed project; the date, month and year the plan was prepared or revised; the name of the applicant(s), owner(s), and contract owner(s) and the name and address of the Engineer, Surveyor, Architect, Landscape Architect, or Land Planner who prepared the plan, including firm name	✓						
E2f	Current zoning and total area of the property	✓						
E2g	Maximum and proposed density based on the Net Buildable Land Area	N/A						
E2h	Available utilities	✓						
E2i	All existing sanitary sewer facilities and combined sewer facilities	✓						
E2j	Depict location or statement of proposed water and sewer supply and other utility improvements	✓						
E2k	Existing covenants	✓						
E2l	General layout of any proposed number of Lots, average Lot sizes and any proposed commercial uses, including any associated parking. Include proposed height of structures	N/A						
E2m	Statement of total acreage of the tract being subdivided or developed, including the Net Buildable Land Area	N/A						
E2n	The approximate acreage in common open space, in each use and housing type and in roads, streets or rights-of-way for the total development	N/A						
E2o	The proposed number of dwelling units of each type in each in the total development	N/A						
E2p	Location of proposed Street layout, including connections to adjoining streets or vacant lots	✓						
E2q	The location of sidewalks, trails and crosswalks, as may be applicable	✓						
E2r	Proposed open space and/or recreation areas, including notes on the plan describing the proposed use, activity area and/or improvement. The amount, approximate boundaries and location of common open space, with the percentage of the total acreage of the site to be placed in common open space	N/A						
E2s	The location of environmental sensitive land to be included in common open space	N/A						
E2t	Notes indicating any modifications, waivers, variances, special exceptions and/or conditional uses that are required	✓						
E2u	The location and extent of proposed buffers	✓						
E2v	The proposed location, arrangement, and right-of-way widths of roads and streets, including roads and streets providing access to adjoining parcels. The location and arrangement of street entrances, driveways and parking areas	N/A						
E2w	Calculations describing all proposed bonus factors with the location of and specifications for bonus improvements, when proposed	N/A						
E2x	Any other information requested by the Subdivision Administrator in order for the Subdivision Administrator to make an accurate determination	N/A						
Sub-Section	SUBDIVISION ORDINANCE Section 1333.01, General Site Planning and Design Specifications							
D1d	There is no requirement that a Sketch Plan or Preliminary Plat show phasing.							

Memorandum

To: James Newman, AICP
City Planner, Zoning/Subdivision Administrator
City of Charles Town
101 E Washington Street
Charles Town, WV 25414

From: Mark Phillips, P.E.

Date: June 12, 2023

Subject: Happy Retreat Parking Lot and Circulation Project – Sketch Plan Review – 1st Submission

This memorandum summarizes our review of the Sketch Plan for the Happy Retreat Parking Lot and Circulation Project (dated May 2023 prepared by Stromberg/Garrigan & Associates, Inc.) for the modification of the existing site to include additional parking and circulation improvements adjacent to Happy Retreat. The project site is zoned OT-R (Old Town – Residential) and the area is approximately 2.5 acres. Kimley-Horn's review did not include conformance with the CTUB and defers comment on the Water and Sanitary Sewer design to the CTUB.

Kimley-Horn's review of this application is limited to the Sketch Plan provided. Based upon our review we have the following comments:

1. This Application is generally in conformance with the Preliminary Plan and Plat requirements per City of Charles Town Subdivision and Land Development Ordinance dated June 23, 2012 (Rev. July 1, 2019).
2. Kimley-Horn notes that all Sketch Plan requirements per Section 1334.02(E) of the Subdivision and Land Development Ordinance have been met.

Kimley-Horn has no further comments.

Thank you for the opportunity to review this Preliminary Plan and Plat. In the meantime, please feel free to contact us at 703-870-3631 should you have any questions.

