CITY OF CHARLES TOWN

PLANNING COMMISSION
AGENDA • FEBRUARY 24, 2025

Commission/Board 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 - January 27, 2025
01-27-25 PC MINUTES_DRAFT.pdf

3. UNFINISHED BUSINESS

4. NEW BUSINESS

4.1 : **Public Hearing:** *SLD2023-04* - Fairview/Avalon Preliminary Plan
1. Staff Report.pdf
2. Application.pdf
3. Plan Set.pdf
4. Photometric Plan.pdf
5. WVDOH Entrance Permit Performance Bond.pdf
6. KH Review.pdf

4.2 : **Public Hearing**: *SLD2025-01* - Huntfield Revised Final Plans for Recreation Center
1. Staff Report.pdf
2. Application.pdf
3. 2006 Huntfield Pool Plans.pdf
4. Revised Plan Set.pdf
5. KH Review.pdf
6. Huntfield COA.pdf

4.3 : **Public Hearing:** *WV2024-05* - David Acly Waiver Request for Access Drive
1. Staff Report.pdf
2. Application.pdf
3. Survey.pdf

4.4 : Zoning/SALDO Overhaul - Advisory Committee

-Need two commissioners to serve.

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

SCHEDULED

AGENDA ITEM (ID #)

Meeting: 02/24/25
Department: Planning Commission
Category: Report
Initiator:

Draft Minutes - January 27, 2025

ATTACHMENTS:

- 01-27-25 PC MINUTES_DRAFT.pdf

CITY OF CHARLES TOWN
PLANNING COMMISSION
AGENDA • January 27, 2025

Committee Meeting **CITY HALL** **7:00 PM**

101 E Washington Street, Charles Town, WV 25414

1. CALL TO ORDER

Present: Ann Paonessa - Chair
Jessica Derr – Acting Chair
Zakhary Dunning
Jeff Hynes
Kevin Long

James Newman, City Staff - Zoning Administrator

2. APPROVAL OF MINUTES

2.1: Regular Session Minutes of December 23, 2024

RESULT:	**Approved**
MOVER:	Hynes
SECONDER:	Derr
AYES:	Paonessa, Derr, Dunning, Hynes, Long

3. UNFINISHED BUSINESS

WV2024-04 Baylor Street Driveway Waiver

Motion to take the item from the table:

RESULT:	**Approved**
MOVER:	Hynes
SECONDER:	Derr
AYES:	Paonessa, Derr, Dunning, Hynes, Long

Staff update.

Question about alley maintenance protocols. Discussion by the Commission.

Motion to approve the waiver request as presented:

RESULT:	**Approved**
MOVER:	Derr
SECONDER:	Dunning
AYES:	Paonessa, Derr, Dunning, Hynes, Long

DRAFT

4. NEW BUSINESS

Election of Officers:

Motion to elect Paonessa as Chair, Derr as Vice-Chair, Newman as Secretary

RESULT:	**Approved**
MOVER:	Hynes
SECONDER:	Long
AYES:	Paonessa, Derr, Dunning, Hynes, Long

Meeting adjourned at 7:06 pm.

RESULT:	**Approved**
MOVER:	Hynes
SECONDER:	Derr
AYES:	Paonessa, Derr, Dunning, Hynes, Long

DRAFT

Planning Commission
101 East Washington Street
Charles Town, WV 25414

SCHEDULED

AGENDA ITEM (ID #)

Meeting: 02/24/25
Department: Planning Commission
Category: Report
Initiator:

Public Hearing: *SLD2023-04* - Fairview/Avalon Preliminary Plan

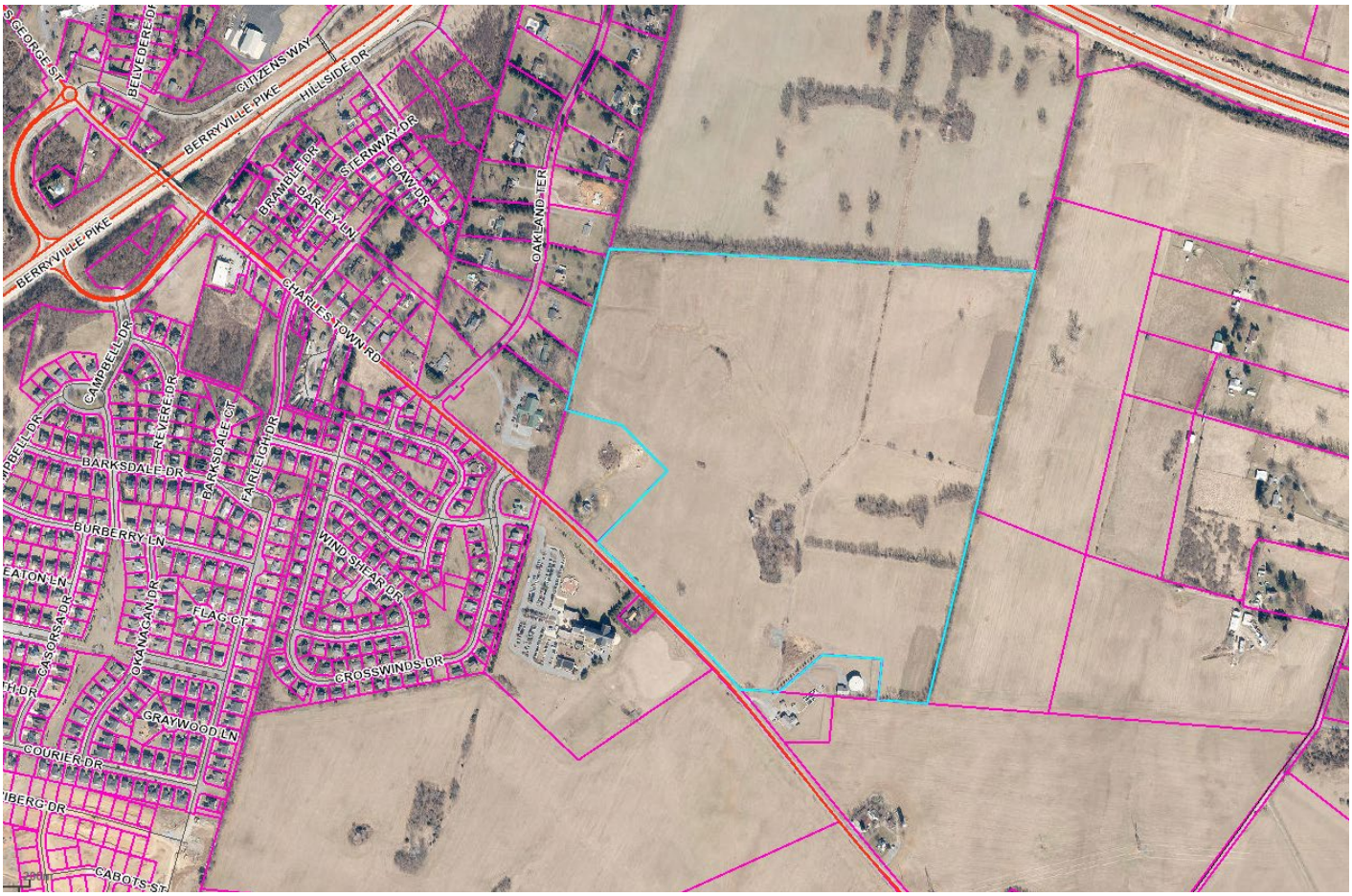
ATTACHMENTS:

- 1. Staff Report.pdf
- 2. Application.pdf
- 3. Plan Set.pdf
- 4. Photometric Plan.pdf
- 5. WVDOH Entrance Permit Performance Bond.pdf
- 6. KH Review.pdf

Preliminary Plan – Fairview/Avalon Phase 1

SLD2023-04

Date: For the February 24, 2025 Planning Commission meeting
Applicant: LGI Homes-West Virginia LLC
Property Owner: Jaguar IV LC
Report by: James Newman, City Planner, Zoning/Subdivision Administrator.
Proposal: Major Subdivision and Land Development.
Property Location: Located on Charles Town Road
Current Zoning: Neighborhood Residential



PROJECT OVERVIEW

The development of Phase 1 for the proposed Fairview/Avalon subdivision. Section 1 is 45 acres for residential and commercial land uses, and contains 102 single-family detached homes, 85 townhomes, and two commercial pad sites. The pad sites must go through their own site plan development process in order to be developed.

PLANNING COMMISSION

The Planning Commission approved the sketch plan for this item on February 26, 2024, subject to conditions:

1. *The trail required by the Conditions of Annexation shall be shown on the Preliminary Plan.*
    - Applicant has provided trails on the preliminary plan.

2. *All recreation amenities required by the Conditions of Annexation shall be shown on the Preliminary Plan.*
    - Applicant has provided this level of detail on the preliminary plan.

3. *A minimum 10-ft wide evergreen vegetated landscape buffer shall be planted along the eastern and northern property lines. The buffer shall conform to the requirements of Subdivision and Land Development Ordinance Section 1333.15. The buffer shall be shown on the Preliminary Plan.*
    - The buffer has bene provided along the eastern property line. The northern area will be developed as part of phase 2.

4. *The Applicant shall provide mitigation for Intersections 4 and 5 which as shown in Table 4 on Page 34 of the Traffic Impact Study which are shown to have failing LOS in the future 2030 Build Improved condition. The Applicant shall make the necessary improvements to conform with providing a minimum LOS D for all approaches. The improvements shall be made prior to the issuance of any Certificate of Occupancy. This condition shall be void if the West Virginia Department of Transportation - Division of Highways ("WVDOH") does not require mitigation of Intersections 4 and 5 as shown in Table 4 on Page 34 of the Traffic Impact Study or requires mitigation to either intersection which is different than this condition, in which case this condition shall be superseded and revised to comply with whatever, if any, mitigation or other improvements the WVDoH may require.*
    - The updated addendum shows LOS 3 and F for peak morning and evening traffic at certain approaches to the site. Per Condition 3, shall make all necessary improvements to have a LOS of D at minimum.

5. *The applicant shall provide an updated traffic impact study for Levels of Service for intersection 4 & 5 shown on table 4 of page 34*
    - The updated addendum shows LOS 3 and F for peak morning and evening traffic at certain approaches to the site. Per Condition 3, shall make all necessary improvements to have a LOS of D at minimum.

SUBDIVISION & LAND DEVELOPMENT REVIEW

The property is zoned Neighborhood Residential (NR). Per the Zoning Ordinance:

The purpose of the NR District is to provide for a mix of housing types and related services and Uses, including Commercial Uses and office services.

…

The intent is to create a cohesive pattern of primarily residential development that allows a mix of Uses, including neighborhood servicing Commercial and office Uses and/or Commercial and office Uses that complement the primarily residential character of the neighborhood.

USE MIXTURE

Total usable land area requirements:

TYPE	**REQUIRED**	**PROVIDED** – PHASE 1
Residential	50%	51% - 22.16 acres
Commercial	10%	10% - 11.38 acres
Open Space	10%	15% - 6.54 acres

The commercial use aspect is required to be comprised of *Neighborhood Commercial* Zoning District non-residential uses.

DENSITY

Maximum permitted density is 10 units/acre; proposed density is 9.4 units/acre.

SIDEWALKS

Sidewalks will be provided on all roads within the development. Sidewalks are shown on both sides of most roads. The principal road to the site, Griffin Place, has a sidewalk on one side and a 10 ft. wide trail on the other side. The other main access road to this section, Elmcroft Street, ahs 5 ft. wide sidewalks on both sides of the road. No sidewalks are proposed adjacent to Charles Town Road/WV Rte. 115, which is 60 ft. wide with a posted speed of 55 mph.

TRAILS

Trails are required per the Conditions of Annexation, and have been included along the major roadway. This requirement has been met. The applicant has also provided a trail adjacent to the Widmyer property to the east, with that trail going behind the townhomes along Wickwood Lane.

BUFFERS

Buffers between non-residential and residential are required. Buffers between this development and an adjacent farm are appropriate. There is an existing tree line along the eastern side of the property that will be used as buffering to the greatest extent possible.

A buffer line of trees is provided along the south-western property line with Charles Town Road; trees are provided along the southern property line adjacent to the water tower and treatment plant; and along the eastern property line adjacent to the working farm. For the western property line, the majority of the site will be developed at a later phase.

LANDSCAPING

Street trees are shown planted along all roads. This criteria is met. There are no dumpsters or parking lots.

OPEN SPACE/RECREATION

The Conditions of Annexation require a variety of recreational and open space options. Centrally located 'Open Space C' is shown with benches, a pavilion with electric service, and a playground area.

'Open Space D' has the required multi-purpose play field, along with benches.

Trees are proposed around and within both open space areas to provide screening and shade for recreation.

The Conditions of Annexation require that at least 10% of the parcel be designated for open space, with a pro-rated 20% open space based on the percentage of the property that is developed for townhomes. The applicant has provided the required open space amounts.

STORMWATER

Kimley-Horn has reviewed the plan set and approved of the stormwater management facilities.

LIGHTING

A photometric plan has been provided, which complies with the City's lighting requirements.

TOWNHOUSE DEVELOPMENT STANDARDS

Section 1333.20 of the Subdivision and Land Development Ordinance lays out use standards which apply to townhome developments:

*(A) **Density**. The overall density in a townhouse project shall not exceed the Maximum Density specified in the Charles Town Zoning Ordinance for the Zoning District in which it is located except when designed and developed as a Planned Unit Development under provisions set forth in the Charles Town Zoning Ordinance. Density shall be calculated using the Net Buildable Land Area (as such term is defined in the Zoning Ordinance) of the Lot.*

> Maximum density in NR is 10 units per acre. Proposed density is 9.4 units per acre. This criterion is **met**.

*(B) **Land Area**. The Net Buildable Land Area (as such term is defined in the Zoning Ordinance) of a townhouse Development shall equal at least 3,500 square feet for each dwelling unit. Each dwelling unit shall have a minimum lot size of 2,000 square feet. The difference between the Net Buildable Land Area and the total area of the dwelling unit Lots shall be allocated to open space common area*.

This criterion is **met**.

*(C) **Tract Frontage**. Each townhouse development shall have at least 50 foot of street frontage. This does not apply to single or multiple contiguous townhouses on an existing platted street. For a townhouse development on a pipestem lot, the minimum pipestem width shall be the right-of-way width as required per Table 1333.02.*

This criterion is **met**. Each section of townhomes meets this requirement.

*(D) **Townhouse Lot Width**. The minimum townhouse lot width shall be in accordance with the minimum lot with specified in the Charles Town Zoning Ordinance for the Zoning District in which the townhouse is located. Each Lot on the end of a row of townhouses shall have an additional width necessary to accommodate the required side yard.*

This criterion is **met**. The minimum lot width requirement for townhomes in NR zoning is 18 ft.

*(E) **Length of Townhouse Row**. There shall be not be more than ten (10) nor less than three (3) contiguously connected townhouse units.*

This criterion is **met**; the townhomes are in sets of five.

*(F) **Yards**. The following minimum Setback requirements shall apply:*

*1. **Front Yard**. Each townhouse shall have a minimum front yard Setback that is in accordance with the minimum front yard setback specified in the Charles Town Zoning Ordinance for the Zoning District in which the townhouse is located. Townhouses, however, may be arranged to face onto a common open space. In such instances, such a space shall not be less than fifty (50) feet in width and shall be arranged to permit access for emergency vehicles.*

With such an arrangement, the front yard requirement may be reduced by ten (10) feet. If the townhouses have rear loaded garages or parking, the setback can be reduced from the required setback distance to zero (0) feet, or any distance in between, provided that no steps or stoops shall be allowed within the right of way or upon sidewalk, unless the sidewalk has a clear walking path of five (5) feet from the closest edge of the steps or stoop to the edge of curb. This reduced setback shall supersede the Zoning Ordinance requirements.

*2. **Side Yard**. Each townhouse shall have a minimum side yard Setback that is in accordance with the minimum side yard setback specified in the Charles Town Zoning Ordinance for the Zoning District in which the townhouse is located. When the yard adjoining the corner Lot along the rear lot line fronts*

the side Street of the corner Lot, the width of the corner Lot shall be increased to provide a minimum side yard Setback equal to the adjoining front yards.

*3. **Rear Yard**. Each townhouse shall have a minimum rear yard Setback that is in accordance with the minimum rear yard setback specified in the Charles Town Zoning Ordinance for the Zoning District in which the townhouse is located. However, access to the rear yard for purposes of maintenance and fire protection shall be accommodated by a private access drive or a minimum ten (10) foot property service easement, which shall be perpetually recorded with each dwelling unit property.*

An accessory Building shall be located only in a rear yard and shall occupy not over twenty-five (25) percent of the rear yard area and shall be located not less than five (5) from any Alley or rear service Street Line. Enclosing of the rear yard space is permitted pursuant to the fencing requirements specified under Article 1323 (H) of the Charles Town Zoning Ordinance.

These setback criteria are **met**. The proposed development meets the setback requirements, which are:
Front: 25 ft.
Sides: 10 ft., or 0 ft. for a shared party-wall.
Rear: 20 ft.

*(G) **Access Drives and Off-Street Parking**. Off-street parking space shall be provided at the rate of 1.8 spaces per dwelling unit. In a Subdivision/Land Development of townhouse Lots, it will not be necessary that off-street parking be provided on a specific Lot so long as the required number of parking spaces are provided in the Subdivision/Land Development for the number of Lots to be served; provided that, no parking area shall be more than 200 feet from the dwelling unit it serves.*

This criterion is **met**. Each townhomes unit features a garage and driveway spot.

*(H) **Townhouse garages** may be attached to or detached from the townhouse unit and may be accessed from either the front or rear yard. When detached the garage structure must be consistent and compatible with the architecture and materials of the respective townhouse unit.*

This criterion is **met**.

*(I) Townhouses abutting each other shall have complimentary but not identical **facades**.*

This criterion will be enforced during the building permit process. No architectural plans have been provided for staff review yet.

*(J) No more than two abutting townhouses shall have a **common roof line**.*

This criterion will be enforced during the building permit process. No architectural plans have been provided for staff review yet.

(K) When townhouse Lots do not front on a Public Street, they shall front on private roads, parking lots or access Easements. The length and extent of private roads, parking lots or access Easements providing access to Lots shall be minimized, and Public Streets shall be provided in larger Subdivisions/Land Developments when substantial distances are involved.

Roads will either be deed to the City for ownership and maintenance, or maintained by the HOA.

(L) ***Site Coverage****. The minimum townhouse lot width shall be in accordance with the minimum lot with specified in the Charles Town Zoning Ordinance for the Zoning District in which the townhouse is located.*

This criterion is **met**. Minimum lot size is 2,000 sq. ft.

(M) Adequate provision shall be made for ***storage of collection and refuse*** *where applicants desire a centralized collection point(s) in lieu of curb-side trash pick-up. This area shall be screened and the dumpsters placed on a concrete pad pursuant to Article 1333.23(L) of this Ordinance.*

The plan does not show any centralized dumpster or waste collection facilities or pads.

(N) ***Permeable areas*** *of the site shall be planted with ground cover, shrubs, and trees as required by this Ordinance.*

Ground cover in the form of grass and other landscaping will be used on permeable areas.

(O) ***Required Open Space****.*

1. The difference between the Net Buildable Land Area of a townhouse Development and the total area of the dwelling unit Lots shall be allocated to open space common area as specified in Section 1333.20(B) above.

2. In the event that the Planning Commission, by waiver, permits dwelling unit Lots of less than the 2,000 square foot minimum specified in Section 1333.20(B), compensating open space must be established and provided within the project site equal to the aggregate area by which such Lots are under the 2,000 square foot minimum.

3. In a townhouse Development, open space for the Subdivision/Land Development must at least equal 30 percent of the Net Buildable Land Area of the Subdivision/Land Development. To the fullest extent possible, open space for townhouses must be located near the townhomes

Per the COA, the required open space is pro-rated to 20% of the area occupied by the townhomes.

(P) ***Maintenance of Common Areas****. All common areas and facilities including, but not limited to, recreational facilities, off-street parking and common open space shall be maintained in a satisfactory manner without expense to the general taxpayers of the City. In order to insure the maintenance of and*

the payment of taxes on the commonly held non-public property, a mandatory homeowners association shall be created and a declaration regarding the same shall be recorded to the satisfaction of the Planning Commission in the Office of the Clerk of Jefferson County.

A homeowner's association must be established to care for common areas. The applicant has stated they will establish an association.

ROAD DESIGN

The main thoroughfare is designated on the Comprehensive Plan. The applicant is required by the Conditions of Annexation to build a minimum two-lane road designed to *minor collector* road standards. The right-of-way for that road type is a minimum 80 feet wide.

Both of these requirements have been **met**.

TRAFFIC IMPACT STUDY

Per the Conditions of Annexation, a traffic impact study is required if the sketch plan is approved. The applicant has completed the traffic study, and it was approved by the WV Division of Highways on October 4, 2023. A final version was provided to the City on December 20, 2023, with an amended version provided on March 25, 2024.

The study was based on 267 single-family homes, 200 townhomes, and 99,000 sq. ft. of self-storage space. This plan for Phase 1 shows 102 single-family homes, 85 townhomes, and two commercial pads with no designated use. Self-storage is not a permitted use in the Neighborhood Residential zoning district.

The total number of daily trips for the site overall is estimated at 4,133, with a morning peak of 335 trips per hour and an evening peak of 421 trips per hour. To adequately handle the increased traffic, multiple improvements are required:

1. Construction of a right-turn slip lane on the US 340 Southbound Ramp to WV 115,
2. Construction of a right-turn slip lane on the WV 115 eastbound approach to US 340 Northbound Ramp/Hillside Drive,
3. Construction of an exclusive left-turn lane on WV 115 eastbound approach to Site Drive #1,
4. Construction of an exclusive left-turn lane on WV 115 eastbound approach to Site Drive #2.
5. Traffic Signal at WV 115 and Jefferson Avenue
6. Widening Rt 115 to include a eastbound left-turn lane
7. WV 115 and Citizens Way – NB US 340 right-turn slip lane
8. Roundabout at WV 115 and Hillside Drive

The results of the 2030 Build Improved Conditions capacity analyses indicate that traffic movements that operate worse than LOS D during 2030 Build Conditions will be mostly

mitigated following implementation of proposed improvements. Traffic movements that are expected to operate worse than LOS D include the following:

1. Farleigh Drive northbound approach to WV 115 LOS F during the evening peak hour
2. Crosswinds Drive northbound left-turn movement to WV 115 LOS E during evening peak hour.

Additional off-site improvements that will improve traffic levels of service include:

1. The WVDoH traffic circle to be located at the intersection of Charles Town Road and Hillside Drive, with a planned construction date of 2025.
2. A traffic signal and exclusive left-turn lane at the intersection of Charles Town Road and Jefferson Avenue. Per the study, that improvement is part of a planned project by WVDoH.

Kimley-Horn reviewed the traffic study and provided the following comments:

"The Applicant should provide mitigation for Intersections 4, and 5 which as shown in Table 4 on Page 34 are shown to have failing LOS in the future 2030 Build Improved condition. The Applicant should commit to making the necessary improvements to conform with providing a minimum LOS D for all approaches."

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.

VIEW OF NEARBY ROADS

CONDITIONS OF ANNEXATION

On September 18, 2023 City Council approved a set of revised conditions of annexation for the parcel. To summarize, the conditions include:

Economic Impact:

1. A fee of $3,494 per residential unit.
2. A fee of $2,958 per thousand sq. ft. of commercial space.

Zoning:

1. At least 10% of the property shall be open space.
2. Open space standards for townhomes shall be pro-rated at 20% based on the percentage of the property developed for townhomes.

Recreation:

1. Land owner shall create recreation areas, walking path, small parks (1 to 2 acres in size).
2. Outdoor community center consisting of a pavilion with electricity, picnic tables, and BBQ grills.
3. Playground using commercial grade equipment that serves 6-23 month old toddlers, children 2-5 years old, and children 5-12 years old.
4. A multi-purpose play field.

Affordable Housing:

1. 10% of the residential units shall meet the Dept. of Housing and Urban Development's HOME Homeownership value limit.

Transportation:

1. Land owner shall coordinate with the Jefferson County Board of Education to provide an adequate number of bus stop shelters.
2. Land owner shall coordinate with the Eastern Panhandle Transit Authority to provide an adequate number of bus stop shelters.
3. The Land owner shall construct a major roadway and trail consistent with the Comprehensive Plan.
4. A traffic impact study will be performed
5. If a traffic light is required per the traffic impact study the applicant shall be responsible for any portion deemed appropriate by the State Department of Highways.

Site Improvement:

1. All commercial lots shall be prepared, to include grading and utility installation. This shall be done during Phase 1 of the project.

ADDITIONAL CRITERIA

The applicant had provided as series of guarantees to the eastern adjacent property owners, the Widymer family:

1. *A new farm fence along the property line*. – Provided.

2. *A mulch trail along Widmyer property line and along the fence* – Provided.

3. *A single row of evergreen trees at the back of the proposed townhouse lots. With acceptable tree designations proposed*. – Provided.

4. *The rear of the townhouses are to be approximately 33 feet away from the property line*. – Provided.

5. *It was assured that the drainage management of these many buildings (currently to the property line) is to be managed within the 33 feet buffer from the Widmyer property line to the stormwater drainage ponds before a controlled release upon the Widmyer property*. – Kimley-Horn has reviewed the stormwater management system and found it to meet Ordinance requirements.

CONCLUSION

The applicant is seeking to build a development of 85 townhomes, 102 single-family detached homes, and two commercial lots. The proposed development meets the stormwater, townhome, landscaping, and buffering standards. The proposed development adheres to the Conditions of Annexation, and provides guarantees of certain development features to adjacent property owners.

Additional details on compliance with the sketch plan conditions (specifically those related to traffic) is required.

RECOMMENDATION

Table action to allow the applicant to address the sketch plan conditions of approval.

S/LD Application No._____

SUBDIVISION AND LAND DEVELOPMENT 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 Subdivision and Land Development (S/LD) Application, the Applicant must utilize this form to supply the City with the information prescribed under Section 1332.03 of the Charles Town Subdivision Ordinance. The submission of this form, along with the prescribed information and required fees, shall serve as the Applicant's S/LD Application as required by Ordinance Section 1332.03.

1. DATE March 12, 20 24

2. APPLICATION TYPE

☐ Minor Subdivision | Final S/LD Plan

☒ Major Subdivision Development*
- Preliminary S/LD Plan and Final Plat

☐ Major Land Development**
- Preliminary S/LD Plan

☐ Major Subdivision and Land Development***
- Preliminary S/LD Plan and Final Plat

*Conventional Subdivision – A Preliminary Plan and Plat Approval and a Final Plan and Plat Approval is required.

**No Division/Merger of Land – A Preliminary Plan and Plat Approval is required for the submission of a building or multiple buildings on one lot where there is no subdivision of land (commonly referred to as a site plan).

***A Preliminary Plan and Plat Approval and a Final Plan and Plat Approval is required for the submission of a building or multiple buildings that will require the merger, adjustment or subdivision of land.

3. APPLICANT'S NAME* LGI Homes - West Virginia, LLC

Address: 1803 Research Blvd, Suite 406, Rockville, MD 20850

Telephone Number (301) 356-5970 Fax Number ( )

Email Address mike.dropik@lgihomes.com

4. PROPERTY OWNER'S NAME Jaguar IV, LC

Address: 2755 Town Mews Lane Charlottesville, VA 22901

Telephone Number (703) 209-0111 Fax Number ( )

Email Address ccocke@cst-cpa.com

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

Property Address: Charles Town Road

Tax Map # and Parcel: TM 10, Parcel 218.1

Deed Book and Page #: 1089 / 144

Property Area in Square Feet or Acres: 4,950,477 SQ. FT. and 113.65 Acres

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

Mixed use residential and commercial community.

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

Existing Use: Agricultural

Current Zoning: Neighborhood Residential (NR)

*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.

9. 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
SLD 2023-04	Fairview - Sketch Plan	Approved w/ Conditions	February 26, 2024

10. 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

11. PLAN/PLAT SUBMISSION TO OTHER AGENCIES (Documentation of all required approvals must be attached to this Application or submitted prior to Preliminary S/LD Application approval)

Agency (Specify others as applicable)	Submittal Date	Approval/Permit Issued	Date of Approval/Issuance
City of Charles Town	Pending		
City of Charles Town Utility Board			
Jefferson County Planning and Zoning Department			
Jefferson County Addressing Office			
Jefferson County Board of Education			
WV Department of Environmental Protection			
WV Department of Transportation, Division of Highways			
WV State Historic Preservation Office			
WV Office of Environmental Health Services			
U.S. Army Corps of Engineers			

12. FEE CALCULATION (Per Fee Schedule) $200 (base fee) + $200 x 187 units =

AMOUNT PAID $ 9,550.00

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 1332.03 of the Charles Town S/LD Ordinance and relevant provisions of the Charles Town City Code.

Signature of Applicant

_____ Date 3-18-2024

Signature of Property Owner (If different than Applicant)

Charles P Cobbe Date 3.13.2024

Mgr Jaguar IV, LLC

Please submit an original completed Application and specified number of Plan/Plat (Three (3) copies at 24" x 36", Adobe PDF format, and Five (5) copies at 11" x 17") 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:_____

_____

_____

_____

_____

_____

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

AVALON - SECTION 1

(FORMERLY FAIRVIEW)
CITY OF CHARLES TOWN
JEFFERSON COUNTY, WEST VIRGINIA
TAX MAP 10, PARCEL 218.1; D.B. 1089, PG. 144
PARCEL 208; D.B. 1267, PG. 675

OWNER
JAGUAR IV LC
2755 TOWN MEWS LANE
CHARLOTTESVILLE, VA 22901
703-209-0111

APPLICANT
LGI HOMES - WEST VIRGINIA LLC
1629 K STREET NW, SUITE 800
WASHINGTON, DC 20006
301-356-5970

INTEGRITY FEDERAL SERVICES
CIVIL ENGINEERING • LANDSCAPE ARCHITECTURE • PLANNING
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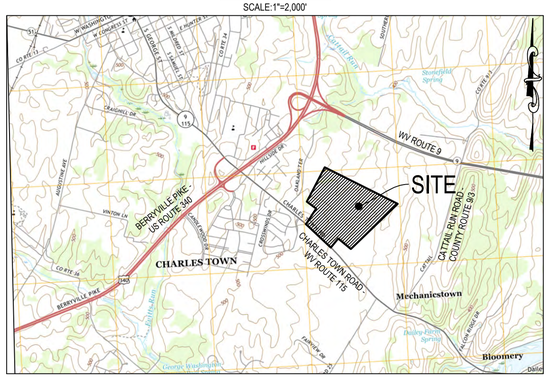
CIVIL LEGEND:

EXISTING | PROPOSED

- BOUNDARY/RIGHT-OF-WAY LINE
- ADJACENT BOUNDARY LINE
- CONCRETE MONUMENT/IRON REBAR (EX. VDH, EX. CC, IPF, RBF; CC-TBS, TBS)
- EASEMENT LINE
- ROAD CENTERLINE
- HEADER CURB
- CURB & GUTTER (CURB, TRANS., REVERSE CURB)
- EDGE OF PAVEMENT
- EDGE OF CONCRETE
- EDGE OF GRAVEL
- SIDEWALK
- GUARDRAIL
- BOARD FENCE
- CHAIN LINK FENCE
- WIRE FENCE
- BUILDINGS (TO BE REMOVED, TO REMAIN)
- RETAINING WALL
- MISCELLANEOUS SIGNS
- MAIL BOX
- SITE LIGHT WITH POLE
- BUILDING MOUNTED LIGHT
- UTILITY POLE
- UTILITY POLE GUY WIRE
- OVERHEAD UTILITY LINE
- UNDERGROUND UTILITY LINE
- OVERHEAD COMMUNICATIONS LINE
- UNDERGROUND COMMUNICATIONS LINE
- UNDERGROUND GAS LINE
- SANITARY SEWER MAIN (8" PVC SAN. SEW.)
- SANITARY SEWER FORCE MAIN
- SANITARY SEWER MANHOLE
- SANITARY SEWER CLEAN-OUT
- STORM SEWER LINE (15" HDPE)
- STORM SEWER MANHOLE
- STORM SEWER DROP INLET
- STORM SEWER CURB INLET
- STORM SEWER RIP-RAP
- STORM SEWER END SECTION
- WATER MAIN (8" W/M)
- FIRE HYDRANT
- WATER VALVE
- WATER METER
- INDEX CONTOUR LINE (590)
- INTERMEDIATE CONTOUR LINE (592)
- SPOT ELEVATIONS (+45 GS, +45 TC, +45 INV)
- TREES/SHRUBS
- DRIP LINE OF TREES
- LIMITS OF CONSTRUCTION
- SOIL BOUNDARY (HbB, HgC)

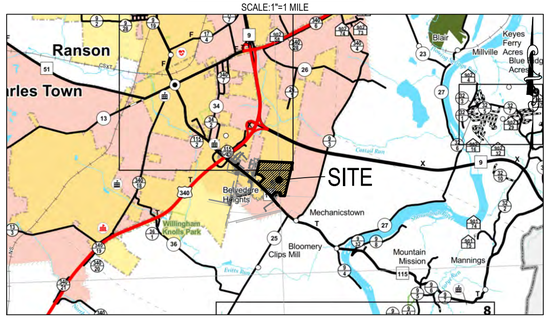
VICINITY MAP

SCALE:1"=2,000'



WVDOH VICINITY MAP

SCALE:1"=1 MILE



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CONDITIONS OF ANNEXATION NOTES:

ECONOMIC IMPACT:

1. IN LIEU OF PAYING CAPITAL IMPROVEMENT FEES, AND FEE IN—LIEU REQUIREMENTS FOR PARK DEDICATION UNDER SECTION 1333.17 OF THE SUBDIVISION AND LAND DEVELOPMENT ORDINANCE, THE LAND OWNER PROFFERS PAY A FLAT FEE OF $3,494.00 PER RESIDENTIAL UNIT AT THE TIME OF BUILDING PERMIT ISSUANCE. THE LAND OWNER SHALL BE EXEMPT FROM ANY FUTURE CAPITAL IMPROVEMENT FEES IMPLEMENTED BY THE CITY.

2. IN LIEU OF PAYING CAPITAL IMPROVEMENT FEES, THE LAND OWNER PROFFERS TO PAY A FLAT FEE OF $2,958 PER THOUSAND SQUARE FEET OF COMMERCIAL SPACE AT THE TIME OF BUILDING PERMIT ISSUANCE. THE LAND OWNER SHALL BE EXEMPT FROM ANY FUTURE CAPITAL IMPROVEMENT FEES IMPLEMENTED BY THE CITY.

URBAN ZONING:

3. THE PROPERTY IS TO BE ZONED (NR) NEIGHBORHOOD RESIDENTIAL DISTRICT. AT LEAST 10% OF THE AREA OF PARCEL 218.1 SHALL BE CREATED AS "FOR-PROFIT" COMMERCIAL USES. ALL PROPOSED LAND USES SHALL BE SO DESIGNATED ON THE SKETCH PLAN. THE 2.42—ACRE PARCEL 218.2, DEEDED TO THE CITY OF CHARLES TOWN IN 2013 FOR A WATER TREATMENT FACILITY, IS TO BE INCLUDED IN THE CALCULATION OF COMMERCIAL USE.

4. THE CITY AGREES TO THE FOLLOWING CLARIFICATIONS OF THE ZONING ORDINANCE:
   A. TOWNHOMES MAY BE CONSTRUCTED ON INDIVIDUAL LOTS AND DO NOT NEED TO BE LOCATED ON A 5 ACRE CLUSTER.
   B. FOR ALL RESIDENTIAL STRUCTURES, STREET FRONT SET BACKS SHALL BE MEASURED FROM THE STREET CURB.

5. THE LAND OWNER AGREES TO PROVIDE LANDSCAPED BUFFERS BETWEEN COMMERCIAL USES AND ADJOINING RESIDENTIAL USES. SUCH BUFFERS SHALL BE AS PRESCRIBED IN THE CITY'S ZONING ORDINANCE OR MAY BE LANDSCAPED PARKS OR TRAILS.

6. IN ACCORDANCE WITH THE NR ZONE REGULATIONS, AT LEAST 10% OF PARCEL 218.1 SHALL BE OPEN SPACE. AS A MIXED-USE COMMUNITY, SECTION 1333.20(O) OF THE SUBDIVISION AND LAND DEVELOPMENT ORDINANCE OF THE CITY OF CHARLES TOWN, OPEN SPACE STANDARDS FOR TOWNHOUSE DEVELOPMENTS SHALL BE PRO-RATED AT 20% BASED ON THE PERCENTAGE OF THE PROPERTY THAT IS DEVELOPED FOR TOWNHOMES.

MUNICIPAL INFRASTRUCTURE AND SERVICES:

7. AS PART OF THE DEVELOPMENT, THE LAND OWNER AGREES TO CREATE RECREATION AREAS, WALKING PATHS AND A SMALL COMMUNITY PARK(S) (1 TO 2 ACRES) TO BE BUILT FOR USE OF THE RESIDENTS AND USERS OF THE PLANNED DEVELOPMENT. THESE AREAS SHALL BE MAINTAINED BY THE HOA CREATED FOR THE DEVELOPMENT.

8. THE FOLLOWING AMENITIES SHALL BE INCLUDED IN THE COMMUNITY PARK(S):
   A. OUTDOOR COMMUNITY CENTER CONSISTING OF A PAVILION WITH ELECTRICITY, PICNIC TABLES AND BBQ GRILLS.
   B. PLAYGROUND: CONSTRUCT COMMERCIAL GRADE PLAYGROUND EQUIPMENT THAT SERVES THE FOLLOWING AGE GROUPS (6-23 MONTHS, 2-5 YEARS, AND 5-12 YEARS). THE PLAYGROUND SHOULD MEET ADA COMPLIANCE STANDARDS THAT FEATURES RAMPS AND TRANSFER STATIONS WITH ACCESSIBLE ACCESS TO THE PLAYGROUND AREA. PLAYGROUND SURFACING SHOULD CONSIST OF ADA ACCESSIBLE ENGINEERED WOOD FIBER, RUBBER MULCH, OR POUR-IN-PLACE RUBBER SURFACING WITH THE GOAL OF FACILITATING INCLUSIVE PLAY OPPORTUNITIES.
   C. MULTI-PURPOSE PLAY FIELD.

AFFORDABLE HOUSING:

9. 10% OF THE RESIDENTIAL UNITS IN THE DEVELOPMENT SHALL MEET HUD'S HOME HOMEOWNERSHIP VALUE LIMITS FOR JEFFERSON COUNTY.

TRANSPORTATION:

10. THE LANDOWNER SHALL CO-ORDINATE WITH THE JEFFERSON COUNTY BOARD OF EDUCATION TO PROVIDE AN ADEQUATE NUMBER OF BUS STOP SHELTERS WITHIN THE DEVELOPMENT TO BE USED FOR SCHOOL TRANSPORTATION, SUBJECT TO ACCEPTANCE BY THE JEFFERSON COUNTY BOARD OF EDUCATION.

11. THE LANDOWNER SHALL CO-ORDINATE WITH THE EASTERN PANHANDLE TRANSIT AUTHORITY TO PROVIDE AN ADEQUATE NUMBER OF BUS STOP SHELTERS FOR PUBLIC TRANSPORTATION SUBJECT TO ACCEPTANCE BY EPTA.

12. THE LAND OWNER SHALL INCLUDE THE CONSTRUCTION OF A MAJOR ROADWAY AND TRAIL CONSISTENT WITH THE TRANSPORTATION PLAN OF THE CITY'S COMPREHENSIVE PLAN. THE TRAIL SHALL BE FULLY CONSTRUCTED BY THE LAND OWNER TO SUBDIVISION AND LAND DEVELOPMENT ORDINANCE STANDARDS UNDER SECTION 1333.18(A) AND STANDARD DETAIL ST1. THE TRAIL IS TO BE LOCATED WITHIN THE PROPOSED MAJOR ROAD RIGHT OF WAY, AND IT SHALL BE ACCESSIBLE BY THE GENERAL PUBLIC. THE ROAD SHALL BE DESIGNED AS A CONTINUOUS LIMITED ACCESS ROADWAY DESIGNED TO SERVE THE TRAFFIC GENERATED BY THE SUBDIVISION, BUT NOT LIMITING THE USE OF TRAFFIC CALMING FEATURES SUCH AS ROUNDABOUTS, NARROW TRAVEL LANES AND RAISED CROSSWALKS TO MAKE THE ROAD MORE COMPATIBLE FOR A RESIDENTIAL AREA. THE LAND OWNER SHALL BUILD THIS ROAD NOT MORE THAN 2 LANES WIDE (MINOR COLLECTOR ROAD DESIGN STANDARDS), EXCLUDING REQUIRED TURNING LANES, AND THIS ROAD SHALL BE LOCATED WITHIN AN EIGHTY-FOOT WIDE RIGHT OF WAY. THE ROAD SHALL BE LOCATED TO SERVE THE VARIOUS PARTS OF THE SUBDIVISION. AN EIGHTY FOOT WIDE RIGHT OF WAY WILL BE RESERVED AND PLATTED TO ALLOW COMPLETION THROUGH THE PROPERTY OF THE MAJOR ROAD TO THE PROPERTY LINE [ADJOINING THE APPROXIMATELY 92 ACRE LANGLET PROPERTY (CURRENTLY TAX DISTRICT 3/MAP 15/PARCEL 7)] OF THE PARCEL.

13. THE CITY AGREES TO WORK WITH THE LAND OWNER AND THE WVDOT TO CREATE THE BEST MAIN ENTRANCES INTO THE DEVELOPMENT.

14. THE LAND OWNER SHALL CONDUCT A TRAFFIC IMPACT ANALYSIS (TIA) ONCE THE SKETCH PLAN FOR THE DEVELOPMENT HAS BEEN DEVELOPED AND ACTUAL USES AND TRANSPORTATION PATTERNS HAVE BEEN DELINEATED. THIS TIA WILL BE DONE IN ACCORDANCE WITH THE GUIDELINES AS SET BY THE WVDOH. IT WILL BE SUBMITTED WITH THE PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT.

15. THE LAND OWNER AGREES THAT IF IT IS DETERMINED BY THE TRAFFIC STUDY THAT TRAFFIC LIGHTS ARE REQUIRED AT BUILD OUT OF THE DEVELOPMENT AT ANY OF THE INTERSECTIONS WITH ROUTE 115 THAT IT WILL BE RESPONSIBLE FOR ANY PORTION OF THE LIGHT THE STATE DEPARTMENT OF HIGHWAYS DEEMS APPROPRIATE.

OTHER:

16. THE LAND OWNER SHALL ENSURE THAT THE ABOVE CONDITIONS OF ANNEXATION ARE BINDING TO THE PROPERTY AND UPON ANY ASSIGNS AND/OR BUYERS OF ANY, OR ALL, PORTIONS OF THE PROPERTY, EXCLUDING LAND GIVEN TO THE CITY OR WVDOT.

17. TO INCENTIVIZE AND ATTRACT COMMERCIAL DEVELOPMENT WITHIN THE CITY, ALL COMMERCIAL LOTS ASSOCIATED WITH THE LAND SHALL BE PREPARED IN A WAY THAT INCLUDES GRADING AND UTILITY INSTALLATION. ALL COMMERCIAL LOTS SHALL HAVE ALL PAD SITES GRADED WITH UTILITY INSTALLATION (STUBBED TO THE PROPERTY LINE) COMPLETED DURING THE INITIAL START-UP OF PROJECT PHASE 1. SPECIFICALLY, IF PHASE 1 INCLUDES MORE THAN 100 RESIDENTIAL UNITS, TO INCLUDE BOTH TOWNHOMES AND SINGLE–FAMILY HOMES, ALL COMMERCIAL PAD SITE PREPARATION SHALL RUN CONCURRENTLY WITH THE CONSTRUCTION OF THE FIRST (10) TEN RESIDENTIAL UNITS. NO MORE THAN (10) TEN RESIDENTIAL UNITS SHALL BE CONSTRUCTED UNTIL ALL COMMERCIAL LOTS ARE COMPLETED WITH THE ABOVE REQUIREMENTS.

APPROVAL BLOCK:

THIS PRELIMINARY PLAN AND PLAT 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 IN THE RESPONSIBILITY OF THE SUBDIVIDER AND NOT THE CITY.

SECRETARY OF THE PLANNING COMMISSION _____ DATE _____

FLOODPLAIN:

THIS PROPERTY IS LOCATED WITHIN ZONE "X" AREAS OF 0.2% ANNUAL CHANCE FLOOD AND ZONE "A" SPECIAL FLOOD HAZARD AREA SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD, BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) ON FLOOD INSURANCE RATE MAP NO. 54037C0139E FOR COMMUNITY NO. 540066; EFFECTIVE DATE: 12/18/2009.

CERTIFICATE OF LAND SURVEYOR:

THE PLAT REPRESENTS A SURVEY BY GORDON. ALL MONUMENTS AND IMPROVEMENTS INDICATED HEREON ACTUALLY EXIST, AND THEIR LOCATION, SIZE, AND MATERIAL ARE CORRECTLY SHOWN, GORDON IS FAMILIAR WITH ALL REQUIREMENTS OF THIS ORDINANCE, AND TO THE BEST OF OUR KNOWLEDGE AND BELIEF, ALL OF THE REQUIREMENTS OF THIS ORDINANCE HAVE BEEN FULLY COMPLIED HEREIN.

STATEMENT OF ACCEPTANCE:

THE DEVELOPER, IN SIGNING THIS PLAT, AGREES TO ABIDE BY ALL CONDITIONS, TERMS, AND SPECIFICATIONS PROVIDED HEREON; AND TO COMPLETE ALL THE IMPROVEMENTS REQUIRED BY THE SITE PLAN.

LGI HOMES - WEST VIRGINIA, LLC _____ DATE _____
1629 K STREET NW, SUITE 800
WASHINGTON, DC 20006

LIST OF APPROVALS:

CHARLES TOWN UTILITY BOARD AVAILABILITY LETTER (WATER):
DATED: 01/12/2023

CHARLES TOWN UTILITY BOARD AVAILABILITY LETTER (SEWER):
DATED: 01/12/2023

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS:
PERMIT #_____
DATED: _____

WEST VIRGINIA DEPARTMENT OF HEALTH AND HUMAN RESOURCES
STATE HEALTH PERMITS BUREAU FOR PUBLIC HEALTH:
PERMIT # : _____ (WATER)
DATE: _____
PERMIT #: _____ (SEWER)
DATE: _____

JEFFERSON COUNTY GIS/ADDRESSING:
APPROVED: _____

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION:
WVNPDES PERMIT # : WVR112702

REVISIONS:

NO.	SHEET NUMBER AND REVISION DESCRIPTION	DATE
1	CITY COMMENTS, ALL SHEETS	09/25/24
2	WVDOH DIST. V COMMENTS, SHEETS 1, 3, AND 56	11/12/24
3	CITY COMMENTS, ALL SHEETS	01/24/25
4	CITY COMMENTS, SHEETS 1 AND 2	02/19/25
5	CITY COMMENTS, SHEETS 1 AND 2	02/20/25
6	CITY COMMENTS, SHEETS 1 AND 2	02/21/25

STATEMENT OF ACCURACY:

THE ENGINEER AND/OR SURVEYOR, IN SIGNING THIS PLAT/PLAN, ATTESTS TO THE BEST OF HIS/HER KNOWLEDGE, THAT THIS PLAN IS COMPLETE AND ACCURATE

ENGINEER _____ DATE _____

Know what's **below.**
Call before you dig.

CITY OF CHARLES TOWN – COMPLETE LIST OF WAIVER/VARIANCES

ORDINANCE	SECTION OF ORDINANCE	WAIVER APPLICATION NUMBER	DESCRIPTION OF WAIVER OR VARIANCE	STATUS	DATE APPROVED
NONE GRANTED					

INTEGRITY FEDERAL SERVICES
CIVIL ENGINEERING • LANDSCAPE ARCHITECTURE • PLANNING
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Martinsburg, WV 25401 • www.ifs-ae.com

JASON P. GERWART, REGISTERED PROFESSIONAL ENGINEER, No. 19127, STATE OF WEST VIRGINIA, 1-24-25

SEAL:

REVISIONS
1. 09/25/2024 - CINTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - CITY COMMENTS
4. 02/19/2025 - CITY COMMENTS
5. 02/20/2025 - CITY COMMENTS
6. 02/21/2025 - CITY COMMENTS

COVER SHEET

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: AS NOTED VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-GI-001.DWG	
NCS:	
SHEET:	01 OF 119

GENERAL NOTES:

1. THE PROPOSED SITE IMPROVEMENTS FOR 'FAIRVIEW - SECTION 1' INCLUDE, BUT ARE NOT LIMITED TO, THE CONSTRUCTION OF 102 SINGLE-FAMILY DETACHED HOMES, 85 SINGLE-FAMILY ATTACHED HOMES, ROADS, COMMUNITY PARK, SWM FACILITIES AND PUBLIC UTILITIES.
2. THE SUBJECT PROPERTY IS LOCATED IN THE CITY OF CHARLES TOWN, IDENTIFIED AS TAX MAP 10, PARCELS 218.1 AND 208. THE PROPERTY OWNER IS JAGUAR IV, LLC. AS RECORDED IN D.B. 1089 PG 144; D.B. 1267 AND PAGE 208 AMONG THE LAND RECORDS OF THE CITY OF CHARLES TOWN, JEFFERSON COUNTY, WEST VIRGINIA.
3. THE TOTAL EXISTING SITE ACREAGE FOR PARCEL 218.1 IS +/-113 ACRES AND PARCEL 208 IS +/-7 ACRES. DISTURBED AREA FOR THE PROJECT IS ±55 ACRES.
4. THE TOPOGRAPHIC CONTOUR INTERVAL IS TWO (2) FEET. TOPOGRAPHIC INFORMATION WAS COMPILED FROM AERIAL TOPOGRAPHY SURVEY PERFORMED BY THRASHER ON FEBRUARY 2022 AND SUPPLEMENTAL FIELD TOPOGRAPHIC SURVEY PREPARED BY GORDON DATED MAY 2023. HORIZONTAL DATUM IS REFERENCED TO THE WEST VIRGINIA COORDINATE SYSTEM OF 1983, NORTH ZONE. VERTICAL DATUM IS REFERENCED TO NAVD 88.
5. PERIMETER BOUNDARY INFORMATION SHOWN HEREON IS PER A FIELD RUN SURVEY PERFORMED IN MAY OF 2022 BY GORDON.
6. THE CURRENT NATIONAL WETLANDS INVENTORY MAP DOES NOT SHOW WETLANDS/SENSITIVE AREAS ON THE SUBJECT PROPERTY.
7. CHANGES OR REVISIONS IN CONSTRUCTION PLANS AND SPECIFICATIONS SHALL NOT BE MADE UNLESS FIRST APPROVED BY THE CITY OF CHARLES TOWN AND/OR OTHER APPROPRIATE AGENCIES.
8. SEE COVER SHEET, SHEET 01, FOR LEGEND OF SYMBOLS USED HEREIN.

CONSTRUCTION NOTES:

1. CONTRACTOR SHALL CONTACT "MISS UTILITY" AT 811 OR 1-800-245-4848 A MINIMUM OF SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATION, DEMOLITION OR OTHER EARTH DISTURBING ACTIVITIES WITHIN PUBLIC RIGHT-OF-WAYS OR WITHIN AREAS SERVED BY UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING THE PRESENCE OF ANY UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
2. TO THE BEST OF OUR KNOWLEDGE AND BELIEF, THERE IS NO EVIDENCE OF ANY GRAVE, OBJECT OR STRUCTURE MARKING A PLACE OF BURIAL ON THIS PROPERTY. THERE ARE NO KNOWN CEMETERIES, ARCHEOLOGICAL SITES, NATURAL FEATURES, NOR HISTORIC SITES LISTED, OR DETERMINED TO BE ELIGIBLE, OR WHICH THE OWNER HAS REASON TO BELIEVE MAY BE ELIGIBLE FOR LISTING ON THE NATIONAL REGISTER OF HISTORIC PLACES WITHIN THE CONSTRUCTION LIMITS.
3. INTEGRITY FEDERAL SERVICES DOES NOT CERTIFY TO THE LOCATION OF OR THE EXISTENCE OF ANY EXISTING UNDERGROUND UTILITIES. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE INFORMATION. THIS DOES NOT CONSTITUTE A GUARANTEE OF THEIR ACTUAL LOCATIONS OR THAT THEY HAVE ALL BEEN SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES WHICH OCCUR BY THEIR FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND UTILITIES. IF DURING CONSTRUCTION OPERATIONS THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN THOSE SHOWN ON THE PLAN, THEY SHALL IMMEDIATELY NOTIFY THE ENGINEER AND TAKE NECESSARY AND PROPER STEPS TO PROTECT THE FACILITY AND INSURE THE CONTINUANCE OF SERVICE. IF NECESSARY, THE SITE PLAN WILL BE MODIFIED TO ELIMINATE THE CONFLICT AT THE DEVELOPER'S EXPENSE.
4. INTEGRITY FEDERAL SERVICES DOES NOT CERTIFY TO THE SUB-SURFACE CONDITIONS OF THE SITE, THE LOCATION OF UNDERLYING ROCK, OR THE LOCATION OF POTENTIAL SINKHOLES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DIGGING OF TEST HOLES TO VERIFY SUB-SURFACE CONDITIONS PRIOR TO BEGINNING ANY CONSTRUCTION. IF SINKHOLES ARE FOUND IN THE FIELD, REMEDIATION WILL BE REQUIRED AS SPECIFIED BY THE WVDEP AND/OR A QUALIFIED GEOTECHNICAL ENGINEERING FIRM.
5. EROSION AND SEDIMENT CONTROL DEVICES ARE TO BE IN PLACE PRIOR TO ANY CONSTRUCTION. REFER TO EROSION AND SEDIMENT CONTROL PLAN FOR PHASING AND DETAILS.
6. ALL LAND, ON OR OFF SITE, WHICH IS DISTURBED BY THIS DEVELOPMENT, AND WHICH IS NOT BUILT UPON OR SURFACED, SHALL BE ADEQUATELY STABILIZED TO CONTROL EROSION AND SEDIMENTATION.
7. DEVELOPMENT OF THE SITE INCLUDING CONSTRUCTION AND MATERIALS SHALL BE IN CONFORMANCE TO CURRENT CITY OF CHARLES TOWN, CHARLES TOWN UTILITY BOARD, AND THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS STANDARDS AND SPECIFICATIONS.
8. ALL TESTS, STUDIES, ETC., REQUIRED DURING CONSTRUCTION WILL BE CARRIED OUT BY A THIRD PARTY ENGINEERING FIRM AND PAID FOR BY THE CONTRACTOR.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER AND THE ENGINEER OF ANY CHANGES OR CONDITIONS ATTACHED TO PERMITS REQUIRED FOR CONSTRUCTION.
10. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS OF CLEANING TRUCKS AND/OR OTHER EQUIPMENT OF MUD PRIOR TO ENTERING THE RIGHT-OF-WAY, AND IT IS THE CONTRACTORS RESPONSIBILITY TO CLEAN STREETS OF MUD AND/OR ALLAY DUST AND TO TAKE WHATEVER MEASURES NECESSARY TO ENSURE THAT THE STREETS ARE KEPT IN A CLEAN AND DUST FREE CONDITION AT ALL TIMES.
11. THE CONTRACTOR SHALL NOTIFY OPERATORS WHO MAINTAIN EXISTING UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED EXCAVATION OR BLASTING AT LEAST TWO (2) WORKING DAYS, BUT NOT MORE THAN TEN (10) WORKING DAYS, PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION.
12. THE CLIENT, CONTRACTOR, AND/OR SURVEYOR SHALL BE RESPONSIBLE FOR NOTIFYING INTEGRITY FEDERAL SERVICES OF ANY CONDITIONS FOUND IN THE FIELD THAT VARY FROM WHAT IS SHOWN ON THE APPROVED PLANS. OBSERVATIONS REGARDING APPARENT INCONSISTENCIES IN THE PLANS SHALL BE BROUGHT TO INTEGRITY FEDERAL SERVICES'S ATTENTION FOR VERIFICATION PRIOR TO STAKEOUT.
13. THE CLIENT AND CONTRACTOR ARE RESPONSIBLE FOR REVIEWING THE PLANS PRIOR TO CONSTRUCTION AND NOTIFYING INTEGRITY FEDERAL SERVICES OF ANY CIRCUMSTANCES FOUND WITHIN THESE PLANS IN NEED OF VERIFICATION SO THAT APPROPRIATE REVISIONS CAN BE MADE, IF WARRANTED.
14. ALL HANDICAPPED PARKING SPACES SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT. (ADA - CURRENT VERSION).
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH PERFORMANCE OF ITS WORK AND THE WORK OF ITS SUBCONTRACTORS. INTEGRITY FEDERAL SERVICES SHALL NOT HAVE CONTROL OVER, CHARGE OF, OR RESPONSIBILITY FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
16. THE CONTRACTOR SHALL VISIT THE SITE AND FIELD VERIFY EXISTING CONDITIONS AND GRADES PRIOR TO STARTING CONSTRUCTION.
17. THE CONTRACTOR SHALL CLEAR THE SITE OF ALL APPLICABLE VEGETATION, BUILDINGS, FOUNDATIONS, ETC. WITHIN THE LIMITS OF CONSTRUCTION AND SHALL BE RESPONSIBLE FOR COORDINATING ANY DISCONNECTION AND/OR ABANDONMENT OF EXISTING UTILITIES AND STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND ABANDONING ALL EXISTING WELLS AND/OR SEPTIC DRAIN FIELDS AND COORDINATING THEIR ABANDONMENT WITH THE HEALTH DEPARTMENT
18. ALL PROPOSED GRADES AS SHOWN HEREIN ARE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE PLAN.
19. MAINTAIN A MINIMUM VERTICAL CLEARANCE OF ONE (1) FOOT SIX (6) INCHES BETWEEN CROSSINGS OF ALL UTILITY LINES UNLESS OTHERWISE NOTED.
20. THE APPROVAL OF THESE PLANS SHALL IN NO WAY GRANT PERMISSION BY THE APPROVING JURISDICTION FOR THE CONTRACTOR TO TRESPASS ON OFF-SITE PROPERTIES. THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE OWNER OF COMPLYING WITH OTHER APPLICABLE LOCAL, STATE AND FEDERAL REQUIREMENTS.
21. WHERE THE ORDINANCES DIFFER BETWEEN LOCAL, STATE, AND FEDERAL REQUIREMENTS, THE MOST RESTRICTIVE SHALL APPLY.
22. CONTRACTOR TO REFERENCE GEOTECHNICAL REPORT OR A PROFESSIONAL ENGINEER OR CERTIFIED TECHNICIAN FOR SUITABLE BACKFILL MATERIAL REQUIREMENTS AND COMPACTION REQUIREMENTS. CBR TESTS SHALL BE PERFORMED PRIOR TO DETERMINATION OF FINAL SUBGRADE ELEVATION FOR PAVEMENT AREAS. SOILS TESTS OF SUBGRADE MUST BE SUBMITTED FOR ACTUAL DETERMINATION OF REQUIRED PAVEMENT SECTION THICKNESS PRIOR TO CONSTRUCTION. ALL SUBGRADE SHALL BE COMPACTED TO THE PERCENTAGES OF MAXIMUM DRY DENSITY (AASHTO T99C) UNLESS OTHERWISE DIRECTED BY AN APPROVED GEOTECHNICAL REPORT. (SEE JEFFERSON COUNTY CONSTRUCTION NOTE 2, SHEET 01.)
23. BUILDING FOOTPRINTS AS SHOWN ARE APPROXIMATE IN BUILDING SIZE AND DO NOT REPRESENT FINAL ARCHITECTURAL.
24. CHANGES IN THE TOP & BOTTOM OF SLOPES SHALL BE A MINIMUM OF FIVE FEET (5') FROM PROPERTY OR RIGHT-OF-WAY LINE.
25. ALL GRADING SHALL PROVIDE PROPER DRAINAGE & DISPOSAL OF STORM WATER WITHOUT POUNDING.
26. ALL FILL SHALL BE COMPACTED TO PREVENT EROSION.
27. GRADING SHALL NOT BE DONE IN SUCH A WAY TO DIVERT WATER ONTO THE PROPERTY OF ANOTHER LAND OWNER.
28. LOTS SHALL BE GRADED TO SECURE PROPER DRAINAGE AWAY FROM BUILDINGS AND TO PREVENT POOLING OR COLLECTION OF STORM WATER.
29. EXCAVATION OR FILL SHALL NOT ENDANGER AN ADJOINING PROPERTY.
30. ALL CLEARING, GRADING, DRAINAGE, CONSTRUCTION, AND DEVELOPMENT SHALL BE CONDUCTED IN STRICT ACCORDANCE WITH THE APPROVED PLAN.
31. FIELD VERIFY EXISTING GRADES PRIOR TO CONSTRUCTION.
32. CONTRACTOR TO ENSURE POSITIVE DRAINAGE THROUGHOUT CONSTRUCTION.
33. UTILITY POLES ALONG THE PROPERTY FRONTAGE WHERE RTE 115 IS WIDENING ARE TO BE RELOCATED.
34. THE FENCE ON THE ADJOINING ACTIVE FARM IS TO REMAIN.
35. THERE WILL BE MINIMUM DISTURBANCE TO THE WOODED AREA TO BE SAVED DURING THE RAZING OF THE EXISTING BUILDINGS.
36. THE ADJOINING PROPERTIES THAT ARE RELIANT ON THE UTILITIES RUNNING THROUGH THIS SITE WILL HAVE CONTINUOUS SERVICE BEFORE, DURING, AND AFTER CONSTRUCTION.

GENERAL C.T.U.B. UTILITY NOTES:

1. REFER TO THE CHARLES TOWN UTILITY BOARD (CTUB) WATER SYSTEM SPECIFICATIONS DATED APRIL 2015, SANITARY SEWER SYSTEM SPECIFICATIONS DATED MAY 2016, AND THE LATEST MODIFICATIONS OR REVISIONS THERETO, FOR WATER MAIN AND SANITARY SEWER CONSTRUCTION METHODS, MATERIALS, FIELD QUALITY CONTROL, AND FOR ALL DETAILS AND SPECIFICATIONS FOR ALL WATER LINES AND SANITARY SEWER LINES TO BE SERVED BY THE CHARLES TOWN UTILITY BOARD.
2. SEPARATION OF WATER MAINS / SANITARY SEWERS: ALL NEW WATER MAINS SHALL CONFORM TO THE WEST VIRGINIA BUREAU FOR PUBLIC HEALTH, OFFICE OF ENVIRONMENTAL HEALTH SERVICES, ENVIRONMENTAL ENGINEERING DIVISION, PUBLIC WATER SYSTEM DESIGN STANDARDS 64CSR77 10.7 SEPARATION OF WATER MAINS, SANITARY SEWERS AND STORM SEWERS INCLUDING:
   - A. PARALLEL INSTALLATION - WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED SEWER. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE.
   - B. CROSSINGS - WATER MAINS SHALL CROSS ABOVE SEWERS AND SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE BOTTOM OF THE WATER MAIN AND TOP OF THE SEWER. AT CROSSINGS, ONE FULL LENGTH (20 FEET) OF WATER PIPE SHALL BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE. SPECIAL STRUCTURAL SUPPORT FOR THE WATER AND SEWER PIPES MAY BE REQUIRED.
   - C. HORIZONTAL SEPARATION - A MINIMUM OF 10 FEET SEPARATION BETWEEN SEWER LINES AND WATER LINES MUST BE MAINTAINED. IN CASES WHERE THE 10 FEET MINIMUM CANNOT BE MAINTAINED, THE SEWER PIPE SHALL BE 18" LOWER THAN THE WATER LINE AND CONSTRUCTED OF A PRESSURE TYPE PIPE. WHEN LINES ARE PLACED WITHIN 5 FEET OF EACH OTHER, PERMANENT IDENTIFICATION TAPE MUST BE BURIED DIRECTLY ABOVE THE LINES DENOTING "SEWER LINE" OR POTABLE WATER LINE.
   - D. VERTICAL SEPARATION - A MINIMUM OF 18" OF SEPARATION BETWEEN THE TOP OF THE SEWER LINES AND THE BOTTOM OF WATER LINES MUST BE MAINTAINED. IN CASES WHERE THE 18" CANNOT BE MAINTAINED, THE SEWER LINE SHALL CROSS AT MIDPOINT OF A 20' LONG JOINT OF THE WATER LINE AND BE CONSTRUCTED OF PRESSURE TYPE PIPE. A SEWER LINE SHALL NOT BE CONSTRUCTED OVER TOP OF A WATER LINE. IF THE STANDARD VERTICAL INSTALLATION REQUIREMENTS CANNOT BE MAINTAINED, THE SEWER LINE SHALL BE ENCASED SO THAT THE CASING EXTENDS AT LEAST 15 FEET EACH SIDE OF THE CROSSING WITH A MINIMUM OF 18" VERTICAL SEPARATION.
3. THERE SHALL BE NO PHYSICAL CONNECTION BETWEEN THE WATER DISTRIBUTION SYSTEM AND A SANITARY SEWER SYSTEM; ANY PIPES, PUMPS, HYDRANTS OR TANKS WHEREBY UNSAFE WATER OR OTHER CONTAMINATING MATERIALS MAY BE DISCHARGED OR DRAWN INTO THE SYSTEM
4. PIPE BEDDING - NO. 8 OR NO. 10 LIMESTONE SHALL BE USED FOR ALL PIPE BEDDING UNLESS OTHERWISE APPROVED BY CTUB. ALL WATER MAIN, SANITARY SEWER MAIN AND SANITARY LATERALS SHALL BE INSTALLED WITH MINIMUM 6" BEDDING BELOW PIPE AND 12" OVER PIPE
5. REFER TO THE CTUB WATER SYSTEM & SEWER SYSTEM SPECIFICATIONS, AND THE LATEST MODIFICATIONS OR REVISIONS THERETO, FOR:
   - A LIST OF MATERIALS REPRESENTING THE MINIMUM REQUIREMENTS ACCEPTABLE FOR USE BY CTUB.
   - ALL PIPE, FITTINGS, AND OTHER RELATED MATERIALS USED IN THE CONSTRUCTION OF LINES
   - FIRE HYDRANT STANDARDS AND SPECIFICATIONS
   - DISINFECTING NEW AND REPAIRED WATER MAINS. (ALL NEW WATER MAINS SHALL BE DISINFECTED BEFORE THEY ARE PLACED IN SERVICE. ALL WATER MAINS TAKEN OUT OF SERVICE FOR INSPECTING, REPAIRING, OR OTHER ACTIVITY THAT MIGHT LEAD TO CONTAMINATION OF WATER SHALL BE DISINFECTED BEFORE THEY ARE RETURNED TO SERVICE)
   - GRAVITY SEWER CONSTRUCTION METHODS & PIPELINE TESTING.
   - MANHOLES SUBMITTALS, DELIVERY, STORAGE & HANDLING, INSPECTION, PREPARATION, CONSTRUCTION METHODS, AND VACUUM TESTING.
   - CAST IN-PLACE CONCRETE SPECIFICATIONS AND REQUIREMENTS.

WATER:

1. INSTALLATION OF MAINS:
   - A. 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.
   - B. BEDDING: CONTINUOUS AND UNIFORM BEDDING SHALL BE PROVIDED IN THE TRENCH FOR ALL BURIED PIPE. BACKFILL MATERIAL SHALL BE TAMPED IN LAYERS AROUND THE PIPE AND TO A SUFFICIENT HEIGHT ABOVE THE PIPE TO ADEQUATELY SUPPORT AND PROTECT THE PIPE. STONES FOUND IN THE TRENCH SHALL BE REMOVED FOR A DEPTH OF AT LEAST 6" BELOW THE BOTTOM OF THE PIPE. SEE TYPICAL WATER LINE TRENCH DETAIL.
   - C. COVER: ALL WATER MAINS SHALL BE COVERED WITH A MINIMUM OF 48" OF EARTH COVERING TO PREVENT FREEZING. ALL MAINS LESS THAN 8" IN DIAMETER AND WITHIN 5 FEET OF A HEAVILY TRAVELED HIGHWAY SHALL HAVE A MINIMUM OF 42" OF COVERING.
   - D. BLOCK: ALL TEES, BENDS, PLUGS AND HYDRANTS SHALL BE PROVIDED WITH TIE RODS OR JOINTS DESIGNED TO PREVENT MOVEMENT.
   - E. PRESSURE AND LEAKAGE TESTING: ALL TYPES OF INSTALLED PIPE SHALL BE PRESSURE TESTED AND LEAK TESTED IN ACCORDANCE WITH AWWA STANDARD C600. DEVELOPER SHALL SUBMIT PLAN OF PROPOSED TESTING.
   - F. DISINFECTION: ALL NEW, CLEANED OR REPAIRED WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C651. THE SPECIFICATIONS SHALL INCLUDE MICROBIOLOGICAL TESTING OF ALL WATER MAINS.
   - G. ALL NON-METALLIC MAINS SHALL BE PROVIDED WITH TRACER WIRE OR METALLIC TAPE; AS DIRECTED BY CTUB.
2. WATER SERVICE LINES SHOWN ARE APPROXIMATE AND SUBJECT TO CHANGE BASED ON BUILDING ARCHITECTURAL DRAWINGS AND UTILITY CONNECTION LOCATIONS.

SANITARY SEWER:

1. ALL SANITARY SEWER LINES SHALL BE COVERED WITH A MINIMUM OF 48" OF EARTH COVERING OVER THE TOP OF PIPE.
2. SEWER LINES SHALL BE LAID IN STRAIGHT LINE WITH UNIFORM SLOPE BETWEEN MANHOLES. SEWERS ON 20% SLOPE OR GREATER SHALL BE ANCHORED SECURELY WITH CONCRETE ANCHORS, OR APPROVED EQUAL (SEE CTUB SEWER SYSTEM SPECIFICATIONS FOR SPACING REQUIREMENTS).
3. MANHOLES - SHALL BE PRE-CAST CONCRETE MEETING REQUIREMENTS OF AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM). THE MINIMUM BASE DIAMETER SHALL BE 48" (MINIMUM OPENING 24"). THE INSIDE BASE OF THE MANHOLE SHALL BE FILLED WITH CONCRETE TO FORM A BENCH SLOPING TOWARD THE FLOW CHANNEL. WATERTIGHT MANHOLE COVERS ARE TO BE USED WHEREVER THE MANHOLE COVERS MAY BE FLOODED BY STREET RUNOFF OR HIGH WATER. PIPE CONNECTIONS TO MANHOLES AND JOINTS ON MANHOLES SHALL BE WATERTIGHT. CONCRETE MANHOLES SHALL BE WATERPROOFED ON THE EXTERIOR WHERE GROUNDWATER CONDITIONS ARE UNFAVORABLE.
4. GRAVITY SEWER LINES SHALL BE PVC PIPE, SCHEDULE SDR-35. ALL PIPES AND FITTINGS SHALL MEET OR EXCEED ALL REQUIREMENTS OF ASTM SPECIFICATIONS D-3034 AND/OR OTHER REQUIREMENTS OF UNI-BELL UNI-B4. JOINTS SHALL BE EITHER O-RING TYPE "OR" MECHANICAL SEAL JOINT MEETING MATERIAL REQUIREMENTS OF ASTM 1784 AND JOINT REQUIREMENTS OF ASTM 3212. NO SOLVENT CEMENT JOINTS WILL BE PERMITTED IN FIELD CONSTRUCTION, EXCEPT AS SPECIFICALLY AUTHORIZED BY CTUB.
5. LATERAL PIPING AND FITTINGS, IN SIZES 4" THROUGH 6", SHALL BE PVC PIPE, SCHEDULE 40.
6. THE DEVELOPER SHALL FURNISH AND INSTALL THE WYE BRANCHES, RISER PIPE, SERVICE LATERALS, TRANSITION FITTINGS, AND INCIDENTALS WHERE SHOWN ON THE PLANS OR WHERE DIRECTED BY THE CTUB.
7. HOME OWNER INSTALLED SERVICE LATERALS - PIPE SHALL BE 4" MINIMUM SDR-35 OR SCHEDULE 40 INSTALLED AT 2% MINIMUM SLOPE. LATERAL SHOULD BE PLACED WITH 3 FEET MINIMUM COVER UNLESS OTHERWISE APPROVED BY CTUB. CONNECTION OF HOME OWNER LATERAL TO EXISTING LATERAL SHALL BE BY FITTING OF SAME TYPE OF PIPE. BEDDING SHALL BE NO. 8 OR NO. 10 LIMESTONE OR OTHER MATERIAL AS APPROVED BY CTUB. THE LATERAL AND CONNECTIONS SHALL BE INSPECTED AND APPROVED BY A REPRESENTATIVE OF CTUB PRIOR TO COVERING WITH BEDDING.

STANDARD W.V.D.O.H. NOTES:

1. ALL UTILITIES, INCLUDING ALL POLES, ARE TO BE RELOCATED AS NECESSARY AT EITHER THE DEVELOPER OR UTILITY OWNER'S EXPENSE PRIOR TO CONSTRUCTION.
2. THE DEVELOPER IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING ROADS AND UTILITIES WHICH OCCUR AS A RESULT OF PROJECT CONSTRUCTION WITHIN OR CONTIGUOUS TO EXISTING RIGHT-OF-WAY.
3. OPEN CUTTING OF PAVED OR SURFACE TREATED STATE ROADS IS NOT PERMITTED UNLESS APPROVED BY THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION.
4. THE DEVELOPER IS RESPONSIBLE FOR ALL TRAFFIC CONTROL.
5. IF APPLICABLE, A SMOOTH GRADE SHALL BE MAINTAINED FROM THE CENTERLINE OF THE EXISTING ROAD TO THE PROPOSED EDGE OF PAVEMENT TO PRECLUDE THE FORMING OF FALSE GUTTERS AND/OR THE PONDING OF ANY WATER IN THE ROADWAY.
6. OVERLAY OF EXISTING PAVEMENT SHALL BE A MINIMUM OF 1.5". ANY COSTS ASSOCIATED WITH PAVEMENT OVERLAY, OR THE MILLING OF EXISTING PAVEMENT TO OBTAIN REQUIRED DEPTH, SHALL BE THE RESPONSIBILITY OF THE DEVELOPER.
7. STORMWATER DITCHES SHALL BE SEEDED AND MULCHED TO ACHIEVE STABILIZATION. ADDITIONAL DITCH LININGS SHALL BE PROVIDED IF WARRANTED TO ACHIEVE STABILIZATION.
8. ALL TRAFFIC CONTROL SIGNS AND THE MAINTENANCE OF TRAFFIC SHALL COMPLY WITH THE STANDARDS OF THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION.
9. IF APPLICABLE, ALL GUARDRAILS SHALL BE IN ACCORDANCE WITH WVDOH STANDARD DETAILS BOOK VOLUME 1. THE GUARDRAIL POST SHALL BE PRESSURE-TREATED.
10. CONTRACTOR SHALL CONTACT WVDOH AT LEAST 48 HOURS PRIOR TO COMMENCING ANY WORK WITHIN WVDOH RIGHT-OF-WAY.

Neighborhood Residential Land Use Mix Requirements For Section 1

	Requirement		Provided		
Use	%	Acres	%	Acres	
Residential	50%	27.45	40%	22.16	
Commercial	10%	5.49	21%	11.39	*
Open Space	10%	5.49	11%	5.94	

*Per COA Resolution #2023-012 , Commercial includes 2.42 acres conveyed to the City of Charles Town for water treatment plant (PB 1135, Page 420).
The complete build out will meet the 50% residential requirement.

CITY OF CHARLES TOWN ORDINANCE NOTES:

1. STORM WATER MANAGEMENT SHALL BE PROVIDED BY PROPOSED STORMWATER MANAGEMENT PONDS.
2. ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF CHARLES TOWN ZONING ORDINANCE AND ARTICLE 1333 OF THE CITY OF CHARLES TOWN SUBDIVISION AND LAND DEVELOPMENT ORDINANCE. CHANGES OR REVISIONS IN CONSTRUCTION PLANS AND SPECIFICATIONS SHALL NOT BE MADE UNLESS FIRST APPROVED BY THE CITY OF CHARLES TOWN AND OTHER APPROPRIATE AGENCIES
3. ALL STREET AND TRAFFIC CONTROL SIGNS SHALL CONFORM TO THE STANDARDS SET FORTH IN SECTION ARTICLE 1333.04 OF THE CITY OF CHARLES TOWN SUBDIVISION AND LAND DEVELOPMENT ORDINANCE. IN ADDITION, ALL SIGNS SHALL BE INSTALLED IN THE PUBLIC RIGHT-OF-WAY AND LOCATED IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 2009 EDITION AND THE CITY MANAGER.
4. ARCHITECTURALS SHALL BE PROVIDED UNDER SEPARATE COVER.
5. ALL SITE IMPROVEMENTS SHOWN SHALL BE BONDED TO THE SATISFACTION OF THE PLANNING COMMISSION PRIOR TO ISSUANCE OF ANY BUILDING PERMITS.
6. RETAINING WALLS 18 INCHES OR GREATER IN HEIGHT REQUIRE A BUILDING PERMIT THAT MUST BE OBTAINED BY THE OWNER/DEVELOPER. THESES WALLS MUST BE DESIGNED AND CERTIFIED BY A LICENSED WEST VIRGINIA ENGINEER AND SHALL BE SUBMITTED UNDER SEPARATE COVER.
7. ALL ENTRANCE SIGNS, BUILDING SIGNS AND FREESTANDING PYLON SIGN SHALL REQUIRE A SIGN PERMIT TO ENSURE CONFORMANCE WITH THE CITY OF CHARLES TOWN'S SIGN REGULATIONS.
8. ALL FREESTANDING SIGNS SHALL BE ERECTED AT A MAXIMUM HEIGHT OF 30 FEET AND SHALL CONTAIN A MAXIMUM SQUARE FOOTAGE OF 100 SQUARE FEET, EXCLUDING STRUCTURE COMPONENTS FOR THE SIGN. ALL FREESTANDING SIGNS PERMITTED SHALL COMPLY WITH THE CITY OF CHARLES TOWN ZONING ORDINANCE SIGN REQUIREMENTS.
9. ALL BUILDING MOUNTED SIGNS OR BUSINESS SIGNS LOCATED ON INDIVIDUAL LOTS SHALL HAVE A MAXIMUM SQUARE FOOTAGE OF 50 SQUARE FEET, EXCLUDING STRUCTURAL COMPONENTS FOR THE SIGN AND EACH LOT IS TO BE ALLOWED ONE SIGN.
10. NO MORE THAN TWO ABUTTING TOWNHOUSES SHALL SHARE A COMMON ROOF LINE.
11. AS REQUIRED BY THE ZONING ORDINANCE, STRUCTURES SHALL BE LIMITED TO A MAXIMUM HEIGHT OF 55 FEET WITHIN THE GENERAL COMMERCIAL DISTRICT.

CITY OF CHARLES TOWN ENGINEERING NOTES:

1. EXISTING TREES ARE TO REMAIN IN THEIR NATURAL CONDITION THROUGHOUT THE DEVELOPMENT WHEREVER PRACTICAL.
2. AT THIS TIME, NO OFF-SITE BORROW PITS ARE ANTICIPATED FOR THIS PROJECT.
3. PROPERTY CORNERS ARE TO BE SET WITH 5/8" x 30" REBARS WITH I.D. CAPS UNLESS OTHERWISE NOTED.
4. ALL PROPOSED UTILITIES (E.G. ELECTRIC, CABLE, TELEPHONE) SHALL BE LOCATED UNDERGROUND.
5. CUT AND FILL ACTIVITY/MATERIAL SHALL NOT ENCROACH ON ADJOINING PROPERTIES.
6. NO REFUSE DUMPSTERS ARE ANTICIPATED OR PROPOSED WITH THIS DEVELOPMENT. REFUSE COLLECTION WILL BE PROVIDED VIA CURB-SIDE TRASH PICK-UP.
7. SITE LIGHTING IS PROPOSED FOR THIS SITE. ALL LIGHTING SHALL MEET THE CITY OF CHARLES TOWN REQUIREMENTS. A PHOTOMETRIC PLAN HAS BEEN INCLUDED WITH THIS PLAN.
8. WATER AND SEWER SERVICE TO BE PROVIDED BY THE CITY OF CHARLES TOWN UTILITY BOARD.
9. PERMEABLE AREAS OF THE SITE SHALL BE PLANTED WITH GROUND COVER, SHRUBS, AND TREES AS REQUIRED BY THE SUBDIVISION AND LAND DEVELOPMENT ORDINANCE.
10. ALL COMMON AREAS AND FACILITIES INCLUDING, BUT NOT LIMITED TO, RECREATIONAL FACILITIES, OFF-STREET PARKING AND COMMON OPEN SPACE SHALL BE MAINTAINED IN A SATISFACTORY MANNER. A MANDATORY HOMEOWNERS ASSOCIATION SHALL BE CREATED AND A DECLARATION REGARDING THE SAME SHALL BE RECORDED TO THE SATISFACTION OF THE PLANNING COMMISSION IN THE OFFICE OF THE CLERK OF JEFFERSON COUNTY.
11. A COMMON INTEREST OWNERSHIP AGREEMENT MUST BE ESTABLISHED TO PROVIDE FOR THE MAINTENANCE OF COMMONLY-OWNED LAND, INCLUDING, BUT NOT LIMITED TO THE PRIVATE ROAD SYSTEM WITHIN THE SUBDIVISION. THIS COMMON INTEREST OWNERSHIP AGREEMENT MUST BE DEVELOPED IN ACCORDANCE WITH THE UNIFORM COMMON INTEREST OWNERSHIP ACT OF WEST VIRGINIA.

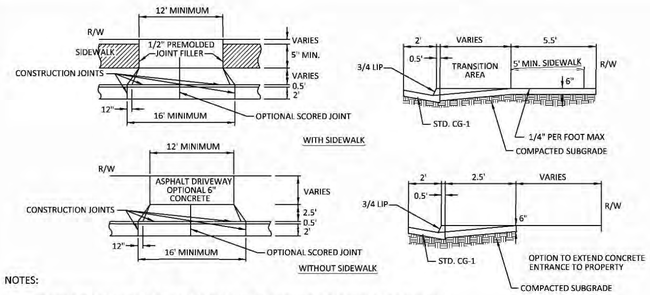
ZONING ORDINANCE SUMMARY - AVALON SECTION 1

1 ZONING: NEIGHBORHOOD RESIDENTIAL (NR)

2 PROPOSED USE: RESIDENTIAL

3 STATEMENT OF TRACT AREA:	TOTAL	TH	SFD		
DWELLING UNITS (DU):	187	85	102		
			(SF)	(AC)	
COMMERCIAL AREAS			496,026	11.387	21% *
*Includes dedicated land for City of Charles Town Utility Board Water Treatment Plant (PB 1135, Page 420) per COA Resolution #2013-012 to be used to calculate the 10% commercial use requirement.					
RESIDENTIAL LOT AREA (SF)			965,175	22.16	40%
The complete build out will meet the 50% residential requirement.					
OPEN SPACE (SF)			258,663	5.94	11%
SWM AREA (SF)			265,463	6.09	
ROW			510,968	11.73	
Total Section 1 Area			2,391,154	54.89	
The Total Section 1 area does not have the 2.42 Ac. parcel that has been dedicated to the Charles Town Utility Board.					
NET BUILDABLE LAND AREA (NBLA) (SF)			1,614,724	37	
NBLA = SECTION 1 - SWM AREA - ROW					

	REQUIRED		PROPOSED	
OPEN SPACE (SF)				
(EXCLUDES TOWNHOME AREA PER ZO TABLE 1322.07)	75,152	10%		
(TOWNHOME AREA ONLY PER COA RES. #2023-012)	42,731	20%		
TOTAL	117,883		258,663	11%
DENSITY (DU)	10		5.0	
*



NOTES:

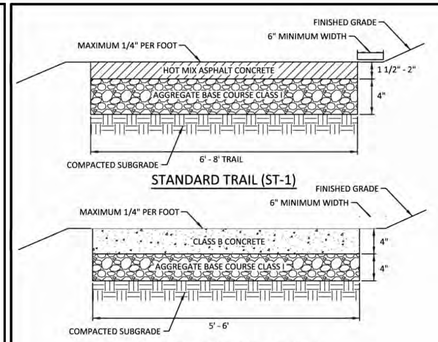
1. GRADING PLANS MUST PROVIDE FOR ADEQUATE VEHICULAR CLEARANCE FOR DRIVEWAY APPROACH, DEPARTURE, AND BREAKOVER TRANSITIONS.

NOT TO SCALE

DRIVEWAY ENTRACE WITH CURB AND GUTTER

City of Charles Town

DE-2



NOTES:

1. ALL PEDESTRIAN AND BIKE TRAILS LOCATED OUTSIDE OF CITY OF CHARLESTOWN RIGHT OF WAY SHALL BE A MINIMUM OF 5' IN WIDTH FOR SIDEWALKS, 6' FOR ALL PEDESTRIAN TRAILS, AND 8' FOR ALL BIKE TRAILS.
2. A PRIVATE ACCESS EASEMENT SHALL BE PROVIDED FOR ALL SIDEWALKS AND TRAILS OUTSIDE OF CITY OF CHARLES TOWN RIGHT OF WAY AND SHALL INCLUDE A MINIMUM OF 3' OF WIDTH ON BOTH SIDES OF THE TRAIL OR SIDEWALK.
3. THE MAXIMUM GRADE FOR ALL PEDESTRIAN TRAILS SHALL BE 10%.
4. THE MAXIMUM GRADE FOR ALL BIKE TRAILS SHALL BE 8%, EXCEPT UP TO 15% IS ALLOWED FOR DISTANCES OF LESS THAN 150 FEET.
5. APPROPRIATE LIGHTING AND SIGNAGE, LANDSCAPING, BUFFERING AND DRAINAGE MEASURES, ALONG WITH CONSIDERATIONS FOR SECURITY SHALL BE INCORPORATED IN THE DESIGN OF THESE FACILITIES.

NOT TO SCALE

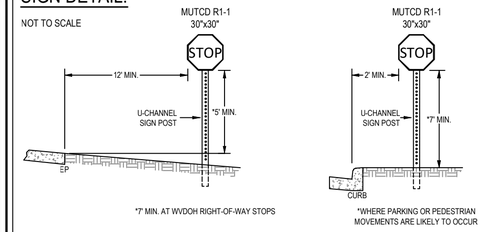
TRAIL AND TYPICAL SIDEWALK

City of Charles Town

ST-1
SW-1

SIGN DETAIL:

NOT TO SCALE

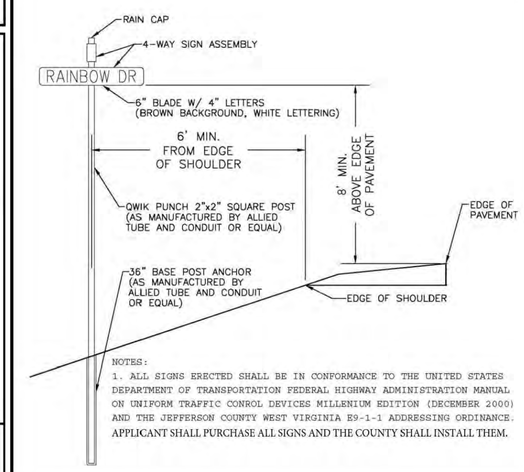


NOTES:

1. FOR MORE EXTENSIVE STANDARDS REFER TO THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS 2009 EDITION (WITH UPDATES) AND THE STANDARDS OF THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION.
2. U-CHANNEL SIGN POST SHALL BE PER WVDOH STANDARD DETAIL SHEET TE1-7A.
3. ALL STOP BARS SHALL BE TYPE V, WHITE, 12" WIDTH, SOLID STOP LINES (PER WVDOH SPECIFICATIONS).

STREET SIGN DETAILS:

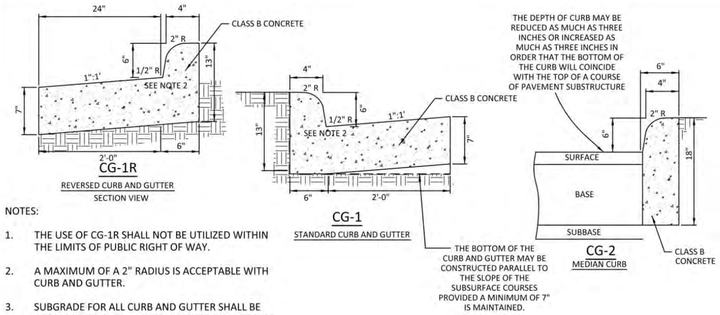
NOT TO SCALE



NOTES:
1. ALL SIGNS ERECTED SHALL BE IN CONFORMANCE TO THE UNITED STATES DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONROL DEVICES MILLENIUM EDITION (DECEMBER 2000) AND THE JEFFERSON COUNTY WEST VIRGINIA E9-1-1 ADDRESSING ORDINANCE. APPLICANT SHALL PURCHASE ALL SIGNS AND THE COUNTY SHALL INSTALL THEM.

STREET SIGN DETAILS

NOT TO SCALE



NOTES:

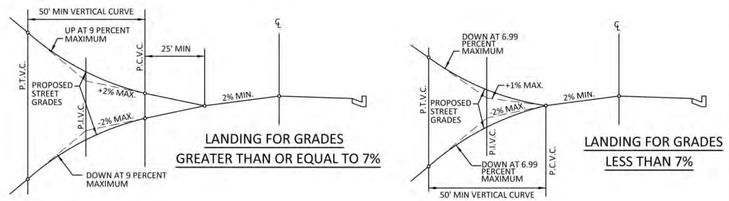
1. THE USE OF CG-1R SHALL NOT BE UTILIZED WITHIN THE LIMITS OF PUBLIC RIGHT OF WAY.
2. A MAXIMUM OF A 2" RADIUS IS ACCEPTABLE WITH CURB AND GUTTER.
3. SUBGRADE FOR ALL CURB AND GUTTER SHALL BE COMPACTED TO 95 PERCENT DENSITY AT OPTIMUM MOISTURE TO THE FULL WIDTH OF RIGHT OF WAY IN ACCORDANCE WITH AASHTO, T99.

NOT TO SCALE

TYPICAL COMBINATION CURB AND GUTTER

City of Charles Town

CG-1
CG-1R
CG-2



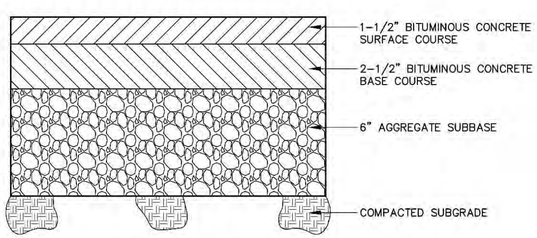
NOTES:

1. THE P.C.V.C. AS SHOWN ON THE DETAIL FOR LANDINGS WITH GRADES LESS THAN 7% SHALL BEGIN AT THE FACE OF CURB ON A CURB AND GUTTER SECTION OR AT THE EDGE OF PAVEMENT ON A SECTION WITHOUT CURB AND GUTTER.
2. THE 25' MINIMUM VERTICAL CURVE AS SHOWN ON THE DETAIL FOR LANDINGS WITH GRADES EQUAL TO OR GREATER THAN 7% SHALL BEGIN AT THE FACE OF CURB ON A CURB AND GUTTER SECTION OR AT THE EDGE OF PAVEMENT ON A SECTION WITHOUT CURB AND GUTTER.

NOT TO SCALE

INTERSECTION LANDING REQUIREMENTS

City of Charles Town



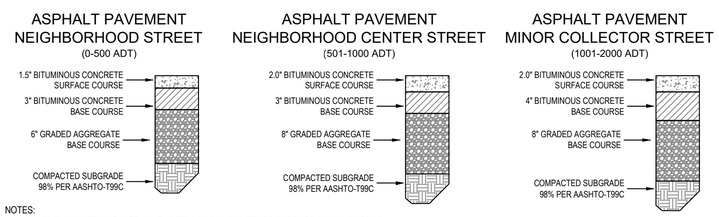
NOTES:

1. ALL BASE AND SUBGRADE MATERIAL SHALL BE COMPACTED TO 95% THEORETICAL MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99 METHOD A, WITHIN A ±2% OF OPTIMUM MOISTURE.

STANDARD DETAIL	STANDARD NUMBER
TYPICAL DRIVEWAY/PARKING PAVING SECTION	K-1

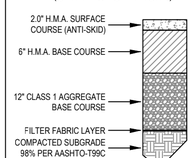
MINIMUM TYPICAL PAVEMENT SECTIONS:

NOT TO SCALE



NOTES:
1. PAVEMENT SECTION BASED ON THE FOLLOWING SUBGRADE SUPPORT CLASS: C (POOR).
2. SIZE RANGE OF AGGREGATES (BASED ON WVDOH STD. SPECIFICATION TABLES 703.4 & 704 6.2:
   BASE COURSE: SIZE NUMBERS 4 TO 57 OR CLASSES 1, 2, 4, 6 OR 8
   SUBBASE COURSE: SIZE NUMBERS 1 TO 357
3. SOILS TESTS OF SUBGRADE MUST BE SUBMITTED FOR ACTUAL DETERMINATION BASED ON CBR OF REQUIRED PAVEMENT SECTION THICKNESS PRIOR TO CONSTRUCTION.
4. ALL SUBGRADE MATERIAL SHALL BE COMPACTED TO 98% OF MAXIMUM DRY DENSITY AS DETERMINED BY AASHTO T99C.
5. ALL BASE AND SUBBASE MATERIAL SHALL BE COMPACTED TO 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY AASHTO T99C.
6. BITUMINOUS CONCRETE BASE COURSE SHALL BE APPLIED TO THE PREPARED GRAVEL BASE SURFACE FOLLOWING THE APPLICATION OF A LIQUID ASPHALT PRIME COAT.
7. ASPHALT MATERIAL SHALL COMPLY WITH THE MINIMUM SPECIFICATIONS REQUIRED BY THE WVDOH FOR PUBLIC ROADS.

TYP. PAVEMENT SECTION ROAD WIDENING (CHARLES TOWN ROAD)



NOTES:
1. SOILS TESTS OF SUBGRADE MUST BE SUBMITTED FOR ACTUAL DETERMINATION OF REQUIRED PAVEMENT SECTION THICKNESS PRIOR TO CONSTRUCTION.
2. FULL DEPTH PAVEMENT SHALL BE PROVIDED OUTSIDE EXISTING EDGELINE ALONG ROUTE 115 FOR ALL AREAS OF WIDENING.

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1-24-25

SEAL:

REVISIONS	
1. 09/25/2024 - COUNTY COMMENTS	
2. 11/12/2024 - WVDOH DIST'Y COMMENTS	
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GENERAL DETAILS

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: NTS VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-GI-501.DWG	
NCS:	
SHEET:	03 OF 119

FILE PATH: S:\PROJECT\5016\5016-0201 FAIRVIEW\DWG\PL AND CD SET\DWG
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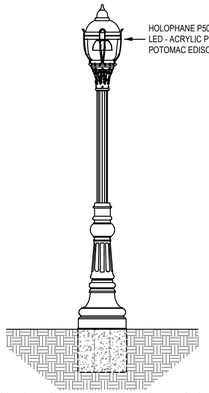
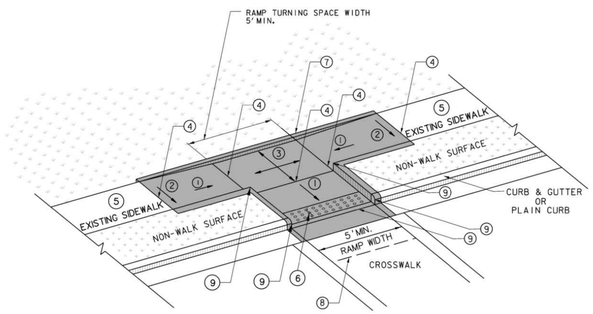
TYPICAL LIGHT POLE & FIXTURE:

NOT TO SCALE



NOTES:

1. LIGHTS SHALL CONFORM TO POTOMAC EDISON/FIRST ENERGY'S REQUIREMENTS PERTAINING TO WATTS, LUMENS, DOWNLIGHT REFLECTORS AND RESIDENTIAL SHIELDS.
2. LIGHT POLES SHALL CONFORM TO ALL POTOMAC EDISON/FIRST ENERGY REQUIREMENTS FOR THE CITY OF CHARLES TOWN.
3. LIGHTS SHALL BE MOUNTED ON FLAT BLACK POLES WITH ACORN STYLE TOPS.
4. STREET LIGHTING WIRING SHALL BE VIA UNDERGROUND DISTRIBUTION.
5. A STREET LIGHT SHALL BE PROVIDED AT ALL INTERSECTIONS. THE PLACEMENT OF STREET LIGHTING FIXTURES SHALL BE AT 400-600 FOOT INTERVALS UNLESS:
   - 5.1. THE ROADWAY LENGTH IS LESS THAN 400 FEET, BUT MORE THAN 200 FEET, IN WHICH CASE A STREET LIGHT SHALL BE PROVIDED AT THE END OF THE STREET; OR
   - 5.2. THE ROADWAY LENGTH IS LESS THAN 200 FEET, A STREET LIGHT IS PLACED AT THE INTERSECTION, NO NATURAL FEATURES INTERFERE WITH THE LIGHT, AND NO STREET LIGHT WILL BE PLACED AT THE END OF THE ROADWAY.
6. MAXIMUM POLE HEIGHT:
   RESIDENTIAL STREET: 15'
   THOROUGHFARES: 30', UNLESS THE SPILLOVER FROM THE FIXTURE WILL CAUSE GLARE IN A RESIDENTIAL AREA, IN WHICH CASE THE MAXIMUM HEIGHT SHALL BE 25'.
7. STREET ILLUMINATION SHALL SATISFY THE REQUIREMENTS OF THE JEFFERSON COUNTY ZONING AND LAND DEVELOPMENT ORDINANCE.
8. LIGHT POLES INSTALLED IN PARKING AREAS SHALL BE INSTALLED ON A 30" HIGH STRUCTURAL BASE (I.E. REINFORCED CONCRETE PIER) TO PROTECT THEM FROM VEHICLE DAMAGE.



TYPE IV RAMP

LEGEND

1. 8.33% (12:1) MAXIMUM RAMP SLOPE INCLUDING CONSTRUCTION TOLERANCE SLOPE OF RAMP SHALL CARRY THROUGH TO FACE OF CURB
2. CROSS SLOPE: 2.00% MAXIMUM INCLUDING CONSTRUCTION TOLERANCE
3. CURB RAMPS REQUIRE A (5'-0") MINIMUM TURNING SPACE WHERE PEDESTRIANS PERFORM TURNING MANEUVERS WITH A MAXIMUM CROSS SLOPE OF 2% AND LONGITUDINAL SLOPE MATCHING ROADWAY
4. GRADE BREAK REQUIRED TO BE FLUSH (0") AND PERPENDICULAR TO PEDESTRIAN PATH OF TRAVEL
5. IF SIDEWALK IS EXISTING AND NON-COMPLIANT SEE "TRANSITION TO EXISTING NON-COMPLIANT SIDEWALK" DETAIL SHEET 12
6. DETECTABLE WARNING SURFACE SEE "DETECTABLE WARNING SURFACE (DWS)" DETAIL SHEET 11
7. CURB WALL OR CHEEK WALL AS DICTATED BY FIELD CONDITIONS. SEE "EXISTING ADJACENT SURFACE TRANSITION" DETAIL SHEET 13
8. CLEAR SPACE - WIDTH OF CURB RAMP AND EXTENDING 4' MINIMUM
9. 3/4" CHAMFER EDGE

PAY LIMITS FOR CURB RAMPS (EXCLUDING DWS)

NOTES

THE TYPE OF RAMP TO BE USED SHALL BE AS SPECIFIED ON THE PLANS. THESE STANDARDS CAN BE CONSIDERED GUIDELINES IN SELECTING RAMP TYPES, HOWEVER THEY CAN BE DEVIATED FROM WITH A SPECIAL DETAIL AS NOTED IN PLANS.

RAMP CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 609 OF THE CURRENT WVDOT, DOH STANDARD SPEFICIATIONS ROADS AND BRIDGES AND ANY SUBSEQUENT DOH SUPPLEMENTAL SPECIFICATIONS, AND THE PUBLIC RIGHTS OF WAY ACCESSIBILITY GUIDELINES (PROWAG) DATED JULY 26, 2011. RAMP SURFACE SHALL INCLUDE A "DETECTABLE WARNING SURFACE" (SEE PVT7 SHT. 11 OF 13) AS SHOWN FOR EACH RAMP TYPE. A COARSE BROOM FINISH, TRANSVERSE TO FLARE SLOPES, OR EQUAL NON-SKID FINISH SHALL BE PROVIDED ON CONCRETE SURFACES.

NORMAL GUTTER FLOW LINE AND PROFILE SHALL BE MAINTAINED THROUGH THE RAMP AREA, UNLESS OTHERWISE SHOWN OR SPECIFIED. POSITIVE DRAINAGE MUST BE MAINTAINED SO THAT NO PONDING OCCURS WITHIN THE RAMP OR CLEAR SPACE AREA.

1/4" MINIMUM, 1/2" MAXIMUM PREFORMED EXPANSION JOINT FILLER, MEETING THE REQUIREMENTS OF SECTION 609 OF THE SPECIFICATIONS, AS NOTED ABOVE, SHALL BE PLACED AT ALL LOCATIONS WHERE RAMP CONTACTS CURB, GUTTER, CONCRETE PAVEMENT, OR OTHER RIGID OBJECTS.

WHERE EXISTING SIDEWALK CONNECTS TO PROPOSED SIDEWALK OR RAMPS, EXPANSION JOINTS ALONG WITH DOWEL BARS WILL BE PLACED. DOWEL BARS WILL BE UTILIZED BETWEEN EXISTING AND PROPOSED TO REDUCE VERTICAL CHANGE. SEE SHEET 11 FOR ADDITIONAL INFORMATION.

SAWCUTS WILL BE UTILIZED DURING DEMOLITION OF EXISTING SIDEWALKS. SIMILAR METHODS MAY BE USED UPON APPROVAL BY FIELD ENGINEER.

RAMPS SHALL NOT BE PLACED IN LINE WITH DRAINAGE STRUCTURES. LOCATION OF THE RAMP SHALL TAKE PRECEDENCE OVER LOCATION OF THE DRAINAGE STRUCTURE, EXCEPT WHERE EXISTING STRUCTURES ARE BEING UTILIZED FOR CONSTRUCTION OF NEW RAMPS.

ANY GRATE IN PEDESTRIAN AREAS SHALL HAVE OPENINGS NOT GREATER THAN 1/2" AND SHALL BE PLACED WITH LONG DIMENSION OF OPENING PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL.

IF THE 8.33% (12:1) SLOPE CANNOT BE OBTAINED DUE TO GRADE OF THE ADJACENT ROADWAY, THE SLOPED PORTION OF THE RAMP SHALL BE EXTENDED TO A MINIMUM LENGTH OF 15'-0".

EXISTING CROSS WALK AND STOP BAR MARKINGS TO BE ERADICATED AND RELOCATED AS DICTATED BY PROPOSED RAMP LOCATIONS. COST NOT INCIDENTAL TO COST OF PROPOSED RAMP.

CURB RAMP WIDTH SHALL MATCH SIDEWALK WIDTH PLUS CLEARANCE. TYPICAL SIDEWALK WIDTH IS 5' MINIMUM. RAMP WIDTHS LESS THAN 5' REQUIRE DIVISION/DISTRICT ENGINEER APPROVAL. WIDTHS LESS THAN 4' REQUIRE AN EXCEPTION JUSTIFICATION REPORT. SEE SHEET 11 FOR INFORMATION REGARDING RAMP THICKNESS.

GRADE BREAKS SHALL BE PERPENDICULAR TO THE DIRECTION OF THE RAMP RUN. SURFACE SLOPES THAT MEET AT GRADE BREAKS SHALL BE FLUSH.

CLEAR SPACE- BEYOND THE BOTTOM GRADE BREAK, A CLEAR SPACE THE WIDTH OF THE CURB RAMP AND EXTENDING 4' MINIMUM INTO THE ABUTTING ROADWAY SHALL BE PROVIDED WITHIN THE WIDTH OF THE PEDESTRIAN STREET CROSSING AND WHOLLY OUTSIDE THE PARALLEL TRAVEL LANE. SURFACE TO MATCH EXISTING. ANY CLEAR SPACE WORK TO BE COMPLETED WILL BE INCIDENTAL TO THE COST OF THE RAMP.

ALL CURB RAMPS SHALL BE CONSTRUCTED TO PROVIDE ACCESS TO EXISTING OPERABLE PARTS. AN EXAMPLE OF THIS WOULD BE PEDESTRIAN PUSH BUTTONS.

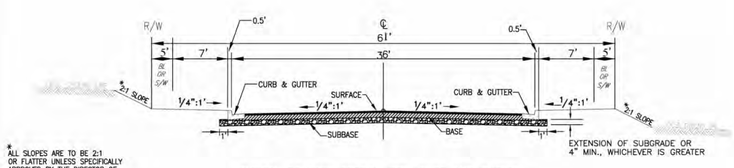
NOT TO SCALE

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STANDARD DETAIL

PREPARED 1-1-1999
REVISION DATE
7/31/12
10/22/13
10/01/20

SIDEWALK RAMPS
(Sheet 9 of 13)
TYPE IV RAMP

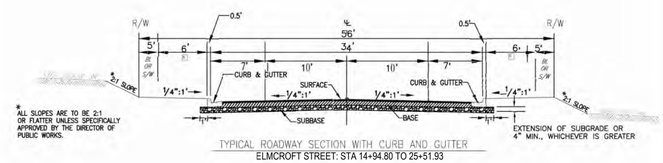
STANDARD SHEET PVT 7



*ALL SLOPES ARE TO BE 2:1 OR FLATTER UNLESS SPECIFICALLY APPROVED BY THE DIRECTOR OF PUBLIC WORKS.

TYPICAL ROADWAY SECTION WITH CURB AND GUTTER
ELMCROFT STREET: STA 10+00.00 TO 14+94.80

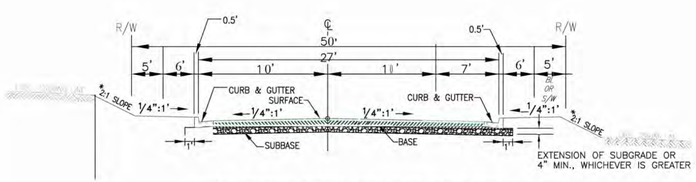
TYPICAL SECTION - MINOR COLLECTOR
(1000-2001 VPD)
City of Charles Town



*ALL SLOPES ARE TO BE 2:1 OR FLATTER UNLESS SPECIFICALLY APPROVED BY THE DIRECTOR OF PUBLIC WORKS.

TYPICAL ROADWAY SECTION WITH CURB AND GUTTER
ELMCROFT STREET: STA 14+94.80 TO 25+51.93

TYPICAL SECTION - NEIGHBORHOOD CENTER STREET
(501-1000 VPD)
City of Charles Town

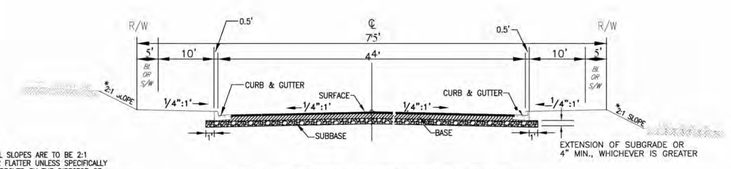


*ALL SLOPES ARE TO BE 2:1 OR FLATTER UNLESS SPECIFICALLY APPROVED BY THE DIRECTOR OF PUBLIC WORKS.

TYPICAL ROADWAY SECTION WITH CURB AND GUTTER

ELMCROFT STREET: STA 25+51.93 TO 29+59.08
HOLLENBECK DRIVE: STA 10+00.00 TO 22+58.87
HAVERS WAY: STA 10+00.00 TO 20+74.46
HAVENCREST WAY: STA 10+00.00 TO 16+72.71
DAVIAR PLACE: STA 10+00.00 TO 20+80.00
WATKINS WAY: STA 10+00.00 TO 18+64.53
WICKWOOD LANE: STA 10+00.00 TO 15+73.50
ALLETTE WAY: STA 10+00.00 TO 16+07.36

TYPICAL SECTION - NEIGHBORHOOD STREET
(0-500 VPD)
City of Charles Town



*ALL SLOPES ARE TO BE 2:1 OR FLATTER UNLESS SPECIFICALLY APPROVED BY THE DIRECTOR OF PUBLIC WORKS.

TYPICAL ROADWAY SECTION WITH CURB AND GUTTER
GRIFFIN PLACE: STA 10+00.00 TO 21+76.58

TYPICAL SECTION - MAJOR COLLECTOR
(2001+ VPD)
City of Charles Town

BENCHES:

1. A TOTAL OF SIX (6) BENCHES SHALL BE PROVIDED AT LOCATIONS IDENTIFIED ON THE SITE LAYOUT PLAN.
2. BENCH TO BE LATITUDE 6' FLAT BENCH BY ANOVA OR EQUIVALENT. PRODUCT DATA FOR ALTERNATES TO BE PROVIDED BY CONTRACTOR TO OWNER/DEVELOPER WITH BID DOCUMENTS.
3. CONCRETE PADS TO BE PROVIDED FOR EACH BENCH. INSTALLATION AND SURFACE MOUNT TO BE COMPLETED PURSUANT TO MANUFACTURERS SPECIFICATIONS.
4. SHOP DRAWINGS TO BE PROVIDED BY CONTRACTOR TO OWNER/DEVELOPER FOR APPROVAL PRIOR TO INSTALLATION.