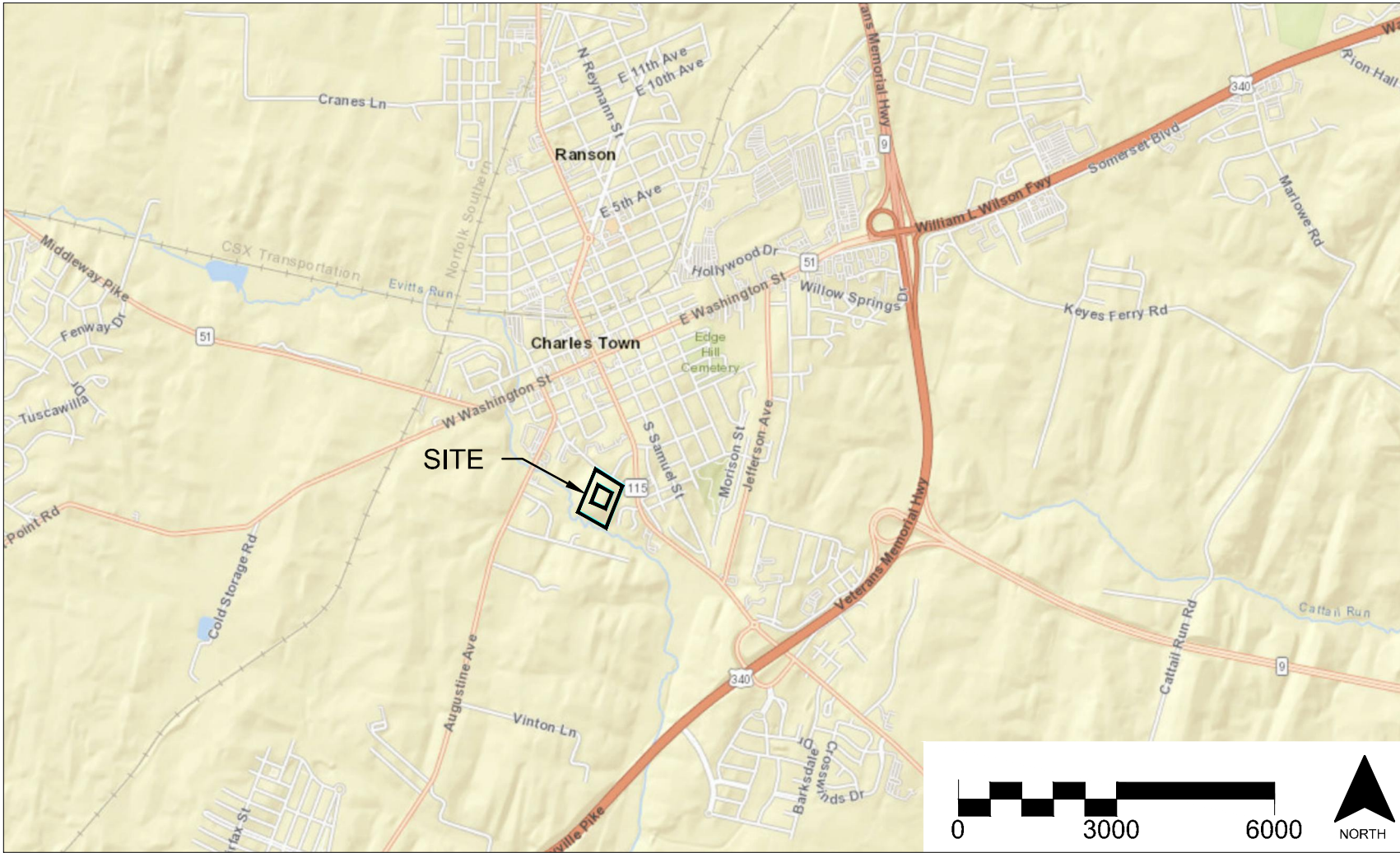
KIMLEY-HORN & ASSOCIATES, INC.



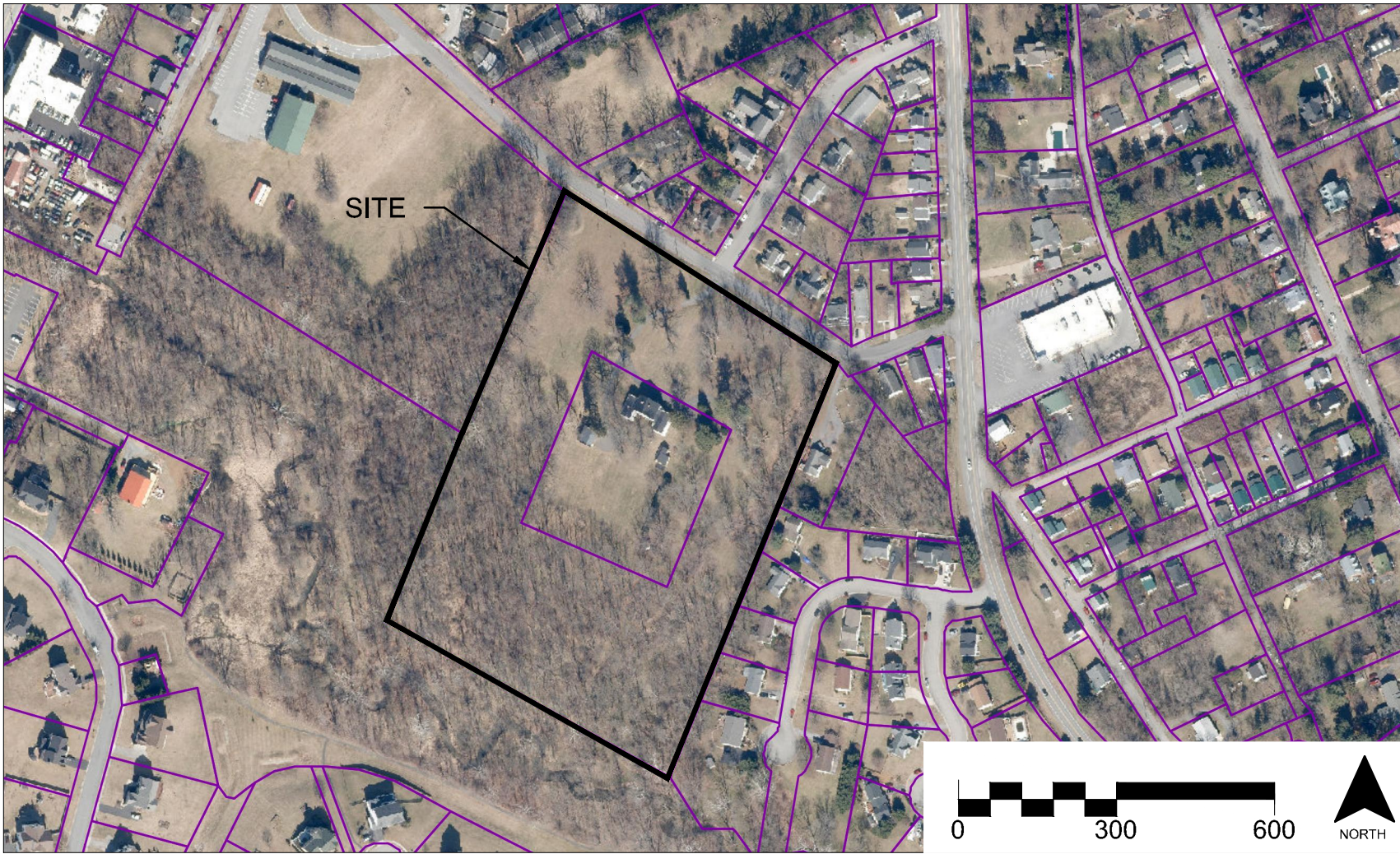
Mark Phillips, P.E.
Project Manager

HAPPY RETREAT PARKING LOT & CIRCULATION PROJECT

JULY 2023
600 MORDINGTON AVENUE
CHARLES TOWN, WV 25414



VICINITY MAP
SCALE: 1"=3000'