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JASON P. GERHART REGISTERED PROFESSIONAL ENGINEER No. 19127 STATE OF WEST VIRGINIA
1-24-25

SEAL:

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2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

GENERAL DETAILS

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: NTS VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-GI-501.DWG	
NCS:	
SHEET:	04 OF 119

DEMO LEGEND

AREA TO BE DEMO'D OR CLEANED UP

× TREES TO BE REMOVED

N/F
OAKLAND U M CHURCH - TRUSTEES
T.M. 10, PAR. 219
D.B. 533, PG. 640

N/F
KENT H. TICE ET UX
T.M. 18, PAR. 6.26
D.B. 597, PG. 531

N/F
MARK & CHARIS HENSON
T.M. 18, PAR. 6.25
D.B. 1116, PG. 703

N/F
NORA SUE PAINTER
T.M. 18, PAR. 6.24
W.B. 1, PG. 61

N/F
EUGENE T. & DARAL A. KIDWELL
T.M. 18, PAR. 6.23
D.B. 631, PG. 723

N/F
JAGUAR IV LC
T.M. 10, PAR. 208
D.B. 1267, PG. 675

N/F
MARK F. LANGLET
T.M. 15, PAR. 7
D.B. 1030, PG. 343

N/F
HIGH HORIZONS FARM INC.
T.M. 19, PAR. 1
D.B. 1208, PG. 227

N/F
CITY OF CHARLES TOWN
T.M. 19, PAR. 1.1
D.B. 896, PG. 111

N/F
CITY OF CHARLES TOWN
T.M. 10, PAR. 218.2
D.B. 1135, PG. 622

N/F
RONALD L. WIDMYER
T.M. 18, PAR. 11.10
D.B. 384, PG. 51

N/F
RONALD L. & CAROLYN T. WIDMYER
T.M. 18, PAR. 11.12
D.B. 497, PG. 219

OAKLAND TERRACE

CROSSWINDS DRIVE

CHARLES TOWN ROAD - WV ROUTE 115 (60' ROW)

UTILITY POLE TO BE RELOCATED

UTILITY POLE TO BE RELOCATED

UTILITY POLE TO BE RELOCATED

UTILITY POLE TO BE RELOCATED

UTILITY POLE TO BE RELOCATED
UTILITY SERVICE TO BE RELOCATED OUTSIDE OF ROAD WIDENING (DESIGN BY OTHERS)

UTILITY SERVICE TO BE REMOVED

UTILITY POLE TO BE RELOCATED

BENCHMARK #2
TRAVERSE POINT
ELEV.=512.99

BENCHMARK #3:
TRAVERSE POINT
ELEV.=477.38

UTILITY SERVICES TO ADJOINING PROPERTIES MUST BE MAINTAINED AT ALL TIMES

EX. FENCE (TYP.) TO BE REMOVED

EX. FENCE (TYP.) TO BE REMOVED AND REPLACED

EX. PERMANENT UTILITY ESMT
DB. 1164, PG. 601

EX. PERMANENT UTILITY ESMT
DB. 1164, PG. 601

EX. 10' TEMPORARY UTILITY CONSTRUCTION ESMT
DB. 1164, PG. 601
(TO BE VACATED)

EX. 10' TEMPORARY UTILITY CONSTRUCTION ESMT
DB. 1164, PG. 601
(TO BE VACATED)

EX. 10' TEMPORARY UTILITY CONSTRUCTION ESMT
DB. 1164, PG. 601
(TO BE VACATED)

EX. PERMANENT UTILITY ESMT
DB. 1164, PG. 601

WV STATE GRID NORTH (NAD83)

150 75 0 150 300 450
GRAPHICAL SCALE: 1"=150'

SOILS MAP UNIT LEGEND

SOIL NAME	MAPPING UNIT	DEPTH TO RESTRICTIVE FEATURE	DRAINAGE CLASS	PERMEABILITY (IN/HR)	DEPTH TO WATER TABLE	HSG
FUNKSTOWN SILT LOAM	Fk	MORE THAN 80"	MODERATELY WELL DRAINED	MODERATELY HIGH - HIGH (0.6-2.0)	20"-28"	C
POPLIMENTO SILT LOAM, 3-8% SLOPES	PmB	MORE THAN 80"	WELL DRAINED	MODERATELY HIGH (0.2-0.6)	MORE THAN 80"	B
POPLIMENTO SILT LOAM, 8-15% SLOPES	PmC	MORE THAN 80"	WELL DRAINED	MODERATELY HIGH- (0.2-0.6)	MORE THAN 80"	B

NOTES:
- SOILS INFORMATION PROVIDED BY THE USDA SOIL SURVEY OF JEFFERSON COUNTY, WEST VIRGINIA.

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JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
4-24-24

SEAL:

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1. 09/25/2024 - COUNTY COMMENTS
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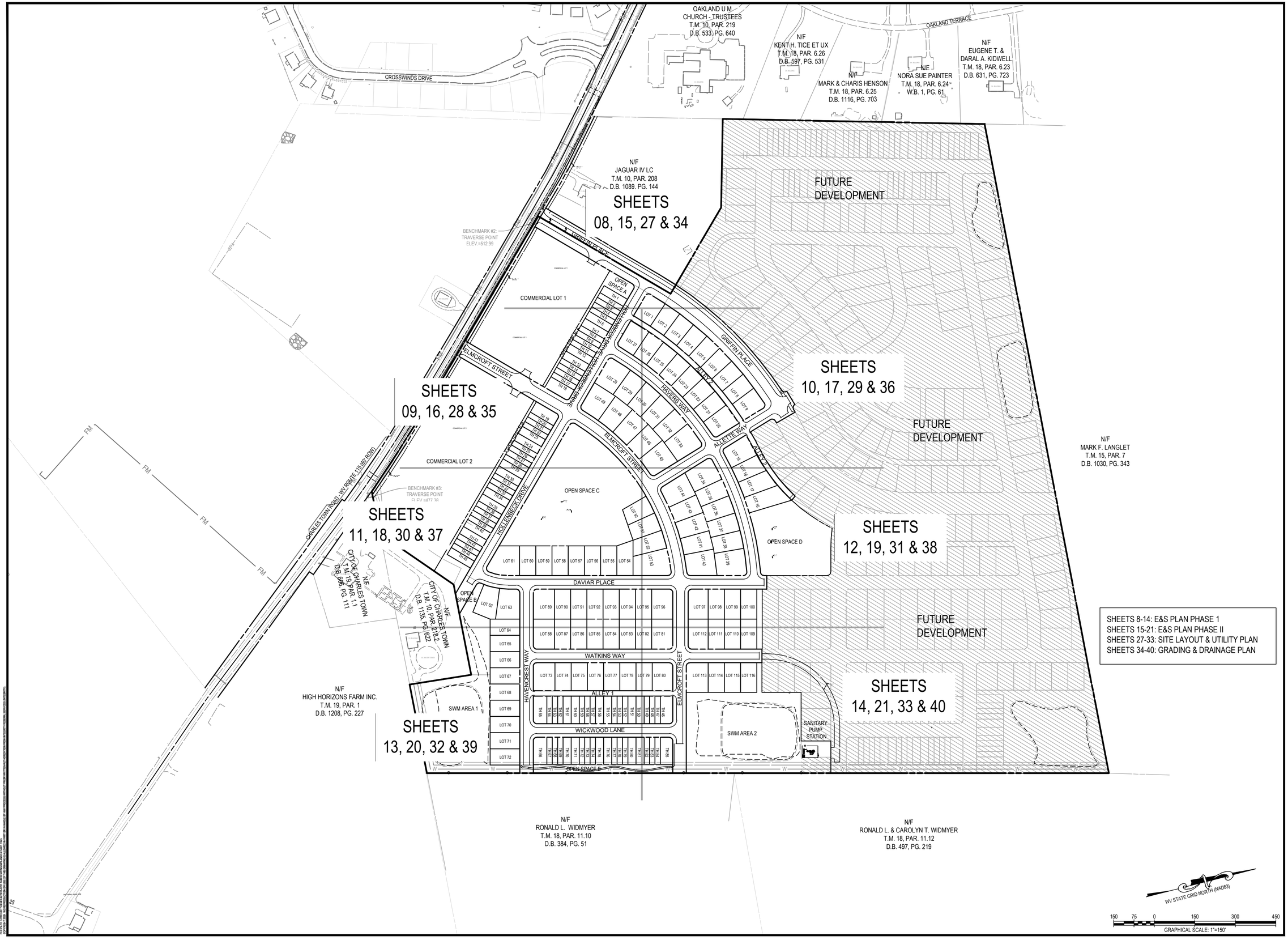
3. 01/24/2025 - COUNTY COMMENTS

EXISTING CONDITIONS & DEMOLITION PLAN

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: 1" = 150' VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: V-XP01.DWG	
NCS:	
SHEET:	05 OF 119



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OVERALL SITE PLAN

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: 1" = 150' VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-CS-001.DWG	
NCS:	
SHEET:	06 OF 119

EROSION AND SEDIMENT CONTROL NARRATIVE:

I. PROJECT DESCRIPTION:

THIS PROJECT IS FOR THE CONSTRUCTION OF 102 SINGLE-FAMILY DETACHED HOMES AND 85 TOWN HOUSES. IN ADDITION, THERE WILL BE THE CONSTRUCTION OF UNDERGROUND UTILITIES SERVING THE PROPERTY AND STORMWATER MANAGEMENT FACILITIES. THE TOTAL PROJECT AREA IS APPROXIMATELY 113 ACRES. THE TOTAL IMPERVIOUS AREA CREATED BY THE DEVELOPMENT OF THE SITE IS APPROXIMATELY ±22 ACRES. THE TOTAL DISTURBED AREA FOR THE PROPOSED SITE DEVELOPMENT IS 55+/- ACRES. ASSOCIATED GRADING VOLUMES FOR THE PROPOSED SITE IMPROVEMENTS ARE APPROXIMATELY 115,000 C.Y. OF CUT AND 115,000 C.Y. OF FILL (NOT TO BE USED FOR BIDDING PURPOSES).

II. EXISTING SITE CONDITIONS:

THE SITE IS LOCATED ALONG THE NORTH SIDE OF CHARLES TOWN ROAD (ROUTE 115). THE SUBJECT PROPERTY CONSISTS OF UNDEVELOPED OPEN SPACE COVERED WITH FIELD GRASS AND VEGETATED AREAS. THE SITE CONSISTS OF MODERATELY STEEP AND FLAT SLOPES RANGING FROM APPROXIMATELY 1%-15%. THE SURFACE RUNOFF DRAINS VIA SHALLOW CONCENTRATED FLOW TO TWO OUTFALLS ALONG THE EASTERN PROPERTY LINE AND TO AN EXISTING 18" CULVERT UNDER ROUTE 115..

III. ADJACENT AREAS:

THE SITE IS BOUNDED BY RESIDENTIAL PROPERTIES AND A CHURCH TO THE WEST AND AGRICULTURAL AREAS TO THE NORTH, SOUTH AND EAST. CHURCHES ARE LOCATED ADJACENT TO THE SOUTHWEST CORNER OF THE SITE AND ACROSS ROUTE 115. THERE IS LITTLE POTENTIAL FOR OFFSITE EROSION AND SEDIMENT DAMAGE BY THIS PROJECT AS TEMPORARY EROSION AND SEDIMENT CONTROLS WILL BE USED DURING CONSTRUCTION AND PERMANENT STORMWATER MANAGEMENT CONTROLS WILL BE INSTALLED PRIOR TO THE SITE BEING FULLY DEVELOPED.

IV. CRITICAL AREAS:

THERE ARE NO CRITICAL AREAS ON THIS SITE. DISTURBED AREAS WILL BE PROTECTED WITH SILT FENCE, DIVERSION DIKES AND/OR OTHER CONTROL MEASURES.

V. SOILS:

SOILS MAP UNIT LEGEND

SOIL NAME	MAPPING UNIT	DEPTH TO RESTRICTIVE FEATURE	DRAINAGE CLASS	PERMEABILITY (IN/HR)	DEPTH TO WATER TABLE	HSG
FUNKSTOWN SILT LOAM	Fk	MORE THAN 80"	MODERATELY WELL DRAINED	MODERATELY HIGH - HIGH (0.6-2.0)	20"-28"	C
POPLIMENTO SILT LOAM, 3-8% SLOPES	PmB	MORE THAN 80"	WELL DRAINED	MODERATELY HIGH (0.2-0.6)	MORE THAN 80"	B
POPLIMENTO SILT LOAM, 8-15% SLOPES	PmC	MORE THAN 80"	WELL DRAINED	MODERATELY HIGH- (0.2-0.6)	MORE THAN 80"	B

NOTES:

- SOILS INFORMATION PROVIDED BY THE USDA SOIL SURVEY OF JEFFERSON COUNTY, WEST VIRGINIA.

VI. POTENTIAL EROSION PROBLEM AREAS:

PER THE SOILS DATA SHOWN ABOVE, THE EXISTING SOILS LOCATED ONSITE HAVE A MODERATE-SLIGHT ERODABILITY POTENTIAL.

VII. EROSION AND SEDIMENT CONTROL ELEMENTS:

UNLESS OTHERWISE NOTED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE CONSTRUCTED AND MAINTAINED IN STRICT COMPLIANCE WITH THE LATEST EDITION OF THE WEST VIRGINIA EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL AND APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.

1. MARK CLEARING LIMITS:

PRIOR TO BEGINNING LAND DISTURBING ACTIVITIES, CLEARLY MARK ALL CLEARING LIMITS, SENSITIVE AREAS AND THEIR BUFFERS, AND TREES THAT ARE TO BE PRESERVED WITHIN THE CONSTRUCTION AREA. PLASTIC, METAL, OR STAKE WIRE FENCE MAY BE USED TO MARK CLEARING LIMITS. SAFETY FENCE SHOULD BE INSTALLED TO PREVENT PUBLIC ACCESS TO POTENTIALLY HAZARDOUS AREAS OF THE SITE AND TO PREVENT ACCESS TO EROSION AND SEDIMENT CONTROL MEASURES.

2. ESTABLISH CONSTRUCTION ACCESS:

ALL CONSTRUCTION ACCESS SHALL ENTER AND EXIT THE SITE THROUGH THE STABILIZED CONSTRUCTION ENTRANCE AS SHOWN ON THE PLANS LOCATED ON THE SOUTH SIDE OF THE PROPERTY OFF OF CHARLES TOWN ROAD (ROUTE 115). THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. IF WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. CONTRACTOR SHALL SUPPLY A WATER SOURCE BY PROVIDING A WATER TRUCK/WATER TANK ON SITE OR BY USE OF EXISTING ON SITE WATER SERVICE. THE CONSTRUCTION ENTRANCE LOCATION MAY BE SHIFTED TO ACCOMMODATE CONSTRUCTION PHASING. ANY SHIFT IN THE LOCATION SHALL BE APPROVED BY JEFFERSON COUNTY ENGINEERING.

3. INSTALL SEDIMENT CONTROLS:

THE DUFF LAYER, NATIVE TOPSOIL, AND NATURAL VEGETATION SHALL REMAIN IN AN UNDISTURBED STATE TO THE MAXIMUM EXTENT PRACTICABLE. PRIOR TO LEAVING THE CONSTRUCTION SITE, SURFACE RUNOFF FROM DISTURBED AREAS SHALL PASS THROUGH AN APPROPRIATE SEDIMENT CONTROL MEASURE. BMP'S INTENDED TO TRAP SEDIMENT ON SITE SHALL BE CONSTRUCTED AS ONE OF THE FIRST STEPS IN GRADING. THESE BMP'S SHALL BE FUNCTIONAL PRIOR TO LAND DISTURBING ACTIVITIES TAKING PLACE. EARTHEN STRUCTURES SUCH AS DAMS, DIKES, AND DIVERSIONS SHALL BE SEEDED AND MULCHED AS PER TEMPORARY AND PERMANENT SOIL STABILIZATION MEASURES.

SEDIMENT BASIN:

SEDIMENT BASINS SHALL BE INSTALLED PRIOR TO INITIATING ROUGH GRADING TO CAPTURE SEDIMENT-LADEN RUNOFF FROM THE CONSTRUCTION SITE. SEDIMENT BASINS REDUCE THE ENERGY OF THE WATER THROUGH EXTENDED DETENTION (48 TO 72 HOURS) TO SETTLE OUT THE MAJORITY OF THE SUSPENDED SOLIDS AND SEDIMENT. SEDIMENT BASINS ARE OFTEN MODIFIED TO FUNCTION AS A PERMANENT SWM POND/BMP AFTER CONSTRUCTION IS COMPLETED.

SEDIMENT TRAP:

SEDIMENT TRAPS SHALL BE INSTALLED PRIOR TO INITIATING ROUGH GRADING (DURING THE FIRST PHASE OF CONSTRUCTION) TO DETAIN SEDIMENT-LADEN RUNOFF FROM SMALL DISTURBED AREAS OF FIVE ACRES OR LESS. SEDIMENT TRAPS SHALL BE INSTALLED AT THE OUTLET OF DITCHES AND OTHER PERIMETER CONTROLS INSTALLED DURING THE FIRST STAGE OF CONSTRUCTION. SEDIMENT TRAPS MAY ALSO BE INSTALLED AT THE OUTLET OF ANY STRUCTURE WHICH CONCENTRATES SEDIMENT-LADEN RUNOFF (I.E. DISCHARGE POINT OF DIVERSIONS, CHANNELS, SLOPE DRAINS OR OTHER RUNOFF CONVEYANCES).

SILT FENCE:

SILT FENCE SHALL BE INSTALLED ALONG THE DOWN-SLOPE SIDES OF DISTURBED AREAS TO INTERCEPT AND DETAIN SMALL AMOUNTS OF SEDIMENT DURING CONSTRUCTION OPERATIONS IN ORDER TO PREVENT SEDIMENT FROM LEAVING THE SITE.

SUPER SILT FENCE:

SUPER SILT FENCE SHALL BE INSTALLED TO REDUCE RUNOFF VELOCITY AND ALLOW SEDIMENT TO BECOME TRAPPED BEHIND OR UP-SLOPE OF THE SUPER SILT FENCE. SUPER SILT FENCE PROVIDES A BARRIER THAT CAN COLLECT AND HOLD DEBRIS AND SOIL, PREVENTING THE MATERIAL FROM ENTERING CRITICAL AREAS, STREAMS, STREETS, ETC. SUPER SILT FENCE ALSO HELPS TO DECREASE THE VELOCITY OF SHEET FLOWS AND LOW-TO-MODERATE LEVEL CHANNEL FLOWS.

TEMPORARY DIVERSIONS:

TEMPORARY DIVERSIONS SHALL BE INSTALLED TO DIVERT UP-SLOPE CLEAN WATER AROUND A PROJECT SITE TO REDUCE THE QUANTITY OF WATER WITHIN THE SEDIMENT CONTROL SYSTEM; TO DIVERT UP-SLOPE WATER FROM DISTURBED AREAS TO AN APPROPRIATE SEDIMENT TRAPPING FACILITY SUCH AS A SEDIMENT TRAP OR SEDIMENT BASIN; TO DIVERT INTERNAL SEDIMENT-LADEN WATER TO A SEDIMENT-TRAPPING STRUCTURE; TO PREVENT EROSION AND MAINTAIN ACCEPTABLE WORKING CONDITIONS ABOVE CRITICAL DISTURBED AREAS PRIOR TO STABILIZATION. TEMPORARY DIVERSIONS ALSO HELP TO INTERCEPT AND DIVERT WATER AWAY FROM FOOTERS, WALLS & OTHER STRUCTURES.

DIVERSIONS THAT ARE TO SERVE LONGER THAN 14 WORKING DAYS SHALL BE STABILIZED IMMEDIATELY WITH SEED AND MULCH WITH OR WITHOUT A ROLLED EROSION CONTROL PRODUCT MEETING THE REQUIREMENTS FOUND IN THE WEST VIRGINIA EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL TO PRESERVE DIKE HEIGHT, PREVENT EROSION AND REDUCE MAINTENANCE.

INLET PROTECTION:

INLET PROTECTION SHALL BE BE PLACED ON ALL STORM DRAIN DROP INLETS OR CURB INLETS TO TRAP SEDIMENT BEFORE CONTAMINATED RUNOFF ENTERS A STORM DRAINAGE SYSTEM. STORM DRAIN INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY FOLLOWING INSTALLATION OF STORMWATER CONTROLS OR PRIOR TO CONSTRUCTION ACTIVITIES FOR EXISTING STORM DRAINS OR WHERE STORM DRAIN INLETS ARE TO BE MADE OPERATIONAL BEFORE PERMANENT STABILIZATION OF THE CORRESPONDING DISTURBED DRAINAGE AREA.

4. STABILIZE SOILS:

THE GENERAL PERMIT REQUIRES THAT:

- STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOUR (4) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS PERMANENTLY CEASED.
- APPLICABLE PRACTICES INCLUDE, BUT ARE NOT LIMITED TO, TEMPORARY AND PERMANENT SEEDING, SODDING, MULCHING, EROSION CONTROL FABRICS AND MATTING, SURFACE ROUGHENING, SURFACE WATER CONTROL, AND DUST CONTROL.
- SELECTED SOIL STABILIZATION MEASURES SHALL BE APPROPRIATE FOR THE TIME OF YEAR, SITE CONDITIONS, AND ESTIMATED DURATION OF USE.
- ALL SOIL STOCKPILES MUST BE STABILIZED AND PROTECTED WITH SEDIMENT TRAPPING MEASURES.
- LINEAR CONSTRUCTION ACTIVITIES SUCH AS RIGHT-OF-WAY AND EASEMENT CLEARING, ROADWAY DEVELOPMENT, PIPELINES, AND TRENCHING FOR UTILITIES, SHALL BE CONDUCTED TO MEET THE SOIL STABILIZATION TIMEFRAME REQUIREMENTS. CONTRACTORS SHALL INSTALL THE BEDDING MATERIALS, ROADBEDS, STRUCTURES, PIPELINES, OR UTILITIES AND RE-STABILIZE THE DISTURBED SOILS SO THAT THE FOUR (4) DAY REQUIREMENTS ARE MET.

TEMPORARY SEEDING:

TEMPORARY STABILIZATION SHALL BE INITIATED WITHIN FOUR (4) DAYS TO AREAS THAT WILL NOT BE RE-DISTURBED FOR MORE THAN FOURTEEN (14) DAYS. AREAS INCLUDE DENUDED AREAS, SOIL STOCKPILES, DIKES, DAMS, SIDES OF SEDIMENT BASINS, TEMPORARY ROAD BANKS, ETC.

PERMANENT SEEDING:

PERMANENT STABILIZATION SHALL BE INITIATED WITHIN FOUR (4) DAYS OF REACHING FINAL GRADE AND WITHIN FOUR (4) DAYS AFTER CONSTRUCTION HAS BEEN COMPLETED. AREAS INCLUDE DISTURBED AREAS WHERE PERMANENT, LONG-LIVED VEGETATIVE COVER IS NEEDED TO STABILIZE THE SOIL AND ROUGH-GRADED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR SIX MONTHS OR MORE.

MULCHING:

THE APPLICATION OF STRAW, HAY OR OTHER SUITABLE MATERIALS TO THE SOIL SURFACE TO PREVENT EROSION BY PROTECTING THE SOIL SURFACE FROM RAINDROP IMPACT AND REDUCING THE VELOCITY OF OVERLAND FLOW. AREAS THAT HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED SHOULD BE MULCHED IMMEDIATELY FOLLOWING SEEDING. AREAS THAT CANNOT BE SEEDED BECAUSE OF THE SEASON SHOULD BE MULCHED TO PROVIDE SOME PROTECTION TO THE SOIL SURFACE.

TOPSOILING:

TOPSOILING IS THE SPREADING OF TOPSOIL OF A SUITABLE QUALITY OVER AN AREA TO BE STABILIZED BY ESTABLISHING VEGETATION. IF TOPSOIL IS TO BE STOCKPILED AT SITE, IT SHALL BE IN A LOCATION THAT WILL NOTE ERODE, BLOCK DRAINAGE, OR INTERFERE WITH WORK ON THE SITE. ALL SOIL STOCKPILES SHALL BE STABILIZED BY TEMPORARY SEEDING AND MULCHING AND PROTECTED WITH SEDIMENT TRAPPING MEASURES SUCH AS SILT FENCE. TOPSOIL SHALL BE SPREAD AT A LIGHTLY COMPACTED DEPTH OF 2 TO 4 INCHES. 4 INCHES OR GREATER IS RECOMMENDED FOR AREAS WHERE FINE-TEXTURED (CLAYEY) SUBSOIL OR OTHER ROOT LIMITING FACTORS ARE PRESENT.

ROLLED EROSION CONTROL PRODUCTS (RECP):

TEMPORARY OR PERMANENT EROSION CONTROL NETS, BLANKETS AND THREE-DIMENSIONAL MATRIXES MADE FROM A WIDE VARIETY OF NATURAL (SUCH AS JUTE, COIR AND STRAW) AND MAN-MADE MATERIALS ALONE OR IN COMBINATION THAT HELP PREVENT EROSION IN SEVERAL WAYS. PREFABRICATED BLANKETS OR NETTING SHALL BE USED AS A TEMPORARY SURFACE STABILIZING MEASURE AND TO AID IN THE ESTABLISHMENT OF VEGETATION. THEY ARE TYPICALLY USED ON STEEP SLOPES AND TO HELP ESTABLISH GRASS IN LOW VELOCITY VEGETATED CHANNELS.

5. PROTECT SLOPES:

THE GENERAL PERMIT PROHIBITS UP-SLOPE RUNOFF FROM FLOWING DOWN FILL SLOPES. ALL FILL SURFACE RUNOFF SHALL BE CONTAINED WITH TEMPORARY BERMS AND IN PIPES, SLOPE DRAINS, OR STABILIZED CHANNELS. DRAINAGE SHALL BE PROVIDED TO REMOVE GROUND WATER INTERSECTING THE SLOPE SURFACE OF EXPOSED SOIL AREAS. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES, CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS. SOILS ON SLOPES SHALL BE STABILIZED AS SPECIFIED IN TEMPORARY AND PERMANENT SOIL STABILIZATION MEASURES.

6. PROTECT STORM DRAIN INLETS:

STORM DRAIN INLETS OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SURFACE WATER RUNOFF DOES NOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR TREATED TO REMOVE SEDIMENT. INLET PROTECTION SHALL BE PLACED ON ALL STORM INLETS TO PROTECT AGAINST SEDIMENT-LADEN RUNOFF ENTERING THE SYSTEM AT THE INLETS.

INLET PROTECTION:

INLET PROTECTION SHALL BE BE PLACED ON ALL STORM DRAIN DROP INLETS AND/OR CURB INLETS TO TRAP SEDIMENT BEFORE CONTAMINATED RUNOFF ENTERS A STORM DRAINAGE SYSTEM. INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY FOLLOWING INSTALLATION OF STORMWATER CONTROLS, PRIOR TO CONSTRUCTION ACTIVITIES FOR EXISTING STORM DRAINS, AND/OR WHERE STORM DRAIN INLETS ARE TO BE MADE OPERATIONAL BEFORE PERMANENT STABILIZATION OF THE DISTURBED DRAINAGE AREA HAVE OCCURRED.

CULVERT INLET PROTECTION:

CULVERT INLET PROTECTION SHALL BE BE PLACED ON ALL STORM CULVERT INLETS TO PREVENT SEDIMENT FROM ENTERING, ACCUMULATING IN, AND BEING TRANSFERRED BY THE CULVERT AND ASSOCIATED DRAINAGE SYSTEM. CULVERT INLET PROTECTION MAY ALSO PROVIDE EROSION CONTROL AT STORM CULVERT INLETS DURING THE PHASE OF A PROJECT WHERE ELEVATION AND DRAINAGE PATTERNS CHANGE, CAUSING ORIGINAL CONTROL MEASURES TO BE INEFFECTIVE OR IN NEED OF REMOVAL.

7. CONVEY STORMWATER IN A NON-EROSIVE MANNER:

POINTS OF DISCHARGE AND RECEIVING STREAMS SHALL BE PROTECTED FROM EROSION DUE TO INCREASES IN THE VOLUME, VELOCITY, AND PEAK FLOW RATE OF SURFACE WATER RUNOFF FROM THE PROJECT SITE. ALL STORMWATER CONVEYANCE CHANNELS SHALL BE STABILIZED FOR EXPECTED FLOWS.

OUTLET PROTECTION:

OUTLET PROTECTION SHALL BE INSTALLED AT ALL CULVERT OUTLETS OF ALL TYPES, PIPE CONDUITS FROM ALL SEDIMENT BASINS, SWM PONDS, AND NEW CHANNELS CONSTRUCTED AS OUTLETS FOR CULVERTS AND CONDUITS. OUTLET PROTECTION SHALL BE PROVIDED IN THE FORM OF A RIP-RAP-LINED APRON CONSTRUCTED AT A ZERO OR MINIMUM SLOPE TO SLOW THE OUTLET VELOCITY AND ADEQUATELY PROTECT SOILS FROM SCOUR BY REDUCING FLOW.

ROCK CHECK DAMS:

SMALL TEMPORARY STONE DAMS CAN BE CONSTRUCTED ACROSS A WATERWAY TO REDUCE THE VELOCITY OF STORMWATER FLOWS, THEREBY REDUCING EROSION OF THE CHANNEL AND TRAPPING SEDIMENT. CHECK DAMS SHALL BE INSTALLED AT TEMPORARY DITCHES OR SWALES OR TEMPORARY OR PERMANENT DITCHES OR SWALES WHICH NEED PROTECTION DURING THE ESTABLISHMENT OF GRASS LININGS.

8. CONTROL OTHER POLLUTANTS:

ALL POLLUTANTS, INCLUDING WASTE MATERIALS AND DEMOLITION DEBRIS, THAT OCCUR ON SITE DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF SURFACE OR GROUND WATER. WOODY DEBRIS MAY BE CHOPPED AND SPREAD ON SITE. COVER, CONTAINMENT, AND PROTECTION FROM VANDALISM SHALL BE PROVIDED FOR ALL CHEMICALS, LIQUID PRODUCTS, PETROLEUM PRODUCTS, AND NON-INERT WASTES PRESENT ON SITE. ALL MATERIALS USED ON THE SITE SHALL BE PROPERLY STORED, HANDLED, DISPENSED AND DISPOSED OF FOLLOWING ALL APPLICABLE LABEL DIRECTIONS. FLAMMABLE AND COMBUSTIBLE LIQUIDS SHALL BE STORED AND HANDLED ACCORDING TO APPLICABLE REGULATIONS, AND, AT A MINIMUM, ACCORDING TO OSHA STANDARDS 29 CFR 1926 152. ONLY APPROVED CONTAINERS AND PORTABLE TANKS SHALL BE USED FOR STORAGE AND HANDLING OF FLAMMABLE AND COMBUSTIBLE LIQUIDS.

- MAINTENANCE AND REPAIR OF HEAVY EQUIPMENT AND VEHICLES INVOLVING OIL CHANGES, HYDRAULIC SYSTEM DRAIN DOWN, SOLVENT AND DE-GREASING CLEANING OPERATIONS, FUEL TANK DRAIN DOWN AND REMOVAL, AND OTHER ACTIVITIES WHICH MAY RESULT IN DISCHARGE OR SPILLAGE OF POLLUTANTS TO THE GROUND OR INTO SURFACE WATER RUNOFF MUST BE CONDUCTED USING SPILL PREVENTION MEASURES, SUCH AS DRIP PANS. CONTAMINATED SURFACES SHALL BE CLEANED IMMEDIATELY FOLLOWING ANY DISCHARGE OR SPILL INCIDENT.
- WHEEL WASH OR TIRE BATH WASTEWATER SHALL BE DISCHARGED TO A SEPARATE ON-SITE TREATMENT SYSTEM OR TO THE SANITARY SEWER.
- APPLICATION OF AGRICULTURAL CHEMICALS INCLUDING FERTILIZERS AND PESTICIDES SHALL BE CONDUCTED IN A MANNER AND AT APPLICATION RATES THAT WILL NOT RESULT IN LOSS OF CHEMICAL TO SURFACE WATER RUNOFFF. MANUFACTURERS RECOMMENDATIONS FOR APPLICATION RATES AND PROCEDURES SHALL BE FOLLOWED.
- IN THE EVENT OF AN ACCIDENTAL SPILL, IMMEDIATE ACTION SHALL BE TAKEN BY THE CONTRACTOR TO CONTAIN AND REMOVE THE SPILLED MATERIAL. THE SPILL SHALL BE REPORTED TO THE APPROPRIATE AGENCIES IN THE REQUIRED TIME FRAMES. AS REQUIRED UNDER PROVISIONS OF THE CLEAN WATER ACT, ANY SPILL OR DISCHARGE ENTERING WATERS OF THE UNITED STATES SHALL BE PROPERLY REPORTED.

9. CONTROL DEWATERING:

FOUNDATION, VAULT, AND UTILITY TRENCH DEWATERING WATER SHALL BE DISCHARGED INTO A CONTROLLED CONVEYANCE SYSTEM PRIOR TO DISCHARGE TO A SEDIMENT POND. CHANNELS RECEIVING THE DISCHARGED WATER MUST BE STABILIZED. HIGHLY TURBID OR CONTAMINATED WATER FROM CONSTRUCTION EQUIPMENT OPERATIONS, WORK INSIDE A COFFERDAM, SHALL BE HANDLED SEPARATELY FROM SURFACE WATER. IF DEWATERING IS REQUIRED FOR SMALL VOLUMES OF LOCALIZED DEWATERING ON THIS SITE, A PUMP AND DEWATERING FILTER BAG SHALL BE UTILIZED. THE FILTER BAG SHALL DISCHARGE TO A DITCH OR SWALE WITH A WELL ESTABLISHED VEGETATIVE AREA.

10. MAINTAIN BMP'S:

TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL BMP'S SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. MAINTENANCE AND REPAIR SHALL BE CONDUCTED IN ACCORDANCE WITH THE BMP'S. AT A MINIMUM, ALL SEDIMENT CONTROL BMP'S SHALL BE INSPECTED AT LEAST ONCE EVERY FOUR (4) CALENDAR DAYS AND WITHIN 24 HOURS OF THE OCCURRENCE OF A PRECIPITATION EVENT OF 0.25 INCHES OR GREATER, OR THE OCCURRENCE OF RUNOFF FROM SNOWMELT SUFFICIENT TO CAUSE A DISCHARGE. TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S SHOULD BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMP'S ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL RESULTING FROM THE REMOVAL OF BMP'S OR VEGETATION SHALL BE PERMANENTLY STABILIZED.

11. MANAGE THE PROJECT:

A SEQUENCE OF CONSTRUCTION HAS BEEN PROVIDED ON THIS SHEET TO DESCRIBE AN OVERALL CONSTRUCTION SEQUENCE AS IT RELATES TO EROSION AND SEDIMENT CONTROL BMP'S AND CONSTRUCTION OF VARIOUS ELEMENTS OF THE PROJECT. IN GENERAL, THE PROJECT IS TO BEGIN CONSTRUCTION IN JUNE 2023 AND END APPROXIMATELY IN JUNE 2025. THE CONTRACTOR IS RESPONSIBLE FOR THE DETAILS OF THE DAY TO DAY OPERATIONS.

- THE PRIMARY PROJECT MANAGER SHALL EVALUATE, WITH INPUT FROM UTILITIES AND OTHER CONTRACTORS, THE SURFACE WATER MANAGEMENT REQUIREMENTS FOR THE ENTIRE PROJECT, INCLUDING THE UTILITIES, WHEN PREPARING THE SEDIMENT CONTROL PLAN. ALL BMP'S SHALL BE INSPECTED, MAINTAINED, AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. WHENEVER INSPECTION AND/OR MONITORING REVEALS THAT THE BMP'S IDENTIFIED IN THE SEDIMENT CONTROL PLAN ARE INADEQUATE, THE SEDIMENT CONTROL PLAN SHALL BE MODIFIED, AS APPROPRIATE, IN A TIMELY MANNER.
- CONTRACTOR SHALL REPORT SPILLAGE OR DISCHARGE OF POLLUTANTS WITHIN 24-HOURS. THE SEDIMENT CONTROL PLAN SHALL BE RETAINED ON SITE. THE SEDIMENT CONTROL PLAN SHALL BE MODIFIED WHENEVER THERE IS A SIGNIFICANT CHANGE IN THE DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE OF ANY BMP. THE WVDEP MUST BE NOTIFIED OF ANY CHANGES TO THE CONSTRUCTION SWPP.

12. STABILIZATION:

THE CONSTRUCTION SITE SHOULD BE STABILIZED AS SOON AS POSSIBLE AFTER COMPLETION. ESTABLISHMENT OF FINAL COVER MUST BE INITIATED WITHIN FOUR (4) DAYS AFTER REACHING FINAL GRADE. A NOTICE OF TERMINATION MUST BE FILED WITH THE WVDEP WHEN THE SITE REACHES FINAL STABILIZATION. FINAL STABILIZATION MEANS THAT ALL SOIL-DISTURBING ACTIVITIES ARE COMPLETED, AND THAT EITHER A PERMANENT VEGETATIVE COVER OF 70% OR GREATER HAS BEEN ESTABLISHED OR THAT THE SURFACE HAS BEEN STABILIZED BY HARD COVER SUCH AS PAVEMENT OR BUILDINGS. (THE 70% REQUIREMENT REFERS TO THE TOTAL VEGETATED AREA AND NOT JUST A PERCENT OF THE SITE).

VIII. EROSION AND SEDIMENT CONTROL NOTES:

1. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE CONSTRUCTED AND MAINTAINED IN STRICT COMPLIANCE WITH THE LATEST EDITION OF THE WEST VIRGINIA EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL AND APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.
2. AREAS OF DEVELOPMENT SHALL BE PLANNED IN PHASES AND STAGES IN ORDER TO PREVENT THE TRANSPORT OF SEDIMENT FROM THE DEVELOPMENT SITE DURING CONSTRUCTION AND MINIMIZE EXPOSURE TO DISTURBED GROUND. RE-VEGETATION OF EXPOSED AREAS AND THE MAINTENANCE OF THAT VEGETATION SHALL BE AN INTEGRAL PART OF THE CLEARING ACTIVITIES FOR ANY PHASE.
3. NO DISTURBED AREA IS TO REMAIN DENUDED FOR MORE THAN FOUR (4) DAYS EXCEPT FOR MATERIAL STORAGE AREAS OR FOR THOSE AREAS ON WHICH ACTUAL CONSTRUCTION ACTIVITIES ARE CURRENTLY BEING PERFORMED UNLESS AUTHORIZED BY JEFFERSON COUNTY AND/OR THE EASTERN PANHANDLE CONSERVATION DISTRICT.
4. ALL SOIL STOCKPILES SHALL BE STABILIZED BY TEMPORARY SEEDING AND MULCHING AND PROTECTED WITH PERIMETER SEDIMENT CONTROLS SUCH AS SILT FENCE TO PREVENT CONTACT WITH STORMWATER RUNOFF. ALL STOCKPILES MUST BE LOCATED OUTSIDE OF ANY VEGETATED BUFFER AREAS AND SHOULD BE LOCATED AS FAR AS PRACTICABLE FROM STORMWATER CONVEYANCE SYSTEMS AND WATER BODIES.
5. ALL SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING SITE GRADING OPERATIONS TO REDUCE RUNOFF VELOCITIES AND EROSION. TEMPORARY AND/OR PERMANENT STABILIZATION MEASURES SHALL BE APPLIED TO ALL SLOPES AS SPECIFIED IN THE SOIL STABILIZATION MEASURES.
6. DURING CONSTRUCTION, PROTECT ALL FILLS SO THAT RUNOFF DOES NOT GO DOWN THE FACE OF THE HILL. UTILIZE BERMS, TEMPORARY SLOPE DRAINS, OR OTHER METHODS TO DIVERT RUNOFF AWAY FROM THE FILL AND INTO A SEDIMENT TRAPPING STRUCTURE. AS MORE FILL IS ADDED, SLOPE THE TOP (OR BERM IT) TO DIRECT WATER AWAY FROM THE SLOPE AND TO A STABLE CONVEYANCE SYSTEM. SEED & MULCH EVERY FOUR (4) DAYS OR 15' OF FILL.
7. NO OFF-SITE SOURCE OF BORROW MATERIALS IS ANTICIPATED FOR THIS PROJECT. IN THE EVENT THAT AN OFF-SITE SOURCE OF BORROW MATERIALS IS USED, AN EROSION AND SEDIMENT CONTROL PLAN SHALL BE PROVIDED FOR THE BORROW PIT AND THE BORROW PIT SHALL MEET ALL APPLICABLE REQUIREMENTS AND PERMITS OF THE WVDEP.
8. DUE TO GRADE CHANGES DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION AND SEDIMENT CONTROL MEASURES (i.e. SILT FENCES, ETC.) TO PREVENT EROSION AND POLLUTANT DISCHARGE OFF-SITE.

IX. SOIL STABILIZATION:

EXCEPT AS NOTED BELOW, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOUR (4) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS PERMANENTLY CEASED OR FOUR (4) DAYS FOR SITES REQUIRED TO USE ENHANCED BMP'S.

- WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 4TH DAY, AS APPLICABLE AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASES IS PRECLUDED BY NATURAL CAUSES, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS CONDITIONS ALLOW.
- WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 14 DAYS FROM WHEN ACTIVITIES CEASED, (E.G. THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY HALTED IS LESS THAN 14 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE BY THE 4TH DAY AFTER CONSTRUCTION ACTIVITIES HAVE TEMPORARILY CEASED.
- AREAS WHERE SEED HAS FAILED TO GERMINATE ADEQUATELY (UNIFORM PERENNIAL VEGETATIVE COVER OF 70% OR GREATER) WITHIN 30 DAYS AFTER SEEDING AND MULCHING MUST BE RE-SEEDED IMMEDIATELY, OR AS SOON AS WEATHER CONDITIONS ALLOW.

TEMPORARY STABILIZATION:

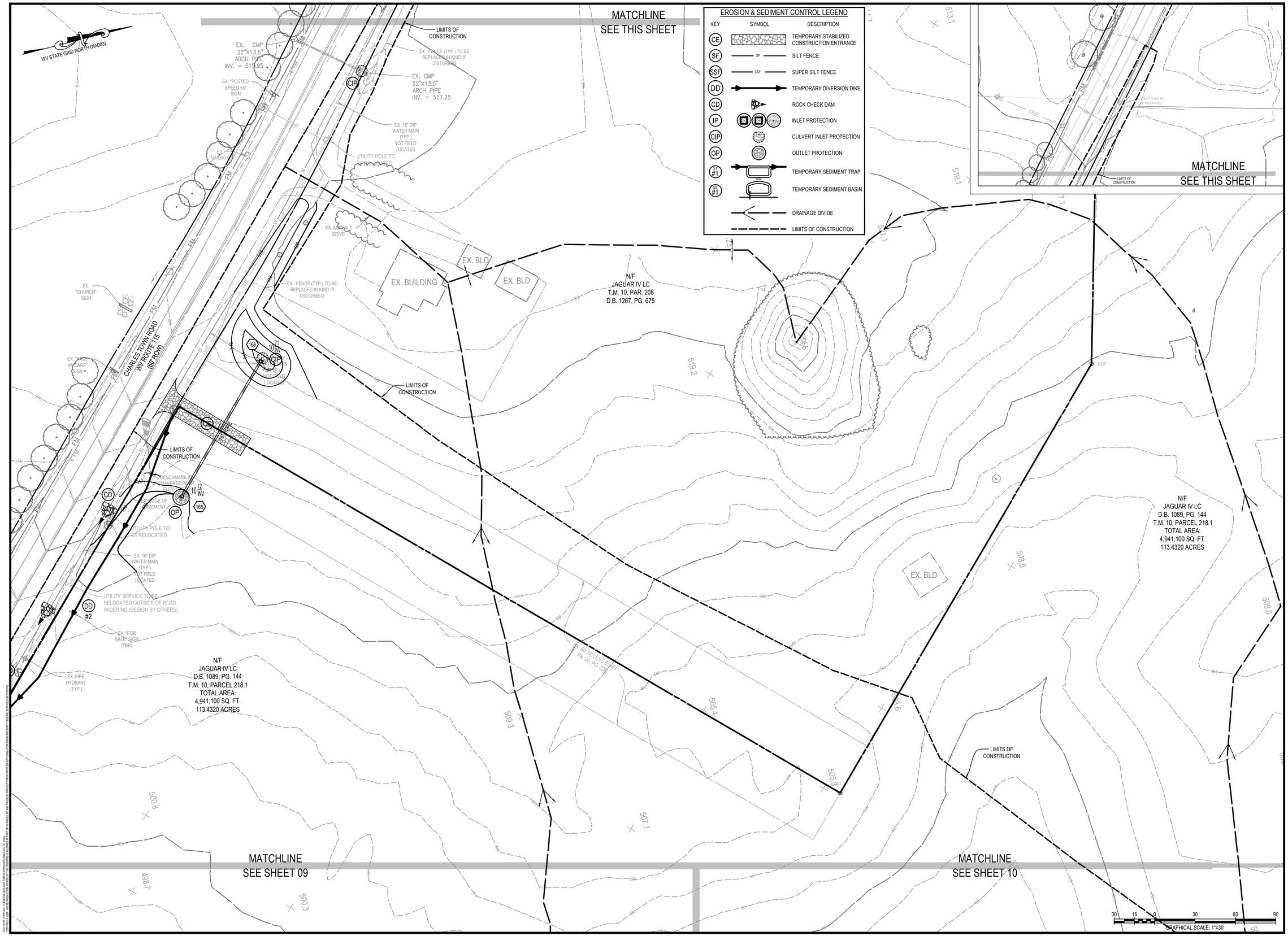
- SELECTION OF TEMPORARY SEED MIXTURE SHALL DEPEND ON THE TIME OF YEAR DURING APPLICATION. SELECT PLANTS APPROPRIATE TO THE SEASON AND SITE CONDITIONS. REFER TO TABLE 3.10.1 TEMPORARY SEEDING OF THE WEST VIRGINIA EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL FOR A LIST OF COVER PLANTS, APPROVED PLANTING DATES, AND APPLICATION RATES.

PERMANENT STABILIZATION:

SEED MIXTURES INCLUDE THE FOLLOWING:

COMMON NAME	APPLICATION RATE	PREFERRED PLANTING DATES
KENTUCKY 31 FESCUE	45 LBS./ACRE	3/1-6/15 & 8/15-9/15
RED FESCUE	20 LBS./ACRE	3/1-6/15 & 8/15-9/15
KENTUCKY BLUEGRASS	25 LBS./ACRE	3/1-6/15 & 8/15-9/15
WHITE DUTCH CLOVER	5 LBS./ACRE	3/1-6/15 & 8/15-9/15

- FERTILIZER: DETERMINED BY SOIL TEST
- LIME: 90 LBS./1,000 SQ. FT. PULVERIZED AGRICULTURAL GRADE



EROSION & SEDIMENT CONTROL LEGEND

KEY	SYMBOL	DESCRIPTION
CE		TEMPORARY STABILIZED CONSTRUCTION ENTRANCE
SF	SF	SILT FENCE
SSF	SSF	SUPER SILT FENCE
DD		TEMPORARY DIVERSION DIKE
CD		ROCK CHECK DAM
IP		INLET PROTECTION
CIP		CULVERT INLET PROTECTION
OP		OUTLET PROTECTION
SB #1		TEMPORARY SEDIMENT TRAP
SB #1		TEMPORARY SEDIMENT BASIN
		DRAINAGE DIVIDE
		LIMITS OF CONSTRUCTION

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TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

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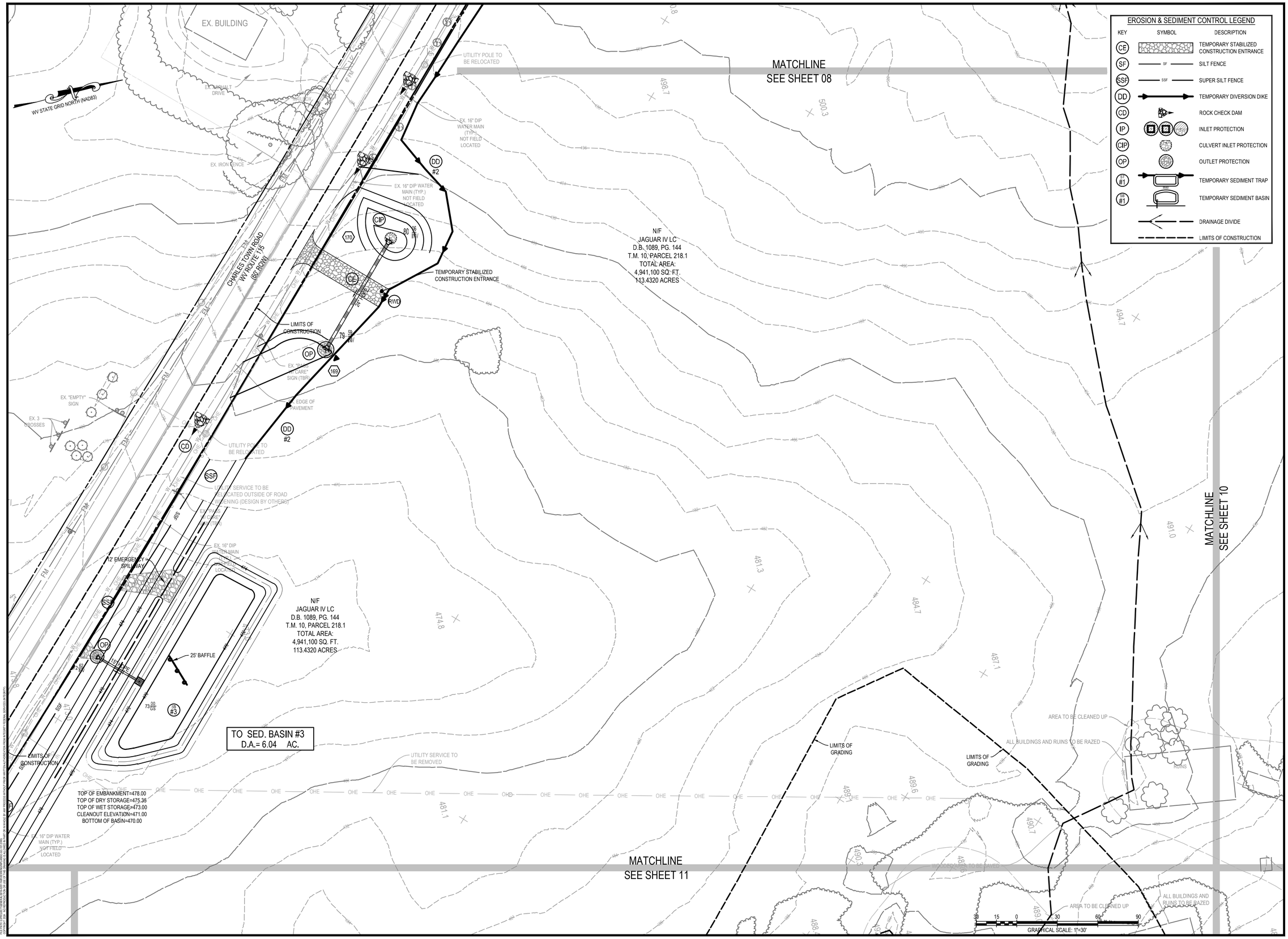

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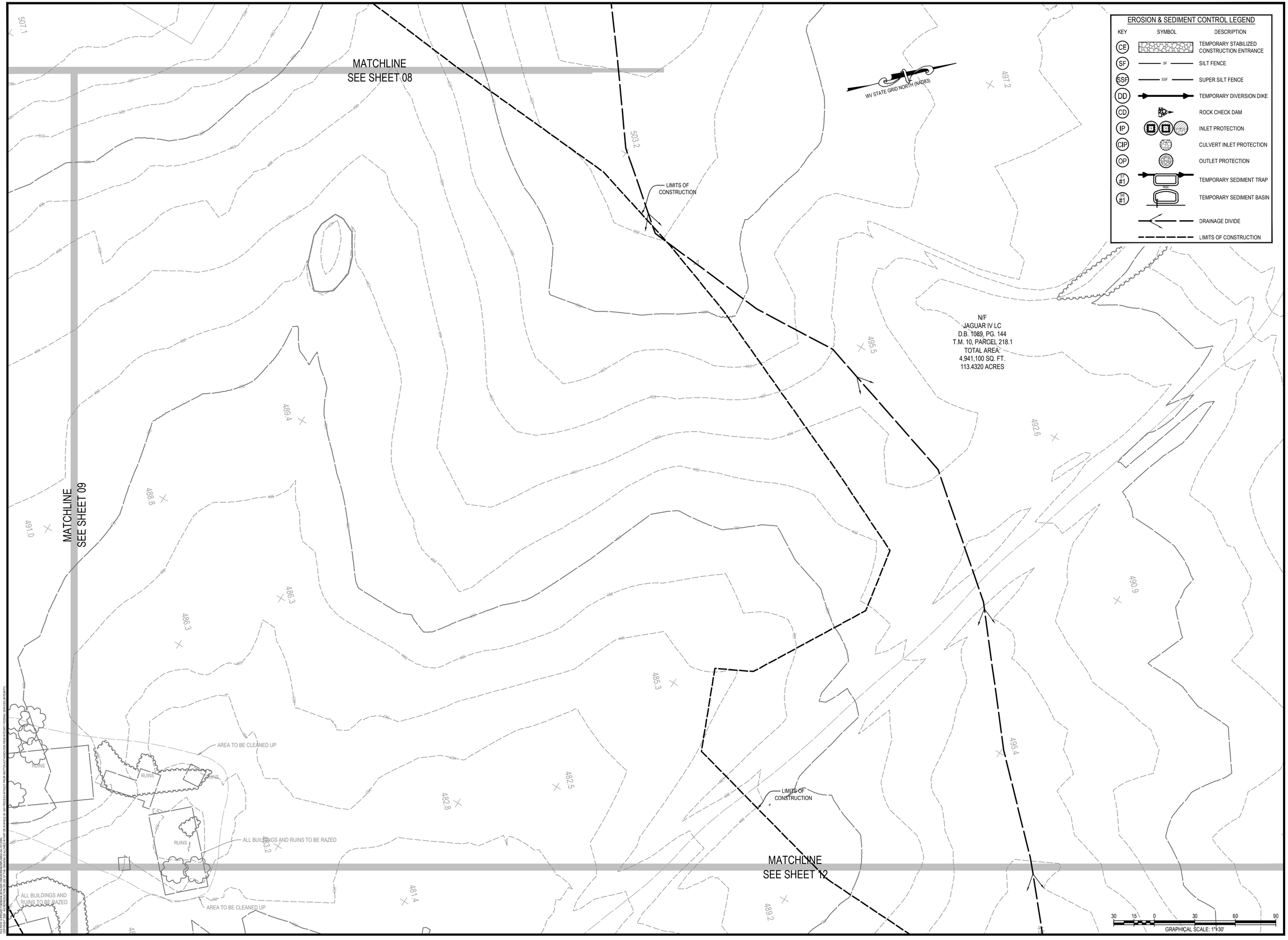

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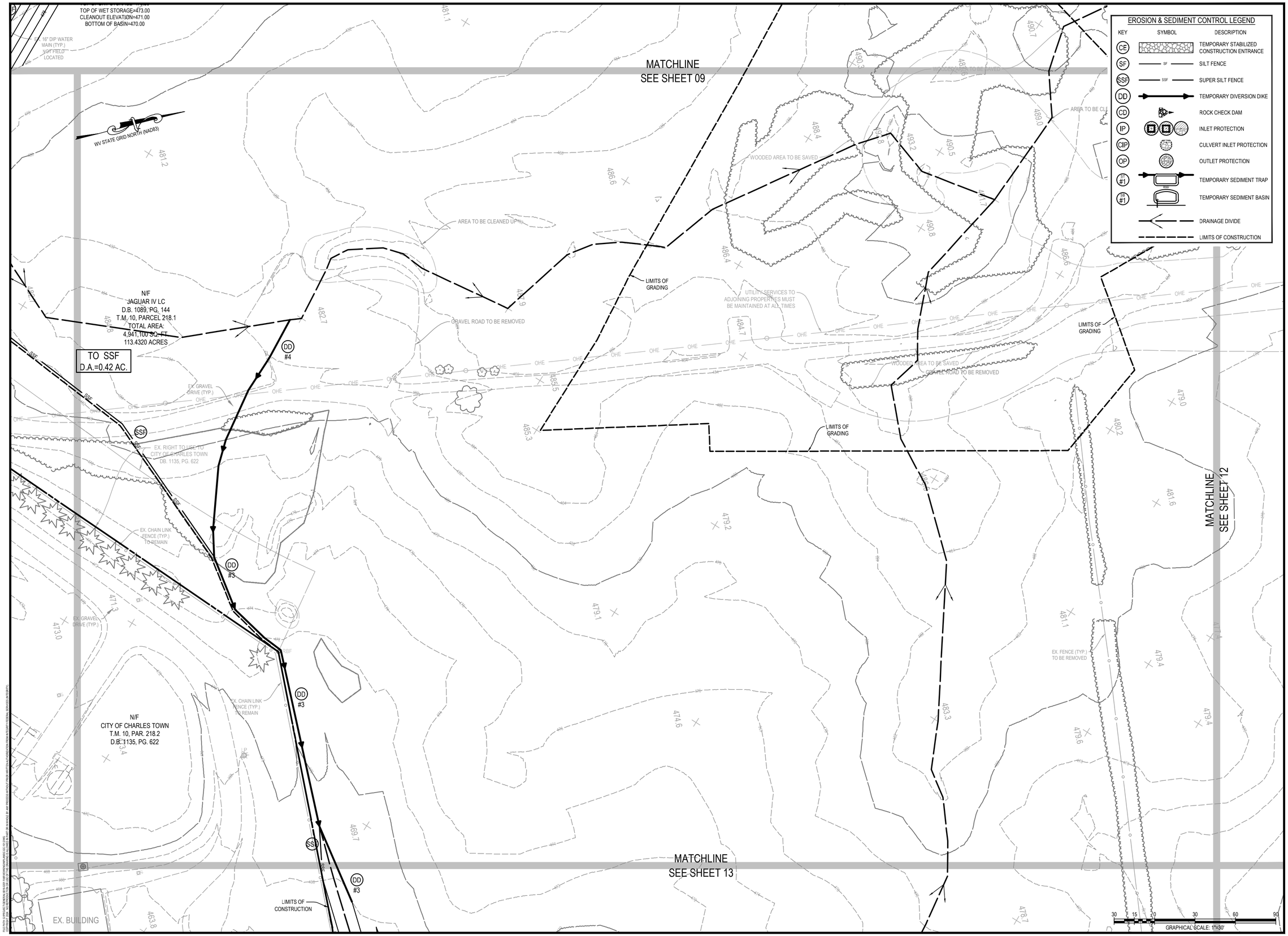

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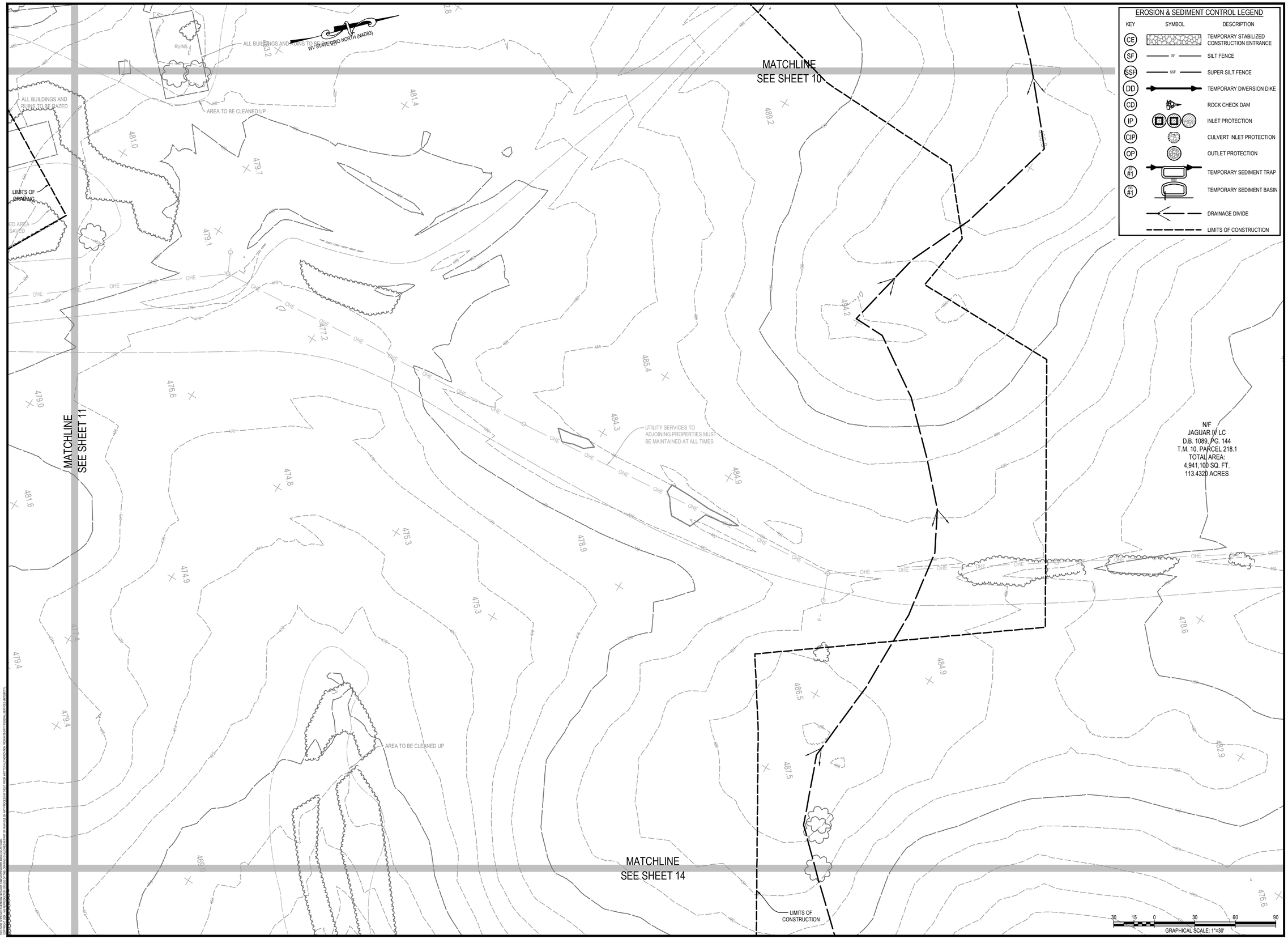

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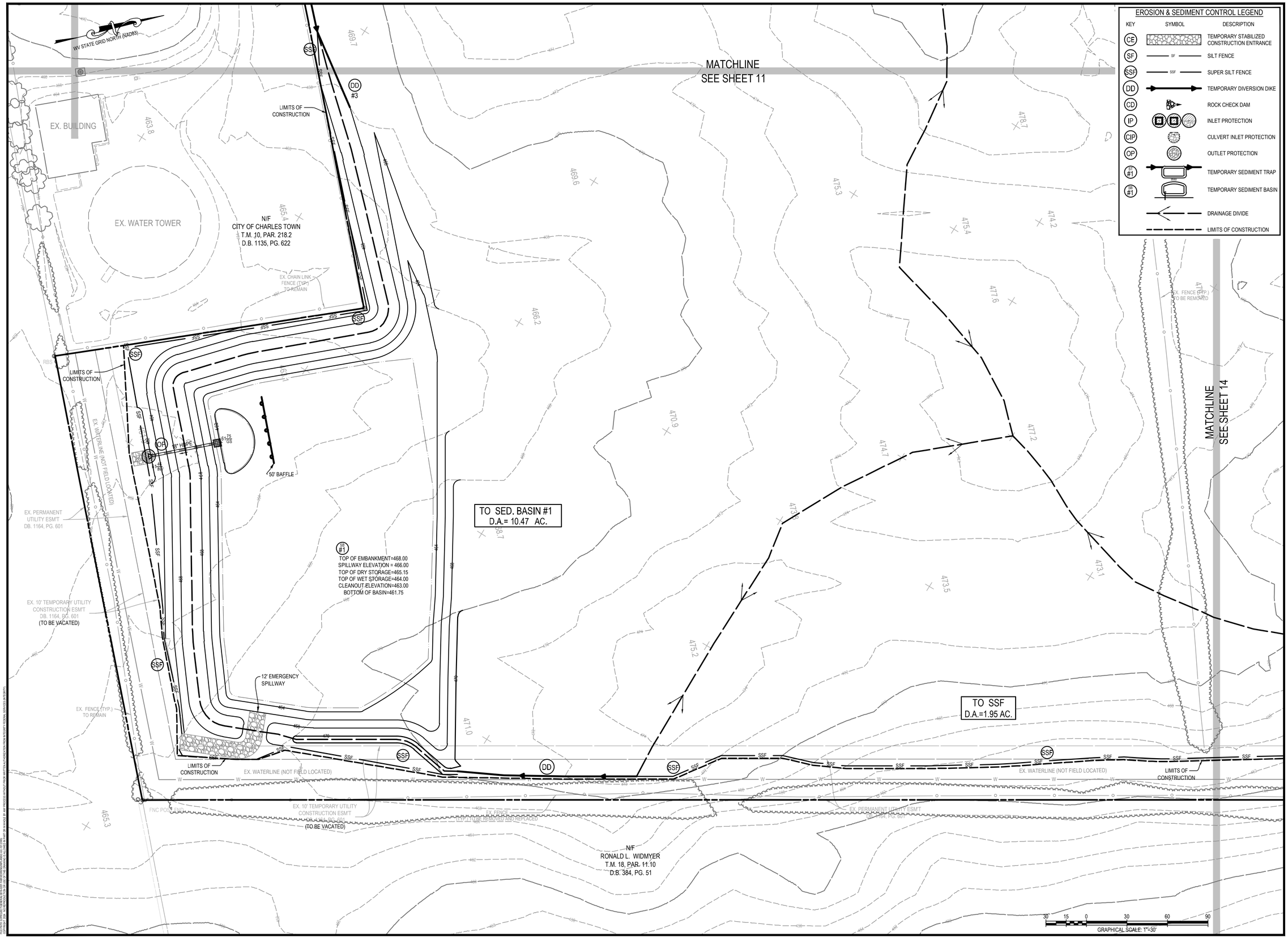

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JEFFERSON COUNTY, WEST VIRGINIA

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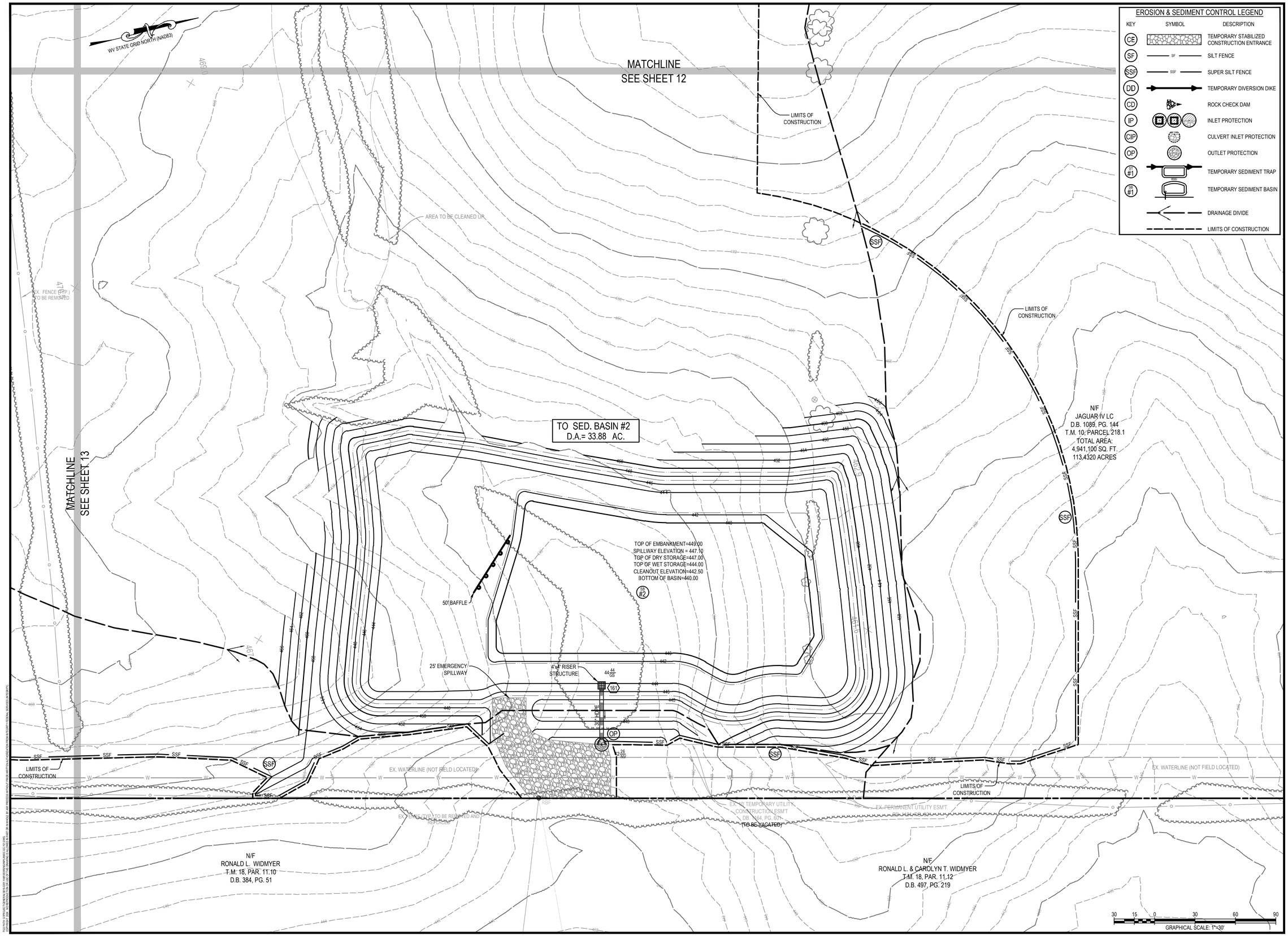

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CHARLES TOWN TAX DISTRICT

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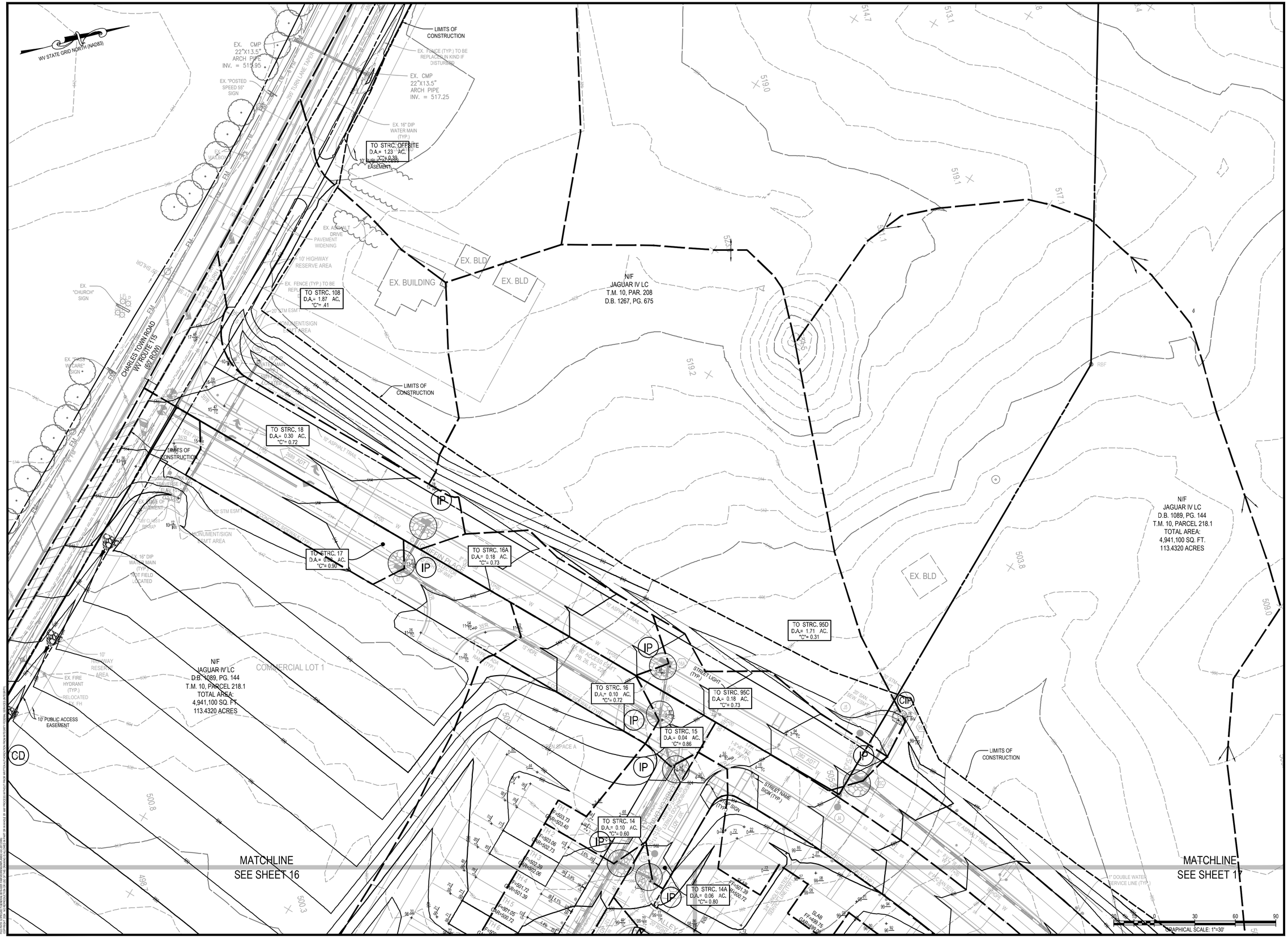

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CHARLES TOWN TAX DISTRICT

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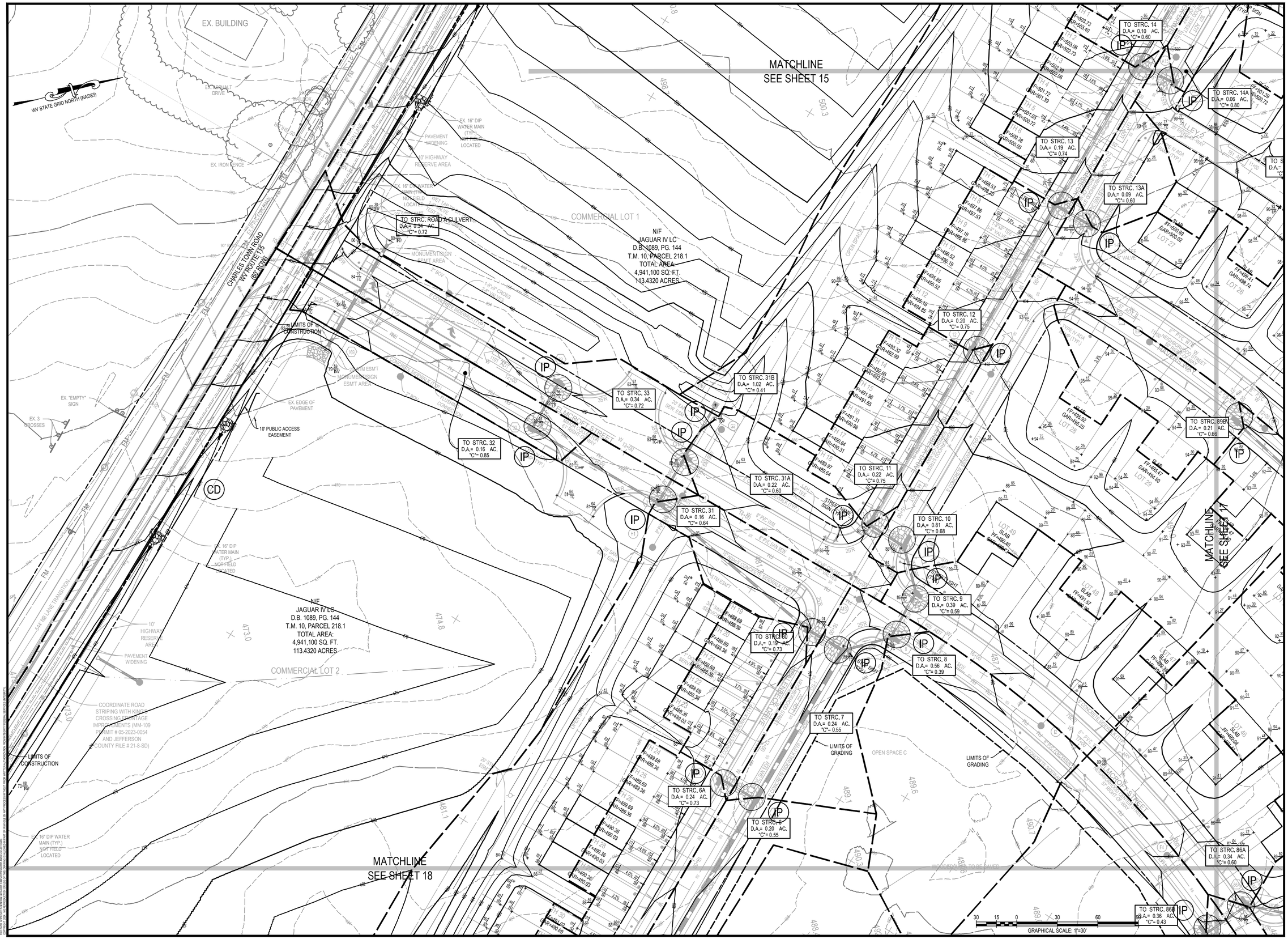

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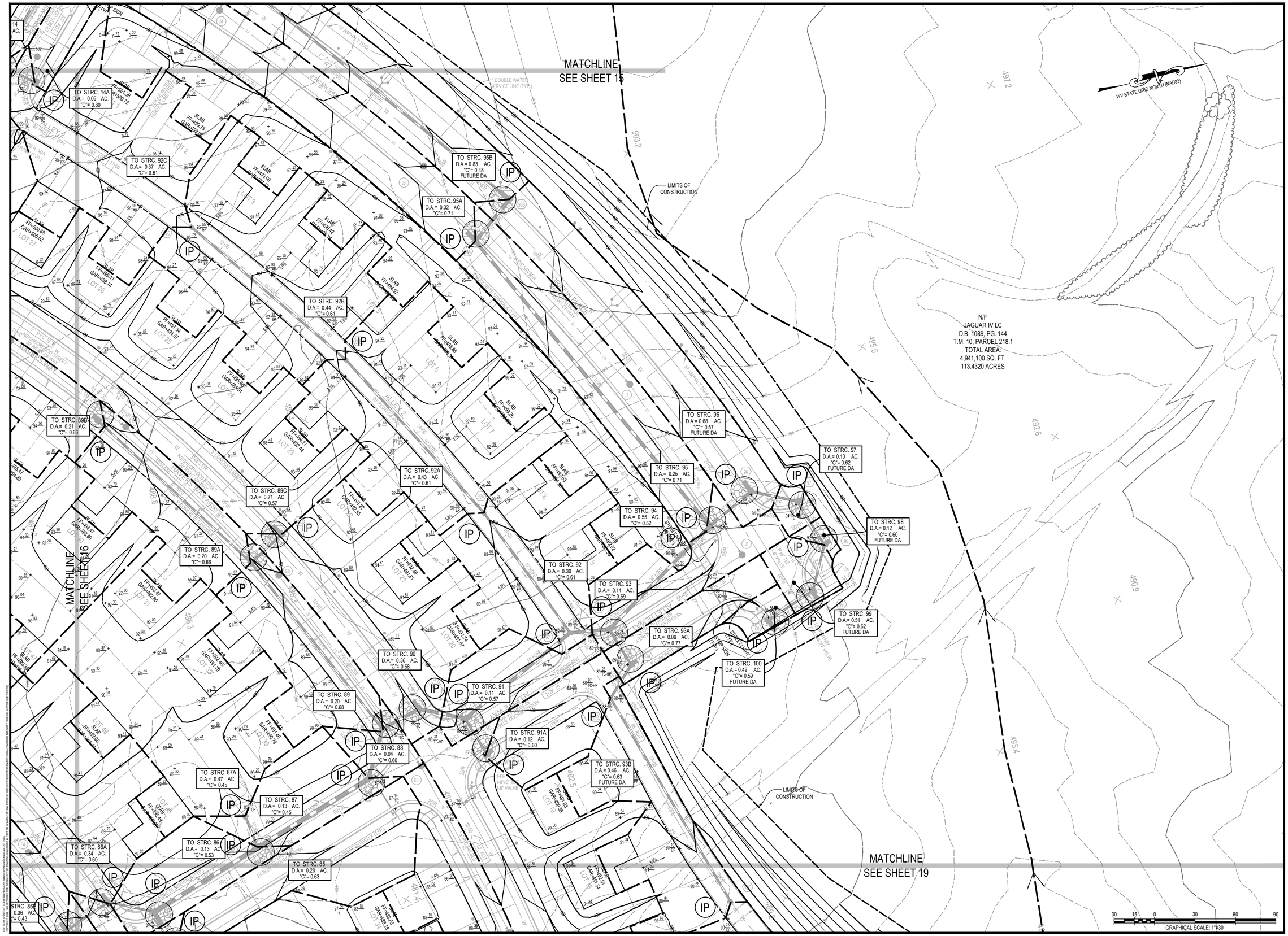

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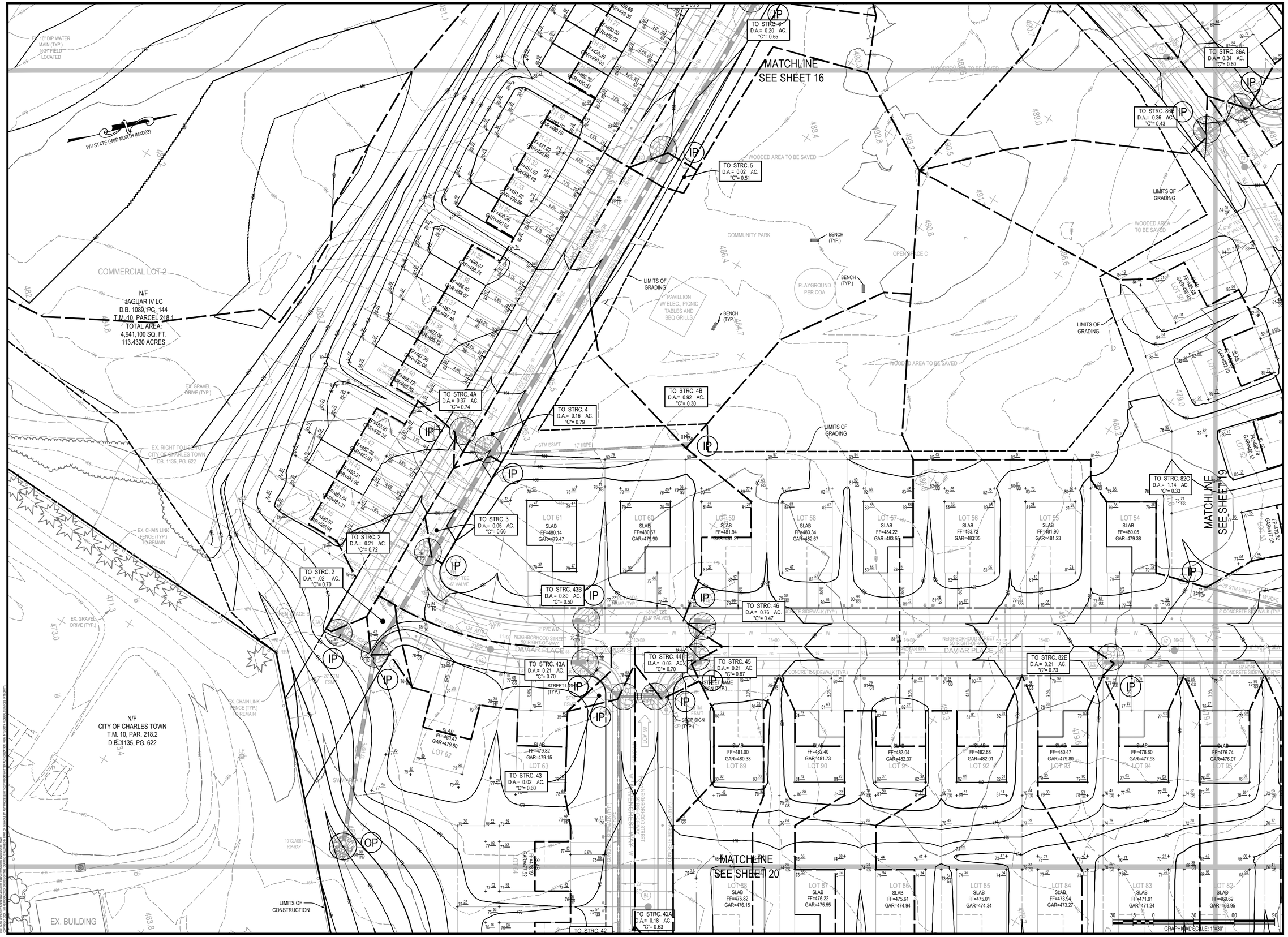

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CHARLES TOWN TAX DISTRICT

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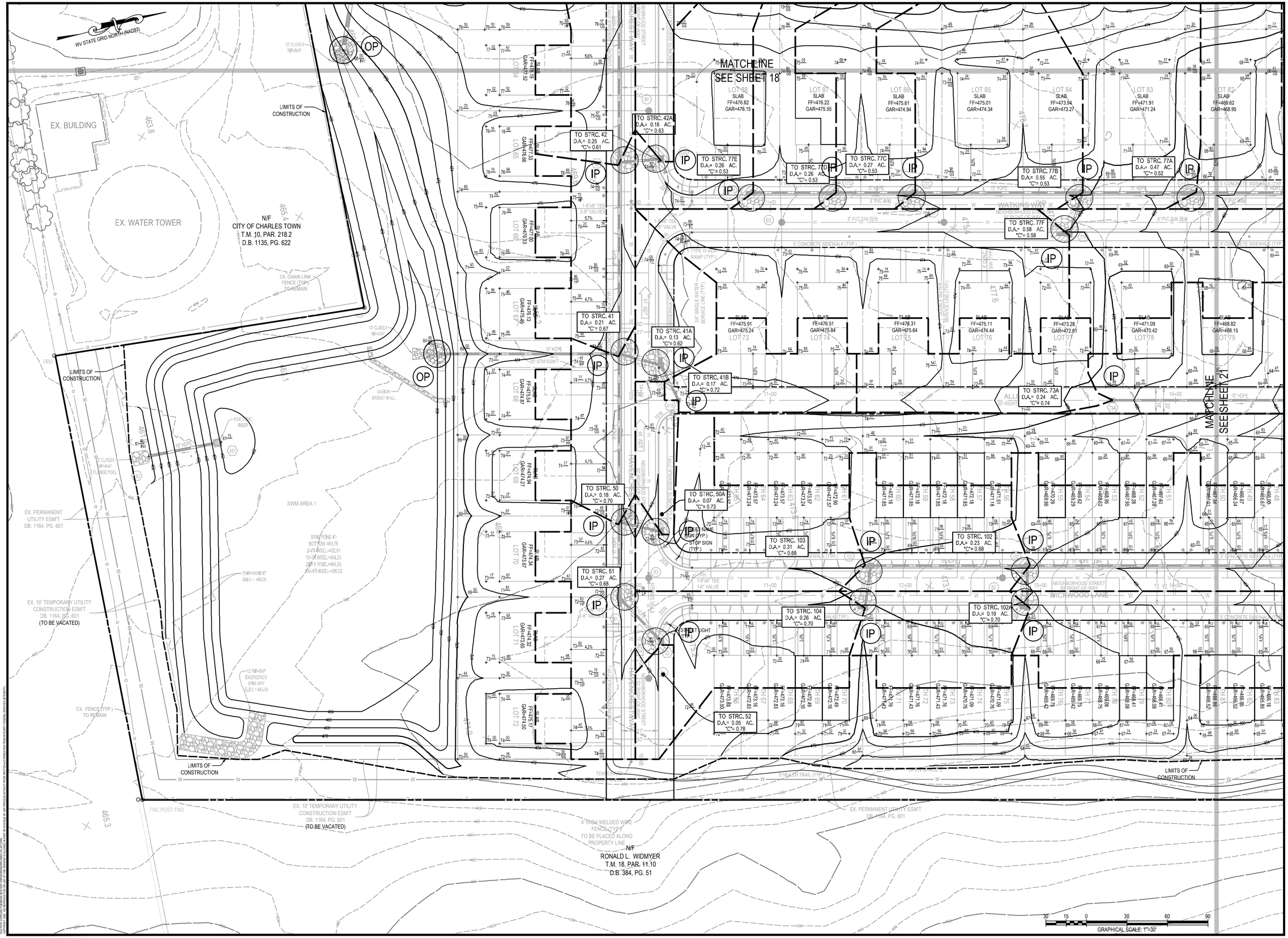

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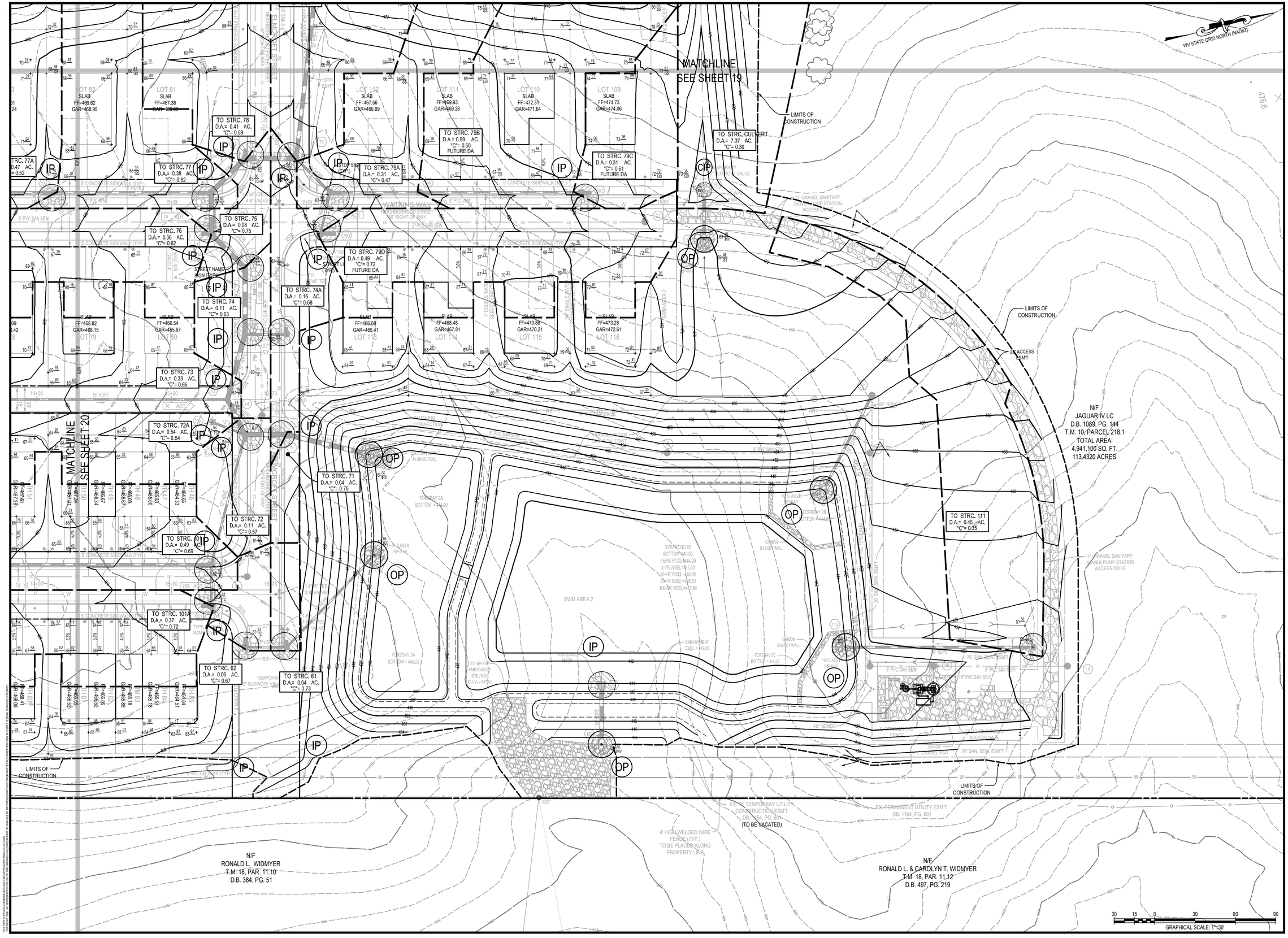

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JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER

SEAL:

REVISIONS	
1. 09/25/2024 - COUNTY COMMENTS	
2. 11/12/2024 - WVDOH DIST V COMMENTS	
3. 01/24/2025 - COUNTY COMMENTS	

EROSION & SEDIMENT CONTROL PLAN - PHASE II

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: 1" = 30' VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-GC-201.DWG	
NCS:	
SHEET:	21 OF 119

EROSION & SEDIMENT CONTROL NOTES:

1. INSPECTION OF ALL EROSION AND SEDIMENT CONTROL BMPs WITHIN THE DISTURBED AREAS AT LEAST ONCE EVERY FOUR CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY PRECIPITATION EVENT GREATER THAN 0.25 INCHES PER 24 HOUR PERIOD. REPAIRS OR MAINTENANCE TO BMPs SHALL BE PERFORMED WITHIN 24 HOURS, HOWEVER, PERMITTEES MUST IMPLEMENT ALTERNATE BMPs PRIOR TO STORM EVENTS WHILE AWAITING REPAIR OF THE PRIMARY ENHANCED BMP. TEMPORARY SEEDING AND MULCHING WITHIN 4 DAYS WHEN AREAS WILL NOT BE RE-DISTURBED FOR MORE THAN 14 DAYS. PERMANENT SEEDING AND MULCHING WITHIN 4 DAYS OF REACHING FINAL GRADE. FINAL STABILIZATION WITHIN 4 DAYS AFTER CONSTRUCTION HAS BEEN COMPLETE.
2. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT STABILIZATION SHALL BE COMPLETED WITHIN FOUR (4) CALENDAR DAYS AFTER COMPLETION OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND FOUR (4) CALENDAR DAYS AFTER REACHING FINAL GRADE FOR ALL OTHER DISTURBED OR GRADED AREAS.
   - THESE PROVISIONS DO NOT APPLY TO THOSE AREAS THAT ARE SHOWN ON THE PLAN FOR MATERIAL STORAGE OR FOR THOSE AREAS ON WHICH ACTUAL CONSTRUCTION ACTIVITIES ARE CURRENTLY BEING PERFORMED.
   - THESE TIME REQUIREMENTS MAY BE EXTENDED, AS DEEMED NECESSARY BY THE JEFFERSON COUNTY ENGINEER IN THE EVENT THAT ADVERSE CONDITIONS PREVENT COMPLIANCE WITH THE STATED TIME LIMITATIONS FOR THE COMPLETION OF PERMANENT OR TEMPORARY STABILIZATION.
3. STABILIZATION WILL BE CONSIDERED ADEQUATE WHEN THE FOLLOWING CONDITIONS ARE MET:
   - A) WATER COURSES, STREAM BANKS, AND DRAINAGE EASEMENTS SHALL BE 100% STABILIZED AND FREE FROM EROSION AND DEPOSITION.
   - B) SLOPES STEEPER THAN 10% SHALL HAVE AT LEAST 98% STABLE GROUND COVER, AS DETERMINED BY THE JEFFERSON COUNTY ENGINEER.
   - C) ALL OTHER AREAS SHALL HAVE AT LEAST 85% STABLE GROUND COVER, AS DETERMINED BY THE JEFFERSON COUNTY ENGINEER.
   - D) GRASS VEGETATION SHALL HAVE REACHED A MINIMUM OF 3 INCHES OF HEIGHT OR HAVE BEEN MOWED BACK TO A MINIMUM OF 2 INCHES IN HEIGHT.
4. FOR ALL PROJECTS ADJACENT TO OR WITHIN 500 FEET OF A CONTINUOUSLY FLOWING STREAM, NO GRADING, EXCAVATING, REMOVAL, OR DESTRUCTION OF TOPSOIL, TREES, OR OTHER VEGETATIVE COVER, OR CONSTRUCTION ACTIVITY SHALL RESULT IN POINT OR NON-POINT LOADING OF SUSPENDED MATTER SUCH THAT TURBIDITY STANDARDS SPELLED OUT IN THE WATER RESOURCES BOARD LEGISLATIVE RULES ARE VIOLATED. SAID STANDARDS STATE THAT TURBIDITY SHALL NOT EXCEED 10 NTU'S OVER BACKGROUND TURBIDITY WHEN THE BACKGROUND IS 50 NTU'S OR LESS, OR HAVE MORE THAN A 10% INCREASE IN TURBIDITY (PLUS 10 NTU'S MINIMUM) WHEN THE BACKGROUND TURBIDITY IS MORE THAN 50 NTU'S.
5. NO OFF-SITE SOURCE OF BORROW MATERIALS IS ANTICIPATED FOR THIS PROJECT. IN THE EVENT THAT AN OFF-SITE SOURCE OF BORROW MATERIALS IS USED, AN EROSION AND SEDIMENT CONTROL PLAN SHALL BE PROVIDED FOR THE BORROW PIT AND THE BORROW PIT SHALL MEET ALL APPLICABLE REQUIREMENTS AND PERMITS OF THE WVDEP
6. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE THAT ALL EROSION AND SEDIMENT CONTROL MEASURES ARE PERFORMING AS DESIGNED. THE JEFFERSON COUNTY ENGINEER MAY REQUIRE MODIFICATIONS TO AN APPROVED PLAN. REQUIRE ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES, OR CAUSE NEW PLANS TO BE SUBMITTED AS A RESULT OF FIELD INSPECTION REVEALING THE APPROVED PLANS DO NOT PROVIDE ADEQUATE PROTECTION. MODIFICATIONS MAY ALSO BE REQUESTED BY THE OWNER OR DEVELOPER DUE TO UNFORESEEN FIELD CONDITIONS.
7. ALL RESIDENTIAL AND COMMERCIAL/INDUSTRIAL BUILDING LOTS SHALL HAVE A STABILIZED CONSTRUCTION ENTRANCE INSTALLED PRIOR TO BEGINNING CONSTRUCTION ON THE LOT.

PUBLIC NOTICE SIGN:

NOT TO SCALE

NOTES:

1. SECTION II.B OF THE GENERAL PERMIT STATES THAT "WITHIN 72 HOURS OF FILING AN APPLICATION, THE APPLICANT SHALL DISPLAY A SIGN FOR THE DURATION OF THE CONSTRUCTION PROJECT NEAR THE ENTRANCE OF THE PROJECT OR, FOR LINEAR PROJECTS, AT A LOCATION NEAR AN ACTIVE PART OF THE PROJECT THAT IS ACCESSIBLE BY THE PUBLIC; CONTAINING THE FOLLOWING INFORMATION::
   - THE APPLICANT'S NAME AND EMERGENCY TELEPHONE NUMBER;
   - PROJECT REFERENCE ID;
   - FOR INFO ON THIS STORMWATER PERMIT CALL: 800-654-5227 OR DEP.COMMENTS@WV.ORG;
   - PERMIT NUMBER (SEE II.B.4).
2. THE SIGN SHALL BE A MINIMUM OF TWO FEET BY TWO FEET AND BE AT LEAST THREE FEET ABOVE GROUND LEVEL; CLEARLY VISIBLE AND LEGIBLE FROM A PUBLIC ROADWAY OR RIGHT-OF-WAY.
3. IF IT IS NOT FEASIBLE TO DISPLAY A SIGN AT OR NEAR THE PROJECT, THE APPLICANT MAY POST, WITHIN 72 HOURS OF FILING THE APPLICATION NOTICE CONTAINING THE FOREGOING INFORMATION AT A LOCAL PUBLIC BUILDING, INCLUDING, BUT NOT LIMITED TO, A TOWN HALL OR PUBLIC LIBRARY.
4. THE APPLICANT SHALL PROVIDE THE LOCATION WHERE THE SIGN OR NOTICE IS TO BE POSTED.
5. WITHIN 7 DAYS OF ASSIGNMENT OF THE PERMIT REGISTRATION NUMBER, THE APPLICANT SHALL AFFIX SUCH NUMBER TO THE SIGN OR TO THE POSTED NOTICE.

A TEMPLATE FOR THE SIGN IS AS FOLLOW:

- THE TOP PART OF THE SIGN, DOWN TO THE WORDS "APPLICATION DATE", SHALL BE WORDED AND FORMATTED AS SHOWN. REMAINING TEXT SHALL BE FILLED IN BY THE APPLICANT (DATE, NAME OF REGISTRANT OR CONTACT, PROJECT DESCRIPTION, AND PHONE) IN THE SIZE AND FORMAT SHOWN. HIGH CONTRAST COLORS MUST BE USED.
- THE SIGN SHALL BE A MINIMUM 24" x 24" WITH 1.6" AND 0.8" LETTERS
- THE SIGN SHALL BE A MINIMUM 36" ABOVE GROUND LEVEL.

①1.6" LETTERS
②0.8" LETTERS

②Application's name: LGI HOMES - WEST VIRGINIA LLC
② Emergency Telephone number: 301-356-5970
① ***Project ID:***
① ***Avalon Sudivision***
① For Info on NPDES
① Stormwater Permit
② To comment on Sediment Control Plan
① Call: 800-654-5227
② or
② DEP.Comments@wv.gov
② DEP 601 57th Street SE, Charleston WV 25304
② Permit Number:

Table 3.10.1 Temperary seed chart

PLANT NAMES		PLANTING DATES	APPLICATION RATE LBS/ACRE
COMMON	SCIENTIFIC		
Annual Ryegrass	*Lolium multiflorum*	2/16 – 5/15 8/1 – 11/1	40
Field Bromegrass	*Bromus ciliatus*	3/1 – 6/15 8/1 – 9/15	40
Spring Oats	*Avena sativa*	3/1 –6/15	100
Winter Rye	*Secale cereale*	8/15 –2/28	170
Winter Wheat	*Triticum aestivum*	8/15 – 2/28	180
Japanese Millet	*Echinochloa crusgalli*	5/15 – 8/15	30
Redtop	*Agrostis alba*	3/1 – 6/15	10
Annual Ryegrass and Spring Oats	*Lolium multiflorum* *Avena sativa*	3/1 – 6/15	30 70
German/Foxtail Millet	*Setaria italica*	5/1 – 8/1	40
Hairy Vetch	*Vicia villosa*	8/15 – 4/1	60

*Inoculation is required. If a hydroseeder is utilized, the application rate is 5 times the recommended rate.

Table 3.11.1 Permanent seeding

SEED MIX	PLANT NAMES		APPLICATION RATE LBS/ACRE
	COMMON	SCIENTIFIC	
A	Kentucky 31 Fescue Red Fescue Birdsfoot Trefoil	*Festuca arundinacea* *Festuca rubra* *Lotus corniculatus*	65 20 5
B	Switchgrass Perennial Ryegrass Redtop Birdsfoot Trefoil	*Panicum virgatum* *Lolium perenne* *Agrostis alba* *Lotus corniculatus*	15 20 5 15
C	Red Fescue Kentucky Bluegrass Marion Bluegrass	*Festuca rubra* *Poa pratensis* *Poa pratensis*	20 40 30
D	Kentucky 31 Fescue Red Fescue Kentucky Bluegrass White Dutch Clover	*Festuca arundinacea* *Festuca rubra* *Poa pratensis* *Trifolium repens*	45 20 25 5
E	Perennial Ryegrass Switchgrass Crownvetch or Perennial Pea	*Lolium perenne* *Panicum virgatum* *Coronilla varia* *Lathyrus latifolius*	30 15 20 30
F	Orchardgrass Ladino Clover Redtop	*Dactylis glomerata* *Trifolium repens* *Agrostis alba*	20 5 5
G	Birdsfoot Trefoil Weeping Lovegrass Perennial Ryegrass	*Lotus corniculatus* *Eragrostis curvula* *Lolium perenne*	15 45 10
H	Crownvetch Orchardgrass	*Coronilla varia* *Dactylis glomerata*	25 40
I	Crownvetch Perennial Ryegrass	*Coronilla varia* *Lolium perenne*	25 30
J	Perennial Pea Orchardgrass	*Lathyrus latifolius* *Dactylis glomerata*	30 30
K	Deerlongue Birdsfoot Trefoil Weeping Lovegrass	*Panicum clandestinum* *Lotus corniculatus* *Eragrostis curvula*	30 15 5
L	Orchardgrass Serecia Lespedeza Ladino Clover	*Dactylis glomerata* *Lespedeza cunata* *Trifolium repens*	30 40 5
M	Perennial Ryegrass Ladino Clover Redtop	*Lolium perenne* *Trifolium repens* *Agrostis alba*	50 5 5
N	Crownvetch Orchardgrass Redtop	*Coronilla varia* *Dactylis glomerata* *Agrostis alba*	15 30 5

Table 3.11.1 Permanent seeding Cont'd.

SEED MIX	PLANT NAMES		APPLICATION RATE LBS/ACRE
	COMMON	SCIENTIFIC	
O	Perennial Ryegrass Birdsfoot Trefoil Redtop	*Lolium perenne* *Lotus corniculatus* *Agrostis alba*	40 15 5
P	Serecia Lespedeza Orchardgrass Redtop	*Lespedeza cunata* *Dactylis glomerata* *Agrostis alba*	40 30 5
Q	Orchardgrass Reed Canarygrass[1] Redtop Ladino Clover	*Dactylis glomerata* *Phalaris arundinacea* *Agrostis alba* *Trifolium repens*	25 30 5 5
R	Kentucky Bluegrass Redtop White Clover or Birdsfoot Trefoil	*Poa pratensis* *Agrostis alba* *Trifolium repens* *Lotus corniculatus*	30 5 5 15
S	Reed Canarygrass[1] Weeping Lovegrass	*Phalaris arundinacea* *Eragrostis curvula*	40 5
T	Perennial Ryegrass Reed Canarygrass[1] Birdsfoot Trefoil	*Lolium perenne* *Phalaris arundinacea* *Lotus corniculatus*	30 15 5
U	Timothy Alfalfa	*Phluem pratense* *Medicago sativa*	10 18
V	Timothy Birdsfoot Trefoil	*Phluem pratense* *Lotus corniculatus*	10 15
W	Redtop Perennial Ryegrass Orchardgrass	*Agrostis alba* *Lolium perenne* *Dactylis glomerata*	5 30 25
X	Reed Canarygrass[1] Birdsfoot Trefoil Redtop	*Phalaris arundinacea* *Lotus corniculatus* *Agrostis alba*	30 20 5
Y	Switchgrass Birdsfoot Trefoil	*Panicum virgatum* *Lotus corniculatus*	30 20
Z	Switchgrass Serecia Lespedeza	*Panicum virgatum* *Lespedeza cunata*	15 30
A-1	Orchardgrass Red Clover	*Dactylis glomerata* *Trifolium pratense*	30 10
A-2	Switchgrass Big Bluestem Indiangrass Little Bluestem Sideoats Grama[2]	*Panicum virgatum* *Andropogon gerardi* *Sorghastrum nutans* *Andropogon scoparius* *Bouteloua curtipendula*	15 5 5 5 5
A-3	Switchgrass Eastern Gamagrass[3]	*Panicum virgatum* *Tripsacum dactyloides*	20 15

NOTE: When utilizing a properly prepared seedbed, the rates of application can be reduced by 30 percent except for seed mixes A-2 & A-3.

[1] Reed Canarygrass shall not be used east of I-79 and/or south of Charleston.
[2] Use north and east of I-64 and I-79.
[3] Use south and west of I-64 and I-79.

Table 3.11.2 Nurse crops

PLANT NAMES		PLANTING DATES	APPLICATION RATE LBS/ACRE
COMMON	SCIENTIFIC		
Annual Ryegrass	*Lolium multiflorum*	2/16 – 5/15 8/1 – 11/1	25
Field Bromegrass	*Bromus ciliatus*	3/1 – 6/15 8/1 – 9/15	20
Spring Oats	*Avena sativa*	3/1 –6/15	50
Winter Rye	*Secale cereale*	8/15 –2/28	85
Winter Wheat	*Triticum aestivum*	8/15 – 2/28	90
Japanese Millet	*Echinochloa crusgalli*	5/15 – 8/15	15
Redtop	*Agrostis alba*	3/1 – 6/15	10
Annual Ryegrass and Spring Oats	*Lolium multiflorum* *Avena sativa*	3/1 – 6/15	15 35
German/Foxtail Millet	*Setaria italica*	5/1 – 8/1	25
Hairy Vetch*	*Vicia villosa*	8/15 – 4/1	30

* Inoculation is required. If a hydroseeder is utilized, the application rate is five times the recommended rate.

Table 3.12.1 Organic mulch materials and application rates

Mulchs:	Rates:		Notes:
	Per acre	Per 1,000 ft².	
Straw or hay	1½ - 2 tons (minimum 2 tons for winter cover)	70 - 90 lbs.	Free from weeds and coarse matter. Must be anchored. Spread with mulch blower or by hand.
Fiber mulch	Minimum 1,500 lbs.	35 lbs.	Do not use as mulch for winter cover or during hot, dry periods.* Apply as slurry.
Cornstalks	4 - 6 tons	185 - 275 lbs.	Cut or shredded in 4-6" lengths. Air-dried. Do not use in fine turf areas. Apply with mulch blower or by hand.
Wood chips	4 - 6 tons	185 - 275 lbs.	Free of coarse matter. Air-dried. Treat with 12 lbs. nitrogen per ton. Do not use in fine turf areas. Apply with mulch blower, chip handler, or by hand.
Bark chips or Shredded bark	50 - 70 cu. yds.	1-2 cu. yds.	Free of coarse matter. Air-dried. Do not use in fine turf areas. Apply with mulch blower, chip handler, or by hand.

* When fiber mulch is the only available mulch during periods when straw should be used, apply at a minimum rate of 2,000 lbs./ac. or 45 lbs./1,000 sq. ft.