SITE LOCATION (2022 AERIAL)
SCALE: 1"=300'

SKETCH PLAN SUBMISSION (NOT FOR CONSTRUCTION)

SITE INFORMATION:

Current Zoning	OT-R Old Town Residential
Total Area of the Property	12.313 Acres
Total Acreage of the Project/Tract	2.5 Acres

APPLICANT:



Stromberg/Garrigan & Associates
Suite 300
102 E. Main Street
Somerset, PA. 15501
(814) 443-1073

OWNER:

Friends of Happy Retreat
P.O. Box 1427
Charles Town, WV 25414

CONSULTANT INFORMATION:

LANDSCAPE ARCHITECT/SITE DEVELOPMENT/LAND PLANNING:



Stromberg/Garrigan & Associates
Suite 300
102 E. Main Street
Somerset, PA. 15501
(814) 443-1073

SURVEYOR:



The Thrasher Group, Inc.
600 White Oaks Blvd
P.O. Box 940
Bridgeport, WV 26330
(304) 624-4108

INDEX

Sheet Number	Sheet Title
SK1-00	Cover Sheet
SK2-00	Existing Conditions
SK3-00	Site Improvement Plan
SK4-00	Planting Plan

DRAWING PREPARED BY:
STROMBERG/GARRIGAN & ASSOCIATES, INC.
102E MAIN STREET, SUITE 300
SOMERSET, PA 1550

NAME: MICHAEL STROMBERG

DATE: 06/16/2023

PROJECT TITLE:

**HAPPY RETREAT
PARKING LOT &
CIRCULATION**

PROJECT ADDRESS:

600 MORDINGTON AVE
CHARLES TOWN, WV 25414

OWNER:

Friends of Happy Retreat
P.O. Box 1427
Charles Town, WV 25414

STAMP:

REVISIONS:

NO.	DATE	REMARKS

NOTE: DO NOT SCALE FROM DRAWINGS.
VERIFY ALL DIMENSIONS ON SITE.

DRAWN BY:
FH/HF

CHECKED BY:
MS

JOB #:
22012

DATE:
07/19/2023

SCALE:
AS SHOWN

SHEET TITLE:

COVER SHEET

SK1-00



STROMBERG/GARRIGAN & ASSOCIATES, INC.

LANDSCAPE ARCHITECTURE & URBAN DESIGN
102 E. MAIN STREET, SOMERSET, PA. 15501
P. 814.443.1073 F. 814.444.0484 WWW.S-GA.COM

PROJECT TITLE:

HAPPY RETREAT PARKING LOT & CIRCULATION

PROJECT ADDRESS:

600 MORDINGTON AVE
CHARLES TOWN, WV 25414

OWNER:

Friends of Happy Retreat
P.O. Box 1427
Charles Town, WV 25414

SURVEYOR:

THRASHER

600 WHITE OAKS BLVD. P.O. BOX 940
BRIDGEPORT WV 26330
www.thrashereng.com

PHONE
(304) 624-4108
FAX
(304) 624-7831

STAMP:

REVISIONS:

NO.	DATE	REMARKS

NOTE: DO NOT SCALE FROM DRAWINGS.
VERIFY ALL DIMENSIONS ON SITE.