From VA DSWC

Table 3.11.3 Permanent seeding requirements

SEED MIX	FINE LAWN	COARSE LAWN	LOW MAINT.	NO MAINT.	PASTURES	SENSITIVE NATURAL AREAS	pH RANGE	DRAINAGE	SHADE TOLERANCE	PREFERRED PLANTING DATES			
										3/1 -4/15	6/16 -8/14	8/15 - 9/15	9/16 - 2/28
A			✓ 1				6.0 – 7.5	MOD. – WELL	FULL SUN	✓	♦	✓	♦
B				✓			5.0 – 7.5	MOD. – WELL	FULL SUN	✓	♦	✓	♦
C	✓ 1						6.0 – 7.5	MOD. – WELL	FULL SUN	✓		✓	
D		✓ 1					6.0 – 7.5	MOD. – WELL	FULL SUN	✓		✓	
E				✓ 1			6.0 – 7.5	MOD. – WELL	FULL SUN	✓	♦	✓	♦
F			✓	✓	✓		5.5 – 7.5	MOD. – WELL	TOLERANT	✓	♦	✓	♦
G				✓	✓		5.0 – 7.5	MOD. – WELL	FULL SUN	✓	♦	✓	♦
H			✓	✓ 1	✓		5.0 – 7.5	MOD. – WELL	TOLERANT	✓	♦	✓	♦
I			✓	✓ 1	✓		5.0 – 7.5	MOD. – WELL	FULL SUN	✓	♦	✓	♦
J			✓	✓ 1	✓		4.0 – 8.0	MOD. – WELL	TOLERANT	✓	♦	✓	♦
K				✓			4.0 – 7.0	MOD. – WELL	FULL SUN	✓	♦	✓	♦
L				✓	✓		4.5 – 7.5	MOD. – WELL	TOLERANT	✓	♦	✓	♦
M			✓	✓	✓		5.0 – 7.5	MOD. – WELL	TOLERANT	✓	♦	✓	♦
N			✓	✓ 1	✓		5.0 – 7.5	MOD. – WELL	TOLERANT	✓	♦	✓	♦
O			✓	✓	✓		5.0 – 7.5	MOD. – WELL	FULL SUN	✓	♦	✓	♦
P			✓	✓	✓		4.5 – 7.5	MOD. – WELL	TOLERANT	✓	♦	✓	♦
Q			✓	✓	✓		4.5 – 7.5	POOR – WELL	TOLERANT	✓	♦	✓	♦
R			✓	✓	✓		5.5 – 7.5	MOD. – WELL	FULL SUN	✓	♦	✓	♦
S			✓	✓	✓		4.5 – 7.5	POOR – WELL	FULL SUN	✓	♦	✓	♦
T					✓		5.5 – 7.5	POOR – WELL	FULL SUN	✓	♦	✓	♦
U					✓		6.5 – 8.0	MOD. – WELL	FULL SUN	✓	♦	✓	♦
V					✓		5.5 – 7.5	POOR – WELL	FULL SUN	✓	♦	✓	♦
W			✓	✓	✓		5.0 – 7.5	MOD. – WELL	TOLERANT	✓	♦	✓	♦
X					✓		5.5 – 7.5	POOR – WELL	FULL SUN	✓	♦	✓	♦
Y			✓	✓	✓		5.0 – 7.5	MOD. – WELL	FULL SUN	✓	♦	✓	♦
Z			✓	✓	✓		5.0 – 7.5	MOD. – WELL	FULL SUN	✓	♦	✓	♦
A-1					✓		4.5 – 7.5	MOD. – WELL	TOLERANT	✓	♦	✓	♦
A-2				✓	✓	✓	5.0 – 7.5	MOD. – WELL	FULL SUN	✓	♦	✓	♦
A-3				✓		✓	5.0 – 7.5	POOR – WELL	FULL SUN	✓	♦	✓	♦

♦ Nurse crop required – See Table B
1 Urban areas only

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JASON P. GERHART REGISTERED PROFESSIONAL ENGINEER No. 19127 STATE OF WEST VIRGINIA
6-24-24

REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST.V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

EROSION & SEDIMENT CONTROL NOTES & DETAILS

AVALON - SECTION 1

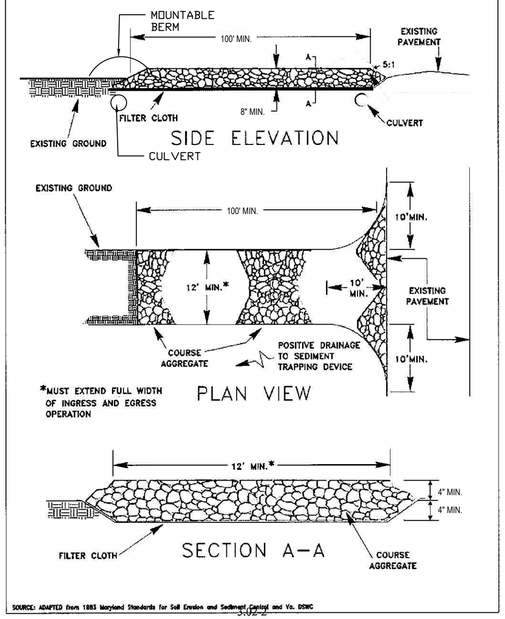
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: N/A VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-GC-501.DWG	
NCS:	
SHEET:	22 OF 119

FIGURE 3.02.1

STONE CONSTRUCTION ENTRANCE



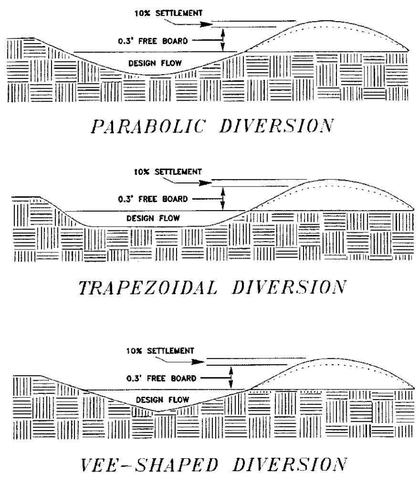
SOURCE: ADAPTED from 1983 Maryland Standards for Soil Erosion and Sediment Control and Va. DSWC

3.02-2

CE

FIGURE 3.15.1

TYPICAL DIVERSIONS



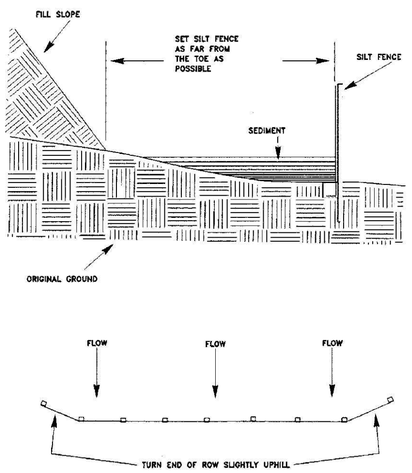
Source: VIRGINIA DCR-DSWC

NOTES:
- MINIMUM CONSTRUCTED DEPTH SHALL BE 1.5' (2:1 SIDE SLOPES)

DD

FIGURE 3.27.1

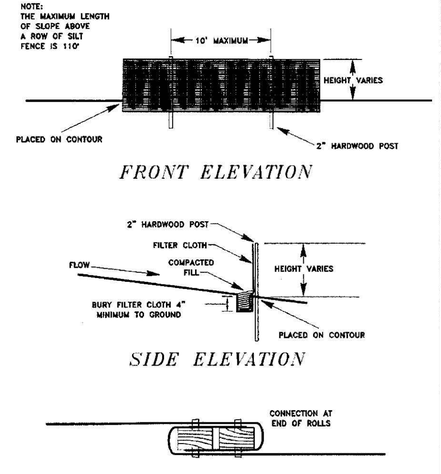
PLACEMENT OF SILT FENCE



SF

FIGURE 3.27.2

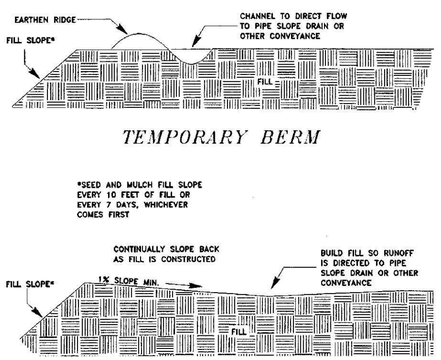
SILT FENCE



SF

FIGURE 3.15.2

TEMPORARY FILL DIVERSIONS

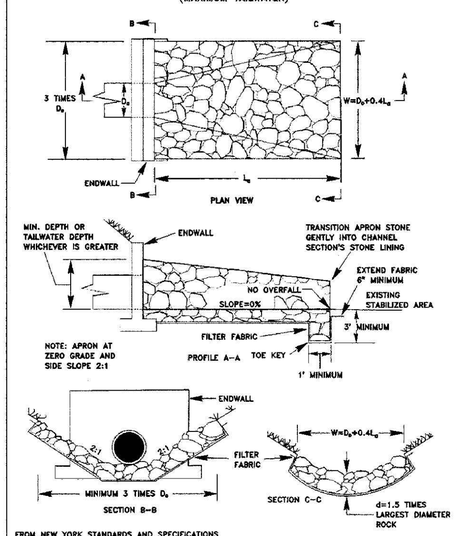


DD

FIGURE 3.17.5

OUTLET PROTECTION

DISCHARGE TO SEMI-CONFINED SECTION (MAXIMUM TAILWATER)

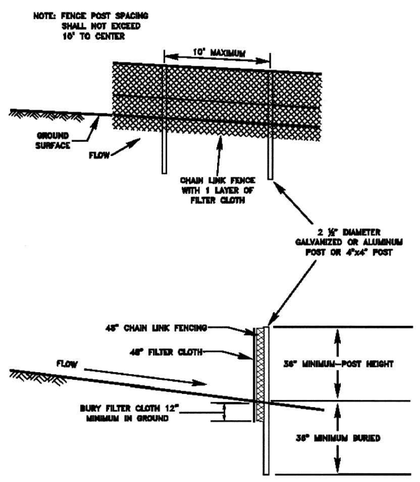


FROM NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL

OP

FIGURE 3.28.1

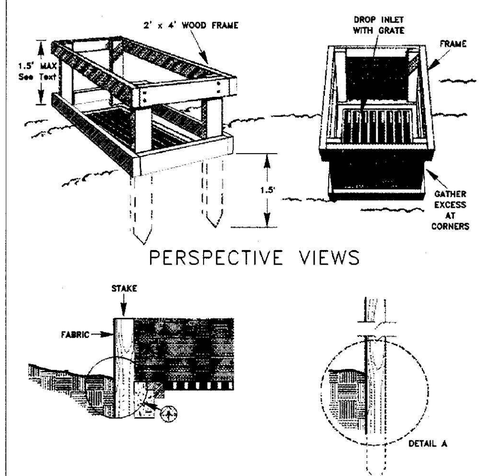
SUPER SILT FENCE



SSF

FIGURE 3.33.1

SILT FENCE DROP INLET PROTECTION



IP

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JASON P. GERHART REGISTERED 08-19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
FOR REVIEW 1-24-25

SEAL:

REVISIONS
1. 09/05/2024 - COUNTY COMMENTS
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EROSION & SEDIMENT CONTROL DETAILS

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1099, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: N/A VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-GC-501.DWG	
NCS:	
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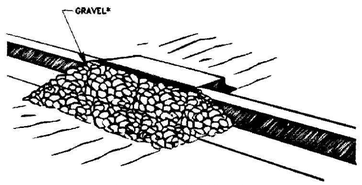
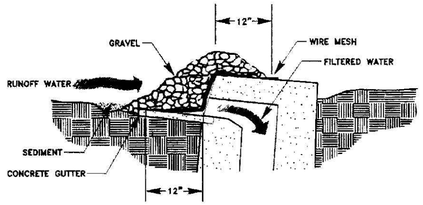
FIGURE 3.33.6

GRAVEL AND WIRE CURB INLET PROTECTION



PERSPECTIVE VIEW



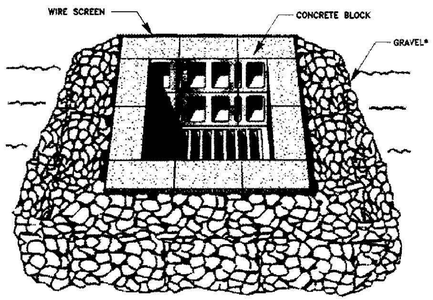
SIDE ELEVATION

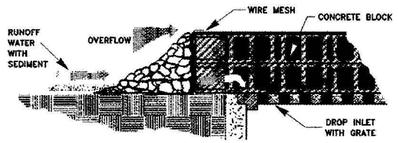
* GRAVEL SHALL BE CLEAN 3/4" TO 2" COARSE AGGREGATE

IP

FIGURE 3.33.3

BLOCK AND GRAVEL DROP INLET SEDIMENT FILTER



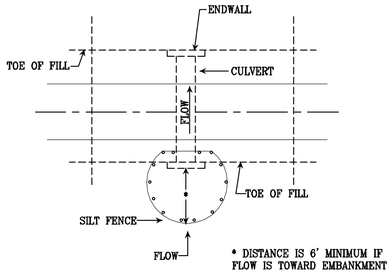


SIDE ELEVATION

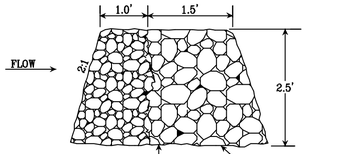
* GRAVEL SHALL BE CLEAN 3/4" TO 2" COARSE AGGREGATE

IP

SILT FENCE CULVERT INLET PROTECTION



OPTIONAL STONE COMBINATION**

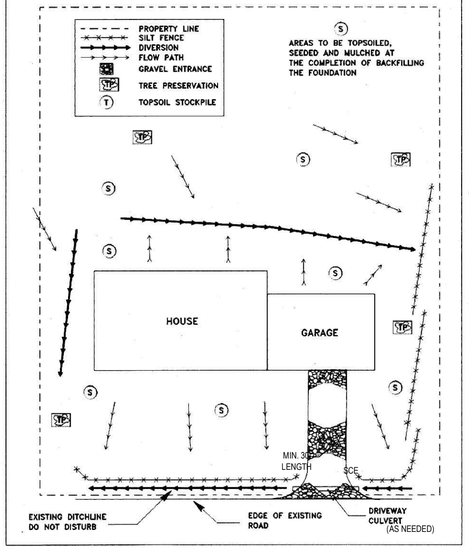


PER VESCH PLATE 3.08-1

CIP

FIGURE 6.1

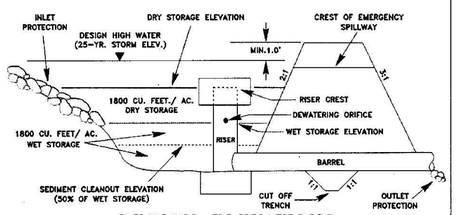
INDIVIDUAL HOUSE LOT SEDIMENT CONTROL PLAN



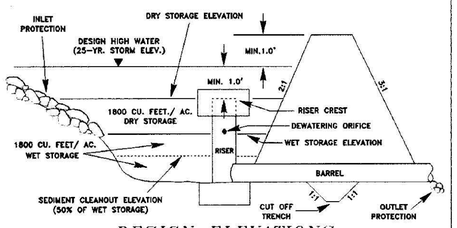
NOTES:
1. FINAL LIMITS OF CONSTRUCTION WILL BE DETERMINED DURING HOUSE SITING.
2. AREAS OF DISTURBANCE ARE TO BE TOPSOILED, SEEDED AND MULCHED AT THE COMPLETION OF BACKFILLING THE FOUNDATION.

FIGURE 3.30.2

SEDIMENT BASIN



DESIGN ELEVATIONS WITH EMERGENCY SPILLWAY



DESIGN ELEVATIONS NO EMERGENCY SPILLWAY

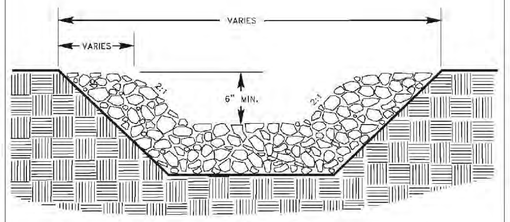
(NTS)

ADAPTED FROM: VA. DSWC

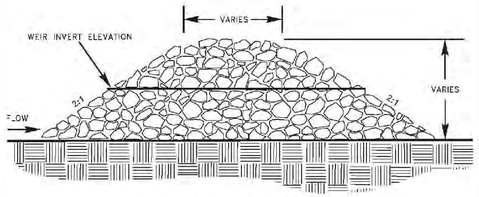
SB #1

FIGURE 3.05.1

ROCK CHECK DAM



ELEVATION

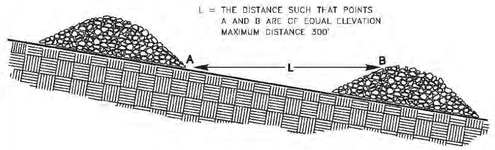


CROSS SECTION

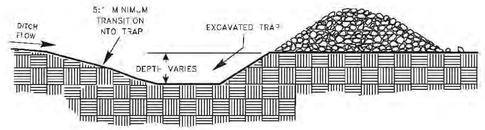
CD

FIGURE 3.05.2

ROCK CHECK DAM



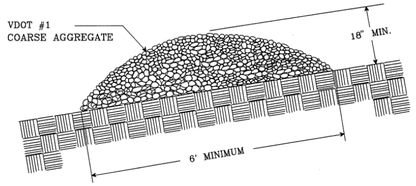
CHECK DAM SPACING



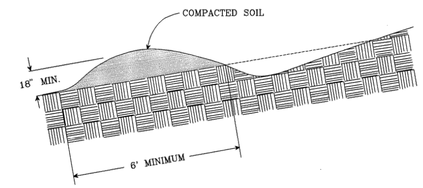
CHECK DAM WITH SUMP

CD

TEMPORARY RIGHT-OF-WAY DIVERSIONS



TYPICAL GRAVEL STRUCTURE



TYPICAL EARTHEN STRUCTURE

RWD

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5-24-24

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AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1099, PG. 144 AND D.B. 1267, PG. 208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

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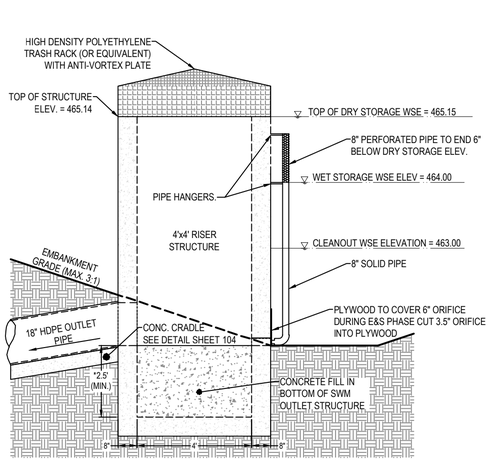
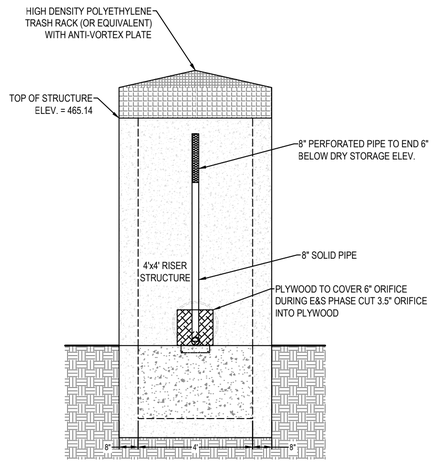
TYPICAL SIDE & FRONT VIEW OF SEDIMENT BASIN #1 OUTLET STRUCTURE:

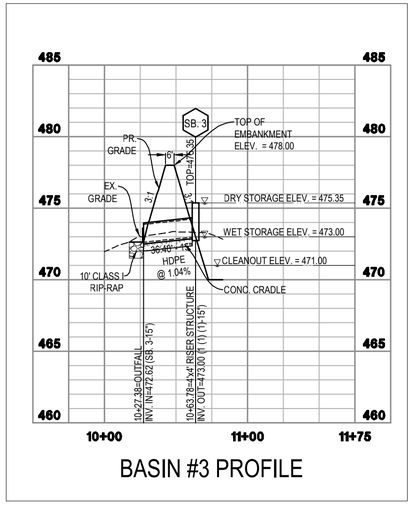
NOT TO SCALE



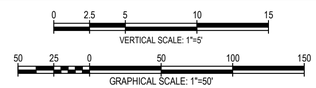
SIDE VIEW
SWM DRAINAGE STRUCTURE



FRONT VIEW
SWM DRAINAGE STRUCTURE



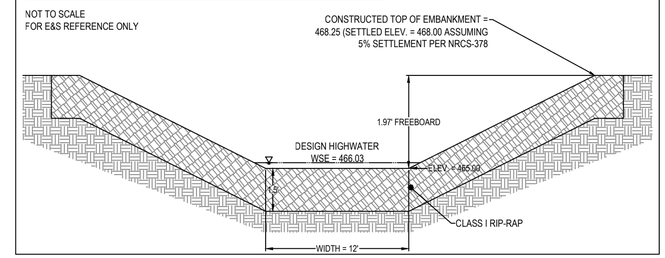
BASIN #3 PROFILE



NOTE:
SEE SHEETS 101 & 102 FOR SWM PROFILES

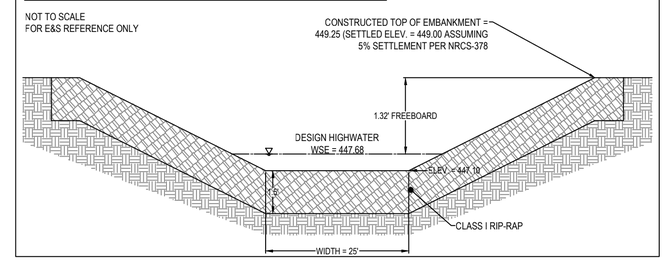
EMERGENCY SPILLWAY FOR SEDIMENT BASIN #1:

NOT TO SCALE
FOR E&S REFERENCE ONLY



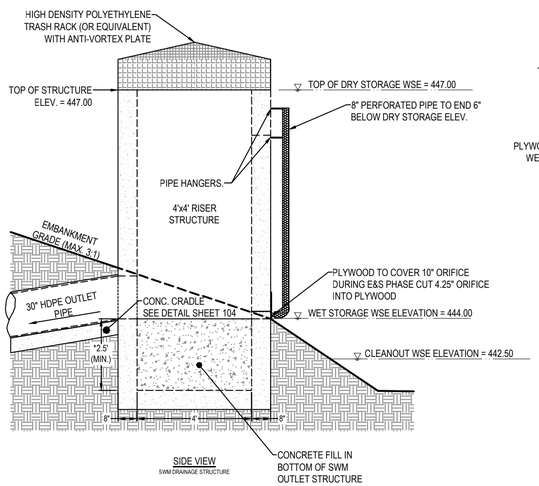
EMERGENCY SPILLWAY FOR SEDIMENT BASIN #2:

NOT TO SCALE
FOR E&S REFERENCE ONLY

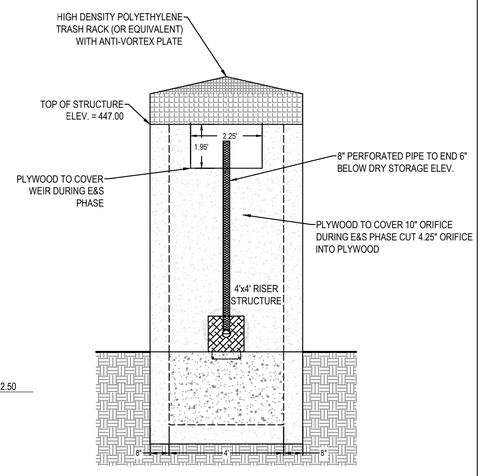


TYPICAL SIDE & FRONT VIEW OF SEDIMENT BASIN #2 OUTLET STRUCTURE:

NOT TO SCALE



SIDE VIEW
SWM DRAINAGE STRUCTURE



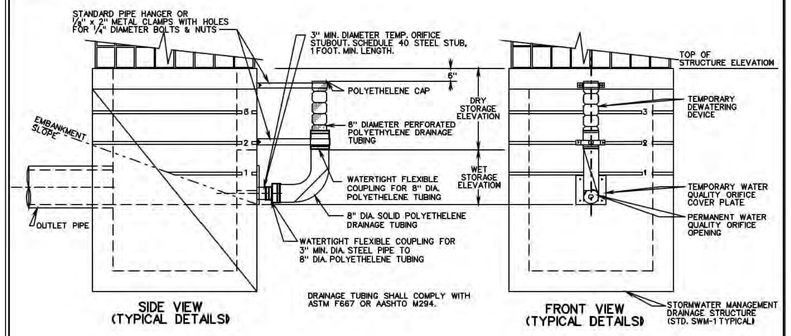
FRONT VIEW
SWM DRAINAGE STRUCTURE

TEMPORARY DIVERSION CALCULATIONS

I_{10} = 6.47 C = 0.50

Diversion #	A (Ac.)	Q_{10} (CFS)	Slope	Bottom Width (ft.)	Normal Depth (ft.)	Vel. (ft/s)	Channel Lining	Channel Depth (ft.)
1	0.15	0.49	3.3%	4	0.30	0.36	Grass (seed and straw)	1.0
2	1.10	3.56	5.1%	4	0.20	3.73	Grass (seed and straw)	1.0
3	1.24	4.01	3.3%	6	0.30	3.37	Grass (seed and straw)	1.0

SWM-DR



SIDE VIEW
(TYPICAL DETAILS)

FRONT VIEW
(TYPICAL DETAILS)

NOTES:

1. THESE DETAILS ARE TO BE USED TO MODIFY THE PERMANENT STORMWATER MANAGEMENT DRAINAGE STRUCTURE WHERE THE STORMWATER MANAGEMENT BASIN IS TO BE USED FOR A TEMPORARY SEDIMENT BASIN DURING PROJECT CONSTRUCTION.
2. GRADE STORMWATER MANAGEMENT BASIN AS SHOWN IN PLANS.
3. ALL OPENINGS (IF ANY) IN SIDE OF STRUCTURE (OTHER THAN PERMANENT WATER QUALITY ORIFICE) ARE TO BE COVERED WITH SOLID METAL PLATES WHILE THE BASIN IS BEING USED FOR SEDIMENT CONTROL.
4. DEWATERING DEVICE AND COMPONENTS AND TEMPORARY METAL PLATES (IF ANY), AS SHOWN IN THE DETAIL, ARE TO BE REMOVED AND PERMANENT STEEL PLATE WITH WATER QUALITY ORIFICE IS TO BE INSTALLED WHEN BASIN IS NO LONGER NEEDED FOR SEDIMENT CONTROL.
5. SIMILAR DEVICE MAY ALSO BE USED ON OTHER STORMWATER MANAGEMENT DRAINAGE STRUCTURES.
6. COST OF TEMPORARY DEWATERING DEVICE AND TEMPORARY METAL PLATES (IF ANY) SHALL BE INCLUDED IN THE BID PRICE FOR STORMWATER MANAGEMENT DRAINAGE STRUCTURE.
7. THE TEMPORARY 8" DIA. POLYETHELENE DRAINAGE TUBING IS TO BE SOLID FOR THE LENGTH BELOW WET STORAGE ELEVATION AND IS TO BE PERFORATED ABOVE THE WET STORAGE ELEVATION. THE COUPLING IS TO BE WATERTIGHT.

VDOT ROAD AND BRIDGE STANDARDS	STORMWATER MANAGEMENT (SWM) DETAILS	SPECIFICATION REFERENCE
SHEET 1 OF 8 / 114.04 — REVISION DATE	VIRGINIA DEPARTMENT OF TRANSPORTATION	302

2016 ROAD & BRIDGE STANDARDS

#1

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TEMPORARY SEDIMENT BASIN DESIGN DATA SHEET

PROJECT: FAIRVIEW SECTION 1
BASIN ID NO.: SB#1
TOTAL DRAINAGE AREA: 10.47 AC.
"C" FACTOR: 0.50

Basin Volume Design
Wet Storage

1. Minimum Required Volume = **1,800** Cu. Ft. x Total Drainage Area (Ac.)
1800 Cu. Ft. x **10.47** Acres = **18,846** Cu. Ft.
= **0.43** Ac-Ft.

2. Available Basin Volume = **76,262** Cu. Ft. At Elevation **464.00**
(From Storage - Elevation Curve)

3. Excavate **76,262** Cu. Ft. to Obtain Required Volume*.

* Elevation Corresponding to Required Volume = Invert of Dewatering Orifice.

4. Available Volume Before Cleanout Required = **38,131** Cu. Ft.
(1/2 Wet Storage Volume)

5. Elevation Corresponding to Cleanout Level = **463.00**
(From Storage - Elevation Curve)

6. Distance From Invert of The Dewatering Orifice to Cleanout Level = **1.0'**
(Min. = 1.0 Ft.)

Dry Storage

7. Minimum Required Volume = **1800** Cu. Ft. x Total Drainage Area (Ac.)
1,800 Cu. Ft. x **10.47** Acres = **18,846** Cu. Ft.
= **0.43** Ac-Ft.

8. Total Required Volume = **76,262** Cu. Ft. + **18,846** Cu. Ft.
= **95,108** Cu. Ft.
= **2.18** Ac-Ft.

9. Total Available Basin Volume at Crest of Riser = **126,402** Cu. Ft. at Elevation **465.15**
(From Storage - Elevation Curve)

Orifice Calculation Breakdown

10. A = (Dry Storage/T)/(64.32*h)^0.5(0.6)
Drawdown Time (T) = **48** Hours
Head (h) = **0.575**
Required Area (A) = **0.07216** Sq.In.
Maximum Diameter = **3.64** In.
Diameter of Dewatering Orifice = **3.50** In.
11. Diameter of Flexible Tubing = **5.50** In. (Min.)
(Dia. of Dewatering Orifice + 2") 7.5

Preliminary Design Elevations

12. Crest of Riser = **465.15**
Top of Dam = **468.00**
Design High Water = **466.03**
Upstream Toe of Dam = **461.75**
Crest of Emergency Spillway = **466.00**

Basin Shape

13. Length of Flow = L **= 196.00 =** **0.84** Length-to-width Ratio
Effective Width = We **232.44**
If L/We > 2, Baffles Are Not Required
If L/We < 2, Baffles Are Required

Runoff

14. Q_2 = **16.2** cfs.

15. Q_{25} = **29.8** cfs.

Principal Spillway Design

17. With Emergency Spillway, Required Spillway Capacity Qp = Q_2 = **16.2** cfs.
(Riser and Barrel)

Without Emergency Spillway, Required Spillway Capacity Qp = Q_{25} = **N/A** cfs.
(Riser and Barrel)

18. With Emergency Spillway:
Assumed Available Head (h) = **0.9** (Using Q_2)
h = Crest of Emergency Spillway Elevation - Crest of Riser Elevation

Without Emergency Spillway:
Assumed Available Head (h) = **N/A** (Using Q_{25})
h = Design High Water Elevation - Crest of Riser Elevation

19. Riser Dimensions = **4' x 4'**
Actual Head (h) = **0.85'**
Note: Avoid Orifice Flow Conditions

20. Barrel Length (L) = **53'**
Invert In = **461.75** Invert Out = **461.46**
Head (H) on Barrel Through Embankment = **4.54'**

21. Barrel Diameter = **18"** **No. of Barrels = 1**

22. Trash Rack and Anti-Vortex Device
Dimensions = **N/A**
Height = **N/A**

Emergency Spillway Design

23. Required Spillway Capacity Qe = Q25 - Qp = **13.61** cfs.

24. Bottom Width (B) = **12'**
Slope of The Exit Channel (S) = **2.3** Ft./Ft.
Minimum Length of The Exit Channel (X) = **40'**

Anti-Seep Collar Design

25. Depth of Water at Principal Spillway Crest (Y) = **4.5'**
Slope of Upstream Face of Empankment (Z) = **3:1**
Slope of Principal Spillway Barrel (Sb) = **0.55%**
Length of Barrel in Saturated Zone (Ls) = **32.50'**

26. Number of Collars Required = **Cradle** Dimensions = **4.0' x 4.0'**

Finial Design Elevations

27. Top of Dam = **468.00**
Design High Water = **466.03**
Emergency Spillway Crest = **466.00**
Principal Spillway Crest = **465.15**
Dewatering Orifice Invert = **464.00**
Cleanout Elevation = **463.00**

TEMPORARY SEDIMENT BASIN DESIGN DATA SHEET

PROJECT: FAIRVIEW SECTION 1
BASIN ID NO.: SB#2
TOTAL DRAINAGE AREA: 33.88 AC.
"C" FACTOR: 0.50

Basin Volume Design
Wet Storage

1. Minimum Required Volume = **1,800** Cu. Ft. x Total Drainage Area (Ac.)
1800 Cu. Ft. x **33.88** Acres = **60,984** Cu. Ft.
= **1.40** Ac-Ft.

2. Available Basin Volume = **125,947** Cu. Ft. At Elevation **444.00**
(From Storage - Elevation Curve)

3. Excavate **125,947** Cu. Ft. to Obtain Required Volume*.

* Elevation Corresponding to Required Volume = Invert of Dewatering Orifice.

4. Available Volume Before Cleanout Required = **62,974** Cu. Ft.
(1/2 Wet Storage Volume)

5. Elevation Corresponding to Cleanout Level = **442.50**
(From Storage - Elevation Curve)

6. Distance From Invert of The Dewatering Orifice to Cleanout Level = **1.5'**
(Min. = 1.0 Ft.)

Dry Storage

7. Minimum Required Volume = **1800** Cu. Ft. x Total Drainage Area (Ac.)
1,800 Cu. Ft. x **33.88** Acres = **60,984** Cu. Ft.
= **1.40** Ac-Ft.

8. Total Required Volume = **125,947** Cu. Ft. + **60,984** Cu. Ft.
= **186,931** Cu. Ft.
= **4.29** Ac-Ft.

9. Total Available Basin Volume at Crest of Riser = **302,956** Cu. Ft. at Elevation **447.00**
(From Storage - Elevation Curve)

Orifice Calculation Breakdown

10. A = (Dry Storage/T)/(64.32*h)^0.5(0.6)
Drawdown Time (T) = **48** Hours
Head (h) = **1.5**
Required Area (A) = **0.10708** Sq.In.
Maximum Diameter = **4.43** In.
Diameter of Dewatering Orifice = **4.25** In.
11. Diameter of Flexible Tubing = **6.25** In. (Min.)
(Dia. of Dewatering Orifice + 2")

Preliminary Design Elevations

12. Crest of Riser = **447.00**
Top of Dam = **449.00**
Design High Water = **447.68**
Upstream Toe of Dam = **440.00**
Crest of Emergency Spillway = **447.10**

Basin Shape

13. Length of Flow = L **= 212.00 =** **0.69** Length-to-width Ratio
Effective Width = We **305.90**
If L/We > 2, Baffles Are Not Required
If L/We < 2, Baffles Are Required

Runoff

14. Q_2 = **52.5** cfs.

15. Q_{25} = **96.6** cfs.

Principal Spillway Design

17. With Emergency Spillway, Required Spillway Capacity Qp = Q_2 = **52.5** cfs.
(Riser and Barrel)

Without Emergency Spillway, Required Spillway Capacity Qp = Q_{25} = **N/A** cfs.
(Riser and Barrel)

18. With Emergency Spillway:
Assumed Available Head (h) = **0.1** (Using Q_2)
h = Crest of Emergency Spillway Elevation - Crest of Riser Elevation

Without Emergency Spillway:
Assumed Available Head (h) = **N/A** (Using Q_{25})
h = Design High Water Elevation - Crest of Riser Elevation

19. Riser Dimensions = **4' x 4'**
Actual Head (h) = **0.10'**
Note: Avoid Orifice Flow Conditions

20. Barrel Length (L) = **57'**
Invert In = **442.70** Invert Out = **442.26**
Head (H) on Barrel Through Embankment = **4.84'**

21. Barrel Diameter = **30"** **No. of Barrels = 1**

22. Trash Rack and Anti-Vortex Device
Dimensions = **N/A**
Height = **N/A**

Emergency Spillway Design

23. Required Spillway Capacity Qe = Q25 - Qp = **44.04** cfs.

24. Bottom Width (B) = **25'**
Slope of The Exit Channel (S) = **6.4** Ft./Ft.
Minimum Length of The Exit Channel (X) = **80'**

Anti-Seep Collar Design

25. Depth of Water at Principal Spillway Crest (Y) = **4.8'**
Slope of Upstream Face of Empankment (Z) = **3:1**
Slope of Principal Spillway Barrel (Sb) = **0.78%**
Length of Barrel in Saturated Zone (Ls) = **34.96'**

26. Number of Collars Required = **2** Dimensions = **4.0' x 4.0'**

Finial Design Elevations

27. Top of Dam = **449.00**
Design High Water = **447.68**
Emergency Spillway Crest = **447.10**
Principal Spillway Crest = **447.00**
Dewatering Orifice Invert = **444.00**
Cleanout Elevation = **442.50**

TEMPORARY SEDIMENT BASIN DESIGN DATA SHEET

PROJECT: FAIRVIEW SECTION 1
BASIN ID NO.: SB#3
TOTAL DRAINAGE AREA: 6.04 AC.
"C" FACTOR: 0.50

Basin Volume Design
Wet Storage

1. Minimum Required Volume = **1,800** Cu. Ft. x Total Drainage Area (Ac.)
1800 Cu. Ft. x **6.04** Acres = **10,872** Cu. Ft.
= **0.25** Ac-Ft.

2. Available Basin Volume = **19,092** Cu. Ft. At Elevation **473.00**
(From Storage - Elevation Curve)

3. Excavate **19,092** Cu. Ft. to Obtain Required Volume*.

* Elevation Corresponding to Required Volume = Invert of Dewatering Orifice.

4. Available Volume Before Cleanout Required = **9,546** Cu. Ft.
(1/2 Wet Storage Volume)

5. Elevation Corresponding to Cleanout Level = **471.10**
(From Storage - Elevation Curve)

6. Distance From Invert of The Dewatering Orifice to Cleanout Level = **1.9'**
(Min. = 1.0 Ft.)

Dry Storage

7. Minimum Required Volume = **1800** Cu. Ft. x Total Drainage Area (Ac.)
1,800 Cu. Ft. x **6.04** Acres = **10,872** Cu. Ft.
= **0.25** Ac-Ft.

8. Total Required Volume = **19,092** Cu. Ft. + **10,872** Cu. Ft.
= **29,964** Cu. Ft.
= **0.69** Ac-Ft.

9. Total Available Basin Volume at Crest of Riser = **41,987** Cu. Ft. at Elevation **475.35**
(From Storage - Elevation Curve)

Orifice Calculation Breakdown

10. A = (Dry Storage/T)/(64.32*h)^0.5(0.6)
Drawdown Time (T) = **48** Hours
Head (h) = **1.175**
Required Area (A) = **0.01677** Sq.In.
Maximum Diameter = **1.75** In.
Diameter of Dewatering Orifice = **3.00** In.
11. Diameter of Flexible Tubing = **5.00** In. (Min.)
(Dia. of Dewatering Orifice + 2") 7

Preliminary Design Elevations

12. Crest of Riser = **475.35**
Top of Dam = **478.00**
Design High Water = **476.35**
Upstream Toe of Dam = **470.00**
Crest of Emergency Spillway = **476.35**

Basin Shape

13. Length of Flow = L **= 117.00 =** **1.20** Length-to-width Ratio
Effective Width = We **97.37**
If L/We > 2, Baffles Are Not Required
If L/We < 2, Baffles Are Required

Runoff

14. Q_2 = **9.4** cfs.

15. Q_{25} = **17.2** cfs.

Principal Spillway Design

17. With Emergency Spillway, Required Spillway Capacity Qp = Q_2 = **9.4** cfs.
(Riser and Barrel)

Without Emergency Spillway, Required Spillway Capacity Qp = Q_{25} = **N/A** cfs.
(Riser and Barrel)

18. With Emergency Spillway:
Assumed Available Head (h) = **1.0** (Using Q_2)
h = Crest of Emergency Spillway Elevation - Crest of Riser Elevation

Without Emergency Spillway:
Assumed Available Head (h) = **N/A** (Using Q_{25})
h = Design High Water Elevation - Crest of Riser Elevation

19. Riser Dimensions = **18"**
Actual Head (h) = **1.00'**
Note: Avoid Orifice Flow Conditions

20. Barrel Length (L) = **36'**
Invert In = **473.00** Invert Out = **472.62**
Head (H) on Barrel Through Embankment = **3.73'**

21. Barrel Diameter = **15"** **No. of Barrels = 1**

22. Trash Rack and Anti-Vortex Device
Dimensions = **27" x 16"**
Height = **8"**

Emergency Spillway Design

23. Required Spillway Capacity Qe = Q25 - Qp = **7.85** cfs.

24. Bottom Width (B) = **12'**
Slope of The Exit Channel (S) = **4.6** Ft./Ft.
Minimum Length of The Exit Channel (X) = **33'**

Anti-Seep Collar Design

25. Depth of Water at Principal Spillway Crest (Y) = **3.7'**
Slope of Upstream Face of Empankment (Z) = **3:1**
Slope of Principal Spillway Barrel (Sb) = **1.04%**
Length of Barrel in Saturated Zone (Ls) = **27.25'**

26. Number of Collars Required = **2** Dimensions = **4.0' x 4.0'**

Finial Design Elevations

27. Top of Dam = **478.00**
Design High Water = **476.35**
Emergency Spillway Crest = **476.35**
Principal Spillway Crest = **475.35**
Dewatering Orifice Invert = **473.00**
Cleanout Elevation = **471.10**

Sediment Basin #1 Volume Calculations

Elevation (Ft.)	Area (Sq. Ft.)	Ave. Area (Sq. Ft.)	Volume (Cu. Ft.)	Accum. Vol. (Cu. Ft.)
461.75	922	0	0	0
462.00	30,673	15,798	3,949	3,949
463.00*	36,157	33,415	33,415	37,364
464.00**	41,640	38,898	38,898	76,262
465.15***	45,559	43,599	50,139	126,402
466.00	48,455	45,048	90,095	166,357
468.00	54,633	51,544	103,088	269,445
469.00	62,504	58,569	58,569	328,014

* =Cleanout Elevation
** = Wet Storage Elevation
*** = Dry Storage Elevation

Sediment Basin #2 Volume Calculations

Elevation (Ft.)	Area (Sq. Ft.)	Ave. Area (Sq. Ft.)	Volume (Cu. Ft.)	Accum. Vol. (Cu. Ft.)
440.00	22,885	0	0	0
442.50*	28,392	25,639	64,096	64,096
444.00**	54,076	41,234	61,851	125,947
445.00	57,207	55,642	55,642	181,589
446.00	60,338	58,773	58,773	240,361
446.00	60,337	60,338	0	240,361
447.00***	64,852	62,594	62,594	302,956
448.00	69,366	67,109	67,109	370,064
448.50	70,275	69,820	34,910	404,974
449.00	71,183	70,275	70,275	440,339

* =Cleanout Elevation
** = Wet Storage Elevation
*** = Dry Storage Elevation

Sediment Basin #3 Volume Calculations

Elevation (Ft.)	Area (Sq. Ft.)	Ave. Area (Sq. Ft.)	Volume (Cu. Ft.)	Accum. Vol. (Cu. Ft.)
470.00	4,597	0	0	0
471.10*	5,926	5,261	5,787	5,787
472.00	6,871	6,398	5,758	11,546
473.00**	8,220	7,546	7,546	19,092
474.00	9,443	8,832	8,832	27,923
475.35***	11,392	10,417	14,063	41,987
476.00	12,217	11,804	7,673	49,660
478.00	15,217	13,717	27,434	77,094

* =Cleanout Elevation
** = Wet Storage Elevation
*** = Dry Storage Elevation

NOTES:
1. IF CHANGES ARE MADE TO THE SEDIMENT BASIN, THE REQUIRED WET AND DRY STORAGE VOLUME MUST BE MET.
2. CONTRACTOR TO FIELD VERIFY SEDIMENT BASIN ELEVATIONS. SEDIMENT BASIN BASED ON CURRENT FIELD ELEVATIONS.
3. REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN IT ACCUMULATES TO ONE-HALF THE WET STORAGE DEPTH.
4. INSPECTION OF ALL EROSION AND SEDIMENT CONTROL BMPs SHALL BE PERFORMED ONCE EVERY FOUR (4) DAYS, AND WITHIN 24 HOURS OF THE OCCURANCE OF A PRECIPITATION EVENT OF 0.25 INCHES OR GREATER, OR THE OCCURRENCE OF RUNOFF FROM SNOW MELT SUFFICIENT TO CUASE A DISCHARGE.
5. CHECK THE EMBANKMENT, SPILLWAYS AND OUTLET FOR EROSION DAMAGE AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. MAKE ALL NECESSARY REPAIRS IMMEDIATELY. REMOVE ALL TRASH AND OTHER DEBRIS FROM THE RISER AND POOL AREA.

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JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
6-24-24

SEAL:

REVISIONS
1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

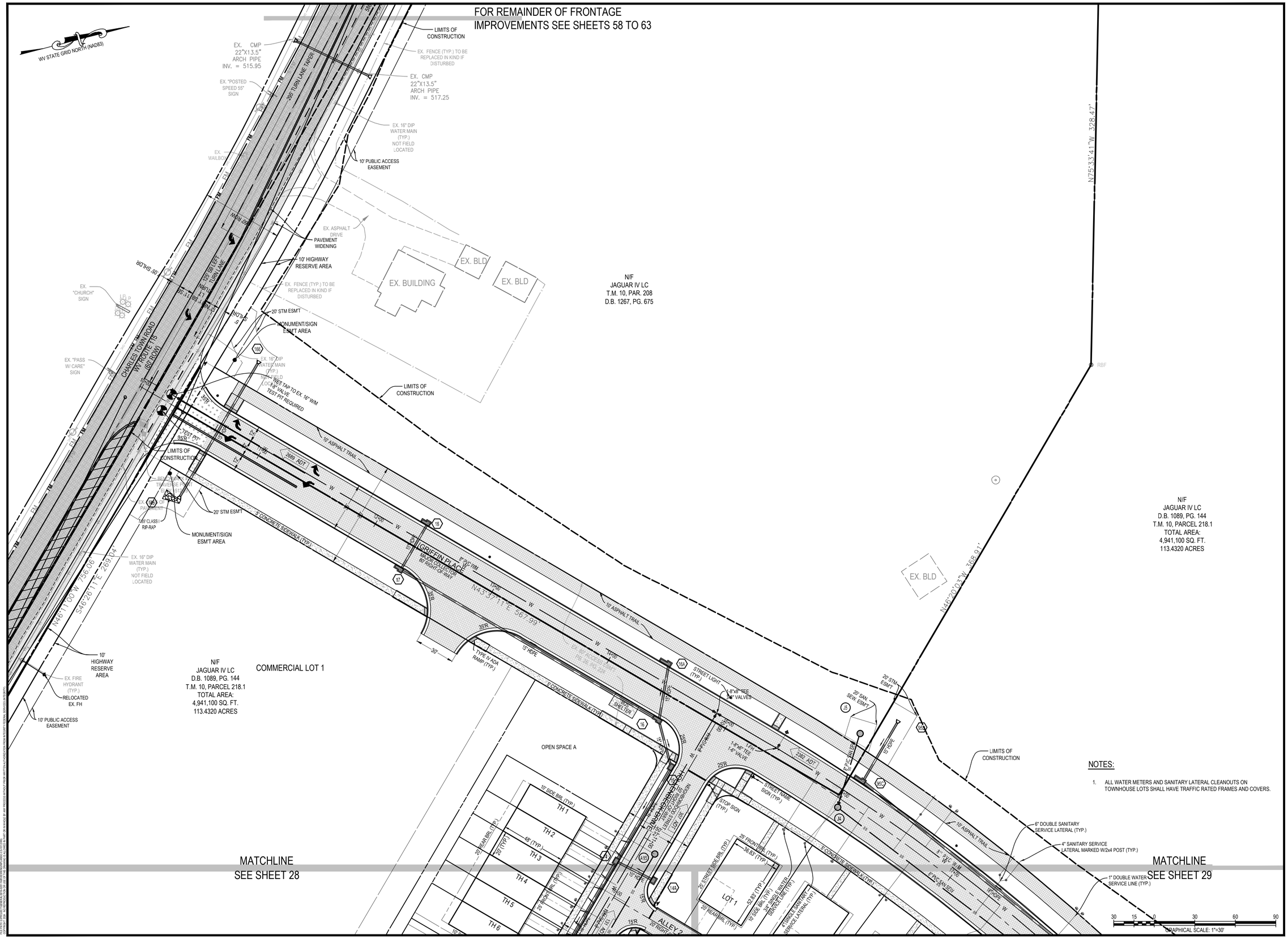
EROSION & SEDIMENT CONTROL COMPUTATIONS

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: N/A VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-GC-501.DWG	
NCS:	
SHEET:	26 OF 119

FOR REMAINDER OF FRONTAGE IMPROVEMENTS SEE SHEETS 58 TO 63



NOTES:

1. ALL WATER METERS AND SANITARY LATERAL CLEANOUTS ON TOWNHOUSE LOTS SHALL HAVE TRAFFIC RATED FRAMES AND COVERS.

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SEAL: JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER 1-24-25

REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

SITE LAYOUT & UTILITY PLAN

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG.208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: 1" = 30' VERT.:
DATE:	APRIL 2024
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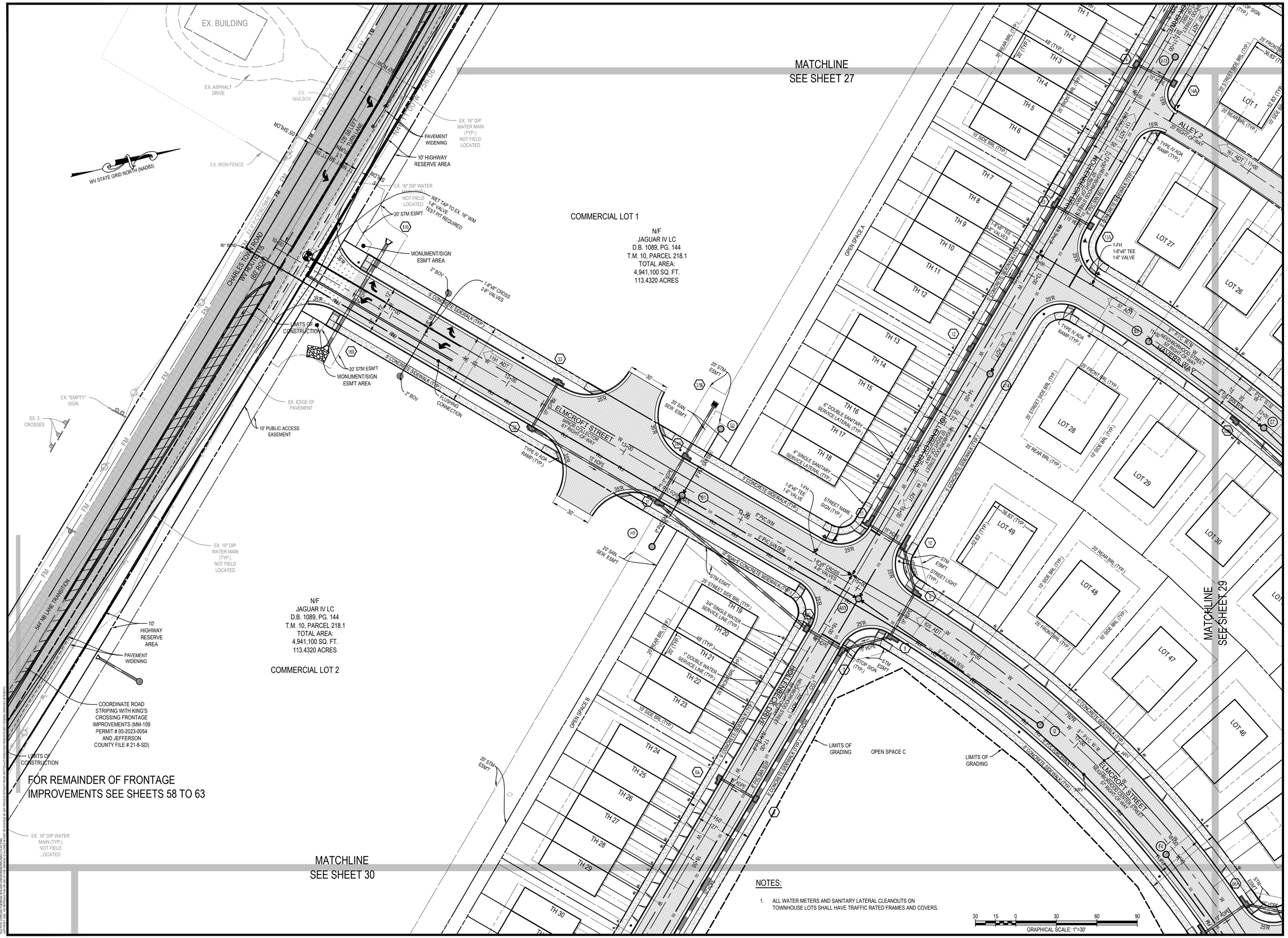

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SEAL: JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER 9-24-24

REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST 1/ COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

SITE LAYOUT & UTILITY PLAN

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

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DATE:	APRIL 2024
JOB:	5016-0201
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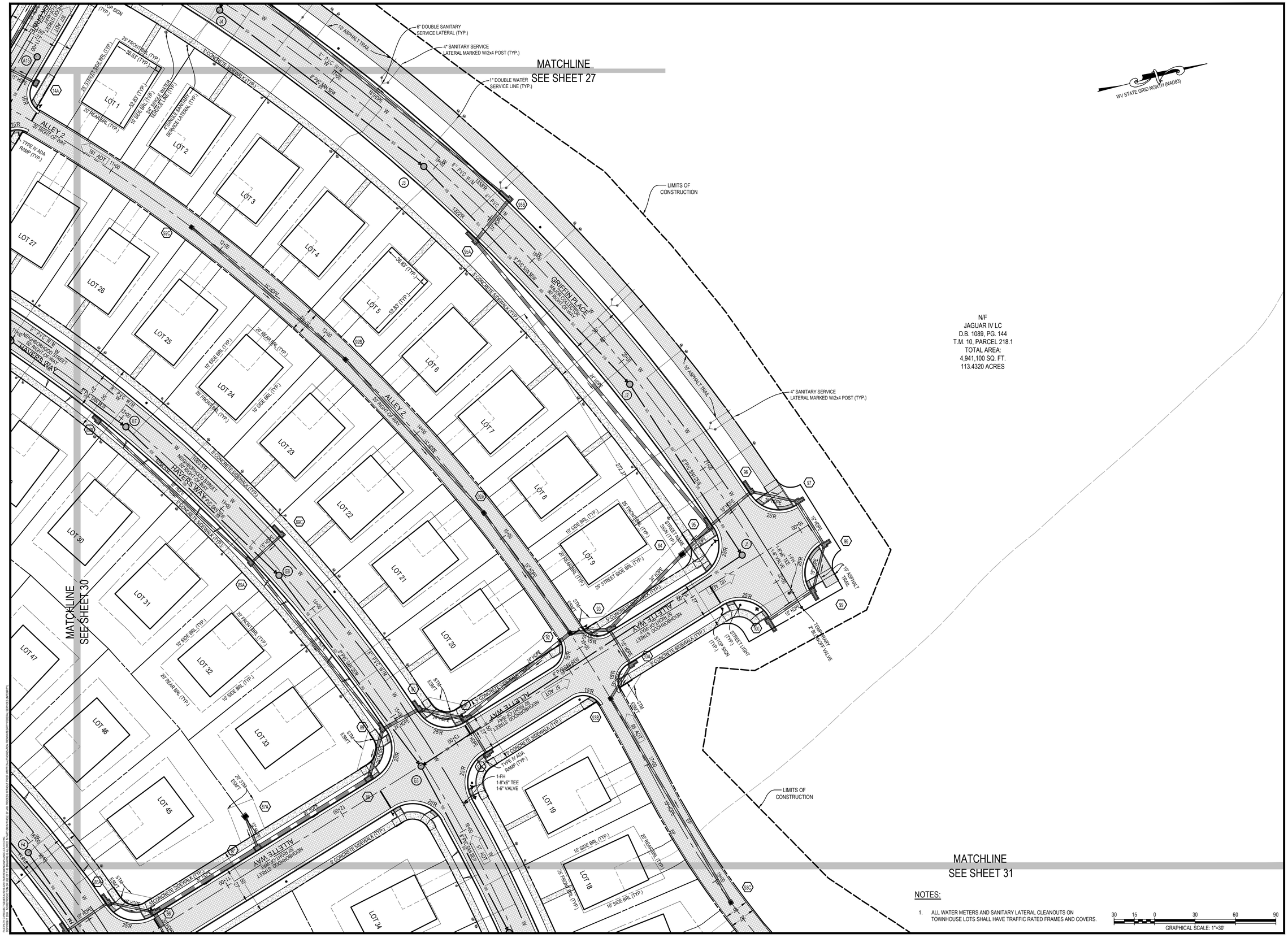

NOTES:

1. ALL WATER METERS AND SANITARY LATERAL CLEANOUTS ON TOWNHOUSE LOTS SHALL HAVE TRAFFIC RATED FRAMES AND COVERS.

GRAPHICAL SCALE: 1"=30'

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2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

SITE LAYOUT & UTILITY PLAN

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

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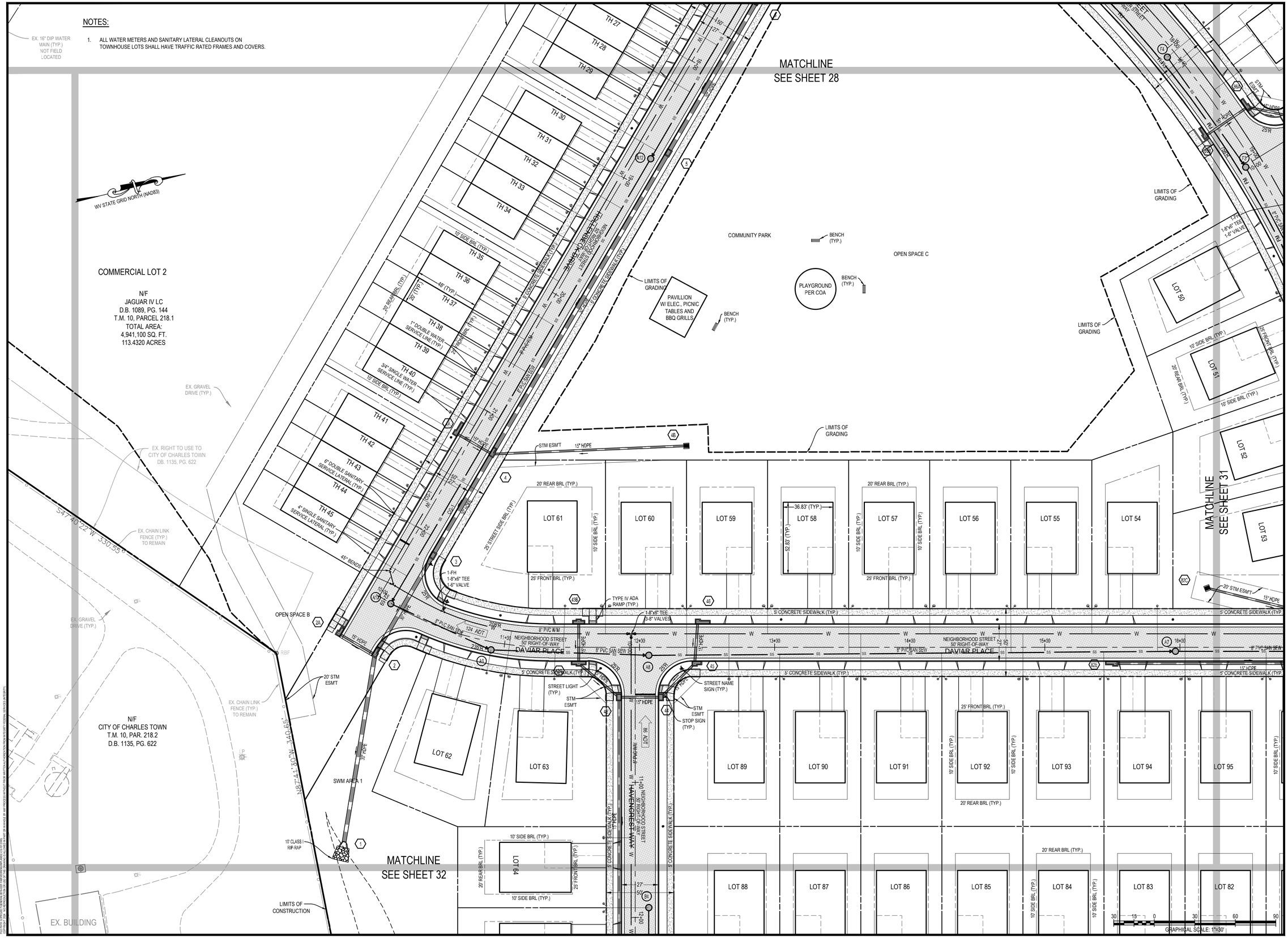
NOTES:

1. ALL WATER METERS AND SANITARY LATERAL CLEANOUTS ON TOWNHOUSE LOTS SHALL HAVE TRAFFIC RATED FRAMES AND COVERS.



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REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
2. 11/13/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

SITE LAYOUT & UTILITY PLAN

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

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DATE:	APRIL 2024
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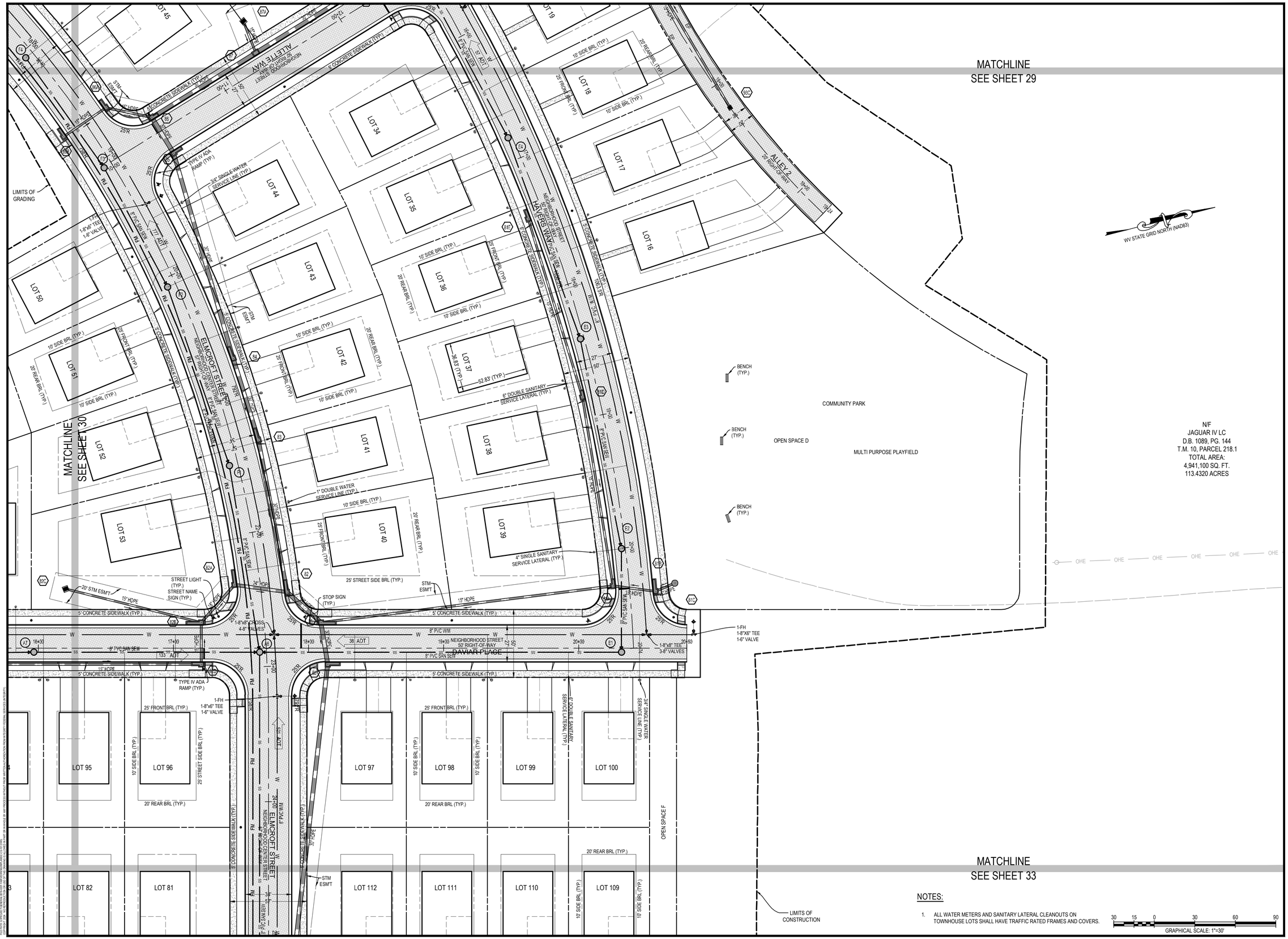
SHEET:	30 OF 119



NOTES:

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PROFESSIONAL ENGINEER
10-29-24
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REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

SITE LAYOUT & UTILITY PLAN

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG.208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

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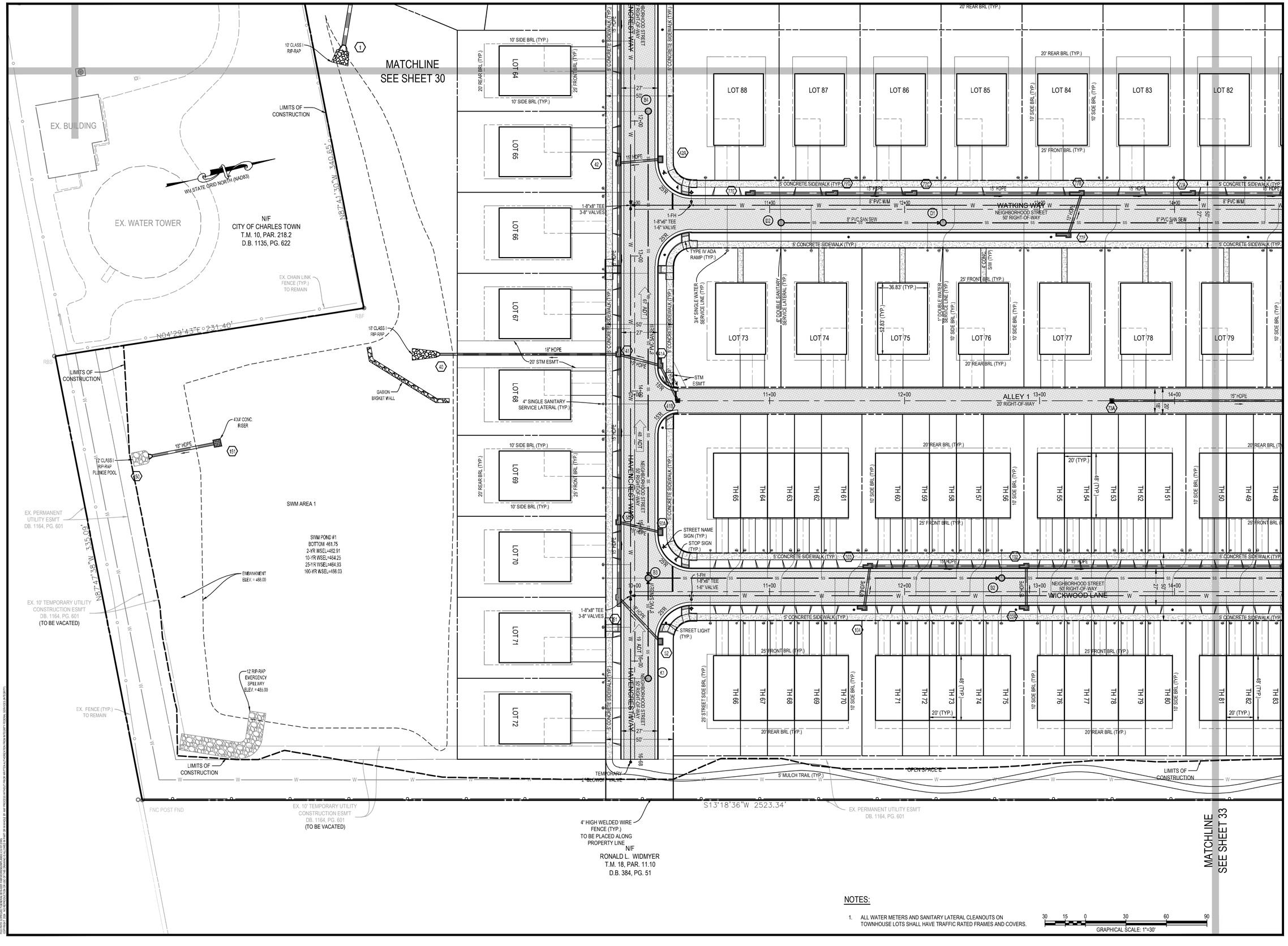
SHEET:	31 OF 119



NOTES:

1. ALL WATER METERS AND SANITARY LATERAL CLEANOUTS ON TOWNHOUSE LOTS SHALL HAVE TRAFFIC RATED FRAMES AND COVERS.

GRAPHICAL SCALE: 1"=30'

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STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
1-24-25

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1. 09/05/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

SITE LAYOUT & UTILITY PLAN

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

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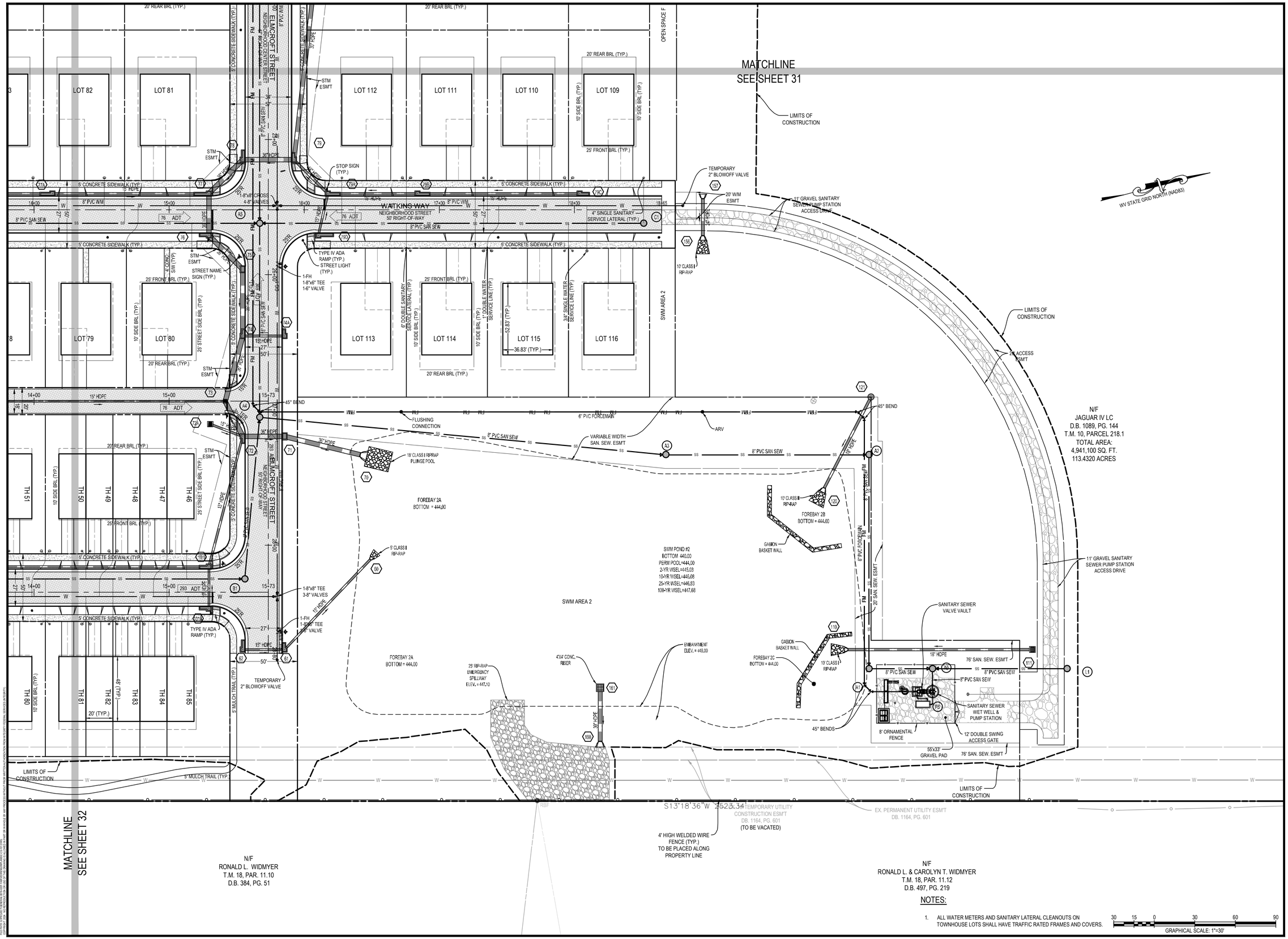

NOTES:

1. ALL WATER METERS AND SANITARY LATERAL CLEANOUTS ON TOWNHOUSE LOTS SHALL HAVE TRAFFIC RATED FRAMES AND COVERS.

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SEAL: JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER 1-24-25

REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST'LY COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

SITE LAYOUT & UTILITY PLAN

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

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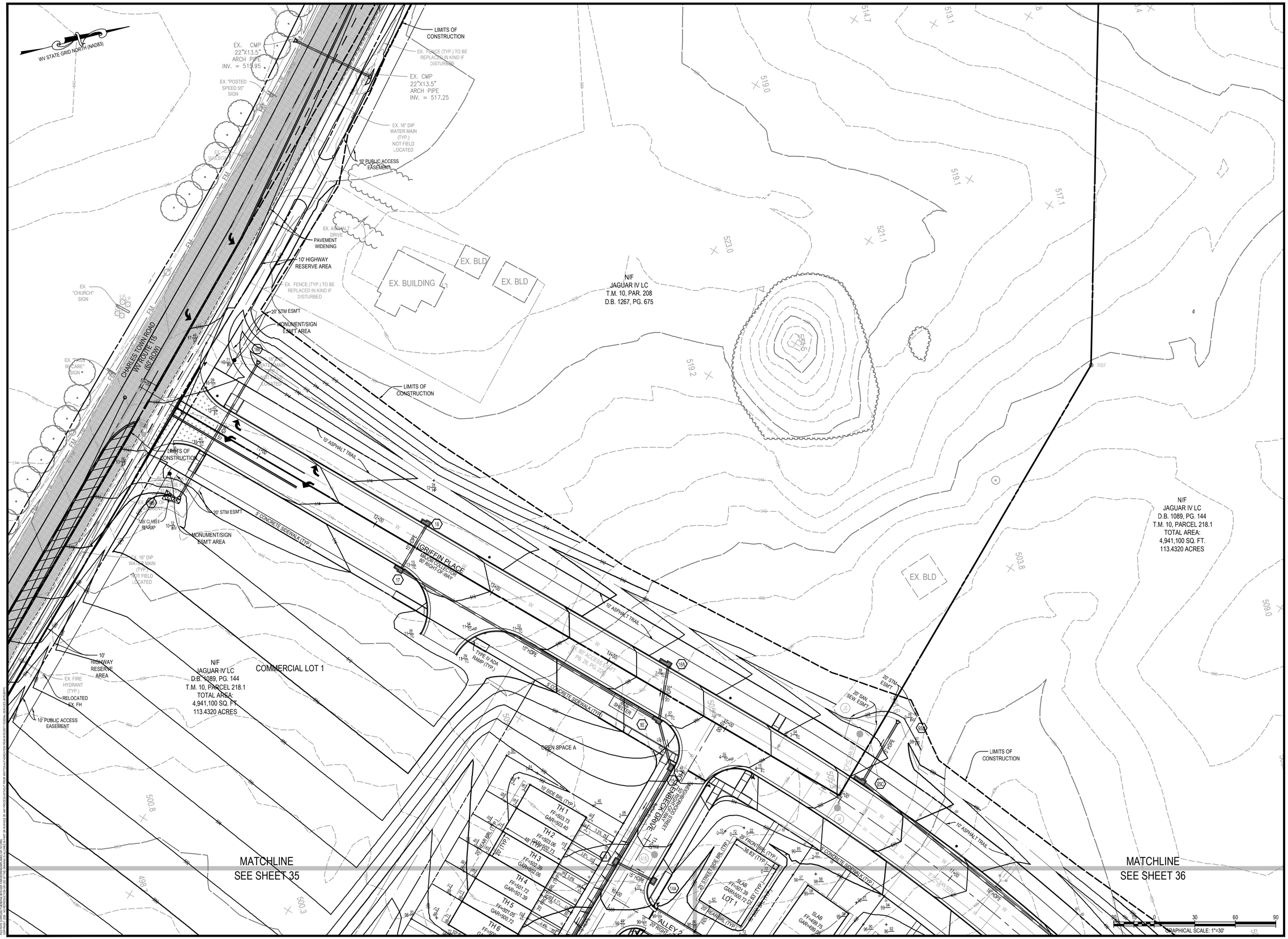

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SEAL: JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER 1-24-25

REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

GRADING & DRAINAGE PLAN

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

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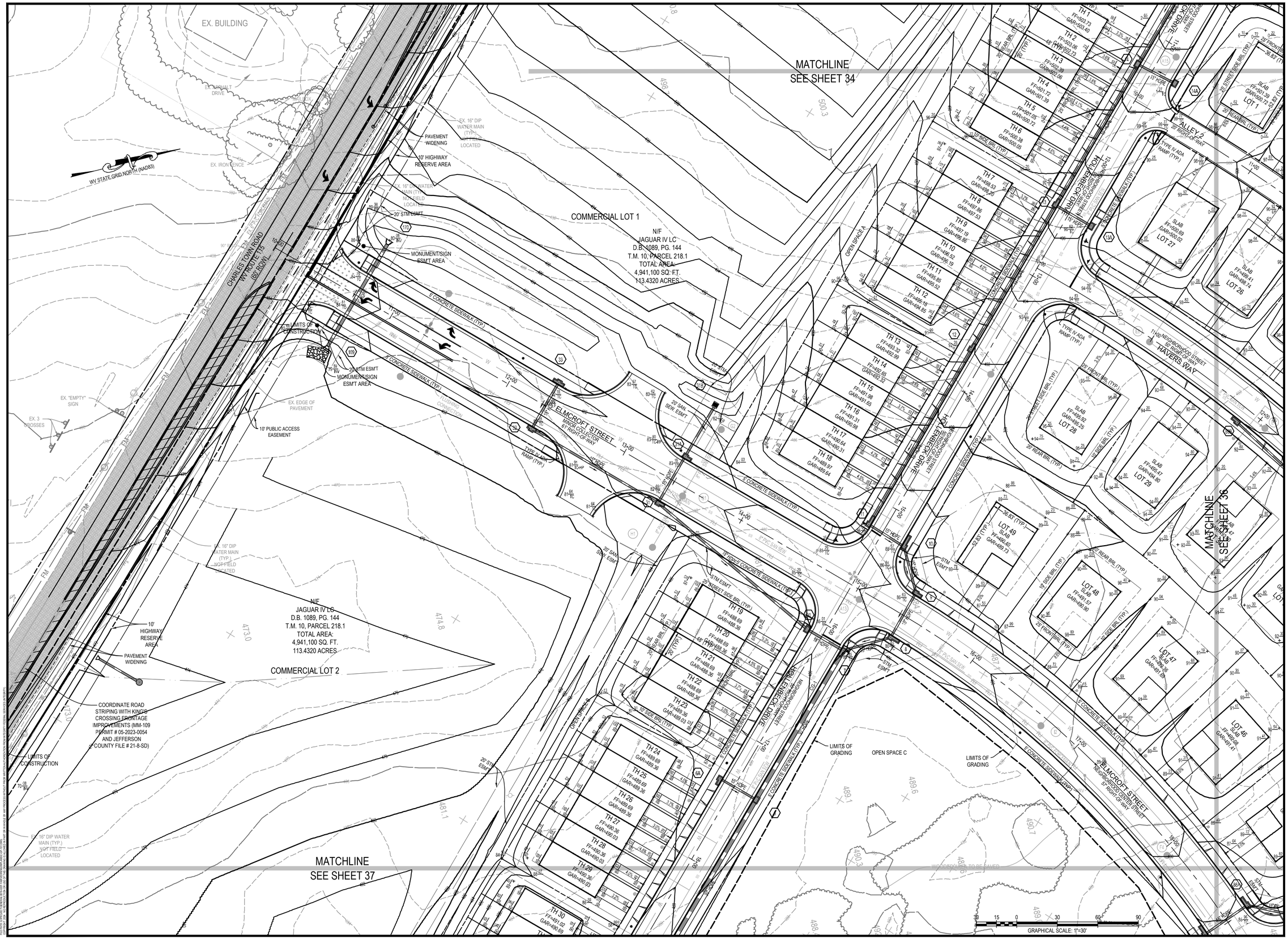
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-GP-101.DWG	
NCS:	
SHEET:	34 OF 119



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SEAL: JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER 1-24-25

REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

GRADING & DRAINAGE PLAN

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

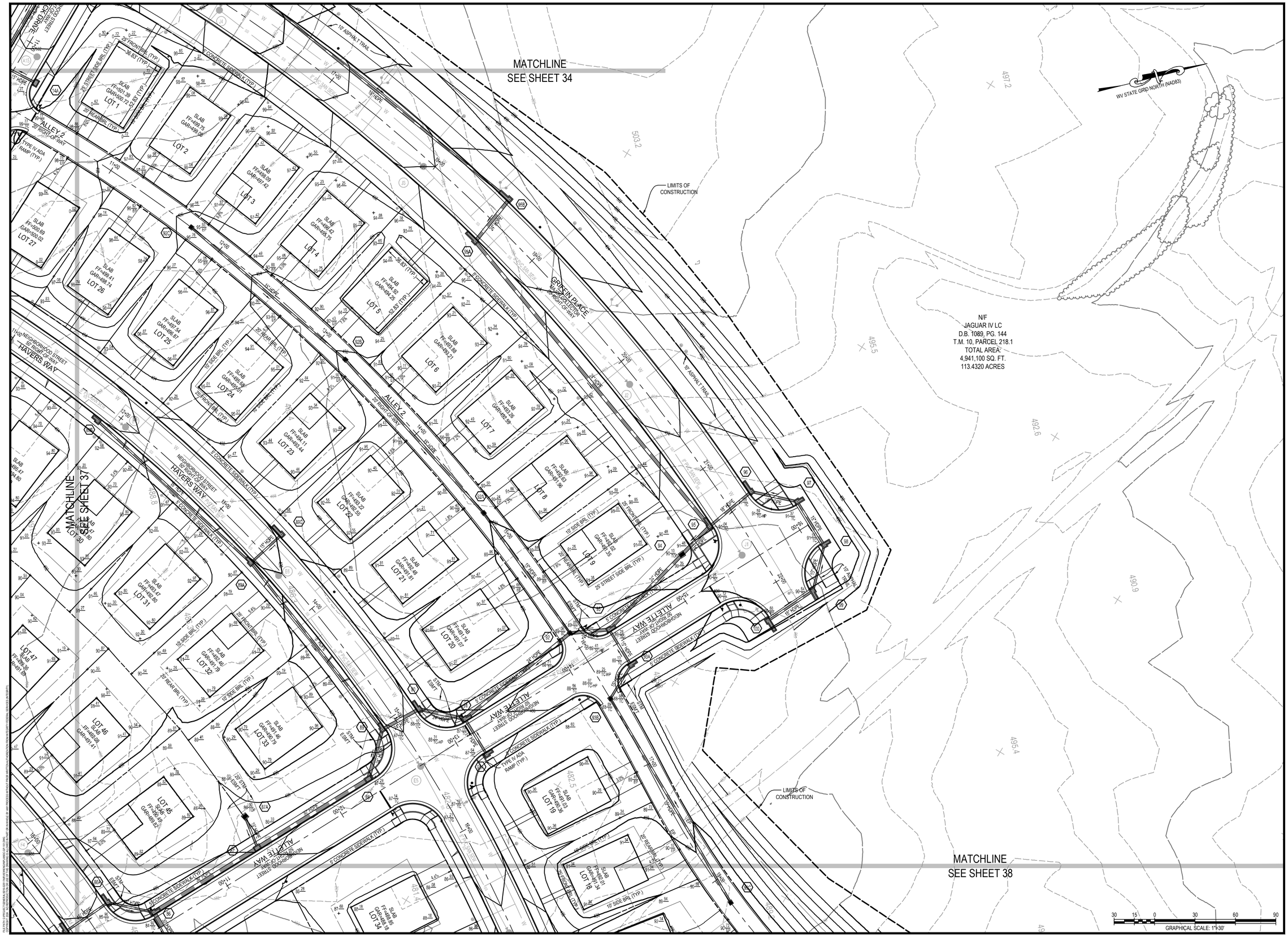
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: 1" = 30' VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-GP-101.DWG	
NCS:	
SHEET:	35 OF 119



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CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

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DRAWN: TME	CHECK: RPP
CADD: C-GP-101.DWG	
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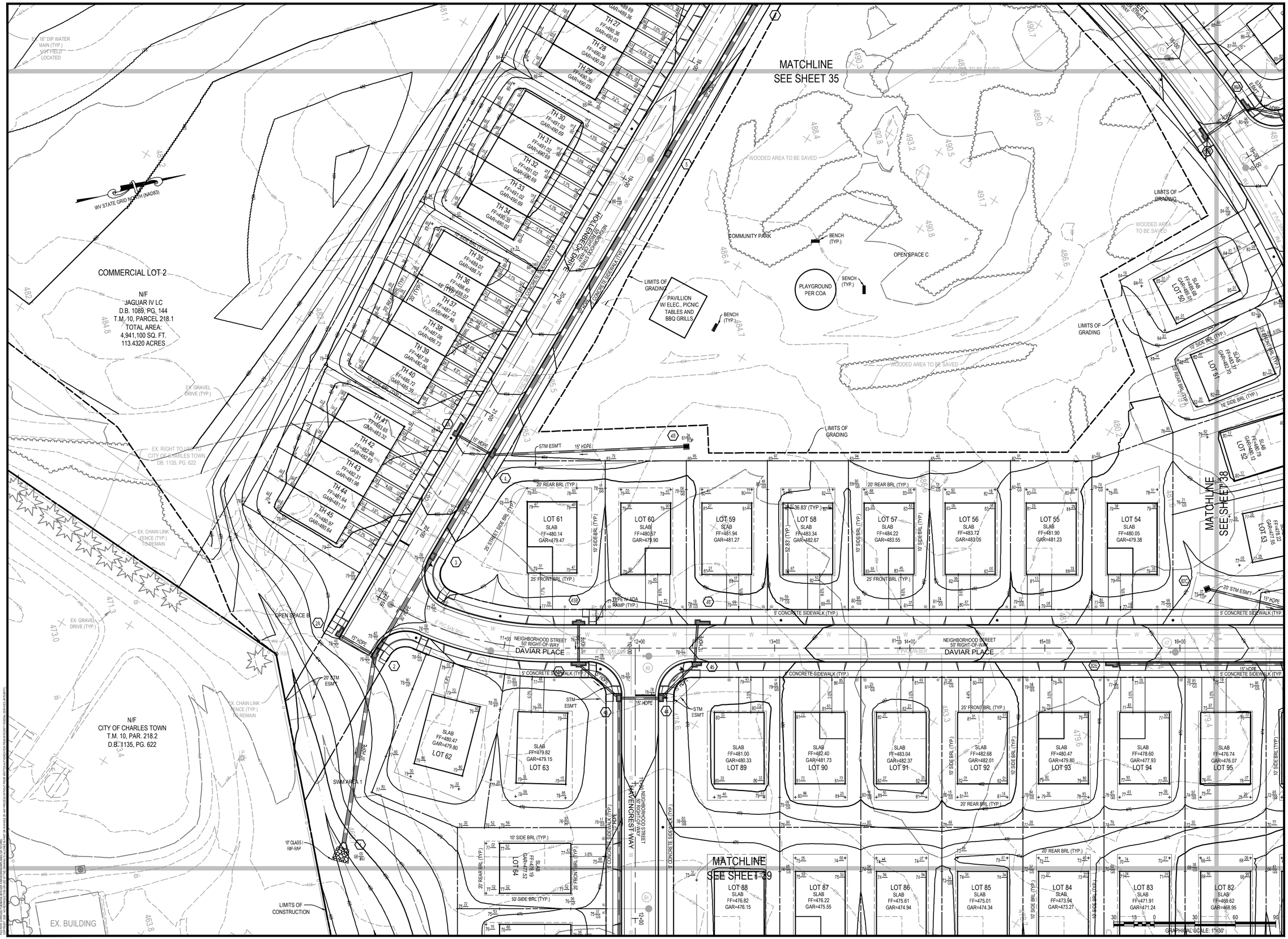
SHEET:	36 OF 119



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CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

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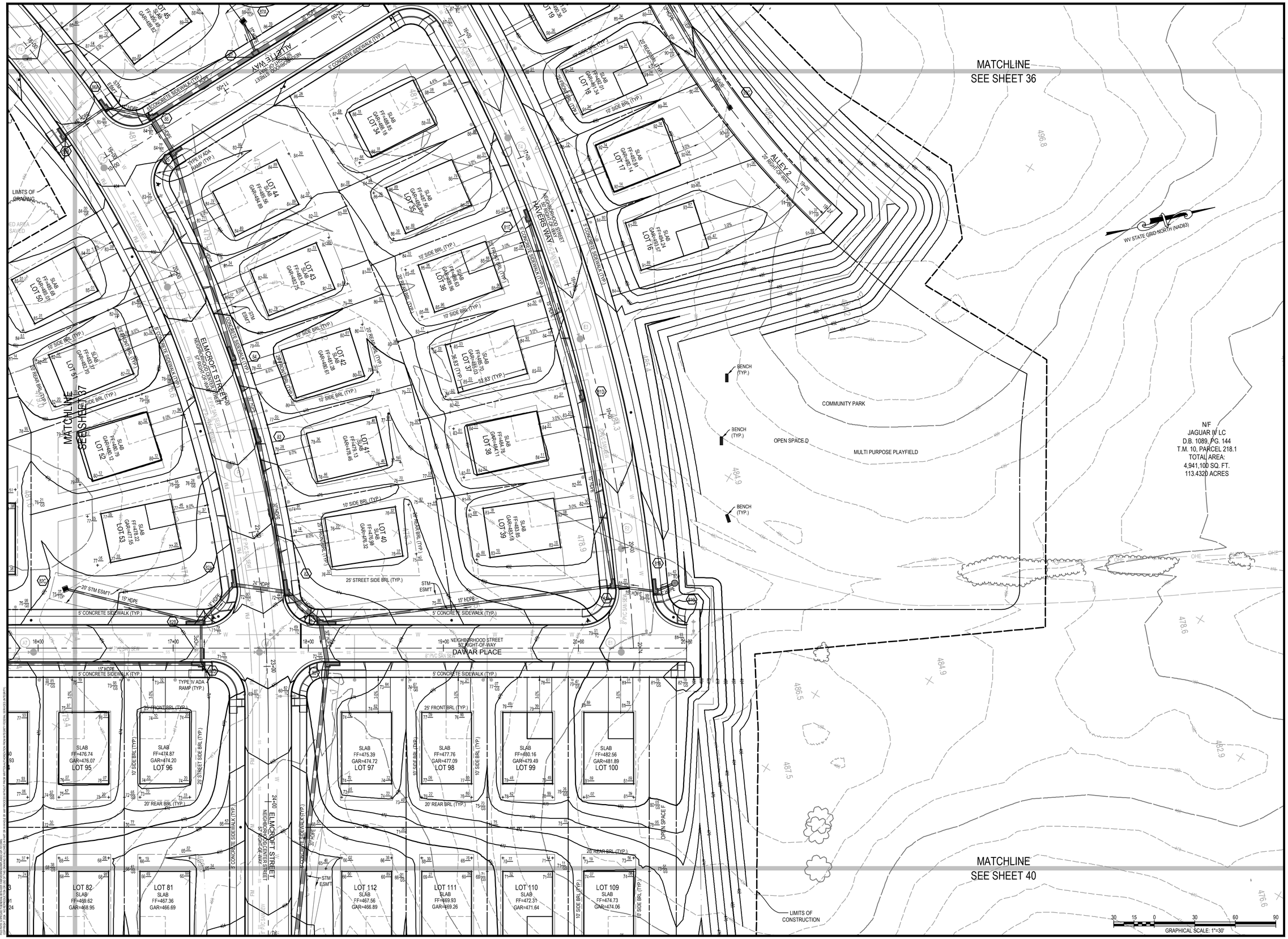
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-GP-101.DWG	
NCS:	
SHEET:	37 OF 119



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CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

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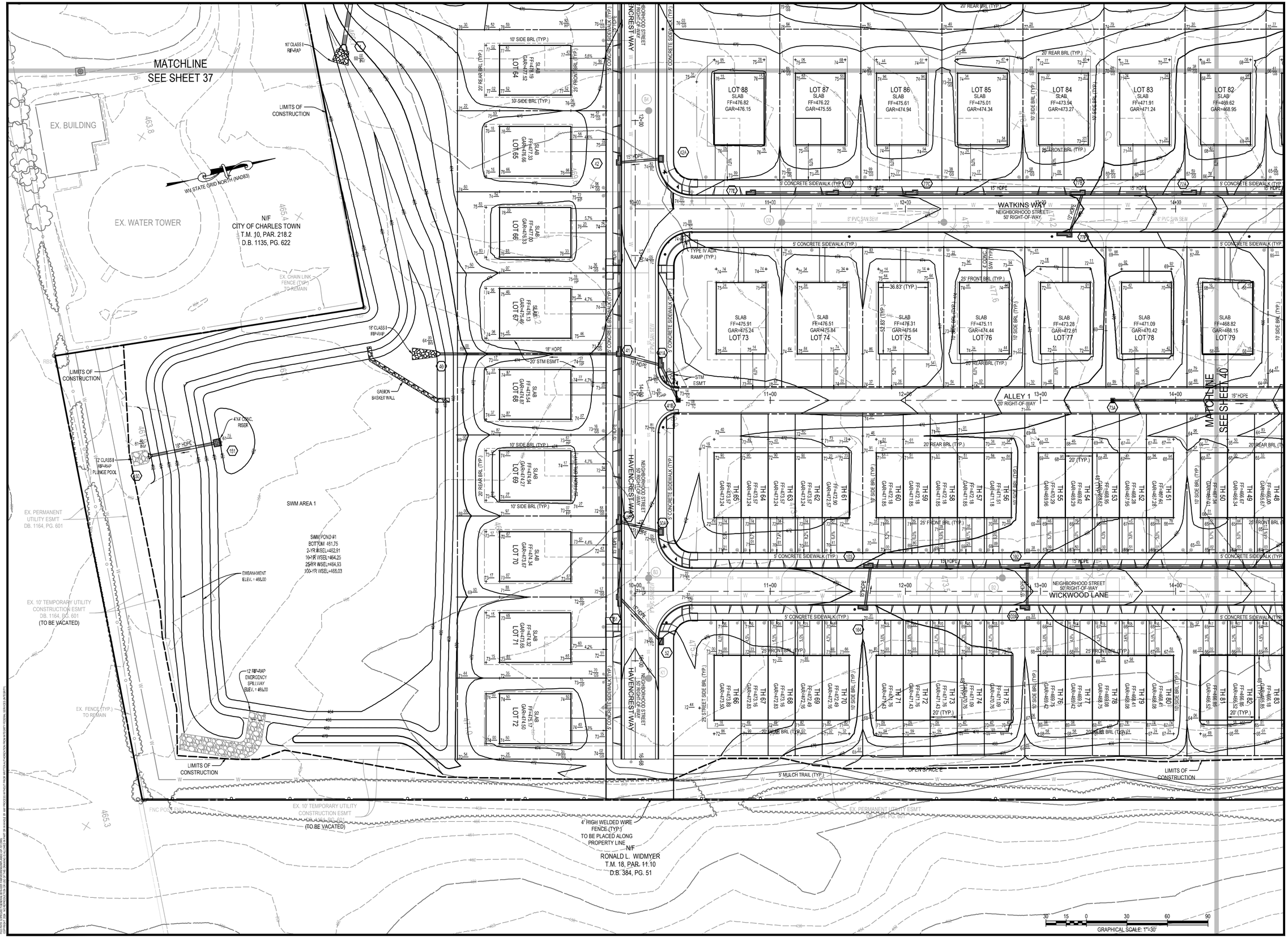
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-GP-101.DWG	
NCS:	
SHEET:	38 OF 119



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(FORMERLY FAIRVIEW)

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CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

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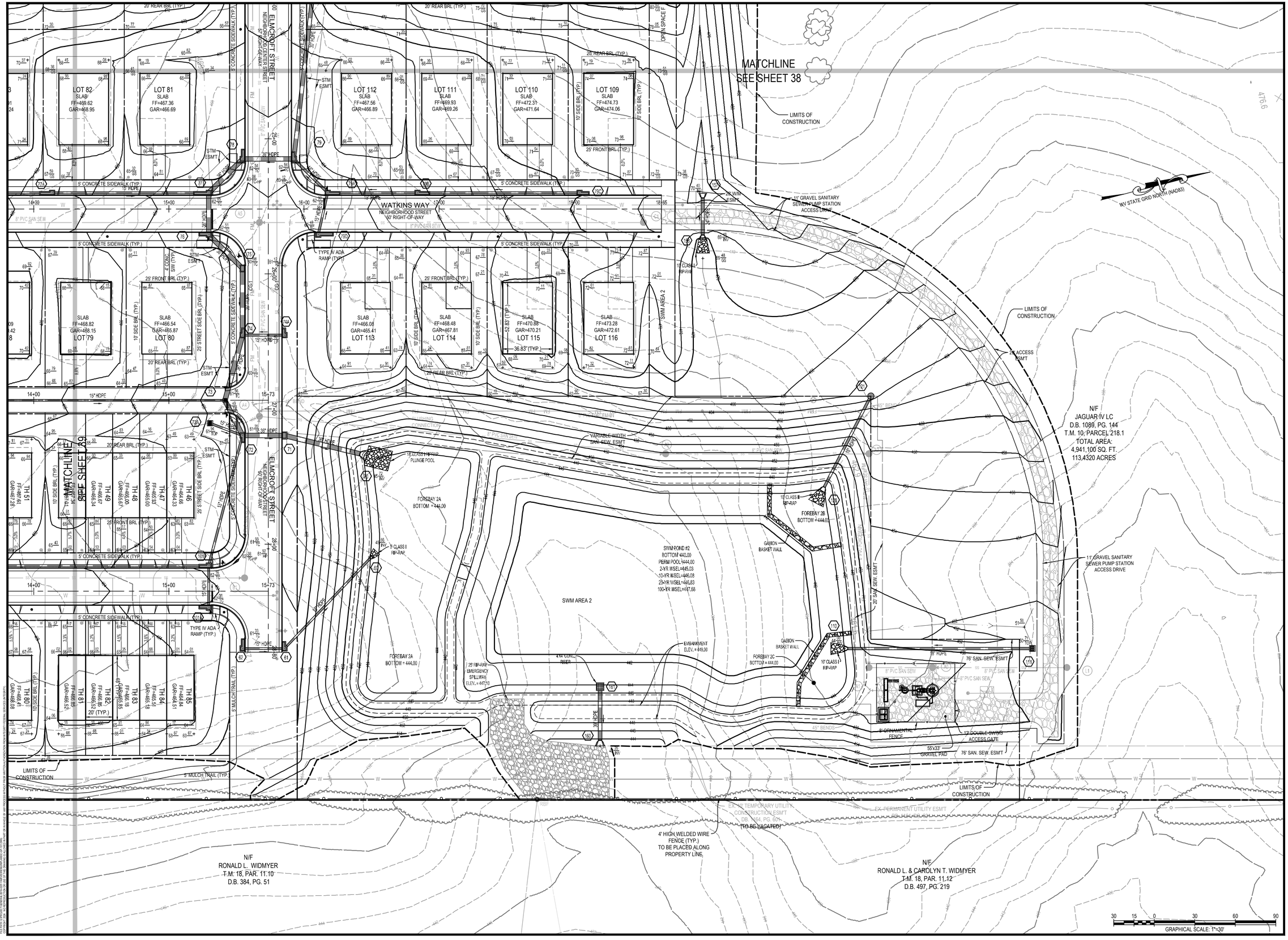
DRAWN: TME	CHECK: RPP
CADD: C-GP-101.DWG	
NCS:	
SHEET:	39 OF 119



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1-31-25

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CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

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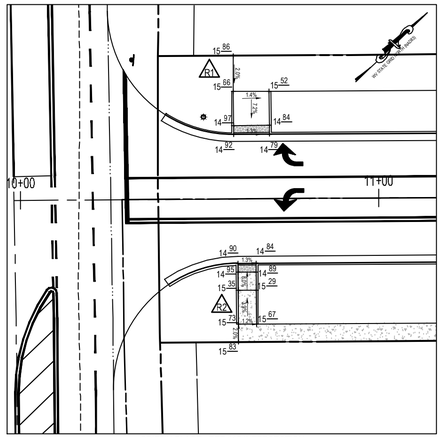
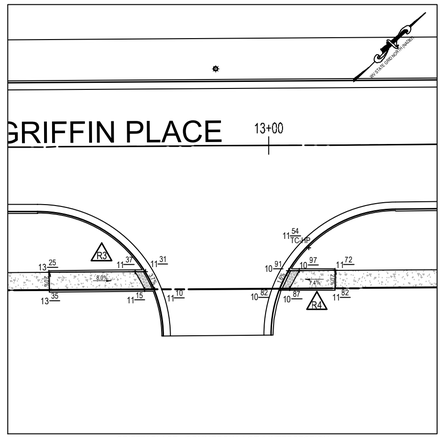
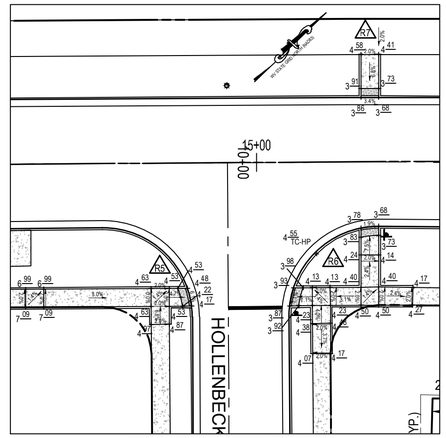
CADD: C-GP-101.DWG	
NCS:	
SHEET:	40 OF 119



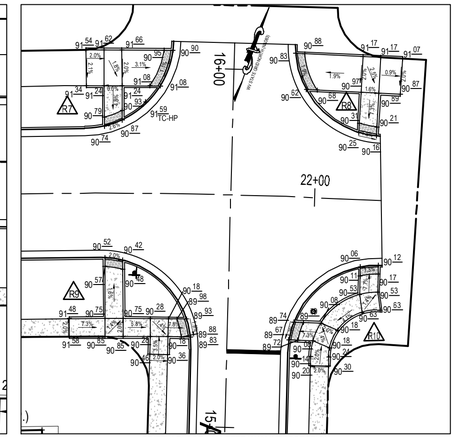
GRIFFIN PLACE - RTE 115 INTERSECTION



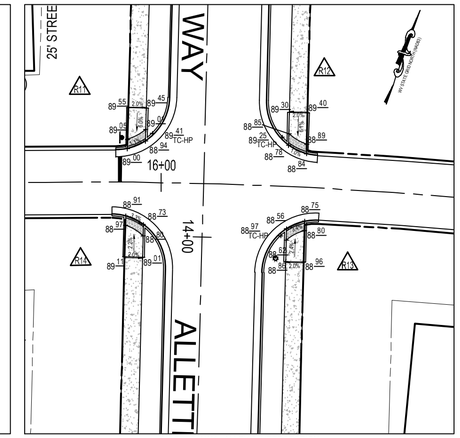
GRIFFIN PLACE - COMMERCIAL LOT 1 INTERSECTION



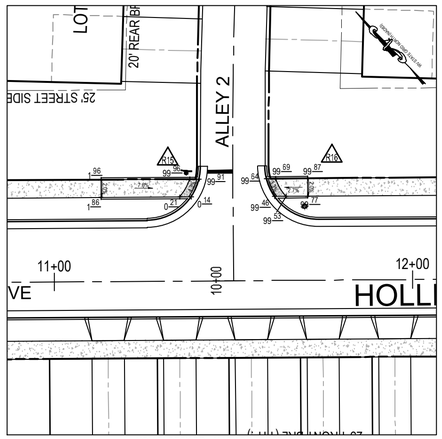
GRIFFIN PLACE - HOLLENBECK DR INTERSECTION



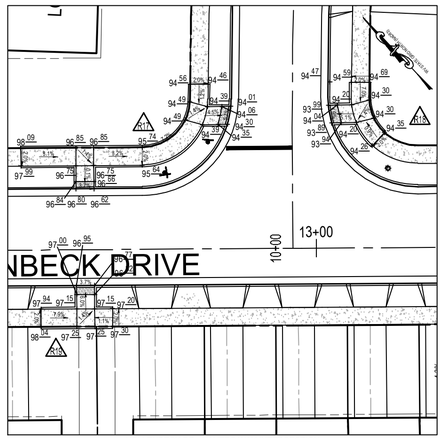
GRIFFIN PLACE - ALLETTE WAY INTERSECTION



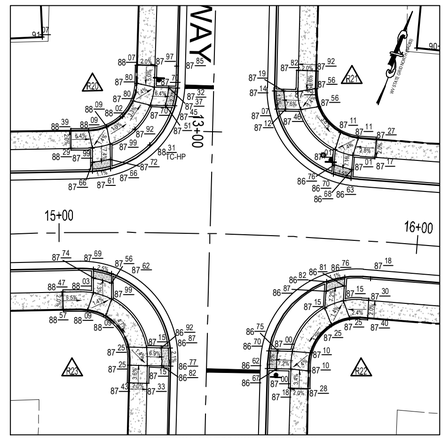
ALLETTE WAY - ALLEY 2 INTERSECTION



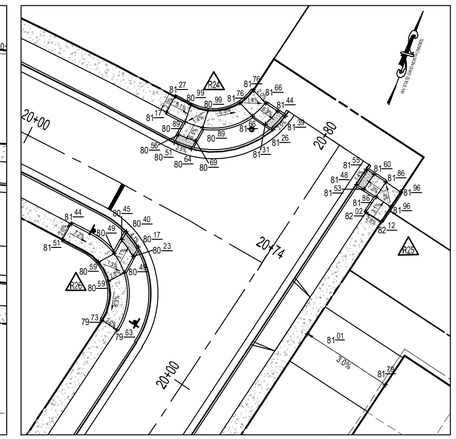
HOLLENBECK DR - ALLEY 2 INTERSECTION



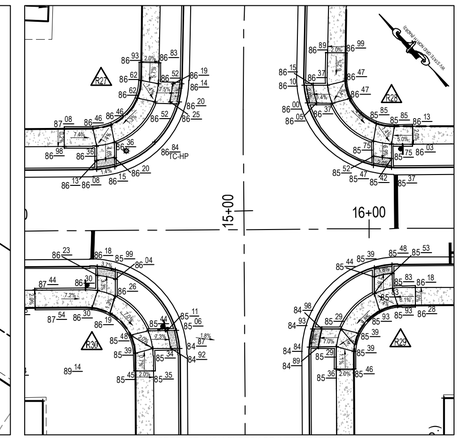
HOLLENBECK DR - HAVERS WAY INTERSECTION



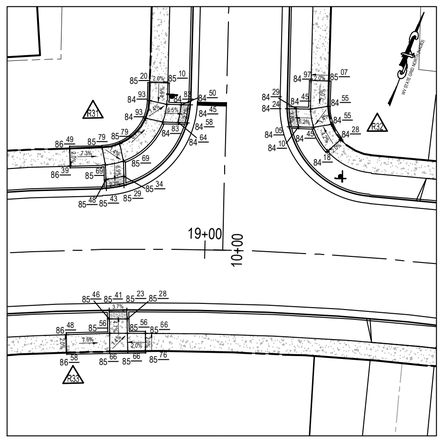
ALLETTE WAY - HAVERS WAY INTERSECTION



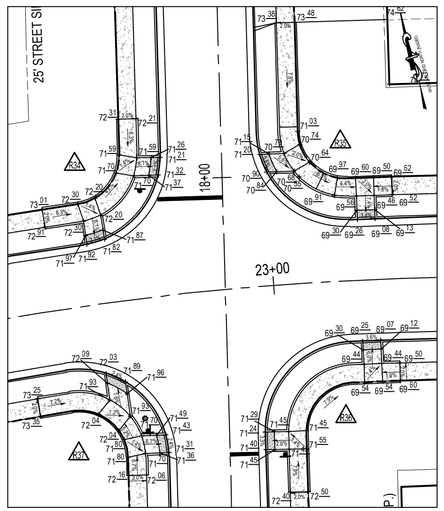
HAVERS WAY - DAVIAR PLACE INTERSECTION



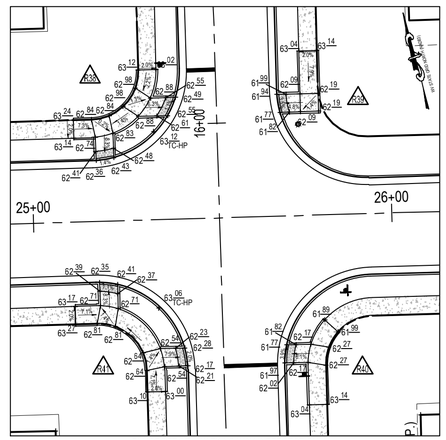
ELMCROFT ST - HOLLENBECK DR INTERSECTION



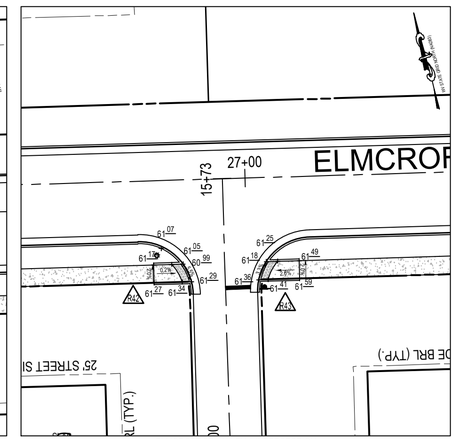
ELMCROFT ST - ALLETTE WAY INTERSECTION



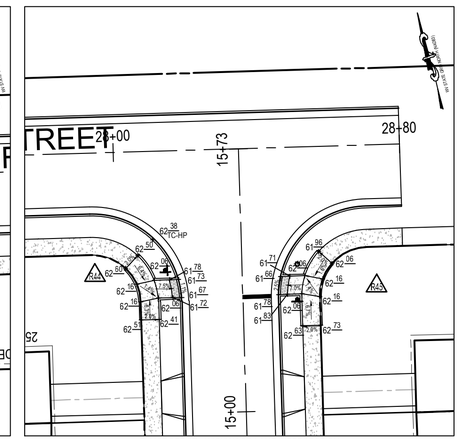
ELMCROFT ST - HAVERS WAY INTERSECTION



ELMCROFT ST - WATKINS WAY INTERSECTION



ELMCROFT ST - ALLEY 1 INTERSECTION



ELMCROFT ST - WICKWOOD LANE INTERSECTION

20 10 0 20 40 60
HORIZONTAL SCALE: 1"=20'

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ADA RAMP GRADING

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TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG.208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

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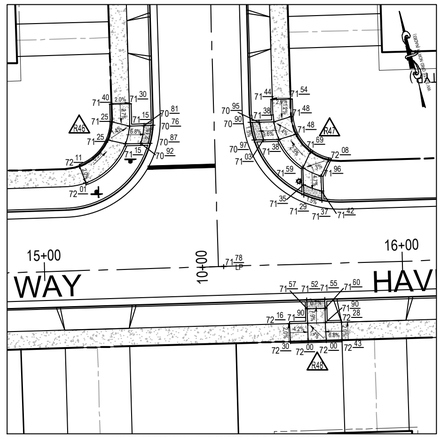
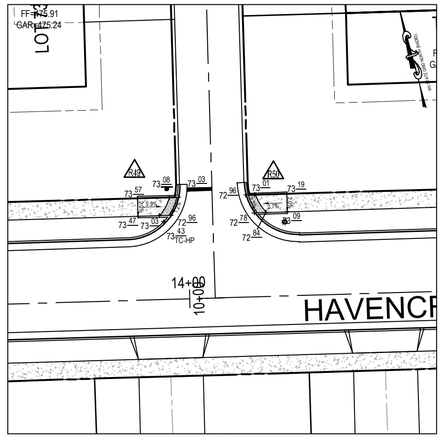
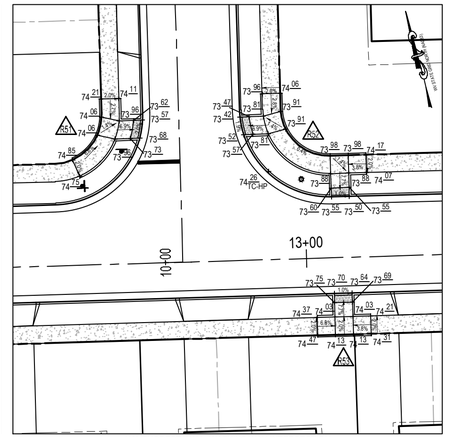
CADD:	C-CT-201.DWG
NCS:	
SHEET:	40A OF 119



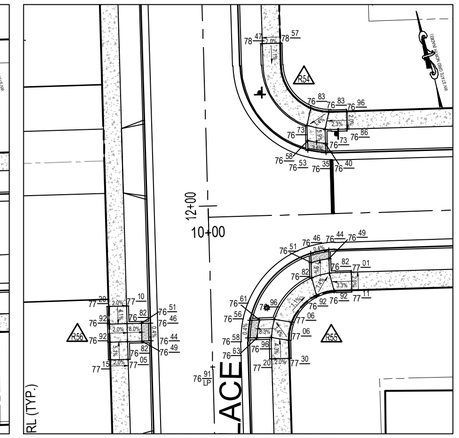
HAVENCREST WAY - WICKWOOD LANE INTERSECTION