DRAWN BY:

FH/HF

CHECKED BY:

MS

JOB #:

22012

DATE:

05/31/2023

SCALE:

AS SHOWN

SHEET TITLE:

EXISTING CONDITIONS

SK2-00

Covenant Note:
The Friends of Happy Retreat owned property (Parcel 6) has a covenant associated with it that prevents the alteration of the building known as the Happy Retreat-Charles Washington House without written permission of the State Historic Preservation Officer. No improvements proposed in this Happy Retreat Parking Lot & Circulation Project will modify the Happy Retreat-Charles Washington House, only elements of the site that surrounds it. Any planned modifications to the buildings on the property will be pursued in separate efforts, which will include the necessary coordination with the State Historic Preservation Officer. The covenants are recorded in the Jefferson County Clerk's Office in Deed Book 1290, at Page 689.

APPROXIMATE EDGE
OF WOODED AREA

Notes:

1. Property boundaries beyond the main subject properties are derived from Jefferson County GIS data and have not been surveyed.
2. Parcel 6.1, owned by the Charles Town Board of Parks and Recreation Commissioners, includes an access easement conveyed to Friends of Happy Retreat for access to the main facility property and buildings.
3. Tree symbols have been added to this existing conditions plan for clarity and do not reflect an accurate depiction of the extents of tree canopies.

NOTE: The base plan is derived from a survey generated by The Thrasher Group, Inc., Surveying dated 1/2023.

SKETCH PLAN SUBMISSION (NOT FOR CONSTRUCTION)



Know what's below
Call before you dig

CALL BEFORE YOU DIG
IN WEST VIRGINIA
1-800-245-4848

LEGEND/ABBREVIATIONS

	= PROPERTY LINE
	= ADJOINER LINE
	= OVERHEAD UTILITY LINE
	= HEDGE/TREE LINE
	= EXISTING FENCE
	= MONUMENT FOUND (AS NOTED)
	= UTILITY POLE
	= GUY POLE/WIRE
	= ELECTRIC BOX
	= SANITARY SEWER CLEANOUT
	= GAS VALVE
	= WATER WELL
	= WATER METER
	= FFE ELEVATION
	= BORE HOLE
	= FLAG POLE
	= SIGN
	= TREE
	= PINE TREE
	= REBAR FOUND (size as noted)
	= THRESHOLD ELEVATION
	= BUILDING HATCH
	= HOT MIXED ASPHALT

CONTOUR INTERVAL = 1 FOOT
COORDINATES ARE WEST VIRGINIA
STATE PLANE NORTH ZONE NAD 83
ELEVATION ARE NAVD 88



SCALE: 1" = 50'-0"



LANDSCAPE ARCHITECTURE & URBAN DESIGN
102 E. MAIN STREET, SOMERSET, PA. 15501
P. 814.443.1073 F. 814.444.0484 WWW.S-GA.COM

HAPPY RETREAT PARKING LOT & CIRCULATION

600 MORDINGTON AVE
CHARLES TOWN, WV 25414

Friends of Happy Retreat
P.O. Box 1427
Charles Town, WV 25414

STAMP:

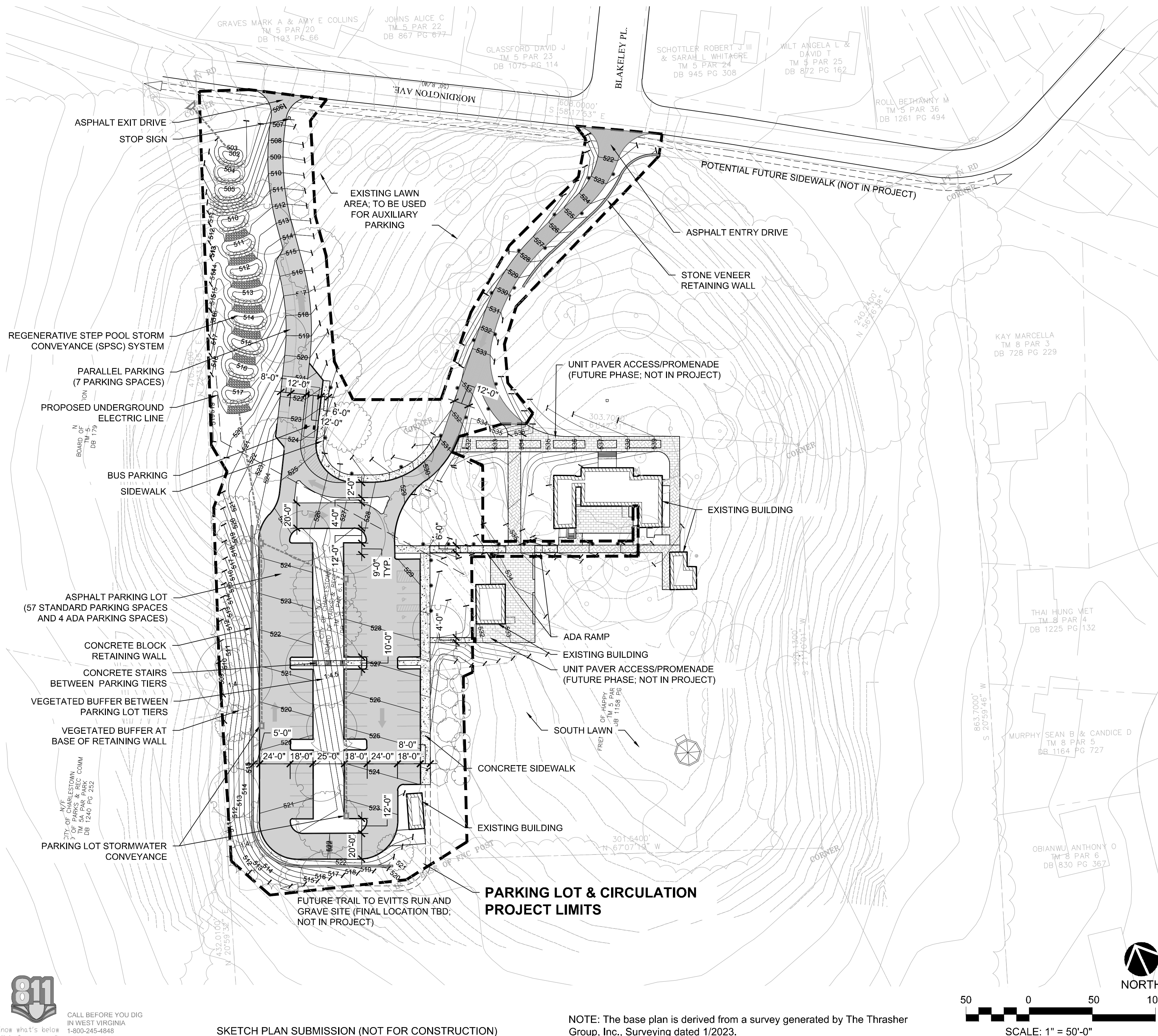
NO.	DATE	REMARKS

**NOTE: DO NOT SCALE FROM DRAWINGS.
VERIFY ALL DIMENSIONS ON SITE.**

DRAWN BY: FH/HF	
CHECKED BY: MS	
JOB #: 22012	DATE: 07/19/2023
SCALE: AS SHOWN	

SITE IMPROVEMENT PLAN

SK3-00





STROMBERG/GARRIGAN & ASSOCIATES, INC.

LANDSCAPE ARCHITECTURE & URBAN DESIGN
102 E. MAIN STREET, SOMERSET, PA. 15501
P. 814.443.1073 F. 814.444.0484 WWW.S-GA.COM

PROJECT TITLE:
**HAPPY RETREAT
PARKING LOT &
CIRCULATION**

PROJECT ADDRESS:
600 MORDINGTON AVE
CHARLES TOWN, WV 25414

OWNER:
Friends of Happy Retreat
P.O. Box 1427
Charles Town, WV 25414

STAMP:

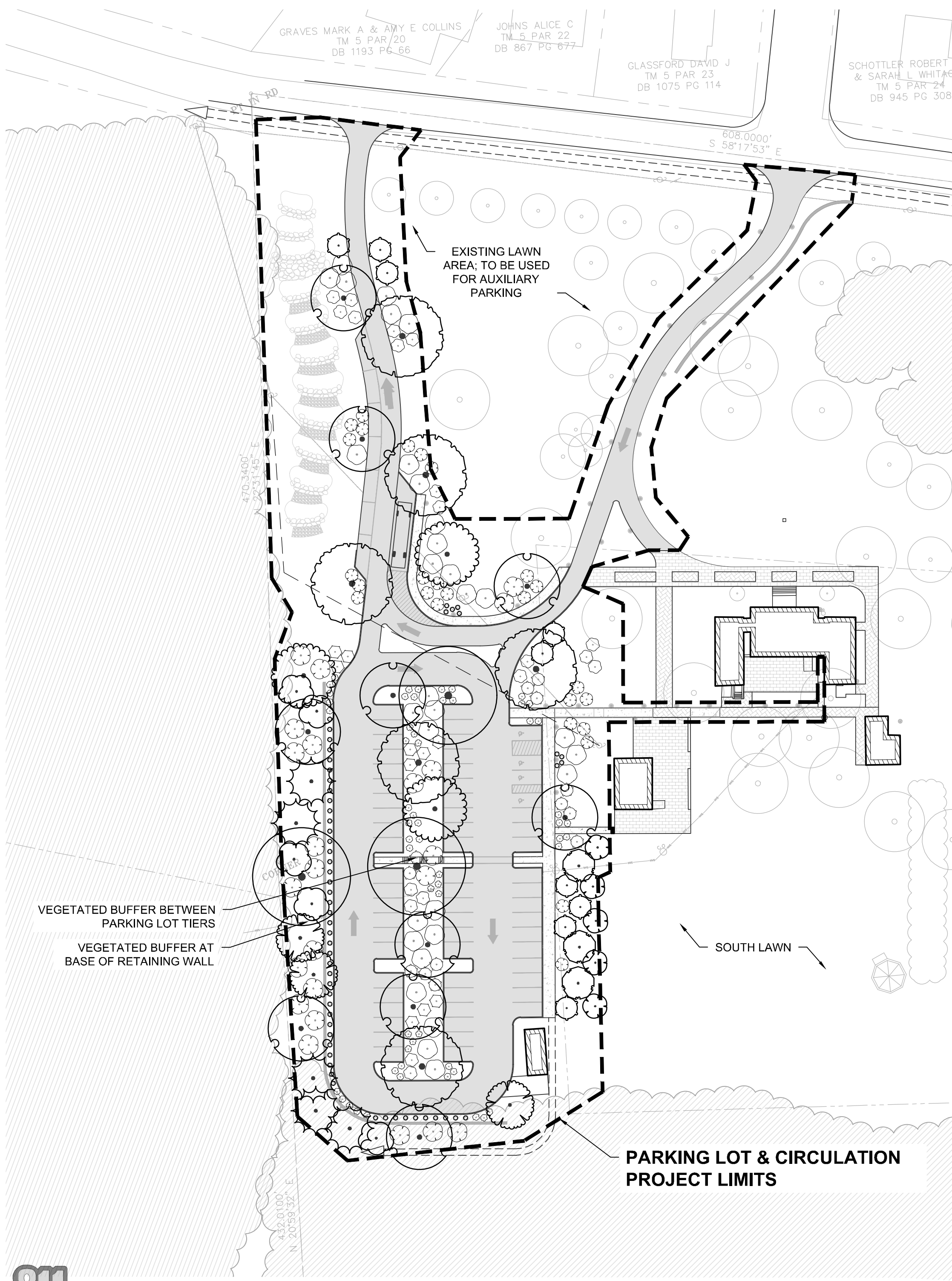
REVISIONS:		
NO.	DATE	REMARKS

NOTE: DO NOT SCALE FROM DRAWINGS.
VERIFY ALL DIMENSIONS ON SITE.