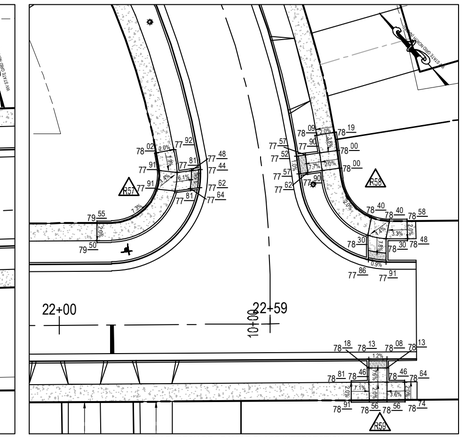
HAVENCREST WAY - ALLEY 1 INTERSECTION



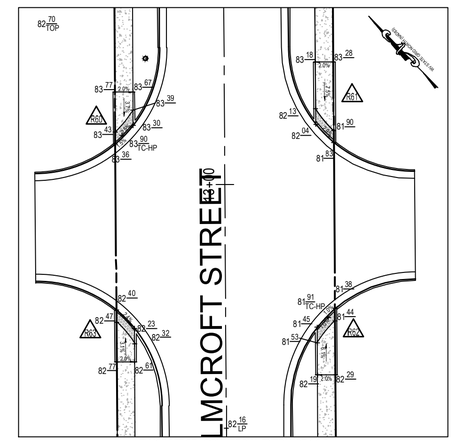
HAVENCREST WAY - WATKINS WAY INTERSECTION



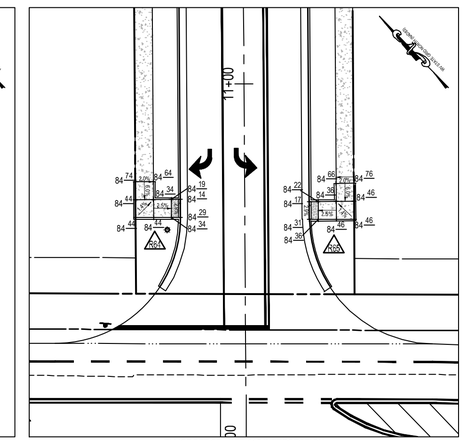
HAVENCREST WAY - DAVIAR PLACE INTERSECTION



HOLLENBECK DR - DAVIAR PLACE INTERSECTION



ELMCROFT ST - COMMERCIAL ENTRANCE 1 & 2 INTERSECTION



ELMCROFT ST - RTE 115 INTERSECTION

20 10 0 20 40 60

HORIZONTAL SCALE: 1"=20'

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AVALON - SECTION 1

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CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

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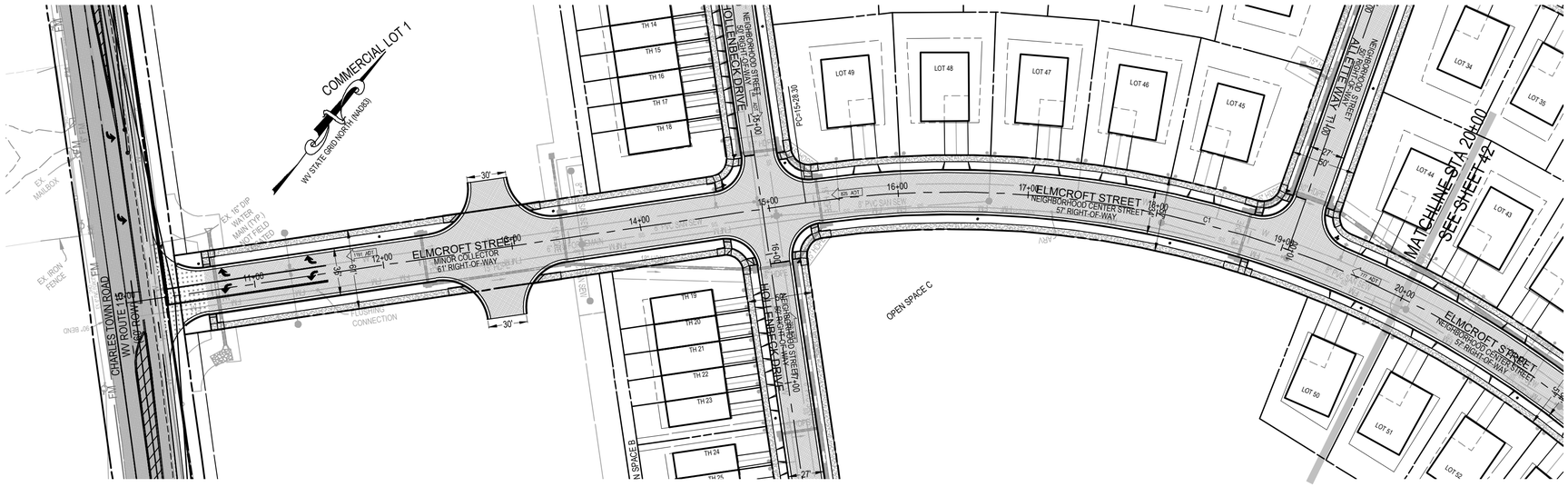
SHEET:	40B OF 119

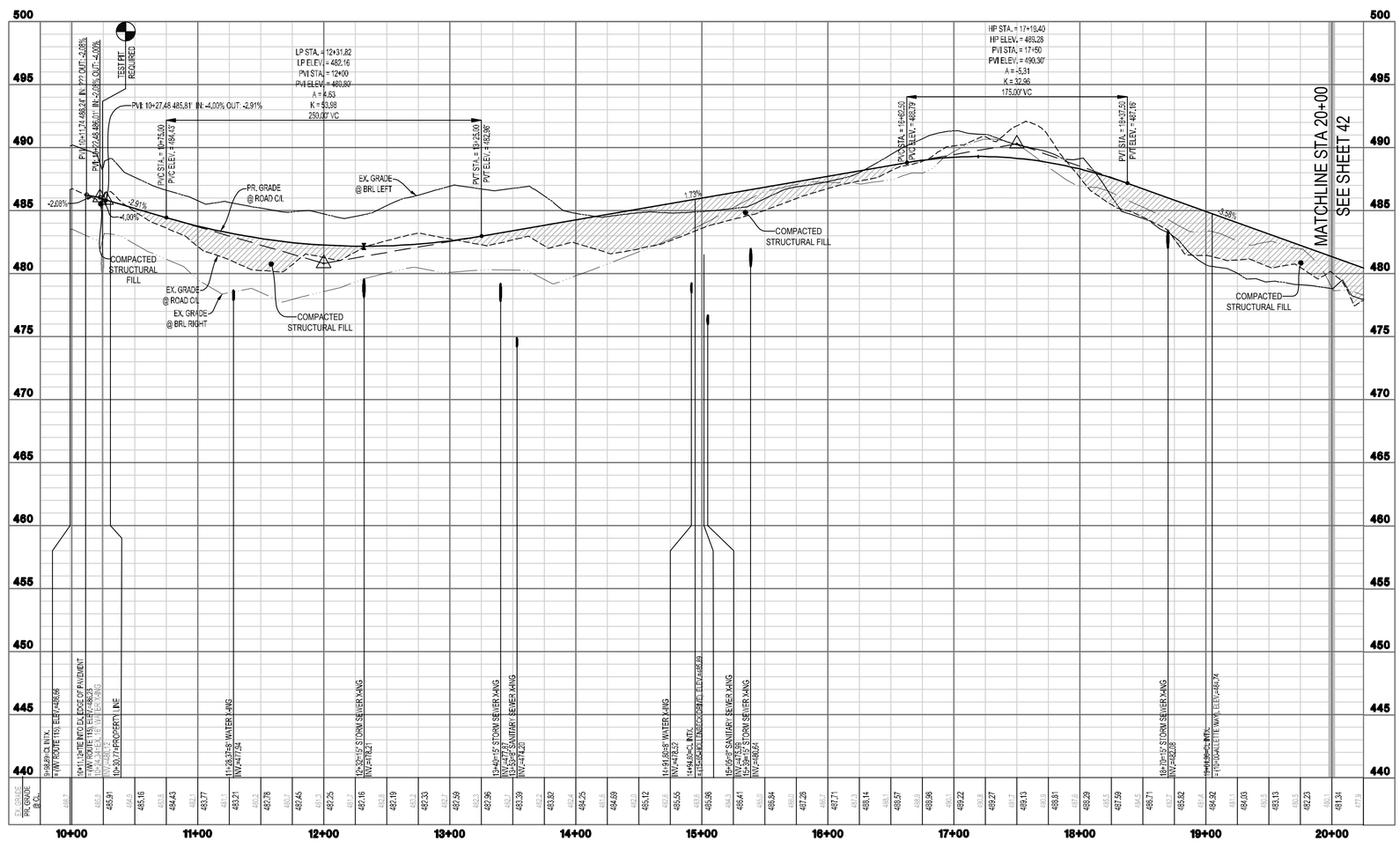


ELMCROFT STREET
MINOR COLLECTOR
STA 10+00.00 TO 14+94.80
(61 FT RIGHT-OF-WAY)
DESIGN SPEED: 35 MPH
POSTED SPEED: 25 MPH

ELMCROFT STREET
NEIGHBORHOOD CENTER STREET
STA 14+94.80 TO 20+00.00
(57 FT RIGHT-OF-WAY)
DESIGN SPEED: 30 MPH
POSTED SPEED: 25 MPH

CURVE TABLE

CURVE	ARC LENGTH	RADIUS	DELTA	TANGENT	CHORD	CHORD BEARING
C1	807.39'	775.00'	59°41'24"	444.66'	771.37'	S73°27'54"W



GRAPHICAL SCALE: 1"=50'
VERTICAL SCALE: 1"=5'

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ROAD PLAN & PROFILE - ELMCROFT STREET

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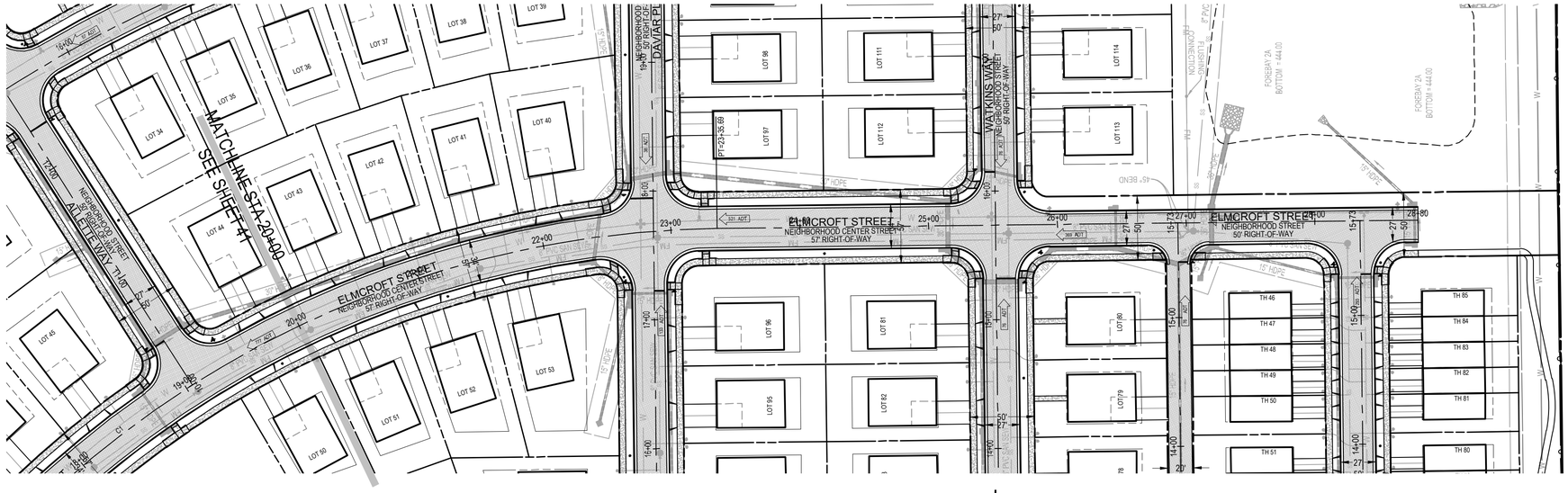
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

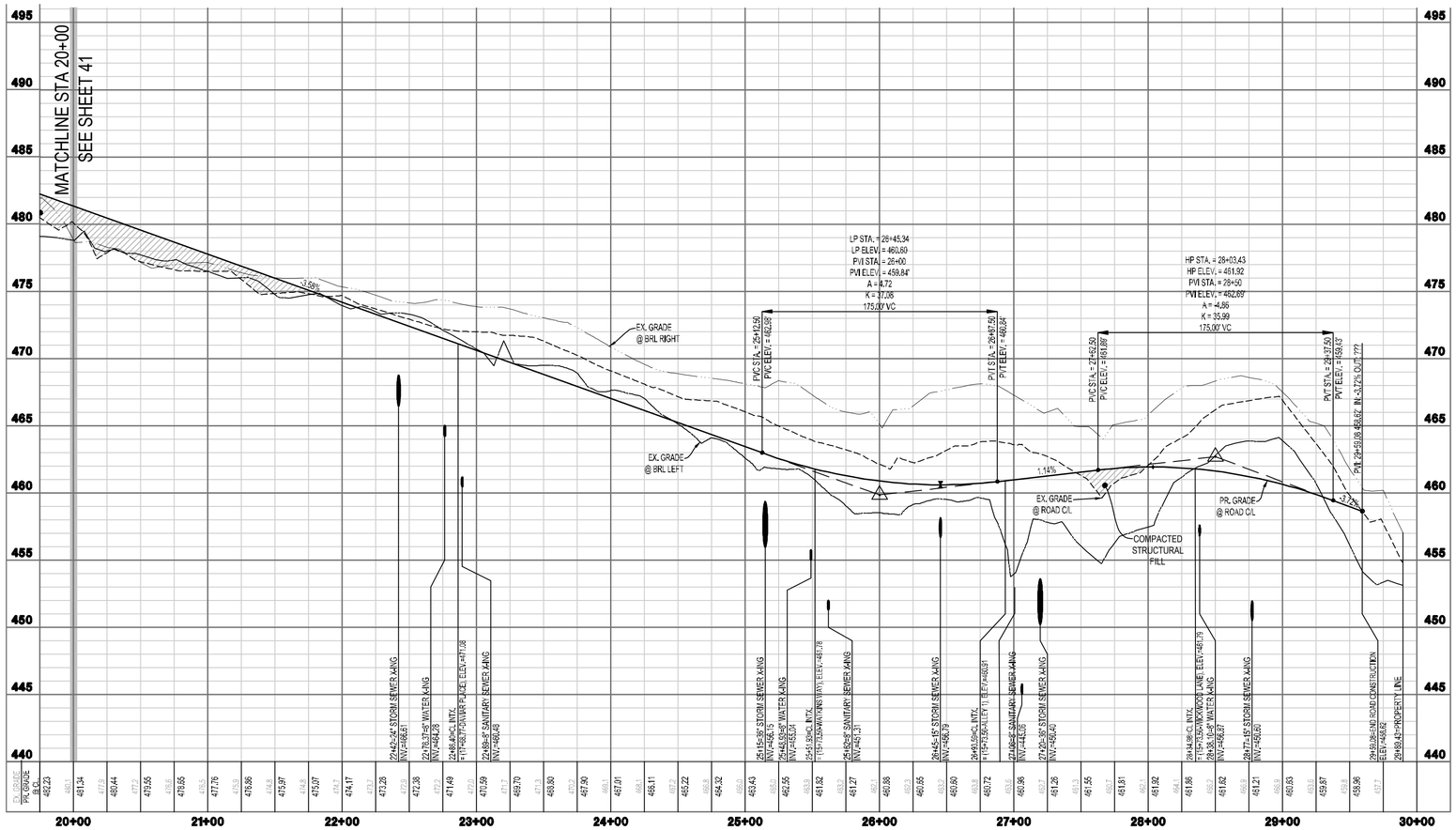
SCALE:	HORIZ.: 1" = 50' VERT.: 1" = 5'
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD:	C-CT-201.DWG
NCS:	
SHEET:	41 OF 119



CURVE TABLE						
CURVE	ARC LENGTH	RADIUS	DELTA	TANGENT	CHORD	CHORD BEARING
C1	807.39'	775.00'	59°41'24"	444.66'	771.37'	S73°27'54"W

ELMCROFT STREET
NEIGHBORHOOD CENTER STREET
STA 20+00.00 TO 25+51.93
(57 FT RIGHT-OF-WAY)
DESIGN SPEED: 30 MPH
POSTED SPEED: 25 MPH

ELMCROFT STREET
NEIGHBORHOOD STREET
STA 25+51.93 TO 29+59.08
(50 FT RIGHT-OF-WAY)
DESIGN SPEED: 25 MPH
POSTED SPEED: 20 MPH



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SEAL:

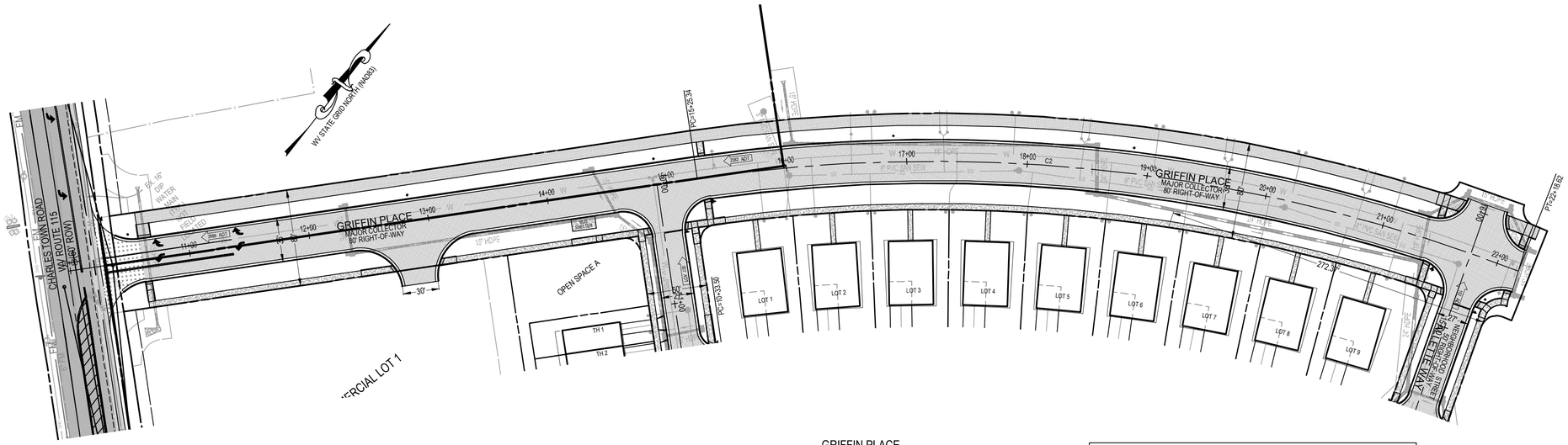
REVISIONS
1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

ROAD PLAN & PROFILE - ELMCROFT STREET

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

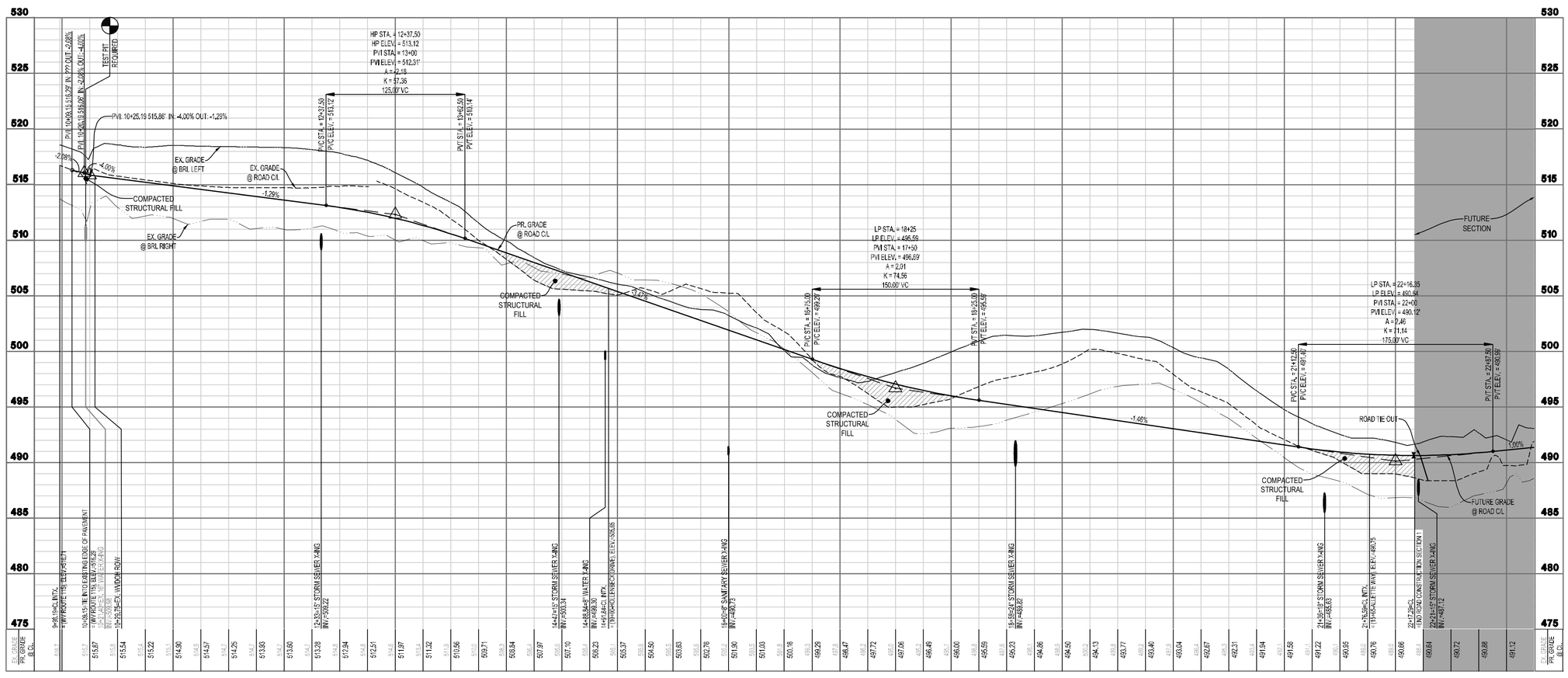
SCALE:	HORIZ.: 1" = 50' VERT.: 1" = 5'
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD:	C-CT-201.DWG
NCS:	
SHEET:	42 OF 119



GRIFFIN PLACE
MINOR COLLECTOR
STA 10+00.00 TO 23+00.00
(61 FT RIGHT-OF-WAY)
DESIGN SPEED: 35 MPH
POSTED SPEED: 25 MPH

CURVE TABLE

CURVE	ARC LENGTH	RADIUS	DELTA	TANGENT	CHORD	CHORD BEARING
C2	693.28'	1340.00'	29°38'35"	354.58'	685.57'	S58°26'29"W



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SEAL:

JASON P. GERHART
REGISTERED
No. 19127
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
1-31-25

REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

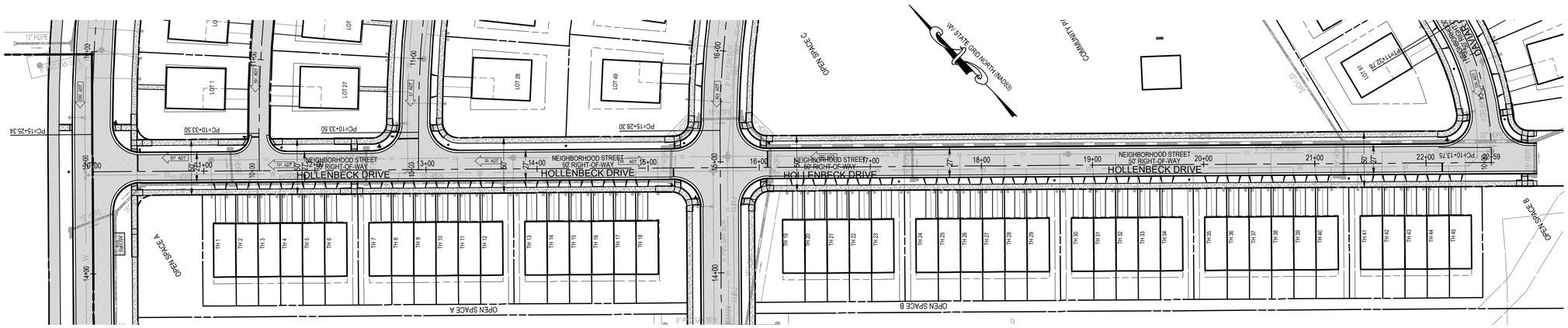
ROAD PLAN & PROFILE - GRIFFIN PLACE

AVALON - SECTION 1

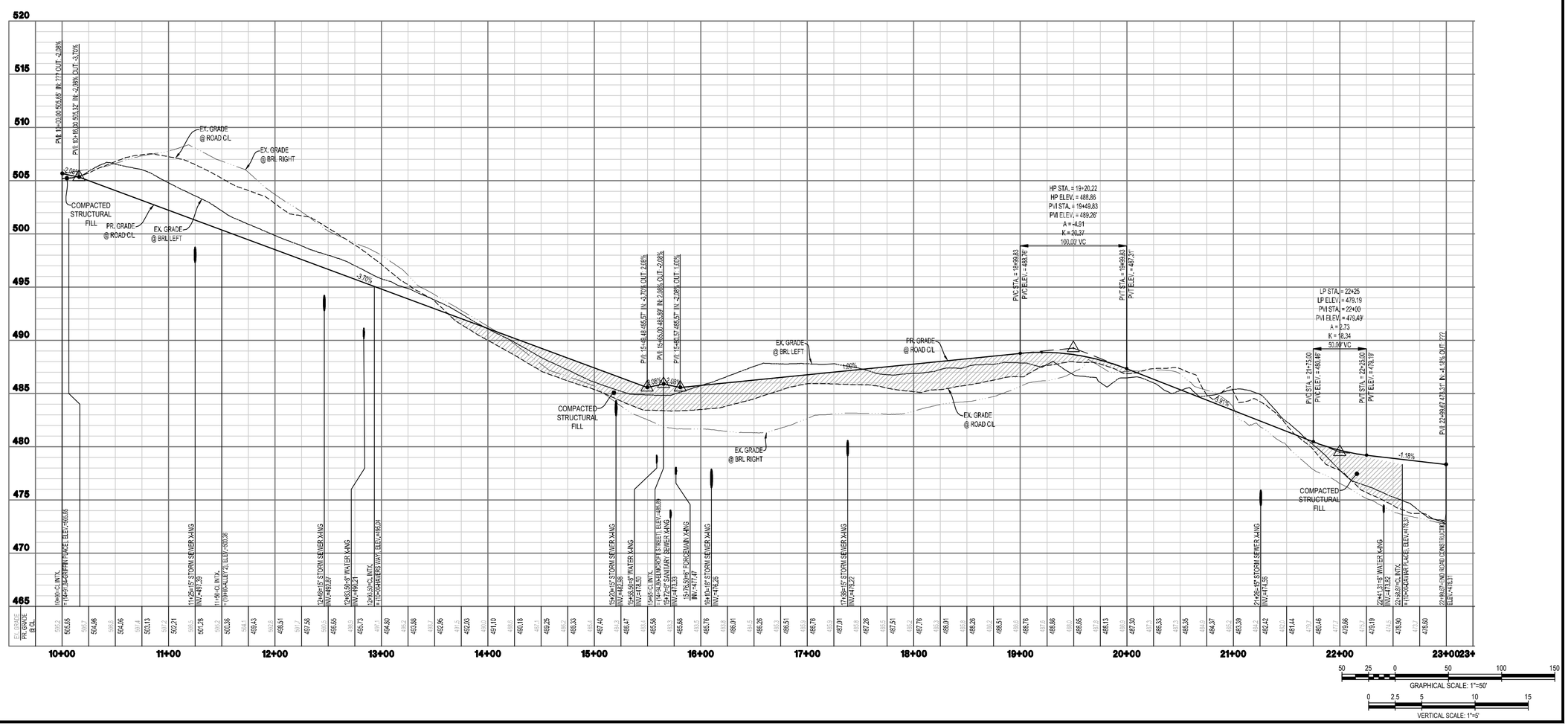
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: 1" = 50' VERT.: 1" = 5'
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD:	C-CT-201.DWG
NCS:	
SHEET:	43 OF 119



HOLLENBECK DRIVE
NEIGHBORHOOD STREET
STA 10+00.00 TO 22+58.87
(50 FT RIGHT-OF-WAY)
DESIGN SPEED: 25 MPH
POSTED SPEED: 20 MPH



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SEAL: JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER 4-24-24

REVISIONS
1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST Y COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

ROAD PLAN & PROFILE - HOLLENBECK DRIVE

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

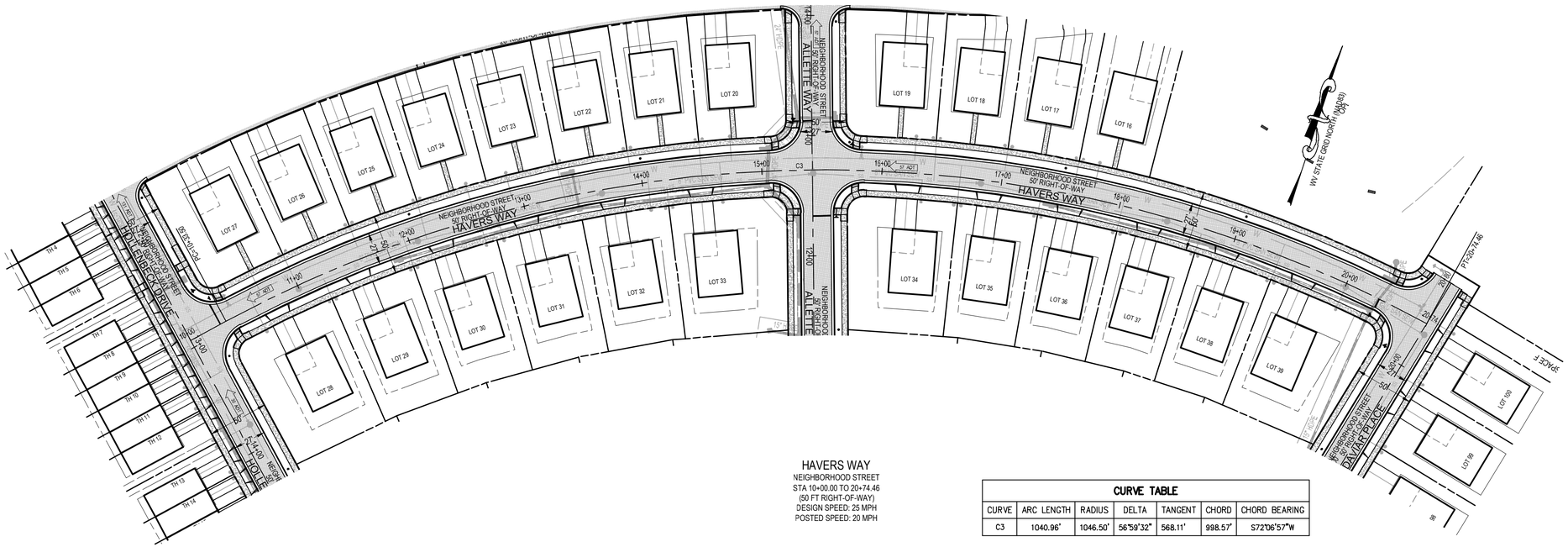
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

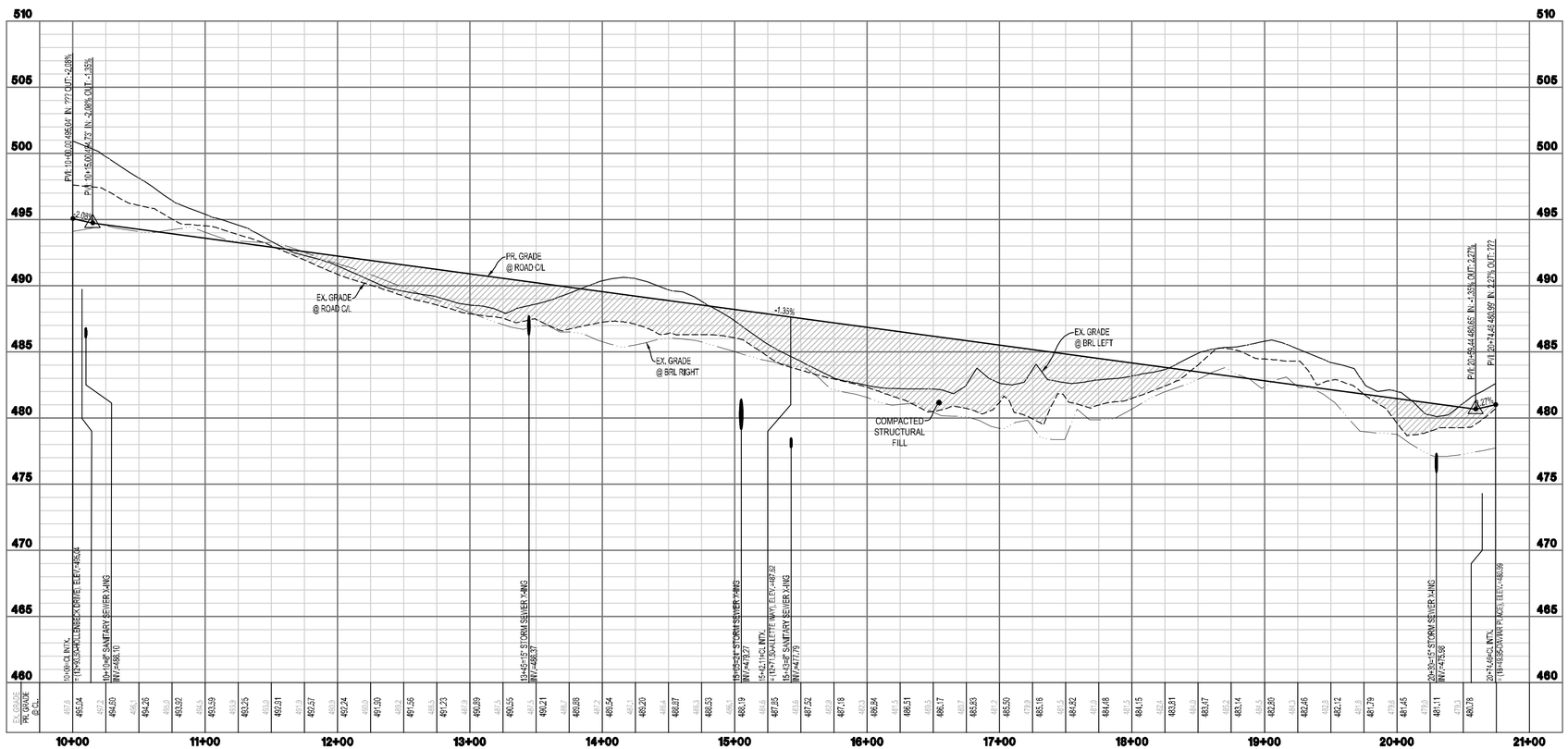
SCALE:	HORIZ.: 1" = 50' VERT.: 1" = 5'
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD:	C-CT-201.DWG
NCS:	
SHEET:	44 OF 119



HAVERS WAY
NEIGHBORHOOD STREET
STA 10+00.00 TO 20+74.46
(50 FT RIGHT-OF-WAY)
DESIGN SPEED: 25 MPH
POSTED SPEED: 20 MPH

CURVE TABLE

CURVE	ARC LENGTH	RADIUS	DELTA	TANGENT	CHORD	CHORD BEARING
C3	1040.96'	1046.50'	56°59'32"	568.11'	998.57'	S72°06'57"W



GRAPHICAL SCALE: 1"=50'

VERTICAL SCALE: 1"=5'

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JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
1-24-25

SEAL:

REVISIONS

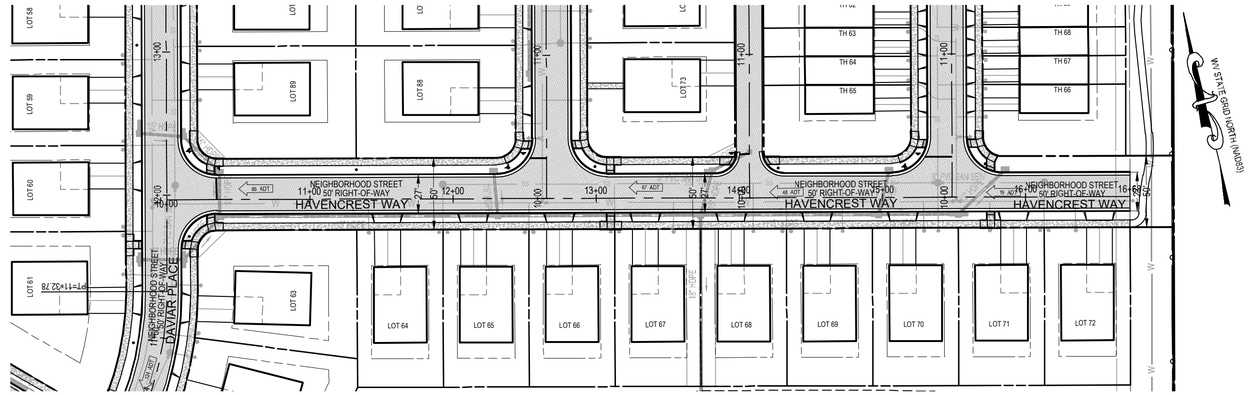
1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST'Y COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

ROAD PLAN & PROFILE - HAVERS WAY

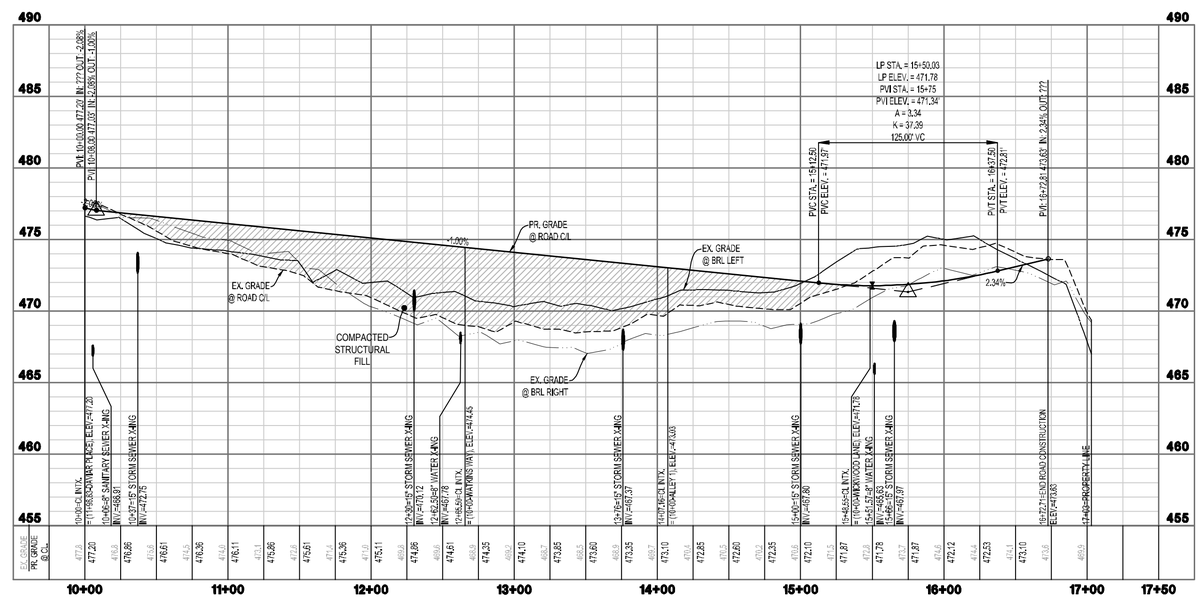
AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: 1" = 50' VERT.: 1" = 5'
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD:	C-CT-201.DWG
NCS:	
SHEET:	45 OF 119



HAVENCREST WAY
NEIGHBORHOOD STREET
STA 10+00.00 TO 16+72.81
(50 FT RIGHT-OF-WAY)
DESIGN SPEED: 25 MPH
POSTED SPEED: 20 MPH



GRAPHICAL SCALE: 1"=50'

VERTICAL SCALE: 1"=5'

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SEAL:

JASON P. GERHART
REGISTERED
No. 19127
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
10-09-25
6-24-25

REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

ROAD PLAN & PROFILE - HAVENCREST WAY

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

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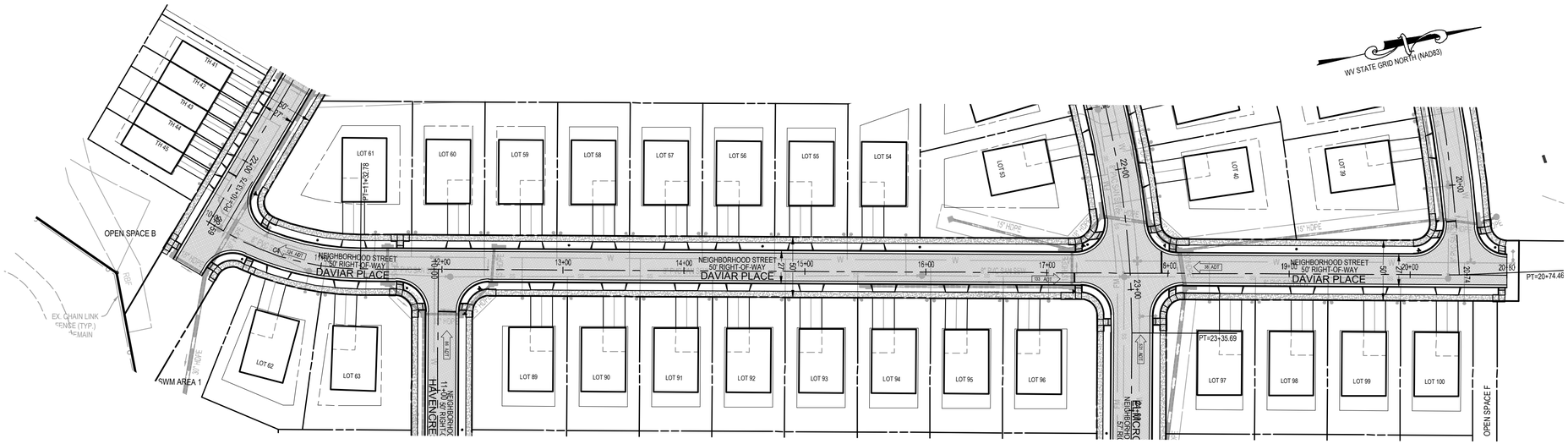
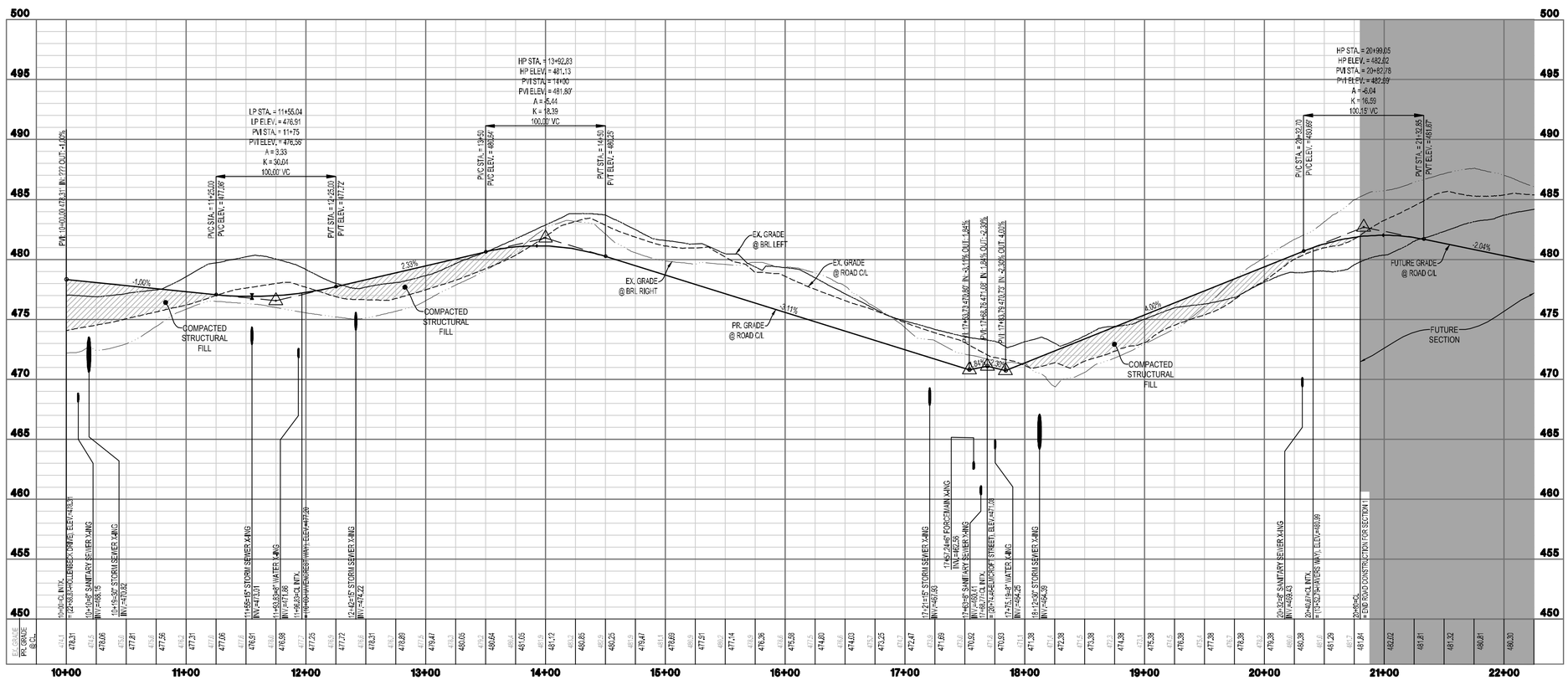
DATE: APRIL 2024	
JOB: 5016-0201	
DRAWN: TME	CHECK: RPP
CADD: C-CT-201.DWG	
NCS:	
SHEET: 46 OF 119	



CURVE TABLE						
CURVE	ARC LENGTH	RADIUS	DELTA	TANGENT	CHORD	CHORD BEARING
C4	119.03'	225.00'	30°18'36"	60.94'	117.64'	N28°27'54"E

DAVIAR PLACE
NEIGHBORHOOD STREET
STA 10+00.00 TO 21+50.00
(50 FT RIGHT-OF-WAY)
DESIGN SPEED: 25 MPH
POSTED SPEED: 20 MPH



GRAPHICAL SCALE: 1"=50'

VERTICAL SCALE: 1"=5'

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JASON P. GERHART
REGISTERED
No. 19127
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
1-24-25

SEAL:

REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST'V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

ROAD PLAN & PROFILE - DAVIAR PLACE

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

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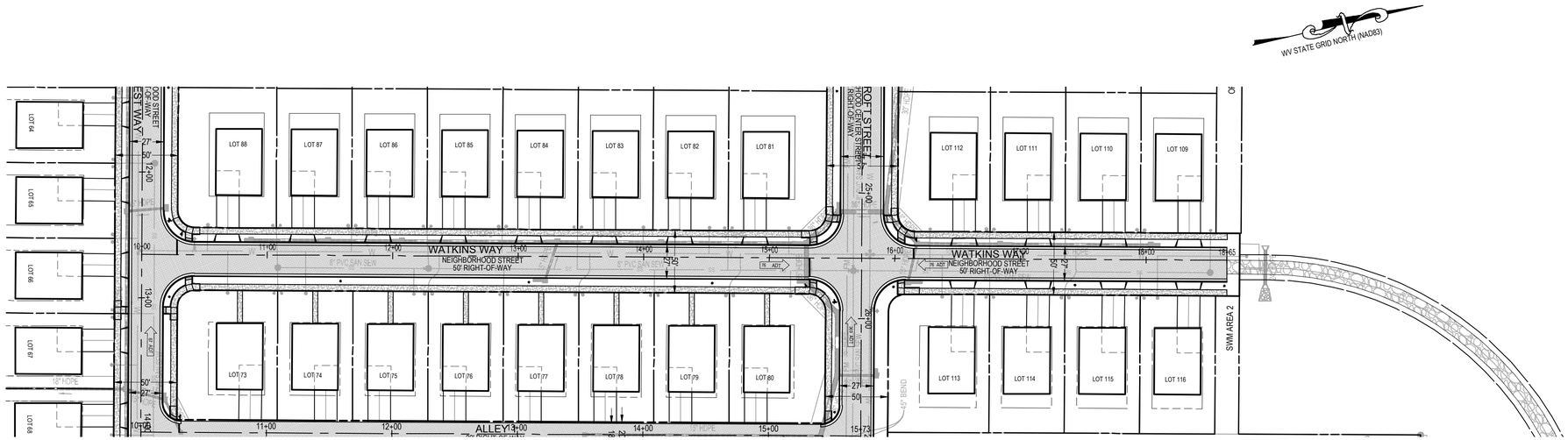
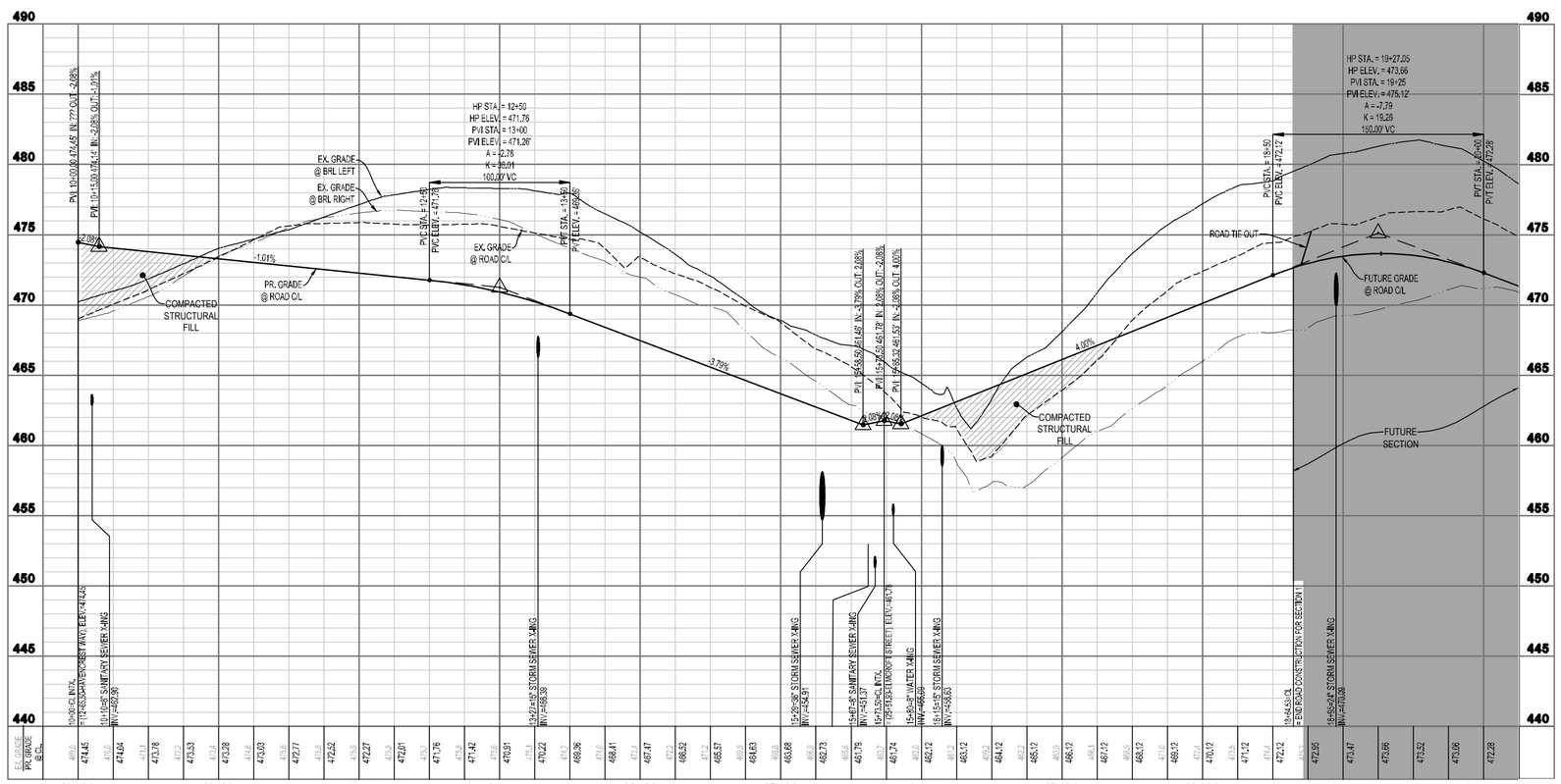
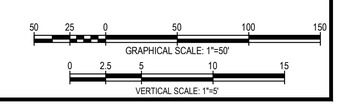
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD:	C-CT-201.DWG
NCS:	
SHEET:	47 OF 119



WATKINS WAY
NEIGHBORHOOD STREET
STA 10+00.00 TO 22+00.00
(50 FT RIGHT-OF-WAY)
DESIGN SPEED: 25 MPH
POSTED SPEED: 20 MPH





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SEAL:

REVISIONS
1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
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ROAD PLAN & PROFILE - WATKINS WAY

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

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DRAWN: TME	CHECK: RPP
CADD:	C-CT-201.DWG
NCS:	
SHEET:	48 OF 119

WICKWOOD LANE
NEIGHBORHOOD STREET
STA 10+00.00 TO 15+73.50
(50 FT RIGHT-OF-WAY)
DESIGN SPEED: 25 MPH
POSTED SPEED: 20 MPH

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SEAL:

REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
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ROAD PLAN & PROFILE - WICKWOOD LANE

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

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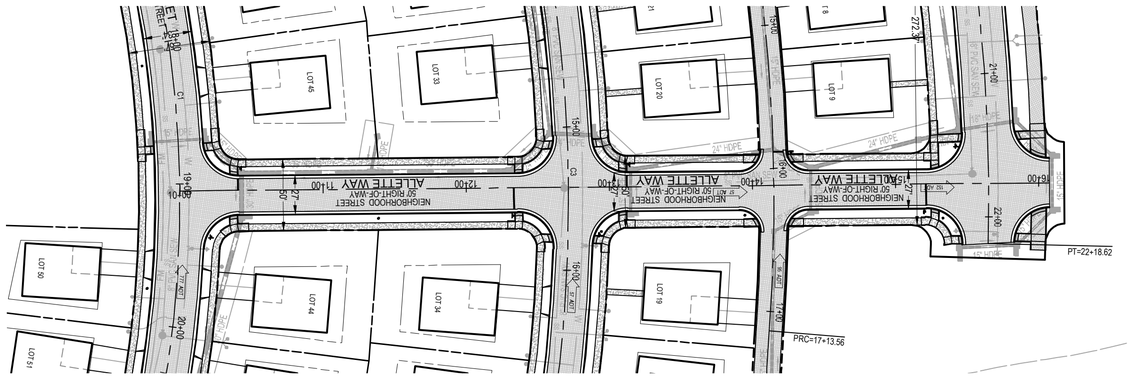
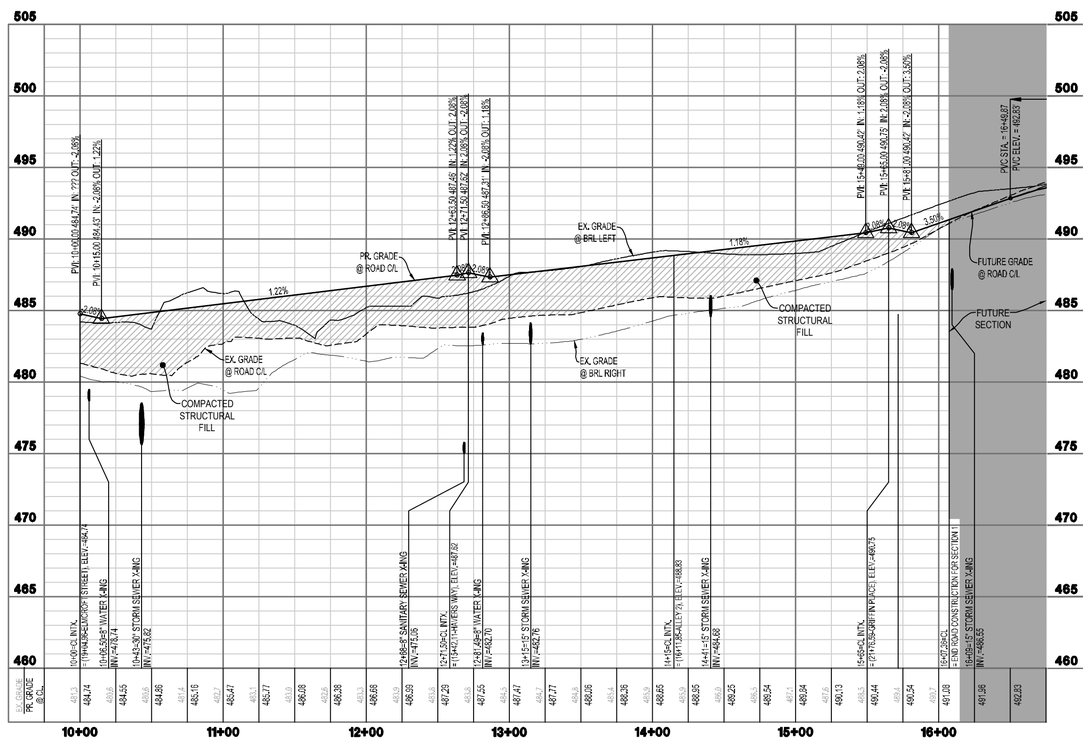
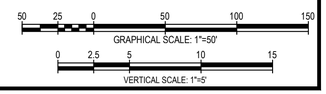
NCS:	
SHEET:	49 OF 119



ALLETTE WAY
NEIGHBORHOOD STREET
STA 10+00.00 TO 15+65.00
(50 FT RIGHT-OF-WAY)
DESIGN SPEED: 25 MPH
POSTED SPEED: 20 MPH

ALLETTE WAY
NEIGHBORHOOD CENTER STREET
STA 15+65.00 TO 18+55.00
(57 FT RIGHT-OF-WAY)
DESIGN SPEED: 30 MPH
POSTED SPEED: 25 MPH





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JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
1-24-25

SEAL:

REVISIONS

1. 09/05/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

ROAD PLAN & PROFILE - ALLETTE WAY

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

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JOB:	5016-0201
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CADD:	C-CT-201.DWG
NCS:	
SHEET:	50 OF 119

FILE PATH: C:\PROJECT\2016\5016-0201 FAIRVIEW\DWG\FAIRVIEW C-CT-201.DWG
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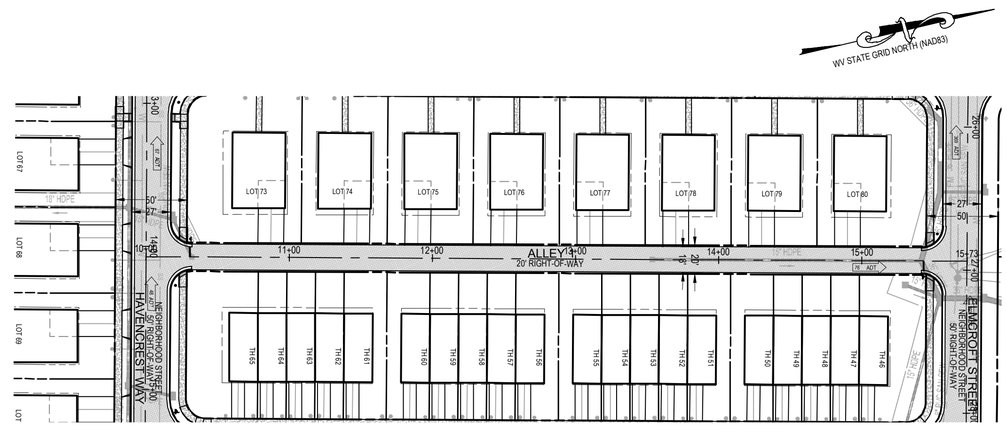
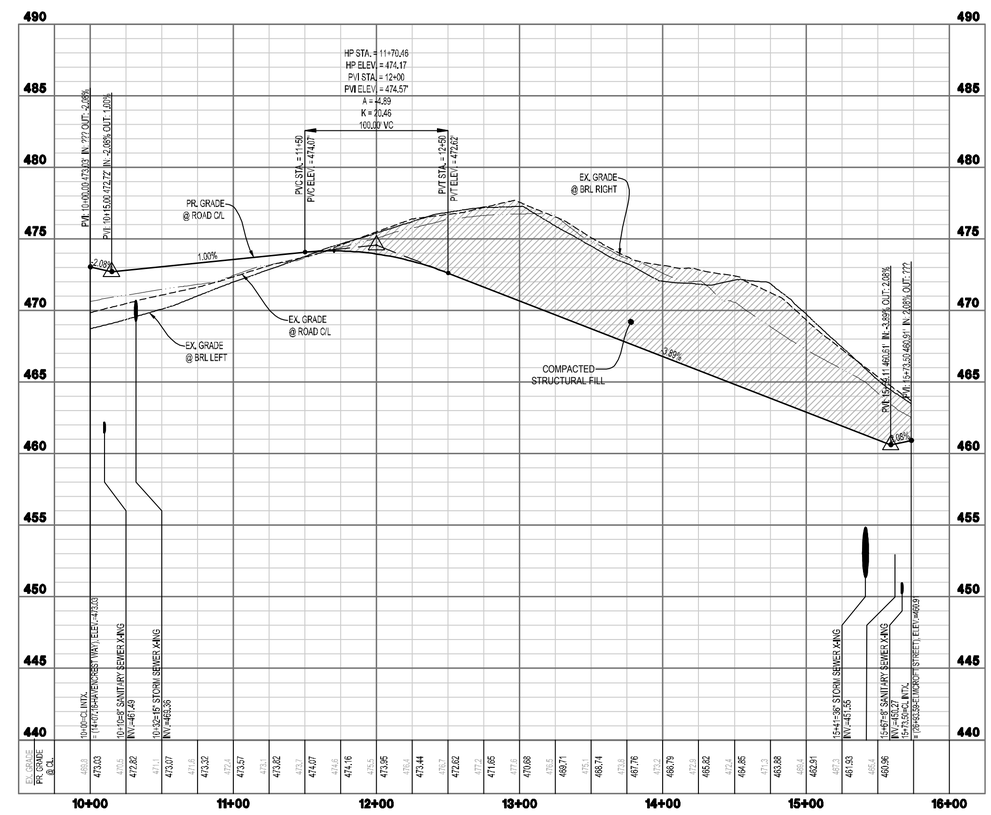
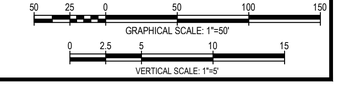


ALLEY 1
STA 10+00.00 TO 15+73.50
(20 FT RIGHT-OF-WAY)





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SEAL:

REVISIONS

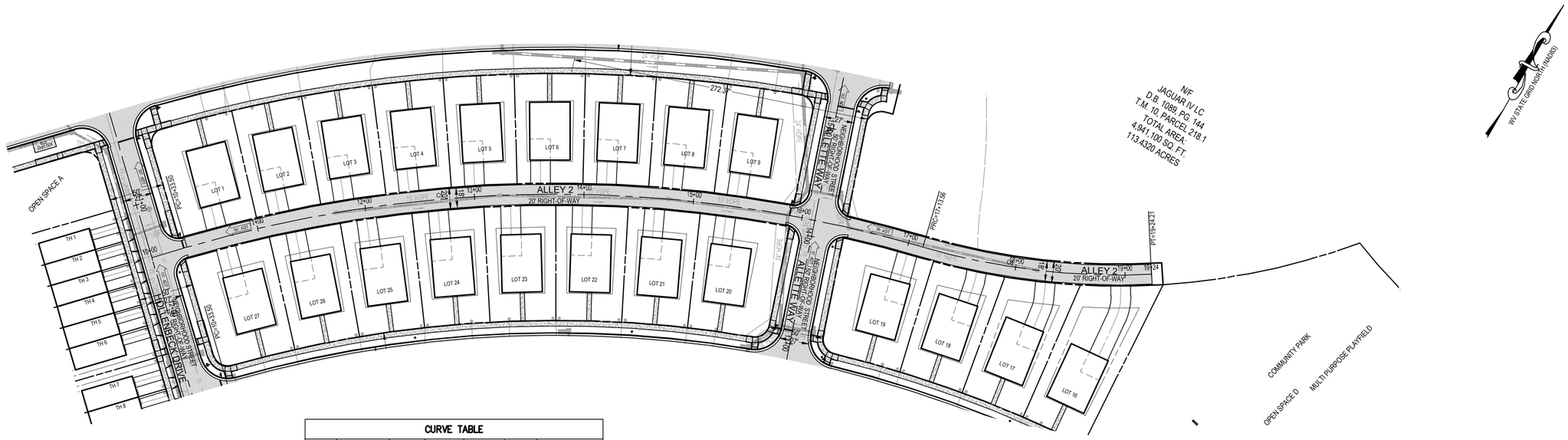
1. 08/26/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST'V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

ROAD PLAN & PROFILE - ALLEY 1

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

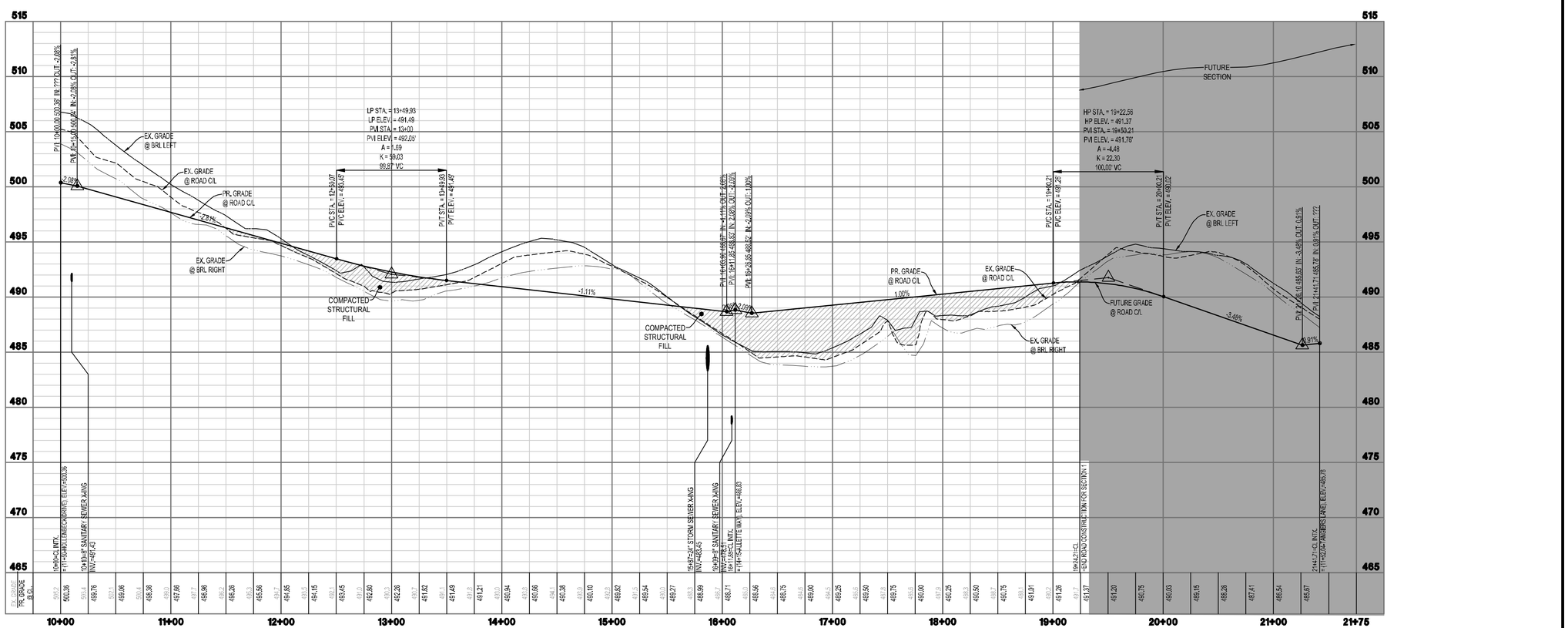
C.T. FILE #SLD2024-03

SCALE:	HORIZ.: 1" = 50' VERT.: 1" = 5'
DATE: APRIL 2024	
JOB: 5016-0201	
DRAWN: TME	CHECK: RPP
CADD: C-CT-201.DWG	
NCS:	
SHEET: 51 OF 119	



CURVE TABLE						
CURVE	ARC LENGTH	RADIUS	DELTA	TANGENT	CHORD	CHORD BEARING
C5	680.06'	1190.00'	32°44'36"	349.60'	670.84'	S59°59'29"W
C6	210.64'	630.00'	19°09'26"	106.31'	209.66'	N66°47'04"E

ALLEY 2
STA 10+00.00 TO 21+41.71
(20 FT RIGHT-OF-WAY)



GRAPHICAL SCALE: 1"=50'

VERTICAL SCALE: 1"=5'

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SEAL:

REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST'Y COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

ROAD PLAN & PROFILE - ALLEY 2

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

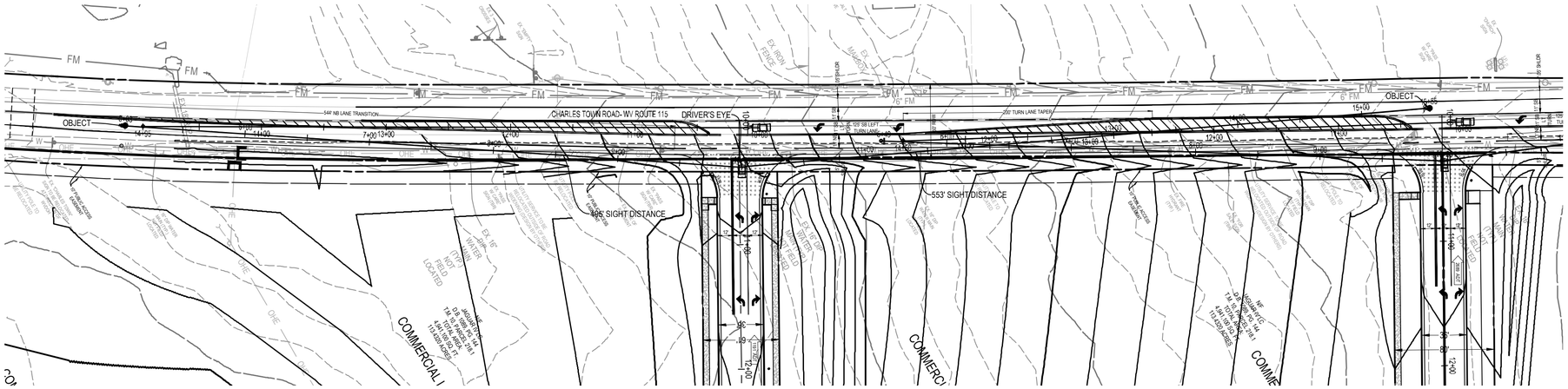
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

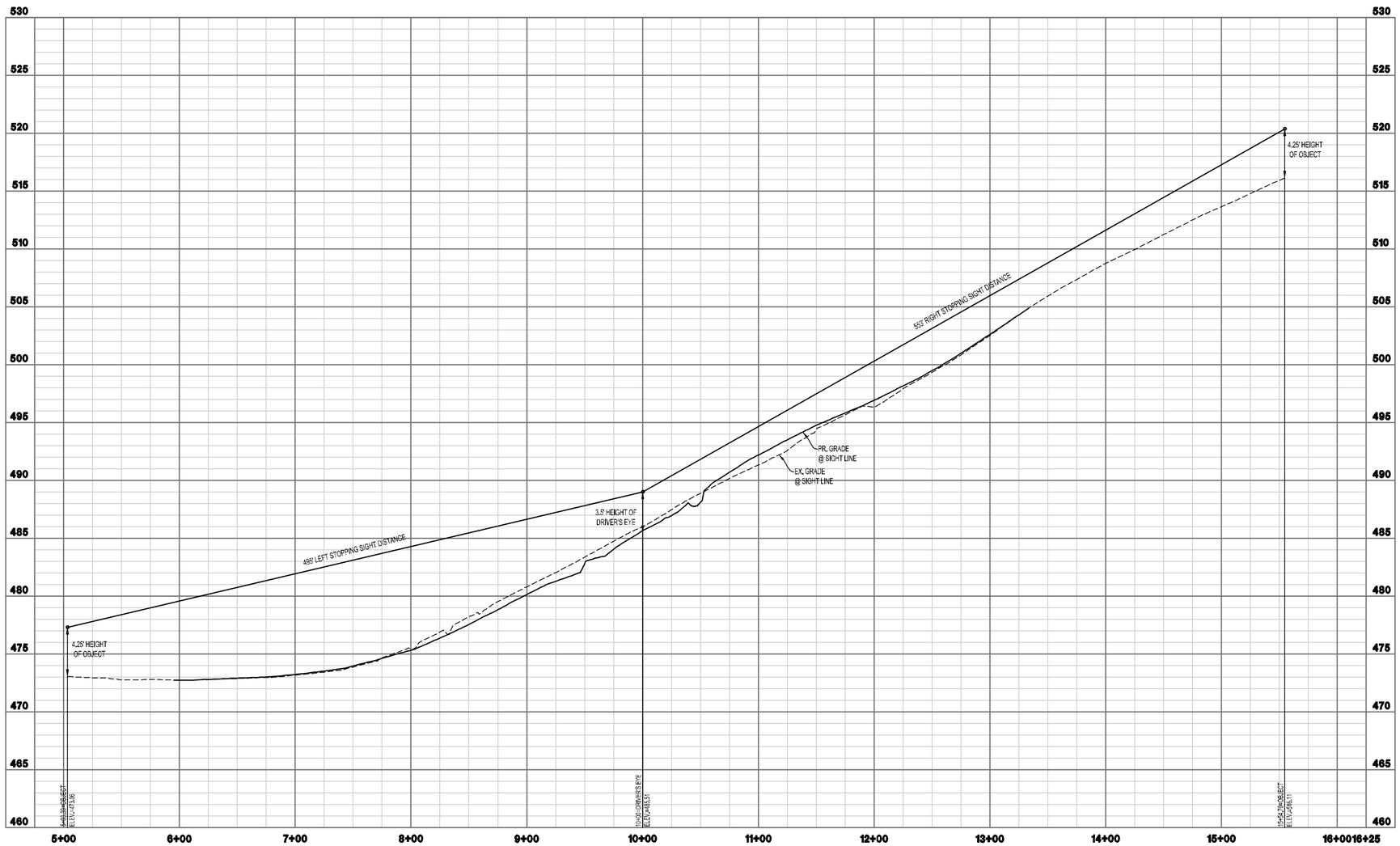
CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: 1" = 50' VERT.: 1" = 5'
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD:	C-CT-201.DWG
NCS:	
SHEET:	52 OF 119





VERTICAL SCALE: 1"=5'

GRAPHICAL SCALE: 1"=50'

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JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
1-24-25

SEAL:

REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST'V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

ELMCROFT STREE INTX SIGHT DISTANCE AT CHARLES TOWN ROAD (WV 115)

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

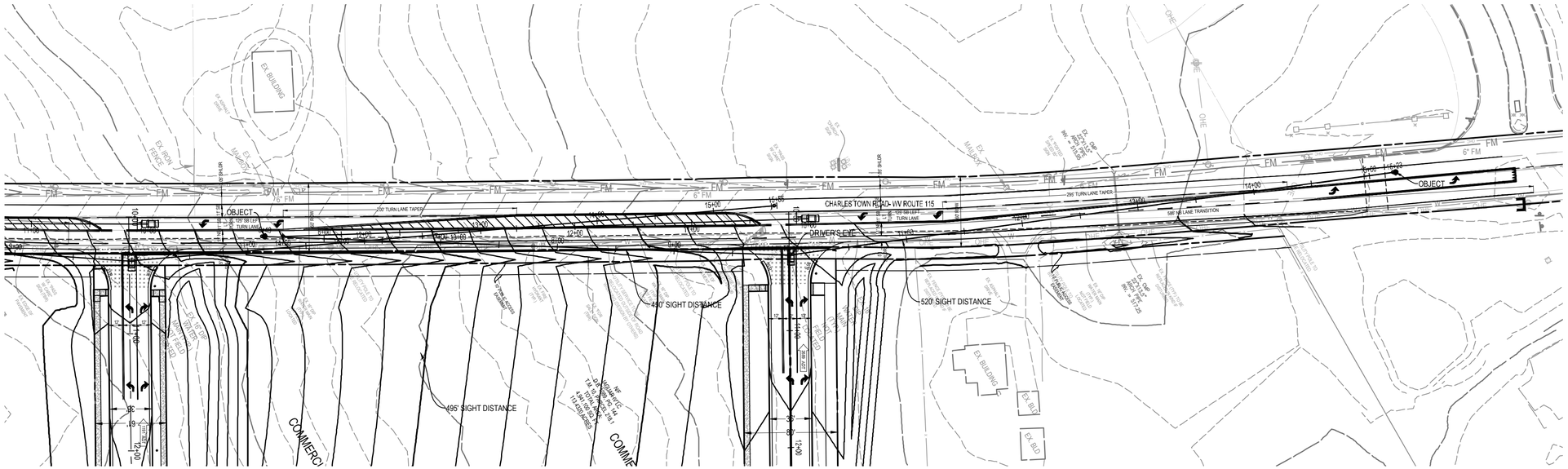
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG.208

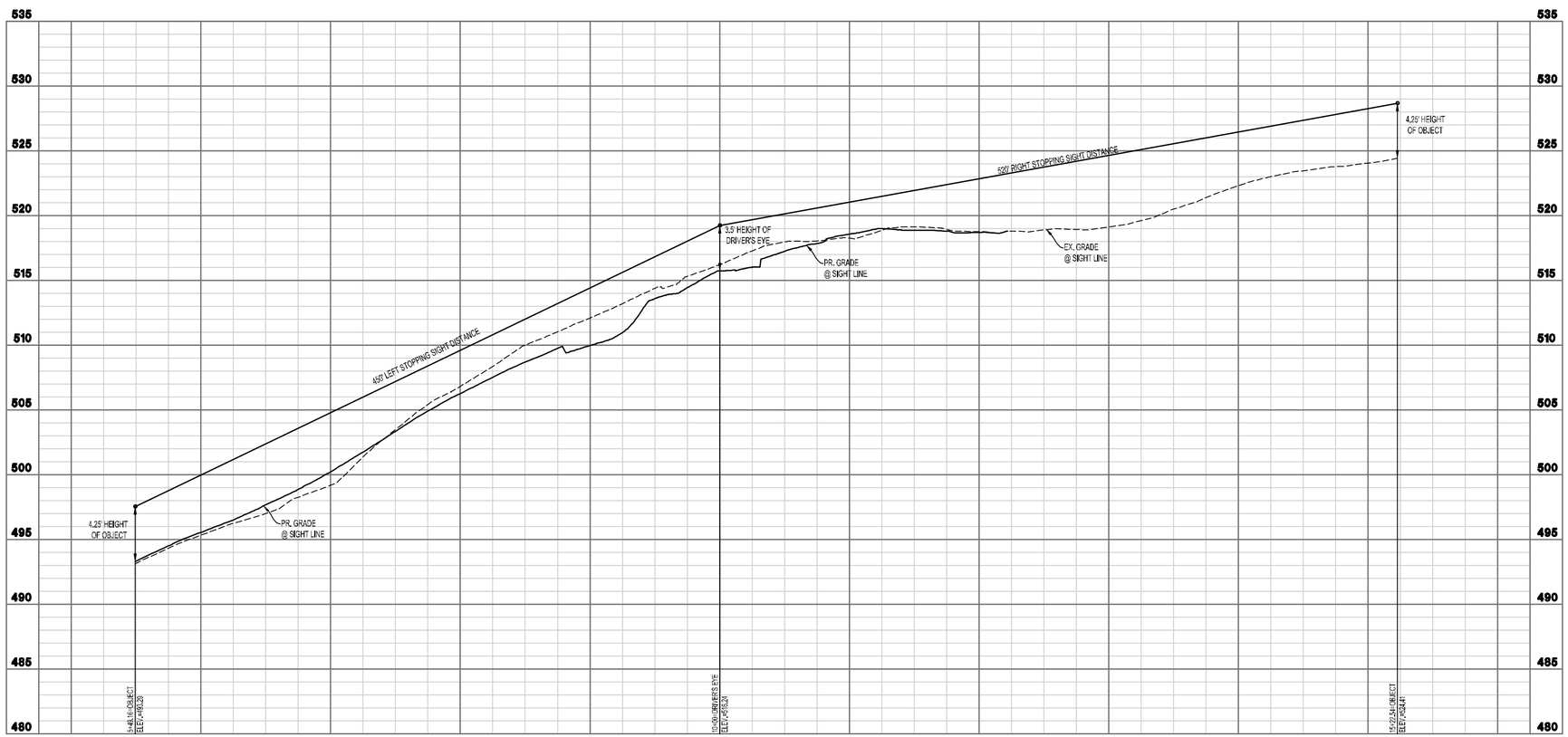
CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: 1" = 50' VERT.: 1" = 5'
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-CT-301.DWG	
NCS:	
SHEET:	53 OF 119





VERTICAL SCALE: 1"=5'

GRAPHICAL SCALE: 1"=50'

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JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
1-24-25

SEAL:

REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

GRIFFIN PLACE INTX SIGHT DISTANCE AT CHARLES TOWN ROAD (WV 115)

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

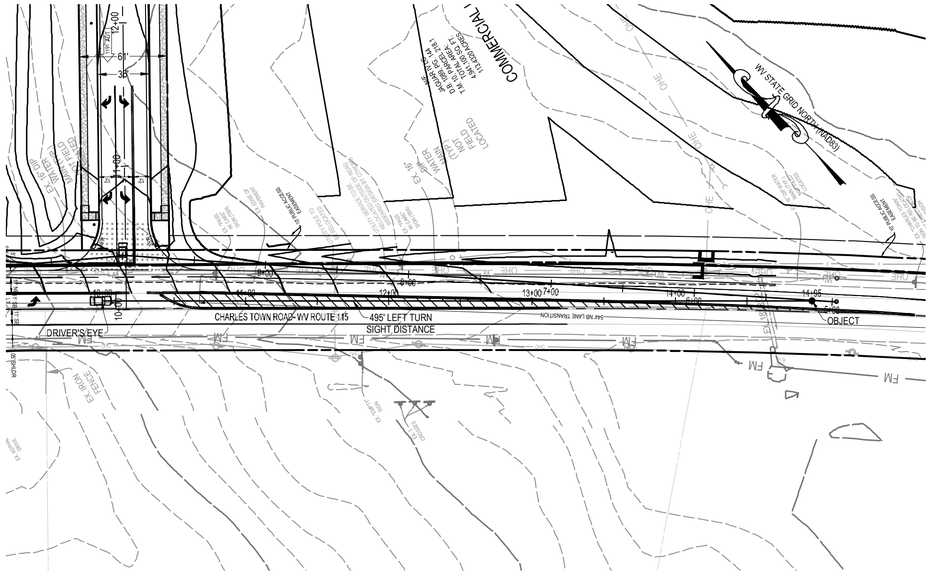
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

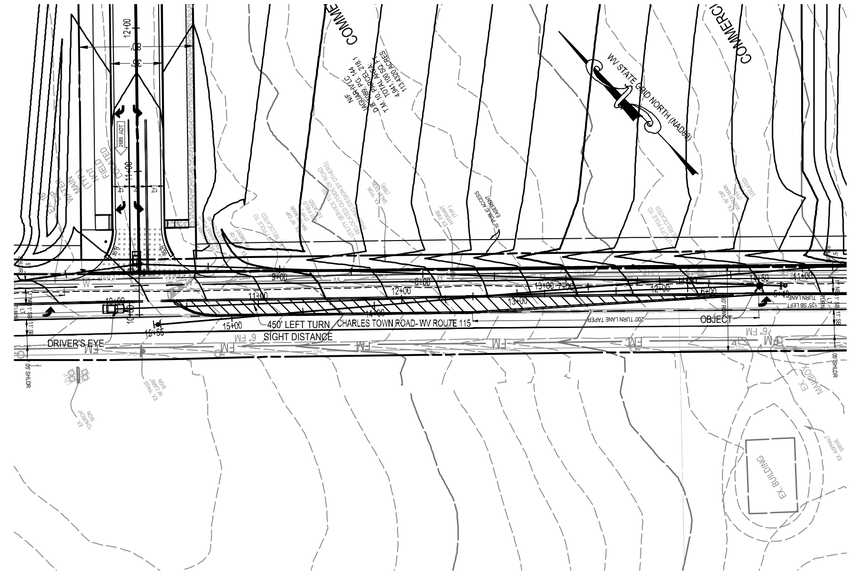
CHARLES TOWN TAX DISTRICT

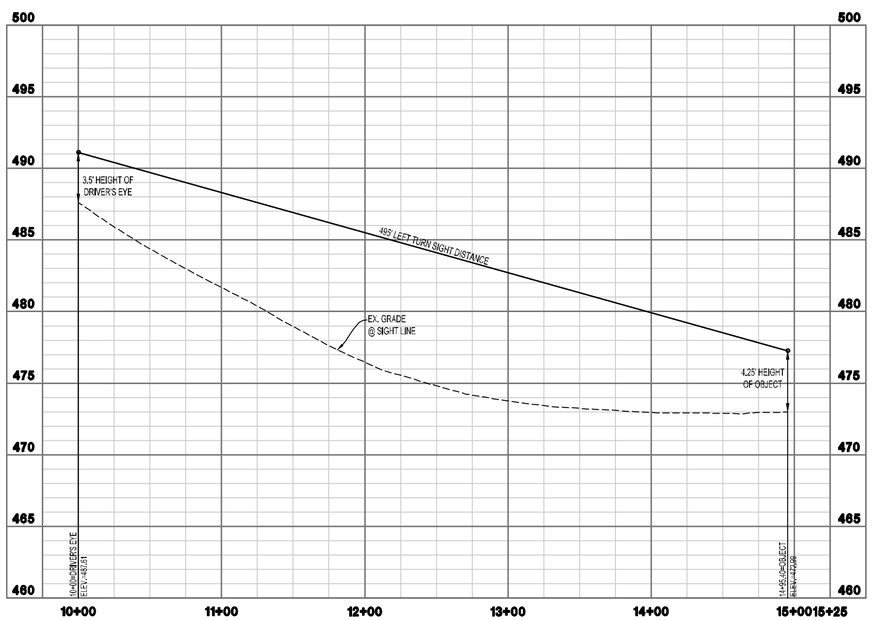
JEFFERSON COUNTY, WEST VIRGINIA

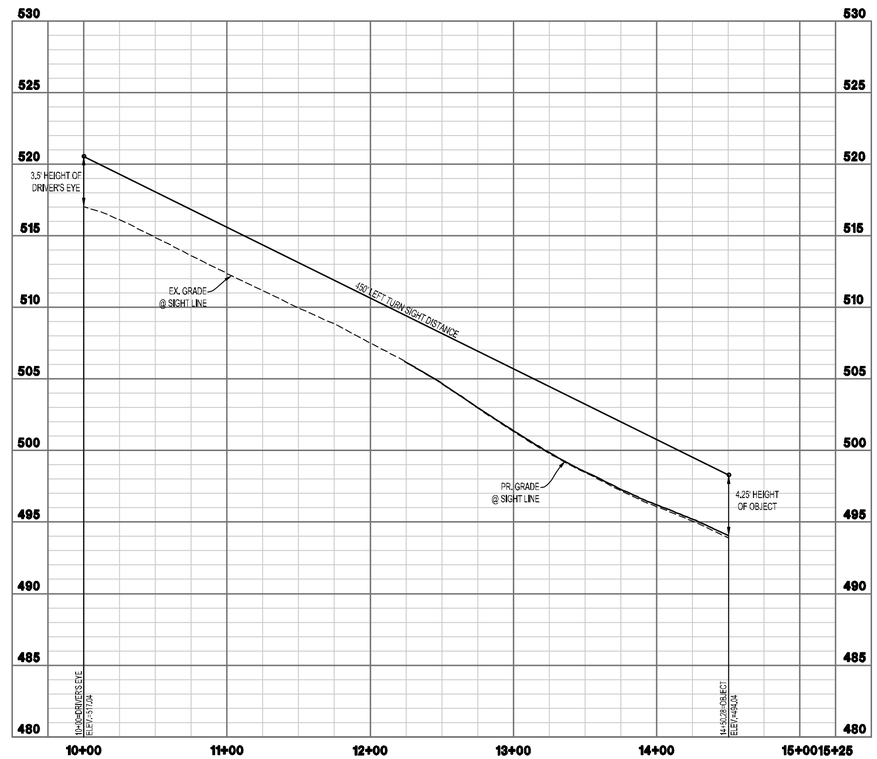
C.T. FILE #SLD2024-03

SCALE:	HORIZ.: 1" = 50' VERT.: 1" = 5'
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-CT-301.DWG	
NCS:	
SHEET:	54 OF 119









0 2.5 5 10 15
VERTICAL SCALE: 1"=5'

50 25 0 50 100 150
GRAPHICAL SCALE: 1"=50'

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JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
10-29-24
1-24-25

SEAL:

REVISIONS

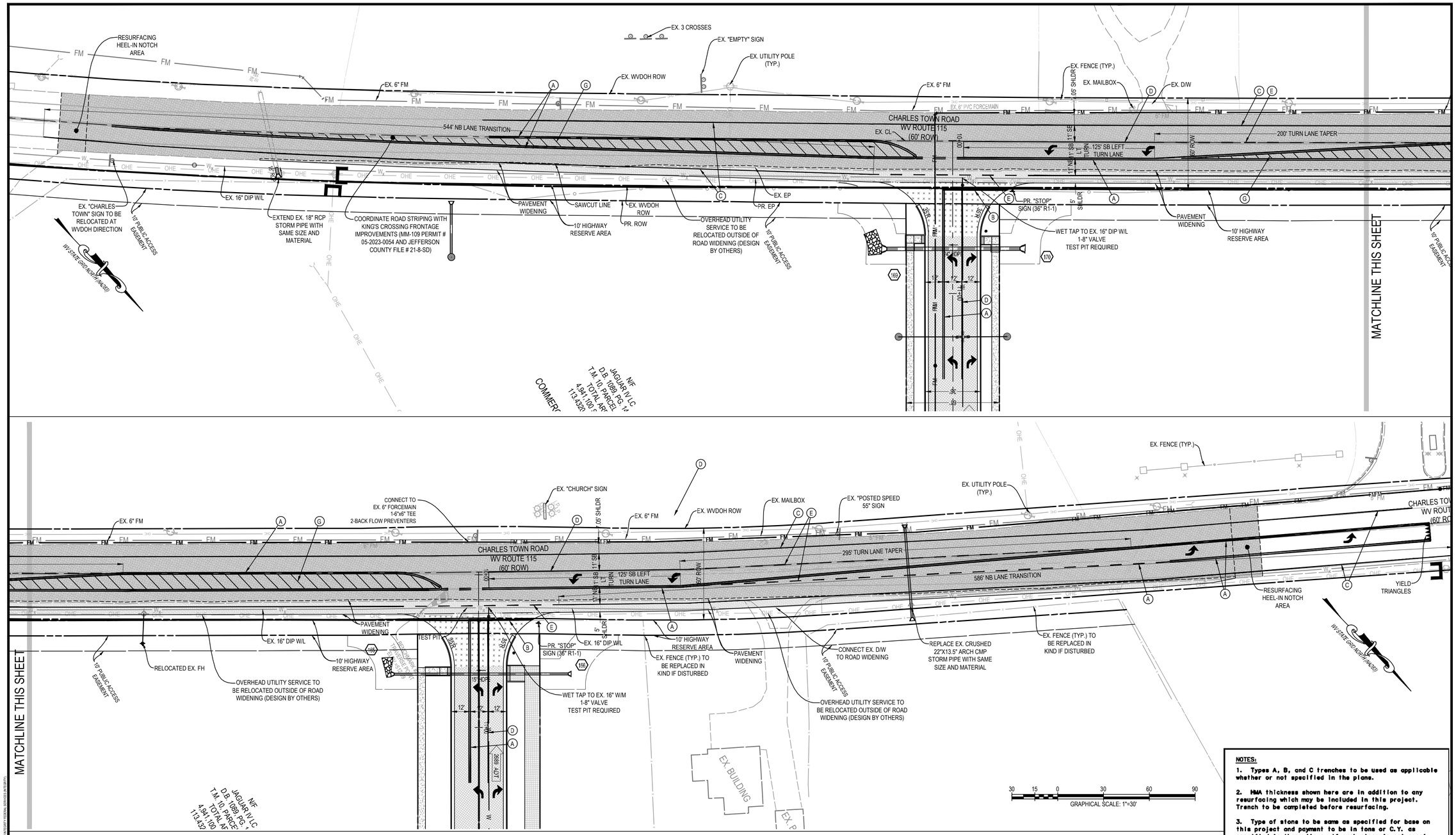
1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

LEFT TURN FRONT SIGHT DISTANCE PLAN & PROFILES

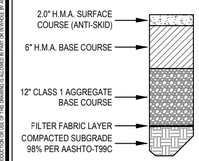
AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG.208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

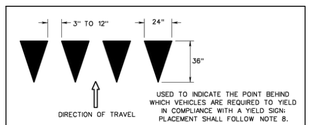
SCALE:	HORIZ.: 1" = 50' VERT.: 1" = 5'
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-CT-301.DWG	
NCS:	
SHEET:	55 OF 119



TYP. PAVEMENT SECTION ROAD WIDENING (CHARLES TOWN ROAD)



NOTES:
1. SOILS TESTS OF SUBGRADE MUST BE SUBMITTED FOR ACTUAL DETERMINATION OF REQUIRED PAVEMENT SECTION THICKNESS PRIOR TO CONSTRUCTION.



YIELD TRIANGLES
(ITEM 663008-•)

PAVEMENT MARKING LEGEND:

- (A) TYPE II, YELLOW, 6" WIDTH, SOLID DOUBLE LINE, SEPARATED BY A 6" SPACE
- (B) TYPE V, WHITE, 24" WIDTH, SOLID STOP LINE
- (C) TYPE II, WHITE, 6" WIDTH, SOLID EDGE LINE
- (D) TYPE V, WHITE, 8" WIDTH, SOLID CHANNELIZING LINE (MAX 200' IN LENGTH)
- (E) TYPE V, WHITE, 6" WIDTH, 2' LONG, 6' SPACES
- (F) TYPE V, WHITE, 8" WIDTH, 2' LONG, 6' SPACES
- (G) TYPE V, YELLOW, 12" WIDTH, SOLID TRANSVERSE STRIPES
- TYPE V, WHITE, ARROWS (THERMOPLASTIC)

NOTES:
1. ALL TYPE V MARKING SHALL BE THERMOPLASTIC.

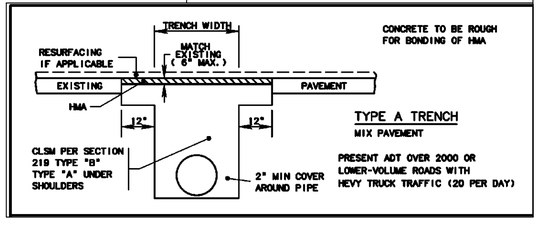
PAVEMENT LEGEND:

- MILL AND OVERLAY OF EX. ASPHALT PAVEMENT
- WVDOH ROAD WIDENING ASPHALT PAVEMENT
- ASPHALT PAVEMENT

NOTES:
1. THE EXISTING PAVED SHOULDER IS TO BE REMOVED AND FULL DEPTH ASPHALT PLACED WHERE THRU TRAFFIC IS DIVERTED TO THE EXISTING SHOULDER.

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

REPAVING PIPE TRENCHES



TYPE A TRENCH
MIX PAVEMENT

PRESENT ADT OVER 2000 OR LOWER-VOLUME ROADS WITH HEVY TRUCK TRAFFIC (20 PER DAY)

NOTES:

1. Types A, B, and C trenches to be used as applicable whether or not specified in the plans.

2. HMA thickness shown here are in addition to any resurfacing which may be included in this project. Trench to be completed before resurfacing.

3. Type of stone to be same as specified for base on this project and payment to be in tons or C.Y. as specified in those items. If such stone is not specified, cost is to be included in the unit price of pipe and stone to meet requirements of section 307 class 1.

4. Payment for HMA to be in tons of material specified for the project. If such items are not specified cost is to be included in unit price of pipe. HMA base or patching and leveling may be used.

5. Cost of all labor, materials, and equipment to complete the work to the surface of the existing pavement in accordance with the applicable detail(s) shall be included in the unit price for the pipe.

6. Where type A trenches are wider than 7' in existing bituminous pavement, concrete may be deleted if existing HMA thickness and 18" stone are restored.

7. Traffic is to be maintained at all times by the use of appropriate traffic control devices. Use of metal plates, having sufficient rigidity to span Type A trench, is required to prevent wheel loads from being transmitted to the CLSM. The plates are to be securely anchored to prevent movement caused by traffic. The plates are to be left in place until the CLSM has attained a 50% of its compressive strength. Cost of such plates is to be included in the unit price bid for pipe.

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JASON P. GERHART
REGISTERED
No. 19127
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
5-24-24

SEAL:

REVISIONS
1. 09/05/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

WVDOH PAVEMENT MARKING AND SIGNAGE PLAN

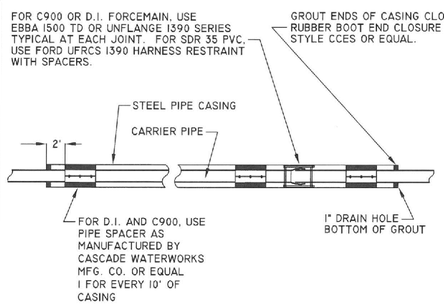
AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: 1" = 30' VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD:	C-CT-201.DWG
NCS:	
SHEET:	56 OF 119

CASING SCHEDULE FOR C900, DI, OR DI TR FLEX RESTRAINED JT 350 PSI		
CARRIER PIPE DIA. (IN.)	MIN. CASING PIPE DIA. (IN.)	NOM. WALL THICKNESS
4	10	0.313
6	12	0.313
8	16	0.313
10	18	0.375
12	20	0.375

NOTE: SDR 35 PVC, CASING FOR 4" CARRIER IS 12" DIA. AND FOR 6" CARRIER IS 16" DIA. OTHER SIZE SDR 35 ARE SAME AS ABOVE. STEEL CASING SHALL BE USED WITH SPECIFIED MINIMUM YIELD STRENGTH OF AT LEAST 35,000 PSI.

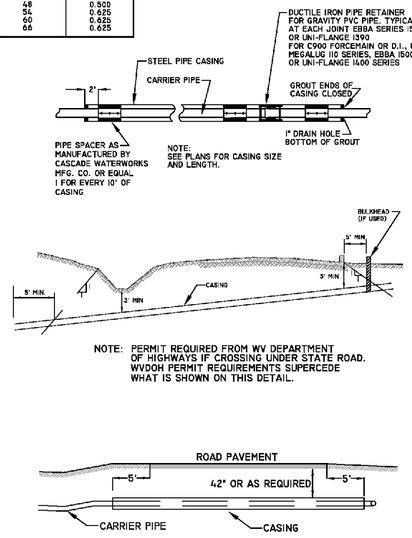


Charles Town Utility Board
832 S. George Street, P.O. Box 359, Charles Town, WV 25414
Phone: (304) 725-2316 • Fax: (304) 725-4313

PIPE CASING DETAIL

Standard Detail No. **W-14**
NOT TO SCALE
APRIL 2015

CASING SCHEDULE		
CARRIER PIPE DIA. (IN.)	CASING PIPE DIA. (IN.)	NOM. WALL THICKNESS
4	10	0.313
6	12	0.313
8	16	0.313
10	24	0.375
12	24	0.375
16	30	0.500
20	36	0.500
24	42	0.500
30	48	0.500
36	54	0.625
42	60	0.625
48	66	0.625



Charles Town Utility Board
832 S. George Street, P.O. Box 359, Charles Town, WV 25414
Phone: (304) 725-2316 •Fax: (304) 725-4313

PIPE CASING DETAIL

Standard Detail No. **S-24**
NOT TO SCALE
SEPTEMBER 2015

SIGNAGE NOTES:

1. ALL SIGNS, TEMPORARY AND PERMANENT, SHALL BE COMPLIANT WITH THE "WEST VIRGINIA DIVISION OF HIGHWAYS SIGN FABRICATION DETAILS, 2005 EDITION".

SIGNING & PAVEMENT MARKING NOTES:

1. ALL PROPOSED SIGNING AND PAVEMENT MARKING SHALL BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF EACH OF THE FOLLOWING AND ANY REVISION THERETO:
   A. MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS 2009 EDITION.
   B. THE WEST VIRGINIA DIVISION OF HIGHWAYS DESIGN GUIDE FOR SIGNING.
   C. THE WEST VIRGINIA DIVISION OF HIGHWAYS SIGN FABRICATION MANUAL.
   D. THE WEST VIRGINIA DIVISION OF HIGHWAYS TRAFFIC ENGINEERING DIRECTIVES REGARDING SIGNING.
   E. THE WEST VIRGINIA DIVISION OF HIGHWAYS SPECIFICATIONS (SECTIONS 657, 658, 659 AND 661.
   F. THE WEST VIRGINIA DIVISION OF HIGHWAYS STANDARD DETAILS BOOK, VOLUME II, SIGNING, SIGNALS, LIGHTING AND MARKING.
   G. THE WEST VIRGINIA DIVISION OF HIGHWAYS TRAFFIC CONTROL FOR STREET AND HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS.
2. ALL PAVEMENT MARKINGS SHALL BE WVDOT TYPE II OR V PAVEMENT MARKINGS, UNLESS OTHERWISE NOTED.
3. PROPOSED SIGN LOCATIONS ARE APPROXIMATE AND SHALL BE MODIFIED IN THE FIELD TO AVOID CONFLICT WITH UNDERGROUND UTILITIES OR OTHER OBSTRUCTIONS, AND TO COMPLY WITH STANDARDS REFERENCED IN NOTE 1.
4. ANY EXISTING PAVEMENT MARKINGS, WHICH WILL CONFLICT WITH PROPOSED PAVEMENT MARKINGS, SHALL BE COMPLETELY ERADICATED.
5. LIMITS SHOWN OF PROPOSED MARKINGS ARE APPROXIMATE AND SHALL BE MODIFIED IN THE FIELD TO INSURE THAT PROPOSED PAVEMENT MARKINGS CONTINUE UNTIL EXISTING PAVEMENT MARKINGS CAN BE MATCHED.
6. NO MARKINGS SHALL BE PLACED ON EXPANSION JOINTS ON STRUCTURES OR ON LONGITUDINAL CONSTRUCTION JOINTS UNLESS SO DIRECTED BY THE ENGINEER.
7. POST REMOVAL FOR GROUND MOUNTED SIGNS ON EXISTING BREAKAWAY SUPPORTS SHALL INCLUDE EITHER CONCRETE REMOVAL OF THE EXISTING STUB(S) OR THE CUTTING OFF OF THE EXISTING STUB(S) TO A MINIMUM OF SIX (6) INCHES BELOW GROUND AND THE RESTORATION OF THE GROUND TO ITS ORIGINAL CONDITION.
8. REFER TO APPROVED TRAFFIC SIGNAL PLAN FOR PROPER LOCATIONS OF STOP LINES AND CROSSWALKS WHEN APPLICABLE.
9. CONTRACTOR SHALL ENSURE THAT ANY SIGNS TO BE RELOCATED ARE IN GOOD CONDITION. IF EXISTING SIGN ARE DAMAGED NEW SIGNS SHALL BE RELOCATED PER THIS PLAN AND SPECIFICATIONS INCLUDED HEREIN.
10. REFER TO WVDOH STANDARD DETAILS BOOK VOLUME II, DETAILS TEM-1, TEM-2, AND TEM-3 FOR PAVEMENT MARKING SPECIFICATIONS.

GENERAL NOTES:

1. ALL TRAFFIC CONTROL SHALL BE THE RESPONSIBILITY OF THE DEVELOPER. TRAFFIC CONTROL SIGNS AND MAINTENANCE OF TRAFFIC SHALL COMPLY WITH THE STANDARDS OF THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION. STANDARD TEMPORARY TRAFFIC CONTROL CASES A2, A3 AND A6 FROM THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS, 2006 MANUAL ON TEMPORARY TRAFFIC CONTROL FOR STREETS AND HIGHWAYS SHALL BE UTILIZED FOR THIS PROJECT.
2. EXISTING PAVEMENT SHALL BE SAW CUT TO TIE IN NEW ENTRANCE APRON.
3. NO LANE CLOSURES ARE PERMITTED BETWEEN THE HOURS OF 6:00-9:00 AM & 3:00-6:00 PM.
4. SEE THIS SHEET FOR DETAIL SHOWING CASES A2, A3 AND A6 FROM THE MANUAL ON TEMPORARY TRAFFIC CONTROL FOR STREETS AND HIGHWAYS, 2006 EDITION.
5. CONTACT JOSHUA LEATHERMAN AT WVDOH (JOSHUA.L.LEATHERMAN@WV.GOV OR 681-320-2039) 24 HOURS PRIOR TO BEGINNING CONSTRUCTION.

GENERAL NOTES (CONT.)

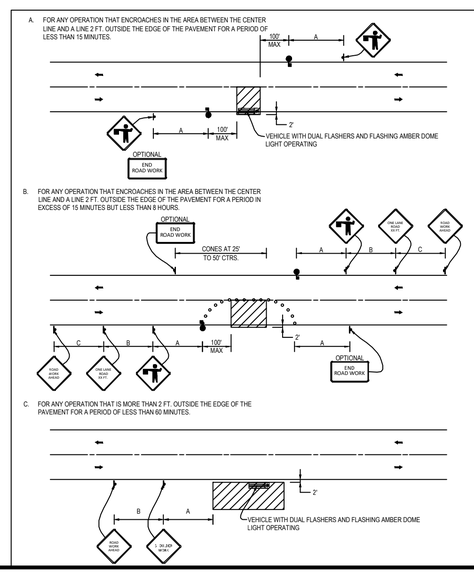
6. CONTACT KEN CLOHAN (KENNETH.L.CLOHAN@WV.GOV OR 304-260-4392) TO REVIEW STRIPING BEFORE STRIPING IS COMPLETED.
7. CONTRACTOR SHALL CONTACT TOM CALDWELL AT WVDOH (TOM.N.CALDWELL@WV.GOV OR 681-320-2040) FOR UTILITY PERMITS

DROP OFF GUIDANCE NOTES:

EXCAVATION ALONG THE EDGE OF PAVEMENT SHALL BE FILLED TO A SAFE SLOPE AT THE END OF EACH WORK DAY.

MAINTENANCE OF TRAFFIC NOTES:

1. TRAFFIC CONTROL, SAFETY MEASURES, AND MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF EACH OF THE FOLLOWING AND ANY REVISION THERETO:
   A. SECTION 636 OF THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS, STANDARD SPECIFICATIONS, ROADS AND BRIDGES.
   B. MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, 2009 EDITION.
   C. WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS, MANUAL ON TEMPORARY TRAFFIC CONTROL FOR STREETS AND HIGHWAYS, 2006 EDITION.
   D. AASHTO ROADSIDE DESIGN GUIDE.
   E. WVDOH STANDARD SPECIFICATIONS, 2017 AND SUPPLEMENTAL SPECIFICATIONS, 2020.
2. REFLECTIVE SHEETING ON TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE OF NEW CONDITION AT THE BEGINNING OF THE PROJECT LIFE. NIGHT VISIBILITY AND LEGIBILITY SHALL BE MAINTAINED.
3. ACCESS TO ALL HOUSES AND BUSINESSES SHALL BE MAINTAINED AT ALL TIMES.
4. FLAGGER: WHEN WORK IS PERFORMED AT NIGHT WITH A FLAGGER, THE FLAGGER STATIONS SHALL BE ADEQUATELY ILLUMINATED.
5. TEMPORARY TAPE: ANY TEMPORARY TAPE SHALL BE MECHANICALLY APPLIED. SOLID LINES SHALL HAVE A 2" GAP EVERY FIFTY FEET.
6. EXISTING SIGNS AND DELINEATORS: ANY SUCH EXISTING FACILITIES RELOCATED, REMOVED, OR DAMAGED BY THE CONTRACTOR SHALL BE REPLACED TO ITS ORIGINAL CONDITION BY THE CONTRACTOR AT THEIR EXPENSE, UNLESS REPLACED BY FINAL SIGNING.
7. WHEN COVERING EXISTING SIGNS, THE CONTRACTOR HAS THE OPTIONS OF USING:
   A. HEAVY DUTY BLOCK OVERLAY (PLASTIC OR BURLAP TYPE)
   B. THIN WOOD OVERLAY (E.G. PLYWOOD)
   C. TAKING SIGNS DOWN AND RE-INSTALLING WHEN APPROPRIATE
   D. ANY DAMAGES CAUSED BY ABOVE NAMED SHALL BE REPAIRED/REPLACED TO IT'S ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE.
8. ANY TEMPORARY CONCRETE BARRIER SHALL HAVE TYPE 8" X 12" B-1 DELINEATORS (WHITE OR YELLOW AS APPROPRIATE) FACING TRAFFIC AT 20 FOOT CENTERS.
9. TYPE 'B' LIGHTS SHALL BE INSTALLED ON ALL LEAD-IN SIGNING AND BARRICADES.
10. FINAL LOCATIONS OF THE TRAFFIC CONTROL DEVICES SHALL BE ESTABLISHED IN THE FIELD.
11. RESTORE ANY PAVED, LANDSCAPED, CURBED, & SIDEWALK AREAS DISTURBED DURING CONSTRUCTION ACTIVITIES TO ITS ORIGINAL CONDITION.



GENERAL NOTES:

1. CONSTRUCTION OPERATIONS SHALL BE CONFINED TO ONE TRAFFIC LANE, LEAVING THE OPPOSITE LANE OPEN TO TRAFFIC. AT LEAST 500 FT. OF BOTH TRAFFIC LANES SHALL BE AVAILABLE FOR TRAFFIC MOVEMENT AT INTERVALS NOT GREATER THAN 1,000 FT. A COMPLETE TRAFFIC CONTROL PLAN MUST BE APPROVED FOR ANY PROJECT EXPECTING TO EXCEED 1,000 FT. IN LENGTH INCLUDING BOTH TAPER AND WORK AREAS.
2. FOR LOW-VOLUME SITUATIONS WITH SHORT WORK ZONES ON STRAIGHT ROADWAYS WHERE THE FLAGGER IS VISIBLE TO ROAD USERS APPROACHING FROM BOTH DIRECTIONS, A SINGLE FLAGGER, POSITIONED TO BE VISIBLE TO ROAD USERS APPROACHING FROM BOTH DIRECTIONS, MAY BE USED.
3. FLASHING WARNING LIGHTS AND/OR FLAGS MAY BE USED TO CALL ATTENTION TO THE ADVANCE WARNING SIGNS.
4. THE FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES.
5. ALL SIGNS ARE TO BE REMOVED AT COMPLETION OF THE DAY'S OPERATIONS.
6. FOR MULTILANE ROADWAYS THE ADVANCE WARNING SIGNS FOR TRAFFIC APPROACHING FROM THE OPPOSITE DIRECTION MAY BE OMITTED IF APPROVED BY THE ENGINEER.

SUGGESTED ADVANCE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS (IN FT.)		
	A	B	C
URBAN (LOW SPEED)*	100	100	100
URBAN (HIGH SPEED)*	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1,000	1,500	2,640

* SPEED CATEGORY TO BE DETERMINED BY WVDOH.

SYMBOLS

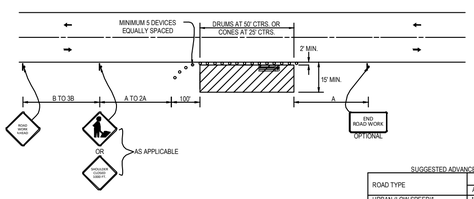
- WORK AREA
- SIGN
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH PADDLE
- CONES

TYPICAL APPLICATIONS

PATCHING PAVEMENT,
FIELD SURVEY,
CLEANING UP DEBRIS ON PAVEMENT,
CROSSWALK PAINTING.

CASE A6

TWO-LANE, TWO-WAY TRAFFIC,
SHORT TERM OPERATIONS,
DAYTIME ONLY



SUGGESTED ADVANCE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS (IN FT.)		
	A	B	C
URBAN (LOW SPEED)*	100	100	100
URBAN (HIGH SPEED)*	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1,000	1,500	2,640

* SPEED CATEGORY TO BE DETERMINED BY WVDOH.

SYMBOLS

- WORK AREA
- SIGN
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- CONES OR DRUMS

TYPICAL APPLICATIONS

CULVERT EXTENSIONS,
SIDE SLOPE CHANGES,
GUARDRAIL INSTALLATION AND MAINTENANCE,
DELINEATOR INSTALLATION AND MAINTENANCE,
LANDSCAPING OPERATIONS,
CLEANING DITCHES AND DRAINAGE STRUCTURES,
SHOULDER REPAIR,
ADJACENT WORK ON SIDE ROADS/BIRDGES,
SIGNING OPERATIONS.

GENERAL NOTES:

1. OVERNIGHT OPERATIONS ILLUSTRATED AND IF SUCH, USE DRUMS. FOR DAYLIGHT OPERATIONS ONLY, USE CONES OR DRUMS AS DIRECTED BY THE ENGINEER.
2. ANY UNATTENDED OBSTACLE OR EXCAVATION IN THE WORK AREA OVERNIGHT SHALL BE PROTECTED BY TYPE I OR TYPE II BARRICADES.
3. IF THE WORK OPERATION REQUIRES THAT FOUR OR MORE WORK VEHICLES ENTER THE THROUGH TRAFFIC LANES IN A ONE HOUR PERIOD A FLAGGER SHALL BE PROVIDED AND THE FLAGGER SIGN SHALL BE USED (AT 500 FT. IN ADVANCE).
4. ALL VEHICLES, EQUIPMENT, WORKERS AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO ONE SIDE OF THE PAVEMENT UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.
5. FLASHING WARNING LIGHTS AND/OR FLAGS MAY BE USED TO CALL ATTENTION TO THE ABOVE WARNING SIGNS, AS NEEDED ON THE PLANS, AND/OR AS DIRECTED BY THE ENGINEER.

* WORK VEHICLE (IF USED) SHALL HAVE DUAL FLASHERS AND FLASHING AMBER DOME LIGHT OPERATING.

CASE A3

TWO-LANE, TWO-WAY TRAFFIC,
DAY OR NIGHT OPERATIONS.
(STATIONARY)

WHERE, AT ANY TIME, ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES WILL ENCROACH IN THE AREA BETWEEN 2 FT. AND 15 FT. FROM THE EDGE OF PAVEMENT.

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SEAL: JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER 1-24-25

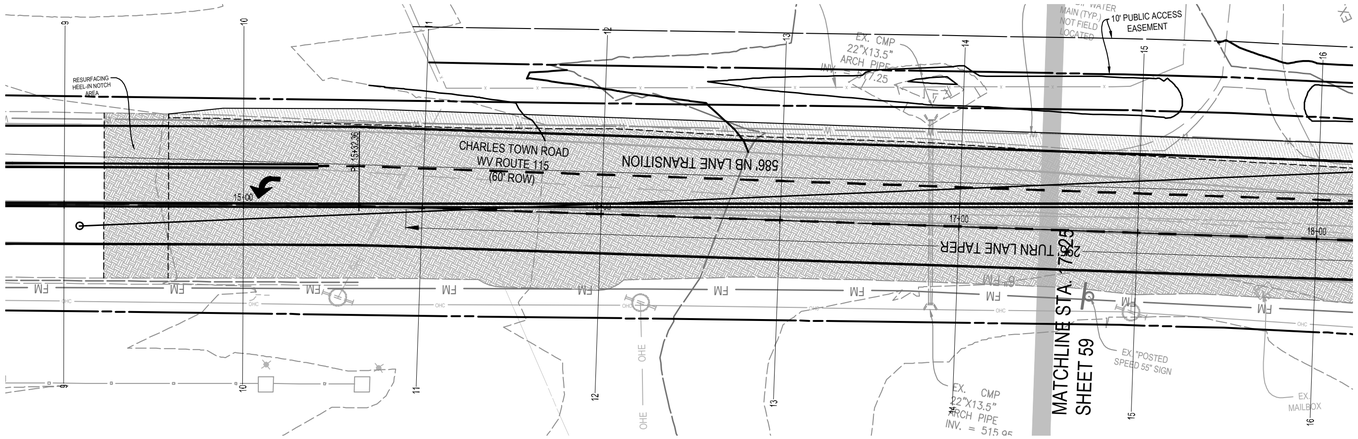
REVISIONS
1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

WVDOH PAVEMENT MARKING AND SIGNAGE PLAN

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

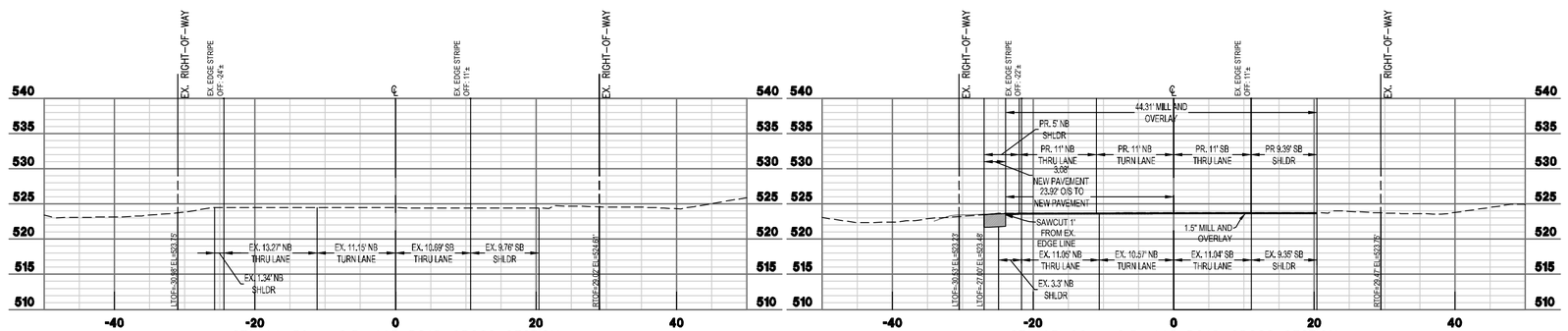
SCALE:	HORIZ.: 1" = 30' VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD:	C-CT-201.DWG
NCS:	
SHEET:	57 OF 119



GRAPHICAL SCALE: 1"=20'

VERTICAL SCALE: 1"=10'

GRAPHICAL SCALE: 1"=10'

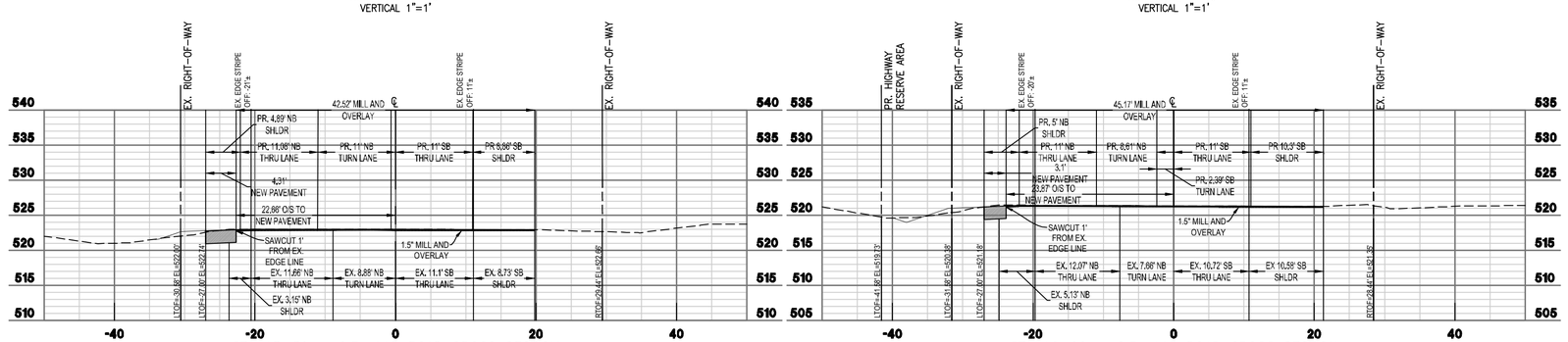


STA 14+50 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

STA 15+00 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

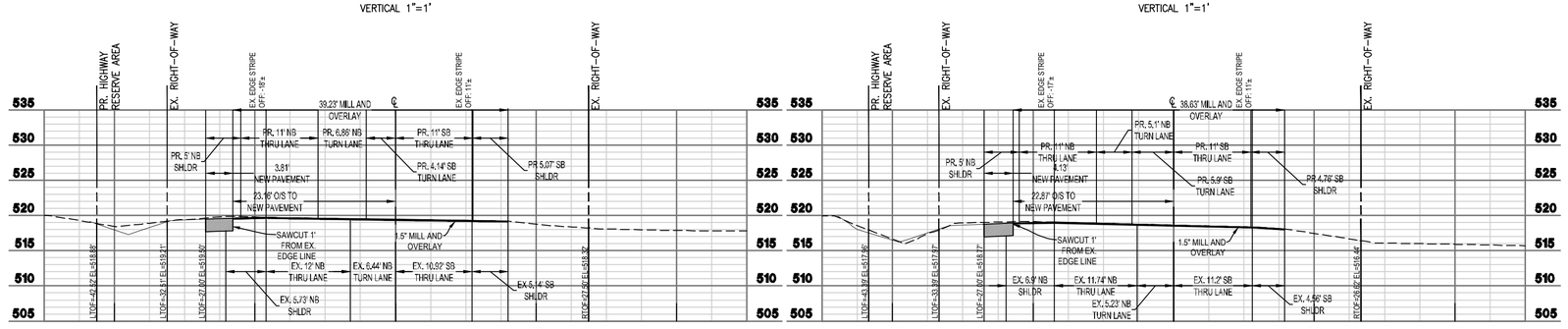


STA 15+50 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

STA 16+00 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'



STA 16+50 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

STA 17+00 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

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JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
FINAL 1-24-25

SEAL:

REVISIONS

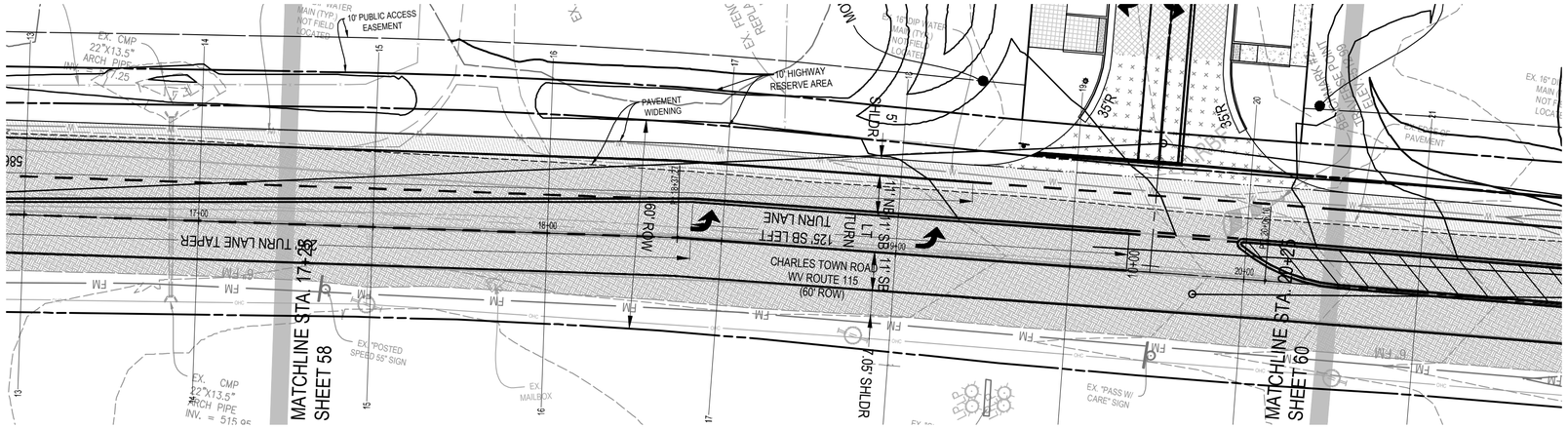
1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

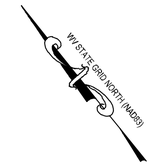
WVDOH CROSS SECTIONS

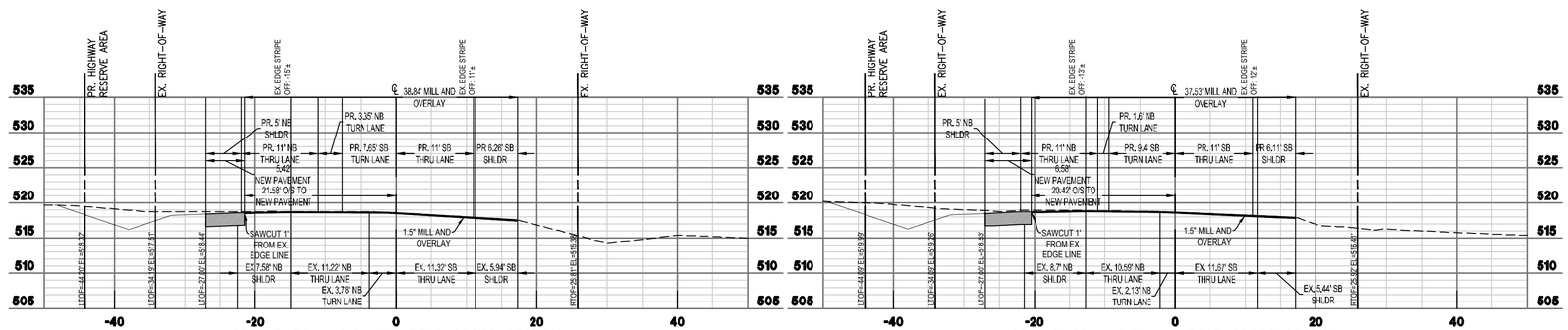
AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: AS NOTED VERT.: AS NOTED
DATE: APRIL 2024	
JOB: 5016-0201	
DRAWN: TME	CHECK: RPP
CADD: C-CT-401.DWG	
NCS:	
SHEET: 58 OF 119	





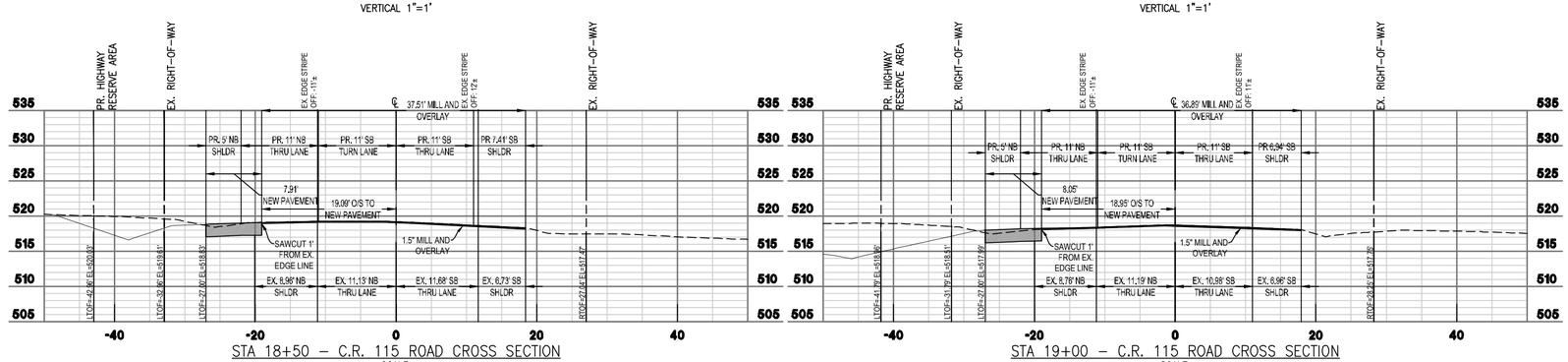


STA 17+50 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

STA 18+00 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

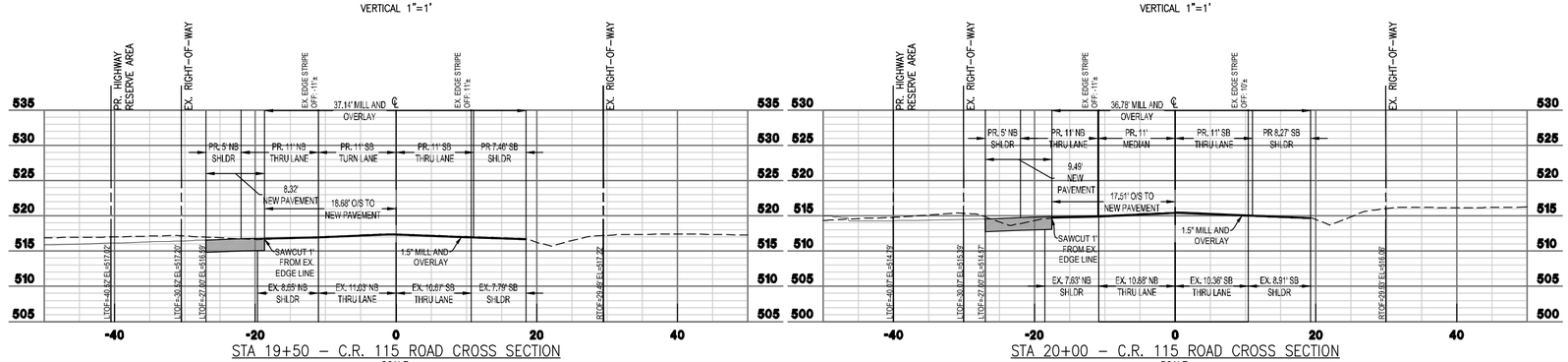


STA 18+50 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

STA 19+00 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

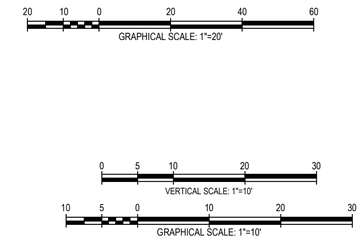


STA 19+50 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

STA 20+00 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'



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PROFESSIONAL ENGINEER
6-24-24

SEAL:

REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

WVDOH CROSS SECTIONS

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

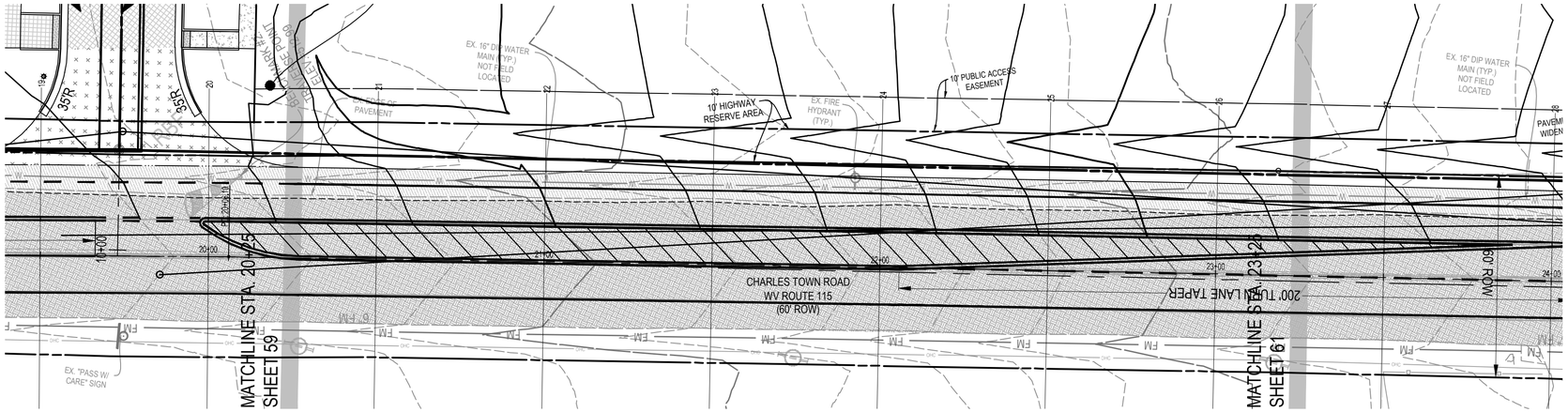
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

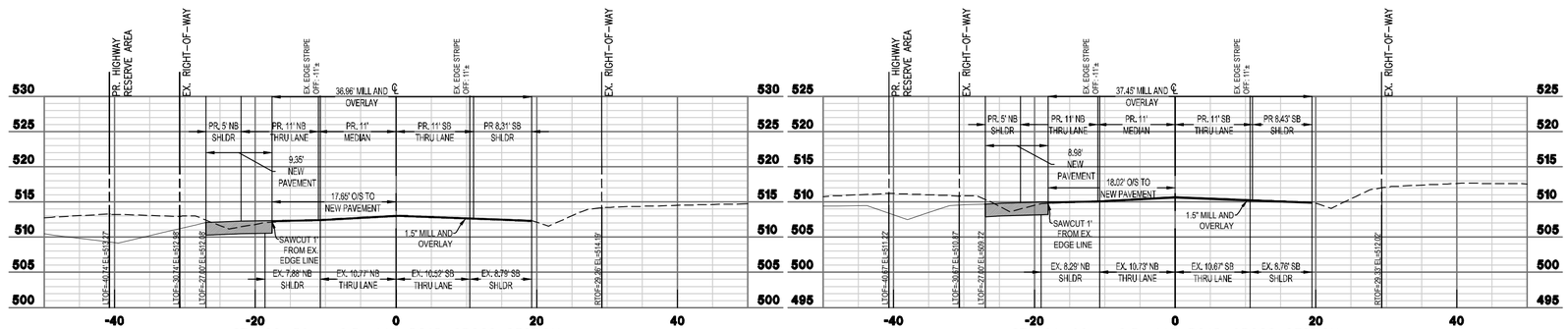
CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: AS NOTED VERT.: AS NOTED
DATE: APRIL 2024	
JOB: 5016-0201	
DRAWN: TME	CHECK: RPP
CADD: C-CT-401.DWG	
NCS:	
SHEET:	59 OF 119



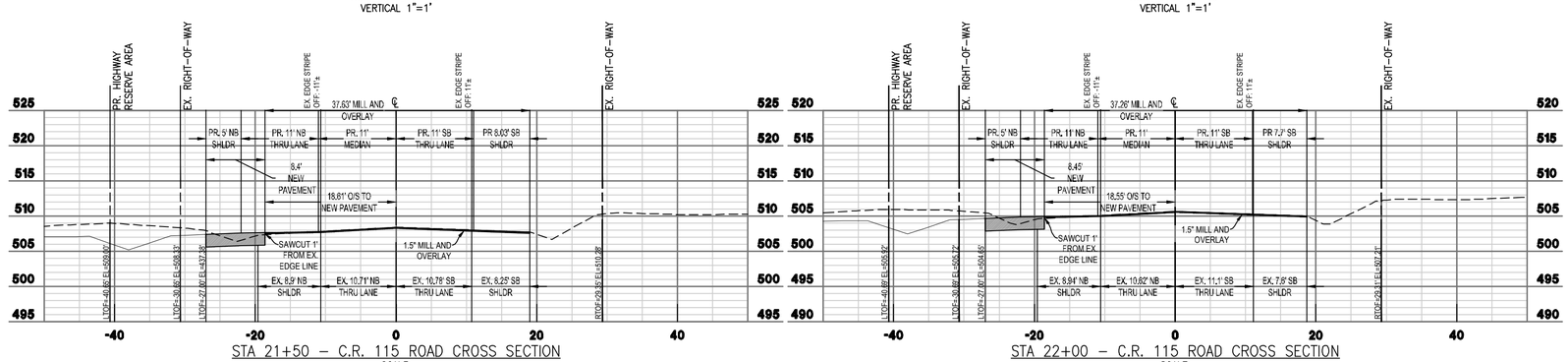


STA 20+50 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

STA 21+00 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

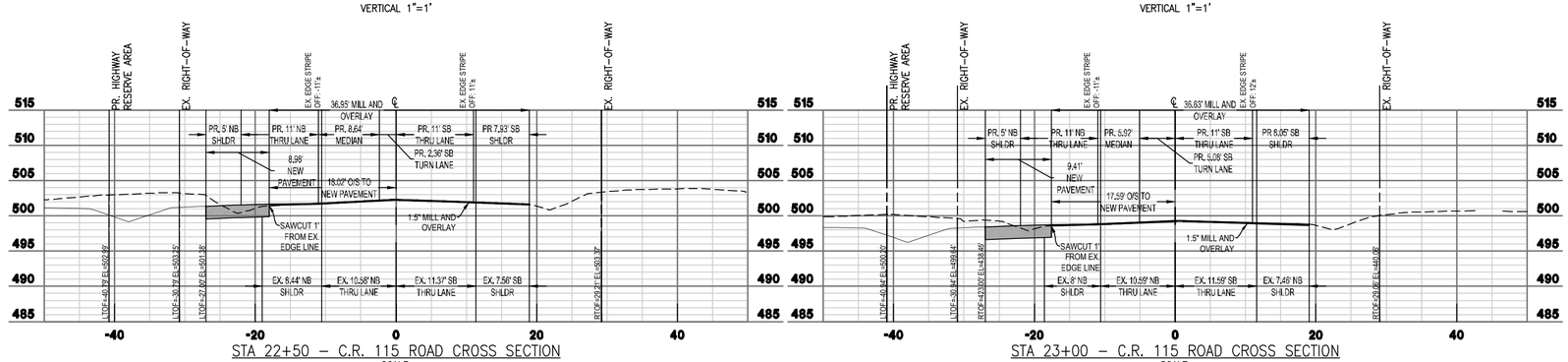


STA 21+50 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

STA 22+00 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

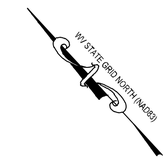


STA 22+50 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

STA 23+00 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'



GRAPHICAL SCALE: 1"=20'

VERTICAL SCALE: 1"=10'

GRAPHICAL SCALE: 1"=10'

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PROFESSIONAL ENGINEER
1-24-25

SEAL:

REVISIONS

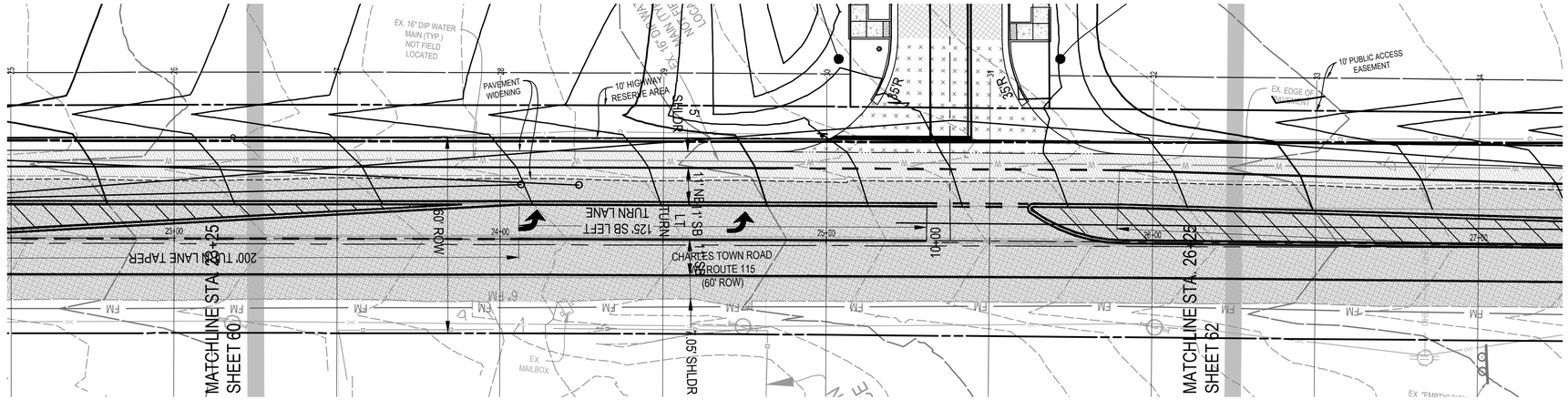
1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

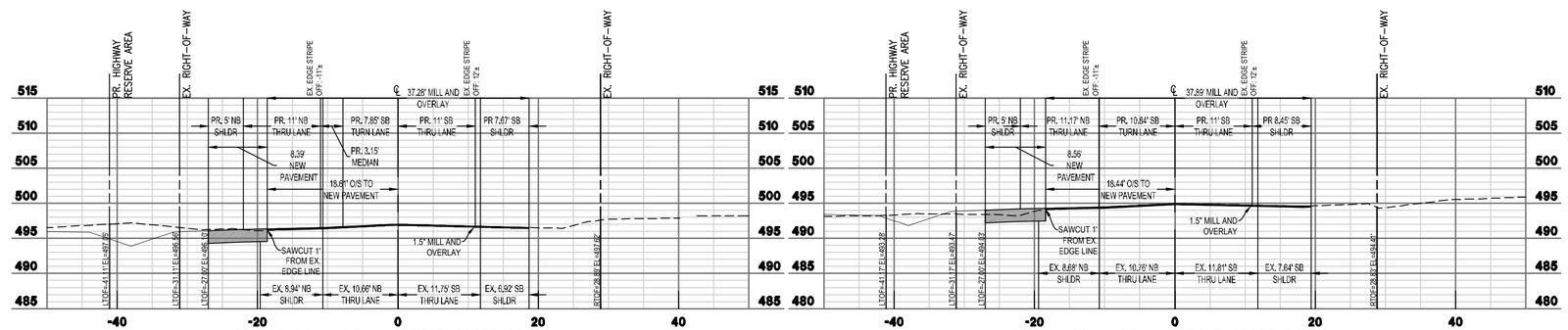
WVDOH CROSS SECTIONS

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: AS NOTED VERT.: AS NOTED
DATE: APRIL 2024	
JOB: 5016-0201	
DRAWN: TME	CHECK: RPP
CADD: C-CT-401.DWG	
NCS:	
SHEET: 60 OF 119	



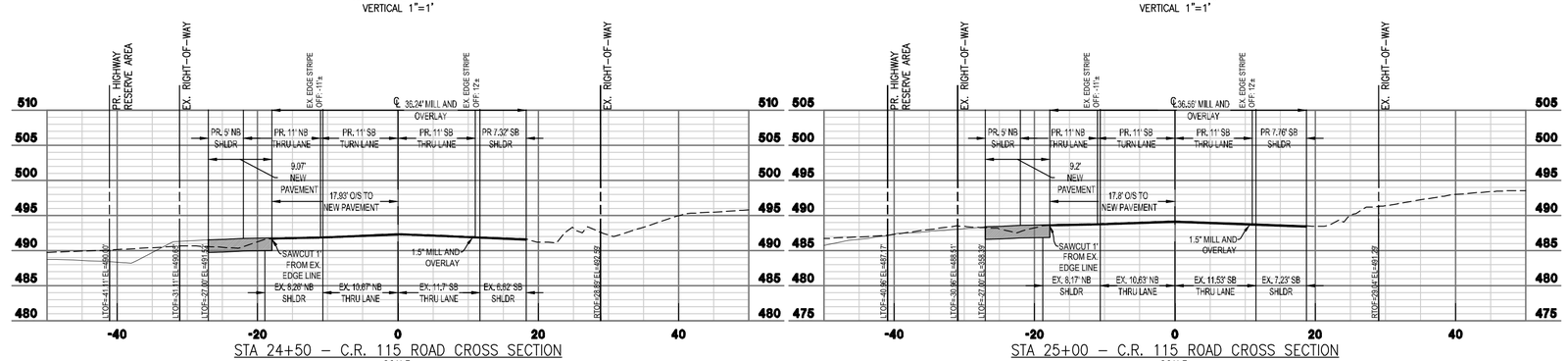


STA 23+50 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

STA 24+00 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

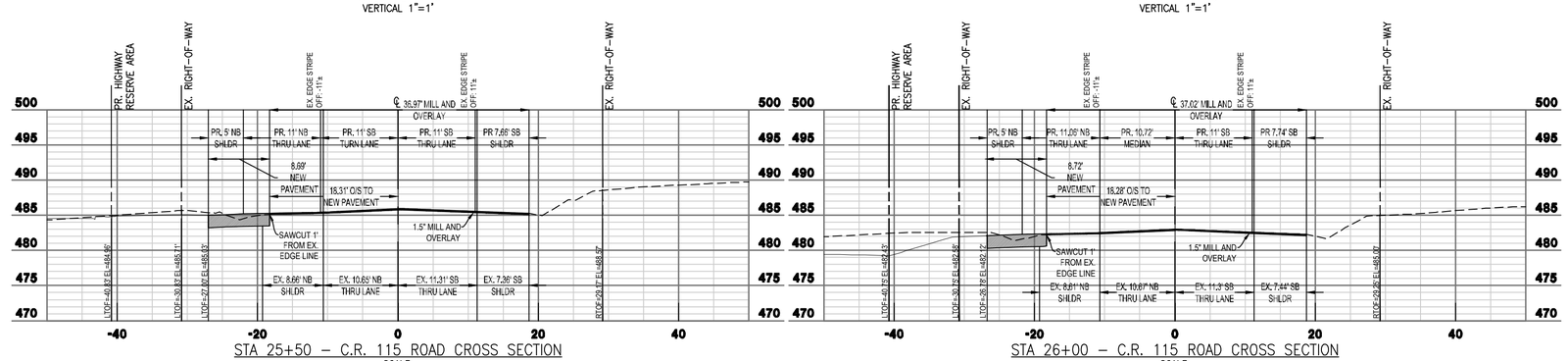


STA 24+50 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

STA 25+00 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'



STA 25+50 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

STA 26+00 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

GRAPHICAL SCALE: 1"=20'

VERTICAL SCALE: 1"=10'

GRAPHICAL SCALE: 1"=10'

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WVDOH CROSS SECTIONS

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

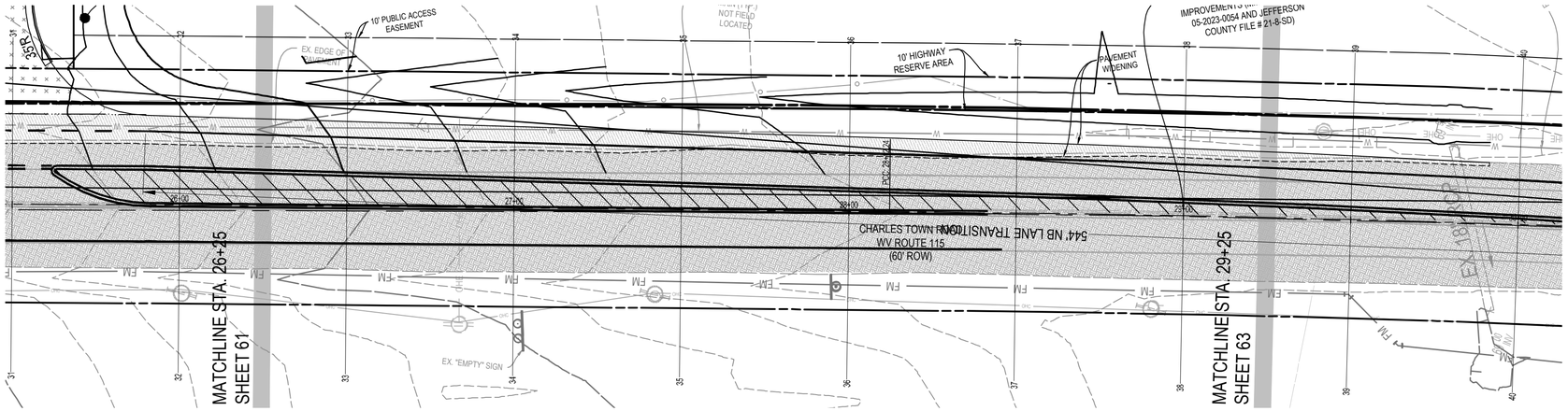
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

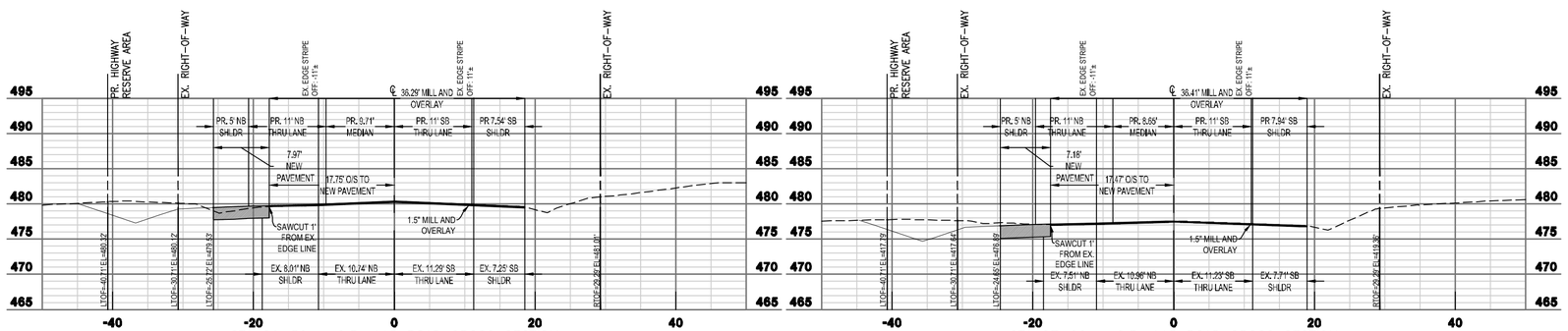
CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

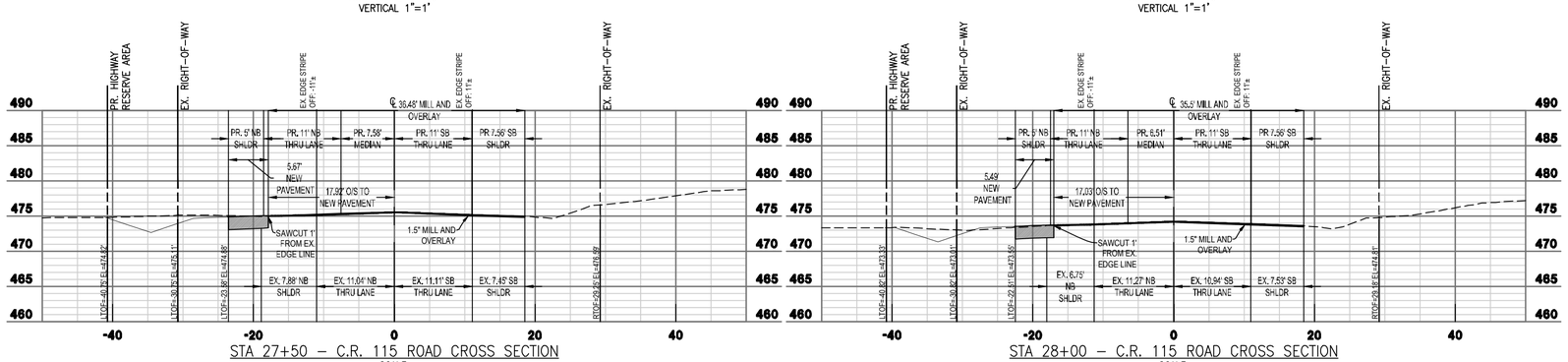
SCALE:	HORIZ.: AS NOTED VERT.: AS NOTED
DATE: APRIL 2024	
JOB: 5016-0201	
DRAWN: TME	CHECK: RPP
CADD: C-CT-401.DWG	
NCS:	
SHEET: 61 OF 119	





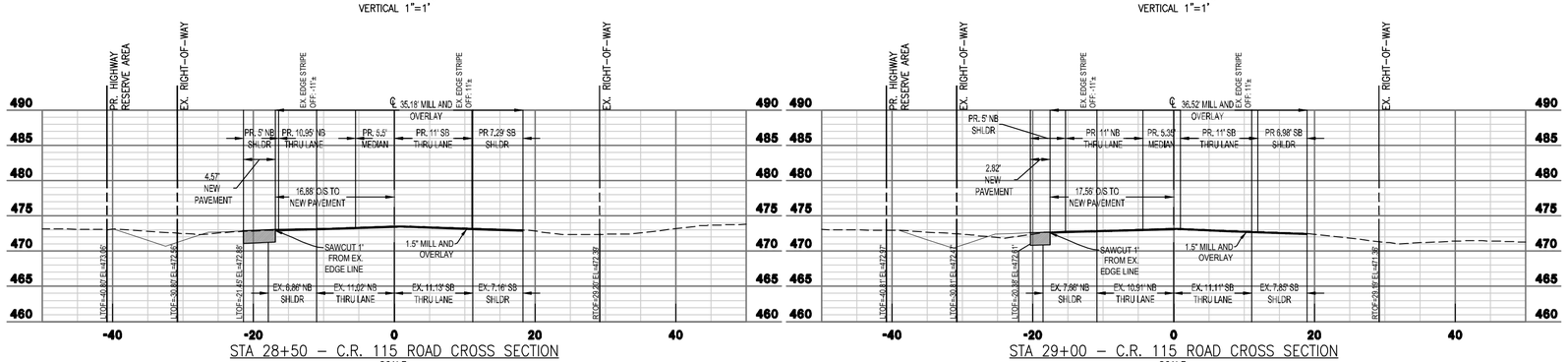
STA 26+50 – C.R. 115 ROAD CROSS SECTION
SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

STA 27+00 – C.R. 115 ROAD CROSS SECTION
SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'



STA 27+50 – C.R. 115 ROAD CROSS SECTION
SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

STA 28+00 – C.R. 115 ROAD CROSS SECTION
SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'



STA 28+50 – C.R. 115 ROAD CROSS SECTION
SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

STA 29+00 – C.R. 115 ROAD CROSS SECTION
SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

GRAPHICAL SCALE: 1"=20'

VERTICAL SCALE: 1"=10'

GRAPHICAL SCALE: 1"=10'

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JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
4-24-24

SEAL:

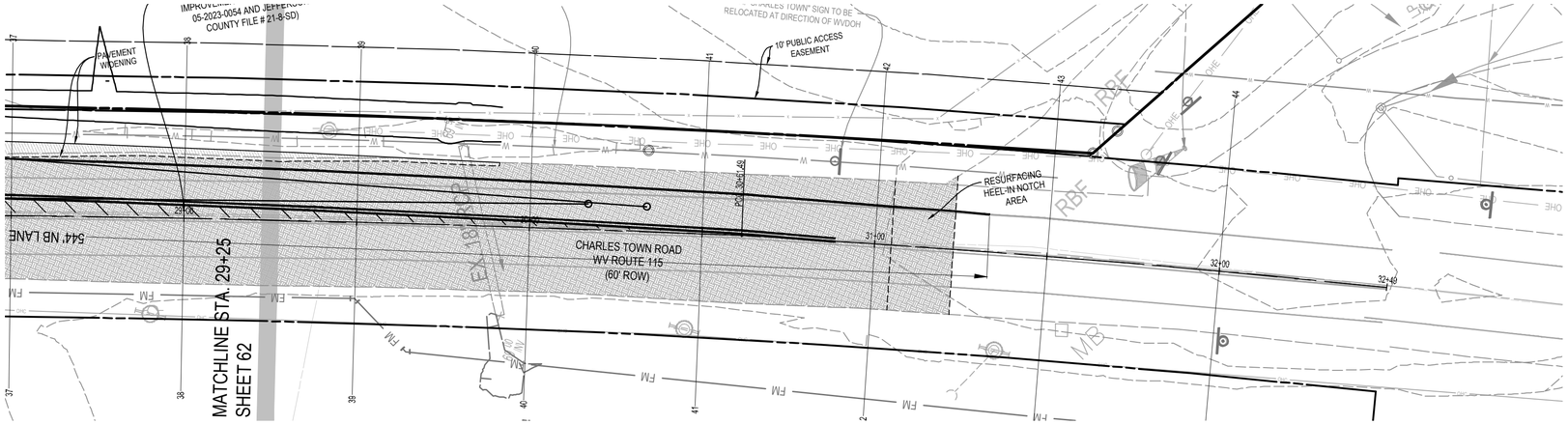
REVISIONS
1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

WVDOH CROSS SECTIONS

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

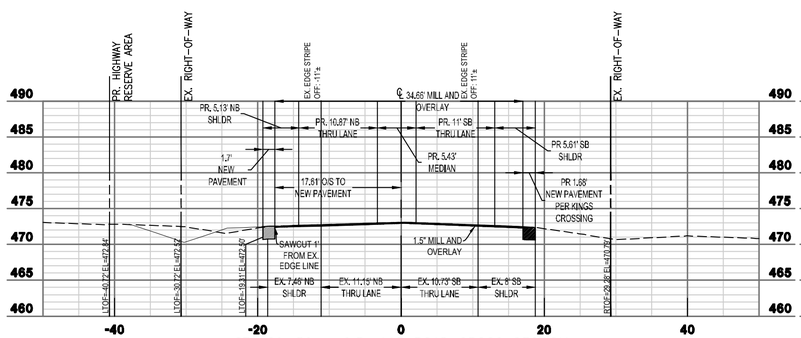
SCALE:	HORIZ.: AS NOTED VERT.: AS NOTED
DATE: APRIL 2024	
JOB: 5016-0201	
DRAWN: TME	CHECK: RPP
CADD: C-CT-401.DWG	
NCS:	
SHEET: 62 OF 119	



GRAPHICAL SCALE: 1"=20'

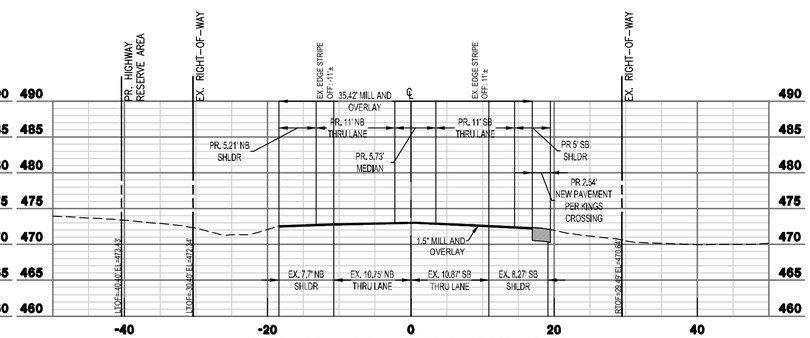
VERTICAL SCALE: 1"=10'

GRAPHICAL SCALE: 1"=10'



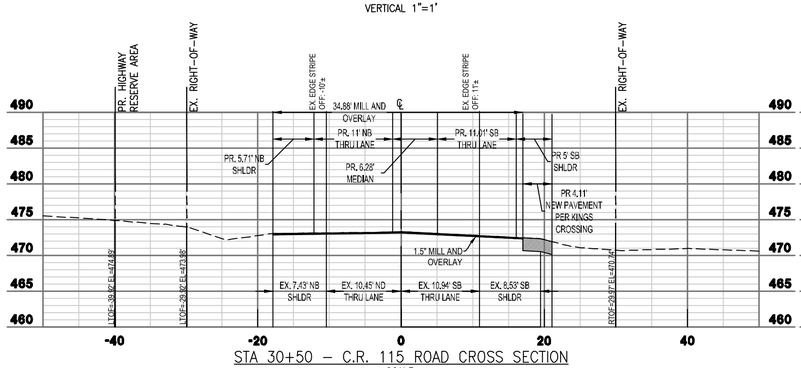
STA 29+50 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'



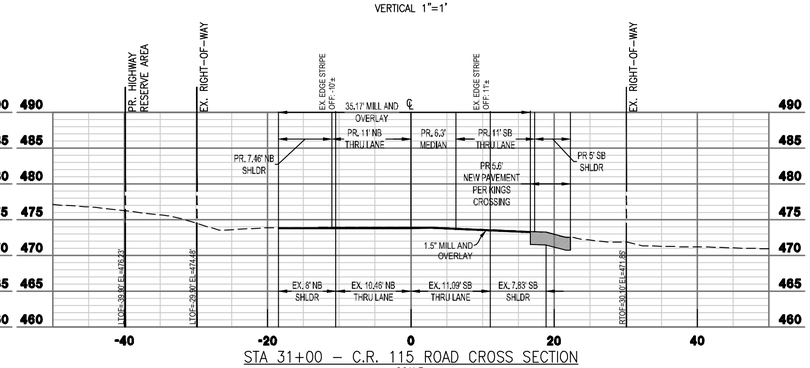
STA 30+00 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'



STA 30+50 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'



STA 31+00 – C.R. 115 ROAD CROSS SECTION

SCALE:
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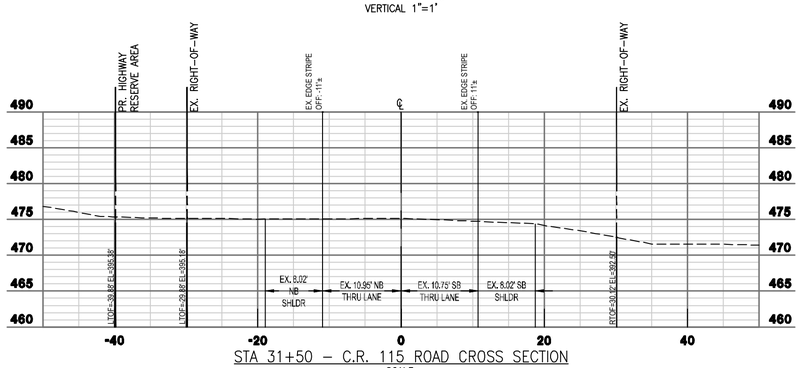
VERTICAL 1"=1'



STA 31+50 – C.R. 115 ROAD CROSS SECTION

SCALE:
HORIZONTAL 1"=10'
VERTICAL 1"=1'

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JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
5-24-24

SEAL:

REVISIONS

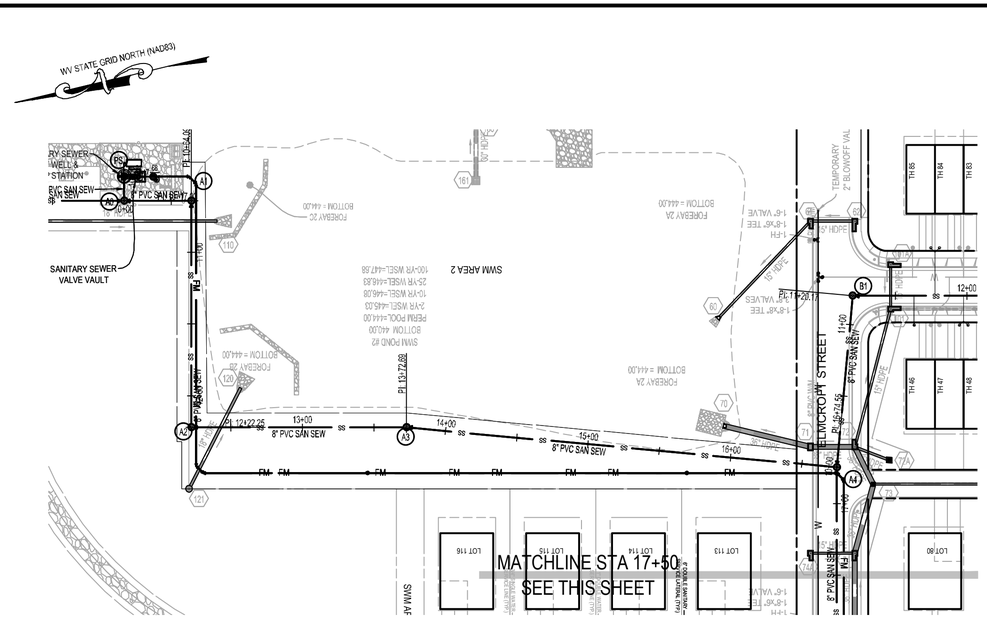
1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

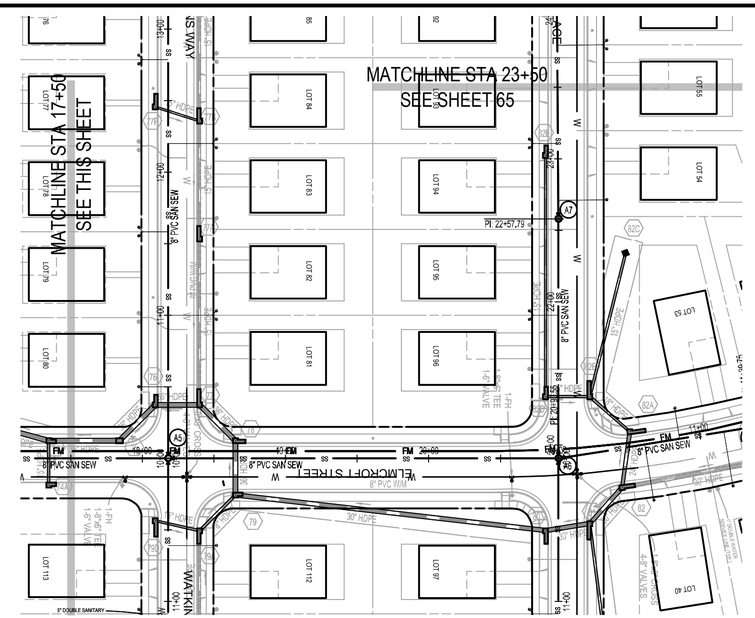
WVDOH CROSS SECTIONS

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

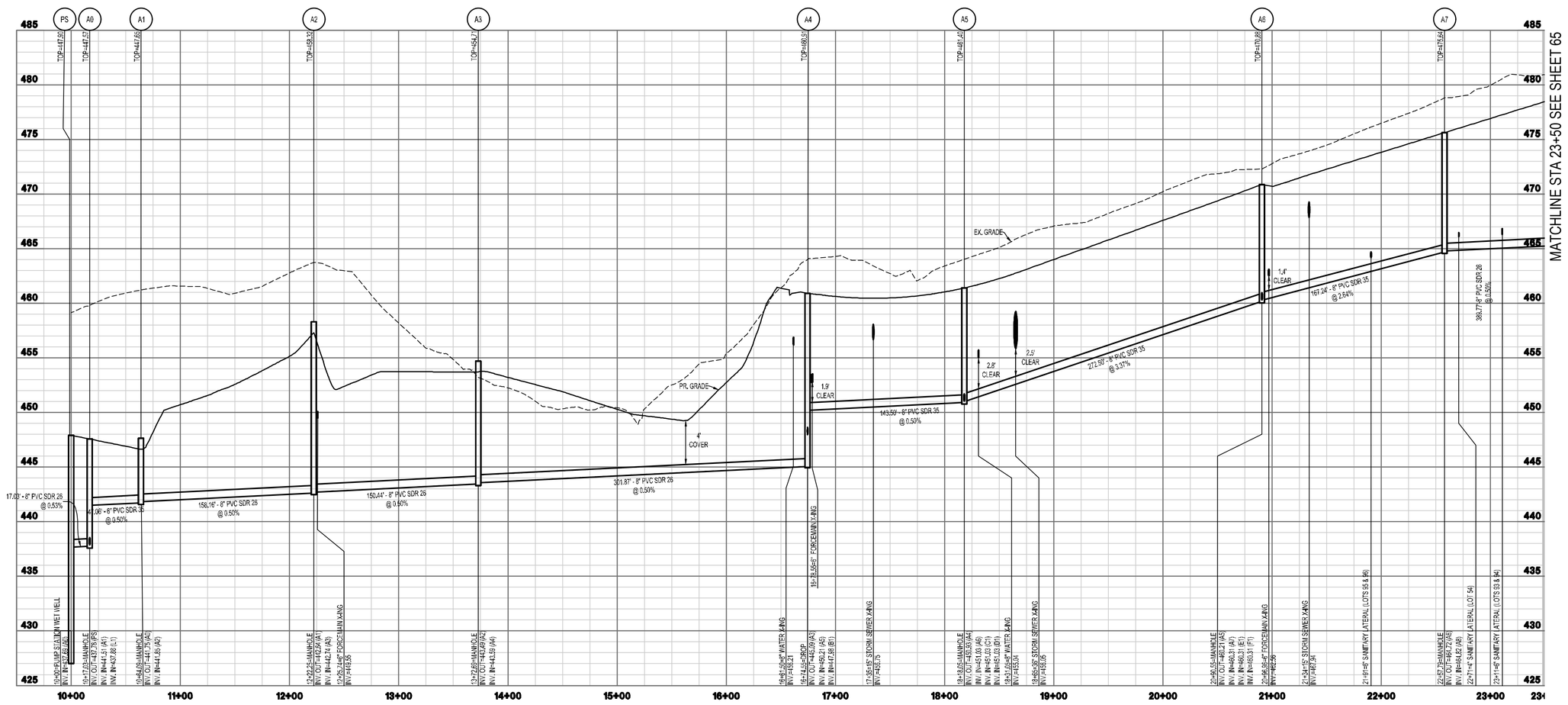
SCALE:	HORIZ.: AS NOTED VERT.: AS NOTED
DATE: APRIL 2024	
JOB: 5016-0201	
DRAWN: TME	CHECK: RPP
CADD: C-CT-401.DWG	
NCS:	
SHEET: 63 OF 119	





GRAPHICAL SCALE: 1"=50'

VERTICAL SCALE: 1"=5'



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SANITARY SEWER PLAN & PROFILE

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG.208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: 1" = 50' VERT.: 1" = 5'
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD:	C-CT-201.DWG
NCS:	
SHEET:	64 OF 119

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SANITARY SEWER PLAN & PROFILE

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, P.G. 144 AND D.B. 1267, P.G.208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

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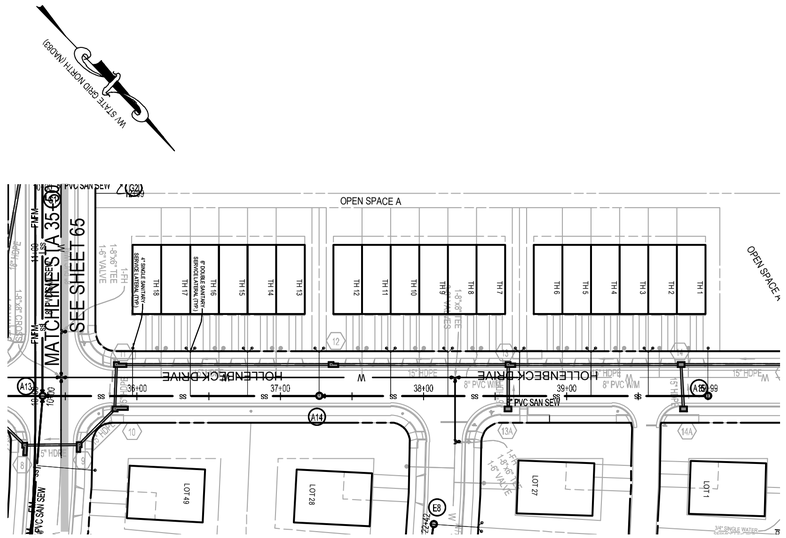
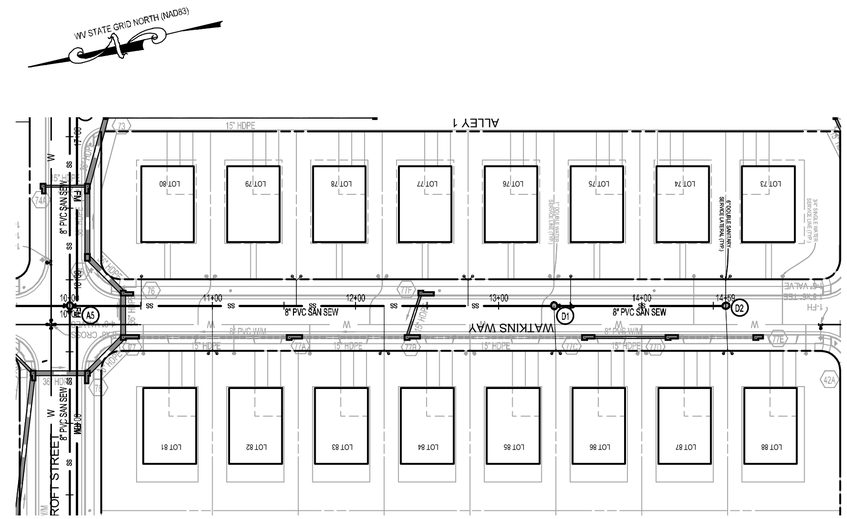
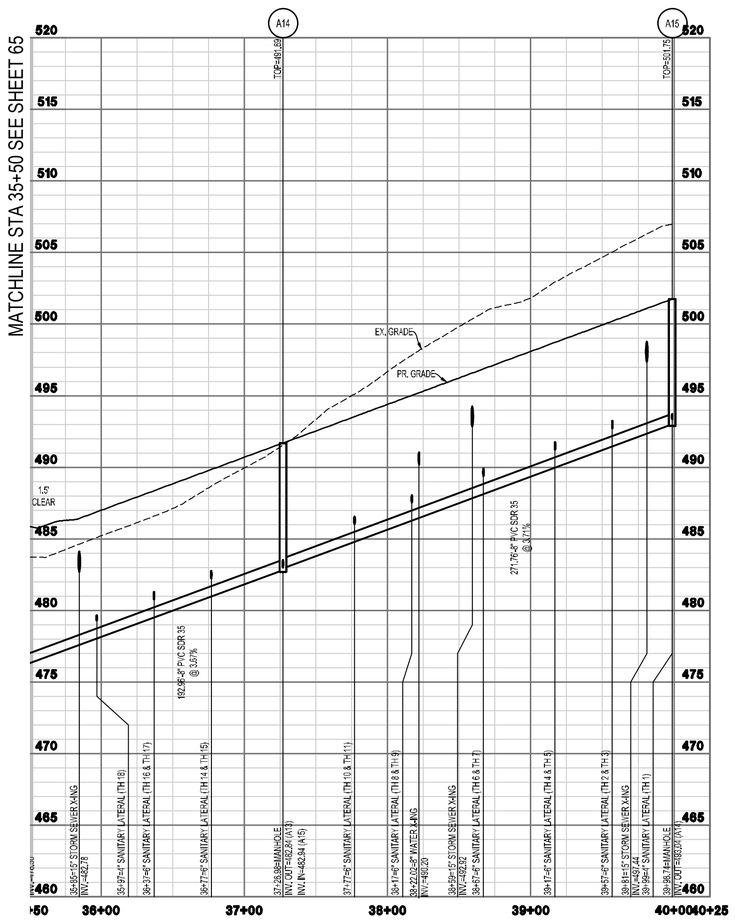
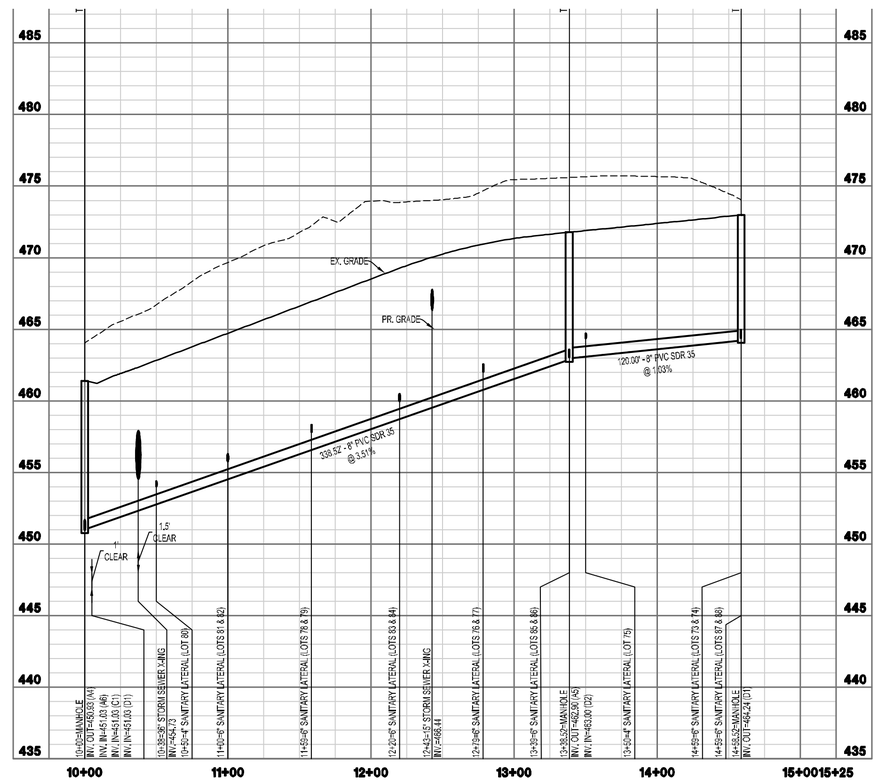
CADD:	C-CT-201.DWG
NCS:	
SHEET:	65 OF 119









GRAPHICAL SCALE: 1"=50'

VERTICAL SCALE: 1"=5'

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SEAL:

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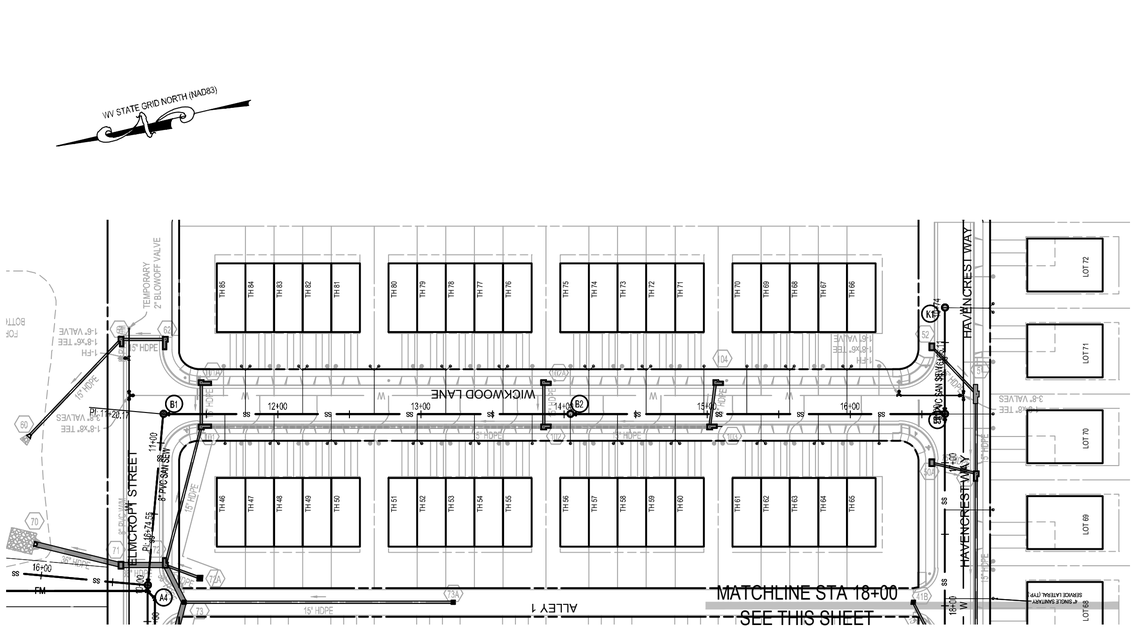
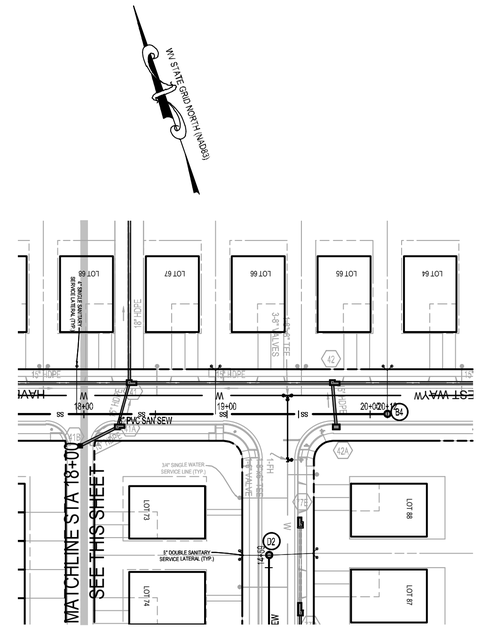
SANITARY SEWER PLAN & PROFILE

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

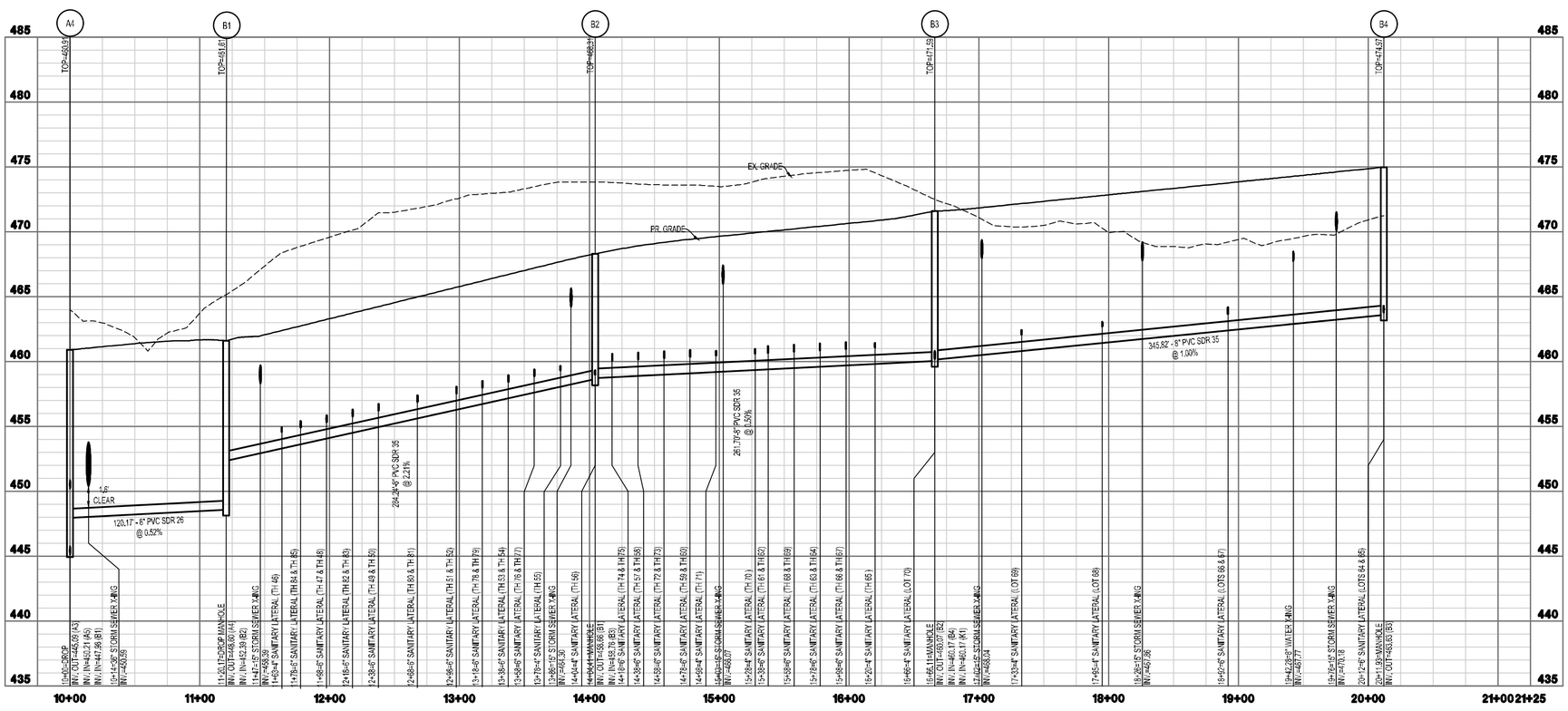
C.T. FILE #SLD2024-03

SCALE:	HORIZ.: 1" = 50' VERT.: 1" = 5'
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD:	C-CT-201.DWG
NCS:	
SHEET:	66 OF 119





50 25 0 50 100 150
GRAPHICAL SCALE: 1"=50'
0 2.5 5 10 15
VERTICAL SCALE: 1"=5'



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JASON P. GERHART
REGISTERED
No. 19127
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
1-24-25

SEAL:

REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
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SANITARY SEWER PLAN & PROFILE

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG.208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: 1" = 50' VERT.: 1" = 5'
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD:	C-CT-201.DWG
NCS:	
SHEET:	67 OF 119

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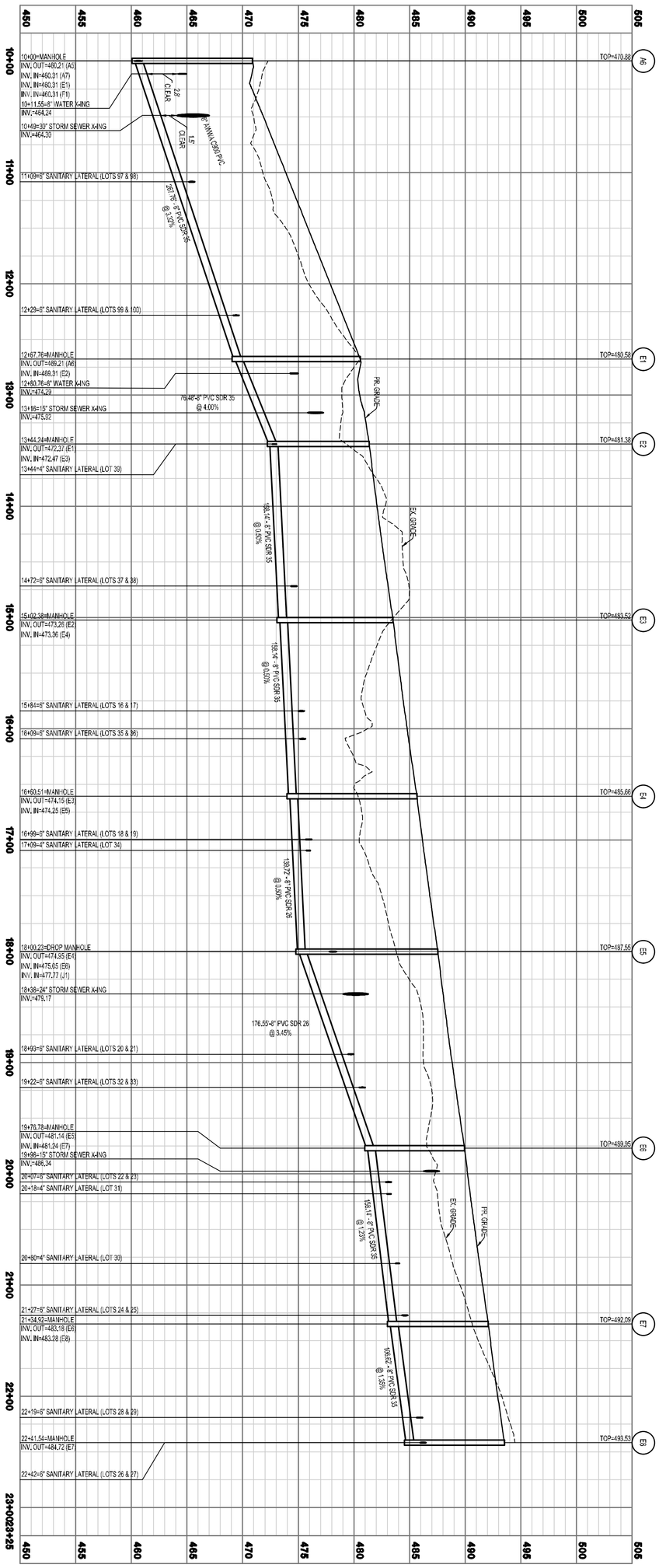

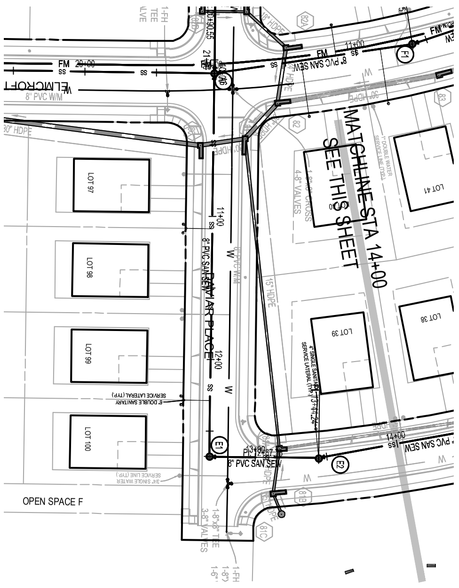

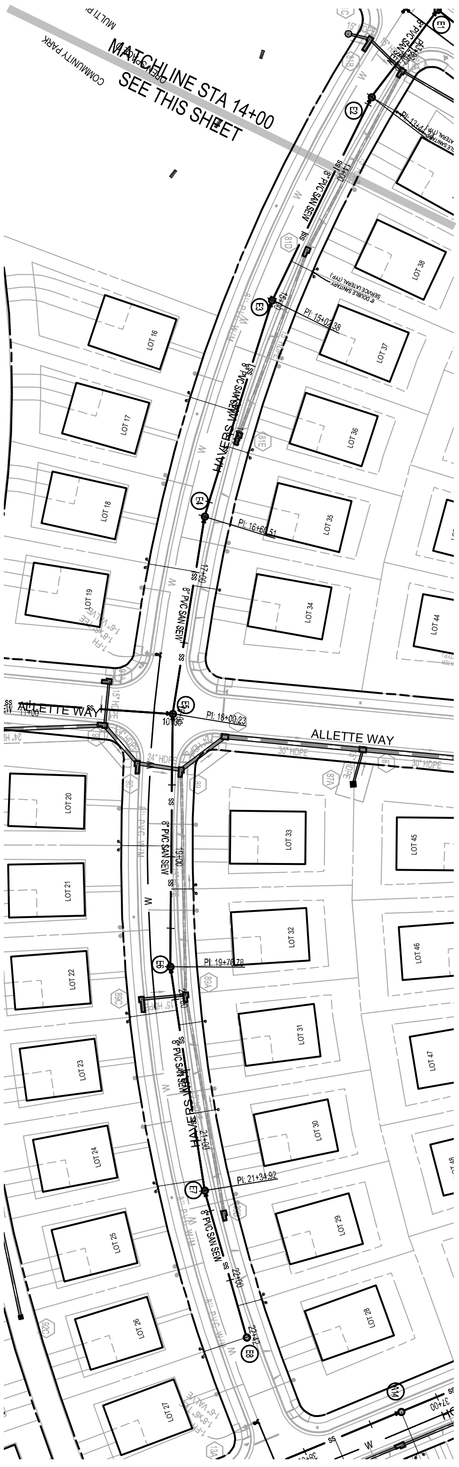

GRAPHICAL SCALE: 1"=50'
VERTICAL SCALE: 1"=5'

SANITARY SEWER PLAN & PROFILE

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SU2024-03

1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
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REVISIONS

SEAL:

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SCALE:	HORIZ.: 1" = 50' VERT.: 1" = 5'
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN:	TMF
CHECK:	RPP
CADD:	C-CT-201.DWG
NCS:	
SHEET:	68 OF 119

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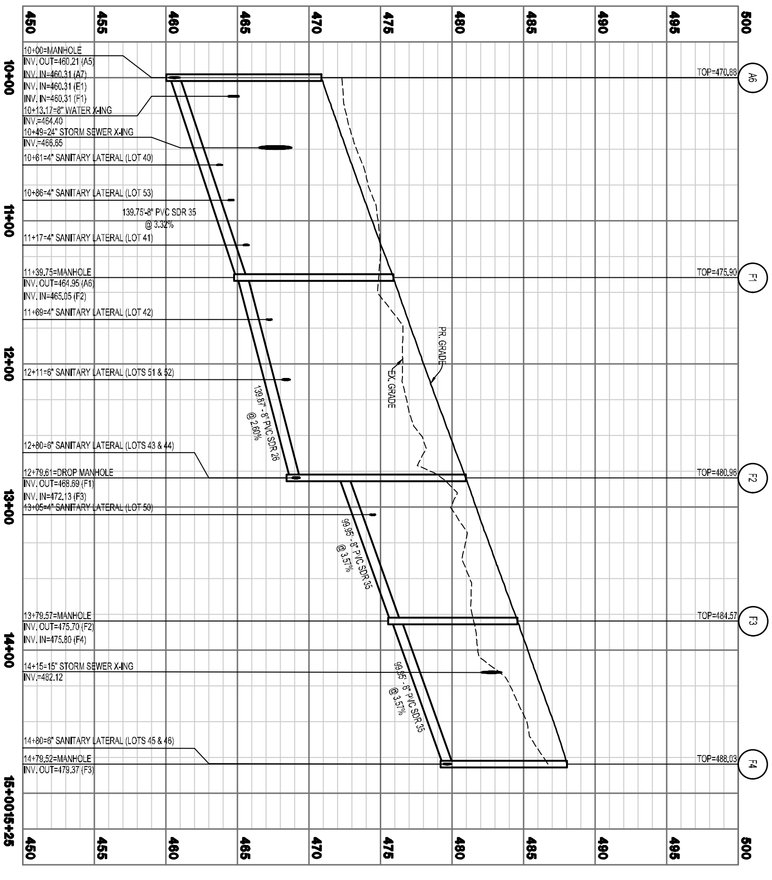

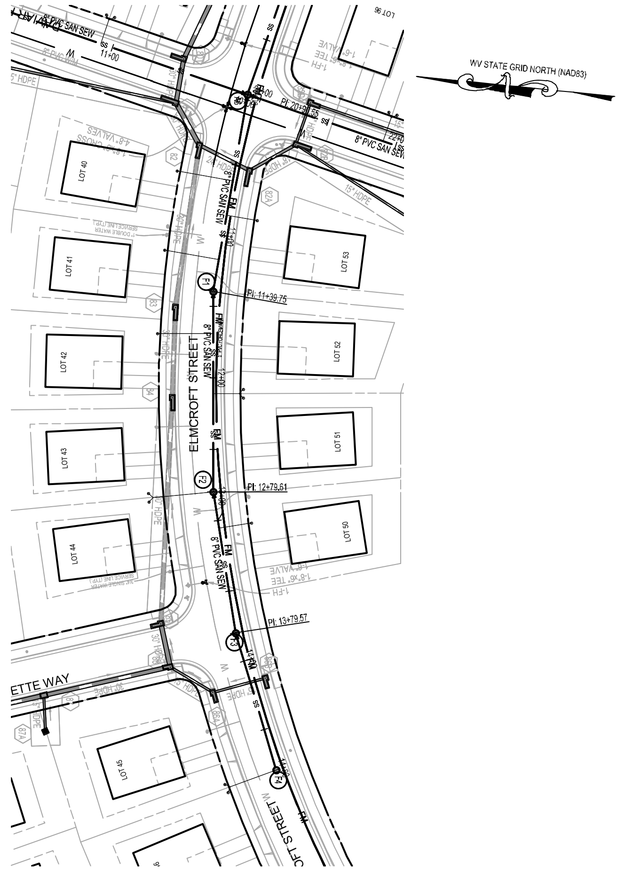

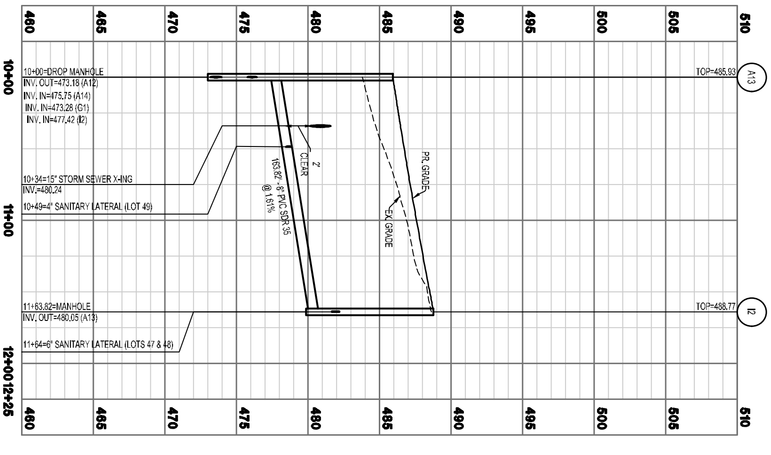

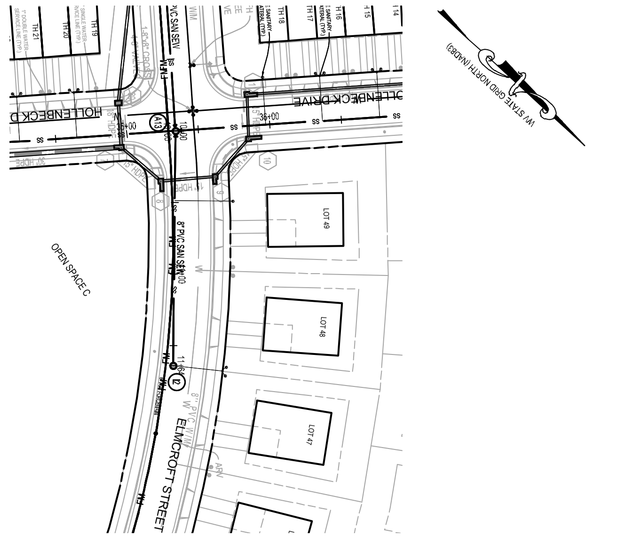

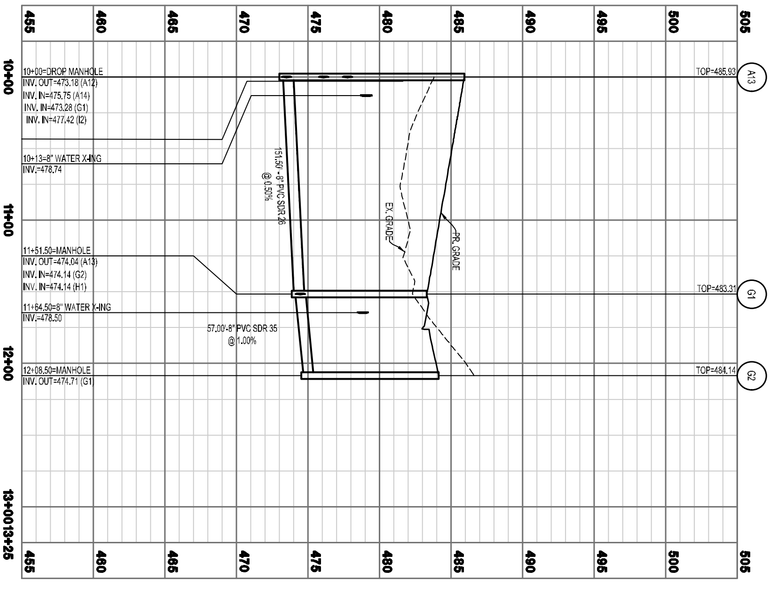

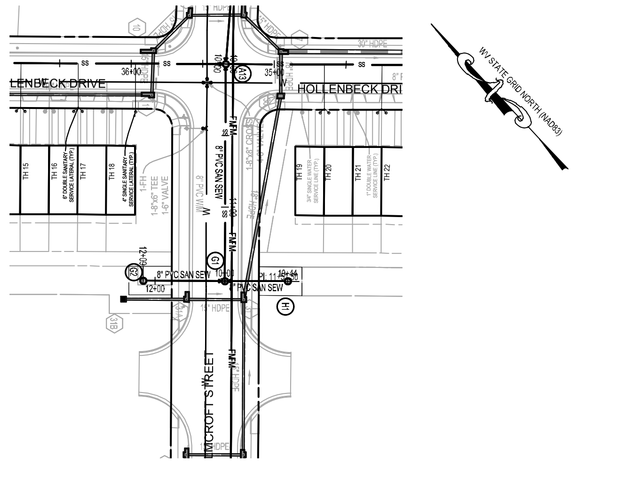

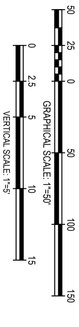

SANITARY SEWER PLAN & PROFILE

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SU2024-03

REVISIONS
1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
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SEAL:

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SCALE:	HORIZ.: 1" = 50' VERT.: 1" = 5'
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD:	C-CT-201.DWG
NCS:	
SHEET:	69 OF 119

GRAPHICAL SCALE: 1"=50'

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JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
4-24-24

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CHARLES TOWN TAX DISTRICT

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NCS:	
SHEET:	70 OF 119

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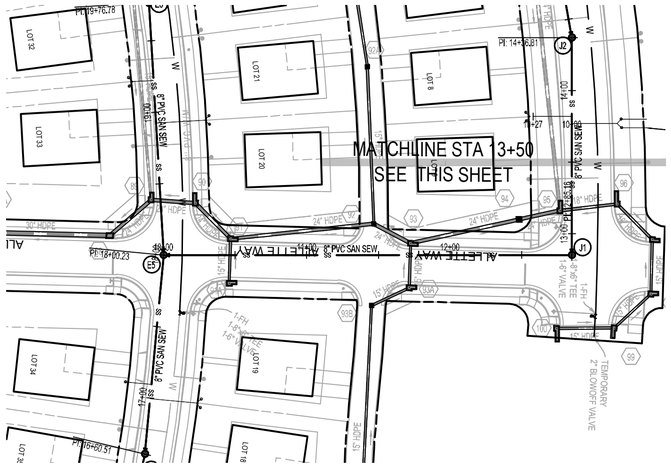
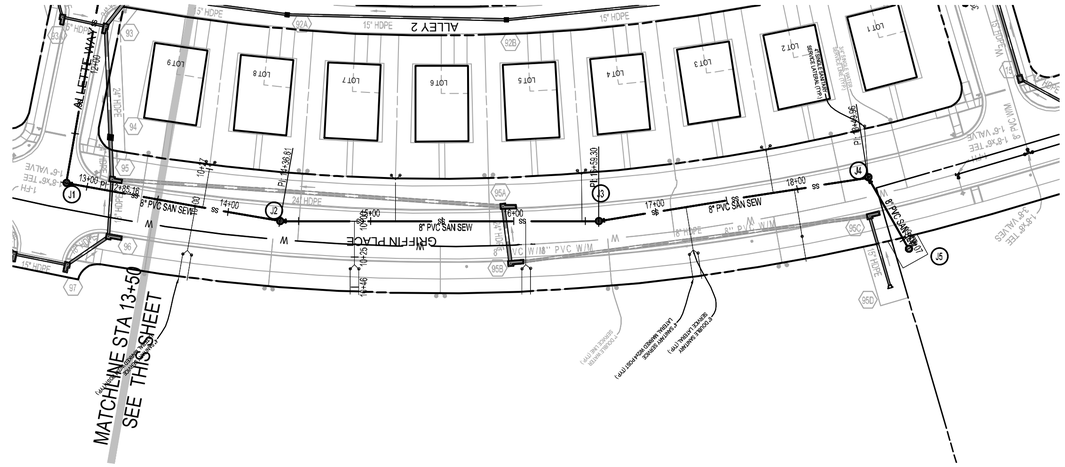
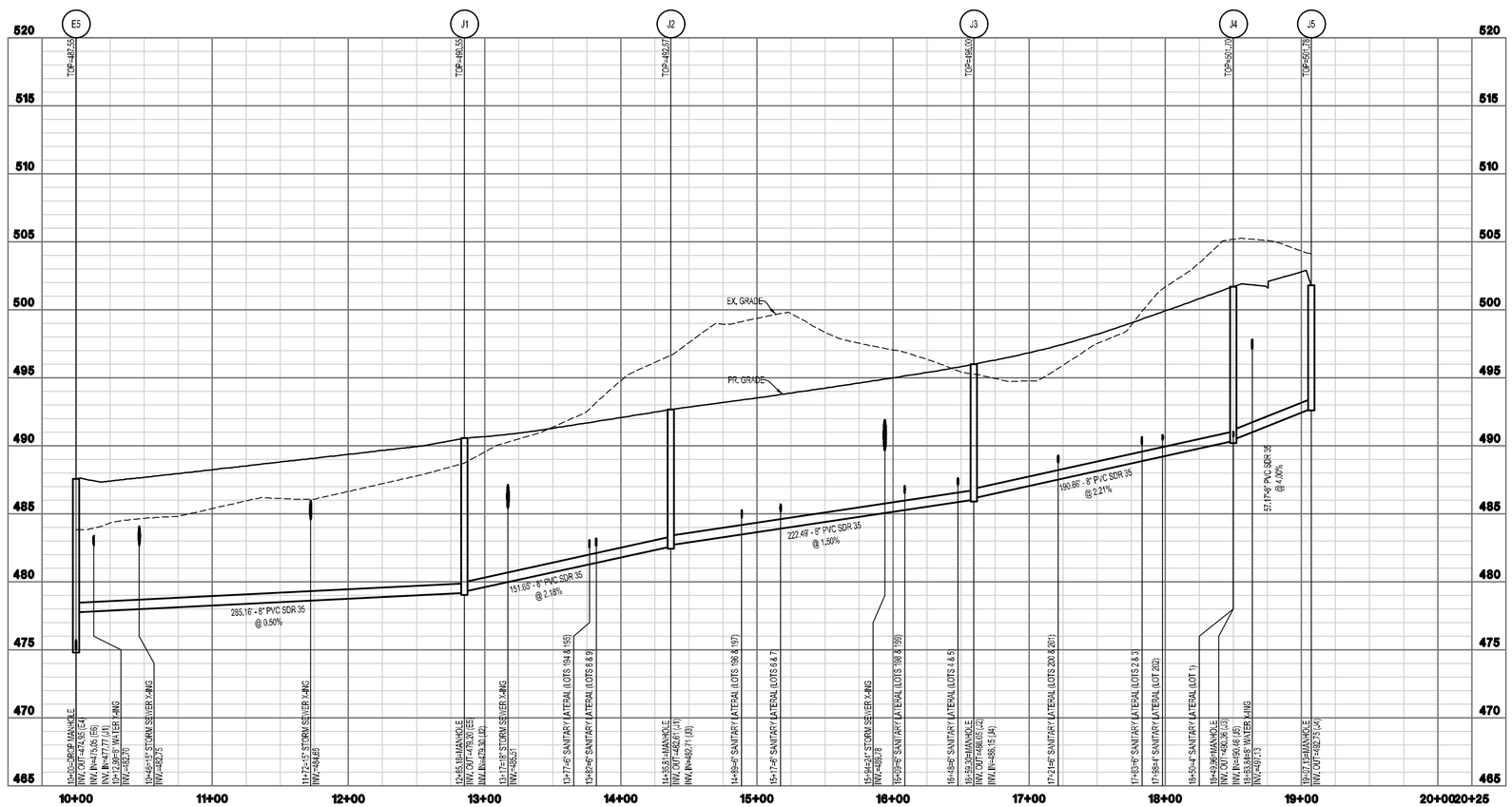




GRAPHICAL SCALE: 1"=50'

VERTICAL SCALE: 1"=5'



INTEGRITY FEDERAL SERVICES
CIVIL ENGINEERING • LANDSCAPE ARCHITECTURE • PLANNING
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JASON P. GERHART
REGISTERED
No. 19127
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
1-24-25

SEAL:

REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

SANITARY SEWER PLAN & PROFILE

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: 1" = 50' VERT.: 1" = 5'
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD:	C-CT-201.DWG
NCS:	
SHEET:	71 OF 119

PROJECT: PROJECT TITLE
SANITARY SEWER COMPUTATIONS

SANITARY SEWER STRUCTURE NO.		FLOW DETERMINATION				SANITARY SEWER FLOW				PIPE RUN N = 0.013			SANITARY MANHOLE ELEVATIONS				
		FORCE MAIN		BUILDING													
UPPER M.H. STRUCTURE	LOWER M.H. STRUCTURE	NO. OF UNITS	FLOW PER UNIT (G.P.D.)	NO. OF UNITS	FLOW PER UNIT (G.P.D.)	INCREM. FLOW (M.G.D.)	TOTAL AVG. FLOW (M.G.D.)	PEAK FLOW FACTOR	PEAK FLOW (M.G.D.)	TOTAL LENGTH (FT.)	PIPE DIA. (IN.)	PIPE SLOPE (%)	DROP IN STRUCT. (FT.)	UPPER INVERT (ELEV.)	LOWER INVERT (ELEV.)	TOP OF STRUCT. (ELEV.)	STRUCT. DEPTH (FT.)
A15	A14			12	280	0.0034	0.0034	4.00	0.0134	271.76	8	3.72%	---	493.04	482.94	501.75	8.71
A14	A13			7	280	0.0020	0.0020	4.00	0.0078	192.96	8	3.68%	0.10	482.84	475.74	491.69	8.85
A13	A12			12	280	0.0034	0.0062	4.00	0.0246	306.55	8	0.50%	2.56	473.18	471.65	485.93	12.75
A12	A11			15	280	0.0042	0.0104	4.00	0.0414	381.24	8	0.89%	0.10	471.55	468.15	488.34	16.79
A11	A9			0	280	0.0000	0.0104	4.00	0.0414	81.77	8	0.62%	0.10	468.05	467.54	478.20	10.15
A9	A8			3	280	0.0008	0.0112	4.00	0.0448	116.89	8	0.50%	0.10	467.44	466.86	477.28	9.84
A8	A7			13	280	0.0036	0.0148	4.00	0.0594	389.77	8	0.50%	0.10	466.76	464.82	477.23	10.47
A7	A6			2	280	0.0006	0.0154	4.00	0.0616	167.24	8	2.64%	0.10	464.72	460.31	475.64	10.92
A6	A5			0	280	0.0000	0.0314	4.00	0.1254	272.50	8	3.37%	0.10	460.21	451.03	470.88	10.67
A5	A4			0	280	0.0000	0.0381	4.00	0.1523	143.50	8	0.50%	0.10	450.93	450.21	461.40	10.47
A4	A3			0	280	0.0000	0.0518	4.00	0.2072	301.87	8	0.50%	5.12	445.09	443.59	460.91	15.82
A3	A2			0	280	0.0000	0.0518	4.00	0.2072	150.44	8	0.50%	0.10	443.49	442.74	454.71	11.22
A2	A1			0	280	0.0000	0.0518	4.00	0.2072	158.16	8	0.47%	0.10	442.64	441.89	454.71	12.07
A1	A0			0	280	0.0000	0.0518	4.00	0.2072	47.06	8	0.59%	3.73	438.16	437.88	454.71	16.55
A0	PS			0	280	0.0000	0.0518	4.00	0.2072	17.03	8	0.53%	---	437.78	437.69	446.74	8.96
B4	B3			6	280	0.0017	0.0017	4.00	0.0067	345.82	8	1.00%	---	463.63	460.17	474.97	11.34
B3	B2			20	280	0.0056	0.0078	4.00	0.0314	261.70	8	0.50%	0.10	460.07	458.76	471.59	11.52
B2	B1			21	280	0.0059	0.0137	4.00	0.0549	284.24	8	2.21%	0.10	458.66	452.39	468.31	9.65
B1	A4			0	280	0.0000	0.0137	4.00	0.0549	120.17	8	2.84%	3.79	448.60	445.19	461.61	13.01
C1	A5			8	280	0.0022	0.0022	4.00	0.0090	284.15	8	4.28%	---	463.18	451.03	471.95	8.77
D2	D1			5	280	0.0014	0.0014	4.00	0.0056	120.00	8	1.03%	---	464.24	463.00	472.98	8.74
D1	A5			11	280	0.0031	0.0045	4.00	0.0179	338.52	8	3.51%	0.10	462.90	451.03	471.77	8.87
E8	E7			4	280	0.0011	0.0011	4.00	0.0045	106.62	8	4.16%	---	487.72	483.28	493.53	5.81
E7	E6			6	280	0.0017	0.0028	4.00	0.0112	158.14	8	1.23%	0.10	483.18	481.24	492.09	8.91
E6	E5			4	280	0.0011	0.0039	4.00	0.0157	176.55	8	3.45%	0.10	481.14	475.05	489.95	8.81
E5	E4			3	280	0.0008	0.0098	4.00	0.0392	139.72	8	0.50%	0.10	474.95	474.25	487.55	12.60
E4	E3			4	280	0.0011	0.0109	4.00	0.0437	158.14	8	0.50%	0.10	474.15	473.36	485.66	11.51
E3	E2			2	280	0.0006	0.0115	4.00	0.0459	158.14	8	0.50%	0.10	473.26	472.47	483.52	10.26
E2	E1			1	280	0.0003	0.0118	4.00	0.0470	76.48	8	4.00%	0.10	472.37	469.31	481.38	9.01
E1	A6			4	280	0.0011	0.0129	4.00	0.0515	267.76	8	3.32%	0.10	469.21	460.31	480.58	11.37
F4	F3			2	280	0.0006	0.0006	4.00	0.0022	99.95	8	3.57%	---	479.37	475.80	488.03	8.66
F3	F2			1	280	0.0003	0.0008	4.00	0.0034	99.95	8	3.57%	0.10	475.70	472.13	484.57	8.87
F2	F1			6	280	0.0017	0.0025	4.00	0.0101	139.87	8	2.60%	3.44	468.69	465.05	480.96	12.27
F1	A6			2	280	0.0006	0.0031	4.00	0.0123	139.75	8	3.32%	0.10	464.95	460.31	475.90	10.95
G2	G1			0	280	0.0000	0.0000	4.00	0.0000	57.00	8	1.00%	---	474.71	474.14	484.70	9.99
G1	A13			0	280	0.0000	0.0000	4.00	0.0000	161.50	8	0.47%	0.10	474.04	473.28	483.31	9.27
H1	G1			0	280	0.0000	0.0000	4.00	0.0000	44.00	8	1.00%	---	474.58	474.14	483.26	8.68
I2	A13			3	280	0.0008	0.0008	4.00	0.0034	163.82	8	2.77%	---	480.42	475.88	486.32	5.90
J5	J4			0	280	0.0000	0.0000	4.00	0.0000	57.17	8	4.01%	---	492.75	490.46	504.10	11.35
J4	J3			6	280	0.0017	0.0017	4.00	0.0067	190.66	8	2.21%	0.10	490.36	486.15	501.70	11.34
J3	J2			8	280	0.0022	0.0039	4.00	0.0157	222.49	8	1.50%	0.10	486.05	482.71	496.00	9.95
J2	J1			4	280	0.0011	0.0050	4.00	0.0202	151.65	8	2.18%	0.10	482.61	479.30	492.67	10.06
J1	E5			0	280	0.0000	0.0050	4.00	0.0202	285.16	8	0.50%	0.10	479.20	477.77	490.55	11.35
K1	B3			2	280	0.0006	0.0006	4.00	0.0022	74.34	8	3.20%	---	462.55	460.17	472.11	9.56
L1	A0			0	280	0.0000	0.0000	4.00	0.0000	99.45	8	0.50%	---	438.38	437.88	451.30	12.92

NOTES:
1. SEWER FLOWS BASED ON TABLE 64-47-B OF WV SERIES 47 SEWAGE TREATMENT AND COLLECTION SYSTEM DESIGN STANDARDS (64CSR47).