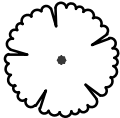
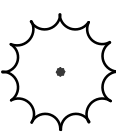
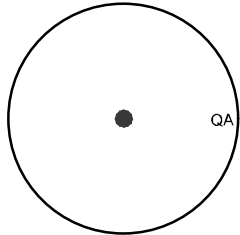
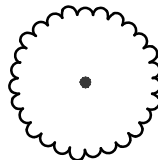
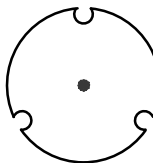
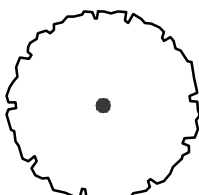
DRAWN BY: AMS	
CHECKED BY: MS	
JOB #: 22012	DATE: 07/19/2023
SCALE: AS SHOWN	

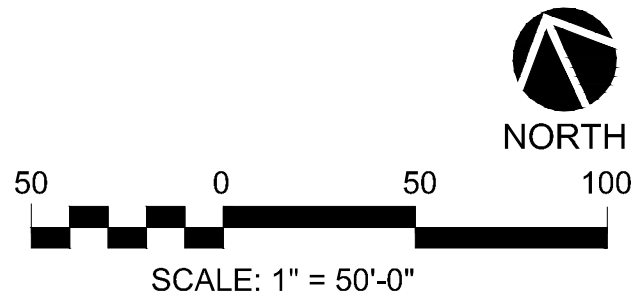
SHEET TITLE:
PLANTING PLAN

SK4-00



PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	
	CG	3	CARYA GLABRA / PIGNUT HICKORY	2" CAL.	
	CF	5	CORNUS FLORIDA / FLOWERING DOGWOOD	1" CAL.	
	HV	5	HAMAMELIS VIRGINIANA / COMMON WITCH HAZEL	10 GAL.	
	IT	9	ILEX MONTANA / MOUNTAIN HOLLY	7 GAL.	
	IO	3	ILEX OPACA / AMERICAN HOLLY	10 GAL.	
	PS	5	PINUS STROBUS / WHITE PINE	15 GAL.	
	QA	3	QUERCUS ALBA / WHITE OAK	3" CAL.	
	QC	3	QUERCUS COCCINEA / SCARLET OAK	2" CAL.	
	QM	10	QUERCUS MONTANA / CHESTNUT OAK	2" CAL.	
	QR	6	QUERCUS RUBRA / RED OAK	2" CAL.	
SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	SPA
	CAL SWE	6	CALYCANTHUS FLORIDUS / SWEETSHRUB	---	96"
	COR KLS	61	CORNUS SERICEA 'KELSEY' / KELSEY'S DWARF RED TWIG DOGWOOD	---	36"
	FA	47	FOTHERGILLA GARDENII 'MT. AIRY' / MT. AIRY DWARF WITCHALDER	---	48"
	HQ	15	HYDRANGEA QUERCIFOLIA / OAKLEAF HYDRANGEA	---	96"
	KL	11	KALMIA LATIFOLIA / MOUNTAIN LAUREL	---	96"
	RC	27	RHODODENDRON CATAWBIENSE / CATAWBA RHODODENDRON	---	96"
	RM	21	RHODODENDRON MAXIMUM / ROSEBAY RHODODENDRON	---	144"
	VP	12	VACCINIUM PALLIDUM / BLUEBERRY	---	48"
	VD	17	VIBURNUM DENTATUM / VIBURNUM	---	96"
	VB	31	VIBURNUM PRUNIFOLIUM / BLACKHAW VIBURNUM	---	144"



SKETCH PLAN SUBMISSION (NOT FOR CONSTRUCTION)

NOTE: The base plan is derived from a survey generated by The Thrasher Group, Inc., Surveying dated 1/2023.