PROJECT: PROJECT TITLE
SANITARY SEWER LATERAL COMPUTATIONS

BUILDING / LOT NO.	SANITARY SEWER MAIN						LATERAL RISER @ MAIN		SANITARY SEWER LATERAL							
	UPPER MANHOLE STR. NO.	LOWER MANHOLE STR. NO.	DIST. FROM LOWER MANHOLE (FT.)	SLOPE OF MAIN (%)	INV. OF SEWER MAIN	INV. OF LATERAL @ SEWER MAIN	HEIGHT (FT.)	INV. OF LATERAL @ RISER	TOTAL LENGTH (FT.)	PLAN LENGTH 6" DIA. (FT.)	PLAN LENGTH 4" DIA. (FT.)	LAT. ANGLE @ SEWER MAIN	PIPE SLOPE (%)	INV. OF LATERAL STUB (ELEV.)	BUILDING / SLAB ELEV.	ELEV. DIFF. (LAT END - SLAB) (FT.)
TH 1*	A15	A14	271.76	3.72%	493.04	493.24	---	---	33.50	---	33.50	90°	2.08%	493.94	503.40	7.89
TH 2	A15	A14	230.00	3.72%	491.49	492.74	---	---	34.74	30.50	4.24	90°	2.08%	493.46	502.73	7.73
TH 3	A15	A14	230.00	3.72%	491.49	492.74	---	---	34.74	30.50	4.24	90°	2.08%	493.46	502.06	7.06
TH 4	A15	A14	190.00	3.72%	490.00	491.25	---	---	34.74	30.50	4.24	90°	2.08%	491.98	501.39	7.87
TH 5	A15	A14	190.00	3.72%	490.00	491.25	---	---	34.74	30.50	4.24	90°	2.08%	491.98	500.72	7.20
TH 6	A15	A14	140.00	3.72%	488.14	489.39	---	---	34.74	30.50	4.24	90°	2.08%	490.12	500.05	8.33
TH 7	A15	A14	140.00	3.72%	488.14	489.39	---	---	34.74	30.50	4.24	90°	2.08%	490.12	498.20	6.48
TH 8	A15	A14	90.00	3.72%	486.28	487.53	---	---	34.74	30.50	4.24	90°	2.08%	488.26	497.53	7.73
TH 9	A15	A14	90.00	3.72%	486.28	487.53	---	---	34.74	30.50	4.24	90°	2.08%	488.26	496.86	7.06
TH 10	A15	A14	50.00	3.72%	484.80	486.05	---	---	34.74	30.50	4.24	90°	2.08%	486.77	496.19	7.88
TH 11	A15	A14	50.00	3.72%	484.80	486.05	---	---	34.74	30.50	4.24	90°	2.08%	486.77	495.52	7.21
TH 12*	A14	A13	192.96	3.68%	482.84	483.04	---	---	34.74	30.50	4.24	90°	2.08%	483.76	494.85	9.48
TH 13*	A14	A13	192.96	3.68%	482.84	483.04	---	---	34.74	30.50	4.24	90°	2.08%	483.76	492.99	7.62
TH 14	A14	A13	142.96	3.68%	481.00	482.25	---	---	34.74	30.50	4.24	90°	2.08%	482.97	492.32	7.80
TH 15	A14	A13	142.96	3.68%	481.00	482.25	---	---	34.74	30.50	4.24	90°	2.08%	482.97	491.65	7.13
TH 16	A14	A13	102.96	3.68%	479.53	480.78	---	---	34.74	30.50	4.24	90°	2.08%	481.50	490.98	7.94
TH 17	A14	A13	102.96	3.68%	479.53	480.78	---	---	34.74	30.50	4.24	90°	2.08%	481.50	490.31	7.27
TH 18	A14	A13	62.96	3.68%	478.06	479.31	---	---	33.50	---	33.50	90°	2.08%	480.00	489.64	8.08
TH 19	A13	A12	237.55	0.50%	472.84	474.09	4.00	478.09	26.50	30.50	4.24	90°	2.08%	478.64	488.36	8.18
TH 20	A13	A12	237.55	0.50%	472.84	474.09	4.00	478.09	26.50	30.50	4.24	90°	2.08%	478.64	488.36	8.18
TH 21	A13	A12	197.55	0.50%	472.64	473.89	5.00	478.89	25.50	30.50	4.24	90°	2.08%	479.42	488.36	7.40
TH 22	A13	A12	197.55	0.50%	472.64	473.89	5.00	478.89	25.50	30.50	4.24	90°	2.08%	479.42	488.36	7.40
TH 23	A13	A12	147.55	0.50%	472.39	473.64	6.00	479.64	24.50	30.50	4.24	90°	2.08%	480.15	489.03	7.28
TH 24	A13	A12	147.55	0.50%	472.39	473.64	6.00	479.64	24.50	30.50	4.24	90°	2.08%	480.15	489.36	7.61
TH 25	A13	A12	97.55	0.50%	472.14	473.39	7.00	480.39	23.50	30.50	4.24	90°	2.08%	480.88	489.36	6.94
TH 26	A13	A12	97.55	0.50%	472.14	473.39	7.00	480.39	23.50	30.50	4.24	90°	2.08%	480.88	489.36	6.94
TH 27	A13	A12	57.55	0.50%	471.94	473.19	7.00	480.19	23.50	30.50	4.24	90°	2.08%	480.68	490.03	7.81
TH 28	A13	A12	57.55	0.50%	471.94	473.19	7.00	480.19	23.50	30.50	4.24	90°	2.08%	480.68	490.03	7.81
TH 29	A13	A12	7.55	0.50%	471.69	472.94	8.00	480.94	22.50	30.50	4.24	90°	2.08%	481.41	490.03	7.02
TH 30	A13	A12	7.55	0.50%	471.69	472.94	8.00	480.94	22.50	30.50	4.24	90°	2.08%	481.41	490.69	7.68
TH 31	A12	A11	338.79	0.89%	471.17	472.42	9.00	481.42	21.50	30.50	4.24	90°	2.08%	481.87	490.69	7.28
TH 32	A12	A11	338.79	0.89%	471.17	472.42	9.00	481.42	21.50	30.50	4.24	90°	2.08%	481.87	490.69	7.28
TH 33	A12	A11	297.79	0.89%	470.81	472.06	9.00	481.06	21.50	30.50	4.24	90°	2.08%	481.50	490.69	7.65
TH 34	A12	A11	298.79	0.89%	470.81	472.06	9.00	481.06	21.50	30.50	4.24	90°	2.08%	481.51	490.02	6.97
TH 35	A12	A11	238.79	0.89%	470.28	471.53	7.00	478.53	23.50	30.50	4.24	90°	2.08%	479.02	488.74	8.18
TH 36	A12	A11	238.79	0.89%	470.28	471.53	7.00	478.53	23.50	30.50	4.24	90°	2.08%	479.02	488.07	7.51
TH 37	A12	A11	198.79	0.89%	469.92	471.17	6.00	477.17	24.50	30.50	4.24	90°	2.08%	477.68	487.40	8.18
TH 38	A12	A11	198.79	0.89%	469.92	471.17	6.00	477.17	24.50	30.50	4.24	90°	2.08%	477.68	486.73	7.51
TH 39	A12	A11	158.79	0.89%	469.57	470.82	5.00	475.82	25.50	30.50	4.24	90°	2.08%	476.35	487.06	9.17
TH 40	A12	A11	158.79	0.89%	469.57	470.82	5.00	475.82	25.50	30.50	4.24	90°	2.08%	476.35	485.39	7.50
TH 41	A12	A11	98.79	0.89%	469.03	470.28	3.00	473.28	27.50	30.50	4.24	90°	2.08%	473.85	483.32	7.92
TH 42	A12	A11	98.79	0.89%	469.03	470.28	3.00	473.28	27.50	30.50	4.24	90°	2.08%	473.85	482.65	7.25
TH 43	A12	A11	58.79	0.89%	468.67	469.92	---	---	34.74	30.50	4.24	90°	2.08%	470.65	481.98	9.79
TH 44	A12	A11	58.79	0.89%	468.67	469.92	---	---	34.74	30.50	4.24	90°	2.08%	470.65	481.31	9.12
TH 45	A12	A11	23.85	0.89%	468.36	469.61	---	---	33.50	---	33.50	90°	2.08%	470.31	480.64	8.80
62*	A9	A8	116.89	0.50%	467.44	467.64	4.00	471.64	13.50	---	17.50	90°	2.08%	471.92	479.80	6.11
63	A9	A8	69.32	0.50%	467.20	468.45	4.00	472.45	15.88	---	19.88	90°	2.08%	472.78	479.15	4.67
61	A9	A8	63.32	0.50%	467.17	468.42	---	---	34.51	---	34.51	90°	2.08%	469.14	479.47	8.57
60	A8	A7	361.59	0.50%	466.62	467.87	---	---	37.52	33.28	4.24	90°	2.08%	468.65	479.90	9.39
59	A8	A7	361.59	0.50%	466.62	467.87	---	---	37.52	33.28	4.24	90°	2.08%	468.65	481.27	10.76
89	A8	A7	292.88	0.50%	466.28	467.53	6.00	473.53	9.25	15.25	4.24	90°	2.08%	473.72	480.33	4.75
90	A8	A7	292.88	0.50%	466.28	467.53	6.00	473.53	9.25	15.25	4.24	90°	2.08%	473.72	481.73	6.15
58	A8	A7	241.60	0.50%	466.02	467.27	6.00	473.27	26.36	32.36	4.24	90°	2.08%	473.82	482.67	6.99
57	A8	A7	241.60	0.50%	466.02	467.27	6.00	473.27	26.36	32.36	4.24	90°	2.08%	473.82	483.55	7.87
91	A8	A7	172.89	0.50%	465.68	466.93	8.00	474.93	8.17	16.17	4.24	90°	2.08%	475.10	482.37	5.41
92	A8	A7	172.89	0.50%	465.68	466.93	8.00	474.93	8.17	16.17	4.24	90°	2.08%	475.10	482.01	5.05
56	A8	A7	121.60	0.50%	465.43	466.68	5.00	471.68	26.44	31.44	4.24	90°	2.08%	472.23	483.05	8.96
55	A8	A7	121.60	0.50%	465.43	466.68	5.00	471.68	26.44	31.44	4.24	90°	2.08%	472.23	481.23	7.14
93	A8	A7	52.89	0.50%	465.08	466.33	5.00	471.33	12.09	17.09	4.24	90°	2.08%	471.59	479.80	6.36
94	A8	A7	52.89	0.50%	465.08	466.33	5.00	471.33	12.09	17.09	4.24	90°	2.08%	471.59	477.93	4.49
54	A8	A7	13.16	0.50%	464.89	466.14	---	---	33.60	---	33.60	90°	2.08%	466.84	479.38	10.77
95	A7	A6	100.00	2.64%	462.95	464.20	3.00	467.20	14.50	17.50	4.24	90°	2.08%	467.50	476.07	6.71
96	A7	A6	100.00	2.64%	462.95	464.20	3.00	467.20	14.50	17.50	4.24	90°	2.08%	467.50	474.20	4.84
64*	B4	B3	345.82	1.00%	463.63	463.83	3.00	466.83	27.50	30.50	4.24	90°	2.08%	467.40	477.52	8.26
65*	B4	B3	345.82	1.00%	463.63	463.83	3.00	466.83	27.50	30.50	4.24	90°	2.08%	467.40	476.66	7.40
66	B4	B3	225.82	1.00%	462.43	463.68	---	---	34.74	30.50	4.24	90°	2.08%	464.40	476.33	10.07
67	B4	B3	225.82	1.00%	462.43	463.68	---	---	34.74	30.50	4.24	90°	2.08%	464.40	475.46	9.20
68	B4	B3	129.04	1.00%	461.46	462.71	---	---	33.50	---	33.50	90°	2.08%	463.41	474.87	9.72
69	B4	B3	66.82	1.00%	460.84	462.09	---	---	33.50	---	33.50	90°	2.08%	462.79	474.27	9.72
70*	B3	B2	261.70	0.50%	460.07	460.27	---	---	33.50	---	33.50	90°	2.08%	460.97	473.67	10.95
TH 65	B3	B2	215.62	0.50%	459.84	461.09	5.00	466.09	15.61	---	20.61	90°	2.08%	466.41	473.24	5.28
TH 66	B3	B2	193.23	0.50%	459.73	460.98	---	---	34.63	30.39	4.24	90°	2.08%	461.70	473.50	10.26
TH 67	B3	B2	193.23	0.50%	459.73	460.98	---	---	34.63	30.39	4.24	90°	2.08%	461.70	472.83	9.59
TH 64	B3	B2	173.21	0.50%	459.63	460.88	5.00	465.88	12.61	17.61	4.24	90°	2.08%	466.14	473.24	5.56
TH 63	B3	B2	173.21	0.50%	459.63	460.88	5.00	465.88	12.61	17.61	4.24	90°	2.08%	466.14	473.24	5.56
TH 68	B3	B2	153.23	0.50%	459.53	460.78	---	---	34.63	30.39	4.24	90°	2.08%	461.50	472.83	9.79
TH 69	B3	B2	153.23	0.50%	459.53	460.78	---	---	34.63	30.39	4.24	90°	2.08%	461.50	472.16	9.12
TH 62	B3	B2	133.22	0.50%	459.43	460.68	5.00	465.68	12.61	17.61	4.24	90°	2.08%	465.94	473.24	5.76
TH 61	B3	B2	133.22	0.50%	459.43	460.68	5.00	465.68	12.61	17.61	4.24	90°	2.08%	465.94	472.57	5.09
TH 70	B3	B2	123.22	0.50%	459.38	460.63	---	---	33.50	---	33.50	90°	2.08%	461.32	472.16	9.32
TH 71	B3	B2	93.22	0.50%	459.23	460.48	---	---	33.50	---	33.50	90°	2.08%	461.17	471.43	8.70
TH 60	B3	B2	73.21	0.50%	459.13	460.38	---	---	21.85	17.61	4.24	90°	2.08%	460.83	471.85	9.48
TH 59	B3	B2	73.21	0.50%	459.13	460.38	---	---	21.85	17.61	4.24	90°	2.08%	460.83	471.50	9.13
TH 72	B3	B2	53.22	0.50%	459.03	460.28	---	---	34.63	30.39	4.24	90°	2.08%	461.00	471.43	8.89
TH 73	B3	B2	53.22	0.50%	459.03	460.28	---	---	34.63	30.39	4.24	90°	2.08%	461.00	471.43	8.89
TH 58	B3	B2	33.21	0.50%	458.93	460.18	2.00	462.18	15.61	17.61	4.24	90°	2.08%	462.50	471.85	7.81
TH 57	B3	B2	33.21	0.50%	458.93	460.18	2.00	462.18	15.61	17.61	4.24	90°	2.08%	462.50	471.85	7.81
TH 74	B3	B2	13.22	0.50%	458.83	460.08	---	---	34.63	30.39	4.24	90°	2.08%	460.80	470.76	8.42
TH 75	B3	B2	13.22	0.50%	458.83	460.08	---	---	34.63	30.39	4.24	90°	2.08%	460.80	470.76	8.42

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INTEGRITY FEDERAL SERVICES

JASON P. GERHART REGISTERED PROFESSIONAL ENGINEER No. 19127 STATE OF WEST VIRGINIA
6-24-25

SEAL:

REVISIONS
1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

SANITARY SEWER COMPUTATIONS

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: N/A VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-CU-701.DWG	
NCS:	
SHEET:	72 OF 119

PROJECT: PROJECT TITLE
SANITARY SEWER LATERAL COMPUTATIONS

BUILDING / LOT NO.	SANITARY SEWER MAIN: UPPER MANHOLE STR. NO.	LOWER MANHOLE STR. NO.	DIST. FROM LOWER MANHOLE (FT.)	SLOPE OF MAIN (%)	INV. OF SEWER MAIN	INV. OF LATERAL @ SEWER MAIN	LATERAL RISER @ MAIN: HEIGHT (FT.)	INV. OF LATERAL @ RISER	SANITARY SEWER LATERAL: TOTAL LENGTH (FT.)	PLAN LENGTH: 6" DIA. (FT.)	4" DIA. (FT.)	LAT. ANGLE @ SEWER MAIN	PIPE SLOPE (%)	INV. OF LATERAL STUB (ELEV.)	BUILDING / SLAB ELEV.	ELEV. DIFF. (LAT END - SLAB) (FT.)
TH 56*	B2	B1	295.30	2.21%	458.90	459.10	---	---	20.61	---	20.61	90°	2.08%	459.53	471.18	10.12
TH 55	B2	B1	268.62	2.21%	458.32	459.57	---	---	20.61	---	20.61	90°	2.08%	459.99	469.96	8.41
TH 76	B2	B1	248.52	2.21%	457.87	459.12	---	---	34.63	30.39	4.24	90°	2.08%	459.84	469.42	8.04
TH 77	B2	B1	248.52	2.21%	457.87	459.12	---	---	34.63	30.39	4.24	90°	2.08%	459.84	469.42	8.04
TH 54	B2	B1	228.52	2.21%	457.43	458.68	---	---	21.85	17.61	4.24	90°	2.08%	459.14	469.29	8.61
TH 53	B2	B1	228.52	2.21%	457.43	458.68	---	---	21.85	17.61	4.24	90°	2.08%	459.14	468.62	7.94
TH 78	B2	B1	208.52	2.21%	456.99	458.24	---	---	34.63	30.39	4.24	90°	2.08%	458.96	468.75	8.25
TH 79	B2	B1	208.52	2.21%	456.99	458.24	---	---	34.63	30.39	4.24	90°	2.08%	458.96	468.08	7.58
TH 52	B2	B1	188.52	2.21%	456.55	457.80	---	---	21.85	17.61	4.24	90°	2.08%	458.25	467.95	8.16
TH 51	B2	B1	188.52	2.21%	456.55	457.80	---	---	21.85	17.61	4.24	90°	2.08%	458.25	467.28	7.49
TH 80	B2	B1	158.52	2.21%	455.89	457.14	---	---	34.63	30.39	4.24	90°	2.08%	457.86	468.08	8.62
TH 81	B2	B1	158.52	2.21%	455.89	457.14	---	---	34.63	30.39	4.24	90°	2.08%	457.86	466.52	7.06
TH 50	B2	B1	128.52	2.21%	455.23	456.48	---	---	21.85	17.61	4.24	90°	2.08%	456.93	467.01	8.54
TH 49	B2	B1	128.52	2.21%	455.23	456.48	---	---	21.85	17.61	4.24	90°	2.08%	456.93	466.34	7.87
TH 82	B2	B1	108.52	2.21%	454.78	456.03	---	---	34.63	30.39	4.24	90°	2.08%	456.76	466.52	8.22
TH 83	B2	B1	108.52	2.21%	454.78	456.03	---	---	34.63	30.39	4.24	90°	2.08%	456.76	465.85	7.55
TH 48	B2	B1	88.52	2.21%	454.34	455.59	---	---	21.85	17.61	4.24	90°	2.08%	456.05	465.67	8.08
TH 47	B2	B1	88.52	2.21%	454.34	455.59	---	---	21.85	17.61	4.24	90°	2.08%	456.05	465.00	7.41
TH 84	B2	B1	68.52	2.21%	453.90	455.15	---	---	34.63	30.39	4.24	90°	2.08%	455.87	465.18	7.77
TH 85	B2	B1	68.52	2.21%	453.90	455.15	---	---	34.63	30.39	4.24	90°	2.08%	455.87	464.51	7.10
TH 46	B2	B1	53.87	2.21%	453.58	454.83	---	---	20.61	---	20.61	90°	2.08%	455.26	464.33	7.54
109*	C1	A5	284.15	4.28%	463.18	463.38	---	---	33.50	---	33.50	90°	2.08%	464.08	474.06	8.14
116	C1	A5	228.53	4.28%	460.80	462.05	---	---	21.74	17.50	4.24	90°	2.08%	462.50	472.61	8.25
115	C1	A5	228.53	4.28%	460.80	462.05	---	---	21.74	17.50	4.24	90°	2.08%	462.50	470.21	5.85
110	C1	A5	168.53	4.28%	458.24	459.49	---	---	34.74	30.50	4.24	90°	2.08%	460.21	471.64	9.57
111	C1	A5	168.53	4.28%	458.24	459.49	---	---	34.74	30.50	4.24	90°	2.08%	460.21	469.26	7.19
114	C1	A5	104.07	4.28%	455.48	456.73	---	---	21.74	17.50	4.24	90°	2.08%	457.18	467.81	8.77
113	C1	A5	104.07	4.28%	455.48	456.73	2.00	458.73	15.50	17.50	4.24	90°	2.08%	459.05	465.45	4.54
112	C1	A5	60.85	4.28%	453.63	454.88	2.00	456.88	31.50	---	33.50	90°	2.08%	457.54	466.89	7.58
88*	D2	D1	120.00	1.03%	464.24	464.44	---	---	34.78	30.54	4.24	90°	2.08%	465.16	476.15	9.13
87*	D2	D1	120.00	1.03%	464.24	464.44	---	---	34.78	30.54	4.24	90°	2.08%	465.16	475.55	8.53
73*	D2	D1	120.00	1.03%	464.24	464.44	3.00	467.44	14.50	17.50	4.24	90°	2.08%	467.74	475.24	5.64
74*	D2	D1	120.00	1.03%	464.24	464.44	3.00	467.44	14.50	17.50	4.24	90°	2.08%	467.74	475.84	6.24
75	D2	D1	11.58	1.03%	463.12	464.37	3.00	467.37	17.50	---	20.50	90°	2.08%	467.73	475.64	6.13
86*	D1	A5	338.52	3.51%	462.90	463.10	---	---	34.78	30.54	4.24	90°	2.08%	463.82	474.94	9.26
85*	D1	A5	338.52	3.51%	462.90	463.10	---	---	34.78	30.54	4.24	90°	2.08%	463.82	474.34	8.66
76	D1	A5	278.52	3.51%	460.80	462.05	3.00	465.05	14.50	17.50	4.24	90°	2.08%	465.35	474.44	7.23
77	D1	A5	278.52	3.51%	460.80	462.05	3.00	465.05	14.50	17.50	4.24	90°	2.08%	465.35	472.31	5.10
84	D1	A5	220.00	3.51%	458.74	459.99	---	---	34.74	30.50	4.24	90°	2.08%	460.72	473.27	10.69
83	D1	A5	220.00	3.51%	458.74	459.99	---	---	34.74	30.50	4.24	90°	2.08%	460.72	471.24	8.66
78	D1	A5	158.52	3.51%	456.59	457.84	3.00	460.84	14.50	17.50	4.24	90°	2.08%	461.14	470.20	7.20
79	D1	A5	158.52	3.51%	456.59	457.84	3.00	460.84	14.50	17.50	4.24	90°	2.08%	461.14	468.15	5.15
82	D1	A5	100.00	3.51%	454.54	455.79	---	---	34.74	30.50	4.24	90°	2.08%	456.51	468.95	10.58
81	D1	A5	100.00	3.51%	454.54	455.79	---	---	34.74	30.50	4.24	90°	2.08%	456.51	466.69	8.32
80	D1	A5	50.10	3.51%	452.79	454.04	5.00	459.04	15.50	---	20.50	90°	2.08%	459.36	465.87	4.74
27*	E8	E7	106.62	4.16%	487.72	487.92	---	---	34.74	30.50	4.24	90°	2.08%	488.64	500.02	9.52
26*	E8	E7	106.62	4.16%	487.72	487.92	---	---	34.74	30.50	4.24	90°	2.08%	488.64	498.74	8.23
28	E8	E7	84.04	4.16%	486.78	488.03	---	---	20.84	16.60	4.24	90°	2.08%	488.46	495.25	4.86
29	E8	E7	84.04	4.16%	486.78	488.03	---	---	20.84	16.60	4.24	90°	2.08%	488.46	494.80	4.41
25	E7	E6	150.38	1.23%	483.08	484.33	---	---	35.37	31.13	4.24	90°	2.08%	485.07	496.87	9.93
24	E7	E6	150.38	1.23%	483.08	484.33	---	---	35.37	31.13	4.24	90°	2.08%	485.07	495.01	8.07
30	E7	E6	103.71	1.23%	482.51	483.76	---	---	17.80	---	17.80	90°	2.08%	484.13	493.80	7.81
31	E7	E6	41.23	1.23%	481.75	483.00	---	---	18.20	---	18.20	90°	2.08%	483.37	492.80	7.67
23	E7	E6	30.56	1.23%	481.61	482.86	---	---	36.64	32.40	4.24	90°	2.08%	483.63	493.44	7.95
22	E7	E6	30.56	1.23%	481.61	482.86	---	---	36.64	32.40	4.24	90°	2.08%	483.63	492.55	7.06
32	E6	E5	122.12	3.45%	479.26	480.51	---	---	18.56	14.32	4.24	90°	2.08%	480.90	491.79	8.97
33	E6	E5	122.12	3.45%	479.26	480.51	---	---	18.56	14.32	4.24	90°	2.08%	480.90	490.79	7.97
21	E6	E5	92.28	3.45%	478.23	479.48	2.00	481.48	32.23	34.23	4.24	90°	2.08%	482.15	491.81	7.79
20	E6	E5	92.28	3.45%	478.23	479.48	2.00	481.48	32.23	34.23	4.24	90°	2.08%	482.15	491.07	7.06
34	E5	E4	48.93	0.50%	474.50	475.75	6.00	481.75	12.37	---	18.37	90°	2.08%	482.00	488.18	4.52
19	E5	E4	38.97	0.50%	474.45	475.70	3.00	478.70	29.40	32.40	4.24	90°	2.08%	479.31	490.36	9.18
18	E5	E4	38.97	0.50%	474.45	475.70	3.00	478.70	29.40	32.40	4.24	90°	2.08%	479.31	491.34	10.17
35	E4	E3	106.71	0.50%	473.89	475.14	4.00	479.14	10.87	14.87	4.24	90°	2.08%	479.37	486.89	5.63
36	E4	E3	106.71	0.50%	473.89	475.14	4.00	479.14	10.87	14.87	4.24	90°	2.08%	479.37	485.96	4.70
17	E4	E3	81.70	0.50%	473.77	475.02	2.00	477.02	31.50	33.50	4.24	90°	2.08%	477.67	492.14	12.60
16	E4	E3	81.70	0.50%	473.77	475.02	2.00	477.02	31.50	33.50	4.24	90°	2.08%	477.67	493.57	14.03
37	E3	E2	127.62	0.50%	473.11	474.36	3.00	477.36	12.65	15.65	4.24	90°	2.08%	477.62	485.03	5.52
38	E3	E2	127.62	0.50%	473.11	474.36	3.00	477.36	12.65	15.65	4.24	90°	2.08%	477.62	484.11	4.60
39*	E2	E1	76.48	4.00%	472.37	472.57	---	---	20.50	---	20.50	90°	2.08%	473.00	483.18	8.35
100	E1	A6	228.53	3.32%	467.91	469.16	3.00	472.16	14.50	17.50	4.24	90°	2.08%	472.46	481.89	7.57
99	E1	A6	228.53	3.32%	467.91	469.16	3.00	472.16	14.50	17.50	4.24	90°	2.08%	472.46	479.49	5.17
98	E1	A6	108.53	3.32%	463.92	465.17	2.00	467.17	15.50	17.50	4.24	90°	2.08%	467.49	477.09	7.74
97	E1	A6	108.53	3.32%	463.92	465.17	2.00	467.17	15.50	17.50	4.24	90°	2.08%	467.49	474.72	5.38
46*	F4	F3	99.95	3.57%	479.37	479.57	---	---	38.24	34.00	4.24	90°	2.08%	480.37	491.41	9.12
45*	F4	F3	99.95	3.57%	479.37	479.57	---	---	38.24	34.00	4.24	90°	2.08%	480.37	489.82	7.53
50	F3	F2	25.75	3.57%	473.05	474.30	---	---	22.77	---	22.77	90°	2.08%	474.77	485.01	8.49
44*	F2	F1	139.87	2.60%	468.69	468.89	---	---	46.62	42.38	4.24	90°	2.08%	469.86	484.89	13.29
43*	F2	F1	139.87	2.60%	468.69	468.89	---	---	46.62	42.38	4.24	90°	2.08%	469.86	482.75	11.15
51	F2	F1	71.27	2.60%	466.90	468.15	5.00	473.15	12.81	17.81	4.24	90°	2.08%	473.42	482.70	7.37
52	F2	F1	71.27	2.60%	466.90	468.15	5.00	473.15	12.81	17.81	4.24	90°	2.08%	473.42	480.12	4.81
42	F2	F1	29.34	2.60%	465.81	467.06	---	---	39.16	---	39.16	90°	2.08%	467.88	480.61	10.85
41	F1	A6	117.05	3.32%	464.20	465.45	---	---	38.55	---	38.55	90°	2.08%	466.25	478.46	10.33
53	F1	A6	85.67	3.32%	463.15	464.40	---	---	21.52	---	21.52	90°	2.08%	464.85	477.55	10.92
40	F1	A6	61.09	3.32%	462.34	463.59	---	---	39.35	---	39.35	90°	2.08%	464.41	476.31	10.19
47	I2	A13	163.82	2.77%	480.42	481.67	---	---	38.24	34.00	4.24	90°	2.08%	482.47	491.69	7.30
48	I2	A13	163.82	2.77%	480.42	481.67	---	---	38.24	34.00	4.24	90°	2.08%	482.47	490.90	6.51
49	I2	A13	48.67	2.77%	477.23	478.48	---	---	40.44	---	40.44	90°	2.08%	479.32	489.73	8.67

PROJECT: PROJECT TITLE
SANITARY SEWER LATERAL COMPUTATIONS

BUILDING / LOT NO.	SANITARY SEWER MAIN: UPPER MANHOLE STR. NO.	LOWER MANHOLE STR. NO.	DIST. FROM LOWER MANHOLE (FT.)	SLOPE OF MAIN (%)	INV. OF SEWER MAIN	INV. OF LATERAL @ SEWER MAIN	LATERAL RISER @ MAIN: HEIGHT (FT.)	INV. OF LATERAL @ RISER	SANITARY SEWER LATERAL: TOTAL LENGTH (FT.)	PLAN LENGTH: 6" DIA. (FT.)	4" DIA. (FT.)	LAT. ANGLE @ SEWER MAIN	PIPE SLOPE (%)	INV. OF LATERAL STUB (ELEV.)	BUILDING / SLAB ELEV.	ELEV. DIFF. (LAT END - SLAB) (FT.)
1*	J4	J3	190.66	2.21%	490.36	490.56	---	---	33.91	---	33.91	90°	2.08%	491.27	500.72	7.57
202	J4	J3	138.66	2.21%	489.21	490.46	---	---	49.01	---	49.01	90°	2.08%	491.48	---	---
2	J4	J3	123.51	2.21%	488.88	490.13	---	---	31.90	27.66	4.24	90°	2.08%	490.79	499.08	6.37
3	J4	J3	123.51	2.21%	488.88	490.13	---	---	31.90	27.66	4.24	90°	2.08%	490.79	497.42	4.71
201	J4	J3	61.97	2.21%	487.52	488.77	---	---	50.23	45.99	4.24	90°	2.08%	489.81	---	---
200	J4	J3	61.97	2.21%	487.52	488.77	---	---	50.23	45.99	4.24	90°	2.08%	489.81	---	---
4	J3	J2	210.83	1.50%	485.87	487.12	---	---	34.67	30.43	4.24	90°	2.08%	487.85	495.75	5.98
5	J3	J2	210.83	1.50%	485.87	487.12	---	---	34.67	30.43	4.24	90°	2.08%	487.85	494.25	4.48
199	J3	J2	171.75	1.50%	485.29	486.54	---	---	50.33	46.09	4.24	90°	2.08%	487.59	---	---
198	J3	J2	171.75	1.50%	485.29	486.54	---	---	50.33	46.09	4.24	90°	2.08%	487.59	---	---
6	J3	J2	80.63	1.50%	483.92	485.17	---	---	31.11	26.87	4.24	90°	2.08%	485.82	493.21	5.47
7	J3	J2	80.63	1.50%	483.92	485.17	---	---	31.11	26.87	4.24	90°	2.08%	485.82	492.59	4.85
197	J3	J2	52.05	1.50%	483.49	484.74	---	---	50.48	46.24	4.24	90°	2.08%	485.79	---	---
196	J3	J2	52.05	1.50%	483.49	484.74	---	---	50.48	46.24	4.24	90°	2.08%	485.79	---	---
8	J2	J1	96.80	2.18%	481.41	482.66	---	---	31.38	27.14	4.24	90°	2.08%	483.32	491.96	6.73
9	J2	J1	96.80	2.18%	481.41	482.66	---	---	31.38	27.14	4.24	90°	2.08%	483.32	491.35	6.12
195	J2	J1	91.77	2.18%	481.30	482.55	---	---	51.44	47.20	4.24	90°	2.08%	483.62	---	---
194	J2	J1	91.77	2.18%	481.30	482.55	---	---	51.44	47.20	4.24	90°	2.08%	483.62	---	---
72*	K1	B3	74.34	3.20%	462.55	462.75	---	---	34.74	30.50	4.24	90°	2.08%	463.47	474.50	9.17
71*	K1	B3	74.34	3.20%	462.55	462.75	---	---	34.74	30.50	4.24	90°	2.08%	463.47	473.65	8.32

NOTES:
*SANITARY LATERAL TO BE EXTENDED FROM SANITARY SEWER MANHOLE
1. ALL SERVICE LATERALS SHALL BE INSTALLED AT A MIN. DEPTH OF 4 FEET, UNLESS OTHERWISE SPECIFIED OR APPROVED.

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JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
6-24-24

SEAL:

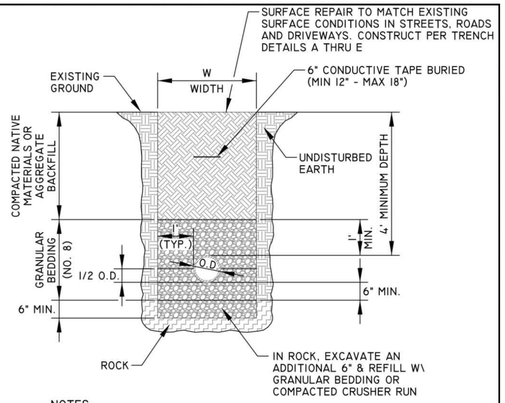
REVISIONS
1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

SANITARY SEWER COMPUTATIONS

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG.208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: N/A VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-CU-701.DWG	
NCS:	
SHEET:	73 OF 119



NOTES:

1. W = MAXIMUM PERMISSIBLE TRENCH WIDTH, BASED UPON, W = O.D. + 24", UNLESS APPROVED BY THE ENGINEER.
2. TRENCHES TO BE SHEETED AND BRACED AS REQUIRED.
3. PROVIDE BEARING FOR FULL LENGTH OF BARREL, DIG HOLES FOR THE BELL.
4. BACKFILL ON SIDES TO 1/2 O.D. OF PIPE TO HOLD PIPE IN PLACE PRIOR TO PLACING ADDITIONAL BEDDING.
5. BACKFILL TO BE COMPACTED IN 6" LAYERS TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE (+2%) IN ROADS AND STREETS. COMPACT TO MATCH EXISTING GROUND IN OTHER AREAS.
6. MAINTAIN MINIMUM OF 4' OF COVER TO THE TOP OF PIPE.
7. A CASING PIPE SHALL BE REQUIRED IN ROAD CROSSINGS WHERE SHOWN ON PLANS
8. ALL WATER LINES REQUIRE PERMIT FROM APPLICABLE REGULATORY ENTITIES. PERMIT REQUIREMENTS SUPERCEDE WHAT IS SHOWN ON THIS DETAIL.

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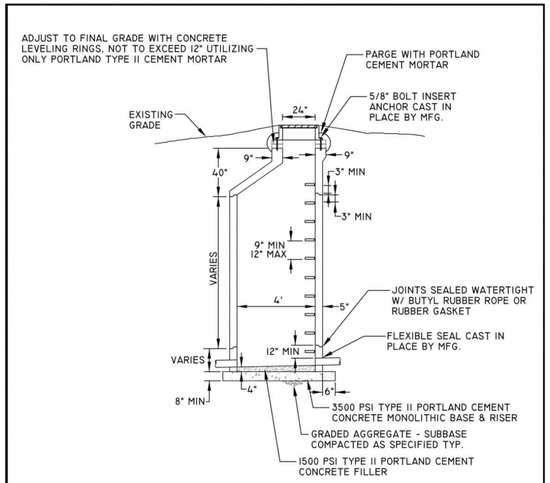
SEWER LINE TRENCH DETAIL

Standard Detail No. **S-1**
NOT TO SCALE
SEPTEMBER 2015



NOTES:

1. PRECAST MANHOLE SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C 478 UTILIZING TYPE II PORTLAND CEMENT. 3500 PSI MIX MINIMUM.
2. 0.1' FALL TYPICAL INVERT IN TO INVERT OUT OR MATCH CROWNS FOR DIFFERING PIPE DIAMETERS.
3. COMPLETE MANHOLE SHALL PASS VACUUM TEST PRIOR TO ACCEPTANCE.

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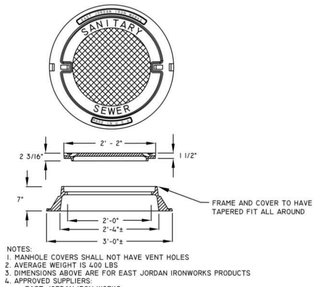
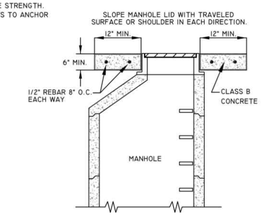
PRECAST MANHOLE W/ ECCENTRIC TOP DETAIL

Standard Detail No. **S-6**
NOT TO SCALE
SEPTEMBER 2015



NOTES:
1. MANHOLE COVERS SHALL NOT HAVE VENT HOLES
2. AVERAGE WEIGHT IS 400 LBS
3. DIMENSIONS ABOVE ARE FOR EAST JORDAN IRONWORKS PRODUCTS
4. APPROVED SUPPLIERS:
   EAST JORDAN IRON WORKS
   HIGHWAY: FRAME - PROD. NO. 1045Z UNDIPPED
   COVER - PROD. NO. 1060A UNDIPPED, SELF SEALING
   FRAME & COVER - PROD. NO. 1045AGS UNDIPPED, SELF SEALING
   WATERTIGHT: FRAME & COVER PROD. NO. 1045ZPT/1010APT, UNDIPPED
   NEENAH
   HIGHWAY: FRAME & COVER R-1642, UNDIPPED, SELF SEALING
   WATERTIGHT: FRAME & COVER R-1916, UNDIPPED
5. FRAME AND COVER TO COMPLY WITH ASTM A48, CLASS 30 TENSILE STRENGTH.
6. USE THREADED STAINLESS STEEL STANDARD HEXAGON HEAD BOLTS TO ANCHOR FRAME AND COVER TO MANHOLE.

MANHOLE FRAME AND COVER



ANCHOR DETAIL FOR FRAME & COVER IN PAVED ROAD SURFACE AREAS AND SHOULDERS OF ROAD

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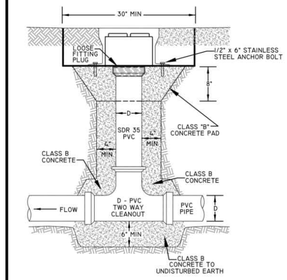
MANHOLE FRAME & COVER ANCHOR FOR FRAME & COVER DETAIL

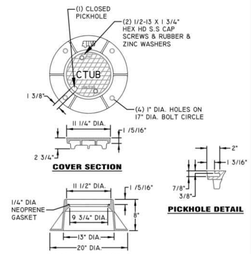
Standard Detail No. **S-7**
NOT TO SCALE
SEPTEMBER 2015



MAIN LINE CLEANOUT

(FOR D ≤ 6")

NOTES:
1. CLEANOUT FRAME AND COVER SHALL BE INSTALLED SUCH THAT IT IS LEVEL TO 2" BELOW SURROUNDING SURFACE. CLEANOUTS PROJECTING ABOVE SURFACE ARE UNACCEPTABLE.
2. FOR CLEANOUTS SUBJECT TO VEHICULAR TRAVEL, CONSTRUCT 30"x30"x6" CLASS B CONCRETE PAD. REINFORCE WITH 4x4 W4.0/4.0 WIRE MESH OR #3 REBAR @ 12" C-C EACH DIRECTION.
3. FOR NON-VEHICULAR TRAFFIC AREAS CONCRETE PAD CAN BE ELIMINATED AT DIRECTION OF ENGINEER. BACKFILL TO MATCH SURROUNDING AREA.
4. USE TEE AND PLUG FOR CLEANOUT AT END OF LINE.
5. FOR MAINLINE DIAMETER OF 8" OR GREATER, USE STRAIGHT TEE.



NOTE: DIMENSIONS ABOVE ARE FOR EAST JORDAN IRON WORKS
APPROVED SUPPLIERS:
EAST JORDAN IRON WORKS
FRAME & COVER 157807, UNDIPPED

MAIN LINE CLEANOUT FRAME & COVER

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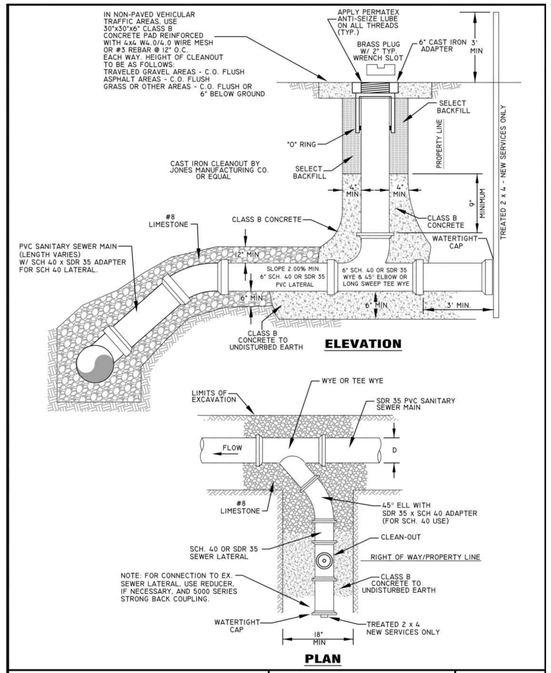
MAINLINE CLEANOUT & FRAME & COVER DETAIL

Standard Detail No. **S-12**
NOT TO SCALE
SEPTEMBER 2015



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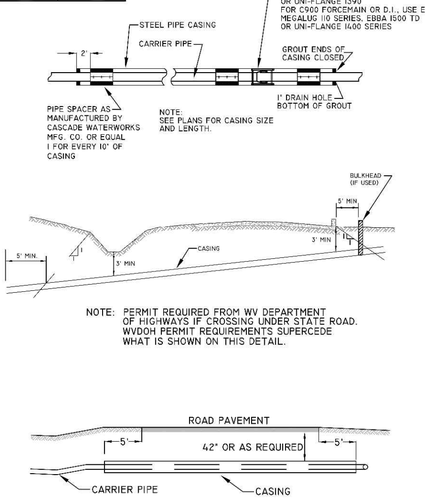
NEW LATERAL CONNECTION DETAIL

Standard Detail No. **S-13**
NOT TO SCALE
SEPTEMBER 2015

CASING SCHEDULE

CARRIER PIPE DIA. (IN.)	CASING PIPE DIA. (IN.)	NOM. WALL THICKNESS
4	10	0.313
6	12	0.313
8	16	0.313
10	24	0.375
12	24	0.375
16	30	0.500
20	36	0.500
24	42	0.500
30	48	0.500
36	54	0.625
42	60	0.625
48	66	0.625



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PIPE CASING DETAIL

Standard Detail No. **S-24**
NOT TO SCALE
SEPTEMBER 2015

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SEAL:

JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
(1 of 10) 1-24-25

REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST'V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

SANITARY SEWER DETAILS

AVALON - SECTION 1
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PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG.208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

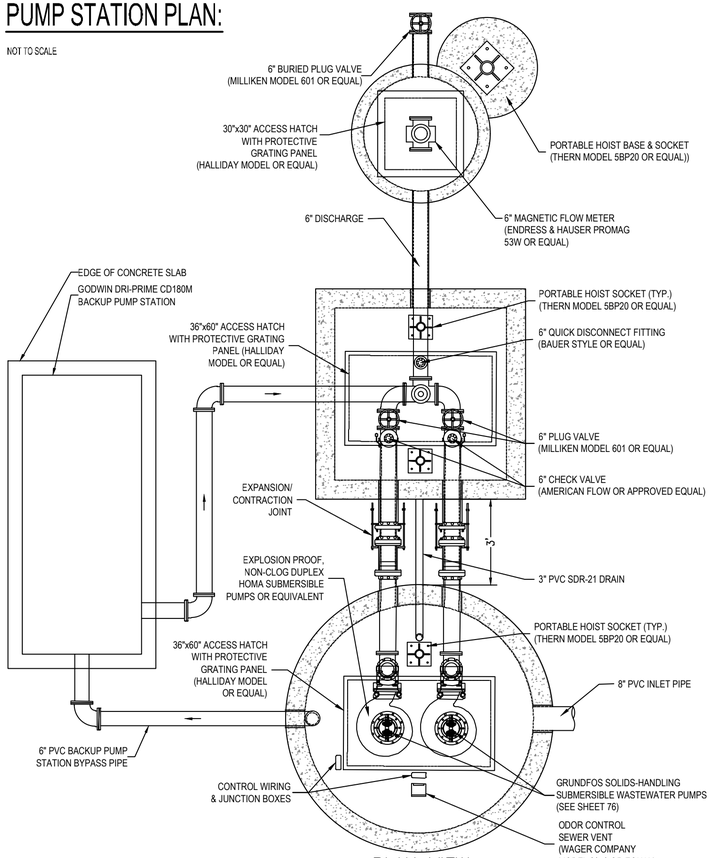
SCALE:	HORIZ.: N/A VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-CU-501.DWG	
NCS:	
SHEET:	74 OF 119

PUMP STATION NOTES:

1. CONCRETE COATINGS AND PAINTINGS SHALL BE PERFORMED AS PER MANUFACTURERS RECOMMENDATIONS.
2. PUMPS TO BE CONTROLLED BY A PRIMEX PUMPWATCH/EXPRESS CONTROLLER, OR AN APPROVED ALTERNATE. 208, 240, OR 480 VOLT UNLESS OTHERWISE APPROVED BY CTUB. IF 3 PHASE POWER IS NOT AVAILABLE, THE DEVELOPER SHALL PROVIDE VFDS AND TRANSFORMERS TO ACHIEVE 3 PHASE POWER FOR PUMPS.
3. ALL PUMP STATIONS GREATER THAN 30 GPM SHALL INCLUDE A PERMANENT GODWIN (XYLEM) DBS DRI-PRIME BACKUP PUMP STATION.
4. FINAL ELECTRICAL CONDUIT SIZES AND LOCATIONS TO BE DETERMINED BY THE ON-SITE ELECTRICIAN. MINIMUM CONDUIT SIZE SHALL BE 3". ALL CONDUIT SHALL BE OVERSIZED BY A FACTOR OF 2 TO ALLOW FOR LARGER FUTURE CABLES. SPARE CONDUITS SHALL ALSO BE PROVIDED AS DIRECTED BY CTUB.
9. ALL CONDUITS FROM THE WET WELL OR VALVE VAULT SHALL BE SEALED GAS TIGHT. INSTALL FLANGES IN VALVE VAULT TO ALLOW DISASSEMBLY.
10. THE REMOTE MONITORING SYSTEM SHALL BE AN OMNISITE CRYSTAL BALL MODEL. PROVIDE ALARM LIGHT AND HORN FOR CONTROL CENTER.
11. A DUPLEX ALTERNATING CONTROL PANEL SHALL BE PROVIDED FOR PUMP OPERATION.
12. ALL PIPING AND APPURTENANCES SHALL BE ADEQUATELY SUPPORTED AT THE DISCRETION OF THE ON SITE CONSTRUCTION SUPERVISOR.
13. BACKFILL COMPACTION MUST BE COMPLETED WITH PROPER CARE. CONCRETE TANKS MAY EXPERIENCE DAMAGE DUE TO IMPROPER OR EXTREME COMPACTION.
14. THE HATCHES FOR THE VALVE VAULT AND WET WELL SHALL BE CONSTRUCTED OF ALUMINUM WITH AN ANGLE FRAME FLOOR FOR THE ACCESS DOOR(S) AS MANUFACTURED BY HALLIDAY (OR EQUAL). IT SHALL BE WATERTIGHT, BE ABLE TO SUPPORT A 150-POUND PER SQUARE FOOT LIVE LOAD, BE EQUIPPED WITH A FLUSH MOUNTING HANDLE, HAVE STAINLESS STEEL HINGES AND TAMPER RESISTANCE HARDWARE AND LOCKS. THE DOOR(S) SHALL BE SELF-SUPPORTING IN THE RAISED POSITION AND HAVE A MECHANISM TO PREVENT SLAMMING WHEN CLOSING. UNDER THE HATCH/HINGED DOOR(S) SHALL BE A LOAD-BEARING GRATE (SUPPORTING A 150-POUND PER SQUARE FOOT LIVE LOAD), HINGED WITH FLUSH MOUNTED 'PULL-RINGS'/LATCH THROUGH THE AFOREMENTIONED OUTERMOST HATCH/HINGED DOOR(S). THE GRATE, CONSTRUCTED OF ALUMINUM, SHALL REST ON ITS OWN FRAME ATTACHED CONTIGUOUSLY AROUND THE PERIMETER OF THE WET WELL. THE WET WELL HATCH MUST HAVE A BUILT IN NEOPRENE CUSHION/GASKET TO LIMIT THE TRANSMISSION OF ODORS. FRP OR ALUMINUM LADDERS WITH SAFETY UP-POSTS ARE REQUIRED FOR ALL VALVE/METER VAULTS. MANHOLE STEPS ARE PROHIBITED.
15. ACCESS INTO THE WET WELL SHALL BE PROVIDED WITH THE FALL PROTECTION GRATING LOCKING INTO THE HATCH/HINGED DOOR(S) AND REMAINING SELF-SUPPORTING WHEN RAISED. ALL FASTENERS (NUTS, BOLTS, WASHERS AND SCREWS), HARDWARE AND BRACKETS INSIDE THE WET WELL AND VALVE VAULT SHALL BE MANUFACTURED FROM 304 STAINLESS STEEL.
16. A METERED WATER SUPPLY WITH A FREEZE PROOF HOSE BIB SHALL BE PROVIDED FOR WASH DOWN AND CLEANING PURPOSES. THE INSTALLATION AND FEE(S) FOR THE WATER TAP AND CAPACITY IMPROVEMENT FEES, INCLUDING ANY AND ALL APPURTENANCES, INCLUDING THE CROCK AND METER, SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO PROVIDE FROM THE APPROPRIATE WATER SUPPLIER. THE HOSE BIB SHALL BE LOCATED WITHIN 5 FEET OF THE WET WELL OPENING AND ALSO BE INSTALLED WITH A WEST VIRGINIA BUREAU OF PUBLIC HEALTH APPROVED REDUCED PRESSURE TYPE 'BACKFLOW-PREVENTER'.
17. PORTABLE HOIST SPECIFIED IS RATED AT A MAXIMUM LOAD OF 2,000 POUNDS. CONTRACTOR TO VERIFY THAT WEIGHT OF PUMP INSTALLED DOES NOT EXCEED MAXIMUM LOAD CAPACITY OR PORTABLE HOIST & LIFT CHAIN. IF WEIGHT OF PUMP SELECTED EXCEEDS MAXIMUM LOAD RATING OF HOIST & LIFT CHAIN CONTRACTOR IS TO WORK WITH THE ENGINEER TO COME UP WITH A FEASIBLE SOLUTION.
18. ALL PIPING LOCATED IN VALVE VAULT & WET WELL SHALL BE SCHEDULE 40 STAINLESS STEEL OR CLASS 52 DOUBLE CEMENT LINED DUCTILE IRON AND SHALL FEATURE PASSIVE VENTS WITH ODOR CONTROL SYSTEM, WAGER COMPANY MODEL 2050-50 OR EQUIVALENT. ALL PIPING LOCATED IN GROUND SHALL BE MECHANICAL JOINT DUCTILE IRON CLASS 51 UNLESS OTHERWISE NOTED.
19. PRESSURE GAUGE ASSEMBLIES ARE REQUIRED ON THE DISCHARGE LINE OF EACH PUMP.
20. ANCHOR PIPE AND RAILING IN WET WELL PER MANUFACTURERS RECOMMENDATIONS.
21. ALL PUMPS SHALL CONTAIN STAINLESS STEEL GUIDERAILS, BRACKETS, INTERMEDIATE RAILS, LIFTING CHAINS AND BASES OF ADEQUATE SIZE.
22. PUMP OPERATION SHALL BE CONTROLLED VIA WET WELL FLOAT SWITCHES.
23. CONTROL FLOAT ELEVATIONS SHOWN ARE APPROXIMATE AND MAY NEED TO BE FIELD ADJUSTED.
24. ALL CHECK VALVES SHALL HAVE EXTERNAL CUSHIONED LEVER & WEIGHT. ALL NON-BURIED PLUG VALVES SHALL HAVE HANDWHEEL ACTUATORS.
25. PUMP STATION SITE IS NOT LOCATED WITHIN ANY FLOOD HAZARD ZONE.
26. ALL GRAVITY INFLUENT PIPE CONNECTIONS IN WET WELL SHALL UTILIZE AN INSIDE WET WELL DROP PIPE. SEE INSIDE DROP WET WELL DETAIL FOR FURTHER INFORMATION.
27. PUMP STATION PLANS DESIGNED AND DRAWN AROUND THE GRUNDFOS PUMP SYSTEM. THE CONTRACTOR IS RESPONSIBLE FOR ANY DESIGN CHANGES TO THE WET WELL, PIPING, AND ANY OTHER RELATED PUMP STATION COMPONENTS.
28. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING REMOTE MONITORING SYSTEM THAT WILL CONNECT TO THE EXISTING SYSTEM LOCATED AT THE CHARLES TOWN WASTEWATER TREATMENT PLANT. THE EXISTING SYSTEM WAS DESIGNED BY MICRO-TECH DESIGNS AND SHALL BE CONSISTENT WITH EXISTING EQUIPMENT AND DATA TRANSMISSION
29. ALL VALVES 3" AND LARGER SHALL BE DUCTILE IRON BODY, FULL PORT, FLANGED, ECCENTRIC GEAR OPERATED PLUG VALVES WITH OPERATING WHEELS AS MANUFACTURED BY DEZURIK OR EQUAL.

PUMP STATION PLAN:

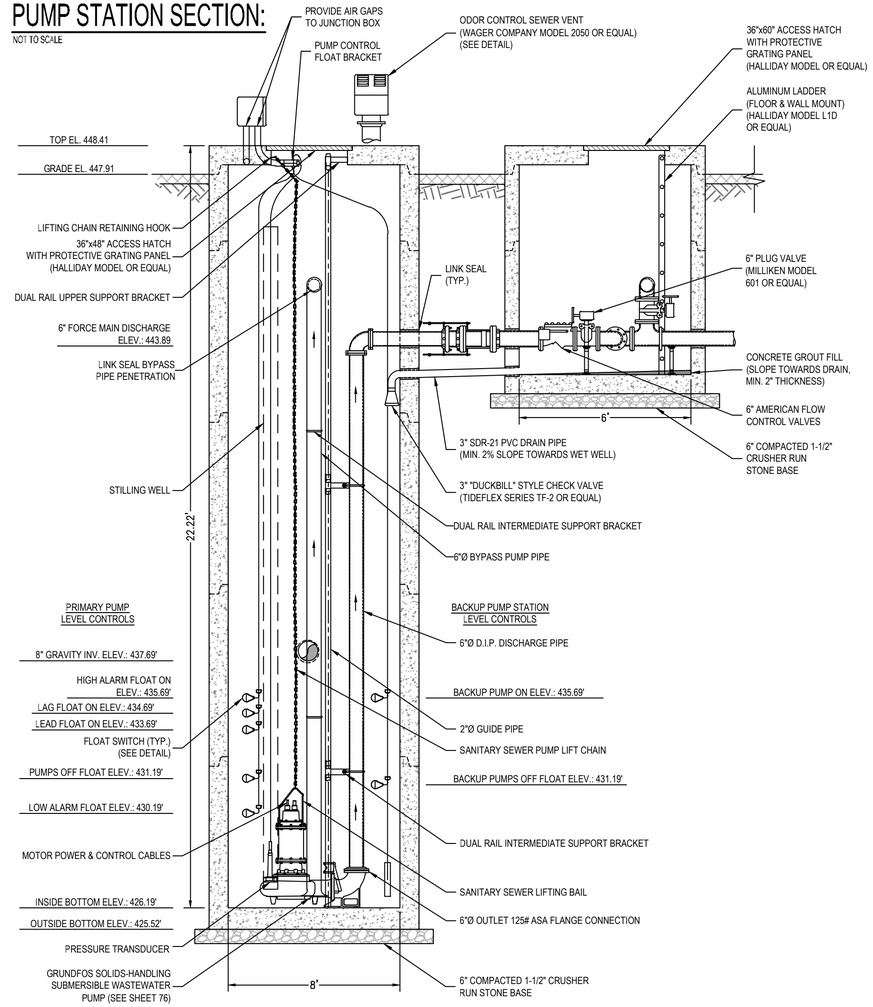
NOT TO SCALE



PLAN VIEW

PUMP STATION SECTION:

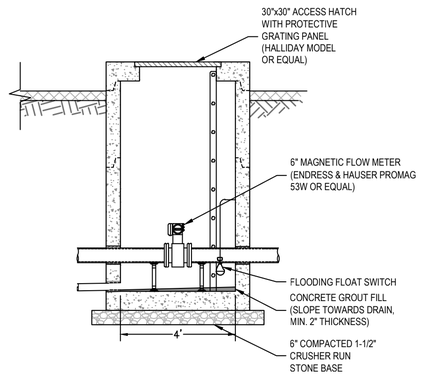
NOT TO SCALE

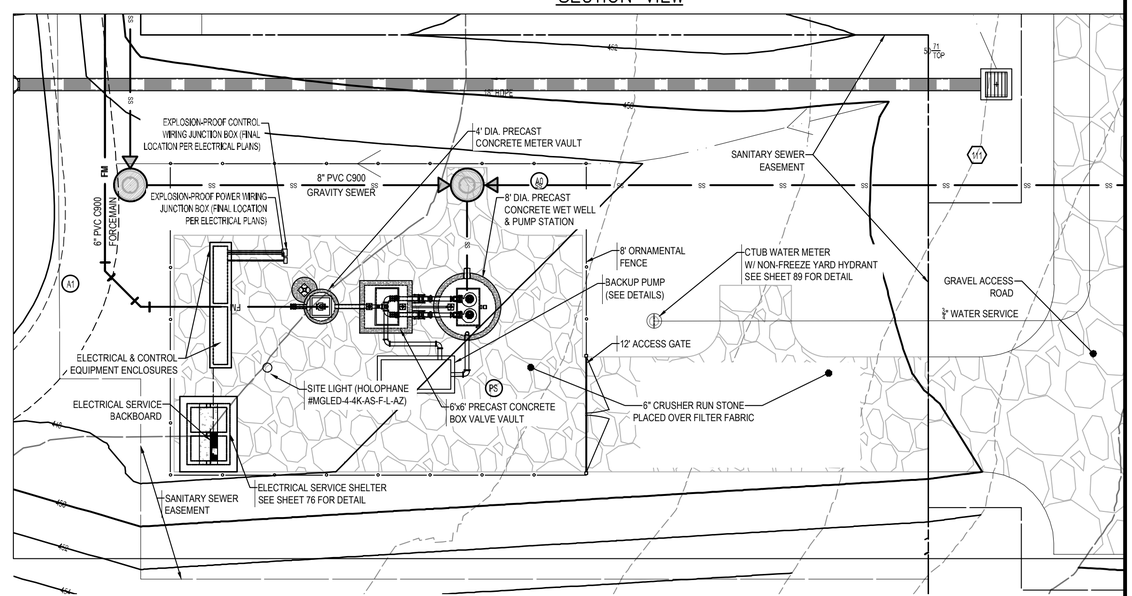


SECTION VIEW

PUMP STATION SECTION CONT'D:

NOT TO SCALE





WV STATE GRID NORTH (NAD83)

10 5 0 10 20 30

GRAPHICAL SCALE: 1"=10'

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SEAL: JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER 6-24-24

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PUMP STATION DETAILS

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

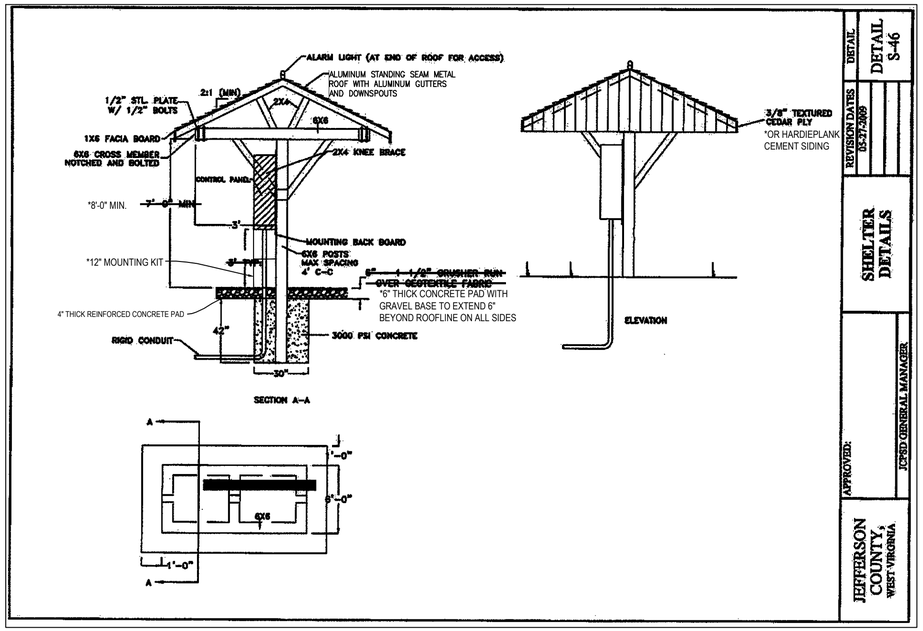
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: AS NOTED VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-CU-510.DWG	
NCS:	
SHEET:	75 OF 119



DETAIL: DETAIL S-46

REVISION DATES: 05-27-2009

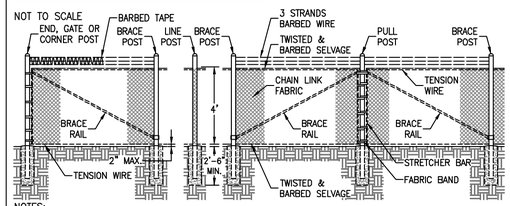
SHELTER DETAILS

APPROVED: JCPSD GENERAL MANAGER

JEFFERSON COUNTY, WEST VIRGINIA

CHAIN LINK FENCE DETAIL:

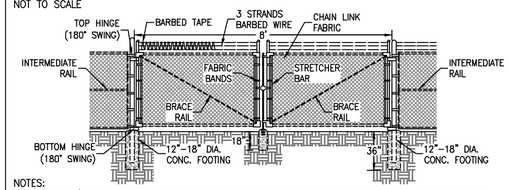
NOT TO SCALE



NOTES:
1. OWNER/CONTRACTOR MAY OPT TO USE THIS CHAIN LINK FENCE DETAIL OR APPROVED ALTERNATE.

CHAIN LINK ACCESS GATE DETAIL:

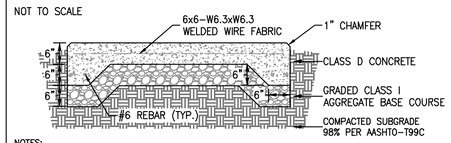
NOT TO SCALE



NOTES:
1. OWNER/CONTRACTOR MAY OPT TO USE THIS CHAIN LINK ACCESS GATE DETAIL OR APPROVED ALTERNATE.

BACKUP PUMP/ELECTRICAL EQUIPMENT PAD SECTION:

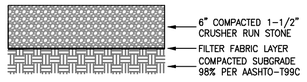
NOT TO SCALE



NOTES:
1. SUBGRADE SHALL BE COMPACTED TO 98% DENSITY AT OPTIMUM MOISTURE CONTENT PER AASHTO-T99C.
2. MINIMUM 4,000 PSI FIBERGLASS REINFORCED CONCRETE.
3. COORDINATE THE SIZE OF THE CONCRETE GENERATOR PAD WITH THE ACTUAL GENERATOR BEING FURNISHED. CONCRETE PAD SHALL EXTEND 6" BEYOND ALL SIDES OF THE GENERATOR.

PUMP STATION TYPICAL GRAVEL SECTION:

NOT TO SCALE



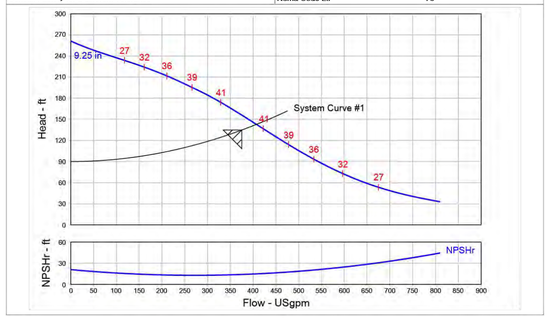
NOTES:
1. SUBGRADE SHALL BE COMPACTED TO 98% DENSITY AT OPTIMUM MOISTURE CONTENT PER AASHTO-T99.

GRUNDFOS

Grundfos / STH, INC Frederick MD

Pump Performance Datasheet

Customer	: Integrity Federal Services	Project Number / ID	: 2015846
Customer ref. / PO	: Fairview SPS	Model	: SEV.30.A30.390
Tag Number	: Duplex	Stages	: 1
Service	: 480V 3ph	Based on curve number	: RC10783
Quantity	: 1 + 1 standby	Date last saved	: 07/24/2023 2:10 PM
Operating Conditions		**Liquid**	
Flow, rated	: 375.0 USgpm	Liquid type	: Wastewater
Differential head / pressure, rated (requested)	: 134.8 ft	Additional liquid description	:
Differential head / pressure, rated (actual)	: 143.0 ft	Solids diameter, max	: 0.00 in
Suction pressure, rated / max	: 0.00 / 0.00 psi.g	Temperature, max	: 68.00 deg F
NPSH available, rated	: Ample	Fluid density, rated / max	: 1.000 / 1.000 SG
Site Supply Frequency	: 60 Hz	**Pressure Data**	
Performance		Maximum working pressure	: 113.0 psi.g
Speed, rated	: 3551 rpm	**Driver & Power Data (@ Max density)**	
Efficiency	: 41.47 %	Motor sizing specification	: Max power (non-overloading)
NPSH required / margin required	: 14.11 / 0.00 ft	Service factor	: 1.15 (used)
nq (imp. eye flow) / S (imp. eye flow)	: 31 / 183 Metric units	Power, hydraulic	: 14.77 hp
MCSF	: 110.1 USgpm	Rated power (based on duty point)	: 35.61 hp
Head, maximum, rated diameter	: 281.2 ft	Max power (non-overloading)	: 35.65 hp
Head rise to shutoff	: 67.44 %	Motor rating	: 39.00 hp / 29.08 kW (Fixed)
Flow, best eff. point	: 382.6 USgpm	Efficiency at 100%	: 89
Flow ratio, rated / BEP	: 98.02 %	Efficiency at 75%	: 89
Diameter ratio (rated / max)	: 100.00 %	Efficiency at 50%	: 87
Head ratio (rated dia / max dia)	: 100.00 %	Power Factor at 100%	: 0.88
Solids diameter limit	: 3.15 in	Power Factor at 75%	: 0.83
Cq/Ch/Ce/Cn [ANSI/HI 9.6.7-2010]	: 1.00 / 1.00 / 1.00 / 1.00	Power Factor at 50%	: 0.71
Selection status	: Acceptable	Full Load Amps	: 47
Curve Tolerance	: ANSI/HI11.6:2012 3B	Locked Rotor Amps	: 499
Consult Factory for a different Tolerance		Nema Code Ltr	: J



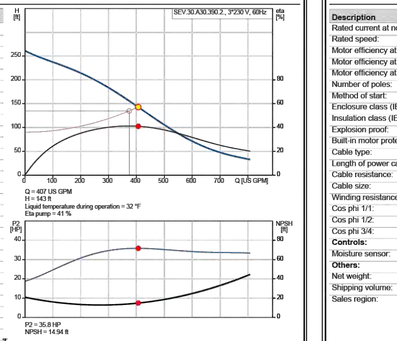
Shafer, Troxell and Howe Inc. ¤97-D Monocacy Blvd. ¤ Frederick, MD 21701
phone: (301) 682-3390 ¤ fax: (301) 682-3391 ¤ https://sthinc.com/

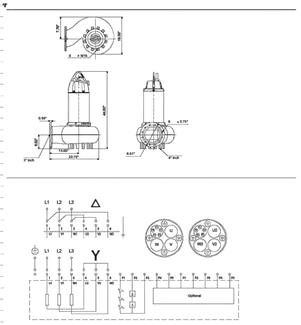
GRUNDFOS

Company name:	STH, Inc.
Created by:	CR Holmes
Phone:	(301)682-3390
Email:	crh@sthinc.com
Date:	25/07/2023

Project: Fairview Subdivision SPS
Reference Number:
Client: Integrity Federal Services
Client Number:
Contact: John A Eisenhower Jr PE

Description	Value
General information:	
Product name:	SEV.30.A30.390.2.52H.EX.61R.A
Product No:	99791024
EAN number:	5713834340116
Technical:	
Actual calculated flow:	407 US GPM
Maximum flow:	810 US GPM
Resulting head of the pump:	143 ft
Maximum head:	236.2 ft
Type of impeller:	SUPER VORTEX
Max. Particle:	3.15 in
Approvals:	FM
Curve tolerance:	ANSI/HI11.6:2017 3B
Cooling jacket (Yes/No):	Y
Rated speed:	3551 rpm
Materials:	
Pump housing:	Cast iron
Pump housing:	EN 1561 EN-GJL-250
Pump housing:	ASTM A48 35B
Impeller:	Cast iron
Impeller:	EN 1563 EN-GJS-500-7
Impeller:	ASTM A536-84 Grade 70-50-05
Motor:	Cast iron
Motor:	EN 1561 EN-GJL-250
Motor:	ASTM ASTM A48 35B
Shaft seal:	SIC-SIC
Secondary shaft seal:	SIC-CARBON
Installation:	
Range of ambient temperature:	-4 .. 104 °F
Flange standard:	ANSI
Size of inlet connection:	4 inch
Size of outlet connection:	3 inch
Pressure rating:	PN 10
Maximum installation depth:	65.6 ft
Installation:	C
Inst dry/wet:	DRY/SUBMERGED
Installation:	vertical
Auto-coupling:	97622623 9
Inst horizontal:	99867049
Inst vertical:	92837287
Base stand:	97632229
Frame range:	52
Liquid:	
Pumped liquid:	Any Newfonian liquid
Liquid temperature range:	32 .. 104 °F
Selected liquid temperature:	32 °F
Density:	62.29 lb/ft³
Electrical data:	
Power input P1:	43.6 HP
Rated power - P2:	38.9 HP
Mains frequency:	60 Hz
Rated voltage:	3 x 230/460 V
Voltage tolerance:	+10/-10 %
Max starts per hour:	20
Rated current:	93/47 A
Maximum current consumption:	93 A
Starting current:	724 A





GRUNDFOS

Company name:	STH, Inc.
Created by:	CR Holmes
Phone:	(301)682-3390
Email:	crh@sthinc.com
Date:	25/07/2023

Project: Fairview Subdivision SPS
Reference Number:
Client: Integrity Federal Services
Client Number:
Contact: John A Eisenhower Jr PE

Description	Value
Rated current at no load:	28.1 A
Rated speed:	3551 rpm
Motor efficiency at full load:	89 %
Motor efficiency at 3/4 load:	89 %
Motor efficiency at 1/2 load:	87 %
Number of poles:	2
Method of start:	D
Enclosure class (IEC 34-5):	IP68
Insulation class (IEC 85):	H
Explosion proof:	yes
Built-in motor protection:	KLIXON
Cable type:	S1BG4N8-F
Length of power cable:	49.2 ft
Cable resistance:	2.00 mOhm/m
Cable size:	3X10+4G2.5+5X0.5C
Winding resistance:	0.088 Ohm
Cos phi 1/1:	0.88
Cos phi 1/2:	0.71
Cos phi 3/4:	0.83
Controls:	
Moisture sensor:	with moisture sensors
Others:	
Net weight:	731 lb
Shipping volume:	36.7 ft³
Sales region:	Namreg

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JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
7-24-24

SEAL:

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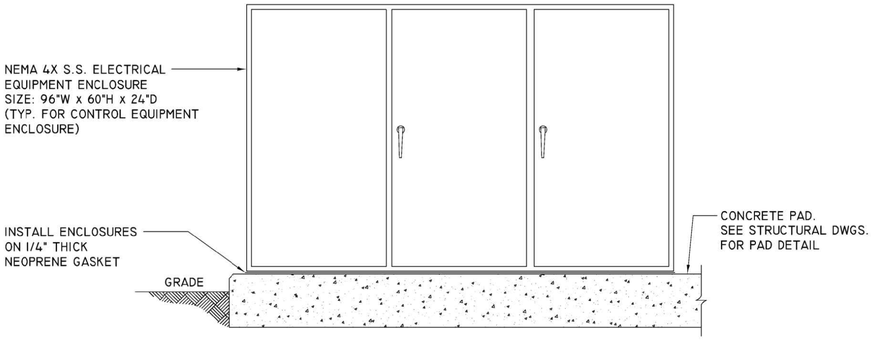
PUMP STATION DETAILS

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

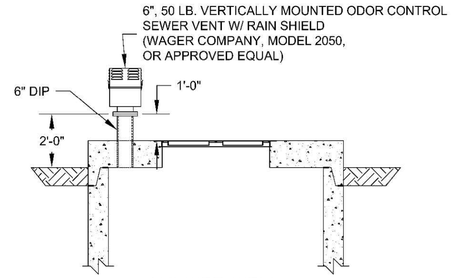
SCALE:	HORIZ.: AS NOTED VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-CU-510.DWG	
NCS:	
SHEET:	76 OF 119



ELECTRICAL EQUIPMENT ENCLOSURE MOUNTING DETAIL

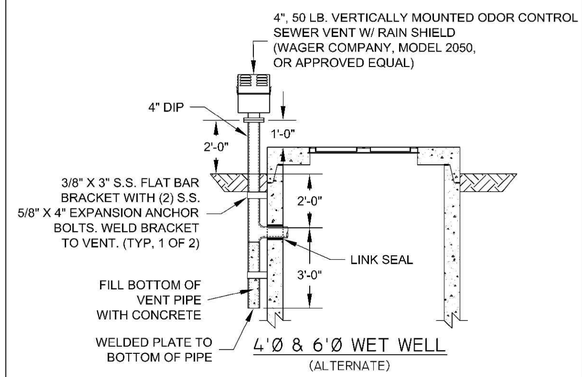
(TYP. FOR CONTROL EQUIPMENT ENCLOSURE)

NO SCALE



8'Ø WET WELL

(4'Ø & 6'Ø IF SPACE ALLOWS)

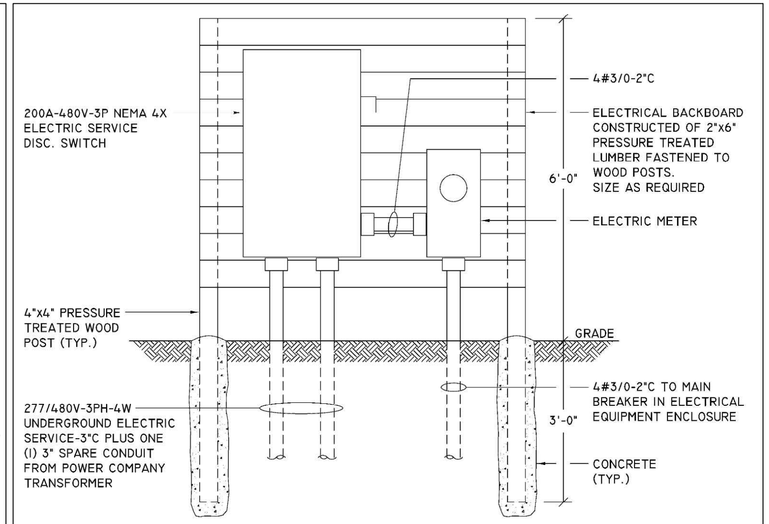


4'Ø & 6'Ø WET WELL

(ALTERNATE)

WET WELL VENT DETAIL

NOT TO SCALE



ELECTRIC SERVICE BACKBOARD DETAIL

NO SCALE

NOTES:

1. ALL CONDUIT SHALL BE OVERSIZED AND PROVIDE AIR GAPS AT CONNECTIONS TO THE JUNCTION BOX AND ELECTRICAL SERVICE.

CD140M Dri-Prime® Pump

The Godwin Dri-Prime CD140M pump offers flow rates to 1240 USGPM and has the capability of handling solids up to 3.0" in diameter.

The CD140M is able to automatically prime to 28' of suction lift from dry. Automatic or manual starting/stopping available through integral mounted control panel or optional wireless-remote access.

Indefinite dry-running is no problem due to the unique Godwin liquid bath mechanical seal design. Solids handling, dry-running, and portability make the CD140M the perfect choice for dewatering and bypass applications.

Features and Benefits

- Simple maintenance normally limited to checking fluid levels and filters.
- Dri-Prime (continuously operated Venturi air ejector priming device) requiring no periodic adjustment. Optional compressor clutch available.
- Extensive application flexibility handling sewage, slurries, and liquids with solids up to 3.0" in diameter.
- Dry-running high pressure liquid bath mechanical seal with high abrasion resistant solid silicon carbide faces.
- Close-coupled centrifugal pump with Dri-Prime system coupled to a diesel engine or electric motor.
- All cast iron construction (stainless steel construction option available) with cast steel impeller.
- Also available in a critically silenced unit which reduces noise levels to less than 70 dBA at 30'.
- Standard engine John Deere 4045TF285 (T3 Flex). Also available with John Deere 4045HFC92 (IT4).

Specifications

Suction connection	4" 150# ANSI B16.5
Delivery connection	4" 150# ANSI B16.5
Max capacity	1240 USGPM †
Max solids handling	3.0"
Max impeller diameter	13.6"
Max operating temp	176°F*
Max pressure	120 psi
Max suction pressure	58 psi
Max casing pressure	180 psi
Max operating speed	2000 rpm

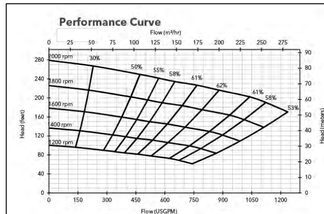
* Please contact our office for applications in excess of 176°F.

† Larger diameter pipes may be required for maximum flows.

Please contact the factory or office for further details. A typical picture of the pump is shown. All information is approximate and for general guidance only.

godwin a xylem brand

Performance Curve



Materials

Pump casing & suction cover	Cast iron BS EN 1561 - 1997
Wearplates	Cast iron BS EN 1561 - 1997
Pump Shaft	Carbon steel BS 970 - 1991 817M40T
Impeller	Cast Steel BS3100 A5 Hardness to 200 HB Brinell
Non-return valve body	Cast iron BS EN 1561 - 1997
Mechanical seal	Silicon carbide face; Viton elastomers; Stainless steel body

Engine option 1

John Deere 4045TF285 (T3 Flex), 93 HP @ 2000 rpm

Impeller diameter 13.6"

Pump speed 2000 rpm

Suction Lift Table

Total Suction Head (feet)	Total Delivery Head (feet)				
	144	164	185	205	237
	Output (USGPM)				
10	1247	1213	1101	881	489
15	1247	1174	1027	807	391
20	978	905	832	704	294
25	758	753	709	612	196

Fuel capacity: 135 US Gal

Max Fuel consumption @ 2000 rpm: 5.4 US Gal/hr

Max Fuel consumption @ 1600 rpm: 4.4 US Gal/hr

Weight (Dry): 4,380 lbs

Weight (Wet): 5,350 lbs

Dim.: (L) 121" x (W) 53" x (H) 77"

Performance data provided in tables is based on water tests at sea level and 20°C ambient. All information is approximate and for general guidance only. Please contact the factory or office for further details.

Engine option 2

John Deere 4045HFC92 (IT4), 97 HP @ 2000 rpm

Impeller diameter 13.6"

Pump speed 2000 rpm

Suction Lift Table

Total Suction Head (feet)	Total Delivery Head (feet)				
	144	164	185	205	237
	Output (USGPM)				
10	1247	1213	1101	881	489
15	1247	1174	1027	807	391
20	978	905	832	704	294
25	758	753	709	612	196

Fuel capacity: 135 US Gal

Max Fuel consumption @ 2000 rpm: 5.1 US Gal/hr

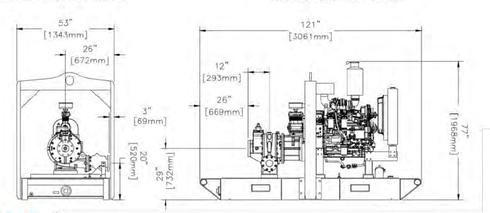
Max Fuel consumption @ 1600 rpm: 4.5 US Gal/hr

Weight (Dry): 4,630 lbs

Weight (Wet): 5,600 lbs

Dim.: (L) 121" x (W) 53" x (H) 77"

Performance data provided in tables is based on water tests at sea level and 20°C ambient. All information is approximate and for general guidance only. Please contact the factory or office for further details.



xylem Let's Solve Water

84 Floodgate Road
Bridgeport, NJ 08014 USA
(856) 467-3636 . Fax (856) 467-4841
Email: sales@godwinpumps.com

Reference number : 95-1009-3000
Date of issue : February 26, 2014
Issue : 5

www.godwinpumps.com

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SEAL:

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JEFFERSON COUNTY, WEST VIRGINIA

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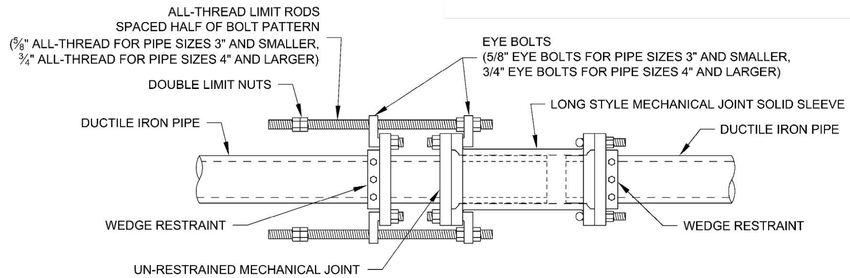
NCS:	
SHEET:	77 OF 119

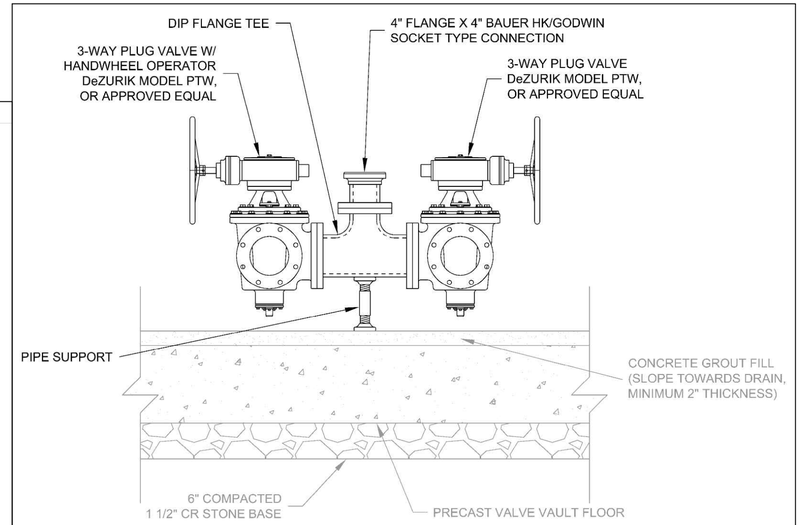


NOTE: 1. CONTRACTOR MUST SET DOUBLE LIMIT NUTS AT A DISTANCE THAT DOES NOT ALLOW THE PIPE TO BE PULLED OUT OF THE SOLID SLEEVE DURING EXPANSION.

2. ABOVE DETAIL DEPICTS EXPANSION/CONTRACTION JOINT FOR PIPE SIZES 3" AND LARGER. EXPANSION/CONTRACTION JOINT FOR 2" PVC PIPE IS SIMILAR AND UTILIZES SPLIT CLAMP-STYLE RESTRAINT RINGS. RESTRAINT RING FOR BELL END OF PIPE SHALL BE NON-SERRATED AND THE RESTRAINT RING FOR THE PLAIN END OF PIPE SHALL BE SERRATED.

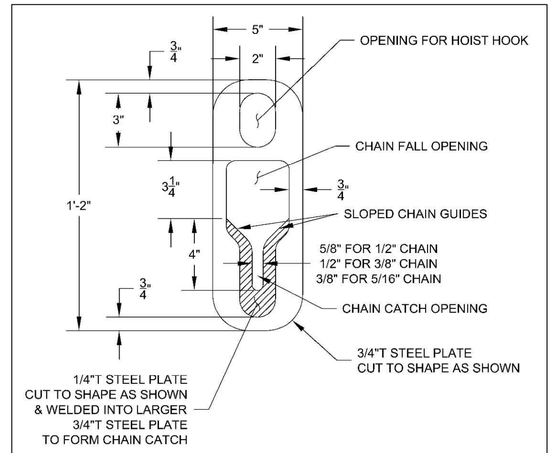
EXPANSION/CONTRACTION JOINT DETAIL

NOT TO SCALE



PUMP BYPASS CONNECTION DETAIL

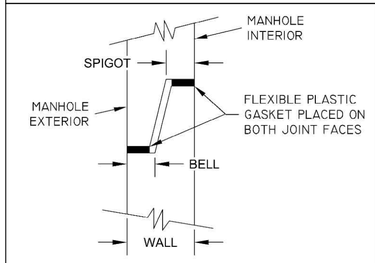
NOT TO SCALE



NOTE: SEVERAL COMPANIES, INCLUDING FLYGT, CONERY MFG., FEHR BROS. INDUSTRIES, EASILY MOVED INDUSTRIES, INC., ECT. MANUFACTURE SIMILAR GRIP EYE TYPE PRODUCTS. THESE PRODUCTS MAY BE USED, HOWEVER MUST BE APPROVED BY THE ENGINEER. GRIP EYE MUST MATCH SIZE OF PUMP LIFT CHAIN.

PUMP LIFTING GRIP EYE DETAIL

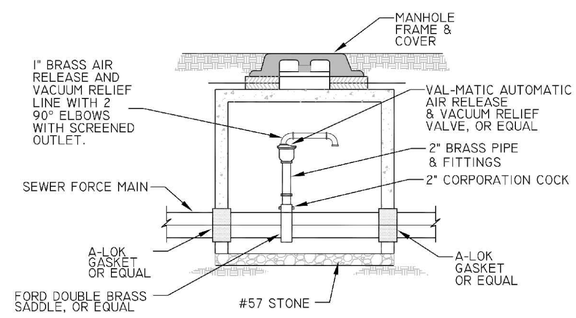
NOT TO SCALE



NOTE: CONTRACTOR SHALL COORDINATE JOINT LOCATIONS TO AVOID PIPE PENETRATIONS.

PRECAST JOINT DETAIL

NOT TO SCALE



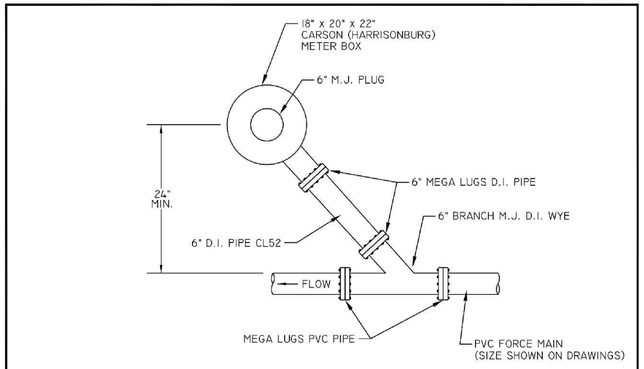
Charles Town Utility Board
832 S. George Street, P.O. Box 359, Charles Town, WV 25414
Phone: (304) 725-2316 • Fax: (304) 725-4313

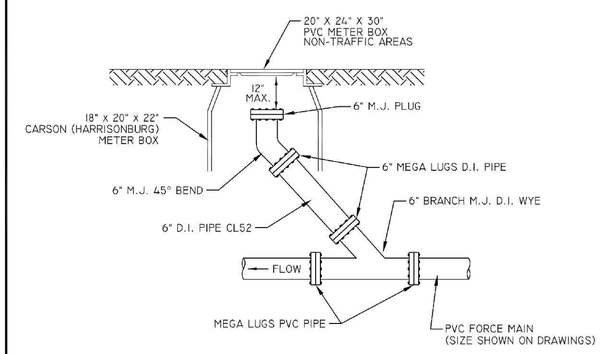
AIR RELEASE & VACUUM RELIEF VALVE DETAIL

Standard Detail No. **S-23**

NOT TO SCALE

SEPTEMBER 2015





Charles Town Utility Board
832 S. George Street, P.O. Box 359, Charles Town, WV 25414
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FORCE MAIN CLEAN OUT DETAIL

Standard Detail No. **S-18**

NOT TO SCALE

SEPTEMBER 2015

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SEAL: JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER 1-24-25

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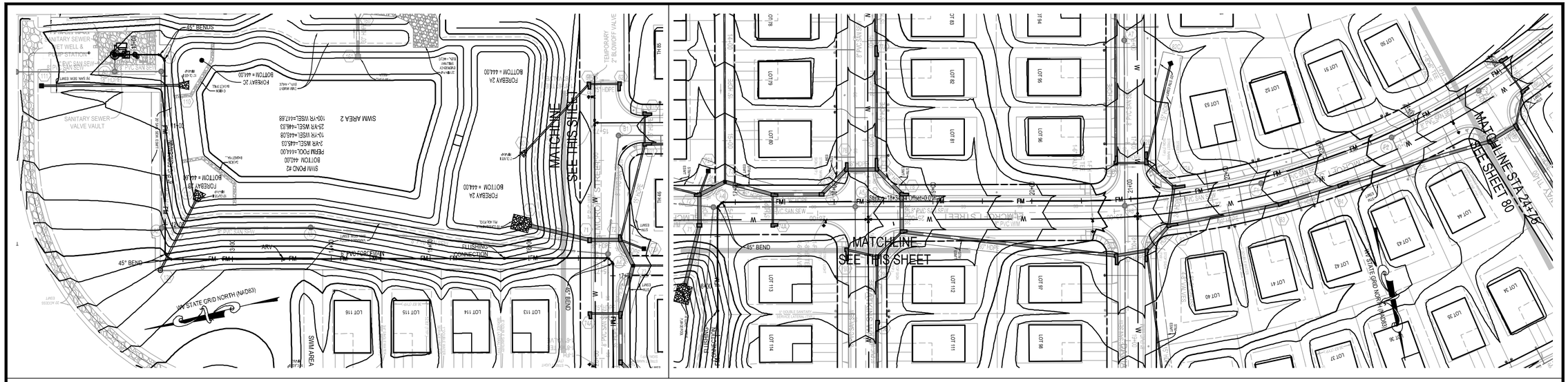
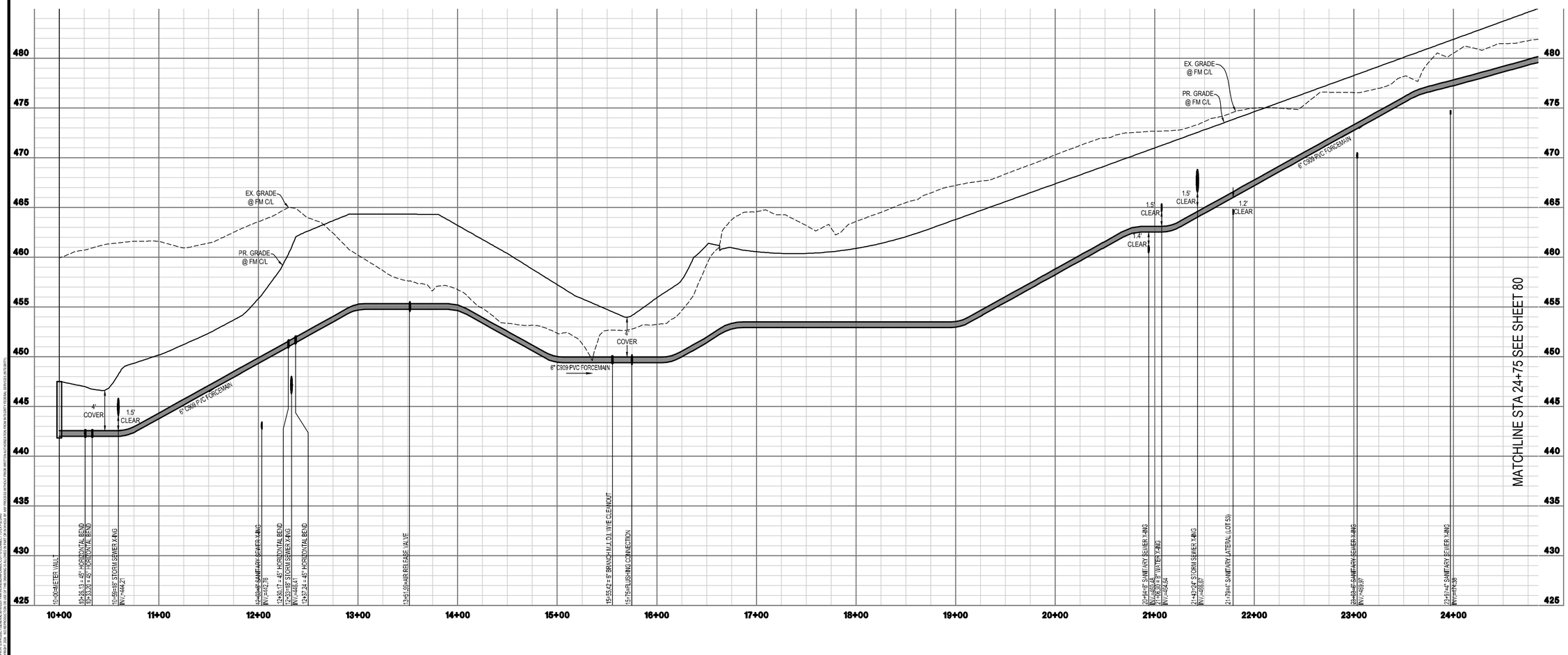
NCS:	
SHEET:	78 OF 119



VERTICAL SCALE: 1"=5'

GRAPHICAL SCALE: 1"=50'



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SEAL:

JASON P. GERNERT
REGISTERED
No. 19127
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
1-24-25

REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

FORCEMAIN PLAN & PROFILE

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

CHARLES TOWN | TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: AS NOTED VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-CU-710 (CONNECT TO EX PS).DWG	
NCS:	
SHEET:	79 OF 119

VERTICAL SCALE: 1"=5'

GRAPHICAL SCALE: 1"=50'

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SEAL:

REVISIONS

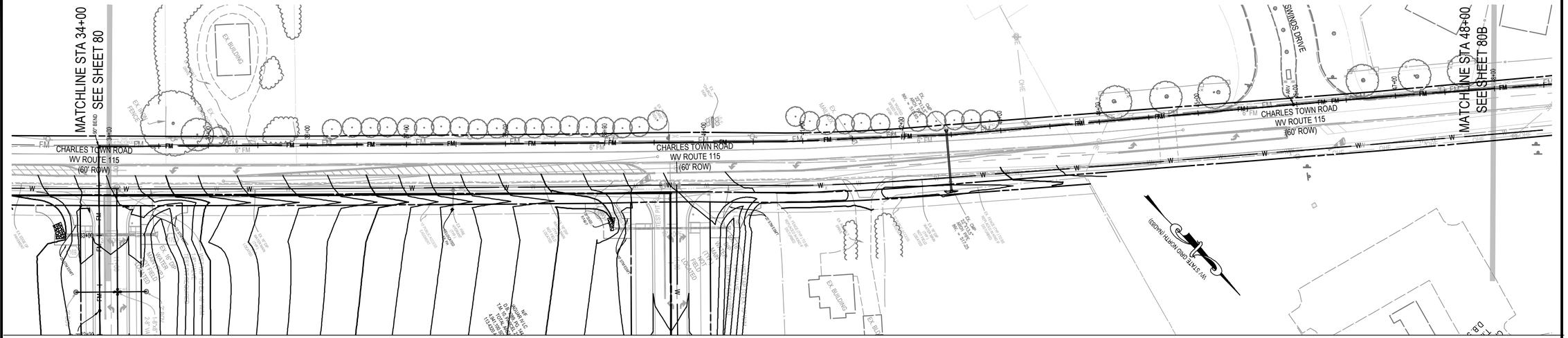
1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WV/DOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

FORCEMAIN PLAN & PROFILE

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

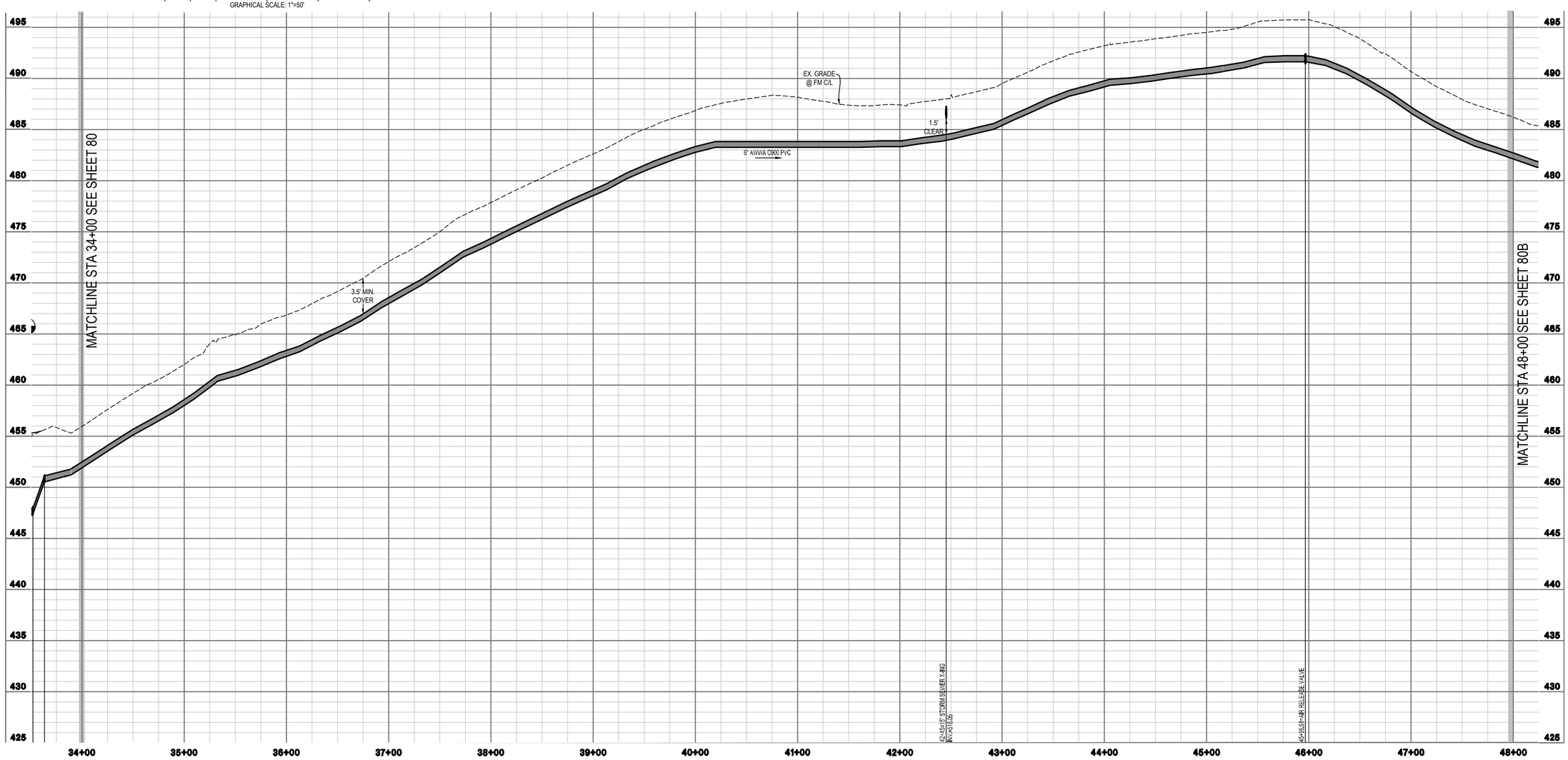
C.T. FILE #SLD2024-03

SCALE:	HORIZ.: AS NOTED VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-CU-710 (CONNECT TO EX PS).DWG	
NCS:	
SHEET:	80 OF 119



VERTICAL SCALE: 1"=5'

GRAPHICAL SCALE: 1"=50'



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JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
1-24-25

SEAL:

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3. 01/24/2025 - COUNTY COMMENTS

FORCEMAIN PLAN & PROFILE

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

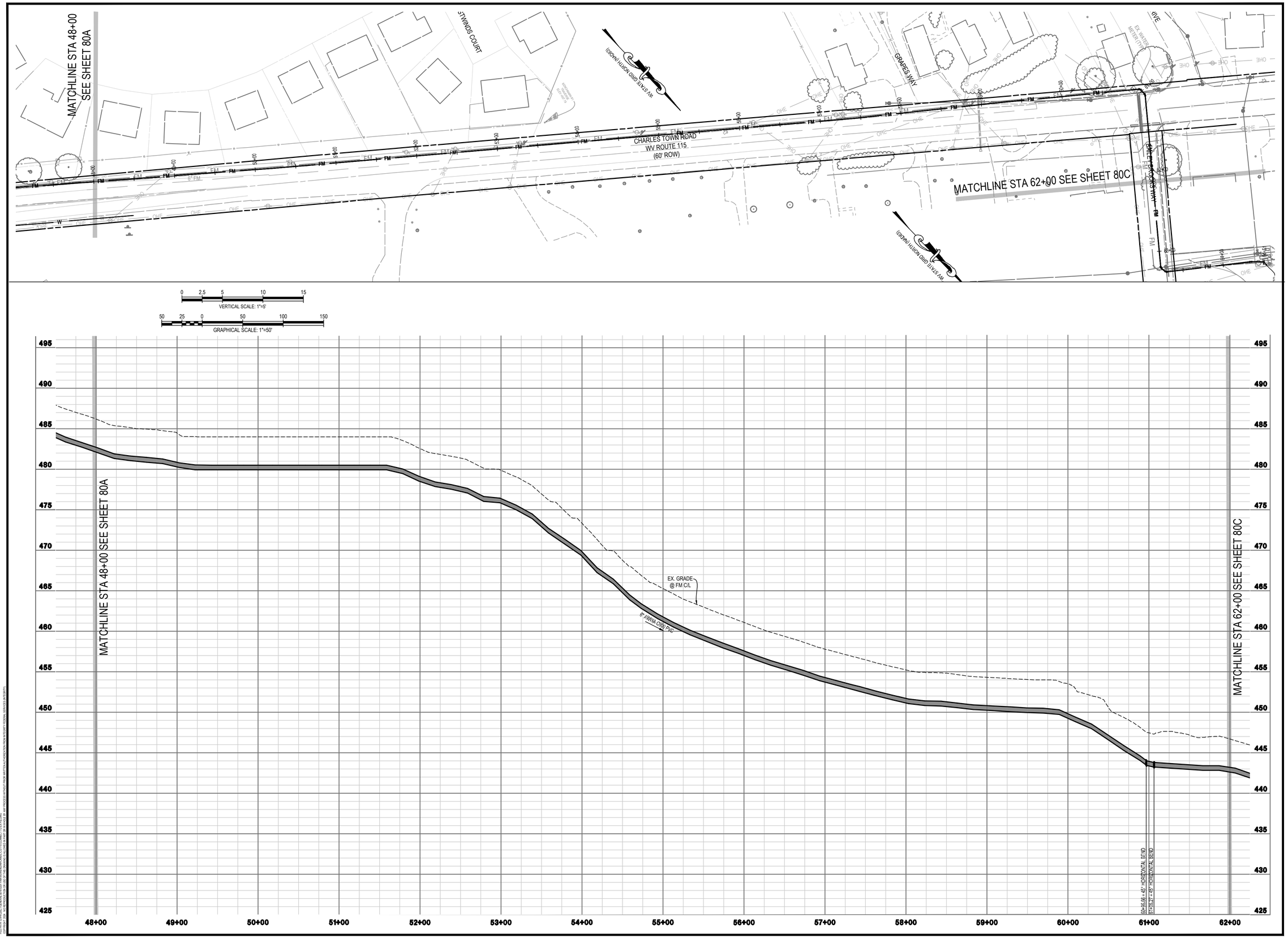
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1099, PG. 144 AND D.B. 1267, PG. 208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: AS NOTED VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-OU-710 (CONNECT TO EX PS).DWG	
NCS:	
SHEET:	80A OF 119



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AVALON - SECTION 1
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TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: AS NOTED VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-CU-710 (CONNECT TO EX PS).DWG	
NCS:	
SHEET:	80B OF 119

0 2.5 5 10 15
VERTICAL SCALE: 1"=5'

50 25 0 50 100 150
GRAPHICAL SCALE: 1"=50'

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FORCEMAIN PLAN & PROFILE

AVALON - SECTION 1
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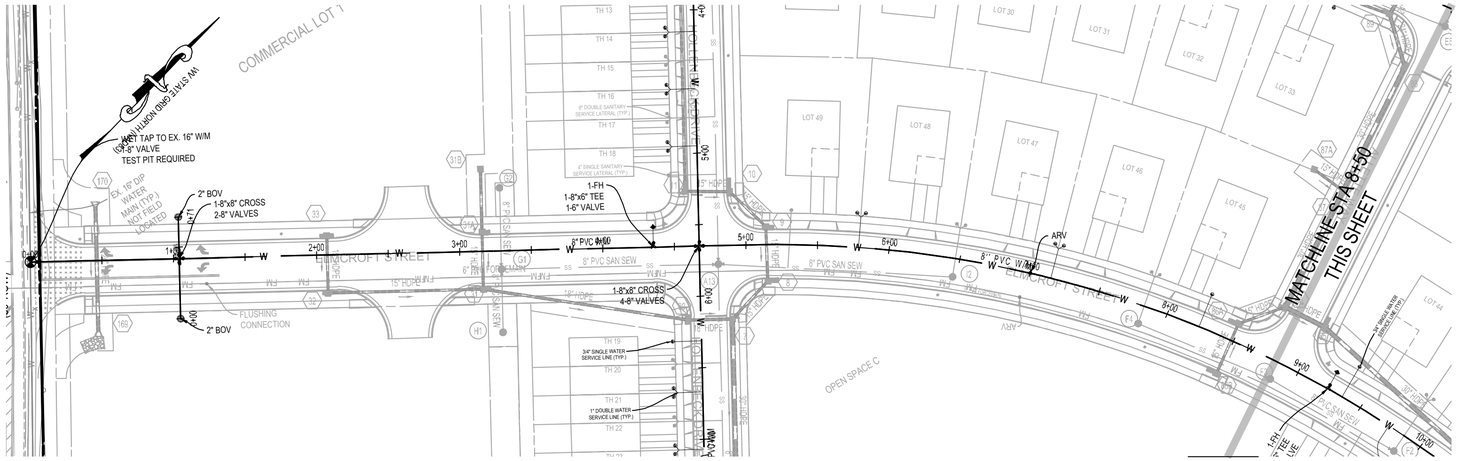
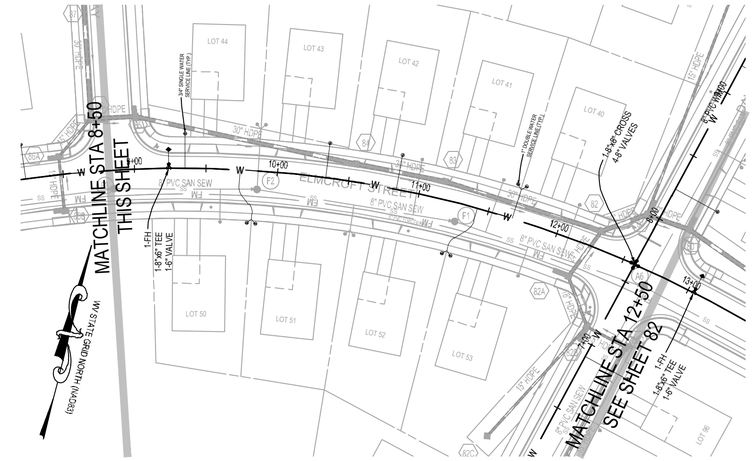
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG.208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

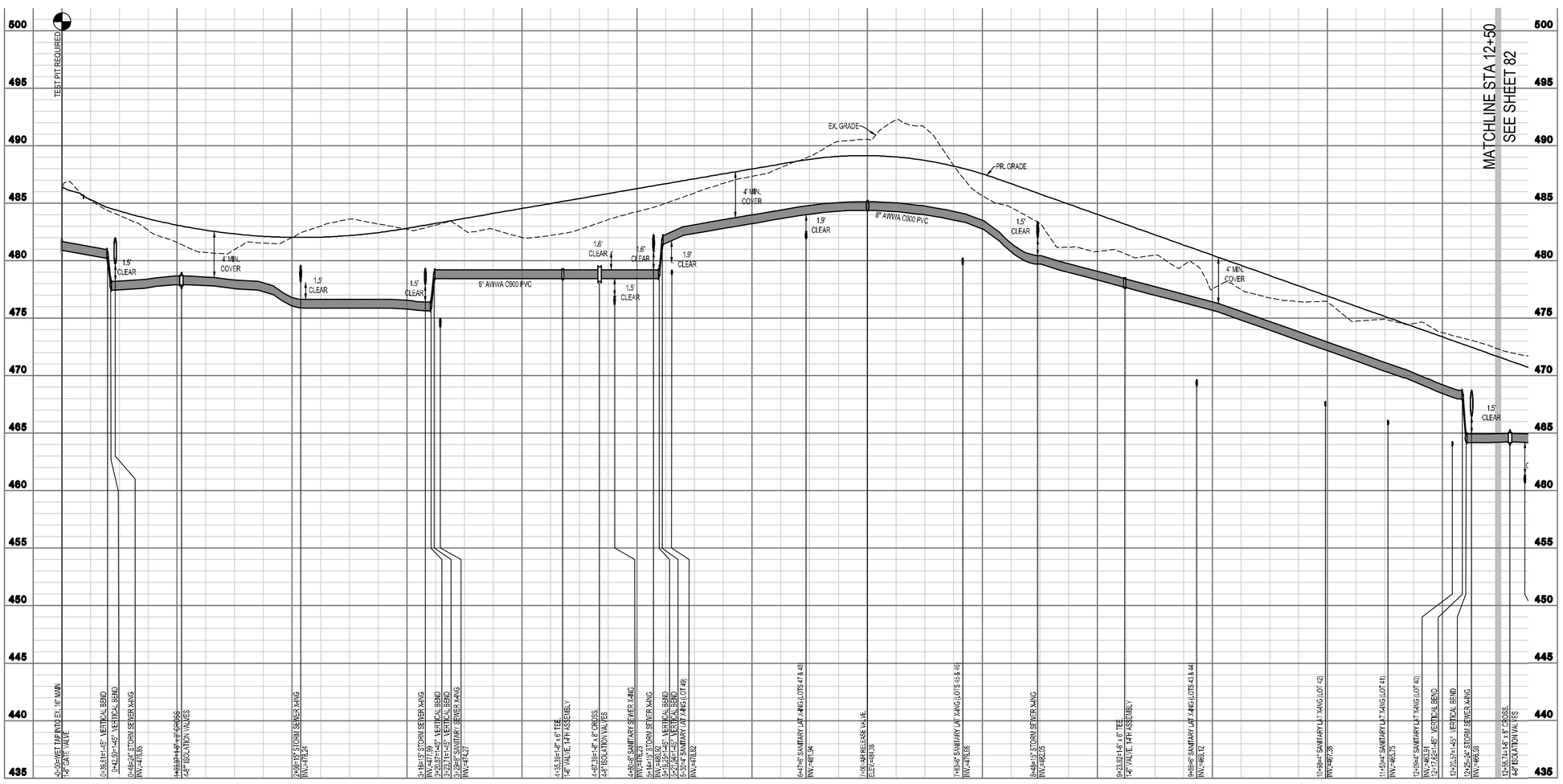
SCALE:	HORIZ.: AS NOTED VERT.:
DATE: APRIL 2024	
JOB: 5016-0201	
DRAWN: TME	CHECK: RPP
CADD: C-CU-710 (CONNECT TO EX PS).DWG	
NCS:	
SHEET: 80C OF 119	





GRAPHICAL SCALE: 1"=50'

VERTICAL SCALE: 1"=5'



WATERLINE ROAD A PROFILE

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1-24-25

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2. 11/12/2024 - WVDOH DIST'V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

WATER MAIN PLAN & PROFILE

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

TAX MAP 10, PARCELS 218.1 AND 206; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: 1" = 50' VERT.: 1" = 5'
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD:	C-CT-201.DWG
NCS:	
SHEET:	81 OF 119

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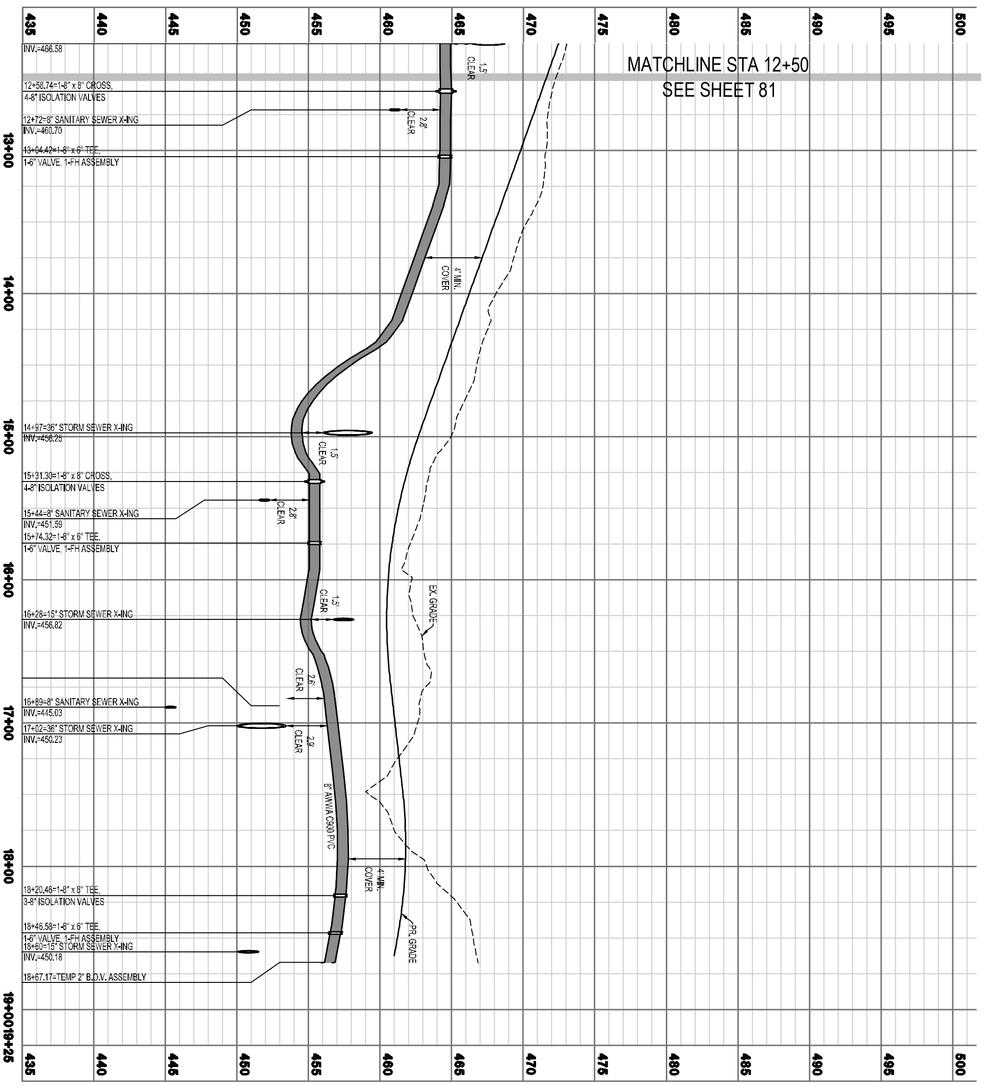
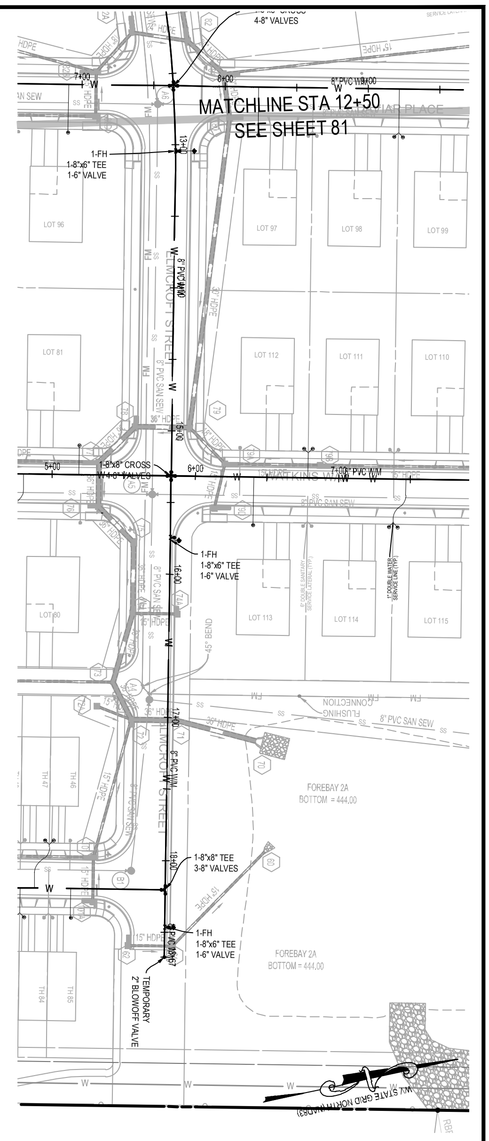
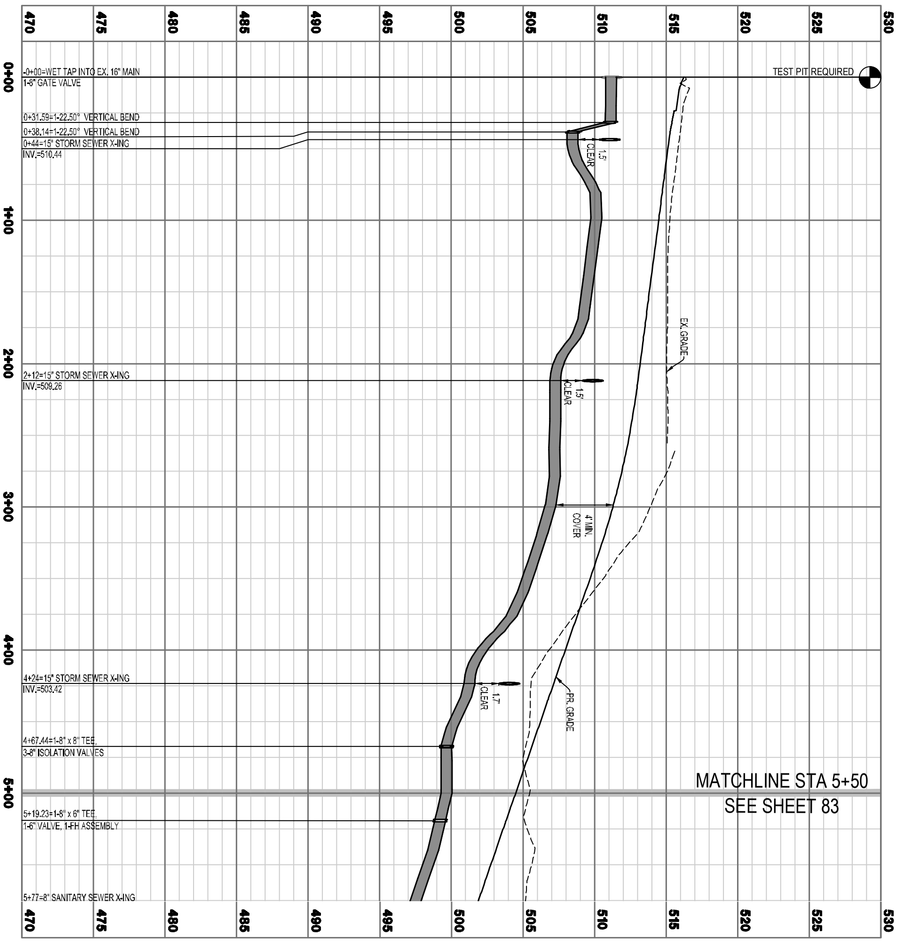
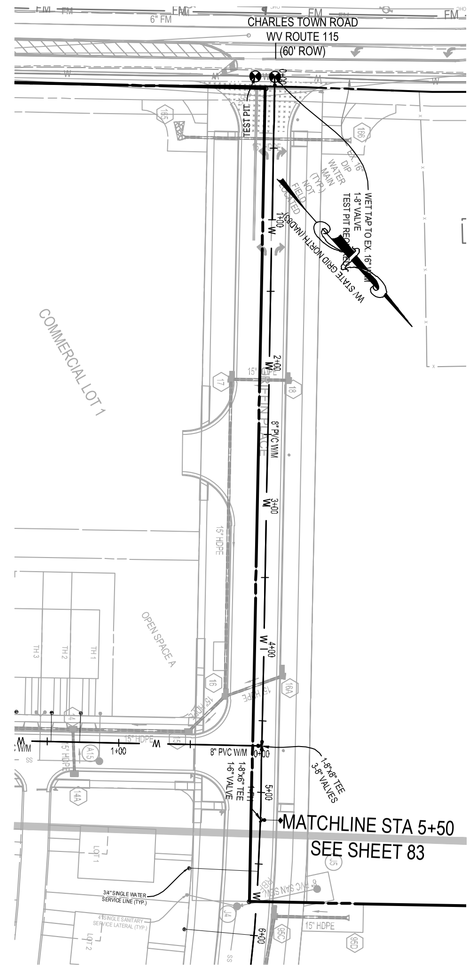


WATERLINE ROAD A PROFILE





WATERLINE ROAD B PROFILE



GRAPHICAL SCALE: 1"=50'
VERTICAL SCALE: 1"=5'

WATER MAIN PLAN & PROFILE

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SU2024-03

REVISIONS
1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

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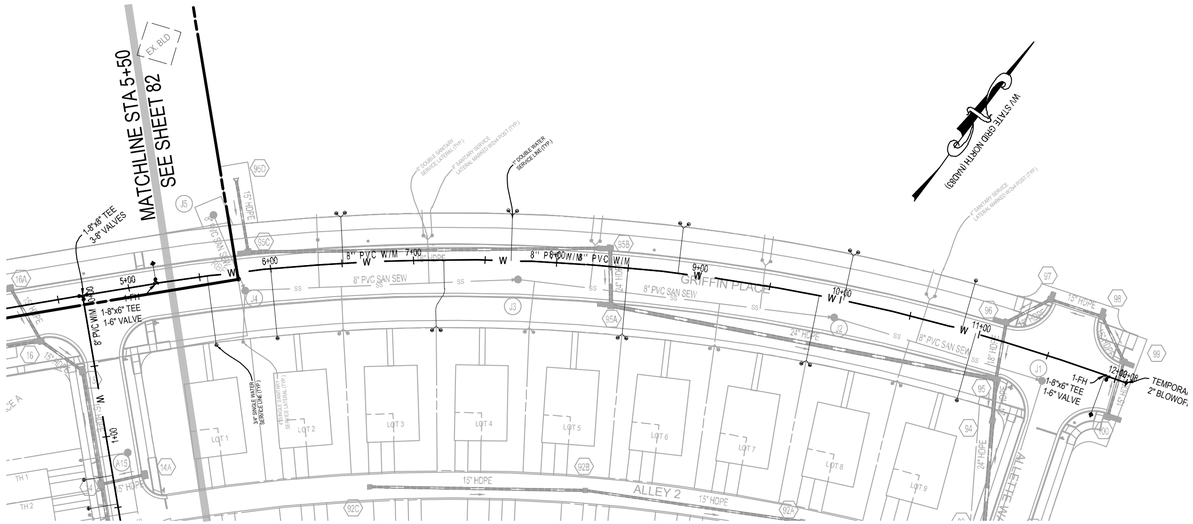
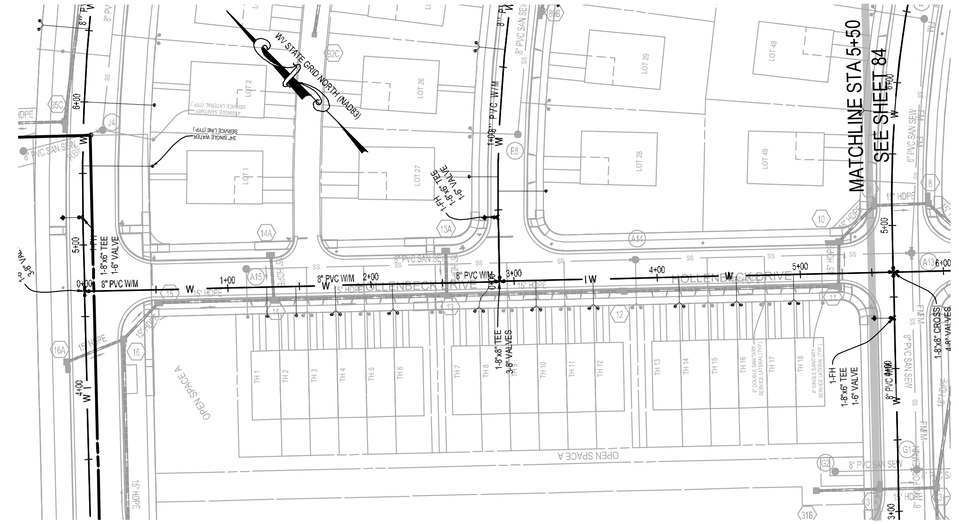
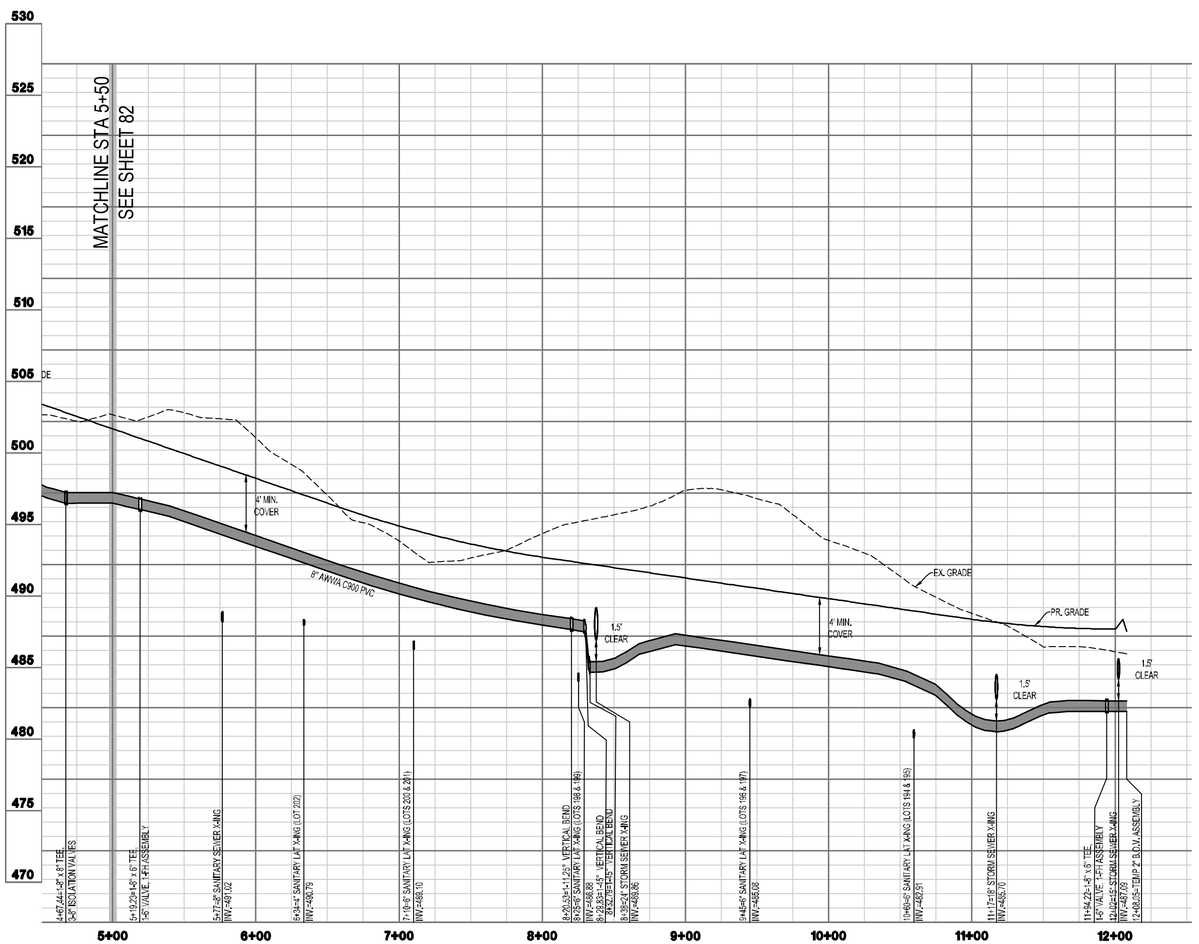
SCALE:	HORIZ.: 1" = 50' VERT.: 1" = 5'
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TMF	CHECK: RPP
CADD: C-CT-201.DWG	
NCS:	
SHEET:	82 OF 119

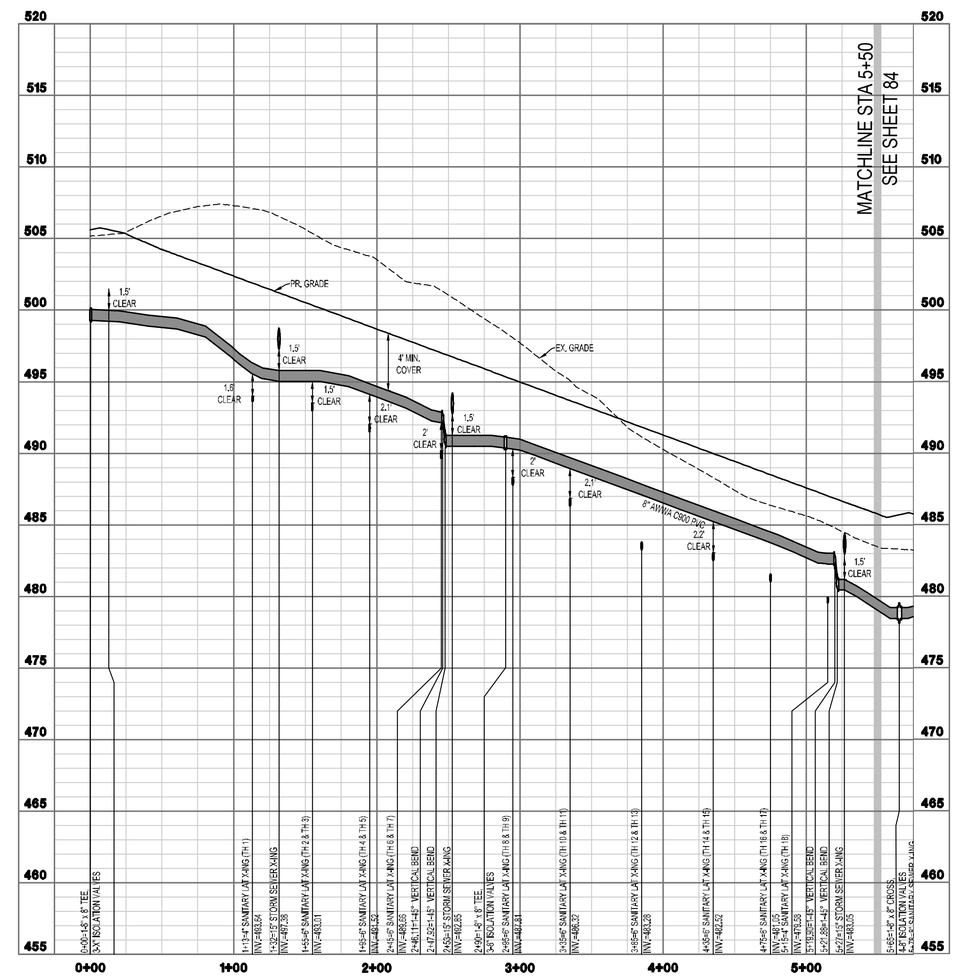




GRAPHICAL SCALE: 1"=50'

VERTICAL SCALE: 1"=5'





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SEAL: JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER 1-24-25

REVISIONS
1. 09/25/2024 - COUNTY COMMENTS
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WATER MAIN PLAN & PROFILE

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG.208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: 1" = 50' VERT.: 1" = 5'
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD:	C-CT-201.DWG
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SHEET:	83 OF 119

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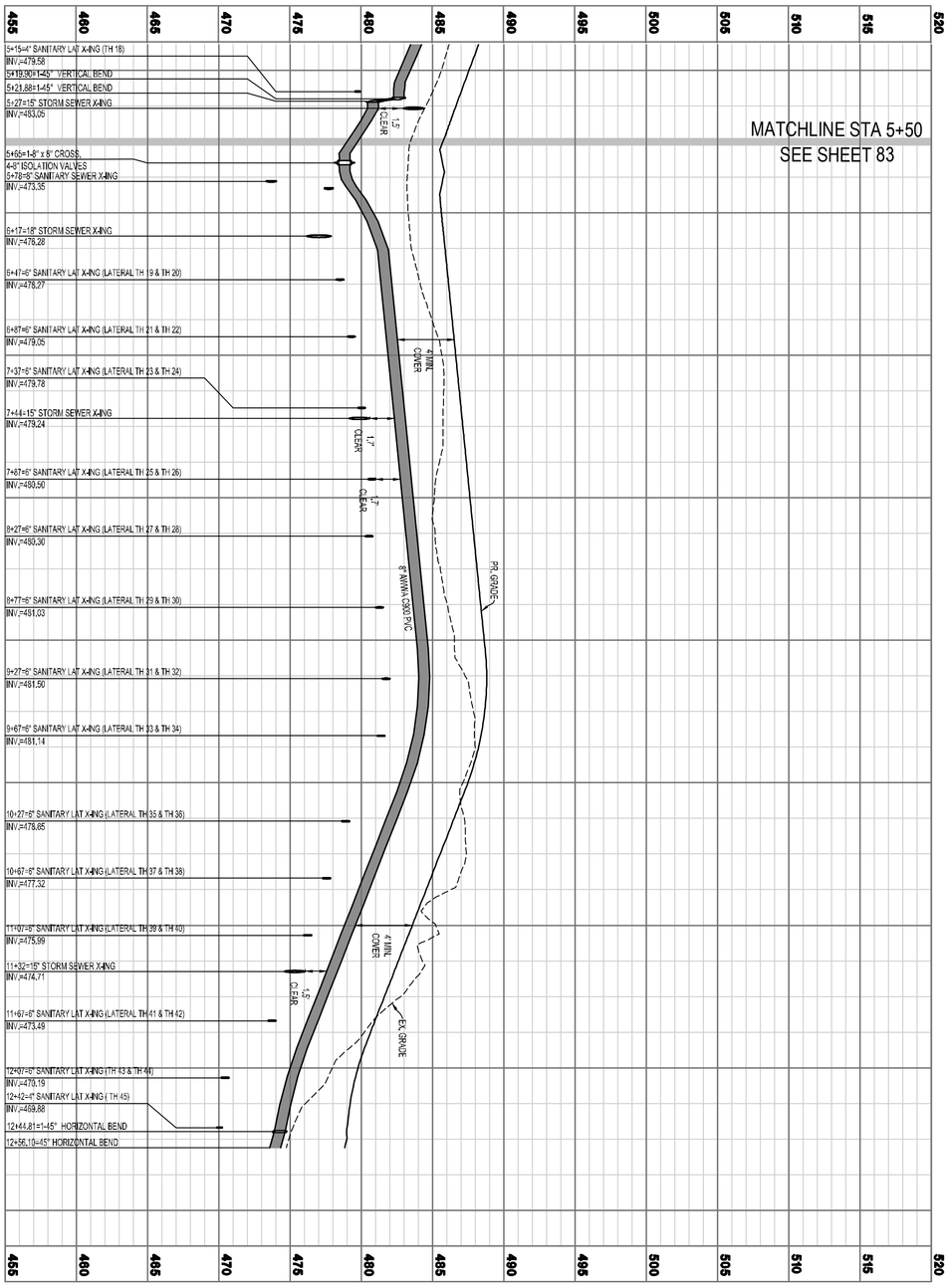

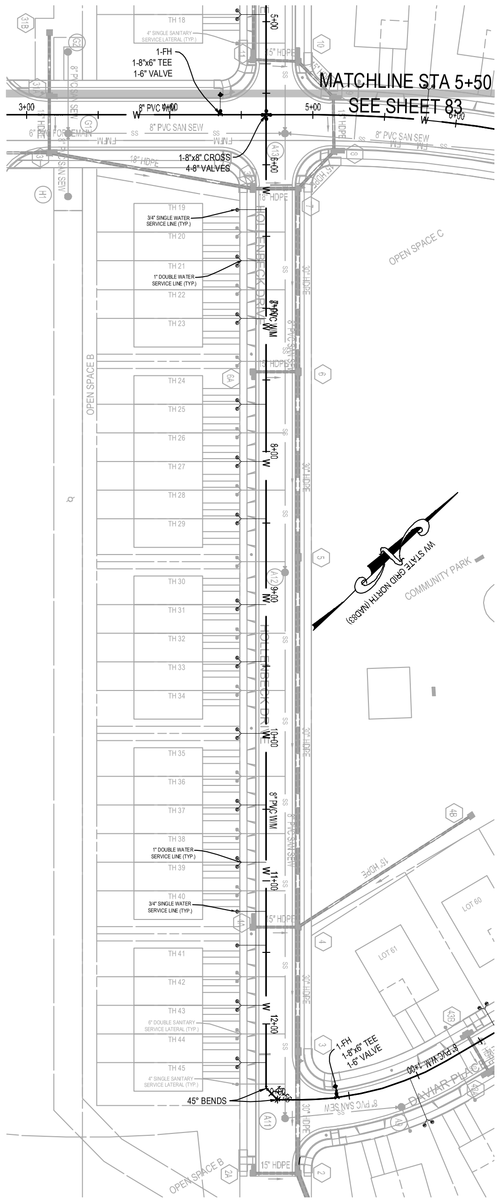

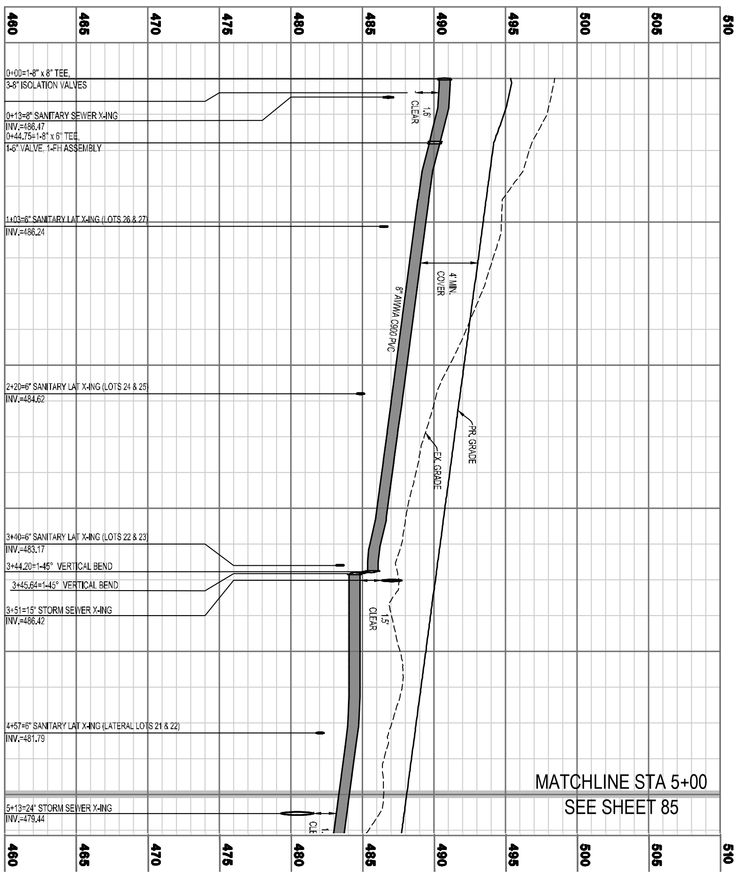

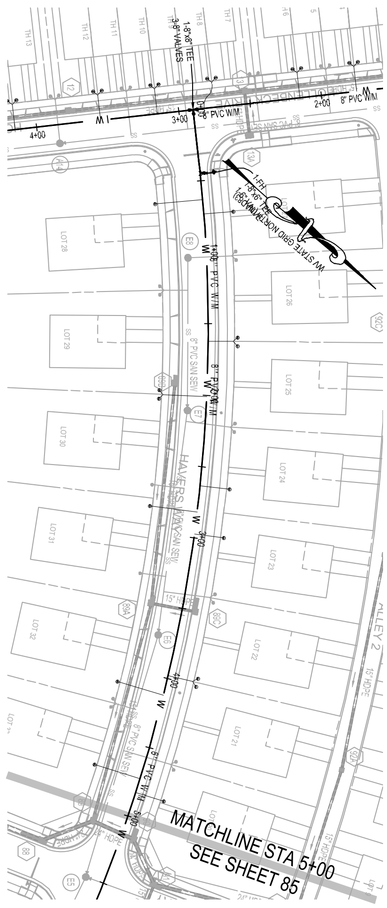

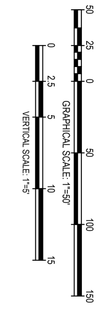

WATER MAIN PLAN & PROFILE

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SU2024-03

REVISIONS
1. 09/25/2024 - COUNTY COMMENTS
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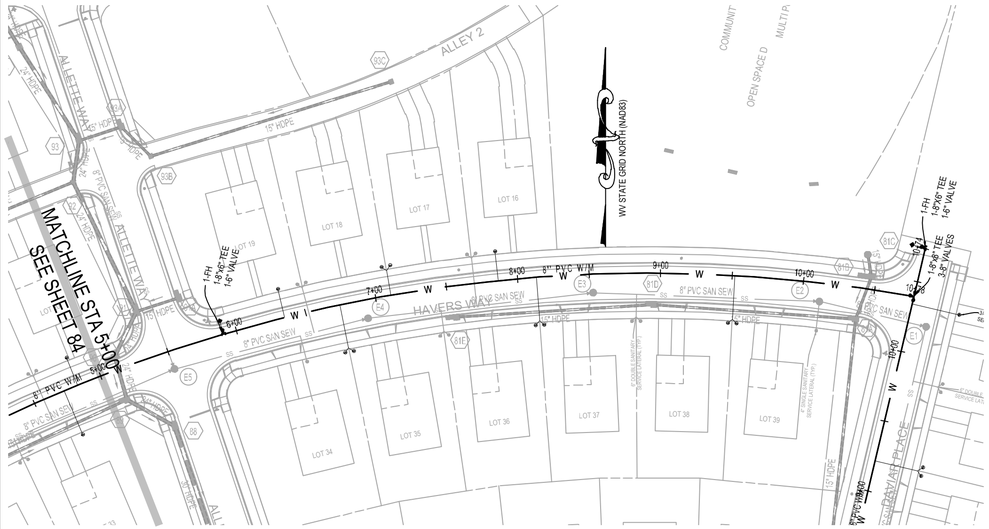
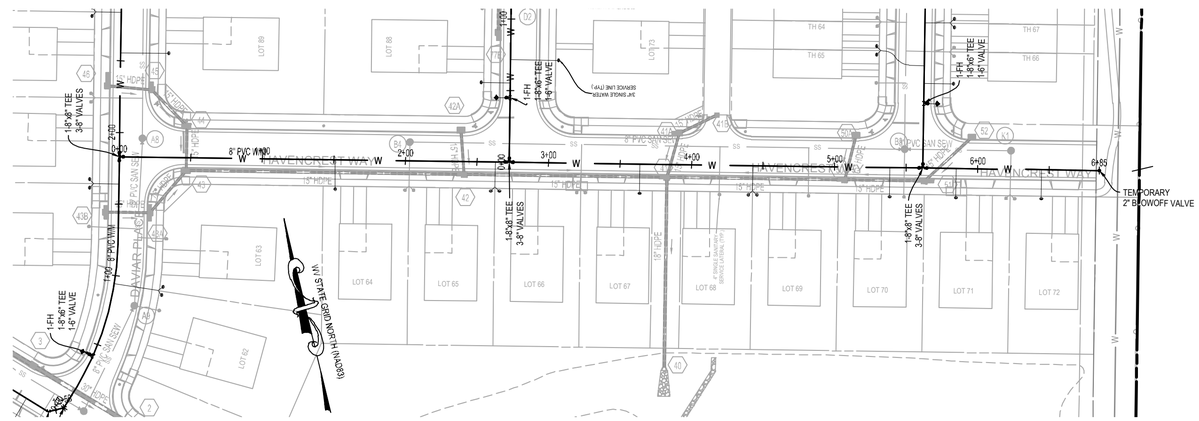
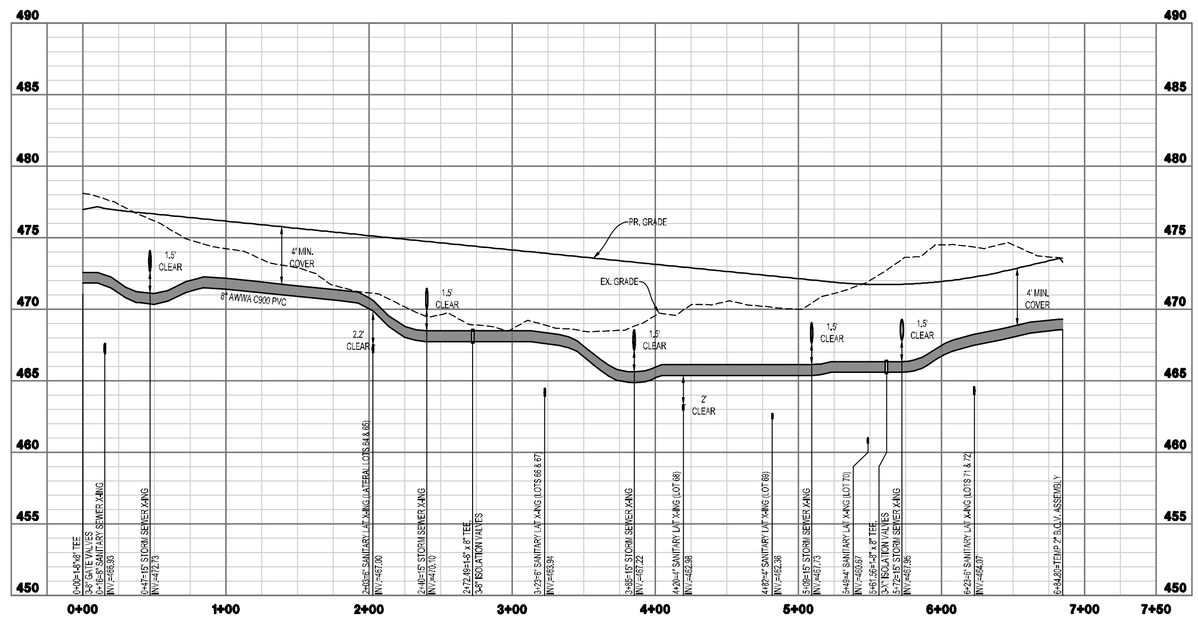
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN:	TMF
CHECK:	RPP
CADD:	C-CT-201.DWG
NCS:	
SHEET:	84 OF 119





WATERLINE ROAD D PROFILE



WATERLINE ROAD E PROFILE

GRAPHICAL SCALE: 1"=50'

VERTICAL SCALE: 1"=5'

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JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
1-24-25

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WATER MAIN PLAN & PROFILE

AVALON - SECTION 1

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PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

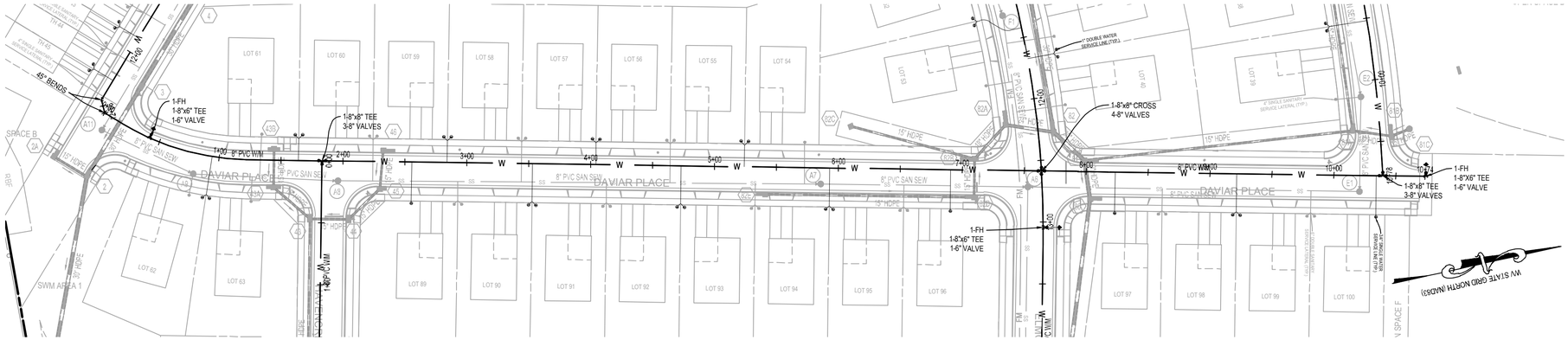
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG.208

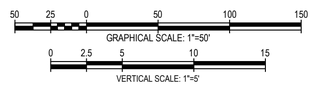
CHARLES TOWN TAX DISTRICT

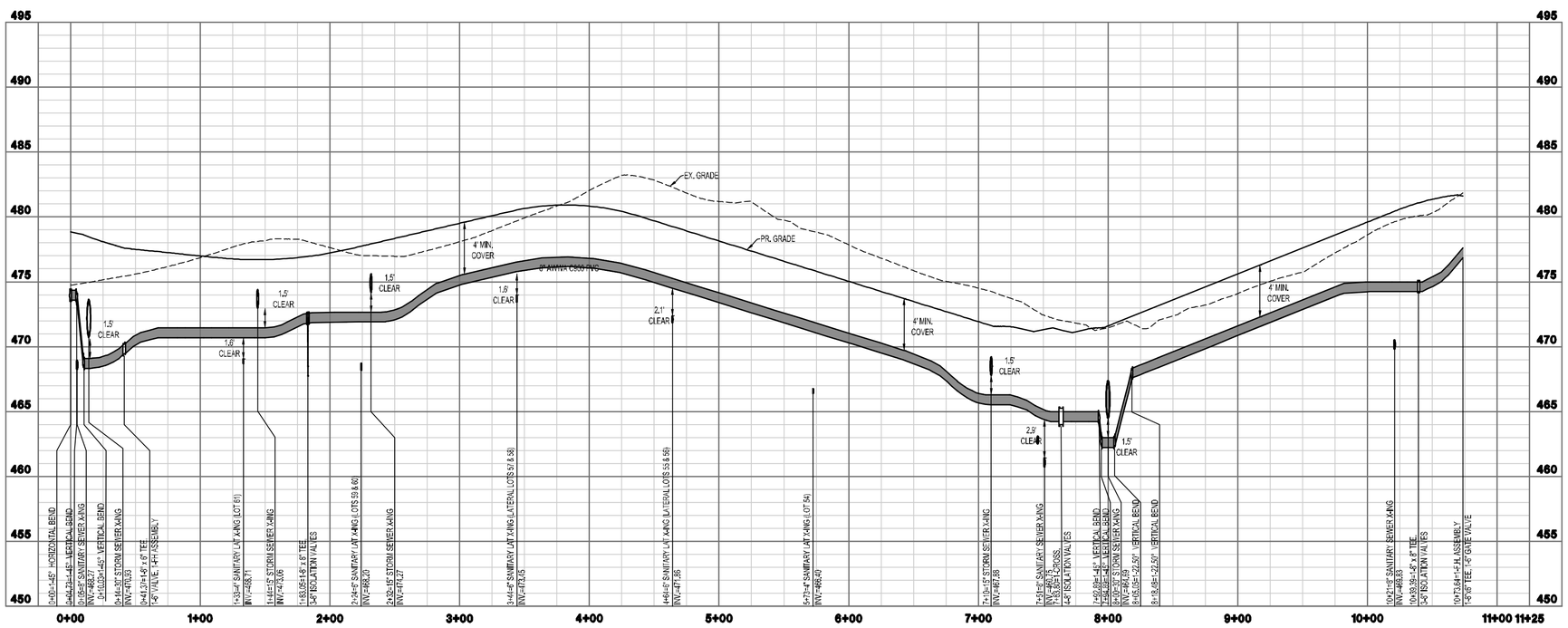
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: 1" = 50' VERT.: 1" = 5'
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD:	C-CT-201.DWG
NCS:	
SHEET:	85 OF 119







WATERLINE ROAD F PROFILE

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WATER MAIN PLAN & PROFILE

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

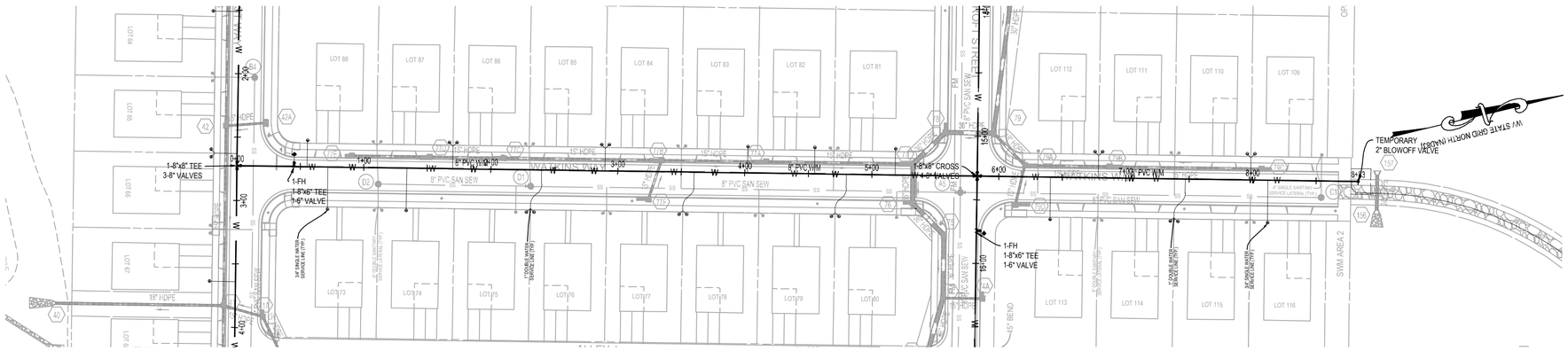
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: 1" = 50' VERT.: 1" = 5'
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD:	C-CT-201.DWG
NCS:	
SHEET:	86 OF 119



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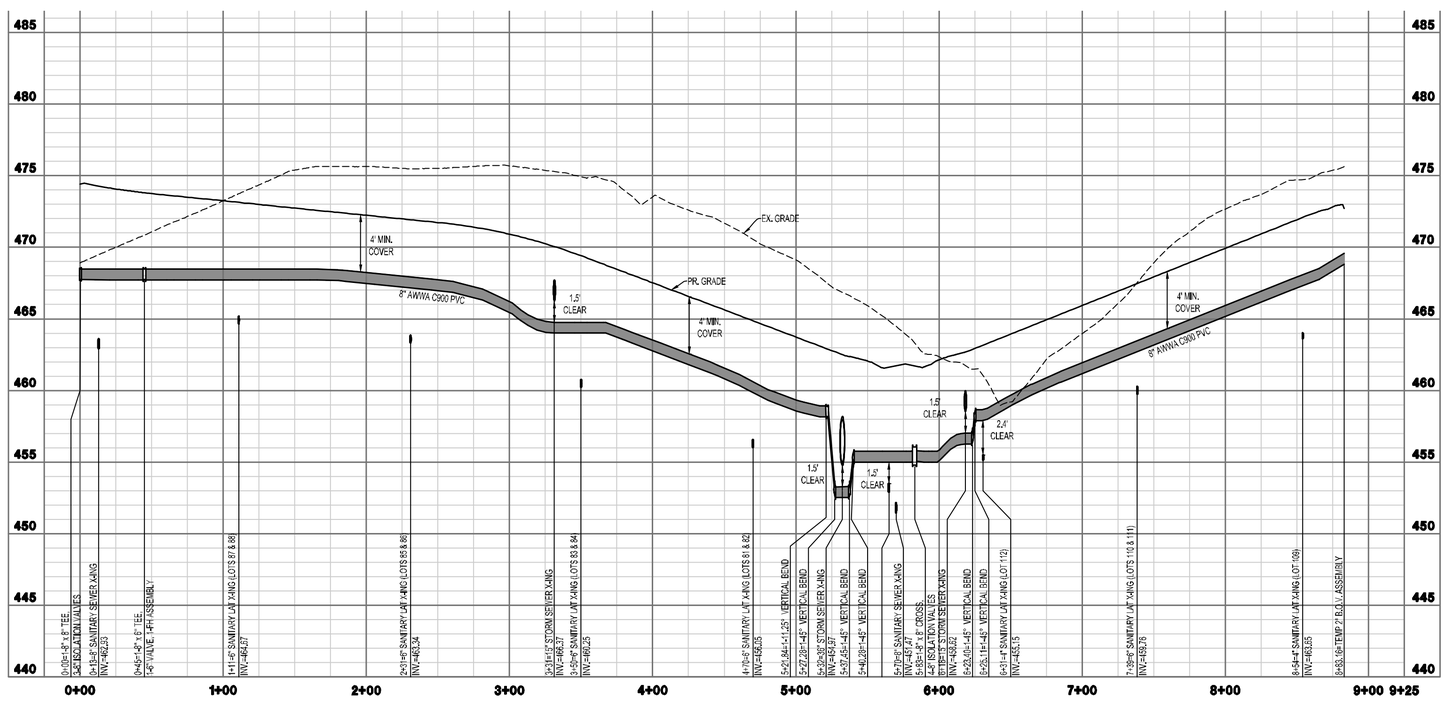
VERTICAL SCALE: 1"=5'



WATERLINE ROAD G PROFILE

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JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
1-24-25

SEAL:

REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

WATER MAIN PLAN & PROFILE

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG.208
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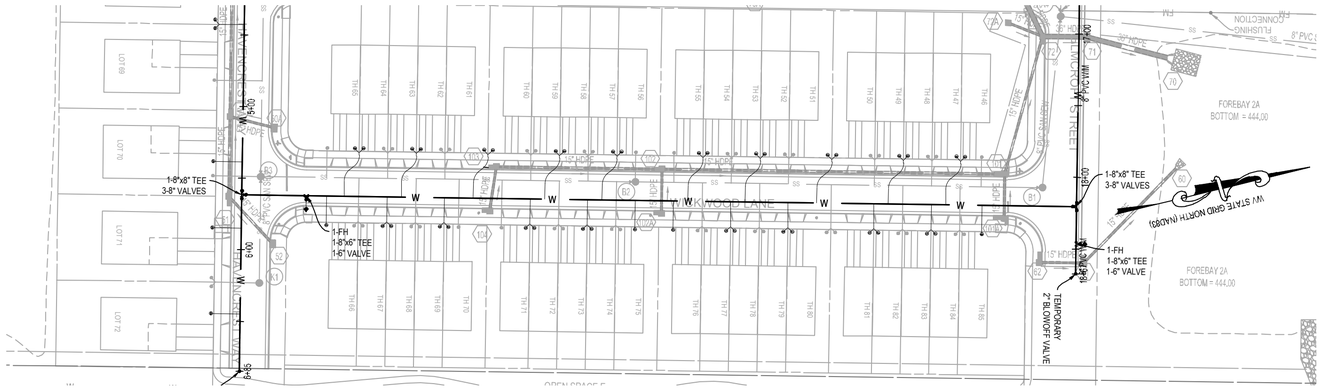

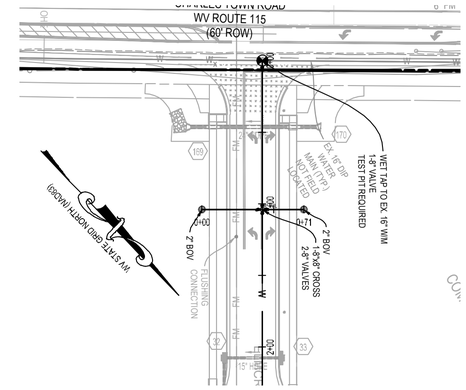

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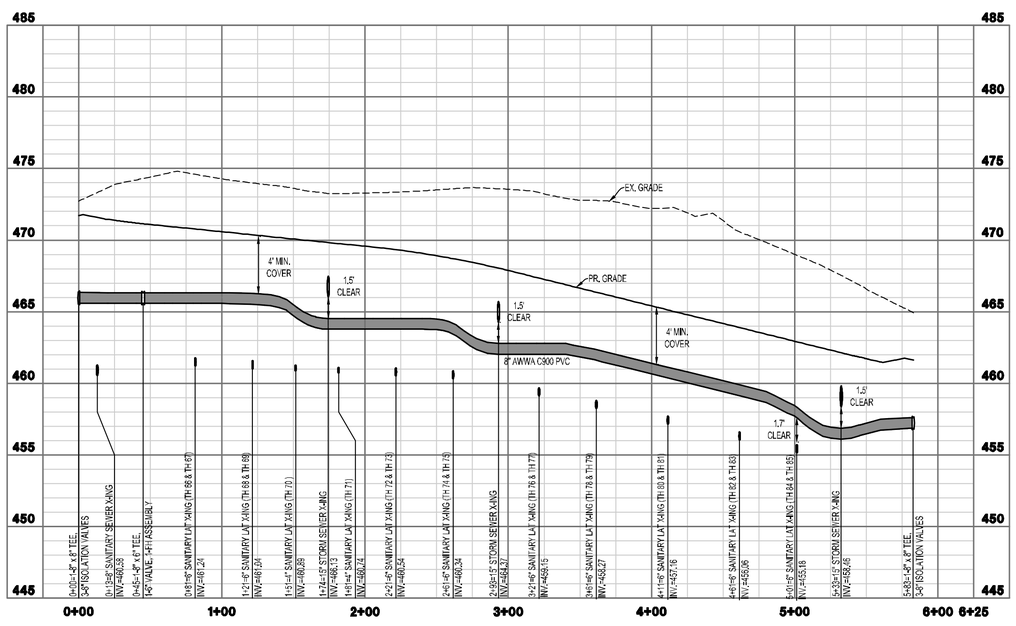
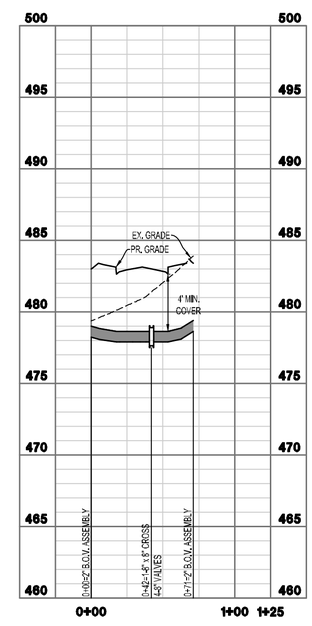


WATERLINE ROAD H PROFILE



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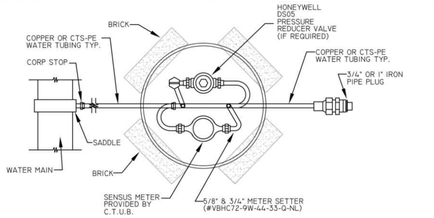
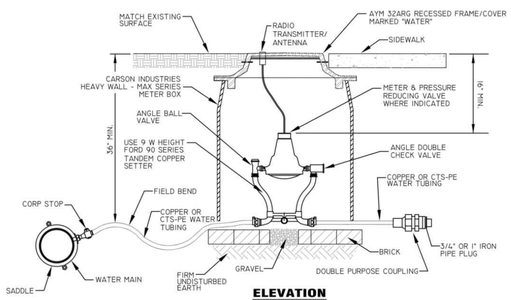


PLAN VIEW



ELEVATION

NOTES:

1. ALL BOLTS TO BE STAINLESS STEEL
2. CONNECT NEW METER SETTER TO EXISTING SERVICE LINES FOR LOCATIONS REQUIRING ONLY METER REPLACEMENT
3. PRESSURE REDUCING VALVE REQUIRED IF STATIC SYSTEM PRESSURES EXCEED 100 PSI
4. ALL METERS TO BE SENSUS RADIO READ PLACED AT PROPERTY LINE.

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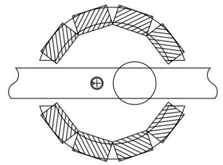
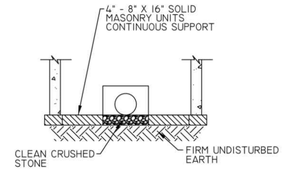
METERED CONNECTION DETAIL

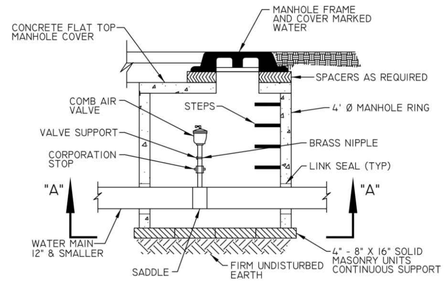
Standard Detail No. **W-1**
NOT TO SCALE
APRIL 2015



PLAN



SECTION A - A



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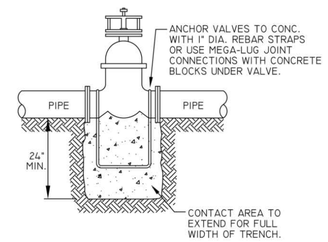
AIR RELEASE & VALVE DETAIL

Standard Detail No. **W-2**
NOT TO SCALE
APRIL 2015



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WATER VALVES DETAIL

Standard Detail No. **W-3**
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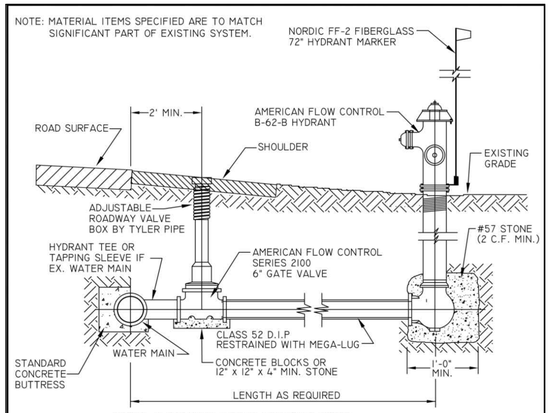
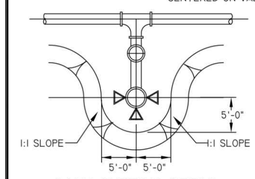
NOTE: MATERIAL ITEMS SPECIFIED ARE TO MATCH SIGNIFICANT PART OF EXISTING SYSTEM.



NOTES: 1. FOR ROAD INSTALLATIONS OR OTHER INTERFERENCES VALVE LOCATION MAY VARY.

2. VALVE BOX TO BE SET PLUMB AND CENTERED ON VALVE.



BANK CUTTING DETAIL

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FIRE HYDRANT WITH TAPPING SLEEVE AND VALVE DETAIL

Standard Detail No. **W-5**
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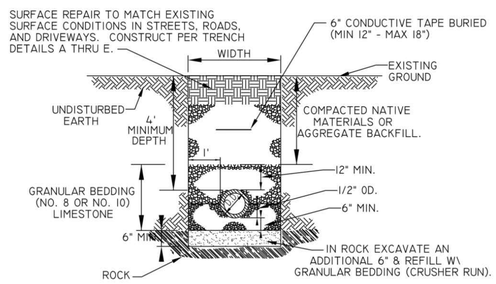

WATER LINE TRENCH

NOTES:

1. W = MAXIMUM PERMISSIBLE TRENCH WIDTH, BASED UPON, W = O.D. + 24", UNLESS APPROVED BY THE ENGINEER.
2. TRENCHES TO BE SHEETED AND BRACED AS REQUIRED.
3. PROVIDE BEARING FOR FULL LENGTH OF BARREL, DIG HOLES FOR THE BELL.
4. BACKFILL TO BE COMPACTED IN 6" LAYERS TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE (+2%) IN ROADS AND STREETS. COMPACT TO MATCH EXISTING GROUND IN OTHER AREAS.
5. MAINTAIN MINIMUM OF 4' OF COVER TO THE TOP OF PIPE.
6. A CASING PIPE SHALL BE REQUIRED IN ROAD CROSSINGS WHERE SHOWN ON PLANS
7. ALL WATER LINES REQUIRE PERMIT FROM APPLICABLE REGULATORY ENTITIES. PERMIT REQUIREMENTS SUPERCEDE WHAT IS SHOWN ON THIS DETAIL.

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WATER LINE TRENCH DETAIL

Standard Detail No. **W-9**
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APRIL 2015

22.5 & 45 DEGREE CONTACT AREA (SF)

PIPE SIZE	PRESSURE CLASS 100	150	200	250	300
2	1	1	1	1	1
4	1	1	2	2	2
6	2	2	3	4	5
8	3	4	5	7	8
10	4	6	8	10	12
12	5	9	12	15	18
14	8	12	16	20	24

22.5° & 45° BENDS

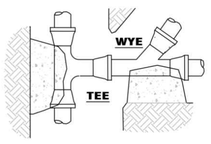
90 DEGREE BEND CONTACT AREA (SF)

PIPE SIZE	PRESSURE CLASS 100	150	200	250	300
2	1	1	1	1	1
4	2	2	3	3	4
6	3	4	5	7	8
8	5	7	10	12	15
10	7	11	15	19	22
12	9	16	21	27	32
14	12	22	29	36	44

90° BEND

TEE CONTACT AREA (SF)

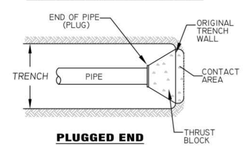
PIPE SIZE	PRESSURE CLASS 100	150	200	250	300
2	1	1	1	1	1
4	1	2	2	2	3
6	2	3	4	5	6
8	4	5	7	9	10
10	5	8	11	13	16
12	7	12	15	19	23
14	10	16	21	26	31



SAME CONTACT
AREA AS TEE

PLUGGED END CONTACT AREA (SF)

PIPE SIZE	PRESSURE CLASS 100	150	200	250	300
2	1	1	1	1	1
4	1	2	2	2	3
6	2	3	4	5	6
8	4	5	7	9	10
10	5	8	11	13	16
12	7	12	15	19	23
14	10	16	21	26	31



PLUGGED END

THRUST BLOCK GENERAL NOTES

1. ALL CONCRETE SHALL BE 3000 P.S.I. (AE)
2. THRUST BLOCKS SHALL BE IMBEDDED IN UNDISTURBED SOIL.
3. SOIL BEARING CAPACITY IS ASSUMED AT 3000 LB. SQ. FT. FOR WEAKER SOILS THRUST BLOCK AREAS SHALL BE INCREASED AS REQUIRED.
4. WRAP PIPE WITH POLYETHYELENE TO PREVENT CONTACT BETWEEN PIPE AND THE CONCRETE.

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PIPE BUTTRESS DETAILS

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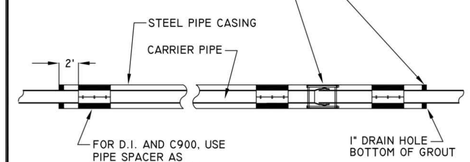
CASING SCHEDULE FOR C900, DI, OR DI TR FLEX RESTRAINED JT 350 PSI

CARRIER PIPE DIA. (IN.)	MIN. CASING PIPE DIA. (IN.)	NOM. WALL THICKNESS
4	10	0.313
6	12	0.313
8	16	0.313
10	18	0.375
12	20	0.375

NOTE: SDR 35 PVC, CASING FOR 4" CARRIER IS 12" DIA. AND FOR 6" CARRIER IS 16" DIA. OTHER SIZE SDR 35 ARE SAME AS ABOVE. STEEL CASING SHALL BE USED WITH SPECIFIED MINIMUM YIELD STRENGTH OF AT LEAST 35,000 PSI.

FOR C900 OR D.I. FORCEMAIN, USE EBBA 1500 TD OR UNFLANGE 1390 SERIES TYPICAL AT EACH JOINT. FOR SDR 35 PVC, USE FORD UFRCS 1390 HARNESS RESTRAINT WITH SPACERS.

GROUT ENDS OF CASING CLOSED OR USE RUBBER BOOT END CLOSURE CASCADE STYLE CCES OR EQUAL.



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PIPE CASING DETAIL

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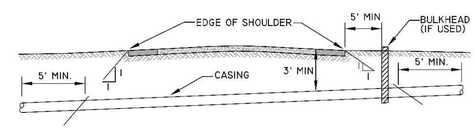

NOTE: PERMIT REQUIRED FROM WV DEPARTMENT OF HIGHWAYS IF CROSSING UNDER STATE ROAD. PERMIT REQUIREMENTS SUPERCEDE WHAT IS SHOWN ON THIS DETAIL.

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PIPE CASING TYP. ROAD CROSSING SECTION DETAIL

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STORM SEWER PROFILES

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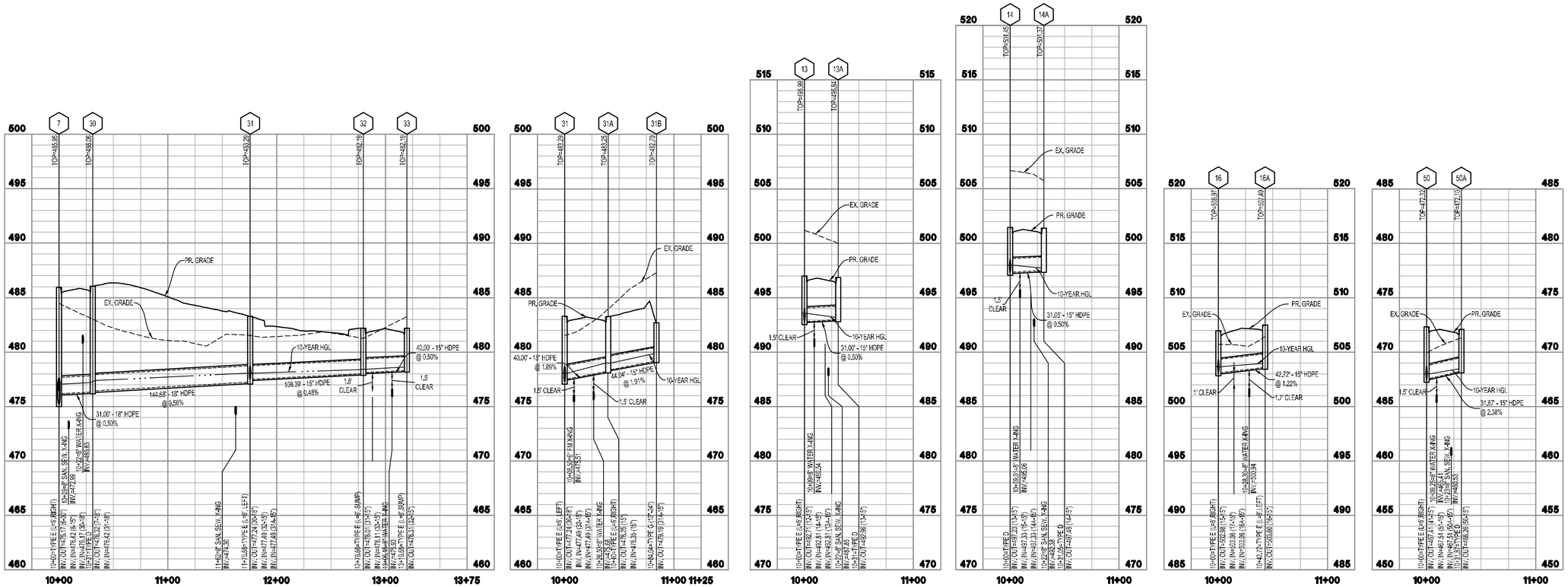

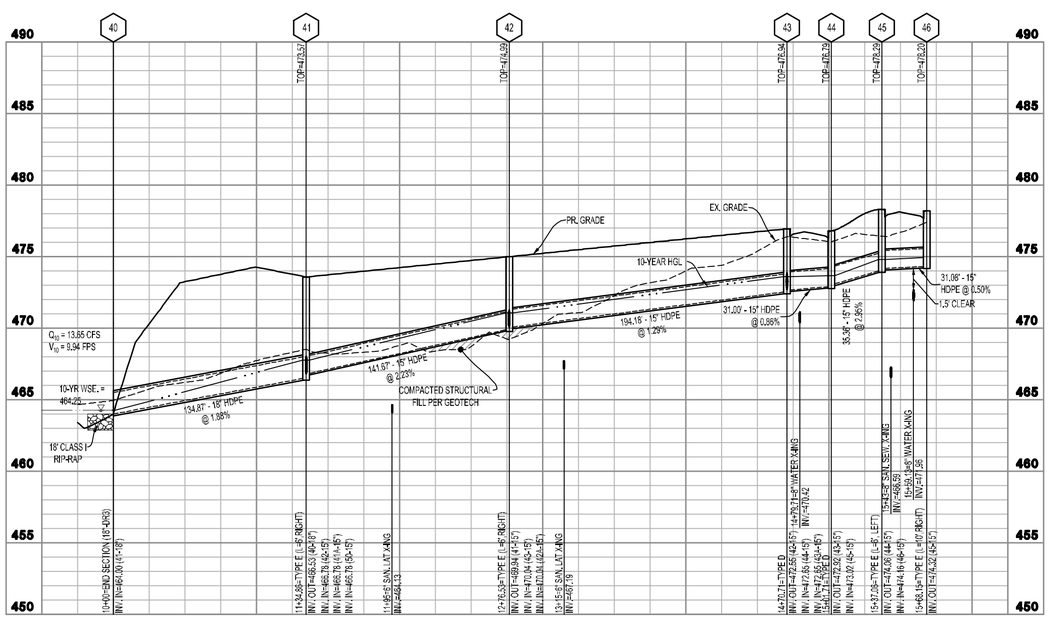

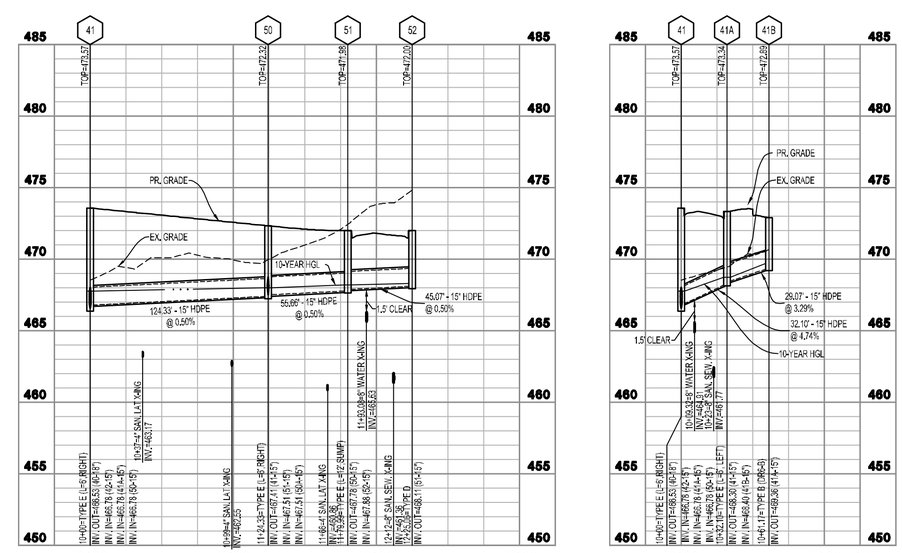

0 2.5 5 10 15
VERTICAL SCALE: 1"=5'

50 25 0 50 100 150
GRAPHICAL SCALE: 1"=50'

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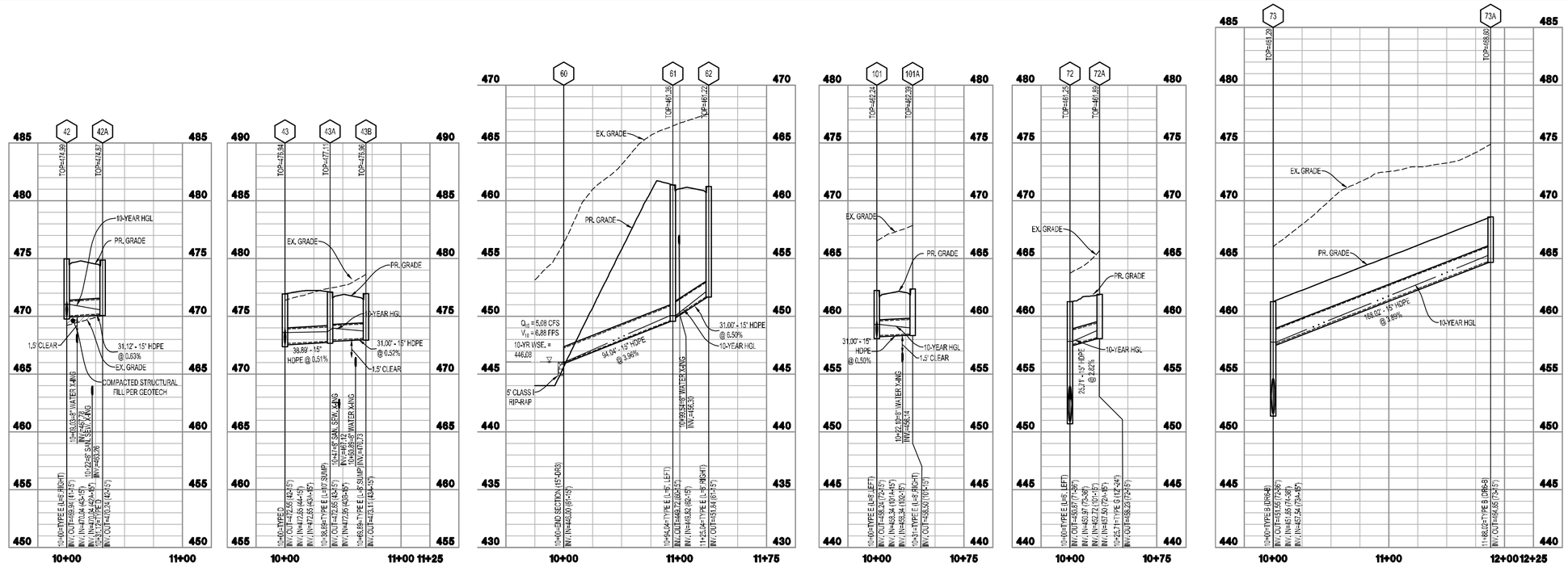

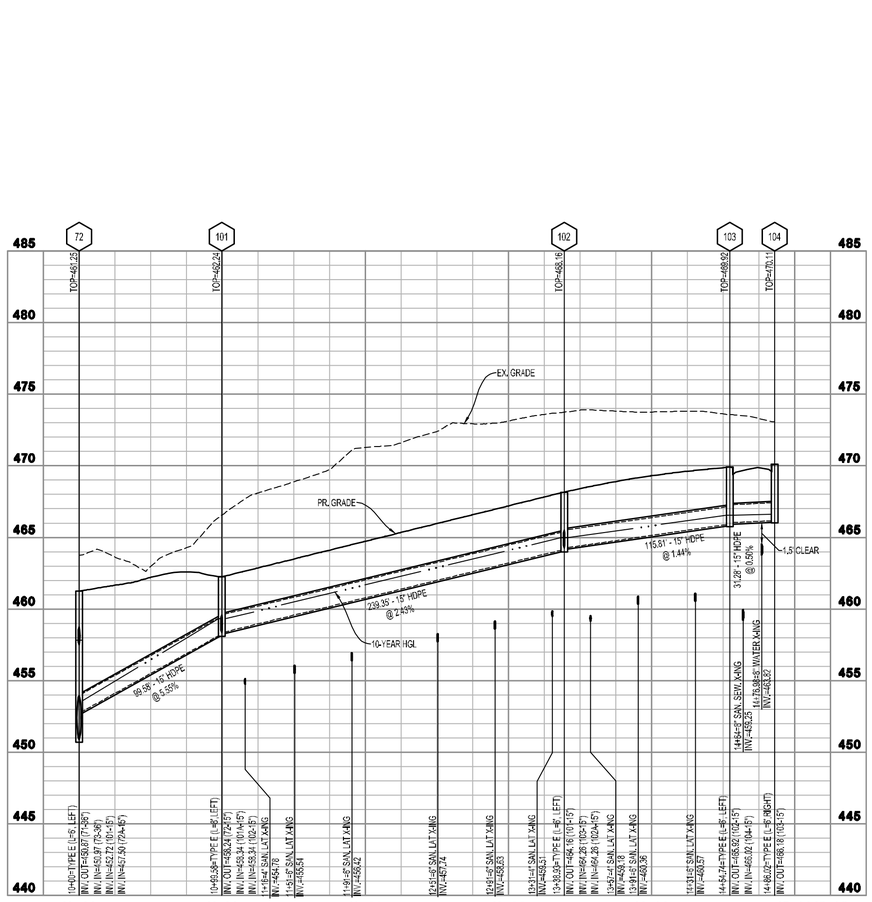

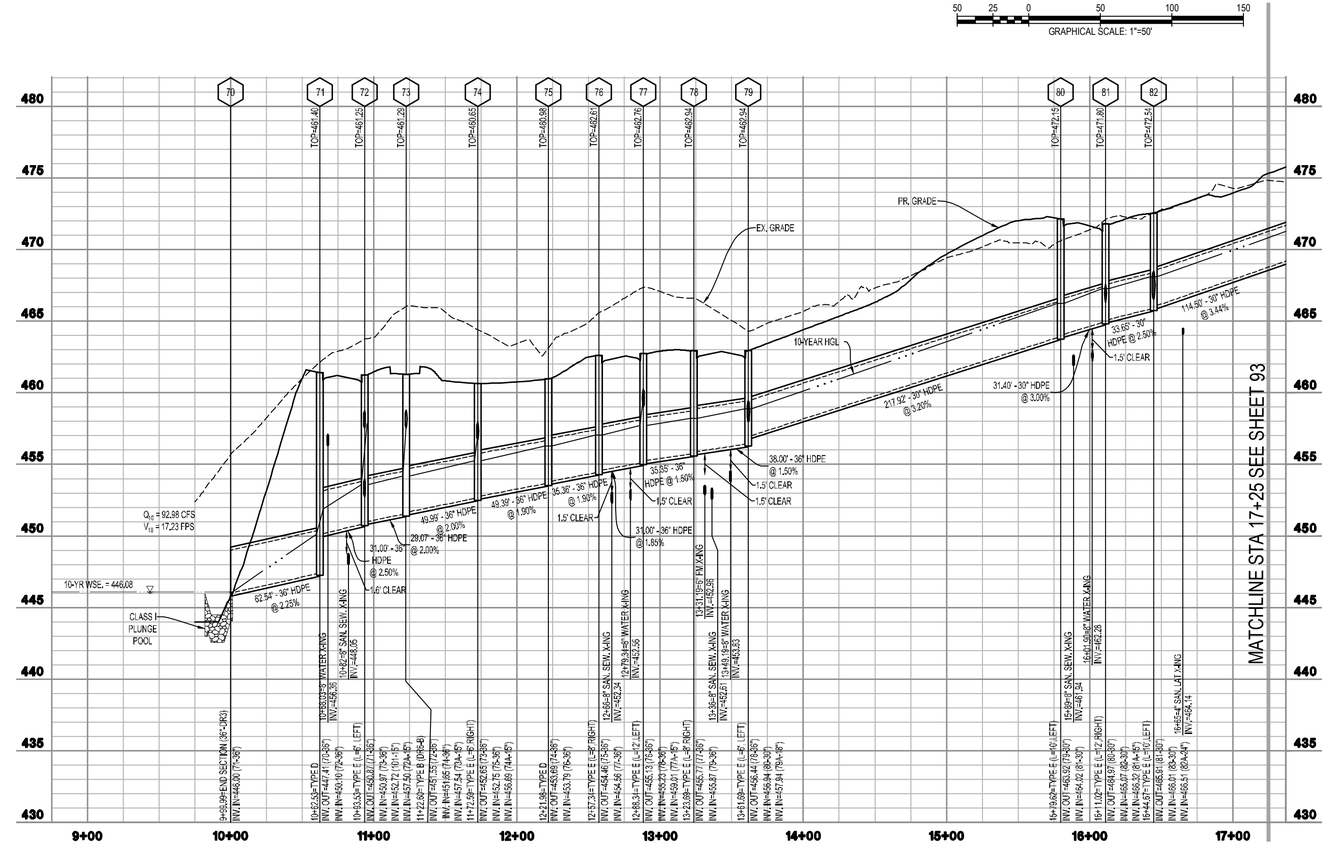

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PROFESSIONAL ENGINEER
4-24-24

SEAL:

REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

STORM SEWER PROFILES

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

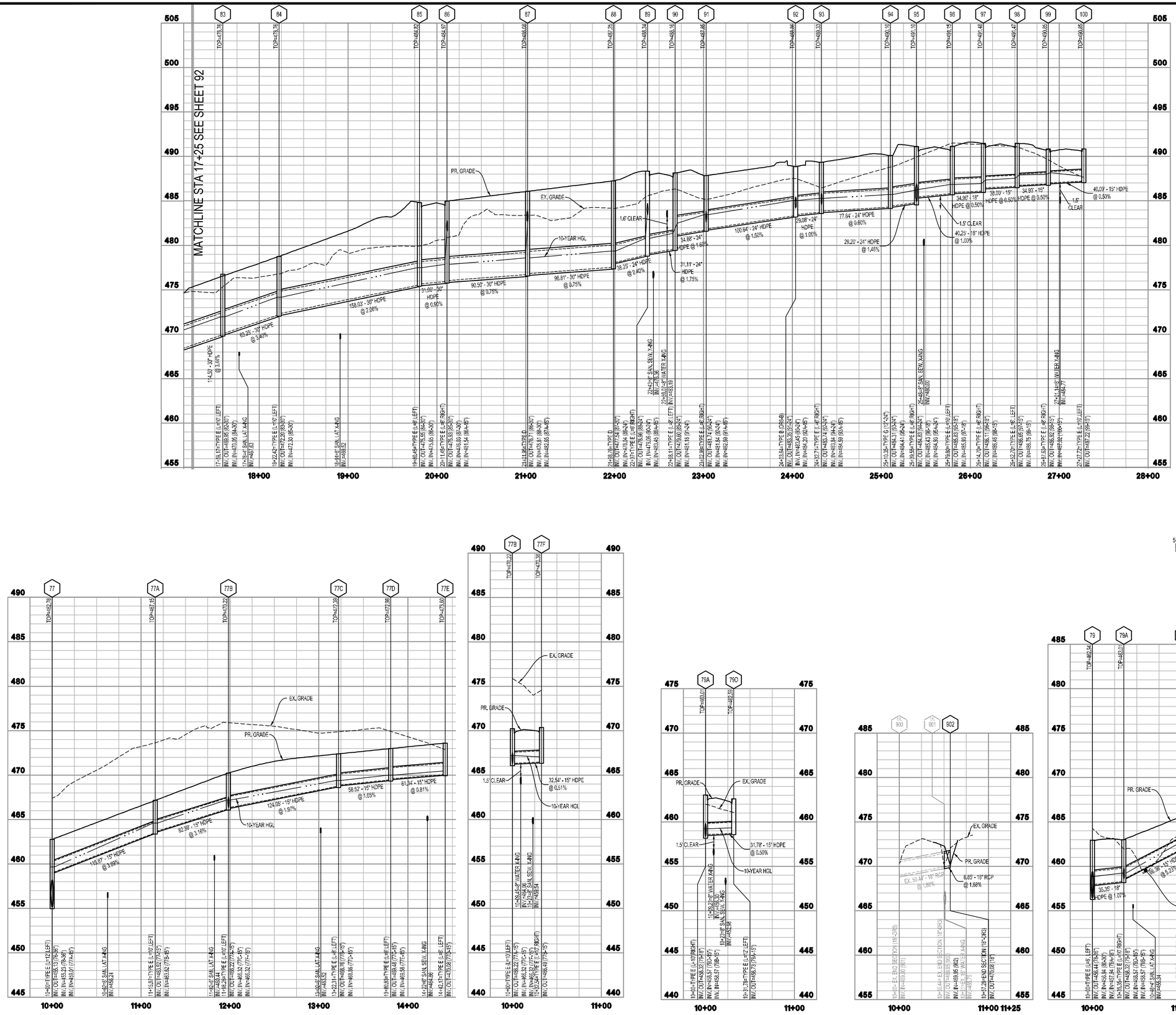
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

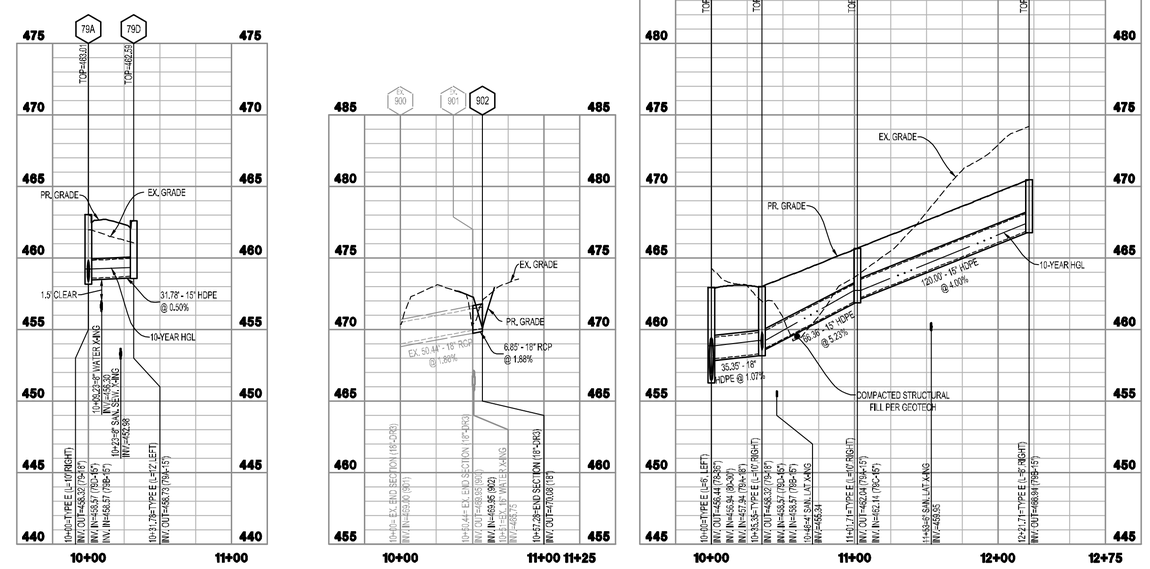
CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: 1" = 50' VERT.: 1" = 5'
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-CU-261.DWG	
NCS:	
SHEET:	92 OF 119





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JASON P. GERHART
No. 19127
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
1-24-25

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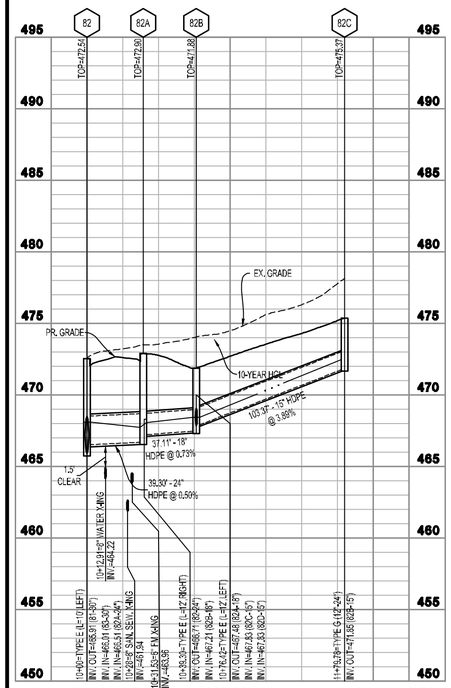

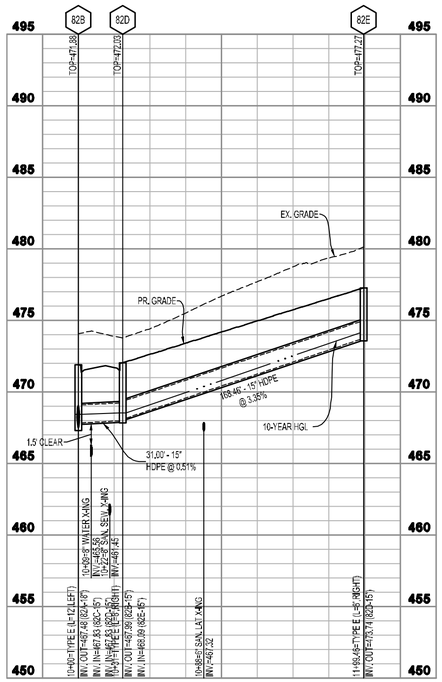

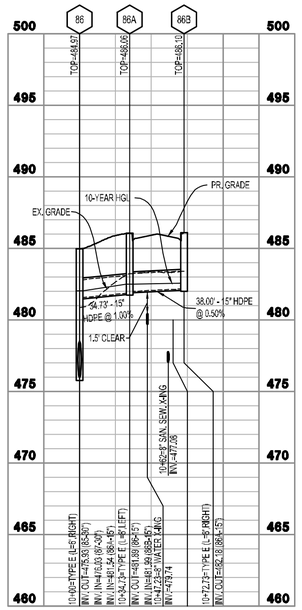

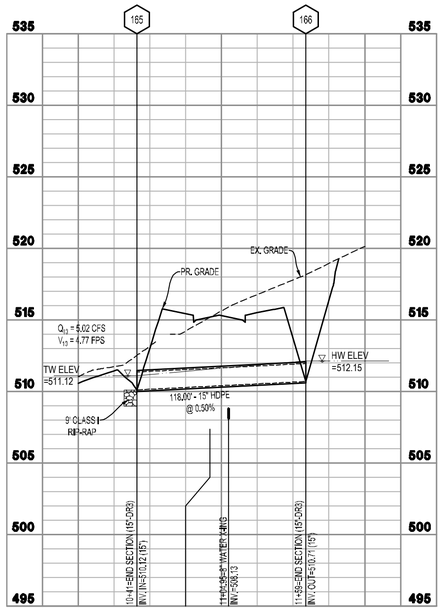

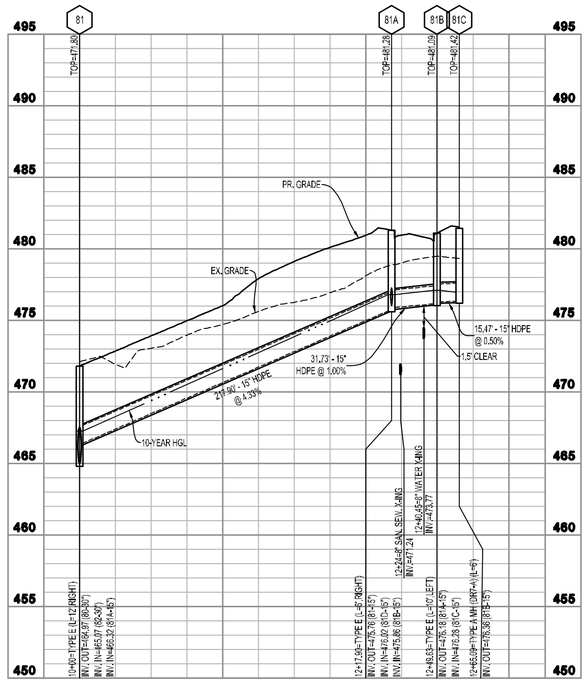

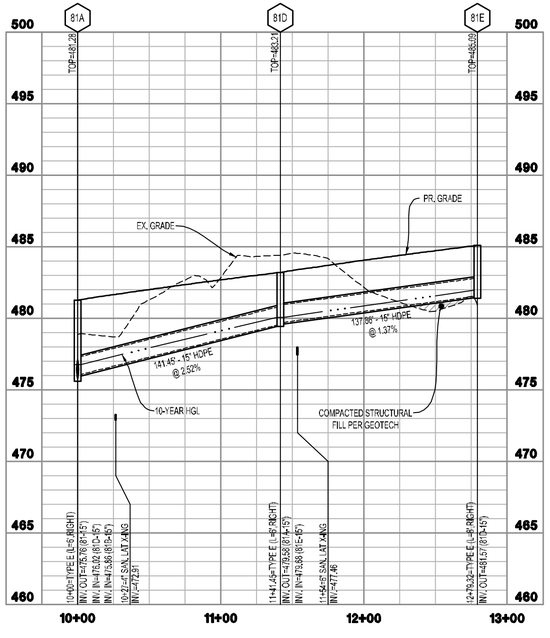

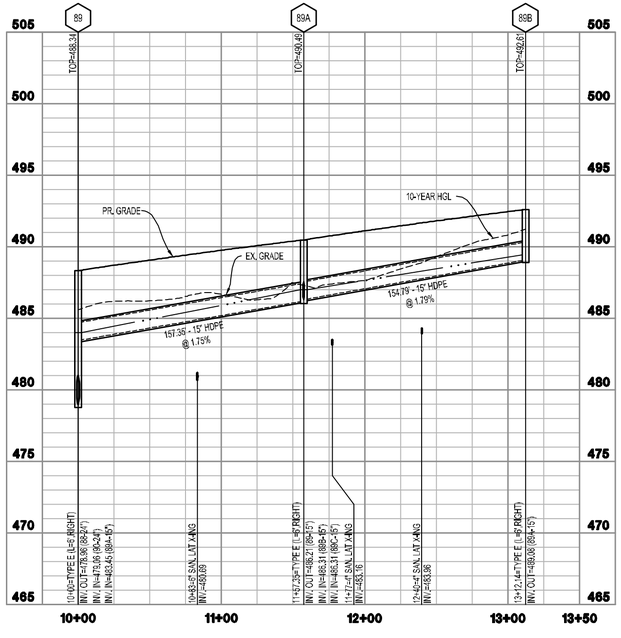

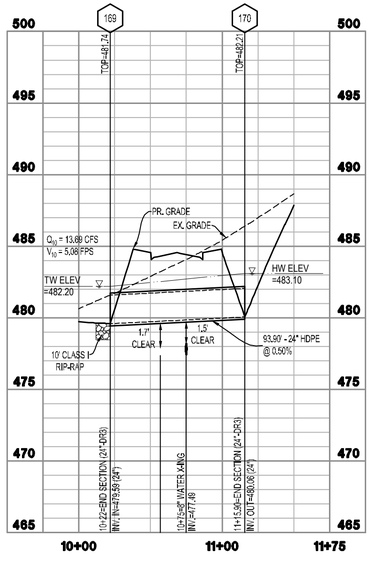

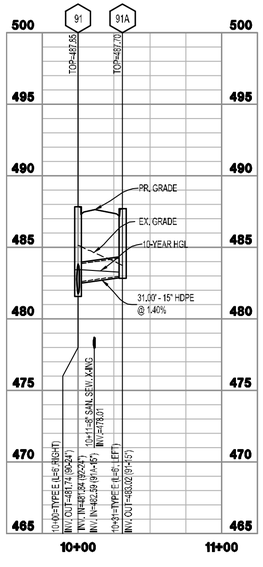

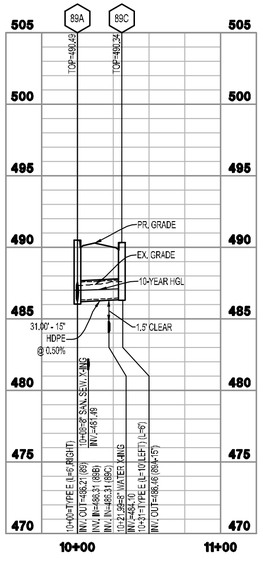

0 2.5 5 10 15
VERTICAL SCALE: 1"=5'

50 25 0 50 100 150
GRAPHICAL SCALE: 1"=50'

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AVALON - SECTION 1

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CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

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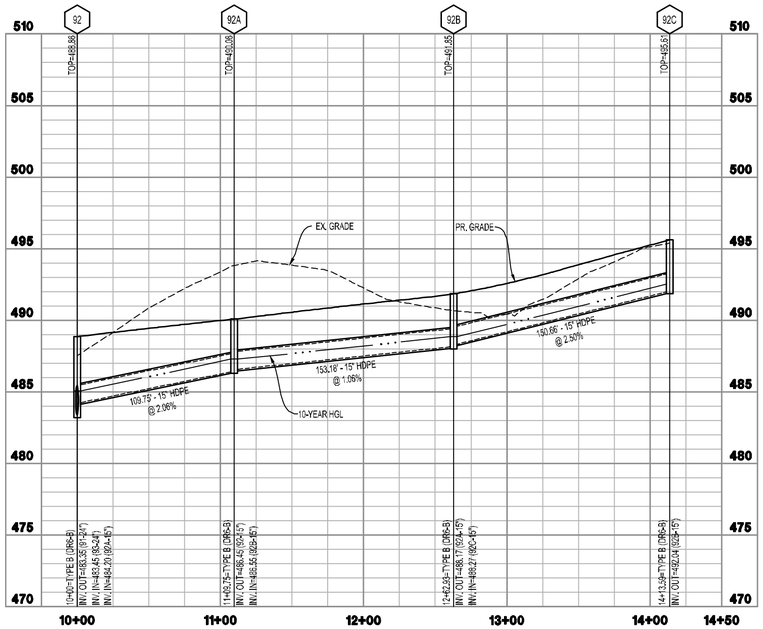

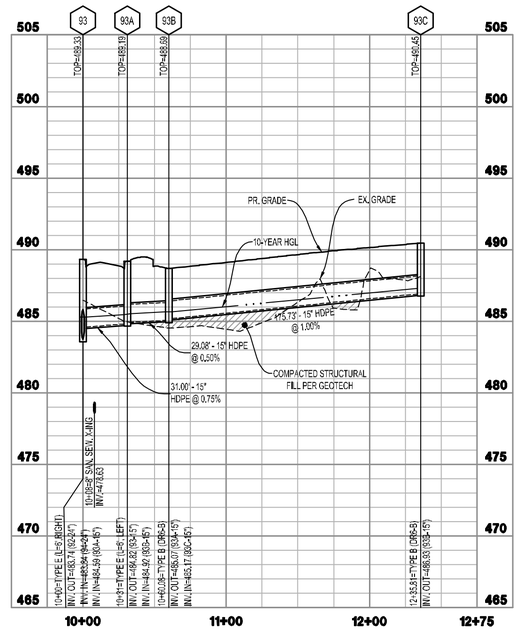

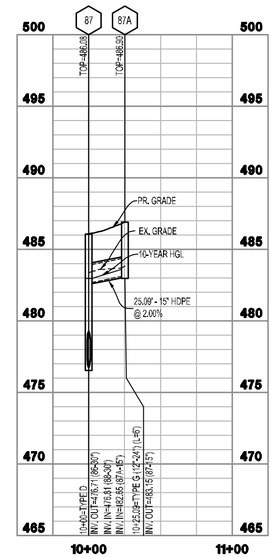

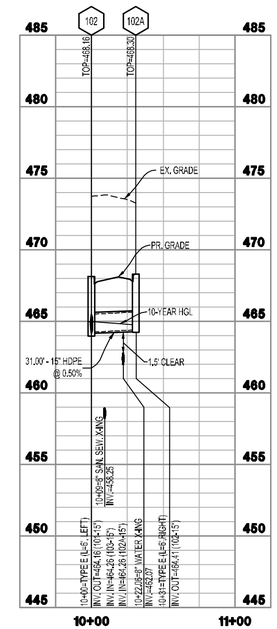

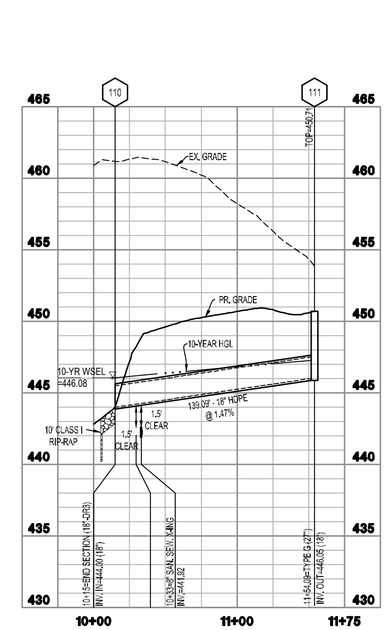

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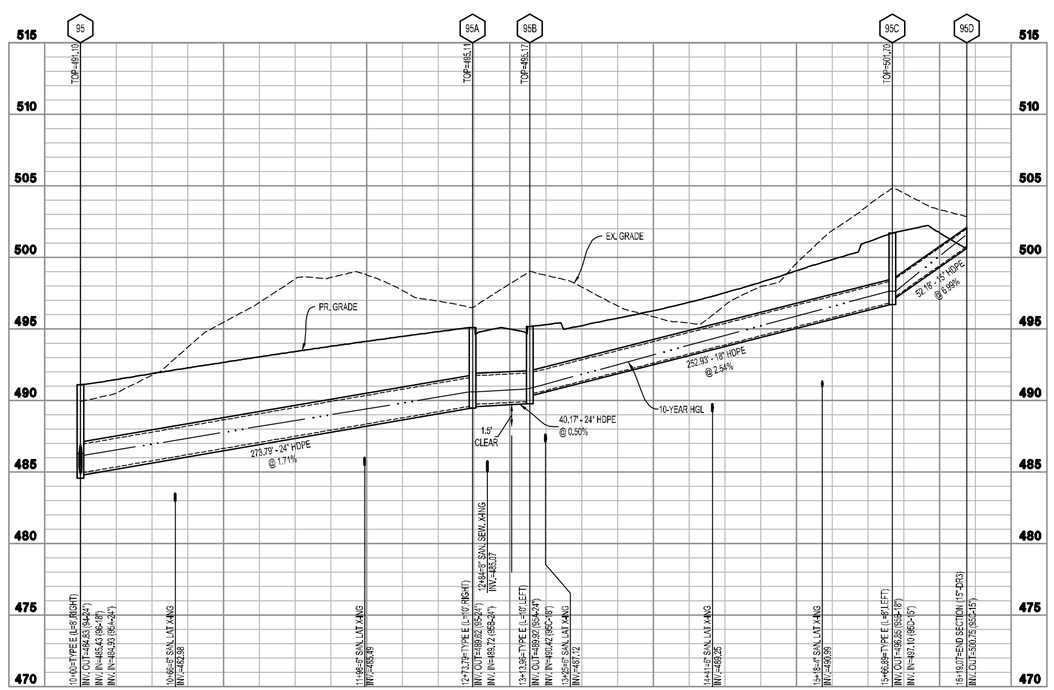

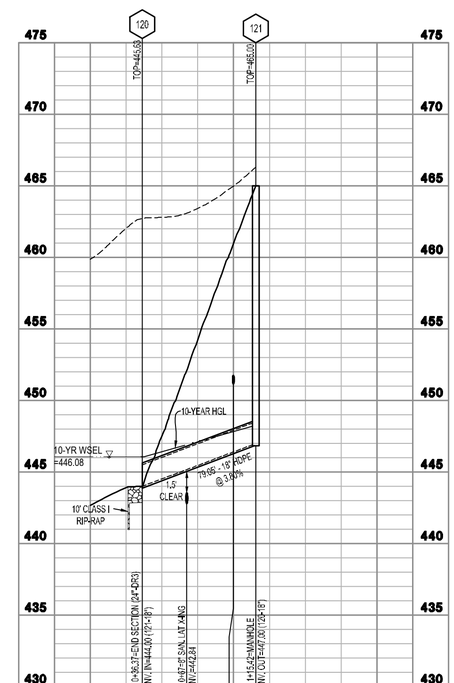

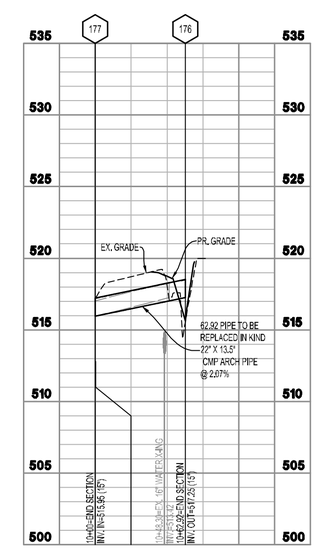

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JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

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SHEET:	95 OF 119

DIMENSIONS OF GALVANIZED STEEL END SECTION FOR ROUND PIPE								
PIPE DIAM. (INCHES)	METAL THK. (INCHES)	DIMENSIONS (INCHES) A ± 1"	B MAX	H ± 1"	L ±1½"	W ± 2"	APPROX. SLOPE	BODY
12	.064	6	6	6	21	24	2½:1	1 PC.
15	.064	7	8	6	26	30	2½:1	1 PC.
18	.064	8	10	6	31	36	2½:1	1 PC.
21	.064	9	12	6	36	42	2½:1	1 PC.
24	.064	10	13	6	41	48	2½:1	1 PC.
30	.079	12	16	8	51	60	2½:1	1 PC.
36	.079	14	19	9	60	72	2½:1	2 PC.
42	.109	16	22	11	69	84	2½:1	2 PC.
48	.109	18	27	12	78	90	2¼:1	2 PC.
54	.109	18	30	12	84	102	2	2 PC.
60	.109	18	33	12	87	114	1¾:1	3 PC.
66	.109	18	36	12	87	120	1½:1	3 PC.
72	.109	18	39	12	87	126	1¼:1	3 PC.
78	.109	18	42	12	87	132	1:1	3 PC.
84	.109	18	45	12	87	138	1⅛:1	3 PC.

DIMENSIONS OF GALVANIZED STEEL END SECTION FOR PIPE ARCH									
PIPE ARCH SPAN X RISE (INCHES)	EQUIV. DIAM. (INCHES)	METAL THK. (INCHES)	DIMENSIONS (INCHES) A ± 1"	B MAX	H ± 1"	L ±1½"	W ± 2"	APPROX. SLOPE	BODY
17X13	15	.064	7	9	6	19	30	2½:1	1 PC.
21X15	18	.064	7	10	6	23	36	2½:1	1 PC.
24X18	21	.064	8	12	6	28	42	2½:1	1 PC.
28X20	24	.064	9	14	6	32	48	2½:1	1 PC.
35X24	30	.079	10	16	6	39	60	2½:1	1 PC.
42X29 (40X31)	36	.079	12	18	8	46	75	2½:1	1 PC.
49X33 (46X36)	42	.109	13	21	9	53	85	2½:1	2 PC.
57X38 (53X41)	48	.109	16	26	12	63	90	2½:1	2 PC.
64X43 (60X46)	54	.109	18	30	12	70	102	2¼:1	2 PC.
71X47 (66X51)	60	.109	18	33	12	77	114	2¼:1	3 PC.
77X52 (73X55)	66	.109	18	36	12	77	126	2	3 PC.
83X57 (81X59)	72	.109	18	39	12	77	138	2	3 PC.

NOTE: SPAN AND RISE DIMENSIONS IN PARENTHESES ARE FOR 3"X1" CORRUGATED PIPE ARCHES; ALL OTHER SPAN AND RISE VALUES ARE FOR 2 1/2"X1/2" CORRUGATED PIPE ARCHES.

NOTES

TYPICAL END SECTIONS FOR PIPES AND PIPE ARCHES ARE DETAILED HEREIN. OTHER SIMILAR DESIGNS MAY BE USED IF ACCEPTABLE TO THE ENGINEER.

GALVANIZED STEEL END SECTIONS SHALL BE USED ON THE ENDS OF CORRUGATED STEEL PIPES AND/OR PIPE ARCHES AT THOSE LOCATIONS SPECIFIED ON THE PLANS. END SECTIONS SHALL BE MEASURED AS THE NUMBER OF UNITS INSTALLED OF EACH SIZE AND TYPE AND SHALL BE PAID FOR IN ACCORDANCE WITH 604 OF THE SPECIFICATIONS.

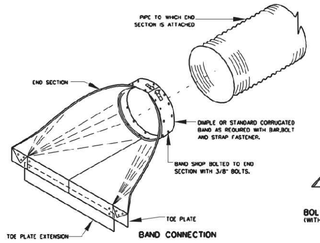
TWO-PIECE AND THREE-PIECE END SECTIONS SHALL BE OF LAP SEAM CONSTRUCTION. TIGHTLY JOINED WITH $\frac{5}{16}$" DIAMETER GALVANIZED RIVETS OR BOLTS.

FOR 60" THRU 84" PIPES, THE REINFORCED EDGES OF THE END SECTIONS SHALL BE SUPPLEMENTED WITH GALVANIZED STIFFENER ANGLES FASTENED BY 3/8" DIAMETER GALVANIZED BOLTS AND NUTS. THIS REQUIREMENT SHALL ALSO BE APPLICABLE TO THE END SECTIONS FOR 77"X52", 73"X 55", 83"X 57", AND 81"X 59" PIPE ARCH SIZES. IN ADDITION, FOR THOSE PIPE ARCH SIZES, ANGLE REINFORCEMENT SHALL BE USED UNDER THE CENTER PANEL SEAMS.

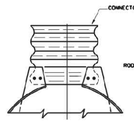
THE END SECTION CONNECTION DETAILS SHALL BE AS SHOWN ON THIS PLAN SHEET OR OF A SIMILAR DESIGN AS RECOMMENED BY THE MANUFACTURER. ALL SIMILAR DESIGNS SHALL PROVIDE A SECURE ATTACHMENT OF THE END SECTION TO THE PIPE OR PIPE ARCH.

ALTHOUGH A PIPE OR PIPE ARCH MAY HAVE A BITUMINOUS COATING AND/OR PAVED INVERT, IT WILL NOT BE NECESSARY TO BITUMINOUS COAT OR PAVE THE END SECTION, CONNECTORS, OR CONNECTOR SECTION.

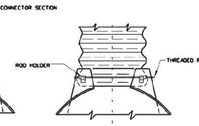
TOE PLATE EXTENSIONS SHALL BE THE SAME THICKNESS AS THE END SECTIONS AND SHALL BE FASTENED TO TOE PLATES WITH $\frac{5}{16}$" DIAMETER GALVANIZED BOLTS. LENGTH OF TOE PLATE EXTENSION SHALL BE W+10" (approx.) FOR 12" THRU 30" DIAMETER PIPES AND FOR PIPE ARCHES WITH RISE VALUES UP TO AND INCLUDING 29". THE LENGTH SHALL BE W=22" (approx.) FOR LARGER PIPE SIZES AND W=18" (approx.) FOR LARGER PIPE ARCHES.



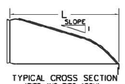
BAND CONNECTION



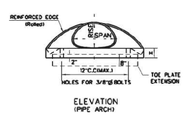
BOLTED OR RIVETED CONNECTION (WITH OR WITHOUT CONNECTOR SECTION)



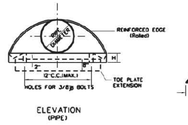
THREADED ROD CONNECTION



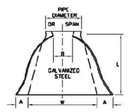
TYPICAL CROSS SECTION (PIPE AND PIPE ARCH)



ELEVATION (PIPE ARCH)



ELEVATION (PIPE)



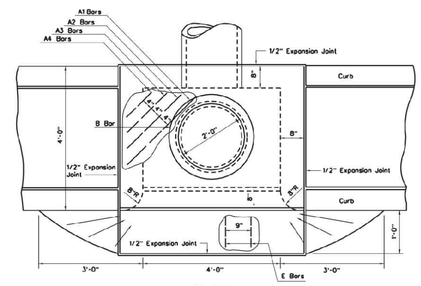
PLAN (PIPE AND PIPE ARCH)

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STANDARD DETAIL

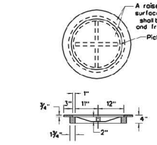
PREPARED 7-1-99
REVISION DATE

END SECTIONS FOR CORRUGATED STEEL PIPES AND PIPE ARCHES

STANDARD SHEET DR3



PLAN



DETAIL OF FRAME AND COVER CASTING (RING TYPE)

NOTES

Optional construction joints labeled "CJ" may be roughened concrete, keyed or doweled as per the typical details shown herein or as approved by the Engineer. Non shrink grout meeting the requirements of subsection 703.5 of the specifications may be used to a depth of 1/2" for leveling between precast sections. Thicker depths will be allowed if as per the manufacturer's recommendations.

The covering for reinforcing steel shall be two inches, measured from the surface of the concrete to the face of the bar, unless otherwise shown. All reinforcing steel shall be epoxy coated and meet the requirements of section 602 of the specifications.

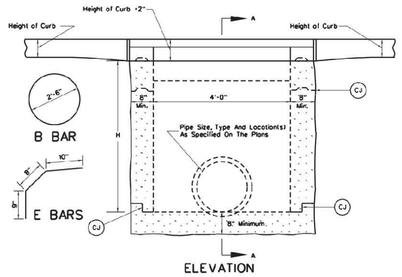
This inlet shall not be placed in a pedestrian cross walk.

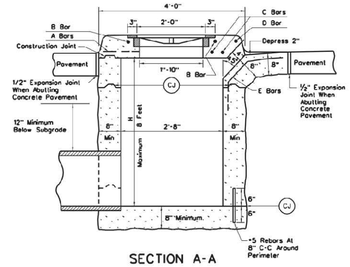
Construction may be cast-in-place, precast in one or multiple sections, or any combination of cast-in-place and precast.

The minimum distance from the top of any pipe opening to any construction joint above the opening shall be four (4) inches.

The number and location of pipe openings shall be as shown in the plans. The contractor at no additional cost, shall be responsible for any temporary bracing required to transport precast inlet sections due to multiple openings.

CONSTRUCTION JOINT DETAILS





SECTION A-A

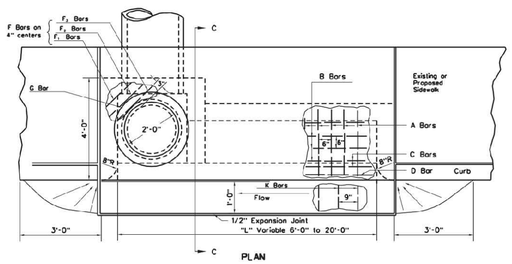
BILL OF STEEL				
Mark	Size Bar	No.	Length	Weight
A1	*5	2	3'-11"	8 lbs.
A2	*5	2	3'-3"	7
A3	*5	2	2'-2"	5
A4	*5	2	1'-11"	6
B	*5	1	8'-0"	8
C	*8	2	5'-0"	27
D	*5	1	5'-0"	5
E	*5	6	2'-3"	14
			Total	80 lbs.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STANDARD DETAIL

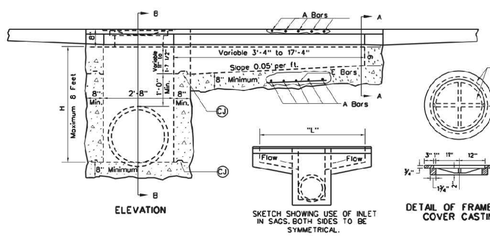
PREPARED 7-1-99
REVISION DATE

TYPE D INLET

STANDARD SHEET DR6-D

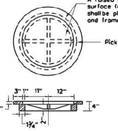


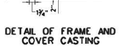
PLAN



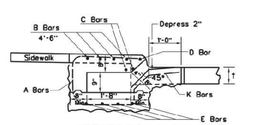
ELEVATION

SKETCH SHOWING USE OF INLET IN SAGS, BOTH SIDES TO BE SYMMETRICAL.

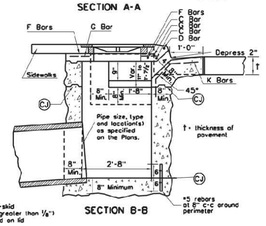




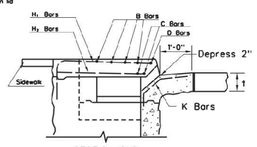
DETAIL OF FRAME AND COVER CASTING



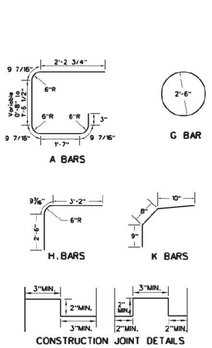
SECTION A-A



SECTION B-B



SECTION C-C



CONSTRUCTION JOINT DETAILS

NOTES

Type E inlet detailed herein is for use on a grade. If it is to be used in a sag (see sketch herein) it should be built symmetrically about centerline of pipe and length of opening specified.

The covering for reinforcing steel shall be two inches, measured from the surface of the concrete to the face of the bar, unless otherwise shown. All reinforcing steel shall be epoxy-coated and meet the requirements of Section 602 of the Specifications.

Optional construction joints labeled "CJ" may be keyed or doweled as per the typical details shown herein or as approved by the Engineer.

If Type E inlet is to be constructed along with a sidewalk, the sidewalk shall be constructed monolithic with the top slab on the inlet. The sidewalk shall be reinforced with Type B Fabric placed 2" from bottom of sidewalk and extended into the top slab of the inlet a minimum distance of 8". Cost of Type B Fabric shall be included in the unit price bid for Concrete Sidewalk.

This inlet shall not be placed in a pedestrian cross walk.

CONCRETE AND REINFORCING STEEL QUANTITIES

"L" Feet	Concrete C.Y.*	Reinforcing Steel lbs.	A Bars (Bent) No.	Size	Length	B Bars (Straight) No.	Size	Length	C Bars (Straight) No.	Size	Length	D Bars (Straight) No.	Size	Length	E Bars (Straight) No.	Size	Length	F_1 Bars (Straight) No.	Size	Length	F_2 Bars (Straight) No.	Size	Length	F_3 Bars (Straight) No.	Size	Length	G Bar (Bent) No.	Size	Length	H1 Bars (Straight) No.	Size	Length	H2 Bars (Straight) No.	Size	Length	K Bars (Bent) No.	Size	Length
6	2.59	189	5	*5	7'-1" to 7'-5"	4	*5	3'-9"	2	*5	7'-1"	1	*5	7'-1"	4	*5	3'-6"	4	*5	2'-6"	4	*5	2'-6"	4	*5	3'-0"	1	*5	8'-0"	2	*7	6'-5"	2	*6	3'-4"	10	*5	2'-3"
8	3.07	250	9	*5	7'-1" to 7'-4"	4	*5	5'-9"	2	*5	9'-1"	1	*5	9'-1"	4	*5	5'-6"	4	*5	2'-6"	4	*5	2'-6"	4	*5	3'-0"	1	*5	8'-0"	2	*7	6'-5"	2	*6	3'-4"	13	*5	2'-3"
10	3.57	308	13	*5	7'-1" to 7'-5"	4	*5	7'-9"	2	*5	11'-1"	1	*5	11'-1"	4	*5	7'-6"	4	*5	2'-6"	4	*5	2'-6"	4	*5	3'-0"	1	*5	8'-0"	2	*7	6'-5"	2	*6	3'-4"	15	*5	2'-3"
12	4.09	369	17	*5	7'-1" to 7'-6"	4	*5	9'-9"	2	*5	13'-1"	1	*5	13'-1"	4	*5	9'-6"	4	*5	2'-6"	4	*5	2'-6"	4	*5	3'-0"	1	*5	8'-0"	2	*7	6'-5"	2	*6	3'-4"	18	*5	2'-3"
14	4.62	444	21	*5	7'-1" to 7'-7"	4	*5	11'-9"	2	*6	15'-1"	1	*5	15'-1"	4	*5	11'-6"	4	*5	2'-6"	4	*5	2'-6"	4	*5	3'-0"	1	*5	8'-0"	2	*7	6'-5"	2	*6	3'-4"	21	*5	2'-3"
16	5.17	506	25	*5	7'-1" to 7'-9"	4	*5	13'-9"	2	*6	17'-1"	1	*5	17'-1"	4	*5	13'-6"	4	*5	2'-6"	4	*5	2'-6"	4	*5	3'-0"	1	*5	8'-0"	2	*7	6'-5"	2	*6	3'-4"	23	*5	2'-3"
18	5.74	570	29	*5	7'-1" to 7'-10"	4	*5	15'-9"	2	*6	19'-1"	1	*5	19'-1"	4	*5	15'-6"	4	*5	2'-6"	4	*5	2'-6"	4	*5	3'-0"	1	*5	8'-0"	2	*7	6'-5"	2	*6	3'-4"	26	*5	2'-3"
20	6.19	635	33	*5	7'-1" to 8'-0"	4	*5	17'-9"	2	*6	21'-1"	1	*5	21'-1"	4	*5	17'-6"	4	*5	2'-6"	4	*5	2'-6"	4	*5	3'-0"	1	*5	8'-0"	2	*7	6'-5"	2	*6	3'-4"	29	*5	2'-3"

* The quantities shown above are for an H of five feet. If deeper inlets are required the quantities must be adjusted accordingly.

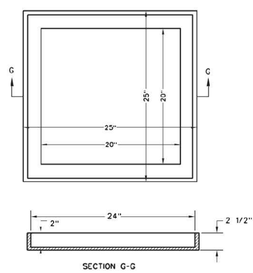
The above table to be used for estimating purposes only.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STANDARD DETAIL

PREPARED 7-1-99
REVISION DATE

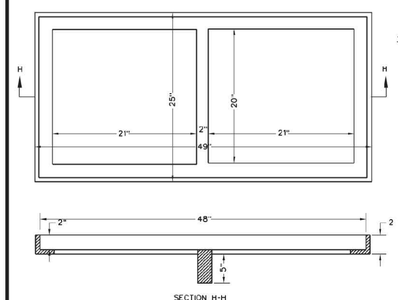
TYPE E INLET

STANDARD SHEET DR6-E



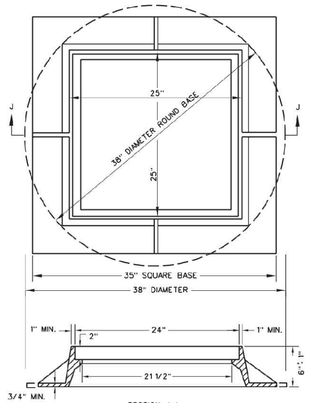
SECTION G-G

SINGLE-GRATE SHALLOW FRAME



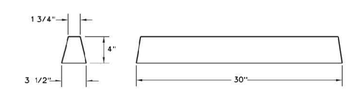
SECTION H-H

DOUBLE-GRATE SHALLOW FRAME

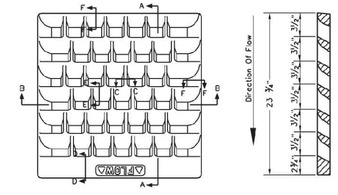


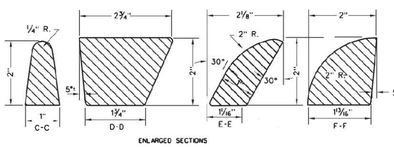
SECTION J-J

SINGLE- GRATE DEEP FRAME (ROUND OR SQUARE BASE)



GRATE SUPPORT BAR





TILT-BAR GRATE

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STANDARD DETAIL

PREPARED 7-1-99
REVISION DATE

INLET CASTINGS

STANDARD SHEET DR6-X

INTEGRITY FEDERAL SERVICES
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JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
6-24-24

SEAL:

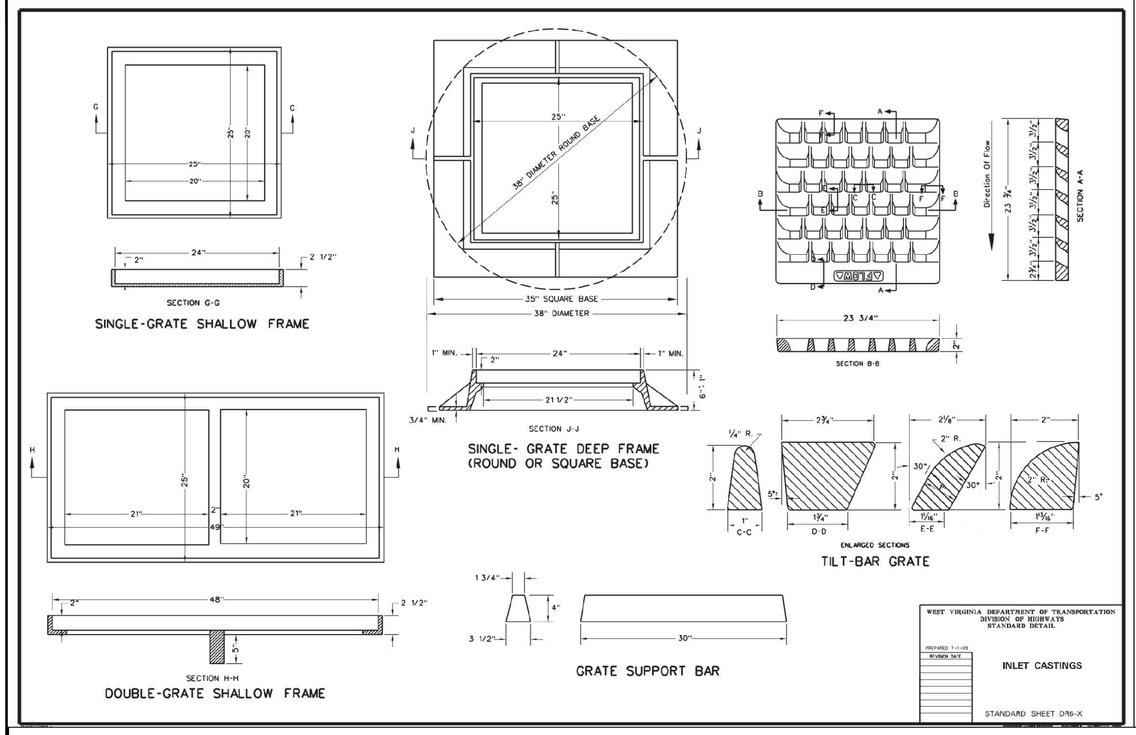
REVISIONS
1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

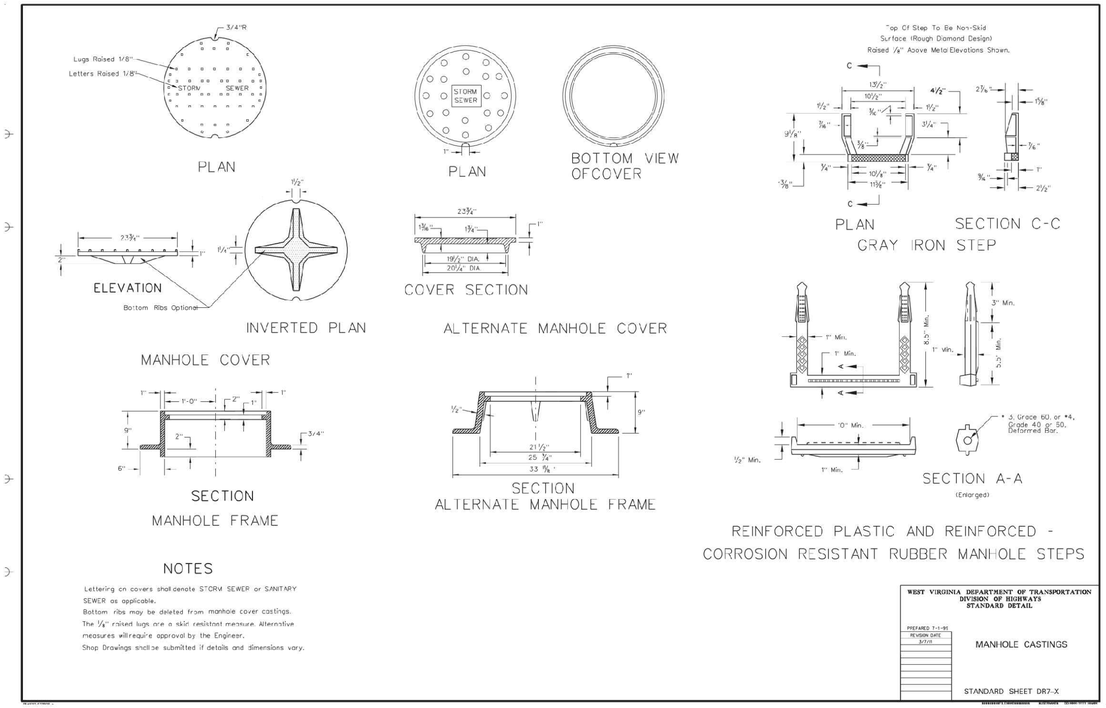
STORM SEWER DETAILS

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

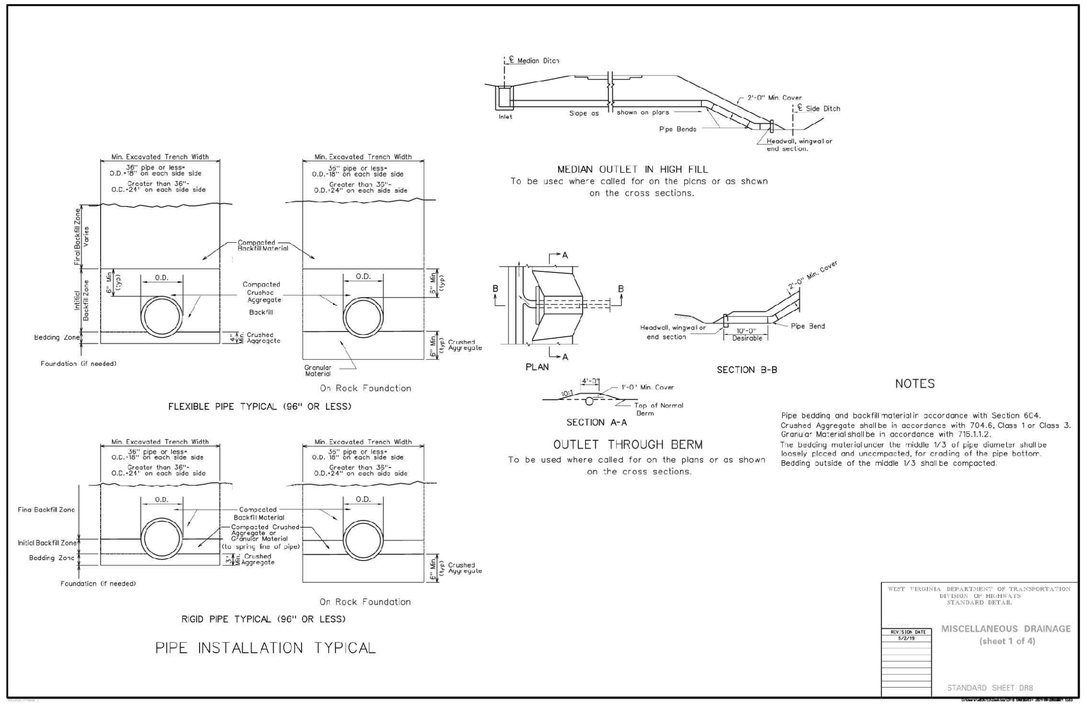
SCALE:	HORIZ.: NTS VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-CU-561.DWG	
NCS:	
SHEET:	96 OF 119





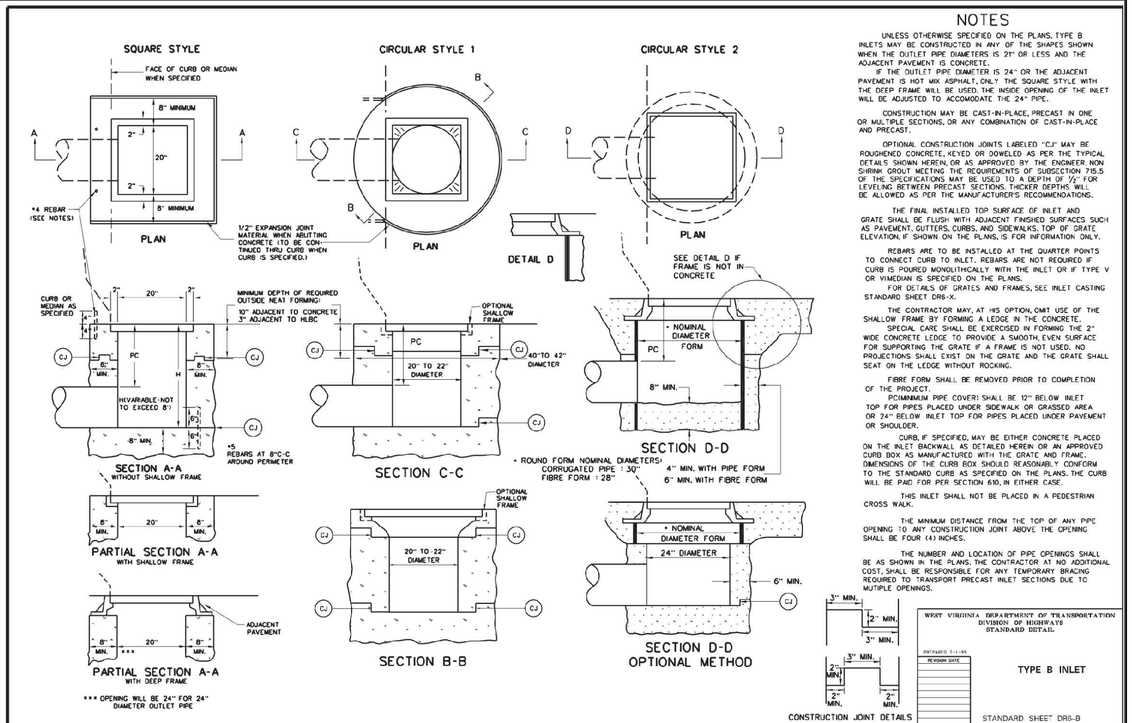
NOTES

Lettering on covers shall denote STORM SEWER or SANITARY SEWER as applicable.
Bottom ribs may be deleted from manhole cover castings.
The 1/8" raised lugs are a skid resistant measure. Alternative measures will require approval by the Engineer.
Shop Drawings shall be submitted if details and dimensions vary.



NOTES

Pipe bedding and backfill material in accordance with Section 604.
Crushed Aggregate shall be in accordance with 704.6, Class 1 or Class 3.
Granular Material shall be in accordance with 715.1.1.2.
The bedding material under the middle 1/3 of pipe diameter shall be loosely placed and uncompacted, for cradling of the pipe bottom.
Bedding outside of the middle 1/3 shall be compacted.



NOTES

UNLESS OTHERWISE SPECIFIED ON THE PLANS, TYPE B INLETS MAY BE CONSTRUCTED IN ANY OF THE SHAPES SHOWN WHEN THE OUTLET PIPE DIAMETERS IS 21" OR LESS AND THE ADJACENT PAVEMENT IS CONCRETE.

IF THE OUTLET PIPE DIAMETER IS 24" OR THE ADJACENT PAVEMENT IS HOT MIX ASPHALT, ONLY THE SQUARE STYLE WITH THE DEEP FRAME WILL BE USED. THE INSIDE OPENING OF THE INLET WILL BE ADJUSTED TO ACCOMODATE THE 24" PIPE.

CONSTRUCTION MAY BE CAST-IN-PLACE, PRECAST IN ONE OR MULTIPLE SECTIONS, OR ANY COMBINATION OF CAST-IN-PLACE AND PRECAST.

OPTIONAL CONSTRUCTION JOINTS LABELED "C.J" MAY BE ROUGHENED CONCRETE, KEYED OR DOWELED AS PER THE TYPICAL DETAILS SHOWN HEREIN, OR AS APPROVED BY THE ENGINEER. NON SHRINK GROUT MEETING THE REQUIREMENTS OF SUBSECTION 715.5 OF THE SPECIFICATIONS MAY BE USED TO A DEPTH OF 1/2" FOR LEVELING BETWEEN PRECAST SECTIONS. THICKER DEPTHS WILL BE ALLOWED AS PER THE MANUFACTURER'S RECOMMENDATIONS.

THE FINAL INSTALLED TOP SURFACE OF INLET AND GRATE SHALL BE FLUSH WITH ADJACENT FINISHED SURFACES SUCH AS PAVEMENT, GUTTERS, CURBS, AND SIDEWALKS. TOP OF GRATE ELEVATION, IF SHOWN ON THE PLANS, IS FOR INFORMATION ONLY.

REBARS ARE TO BE INSTALLED AT THE QUARTER POINTS TO CONNECT CURB TO INLET. REBARS ARE NOT REQUIRED IF CURB IS POURED MONOLITHICALLY WITH THE INLET OR IF TYPE V OR VIMEDIAN IS SPECIFIED ON THE PLANS.

FOR DETAILS OF GRATES AND FRAMES, SEE INLET CASTING STANDARD SHEET DR6-X.

THE CONTRACTOR MAY, AT HIS OPTION, OMIT USE OF THE SHALLOW FRAME BY FORMING A LEDGE IN THE CONCRETE.

SPECIAL CARE SHALL BE EXERCISED IN FORMING THE 2" WIDE CONCRETE LEDGE TO PROVIDE A SMOOTH, EVEN SURFACE FOR SUPPORTING THE GRATE IF A FRAME IS NOT USED. NO PROJECTIONS SHALL EXIST ON THE GRATE AND THE GRATE SHALL SEAT ON THE LEDGE WITHOUT ROCKING.

FIBRE FORM SHALL BE REMOVED PRIOR TO COMPLETION OF THE PROJECT.

PC(MINIMUM PIPE COVER) SHALL BE 12" BELOW INLET TOP FOR PIPES PLACED UNDER SIDEWALK OR GRASSED AREA OR 24" BELOW INLET TOP FOR PIPES PLACED UNDER PAVEMENT OR SHOULDER.

CURB, IF SPECIFIED, MAY BE EITHER CONCRETE PLACED ON THE INLET BACKWALL AS DETAILED HEREIN OR AN APPROVED CURB BOX AS MANUFACTURED WITH THE GRATE AND FRAME. DIMENSIONS OF THE CURB BOX SHOULD REASONABLY CONFORM TO THE STANDARD CURB AS SPECIFIED ON THE PLANS. THE CURB WILL BE PAID FOR PER SECTION 610, IN EITHER CASE.

THIS INLET SHALL NOT BE PLACED IN A PEDESTRIAN CROSS WALK.

THE MINIMUM DISTANCE FROM THE TOP OF ANY PIPE OPENING TO ANY CONSTRUCTION JOINT ABOVE THE OPENING SHALL BE FOUR (4) INCHES.

THE NUMBER AND LOCATION OF PIPE OPENINGS SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR AT NO ADDITIONAL COST, SHALL BE RESPONSIBLE FOR ANY TEMPORARY BRACING REQUIRED TO TRANSPORT PRECAST INLET SECTIONS DUE TO MUTIPLE OPENINGS.

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SEAL: JASON P. GERHART REGISTERED PROFESSIONAL ENGINEER No. 19127 STATE OF WEST VIRGINIA 1-24-24

REVISIONS	
1. 09/25/2024 - COUNTY COMMENTS	
2. 11/12/2024 - WVDOH DIST V COMMENTS	
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STORM SEWER DETAILS

AVALON - SECTION 1
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TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG.208
CHARLES TOWN TAX DISTRICT
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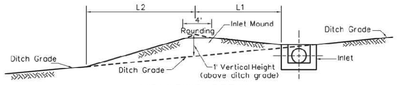
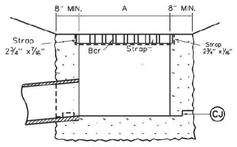
DRAWN: TME	CHECK: RPP
CADD: C-CU-561.DWG	
NCS:	
SHEET:	97 OF 119

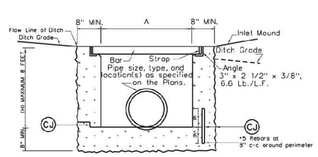
INLET MOUNDING TABLE			
DITCH GRADE (G)		L1, HORIZONTAL LENGTH (FT.)	L2, HORIZONTAL LENGTH (FT.)
FROM	TO		
0	3	10	15
3	5	9	20
5	7.5	8	40
7.5	UP	SPECIAL DESIGN	SPECIAL DESIGN



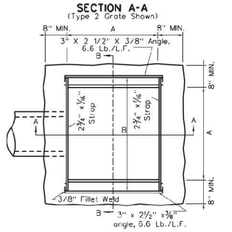
MOUNDING DETAIL
Median and Side Ditches



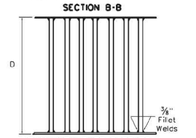
SECTION A-A
(Type 2 Grate Shown)



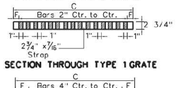
SECTION B-B



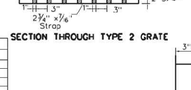
PLAN



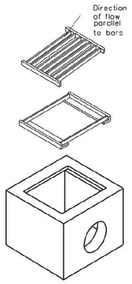
PLAN VIEW-TYPE 2 GRATE



SECTION THROUGH TYPE 1 GRATE



SECTION THROUGH TYPE 2 GRATE



EXPLODED DETAIL

DIMENSIONS						TYPE 2 GRATE			TYPE 1 GRATE		
Pipe Dia	A	B	C	D	H(Min)	F	Bars	WT.	F	Bars	WT.
18"	2'-8"	3'-2"	2'-7 3/4"	3'-1 3/4"	2'-0"	3 3/8"	7	223	62	1 3/8"	15
21"	2'-8"	3'-2"	2'-7 3/4"	3'-1 3/4"	2'-3"	3 3/8"	7	223	62	1 3/8"	15
24"	2'-8"	3'-2"	2'-7 3/4"	3'-1 3/4"	2'-6"	3 3/8"	7	223	62	1 3/8"	15
27"	3'-0"	3'-6"	2'-11 3/4"	3'-5 3/4"	2'-9"	3 3/8"	8	279	69	1 3/8"	17
30"	3'-6"	4'-0"	3'-5 3/4"	3'-11 3/4"	3'-0"	3 3/8"	9	357	80	1 3/8"	21
33"	3'-9"	4'-3"	3'-8 3/4"	4'-2 3/4"	3'-3"	3 7/8"	10	419	85	1 7/8"	21
36"	4'-0"	4'-6"	3'-11 3/4"	4'-5 3/4"	3'-6"	3 3/8"	11	486	90	1 3/8"	23
42"	4'-6"	5'-0"	4'-5 3/4"	4'-11 3/4"	4'-0"	3 3/8"	12	587	101	1 3/8"	27
48"	5'-0"	5'-6"	4'-11 3/4"	5'-5 3/4"	4'-6"	3 3/8"	14	748	112	1 3/8"	29

Table Note: Grate and frame weights are for information only and will increase if larger straps and bars are used.
The following substitutions in dimensions are acceptable for fabricating the grate and frame:
Strap Thickness: 1/2" Strap Depth: 3" Bar Depth: 3"

NOTES

The final installed top surface of inlet and grate shall be flush with adjacent finished surfaces such as pavement, gutters, curbs, and sidewalks. Top of grate elevation, if shown on the plans, is for information only.

Construction may be cast-in place, precast in one or multiple sections, or any combination of cast-in-place and precast.

Type 2 Grate shall be used at all locations unless otherwise specified on the Plans. Type 1 Urban Grates shall be used only at specially designated locations as shown on the plans.

The Contractor, at his option, may omit use of the frame by forming a ledge in the concrete.

Special care shall be execised in forming the 2" wide concrete ledge to provide a smooth, even surface for supporting the grates if the shallow frame is not used. no projections shall exist on the bearing surfaces of the ledge or the grates, and the grates shall seat on the ledge without rocking.

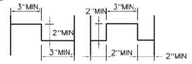
The Mounding Detail as shown is not required when an inlet is placed in a sag.

Optional construction joints labeled "CJ" may be roughened concrete, keyed or doweled as per the typical details shown herein or as approved by the Engineer. Non shrink grout meeting the requirements of subsection 715.5 of the specifications may be used to a depth of 1/2" for leveling between precast sections. Thicker depths will be allowed as per the manufacturer's recommendations.

This inlet is to be installed in roadside or median ditches only. It is not to be placed adjacent to pavement or in the gutter pan of combination curb and gutter.

The minimum distance from the top of any pipe opening to any construction joint above the opening shall be four (4) inches.

The number and location of pipe openings shall be as shown in the plans. The contractor at no additional cost, shall be responsible for any temporary bracing required to transport precast inlet sections due to multiple openings.



CONSTRUCTION JOINT DETAILS

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STANDARD DETAIL

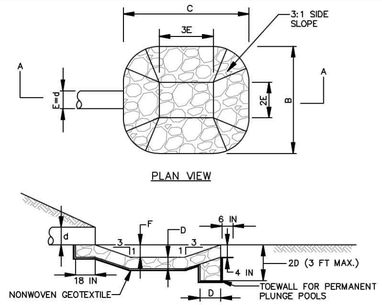
PREPARED 7-1-99
REVISION DATE

TYPE G INLET

STANDARD SHEET DR6-G

DETAIL D-4-2 PLUNGE POOL

STANDARD SYMBOL
PP



CONSTRUCTION SPECIFICATIONS

1. USE SPECIFIED CLASS OF RIPRAP.
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNCHING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE.
3. PREPARE THE SUBGRADE FOR THE PLUNGE POOL TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
4. EMBED THE GEOTEXTILE A MINIMUM OF 4 INCHES AND EXTEND THE GEOTEXTILE A MINIMUM OF 6 INCHES BEYOND THE EDGE OF THE SCOUR HOLE.
5. STONE FOR THE PLUNGE POOL MAY BE PLACED BY EQUIPMENT. CONSTRUCT TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. DELIVER AND PLACE THE STONE FOR THE PLUNGE POOL IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE STONE FOR THE PLUNGE POOL IN A MANNER TO PREVENT DAMAGE TO THE GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
6. AT THE PLUNGE POOL OUTLET, PLACE THE STONE SO THAT IT MEETS THE EXISTING GRADE.
7. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

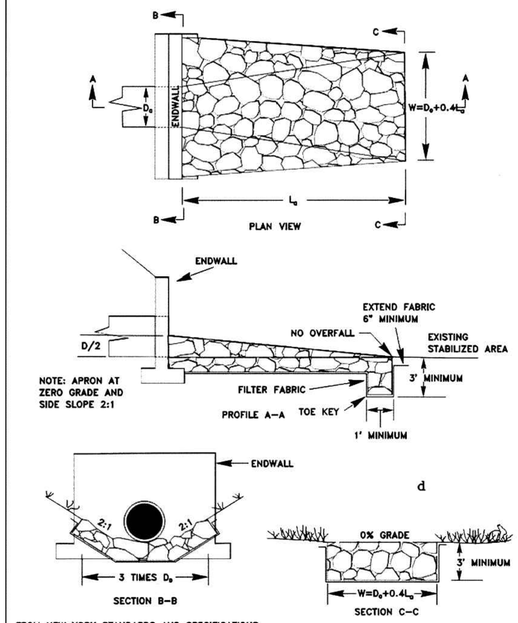
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

FIGURE 3.17.3

OUTLET PROTECTION

DISCHARGE TO UNCONFINED SECTION
(MINIMUM TAILWATER)

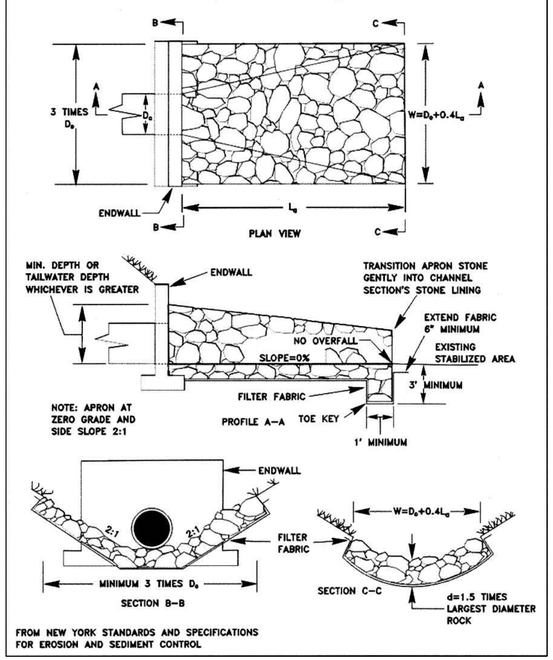


FROM NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL

FIGURE 3.17.5

OUTLET PROTECTION

DISCHARGE TO SEMI-CONFINED SECTION
(MAXIMUM TAILWATER)



FROM NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL

INTEGRITY FEDERAL SERVICES
CIVIL ENGINEERING • LANDSCAPE ARCHITECTURE • PLANNING
148 S. Queen Street, Suite 201 Martinsburg, WV 25401
Phone: 304-725-8456 www.ifs-se.com

JASON P. GERHART REGISTERED PROFESSIONAL ENGINEER No. 19127 STATE OF WEST VIRGINIA
6-24-24

SEAL:

REVISIONS
1. 09/05/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

STORM SEWER DETAILS

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

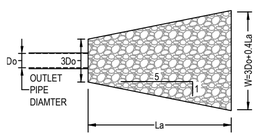
C.T. FILE #SLD2024-03

SCALE:	HORIZ.: NTS VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-CU-561.DWG	
NCS:	
SHEET:	98 OF 119

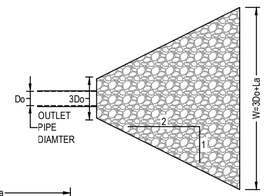
OUTLET PROTECTION COMPUTATIONS

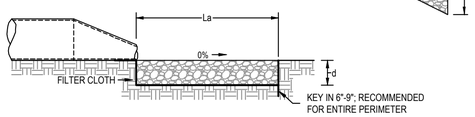
NOT TO SCALE

MAXIMUM TAILWATER CONDITION



MINIMUM TAILWATER CONDITION





STR. NO.	PIPE DIAMETER (IN.)	DISCHARGE Q_{10} (CFS)	VELOCITY (FPS)	TW DEPTH > 1/2 DIA. PIPE	TAILWATER CONDITION	STONE QUALITY			BLANKET THICKNESS (d) (IN.)	APRON LENGTH (La) MINIMUM (FT.)	APRON WIDTH (W) MINIMUM (FT.)	3 Do (FT)
						CLASS	D_{50} (IN.)	D_{MAX} (IN.)				
1	30"	24.90	10.49	NO	MIN.	I	D_{50}=6"	D_{MAX}=9"	13.50	10.00	12.50	9.00
40	18"	13.65	9.94	YES	MAX.	I	D_{50}=6"	D_{MAX}=9"	13.50	18.00	8.70	4.50
60	15"	5.08	6.88	NO	MIN.	I	D_{50}=6"	D_{MAX}=9"	13.50	5.00	6.25	3.75
110	18"	10.19	8.54	YES	MAX.	I	D_{50}=6"	D_{MAX}=9"	13.50	10.00	8.50	4.50
120	18"	17.94	13.94	YES	MAX.	II	D_{50}=10"	D_{MAX}=13"	13.50	10.00	8.50	4.50
156	24"	14.48	5.37	YES	MAX.	I	D_{50}=6"	D_{MAX}=9"	13.50	10.00	10.00	6.00
163	15"	1.60	1.52	YES	MAX.	I	D_{50}=6"	D_{MAX}=9"	13.50	9.00	7.35	3.75
165	15"	5.02	4.77	YES	MAX.	I	D_{50}=6"	D_{MAX}=9"	13.50	9.00	7.35	3.75
168	15"	3.14	2.98	YES	MAX	I	D_{50}=6"	D_{MAX}=9"	13.50	9.00	7.35	3.75
169	24"	13.69	5.08	YES	MAX	I	D_{50}=6"	D_{MAX}=9"	13.50	10.00	10.00	6.00

NOTES:

1. STONE QUALITY FOR RIP-RAP SHALL CONSIST OF FIELDSTONE OR ROUGH UNHEWN QUARRY STONE. THE STONE SHALL BE HARD, OF AN ANGULAR END AND OF A QUALITY THAT WILL NOT DISINTEGRATE ON EXPOSURE TO WATER OR WEATHERING. RECYCLED CONCRETE MAY BE USED PROVIDED IT HAS A DENSITY OF AT LEAST 150 POUNDS PER CUBIC FOOT AND DOES NOT HAVE ANY EXPOSED STEEL OR REINFORCING BARS.
2. IN ALL CASES, FILTER FABRIC SHALL BE PLACED BETWEEN THE RIP-RAP AND THE UNDERLYING SOIL TO PROTECT SOIL MOVEMENT INTO, THROUGH, AND UNDERNEATH THE RIP-RAP. THE MATERIAL MUST MEET OR EXCEED THESE REQUIREMENTS: THE PLASTIC FILTER CLOTH CAN BE WOVEN OR NON-WOVEN MONOFILAMENT YARNS AND SHALL MEET THESE BASE REQUIREMENTS: THICKNESS=20-60 MILS., GRAB STRENGTH=90-120 LBS. AND SHALL CONFORM TO ASTM D-1777 AND ASTM D-1682.
3. SEE STORMWATER MANAGEMENT REPORT FOR STORM SEWER CULVERT COMPUTATIONS.

Plunge Pool Design - Str 70	
median stone size (d50)	0.972969
diameter (d)	3
tailwater (Tw)	0.8
design flow (Q)	92.98
pool width (B)	15
pool length (C)	18
riprap thickness (D)	1.95
E	3
3E	9
2E	6
plunge pool depth (F)	1.5

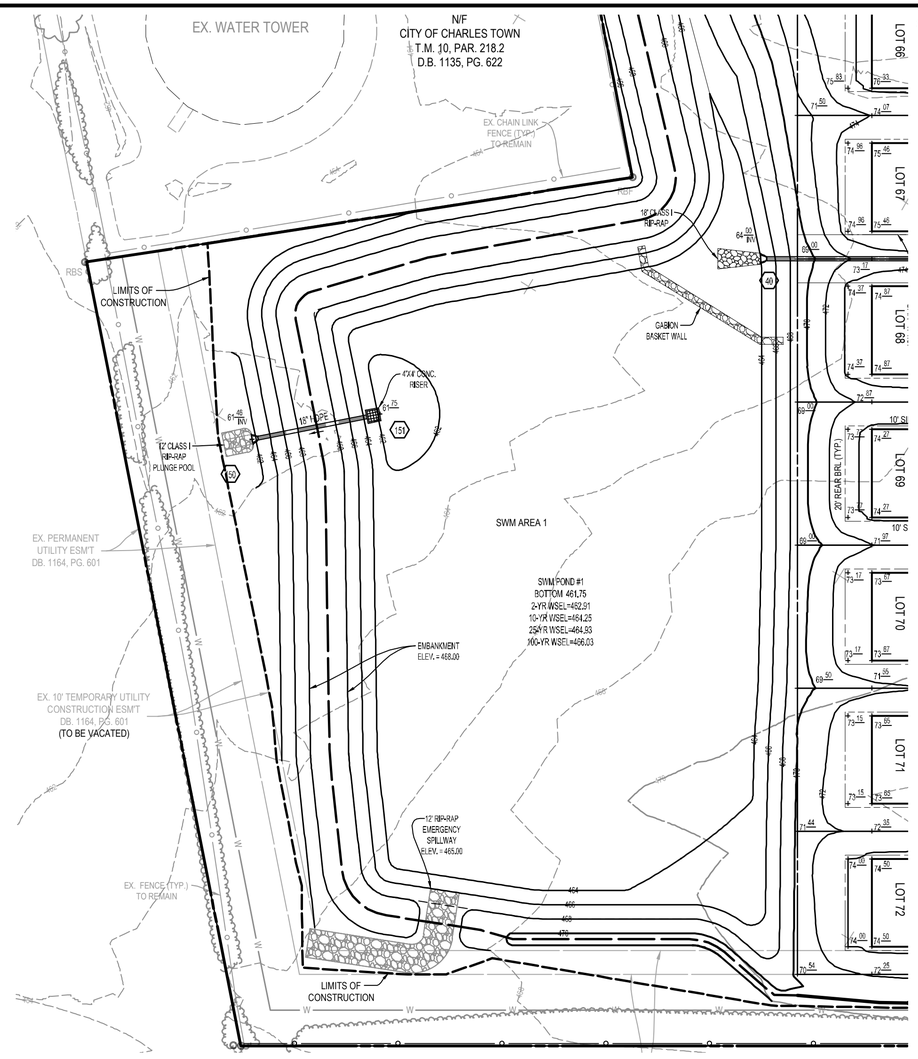
10-YR Inlet Computations

InletID	Junct Type	Curb Length (ft)	Drainage Area (ac)	Runoff Coeff (C)	Iinlet (in/hr)	IncrQ (cfs)	QCarryover (cfs)	QCaptured (cfs)	Gutter Slope (ft/ft)	Cross Slope, Sx (ft/ft)	Gutter Width (ft)	Cross Slope, Sw (ft/ft)	QCaptured (cfs)	QBypass (cfs)	Inlet Location	Inlet Depth (ft)	Bypass Spread (ft)	Grate Area (sqft)	Gutter Spread (ft)	KnownQ (cfs)
2	Curb	6	0.02	0.7	6.52	0.09	0.02	0.11	0.01	0.021	2	0.083	0.11	0.00	On Grade	0.27	0.00	.....	1.29	0.00
3	Curb	4	0.05	0.66	6.52	0.22	0.04	0.25	0.028	0.021	2	0.083	0.25	0.00	On Grade	0.29	0.07	.....	1.46	0.00
4	Curb	6	0.16	0.79	6.52	0.82	0.00	0.79	0.039	0.021	2	0.083	0.79	0.04	On Grade	0.34	0.68	.....	2.53	0.00
5	Curb	4	0.02	0.51	6.52	0.07	0.00	0.07	0.010	0.021	2	0.083	0.07	0.00	On Grade	0.26	0.00	.....	1.07	0.00
6	Curb	4	0.20	0.55	6.52	0.72	0.00	0.69	0.010	0.021	2	0.083	0.69	0.03	On Grade	0.38	0.76	.....	4.24	0.00
7	Curb	6	0.24	0.55	6.52	0.86	0.03	0.89	Sag	0.021	2	0.083	0.89	0.00	Sag	0.41	n/a	.....	5.58	0.00
8	Curb	8	0.56	0.39	6.52	1.42	0.00	1.42	0.017	0.021	2	0.083	1.42	0.00	On Grade	0.41	0.00	.....	5.63	0.00
9	Curb	6	0.39	0.59	6.52	1.50	0.00	1.50	Sag	0.021	2	0.083	1.50	0.00	Sag	0.46	n/a	.....	7.92	0.00
10	Curb	10	0.81	0.68	6.52	3.59	0.00	3.59	Sag	0.021	2	0.083	3.59	0.00	Sag	0.53	n/a	.....	11.24	0.00
11	Curb	8	0.22	0.75	6.52	1.08	0.09	1.16	0.037	0.021	2	0.083	1.16	0.01	On Grade	0.37	0.37	.....	3.70	0.00
12	Curb	6	0.20	0.75	6.52	0.98	0.06	0.95	0.037	0.021	2	0.083	0.95	0.09	On Grade	0.36	0.93	.....	3.34	0.00
13	Curb	6	0.19	0.74	6.52	0.92	0.03	0.89	0.037	0.021	2	0.083	0.89	0.06	On Grade	0.35	0.82	.....	3.04	0.00
14	Curb	4	0.10	0.60	6.52	0.39	0.00	0.36	0.037	0.021	2	0.083	0.36	0.03	On Grade	0.30	0.63	.....	1.63	0.00
15	Curb	4	0.04	0.86	6.52	0.22	0.00	0.22	0.037	0.021	2	0.083	0.22	0.00	On Grade	0.28	0.16	.....	1.32	0.00
16	Curb	6	0.10	0.72	6.52	0.47	0.00	0.47	0.035	0.021	2	0.083	0.47	0.00	On Grade	0.31	0.00	.....	1.76	0.00
17	Curb	6	0.08	0.90	6.52	0.47	0.00	0.47	0.013	0.021	2	0.083	0.47	0.00	On Grade	0.34	0.00	.....	2.49	0.00
18	Curb	6	0.30	0.72	6.52	1.41	0.00	1.41	Sag	0.021	2	0.083	1.41	0.00	Sag	0.45	n/a	.....	7.60	0.00
16A	Curb	8	0.18	0.73	6.52	0.86	0.00	0.86	0.035	0.021	2	0.083	0.86	0.00	On Grade	0.35	0.00	.....	2.81	0.00
14A	Curb	4	0.06	0.80	6.52	0.31	0.00	0.30	0.037	0.021	2	0.083	0.30	0.01	On Grade	0.29	0.45	.....	1.50	0.00
13A	Curb	4	0.09	0.60	6.52	0.35	0.00	0.33	0.037	0.021	2	0.083	0.33	0.02	On Grade	0.30	0.54	.....	1.57	0.00
30	Curb	4	0.19	0.73	6.52	0.90	0.00	0.83	0.010	0.021	2	0.083	0.83	0.08	On Grade	0.40	1.15	.....	5.00	0.00
31	Curb	6	0.16	0.64	6.52	0.67	0.08	0.75	0.017	0.021	2	0.083	0.75	0.00	On Grade	0.36	0.00	.....	3.52	0.00
31A	Curb	6	0.22	0.60	6.52	0.86	0.01	0.87	Sag	0.021	2	0.083	0.87	0.00	Sag	0.41	n/a	.....	5.50	0.00
31B	Dp-Grate	.....	1.02	0.41	6.52	2.73	0.00	2.73	Sag	0.333	3.17	0.333	2.73	0.00	Sag	0.18	n/a	8.46	4.26	0.00
32	Curb	6	0.16	0.85	6.52	0.89	0.00	0.89	Sag	0.021	2	0.083	0.89	0.00	Sag	0.41	n/a	.....	5.58	0.00
33	Curb	8	0.13	0.73	6.52	0.62	0.00	0.62	Sag	0.021	2	0.083	0.62	0.00	Sag	0.37	n/a	.....	3.87	0.00
6A	Curb	6	0.24	0.73	6.52	1.14	0.00	1.14	0.010	0.021	2	0.083	1.14	0.00	On Grade	0.41	0.26	.....	5.79	0.00
4B	Dp-Grate	.....	0.92	0.30	6.52	1.80	0.00	1.80	Sag	0.333	3.17	0.333	1.80	0.00	Sag	0.14	n/a	8.46	4.00	0.00
4A	Curb	10	0.37	0.74	6.52	1.79	0.00	1.77	0.039	0.021	2	0.083	1.77	0.02	On Grade	0.40	0.50	.....	5.00	0.00
2A	Curb	6	0.21	0.71	6.52	0.97	0.00	0.97	0.009	0.021	2	0.083	0.97	0.00	On Grade	0.40	0.00	.....	5.42	0.00
71	Curb	4	0.04	0.75	6.52	0.20	0.00	0.20	0.011	0.021	2	0.083	0.20	0.00	On Grade	0.30	0.00	.....	1.58	0.00
72	Curb	6	0.11	0.57	6.52	0.41	0.00	0.41	Sag	0.021	2	0.083	0.41	0.00	Sag	0.36	n/a	.....	3.33	0.00
73	Dp-Grate	.....	0.33	0.65	6.52	1.40	0.00	1.40	Sag	0.333	1.67	0.333	1.40	0.00	Sag	0.17	n/a	2.78	2.69	0.00
74	Curb	6	0.11	0.63	6.52	0.45	0.00	0.45	Sag	0.021	2	0.083	0.45	0.00	Sag	0.37	n/a	.....	3.57	0.00
75	Curb	4	0.08	0.75	6.52	0.39	0.07	0.46	0.014	0.021	2	0.083	0.46	0.00	On Grade	0.34	0.28	.....	2.31	0.00
76	Curb	8	0.36	0.62	6.52	1.46	0.04	1.43	0.038	0.021	2	0.083	1.43	0.07	On Grade	0.38	0.85	.....	4.46	0.00
77	Curb	12	0.38	0.52	6.52	1.29	0.00	1.29	Sag	0.021	2	0.083	1.29	0.00	Sag	0.40	n/a	.....	5.16	0.00
78	Curb	8	0.41	0.59	6.52	1.58	0.00	1.58	Sag	0.021	2	0.083	1.58	0.00	Sag	0.44	n/a	.....	7.22	0.00
79	Curb	6	0.42	0.54	6.52	1.48	0.01	1.49	Sag	0.021	2	0.083	1.49	0.00	Sag	0.46	n/a	.....	7.88	0.00
80	Curb	10	0.39	0.67	6.52	1.70	0.00	1.69	0.040	0.021	2	0.083	1.69	0.01	On Grade	0.39	0.40	.....	4.80	0.00
81	Curb	12	0.38	0.54	6.52	1.34	0.00	1.34	Sag	0.021	2	0.083	1.34	0.00	Sag	0.40	n/a	.....	5.31	0.00
82	Curb	10	0.52	0.51	6.52	1.73	0.02	1.75	Sag	0.021	2	0.083	1.75	0.00	Sag	0.44	n/a	.....	6.96	0.00
83	Curb	10	0.55	0.51	6.52	1.83	0.07	1.88	0.035	0.021	2	0.083	1.88	0.02	On Grade	0.40	0.55	.....	5.38	0.00
84	Curb	10	0.59	0.56	6.52	2.15	0.00	2.09	0.035	0.021	2	0.083	2.09	0.07	On Grade	0.41	0.85	.....	5.82	0.00
85	Curb	8	0.20	0.63	6.52	0.82	0.00	0.82	0.012	0.021	2	0.083	0.82	0.00	On Grade	0.38	0.00	.....	4.38	0.00
86	Curb	6	0.13	0.53	6.52	0.45	0.02	0.47	Sag	0.021	2	0.083	0.47	0.00	Sag	0.37	n/a	.....	3.67	0.00
87	Curb	4	0.13	0.45	6.52	0.38	0.00	0.38	0.012	0.021	2	0.083	0.38	0.00	On Grade	0.33	0.00	.....	2.00	0.00
88	Curb	4	0.04	0.60	6.52	0.16	0.00	0.16	0.016	0.021	2	0.083	0.16	0.00	On Grade	0.28	0.00	.....	1.35	0.00
89	Curb	6	0.20	0.68	6.52	0.89	0.00	0.89	0.013	0.021	2	0.083	0.89	0.00	On Grade	0.39	0.00	.....	4.50	0.00
90	Curb	8	0.36	0.68	6.52	1.60	0.02	1.62	Sag	0.021	2	0.083	1.62	0.00	Sag	0.44	n/a	.....	7.34	0.00
91	Curb	6	0.11	0.57	6.52	0.41	0.00	0.41	Sag	0.021	2	0.083	0.41	0.00	Sag	0.36	n/a	.....	3.33	0.00
92	Dp-Grate	.....	0.30	0.61	6.52	1.19	0.00	1.19	Sag	0.333	1.67	0.333	1.19	0.00	Sag	0.15	n/a	2.78	2.59	0.00
93	Curb	6	0.14	0.69	6.52	0.63	0.00	0.63	Sag	0.021	2	0.083	0.63	0.00	Sag	0.38	n/a	.....	4.44	0.00
94	Dp-Grate	.....	0.55	0.52	6.52	1.87	0.00	1.87	Sag	0.333	3.17	0.333	1.87	0.00	Sag	0.14	n/a	8.46	4.02	0.00
95	Curb	8	0.25	0.71	6.52	1.16	0.00	1.16	0.013	0.021	2	0.083	1.16	0.00	On Grade	0.40	0.00	.....	5.39	0.00
95A	Curb	10	0.32	0.71	6.52	1.48	0.00	1.48	0.015	0.021	2	0.083	1.48	0.00	On Grade	0.42	0.00	.....	5.99	0.00
95B	Curb	10	0.83	0.48	6.52	2.60	0.00	2.58	0.014	0.021	2	0.083	2.58	0.02	On Grade	0.46	0.65	.....	8.22	0.00
95C	Curb	8	0.18	0.73	6.52	0.86	0.00	0.86	0.035	0.021	2	0.083	0.86	0.00	On Grade	0.35	0.00	.....	2.81	0.00
95D	Hdwall	.....	1.71	0.31	6.52	3.46	0.00	3.46	.....	.....	.....	.....	3.46	0.00	Sag	.....	.....	.....	.....	0.00
92A	Dp-Grate	.....	0.43	0.61	6.52	1.71	0.00	1.71	Sag	0.333	1.67	0.333	1.71	0.00	Sag	0.19	n/a	2.78	2.83	0.00
92B	Dp-Grate	.....	0.44	0.61	6.52	1.75	0.00	1.75	Sag	0.333	1.67	0.333	1.75	0.00	Sag	0.20	n/a	2.78	2.85	0.00
92C	Dp-Grate	.....	0.37	0.61	6.52	1.47	0.01	1.48	Sag	0.333	1.67	0.333	1.48	0.00	Sag	0.18	n/a	2.78	2.73	0.00
96	Curb	10	0.68	0.57	6.52	2.53	0.02	2.55	Sag	0.021	2	0.083	2.55	0.00	Sag	0.48	n/a	.....	8.94	0.00
97	Curb	6	0.13	0.62	6.52	0.53	0.00	0.53	Sag	0.021	2	0.083	0.53	0.00	Sag	0.37	n/a	.....	3.94	0.00
98	Curb	6	0.12	0.60	6.52	0.47	0.00	0.47	0.034	0.021	2	0.083	0.47	0.00	On Grade	0.31	0.00	.....	1.77	0.00
99	Curb	8	0.51	0.62	6.52	2.06	0.00	2.06	Sag	0.021	2	0.083	2.06	0.00	Sag	0.47	n/a	.....	8.63	0.00
100	Curb	10	0.49	0.59	6.52	1.89	0.00	1.83	0.047	0.021	2	0.083	1.83	0.06	On Grade	0.39	0.75	.....	4.87	0.00
89A	Curb	6	0.20	0.66	6.52	0.86	0.00	0.86	0.014	0.021	2	0.083	0.86	0.00	On Grade	0.38	0.00	.....	4.28	0.00
89C	Curb	10	0.71	0.57	6.52	2.64	0.02	2.64	0.013	0.021	2	0.083	2.64	0.02	On Grade	0.47	0.66	.....	8.47	0.00
89B	Curb	6	0.21	0.66	6.52	0.90	0.00	0.90	0.014	0.021	2	0.083	0.90	0.00	On Grade	0.38	0.00	.....	4.44	0.00
93A	Curb	6	0.09	0.77	6.52	0.45	0.06	0.51	Sag	0.021	2	0.083	0.51	0.00	Sag	0.37	n/a	.....	3.84	0.00
93B	Dp-Grate	.....	0.46	0.63	6.52	1.89	0.00	1.89	Sag	0.333	1.67	0.333	1.89	0.00	Sag	0.21	n/a	2.78	2.91	0.00
93C	Dp-Grate	.....	0.20	0.66	6.52	0.86	0.00	0.86	Sag	0.333	1.67	0.333	0.86	0.00	Sag	0.12	n/a	2.78	2.41	0.00
86A	Curb	8	0.34	0.60	6.52	1.33	0.00	1.31	0.035	0.021	2	0.083	1.31	0.02	On Grade	0.38	0.59	.....	4.21	0.00
86B	Curb	8	0.36	0.43	6.52	1.01	0.00	1.01	0.035	0.021	2	0.083	1.01	0.00	On Grade	0.36	0.00	.....	3.33	0.00
81A	Curb	6	0.18	0.67	6.52	0.79	0.00	0.79	0.014	0.021	2	0.083	0.79	0.00	On Grade	0.37	0.00	.....	3.99	0.00
81D	Curb	6	0.19	0.67	6.52	0.83	0.00	0.83	0.014	0.021	2	0.083	0.83	0.00	On Grade	0.38	0.00	.....	4.17	0.00
81E	Curb	8	0.23	0.67	6.52	1.01	0.00	1.01	0.014	0.021	2	0.083	1.01	0.00	On Grade	0.39	0.00	.....	4.79	0.00
91A	Curb	6	0.12	0.60	6.52	0.47	0.00	0.47	0.012	0.021	2	0.083	0.47	0.00	On Grade	0.35	0.00	.....	2.61	0.00
87A	Dp-Grate	.....	0.47	0.45	6.52	1.38	0.00	1.38	Sag	0.333	3.17	0.333	1.38	0.00	Sag	0.13	n/a	5.29	3.96	0.00
81B	Curb	10	0.75	0.63	6.52	3.08	0.00	3.08	Sag	0.021	2	0.083	3.08	0.00	Sag	0.50	n/a	.....	10.15	0.00
81C	Dp-Grate	.....	1.13	0.30	6.52	2.21	0.00	2.21	Sag	0.333	3.17	0.333	2.21	0.00	Sag	0.18	n/a	5.29	4.25	0.00
77A	Curb	10	0.47	0.52	6.52	1.59	0.01	1.60	0.038	0.021	2	0.083	1.60	0.00	On Grade	0.39	0.15	.....	4.69	0.00
77B	Curb	10	0.55	0.53	6.52	1.90	0.00	1.89	0.031	0.021	2	0.083	1.89	0.01	On Grade	0.41	0.45	.....	5.60	0.00
77C	Curb	8	0.27	0.53	6.52	0.93	0.00	0.93	0.010	0.021	2	0.083	0.93	0.00	On Grade	0.40	0.00	.....	5.10	0.00
77D	Curb	8	0.26	0.53	6.52	0.90	0.00	0.90	0.010	0.021	2	0.083	0.90	0.00	On Grade	0.40	0.00	.....	4.98	0.00
77E	Curb	6	0.26	0.53	6.52	0.90	0.03	0.93	0.010	0.021	2	0.083	0.93	0.00	On Grade	0.40	0.00	.....	5.09	0.00
82A	Curb	12	0.82	0.54	6.52	2.89	0.00	2.80	0.037	0.021	2	0.083	2.80	0.09	On Grade	0.43	0.94	.....	6.76	0.00
82B	Curb	12	0.78	0.56	6.52	2.85	0.09	2.94	Sag	0.021	2	0.083	2.94	0.00	Sag	0.48	n/a	.....	8.98	0.00
82D	Curb	8	0.24	0.73	6.52	1.14	0.00	1.14	0.031	0.021	2	0.083	1.14	0.00	On Grade	0.37	0.09	.....	3.91	0.00
82E	Curb	8	0.21	0.73	6.52	1.00	0.00	1.00	0.031	0.021	2	0.083	1.00	0.00	On Grade	0.36	0.00	.....	3.49	0.00
82C	Dp-Grate	.....	1.14	0.33	6.52	2.45	0.00	2.45	Sag	0.333	3.17	0.333	2.45	0.00	Sag	0.19	n/a	5.29	4.33	0.00
77F	Curb	10	0.58	0.58	6.52	2.19	0.00	2.15	0.028	0.021	2	0.083	2.15	0.04	On Grade	0.42	0.75	.....	6.27	0.00
101	Curb	10	0.49	0.69	6.52	2.21	0.04	2.24	Sag	0.021	2	0.083	2.24	0.00	Sag	0.46	n/a	.....	8.21	0.00
102	Curb	6	0.23	0.68	6.52	1.02	0.03	1.02	0.022	0.021	2	0.083	1.02	0.04	On Grade	0.38	0.73	.....	4.20	0.00
103	Curb	6	0.31	0.68	6.52	1.37	0.00	1.34	0.010	0.021	2	0.083	1.34	0.03	On Grade	0.43	0.82	.....	6.44	0.00
104	Curb	6	0.26	0.70	6.52	1.19	0.00	1.18	0.010	0.021	2	0.083	1.18	0.00	On Grade	0.42	0.40	.....	5.92	0.00
102A	Curb	6	0.19	0.70	6.52	0.87	0.00	0.87	0.022	0.021	2	0.083	0.87	0.01	On Grade	0.37	0.39	.....	3.60	0.00
79A	Curb	10	0.31	0.47	6.52	0.95	0.04	0.99	Sag	0.021	2	0.083	0.99	0.00	Sag	0.39	n/a	.....	4.77	0.00
79B	Curb	10	0.59	0.50	6.52	1.92	0.02	1.90	0.040	0.021	2	0.083	1.90	0.04	On Grade	0.40	0.71	.....	5.24	0.00
79C	Curb	8	0.31	0.61	6.52	1.23	0.00	1.21	0.040	0.021	2	0.083	1.21	0.02	On Grade	0.37	0.54	.....	3.75	0.00
79D	Curb	12	0.49	0.72	6.52	2.30	0.00	2.29	0.040	0.021	2	0.083	2.29	0.01	On Grade	0.41	0.37	.....	5.81	0.00
101A	Curb	8	0.37	0.72	6.52	1.74	0.01	1.67	0.025	0.021	2	0.083	1.67	0.07	On Grade	0.41	0.93	.....	5.67	0.00
74A	Curb	6	0.16	0.68	6.52	0.71	0.01	0.72	Sag	0.021	2	0.083	0.72	0.00	Sag	0.39	n/a	.....	4.84	0.00
73A	Dp-Grate	.....	0.24	0.74	6.52	1.16	0.00	1.16	Sag	0.333	1.67	0.333	1.16	0.00	Sag	0.15	n/a	2.78	2.57	0.00
72A	Dp-Grate	.....	0.54	0.54	6.52	1.90	0.00	1.90	Sag	0.333	3.17	0.333	1.90	0.00	Sag	0.16	n/a	5.29	4.14	0.00
41	Curb	6	0.21	0.67	6.52	0.92	0.00	0.92	0.010	0.021	2	0.083	0.92	0.00	On Grade	0.40	0.00	.....	5.04	0.00
42	Curb	6	0.25	0.61	6.52	0.99	0.00	0.99	0.010	0.021	2	0.083	0.99	0.00	On Grade	0.40	0.00	.....	5.31	0.00
43	Curb	4	0.02	0.60	6.52	0.08	0.00	0.08	0.009	0.021	2	0.083	0.08	0.00	On Grade	0.26	0.00	.....	1.16	0.00
44	Curb	4	0.03	0.70	6.52	0.14	0.01	0.15	0.020	0.021	2	0.083	0.15	0.00	On Grade	0.27	0.00	.....	1.28	0.00
45	Curb	6	0.21	0.67	6.52	0.92	0.00	0.90	0.023	0.021	2	0.083	0.90	0.01	On Grade	0.37	0.52	.....	3.69	0.00
46	Curb	10	0.76	0.47	6.52	2.33	0.00	2.29	0.023	0.021	2	0.083	2.29	0.04	On Grade	0.43	0.76	.....	6.85	0.00
43A	Curb	10	0.21	0.70	6.52	0.96	0.00	0.96	Sag	0.021	2	0.083	0.96	0.00	Sag	0.39	n/a	.....	4.66	0.00
43B	Curb	8	0.80	0.50	6.52	2.61	0.04	2.65	Sag	0.021	2	0.083	2.65	0.00	Sag	0.50	n/a	.....	10.20	0.00
42A	Curb	4	0.18	0.63	6.52	0.74	0.00	0.71	0.010	0.021	2	0.083	0.71	0.03	On Grade	0.38	0.81	.....	4.33	0.00
41A	Curb	6	0.13	0.62	6.52	0.53	0.00	0.53	Sag	0.021	2	0.083	0.53	0.00	Sag	0.37	n/a	.....	3.94	0.00
41B	Dp-Grate	.....	0.17	0.72	6.

STORM SEWER DESIGN COMPUTATIONS: FAIRVIEW

DESIGN STORM: 10 YR

STRUCTURE NO. FROM	STRUCTURE NO. TO	STR. TYPE	MANNING'S "N" FACTOR**	TOTAL LENGTH (FT.)	TOTAL DRAINAGE AREA (AC.)	DRAINAGE TOTAL AREA (SF)	FLOW TIME IN PIPE (SEC.)	TIME OF CONC. (Tc) (MIN.)	RUN-OFF COEFF. (C)*	CA INC.	CA CUM.	RAINFALL INTENSITY (IN./HR.)	FLOW RATE (Q) (CFS)	PIPE SLOPE (%)	PIPE DIA. (IN)	PIPE CAPACITY (CFS)	PIPE VELOCITY FULL FLOW (FPS)	PIPE VELOCITY 80%FLOW (FPS)	PIPE VELOCITY ACTUAL FLOW (FPS)	PIPE VELOCITY 10%FLOW (FPS)	DEPTH OF FLOW (FT.)	STRUCTURE ELEVATIONS DROP IN STRC. (FT.)	STRUCTURE ELEVATIONS FLOW RATE (FT.)	STRUCTURE ELEVATIONS UPPER INVERT (ELEV.)	STRUCTURE ELEVATIONS LOWER INVERT (ELEV.)	STRUCTURE ELEVATIONS TOP OF STRC. (ELEV.)
18	17	DR6-E	0.012	40.00	0.30	13,068	11.59	5.00	0.72	0.22	0.22	6.55	1.41	0.0050	15	4.95	4.03	4.48	3.45	2.59	0.45	N/A	0.20	509.32	509.12	513.20
17	16	DR6-E	0.012	221.50	0.08	3,485	32.42	5.19	0.90	0.07	0.29	6.55	1.89	0.0268	15	11.46	9.34	10.37	6.83	5.99	0.34	0.10	5.94	509.02	503.08	513.20
16A	16	DR6-E	0.012	78.00	0.18	7,841	10.35	5.00	0.73	0.13	0.13	6.55	0.86	0.0122	15	7.77	6.29	6.99	4.13	4.03	0.28	N/A	0.52	503.60	503.08	507.49
16	15	DR6-E	0.012	35.36	0.10	4,356	3.33	5.73	0.72	0.07	0.49	6.55	3.22	0.0585	15	16.93	13.80	15.33	10.61	8.85	0.37	0.10	2.07	502.98	500.91	506.97
15	14	DR6-E	0.012	80.70	0.04	1,742	8.41	5.79	0.86	0.03	0.53	6.55	3.44	0.0431	15	14.53	11.84	13.16	9.60	7.59	0.41	N/A	3.48	500.81	497.33	504.44
14A	14	DR6-D	0.012	31.05	0.06	2,614	13.78	5.00	0.80	0.05	0.05	6.55	0.31	0.0052	15	5.02	4.09	4.55	2.25	2.62	0.21	N/A	0.16	497.49	497.33	501.37
14	13	DR6-D	0.012	120.67	0.10	4,356	12.64	5.93	0.60	0.06	0.63	6.55	4.15	0.0366	15	13.39	10.91	12.12	9.55	7.00	0.47	N/A	4.42	497.23	492.81	501.45
13A	13	DR6-D	0.012	31.00	0.09	3,920	13.54	5.00	0.60	0.05	0.05	6.55	0.35	0.0048	15	4.87	3.97	4.41	2.29	2.54	0.22	N/A	0.15	492.96	492.81	496.84
13	12	DR6-E	0.012	123.84	0.19	8,276	12.88	6.14	0.74	0.14	0.83	6.26	5.19	0.0310	15	12.32	10.04	11.16	9.62	6.44	0.57	0.10	3.84	492.71	488.87	496.99
12	11	DR6-E	0.012	149.79	0.20	8,712	14.17	6.35	0.75	0.15	0.98	6.26	6.13	0.0363	15	13.34	10.87	12.07	10.57	6.97	0.59	0.10	5.44	488.77	483.33	492.40
11	10	DR6-E	0.012	31.02	0.22	9,583	3.52	6.93	0.75	0.17	1.14	6.26	7.16	0.0203	15	9.97	8.13	9.03	8.82	5.21	0.78	0.10	0.63	483.23	482.60	486.86
10	9	DR6-E	0.012	35.21	0.81	35,284	3.34	6.65	0.68	0.55	1.69	6.26	10.61	0.0264	15	11.37	9.27	10.30	10.53	5.94	0.95	0.10	0.93	482.50	481.57	486.67
9	8	DR6-E	0.012	38.01	0.39	16,988	2.86	6.70	0.59	0.23	1.92	6.26	12.05	0.0437	15	14.62	11.92	13.24	13.30	7.64	0.86	0.10	1.66	481.47	479.81	486.69
8	7	DR6-E	0.012	36.20	0.56	24,394	2.53	6.75	0.39	0.22	2.14	6.26	13.42	0.0500	15	15.65	12.75	14.17	14.32	8.17	0.89	1.58	1.81	478.23	476.42	486.76
33	32	DR6-E	0.012	40.00	0.13	5,663	14.70	5.00	0.73	0.09	0.09	6.55	0.62	0.0050	15	4.95	4.03	4.48	2.72	2.59	0.29	N/A	0.20	478.31	478.11	482.19
32	31	DR6-E	0.012	104.00	0.16	6,970	29.48	5.24	0.85	0.14	0.23	6.55	1.51	0.0050	15	4.95	4.03	4.48	3.53	2.59	0.47	0.10	0.52	478.01	477.49	482.19
31B	31A	DR6-E	0.012	44.04	1.02	44,431	6.53	5.00	0.41	0.42	0.42	6.55	2.74	0.0191	15	9.66	7.88	8.75	6.74	5.05	0.45	N/A	0.84	478.19	478.35	482.72
31A	31	DR6-E	0.012	40.00	0.22	9,583	5.51	5.11	0.60	0.13	0.55	6.55	3.60	0.0190	15	9.65	7.86	8.73	7.26	5.04	0.53	0.10	0.76	478.25	477.49	483.25
31	30	DR6-E	0.012	144.68	0.16	6,970	27.84	5.74	0.64	0.10	0.88	6.55	5.79	0.0057	18	8.57	4.85	5.39	5.20	3.11	0.90	0.25	0.82	477.24	476.42	483.29
30	7	DR6-D	0.012	31.00	0.19	8,276	6.23	6.20	0.73	0.14	1.02	6.26	6.40	0.0048	18	7.92	4.48	4.98	4.98	2.87	1.01	0.10	0.15	476.32	476.17	486.06
7	6	DR6-E	0.012	127.87	0.24	10,454	18.75	6.79	0.55	0.13	3.30	6.26	20.65	0.0050	30	31.44	6.40	7.11	6.82	4.11	1.47	1.00	0.64	475.17	474.53	485.95
6A	6	DR6-E	0.012	31.00	0.24	10,454	8.67	5.00	0.73	0.18	0.18	6.55	1.15	0.0065	15	5.62	4.58	5.09	3.58	2.94	0.38	N/A	0.20	479.30	479.10	487.34
6	5	DR6-D	0.012	129.59	0.20	8,712	18.71	7.11	0.55	0.11	3.58	5.97	21.40	0.0051	30	31.71	6.46	7.18	6.93	4.14	1.50	4.87	0.66	474.43	473.77	487.23
5	4	DR6-D	0.012	258.41	0.02	871	37.43	7.42	0.51	0.01	3.59	5.97	21.46	0.0050	30	31.52	6.42	7.13	6.90	4.12	1.51	0.10	1.30	473.67	472.37	488.53
4A	4	DR6-E	0.012	31.00	0.37	16,117	3.60	5.00	0.74	0.27	0.27	6.55	1.79	0.0529	15	16.10	13.12	14.57	8.61	8.41	0.28	N/A	1.64	475.16	473.52	482.58
4B	4	DR6-Q	0.012	144.01	0.92	40,075	38.81	5.00	0.30	0.28	0.28	6.55	1.81	0.0050	15	4.95	4.03	4.48	3.71	2.58	0.52	N/A	0.72	477.71	476.99	481.24
4	3	DR6-E	0.012	86.81	0.16	6,970	9.20	8.04	0.79	0.13	4.27	5.69	24.27	0.0107	30	45.87	9.34	10.38	9.43	5.99	1.28	4.72	0.92	472.27	471.35	482.44
3	2	DR6-D	0.012	84.99	0.05	2,178	9.42	8.20	0.66	0.03	4.30	5.69	24.46	0.0093	30	42.87	8.73	9.70	9.02	5.60	1.35	0.10	0.79	471.25	470.45	479.32
2A	2	DR6-E	0.012	31.00	0.21	9,074	9.06	5.00	0.72	0.15	0.15	6.55	0.98	0.0065	15	5.62	4.58	5.09	3.42	2.94	0.35	N/A	0.20	471.80	471.60	478.53
2	1	DR6-E	0.012	144.61	0.02	871	12.92	8.35	0.70	0.01	4.47	5.69	25.39	0.0163	30	56.69	11.55	12.83	11.19	7.40	1.16	0.10	2.35	470.35	468.00	478.30
46	45	DR6-E	0.012	31.08	0.76	33,106	7.75	5.00	0.47	0.36	0.36	6.55	2.34	0.0051	15	5.02	4.09	4.55	4.01	2.62	0.59	N/A	0.16	474.32	474.16	478.20
45	44	DR6-E	0.012	35.36	0.21	9,148	4.26	5.13	0.67	0.14	0.50	6.55	3.26	0.0294	15	12.00	9.78	10.86	8.30	6.27	0.44	0.10	1.04	474.06	473.02	478.29
44	43	DR6-D	0.012	31.00	0.03	1,307	5.77	5.20	0.70	0.02	0.52	6.55	3.40	0.0087	15	6.53	5.32	5.91	5.37	3.41	0.64	0.10	0.27	472.92	472.65	476.79
43B	43A	DR6-E	0.012	31.00	0.80	34,848	7.50	5.00	0.50	0.40	0.40	6.55	2.62	0.0052	15	5.03	4.10	4.55	4.14	2.63	0.64	N/A	0.16	473.14	472.98	476.97
43A	43	DR6-E	0.012	38.89	0.21	9,148	8.76	5.12	0.70	0.15	0.55	6.55	3.58	0.0051	15	5.02	4.09	4.54	4.44	2.62	0.78	0.10	0.20	472.85	472.65	477.11
43	42	DR6-D	0.012	194.18	0.02	871	26.55	5.30	0.60	0.01	1.08	6.55	7.06	0.0129	15	7.96	6.48	7.20	7.31	4.16	0.91	0.10	2.51	472.55	470.04	476.94
42A	42	DR6-D	0.012	31.12	0.18	7,841	9.86	5.00	0.63	0.11	0.11	6.55	0.74	0.0064	15	5.61	4.57	5.08	3.15	2.93	0.30	N/A	0.20	470.24	470.04	474.87
42	41	DR6-E	0.012	141.67	0.25	10,890	14.85	5.74	0.61	0.15	1.34	6.55	8.80	0.0223	15	10.45	8.52	9.46	5.46	5.46	0.88	0.10	3.16	469.94	466.78	474.99
41B	41A	DR6-B	0.012	29.07	0.17	7,405	5.09	5.00	0.72	0.12	0.12	6.55	0.80	0.0330	15	12.72	10.36	11.51	5.71	6.64	0.21	N/A	0.96	469.36	468.40	472.89
41A	41	DR6-B	0.012	32.10	0.13	5,663	4.31	5.08	0.62	0.08	0.20	6.55	1.33	0.0474	15	15.23	12.41	13.79	7.44	7.95	0.24	0.10	1.52	468.30	466.78	473.34
52	51	DR6-D	0.012	45.07	0.05	2,178	22.74	5.00	0.72	0.04	0.04	6.55	0.24	0.0051	15	5.00	4.07	4.53	1.98	2.61	0.17	N/A	0.23	468.11	467.88	472.00
51	50	DR6-E	0.012	55.66	0.27	11,761	16.16	5.38	0.68	0.18	0.22	6.55	1.44	0.0049	15	4.87	3.97	4.41	3.44	2.55	0.46	0.10	0.27	467.78	467.51	471.98
50A	50	DR6-D	0.012	31.87	0.07	3,049	8.12	5.00	0.73	0.05	0.05	6.55	0.33	0.0235	15	10.74	8.75	9.72	3.93	5.61	0.15	N/A	0.75	468.26	467.51	472.10
50	41	DR6-E	0.012	124.33	0.18	7,841	30.34	5.65	0.70	0.13	0.40	6.55	2.60	0.0051	15	4.98	4.06	4.51	4.10	2.60	0.64	0.10	0.63	467.41	466.78	472.32
41	40	DR6-E	0.012	134.87	0.21	9,148	13.57	5.99	0.67	0.14	2.08	6.55	13.65	0.0188	18	15.59	8.82	9.80	9.94	5.65	1.08	0.25	2.53	466.53	464.00	473.57
62	61	DR6-E	0.012	31.00	0.13	5,663	4.75	5.00	0.67	0.09	0.09	6.55	0.57	0.0652	15	17.86	14.56	16.17	6.53	9.33	0.15	N/A	2.02	451.84	449.82	459.12
61	60	DR6-E	0.012	69.13	0.07	3,049	10.04	5.08	0.73	0.05	0.14	6.55	0.91	0.0538	15	16.23	13.23	14.70	6.88	8.48	0.19	0.10	3.72	449.72	446.00	459.27
100	99	DR6-E	0.012	40.09	0.49	21,344	10.69	5.00	0.59	0.29	0.29	6.55	1.89	0.0050	15	4.94	4.03	4.47	3.75	2.58	0.53	N/A	0.20	487.22	487.02	490.85
99	98	DR6-E	0.012	34.93	0.51	22,216	7.89	5.18	0.62	0.32	0.61	6.55	3.96	0.0049	15	4.88	3.98	4.42	4.43	2.55	0.85	0.10	0.17	486.92	486.75	490.85
98	97	DR6-E	0.012	38.00	0.12	5,227	7.01	5.31	0.60	0.07	0.68	6.55	4.44	0.0076	15	6.11	4.98	5.53	5.42	3.19	0.79	0.10	0.29	486.65	486.36	491.48
97	96	DR6-E	0.012	34.90	0.13	5,663	7.22	5.43	0.62	0.08	0.76	6.55	4.96	0.0052	18	5.17	4.62	5.14	4.83	2.96	0.84	0.25	0.18	486.11	485.93	491.15
96	95	DR6-E	0.012	40.25	0.68	29,621	5.39	5.55	0.57	0.39	1.15	6.55	7.50	0.0124	18	12.68	7.18	7.97	7.47	4.60	0.83	0.10	0.50	485.83	485.33	491.10
95D	95C	DR3	0.012	52.18	1.71	74,488	4.56	5.00	0.31	0.53	0.53	6.55	3.47	0.0700	15	18.51	15.08	16.75	11.43	9.67	0.36	N/A	3.65	500.75	497.10	502.00
95C	95B	DR6-E	0.012	252.93	0.18	7,841	30.38	5.08	0.73	0.13	0.66	6.55	4.33	0.0254	18	18.14	10.27	11.41	8.32	6.58	0.49	0.25	6.43	496.85	490.42	501.70
95B	95A	DR6-E	0.012	40.17	0.23	10,019	8.27	5.58	0.72	0.17	0.83	6.55	5.42	0.0050	24	17.29	5.50	6.11	4.86	3.53	0.76	0.50	0.20	489.92	489.72	495.17
95A	95	DR6-E	0.012	273.79	0.32	13,939	33.08	5.72	0.71	0.23	1.05	6.55	6.91	0.0171	24	32.08	10.21	11.34	8.09	6.55	0.62	0.10	4.69	489.62	484.93	495.11
95	94	DR6-E	0.012	29.20	0.25	10,890	3.12	6.28	0.71	0.18	2.38	6.26	14.89	0.0144	24	29.39	9.36	10.39	9.35	6.00	1.00	0.10	0.42	484.83	484.41	491.10
94	93	DR6-G	0.012	77.64	0.55	23,958	11.35	6.34	0.52	0.29	2.66	6.26	16.68	0.0061	24	19.07	6.07	6.74	6.84	3.89	1.44	0.10	0.47	484.31	483.84	490.74
93C	93B	DR6-B	0.012	175.73	0.83	36,155	33.33	5.00	0.48	0.40	0.40	6.55	2.61	0.0100	15	7.00	5.71	6.34	5.27	3.66	0.53	N/A	1.76	486.93	485.17	490.45
93B	93A	DR6-B	0.012	29.08	0.46	20,038	6.28	5.56	0.63	0.29	0.69	6.55	4.51	0.0052	15	5.03	4.10	4.55	4.63	2.63	0.92	0.10	0.15	485.07	484.92	488.70
93A	93	DR6-E	0.012	31.00	0.09	3,920	5.65	5.66	0.77	0.07	0.76	6.55	4.96	0.0074	15	6.03	4.91	5.46	5.48	3.15	0.86	0.10	0.23	484.82	484.59	489.19
93	92	DR6-E	0.012	29.08	0.14	6,098	3.30	6.53	0.69	0.10	3.52	6.26	22.03	0.0100	24	24.47	7.79	8.65	8.80	4.99	1.47	0.25	0.29	483.77	483.45	489.34
92C	92B	DR6-B	0.012	150.66	0.37	16,117	24.20	5.00	0.61	0.23	0.23	6.55	1.48	0.0250	15	11.07	9.02	10.02	6.23	5.78	0.30	N/A	3.77	492.04	488.27	495.61
92B	92A	DR6-B	0.012	153.18	0.44	19,166	26.95	5.40	0.61	0.27	0.49	6.55	3.24	0.0106	15	7.20	5.86	6.51	5.68	3.76	0.58	0.10	1.62	488.17	486.55	491.85
92A	92	DR6-B	0.012	109.75	0.43	18,731	13.50	5.85	0.61	0.26	0.76	6.55	4.95	0.0205	15	10.02	8.17	9.07	8.13	5.23	0.62	0.10	2.25	486.45	484.20	490.08
91B	91A	DR6-E	0.012	100.64	0.30	13,068	9.28	6.58	0.61	0.18	4.46	6.26	27.91	0.0150	24	30.02	9.56	10.64	10.84	6.13	1.51	0.85	1.51	483.35	481.84	488.86
91A	91	DR6-E	0.012	31.00	0.12	5,227	8.87	5.00	0.60	0.07	0.07	6.55	0.47	0.0139	15	8.24	6.72	7.46	3.50	4.31	0.19	N/A	0.43	483.02	482.59	487.70
91	90	DR6-E	0.012	34.88	0.11	4,792	3.11	6.74	0.57	0.06	4.59	6.26	28.75	0.0161	24	31.05	9.88	10.98	11.21	6.34	1.51	0.83	0.56	481.74	481.18	487.85
90	89	DR6-E	0.012	31.11	0.36	15,682	2.66	6.79	0.68	0.24	4.84	6.26	30.28	0.0174	24	32.29	10.28	11.42	11.67	6.59	1.53	1.58	0.54	479.60	479.06	488.16
89B	89A	DR6-E	0.012	154.79	0.21	9,148	32.81	5.00	0.66	0.14	0.14	6.55	0.91	0.0179	15	9.36	7.63	8.47	4.72	4.89	0.25	N/A	2.77	489.08	486.31	492.61
89C	89A	DR6-E	0.012	31.00	0.71	30,928	7.67	5.00	0.57	0.40	0.40	6.55	2.65	0.0048	15	4.87	3.97	4.41	4.04	2.54	0.65	N/A	0.15	486.46	486.31	490.34
89A	89	DR6-E	0.012	157.35	0.20	8,712	21.17	5.55	0.66	0.13	0.68	6.55	4.42	0.0175	15	9.27	7.55	8.39	7.43	4.84	0.60	0.10	2.76	486.21	483.45	490.49
89	88	DR6-E	0.012	38.25	0.20	8,712	2.78	6.83	0.68	0.14	5.65	6.26	35.37	0.0241	24	38.01	12.10	13.44	13.74	7.76	1.53	4.49	0.92	478.96	478.04	488.34
88	87	DR6-D	0.012	96.81	0.04	1,742	10.85	6.88	0.60	0.02	5.67	6.26	35.52	0.0075	30	38.59	7.86	8.73	8.92	5.04	1.89	0.50	0.73	477.54	476.81	487.25
87A	87	DR6-G	0.012	25.09	0.47	20,473	4.11	5.00	0.60	0.28	0.28	6.55	1.85	0.0199	15	9.88	8.05	8.94	6.10	5.16	0.36	N/A	0.50	483.15	482.65	486.90
87	86	DR6-D	0.012	90.50	0.13	5,663	10.15	7.06	0.45	0.06	6.01	5.97	35.92	0.0075	30	38.52	7.85	8.72	8.91	5.03	1.91	5.94	0.68	476.71	476.03	486.08
86B	86A	DR6-E	0.012	38.00	0.36	15,682	12.07	5.00	0.43	0.15	0.15	6.55	1.01	0.0050	15	4.95	4.03	4.48	3.15	2.59	0.38	N/A	0.19	482.18	481.99	486.10
86A	86	DR6-E	0.012	34.73	0.34	14,810	6.76	5.20	0.60	0.20	0.36	6.55	2.35	0.0101	15	7.03	5.72	6.36	5.14	3.67	0.49	0.10	0.35	481.84	481.54	486.06
86	85	DR6-E	0.012	31.00	0.13	5,663	3.18	7.23	0.53	0.07	6.44	5.97	38.47	0.0090	30	42.23	8.60	9.56	9.75	5.52	1.07	5.61	0.28	475.93	475.65	484.97
85	84	DR6-E	0.012	158.03	0.20	8,712	11.60	7.28	0.63	0.13	6.57	5.97	39.22	0.0206	30	63.72	12.98	14.42	13.62	8.32	1.41	0.10	3.25	475.55	472.30	484.82
84	83	DR6-E	0.012	63.25	0.59	25,700	3.79	7.47	0.56	0.33	6.90	5.97	41.20	0.0340	30	81.92	16.69	18.54	16.68	10.70	1.25	0.10	2.15	472.20	470.05	478.76
83	82	DR6-E	0.012	114.50	0.55	23,958	6.75	7.54	0.51	0.28	7.18	5.97	42.87	0.0344	30	82.43	16.79	18.65	16.95	10.77	1.28	0.10	3.94	469.95	466.01	476.55
82C	82B	DR6-Q	0.012	103.37	1.14	49,658	12.16	5.00	0.33	0.38	0.38	6.55	2.46	0.0399	15	13.97	11.38	12.65	8.50	7.30	0.35	N/A	4.12	471.85	467.73	475.37
82E	82D	DR6-E	0.012	174.03	0.21	9,148	29.35	5.00	0.73	0.15	0.15	6.55	1.00	0.0325	15	12.61	10.28	11.41	5.93	6.59	0.22	N/A	5.65	473.74	468.09	477.27
82D	82B	DR6-E	0.012	31.00	0.24	10,454	7.90	5.49	0.73	0.18	0.33	6.55	2.15	0.0052	15	5.03	4.10	4.55	3.92	2.63	0.57	0.10	0.16	467.99	467.83	471.85
82B	82A	DR6-E	0.012	37.11	0.78	33,977	6.13	5.62	0.56	0.44	1.14	6.55	7.48	0.0073	18	9.71	5.49	6.10	6.06	3.52	0.99	0.25	0.27	467.48	467.21	471.88
82A	82	DR6-E	0.012	39.30	0.82	35,719	5.84	5.72	0.54	0.44	1.58	6.55	10.38	0.0076	24	21.41	6.82	7.57	6.73	4.37	0.98	0.50	0.30	466.71	466.41	472.90
82	81	DR6-E	0.012	33.65	0.52	22,651	2.14	7.65	0.51	0.27	9.03	5.97	53.92	0.0250	30	70.21	14.30	15.89	15.74	9.17	1.63	0.50	0.84	465.91	465.07	472.54
81C	81B	DR6-E	0.012	15.47	1.13	49,223	3.89	5.00	0.30	0.34	0.34	6.55	2.22	0.0052	15	5.03	4.10	4.56	3.97	2.63	0.58	N/A	0.08	476.36	476.28	479.88
81B	81A	DR7-A	0.012	31.73	0.75	32,670	5.05	5.06	0.63	0.47	0.81	6.55	5.32	0.0100	15	7.03	5.73	6.36	6.29	3.67	0.81	0.10	0.42	476.78	475.86	481.09
81E	81D	DR6-E	0.012	137.86	0.23	10,019	30.59	5.00	0.67	0.15	0.15	6.55	1.01	0.0137	15	8.19	6.68	7.42	4.51	4.28	0.29	N/A	1.89	481.57	479.68	485.09
81D	81A	DR6-E	0.012	141.45	0.19	8,276	20.91	5.51	0.67	0.13	0.28	6.55	1.84	0.0263	15	11.35	9.25	10.27	6.77	5.93	0.34	0.10	3.72	479.58	475.86	483.21
81A	81	DR6-E	0.012	217.90	0.18	7,841	18.01	5.86	0.67	0.12	1.21	6.55	7.95	0.0433	15	14.57	11.87	13.19	12.10	7.61	0.65	0.10	9.44	475.76	466.32	481.28
81	80	DR6-E	0.012	31.40	0.38	16,553	1.80	7.69	0.54	0.21	10.44	5.97	62.40	0.0303	30	77.29	15.75	17.49	17.49	10.09	1.69	1.35	0.95	464.97	464.02	471.80
80	79	DR6-E	0.012	217.92	0.39	16,988	12.11	7.72	0.67	0.26	10.71	5.97	63.96	0.0320	30	79.53	16.20	18.00	18.00	10.39	1.69	0.10	6.98	463.92	456.94	472.15
79C	79B	DR6-E	0.012	120.00	0.31	13,504	17.55	5.00	0.61	0.19	0.19	6.55	1.24	0.0400	15	14.00	11.41	12.67	6.84	7.31	0.24	N/A	4.80	466.94	462.14	470.47
79B	79A	DR6-E	0.012	66.36	0.59	25,700	6.61	5.29	0.50	0.30	0.48	6.55	3.17	0.0523	15	16.00	13.04	14.49	10.03	8.36	0.37	0.10	3.47	462.04	458.57	465.67
79D	79A	DR6-E	0.012

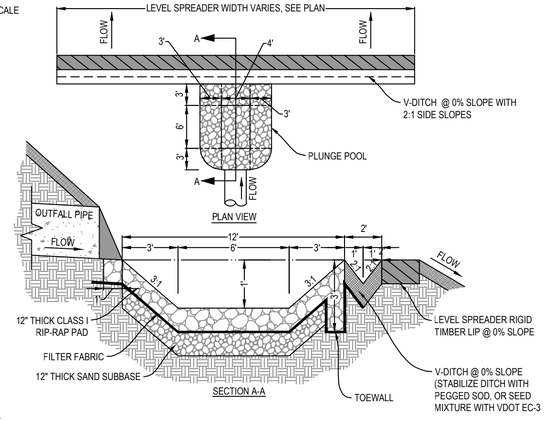


30 15 0 30 60 90
GRAPHICAL SCALE: 1"=30'

WV STATE GRID NORTH (NAD83)

PLUNGE POOL WITH LEVEL SPREADER DETAIL:

NOT TO SCALE



NOTES:

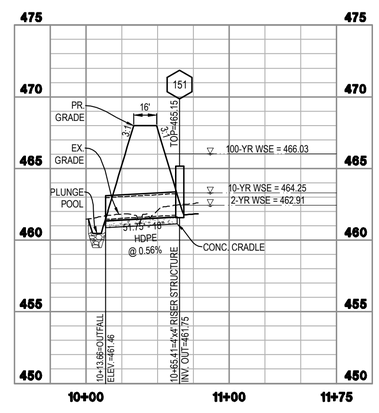
1. USE NONWOVEN GEOTEXTILE FILTER FABRIC AND PROTECT FROM PUNCHING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTEHR THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE.

2. PREPARE THE SUBGRADE FOR THE PLUNGE POOL TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.

3. EMBED GEOTEXTILE A MINIMUM OF 4 INCHES AND EXTEND THE GEOTEXTILE A MINIMUM OF 6" BEYOND THE EDGE OF THE SCOUR HOLE.

4. STONE FOR THE PLUNGE POOL MAY BE PLACED BY EQUIPMENT. CONSTRUCT TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. DELIVER AND PLACE THE STONE FOR THE PLUNGE POOL IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE STONE FOR THE PLUNGE POOL IN A MANNER TO PREVENT DAMAGE TO THE GEOTEXTILE. HAND PLACE TO THE EXTEND NECESSARY.

5. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.



SWM 1 OUTFALL PROFILE

HORIZONTAL

50 25 0 50 100 150
GRAPHICAL SCALE: 1"=50'

VERTICAL

5 2.5 0 5 10 15
GRAPHICAL SCALE: 1"=5'

SWM OUTFALL NOTES:

1. CONCRETE CRADLE TO BE INSTALLED ON ALL SWM BASIN OUTFALL BARREL PIPES. SEE SHEET 104 FOR CONCRETE CRADLE DETAIL.

2. LEVEL SPREADER WITH PLUNGE POOL TO BE INSTALLED AT ALL SWM FACILITY OUTFALLS. SEE THIS SHEET FOR LEVEL SPREADER WITH PLUNGE POOL DETAIL.

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JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
1-24-25

SEAL:

REVISIONS

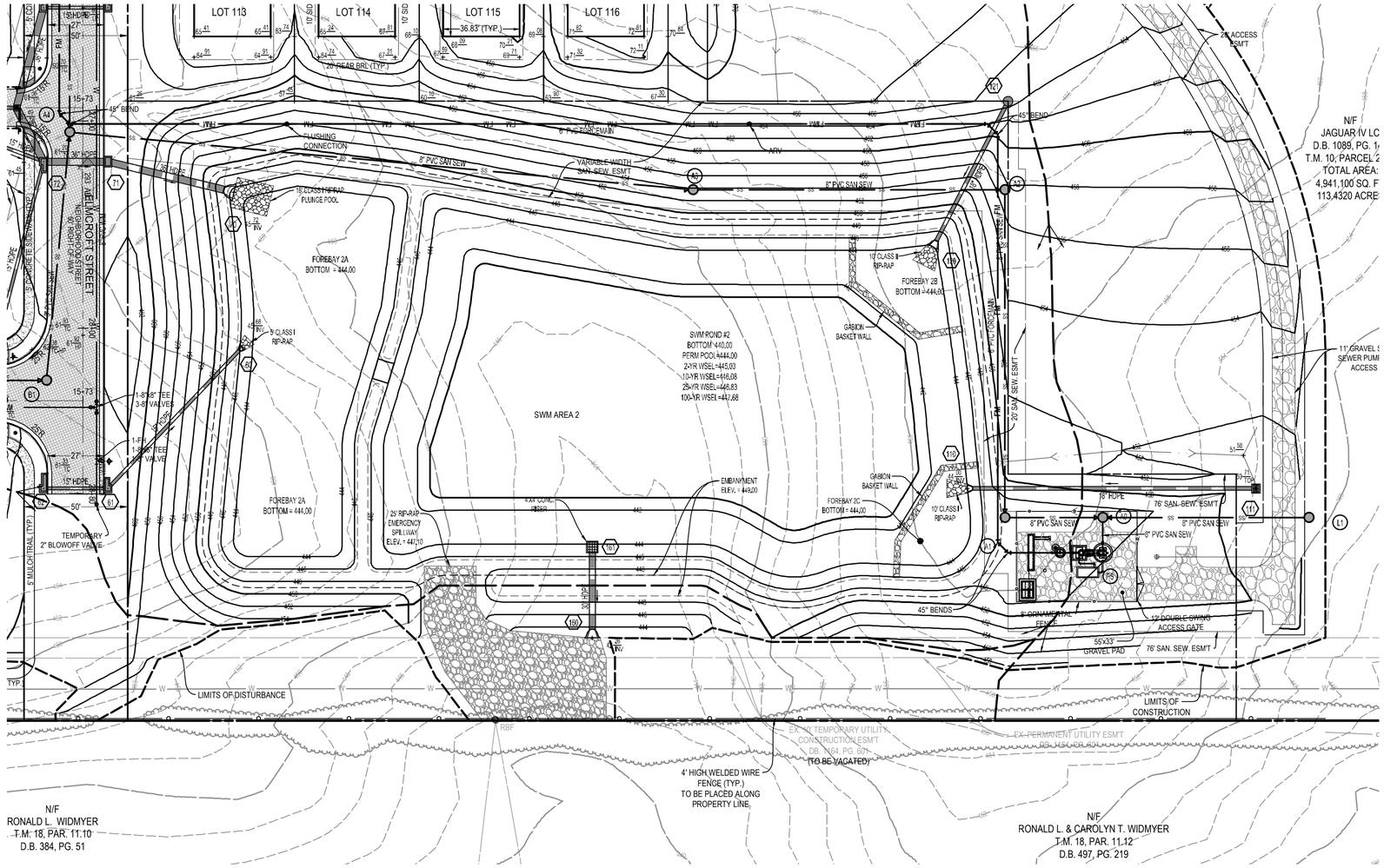
1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST'V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

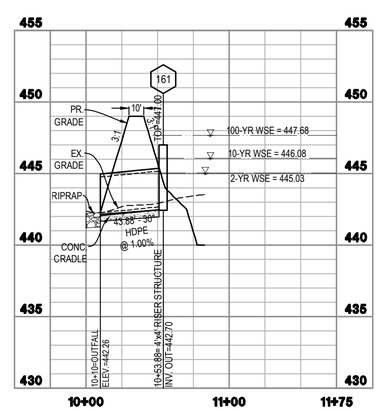
SWM PLAN AND PROFILE - SWM 1

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG.208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: VARIES VERT.: 1"=5'
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-CJ-201.DWG	
NCS:	
SHEET:	101 OF 119





SWM 2 CULVERT PROFILE

HORIZONTAL

GRAPHICAL SCALE: 1"=50'

VERTICAL

GRAPHICAL SCALE: 1"=5'

SWM OUTFALL NOTES:

1. CONCRETE CRADLE TO BE INSTALLED ON ALL SWM BASIN OUTFALL BARREL PIPES. SEE SHEET 104 FOR CONCRETE CRADLE DETAIL.

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SWM PLAN AND PROFILE - SWM 2

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG.208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

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NCS:	
SHEET:	102 OF 119

STORMWATER MANAGEMENT NARRATIVE:

1. ALL STORMWATER MANAGEMENT POND CONSTRUCTION SHALL BE IN STRICT COMPLIANCE WITH ALL APPLICABLE CITY OF CHARLES TOWN REQUIREMENTS, THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS, AND AS PUBLISHED IN THE "WEST VIRGINIA STORMWATER MANAGEMENT AND DESIGN GUIDANCE MANUAL"

2. EMBANKMENT:

(A) DESIGN AND CONSTRUCTION OF THE PROPOSED DAM IS SUBJECT TO RECOMMENDATIONS AND INSPECTION BY A QUALIFIED GEOTECHNICAL ENGINEER.

(B) AREAS UNDER THE EMBANKMENT AND ANY STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL, ROOTS OR OTHER OBJECTIONABLE MATERIAL.

(C) THE SUITABILITY AND ACCEPTABILITY OF ALL FILL MATERIAL WILL BE DETERMINED BY REGULAR PERIODIC SOIL ANALYSIS AND COMPACTION TESTS, WHICH SHALL BE MADE BY A QUALIFIED GEOTECHNICAL ENGINEER.

(D) TESTS FOR SOIL ANALYSIS, MOISTURE CONTENT, AND COMPACTION ARE TO BE CONDUCTED IN ACCORDANCE WITH THE LATEST APPLICABLE ASTM STANDARDS AND SPECIFICATIONS.

(E) MATERIALS USED FOR THE IMPERVIOUS CORE AND CUT-OFF TRENCH, IF REQUIRED BY THE GEOTECHNICAL ENGINEER, SHALL BE COMPRISED OF ONE OF THE FOLLOWING SOILS AS DESIGNATED BY THE UNIFIED SOIL SYSTEM: SC, CL, OR ML HAVING A MINIMUM PLASTICITY INDEX OF 8 WITH A MINIMUM OF 45% PASSING THE NO. 200 SIEVE AND A MAX. OF 5% RETAINED ON THE NO. 4 SIEVE. THE CUT-OFF TRENCH (IF REQUIRED) SHALL EXTEND A MINIMUM OF 4 FEET BELOW SUBGRADE OR TO REFUSAL.

(F) THE CUT-OFF TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE BOTTOM WIDTH OF THE TRENCH SHALL BE A MINIMUM WIDTH OF 4 FEET. THE DEPTH SHALL BE AT LEAST 4 FEET BELOW EXISTING GRADE OR AS SHOWN ON THE PLANS. THE SIDE SLOPES OF THE TRENCH SHALL BE 1 TO 1 OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY.

(G) THE EMBANKMENT MAY BE CONSTRUCTED AS A HOMOGENOUS EMBANKMENT DAM USING ACCEPTABLE MATERIAL CLASSIFIED ML, CL, SC, OR GC SOILS PER ASTM D-2487. IN TO THESE MATERIALS, SOILS CLASSIFIED CH AND MH MAY BE USED AS COMPACTED ADDITION EMBANKMENT FILL BELOW THE UPPER 5 FEET OF THE SLOPES. SOILS CLASSIFIED AS SM OR GM PER ASTM D-2487 OR SUITABLE FILL MAY BE USED FOR EMBANKMENT IN THE DOWNSTREAM HALF OF THE EMBANKMENT SUBJECT TO APPROVAL BY A QUALIFIED GEOTECHNICAL ENGINEER.

(H) COMPACTION SHALL BE NOT LESS THAN 98% OF THE MAXIMUM DRY DENSITY FOR THE GIVEN EMBANKMENT MATERIAL AS DETERMINED BY USE OF THE STANDARD PROCTOR METHOD PER ASTM T-99 OR ASTM D-698.

(I) EMBANKMENT FILL SHALL BE CONSTRUCTED IN 8-INCH LOOSE LIFTS AND SHALL BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL SO THAT SMOOTH HORIZONTAL PLANES ARE NOT BUILT INTO THE FILL STRUCTURE. SCARIFYING OR USE OF SHEEPS-FOOT ROLLERS CAN BE USED TO AVOID SMOOTH HORIZONTAL PLANES.

(J) THE EMBANKMENT SHALL BE CONSTRUCTED TO A MINIMUM ELEVATION 5% HIGHER THAN THE DESIGNED HEIGHT TO ALLOW FOR SETTLEMENT WHEN MECHANICAL COMPACTORS ARE USED FOR CONSTRUCTION.

(K) THE CONTRACTOR IS RESPONSIBLE FOR ACQUIRING ACCEPTABLE BORROW MATERIAL EITHER FROM ON-SITE OR OFF-SITE SOURCES AS REQUIRED. ALL OFF-SITE WASTE OR BORROW SOURCES SHALL BE INCLUDED IN THE NPDES PERMIT.

(L) THE CONTRACTOR SHALL MAINTAIN ALL MATERIAL TICKETS, SOIL TEST RESULTS AND PHOTOGRAPHIC RECORDS OF COVERED EMBANKMENT CONSTRUCTION ELEMENTS (CUT-OFF TRENCH, ANTI-SEEP MEASURES, PIPE INSTALLATION) FOR INCLUSION INTO AS-BUILT POND RECORDS.

(M) EMBANKMENT CONSTRUCTION SHALL BE CERTIFIED BY AN ENGINEER AS MEETING THE ABOVE REQUIREMENTS

3. OUTLET CONTROL STRUCTURE NOTES:

(A) THE PURPOSE OF THIS PLAN IS TO PROVIDE THE BASIC DIMENSIONS REQUIRED TO CONTROL THE CONSTRUCTION OF THE COMBINATION PRINCIPAL/EMERGENCY SPILLWAY. THE BASIC DIMENSIONS OF ALL DRAINAGE STRUCTURES AND ORIFICES SHOWN FOR EACH CONTROL STRUCTURE SHALL BE MAINTAINED.

(B) ALL RISER, SPILLWAY, AND FOOTING DIMENSIONS AND/OR THICKNESS, AS WELL AS REINFORCEMENT, BUOYANCY CALCULATIONS AND THE METHOD OF JOINING THE VARIOUS STRUCTURAL ELEMENTS SHALL BE VERIFIED BY A PROFESSIONAL STRUCTURAL ENGINEER AND SUBMITTED TO THE ENGINEER OF RECORD FOR ACCEPTANCE PRIOR TO FABRICATION.

(C) SUBGRADE PREPARATION AND BEDDING REQUIREMENTS FOR ALL STRUCTURAL ELEMENTS ARE SUBJECT TO DESIGN BY A PROFESSIONAL GEOTECHNICAL ENGINEER.

(D) PRECAST CONCRETE IS TO ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI. CAST-IN-PLACE CONCRETE SHALL BE WVDOH CLASS B. ALL CONCRETE SHALL MEET THE REQUIREMENTS OF THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.

(E) ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4".

(F) SHOP DRAWINGS ARE TO BE SUBMITTED TO AND APPROVED BY THE ENGINEER OF RECORD PRIOR TO FABRICATION.

(G) BACKFILL ADJACENT TO THE OUTLET STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL. THE FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE MATERIAL NEEDS TO FILL COMPLETELY ALL SPACES UNDER AND ADJACENT TO THE PIPE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A CONCRETE STRUCTURE.

(H) ROCK RIP-RAP SHALL MEET THE REQUIREMENTS OF THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS. THE RIP-RAP SHALL BE PLACED TO THE REQUIRED THICKNESS IN ONE OPERATION. THE ROCK SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THE RIP-RAP IS REASONABLY HOMOGENOUS WITH LARGER ROCKS UNIFORMLY DISTRIBUTED AND FIRMLY IN CONTACT WITH SMALLER ROCKS FILLING THE VOIDS BETWEEN THE LARGER ROCKS. FILTER CLOTH SHALL BE PLACED UNDER ALL RIP-RAP AND SHALL MEET THE REQUIREMENTS OF THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.

4. MAINTENANCE REQUIREMENTS:

(A) OWNERSHIP, MAINTENANCE, INSPECTIONS, AND CLEANING OF STORMWATER MANAGEMENT FACILITIES SHALL BE THE RESPONSIBILITY OF THE HOMEOWNERS ASSOCIATION OR LOT OWNERS ASSOCIATION AND/OR PROPERTY OWNER OR OTHER RESPONSIBLE ENTITY. ALL STORMWATER MANAGEMENT FACILITIES SHALL BE CONVEYED BY DEED TO THE RESPONSIBLE PARTY AT THE SAME TIME TRANSFER OF ALL OTHER COMMON AREAS IS REQUIRED UNDER THE SUBDIVISION AND LANDDEVELOPMENT REGULATIONS.

(B) THE HOMEOWNERS ASSOCIATION OR LOT OWNERS ASSOCIATION AND/OR PROPERTY OWNER OR OTHER ENTITY RESPONSIBLE FOR THE MAINTENANCE OF THE STORMWATER MANAGEMENT FACILITIES CONSTRUCTED PURSUANT TO THE CITY OF CHARLES TOWN STORMWATER MANAGEMENT ORDINANCE SHALL MAINTAIN IN GOOD CONDITION AND PROMPTLY REPAIR AND RESTORE ALL GRADE SURFACES, WALLS, DRAINS, DAMS AND STRUCTURES, DISCHARGE STRUCTURES, TRASH RACKS, VEGETATION, EROSION AND SEDIMENT CONTROL MEASURES, AND OTHER PROTECTIVE DEVICES. SUCH REPAIRS OR RESTORATION AND MAINTENANCE SHALL BE IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.

(C) THE PARTY RESPONSIBLE FOR THE MAINTENANCE OF THE STORMWATER MANAGEMENT SYSTEM SHALL MAINTAIN AND PROVIDE WRITTEN RECORDS OF ALL MAINTENANCE AND REPAIRS WITHIN 30 DAYS OF WORK COMPLETION TO THE WVDEP. A COPY OF THESE RECORDS SHALL BE SUBMITTED TO THE CITY OF CHARLES TOWN ENGINEERING DEPARTMENT AS NOTIFICATION THAT MAINTENANCE WORK WAS PERFORMED.

(D) A PERIODIC MAINTENANCE SCHEDULE SHALL BE DEVELOPED FOR THE LIFE OF ANY STORMWATER MANAGEMENT FACILITY. ALL MAINTENANCE AND REPAIR, PERIODIC INSPECTIONS, AND CLEANING OF STORMWATER MANAGEMENT FACILITIES SHALL BE THE RESPONSIBILITY OF THE HOMEOWNERS ASSOCIATION OR LOT OWNERS ASSOCIATION AND/OR PROPERTY OWNER OR OTHER RESPONSIBLE ENTITY, AND SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF CHARLES TOWN STORMWATER MANAGEMENT ORDINANCE UNDER WHICH THE PROJECT WAS APPROVED.

(E) INSPECTION OF THE PRIMARY SPILLWAY ORIFICE MAY REQUIRE GREATER FREQUENCY DEPENDING UPON THE AMOUNT OF DEBRIS WHICH ACCUMULATES WITHIN THE STORMWATER MANAGEMENT FACILITY. ANY TRASH AND/OR DEBRIS WITHIN THE STORMWATER MANAGEMENT FACILITY SHALL BE REMOVED AND PROPERLY DISPOSED OF.

(F) THE HOMEOWNERS ASSOCIATION OR LOT OWNERS ASSOCIATION AND/OR PROPERTY OWNER OR OTHER RESPONSIBLE ENTITY SHALL BE RESPONSIBLE FOR ENGAGING A MANAGEMENT FIRM TRAINED IN PROPER MAINTENANCE AND INSPECTION OF STORMWATER MANAGEMENT FACILITIES. IT SHALL BE THE RESPONSIBILITY OF SAID FIRM TO MAINTAIN ALL REQUIRED RECORDS AND REPORT THESE FINDINGS TO THE WVDEP TO ENSURE PROTECTION OF THE GROUND WATER. THE PARAMETERS AND THE FREQUENCY OF THIS MONITORING SHALL BE DETERMINED BY WVDEP.

CUT-OFF TRENCH & IMPERVIOUS CORE NOTES:

1. A CUT-OFF TRENCH OF RELATIVELY IMPERVIOUS MATERIAL SHALL BE PROVIDED UNDER THE ENTIRE LENGTH OF THE EMBANKMENT AND SHALL BE LOCATED AT OR UPSTREAM FROM THE CENTERLINE OF THE EMBANKMENT. THE CUT-OFF TRENCH SHALL HAVE A BOTTOM WIDTH ADEQUATE TO ACCOMMODATE THE EQUIPMENT USED FOR EXCAVATION, BACKFILL, AND COMPACTION OPERATIONS, WITH A MINIMUM WIDTH BEING 4 FEET, AND SHALL HAVE SIDE SLOPES NO STEEPER THAN ONE HORIZONTAL TO ONE VERTICAL. THE CUT-OFF TRENCH SHALL HAVE A MINIMUM DEPTH OF 4 FEET.
2. ANY IMPERVIOUS CORE WITHIN THE EMBANKMENT SHALL BE LOCATED AT OR UPSTREAM FROM THE CENTERLINE OF THE EMBANKMENT, AND SHALL EXTEND UP FROM THE ABUTMENTS TO THE 25-YEAR WATER SURFACE ELEVATION. THE IMPERVIOUS CORE SHALL EXTEND VERTICALLY FROM THE CUT-OFF TRENCH UP TO THE 25-YEAR WATER SURFACE ELEVATION THROUGHOUT THE EMBANKMENT.

POND LINER NOTES:

1. THE POND AND SEDIMENT FOREBAY SHALL BE LINED IN ONE OF THE FOLLOWING TWO WAYS: A 24" CLAY LINER WITH A MAXIMUM HYDRAULIC CONDUCTIVITY OF 1 x 10^{-7} CM/SEC OR WITH A WVDEP APPROVED COMPOSITE LINER SYSTEM. A BENDTARP PPL 24 LINER HAS BEEN APPROVED FOR PREVIOUS PROJECTS, HOWEVER THE ACCEPTABILITY OF THIS PRODUCT SHALL BE CONFIRMED WITH WVDEP DIVISION OF WATER AND WASTE MANAGEMENT PRIOR TO CONSTRUCTION.

POND LANDSCAPING NOTE:

1. THE SWM BASIN SHALL BE VEGETATED WITH GRASS TO ENHANCE WATER QUALITY. ADDITIONAL PLANTINGS MAY BE PROVIDED AT THE OWNERS DISCRETION, HOWEVER NO LANDSCAPING SHALL BE PERMITTED ALONG ANY PORTION OF THE POND EMBANKMENT.

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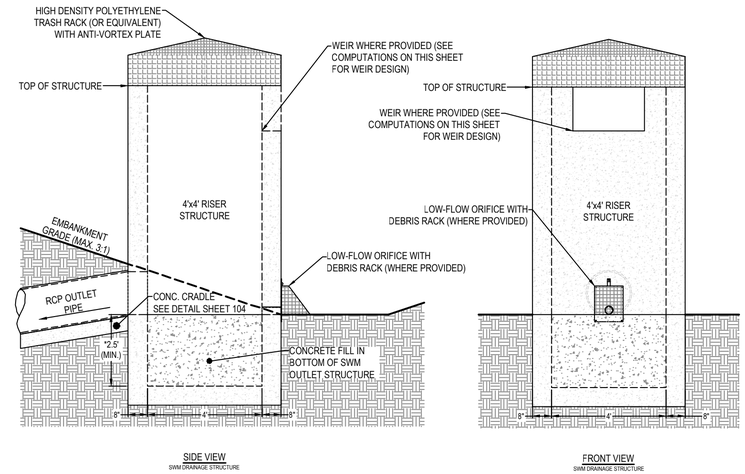
SWM FACILITY OUTLET STRUCTURE DESIGN DATA TABLE

SWM FACILITY I.D.	OUTLET PIPE SIZE (INCH)	OUTLET PIPE INVERT ELEV.	LOW FLOW ORIFICE SIZE (INCH)	LOW FLOW ORIFICE INVERT	WEIR WIDTH (FT)	WEIR INVERT ELEV.	TOP OF OUTFALL STR. ELEV.
1	18	461.75	6	461.75	16	465.15	465.15
2	30	442.70	10	444.00	2.25	445.05	447.00

TYPICAL SIDE & FRONT VIEW OF SWM OUTLET STRUCTURE:

NOT TO SCALE

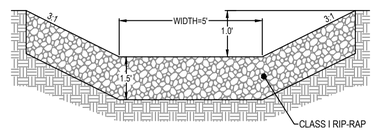


NOTES:
1. SEE SWM REPORT FOR ALL RELEVANT WATER SURFACE ELEVATIONS WITHIN EACH SWM FACILITY.
2. *REFER TO NOTE 3(B) OF STORMWATER MANAGEMENT NARRATIVE.
3. STRUCTURAL DESIGN OF RISER STRUCTURE SHALL BE IN ACCORDANCE WITH THE DETAIL INCLUDED IN THIS PLAN SET AND FINAL SHOP DRAWINGS SHALL BE SUBMITTED BY CONTRACTOR TO BERKELEY COUNTY PLANNING & ENGINEERING FOR APPROVAL.

FORE-BAY SPILLWAY DETAIL:

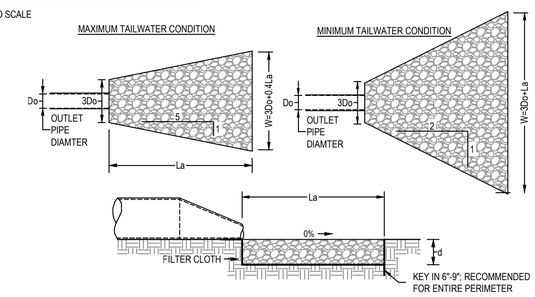
NOT TO SCALE

FOREBAY SPILLWAY DESIGN DATA TABLE		
SWM FACILITY I.D.	# OF FOREBAYS	INV. OF SPILLWAY
1	1	466.00
2	2A	446.00
2	2B	445.50
2	2C	445.50



OUTLET PROTECTION DETAILS:

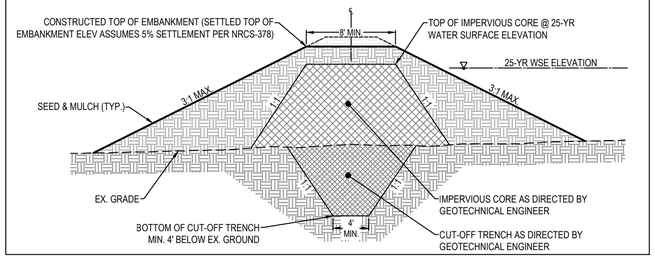
NOT TO SCALE



SECTION THRU DAM EMBANKMENT:

NOT TO SCALE

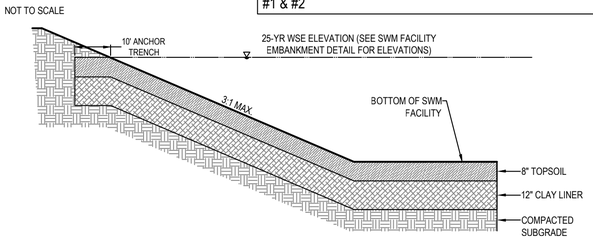
SWM FACILITY EMBANKMENT DESIGN DATA TABLE					
SWM FACILITY I.D.	INV. OF OUTFALL BARREL	MAXIMUM EMBANKMENT HEIGHT (FT)	CONSTRUCTED TOP OF EMBANKMENT	SETTLED TOP OF EMBANKMENT	25-YR WSE ELEVATION
1	461.75	6.25	468.40	468.00	464.93
2	442.70	6.30	449.40	449.00	446.83



POND LINER DETAIL:

NOT TO SCALE

INSTALL POND LINER WITHIN SWM DETENTION FACILITIES: #1 & #2

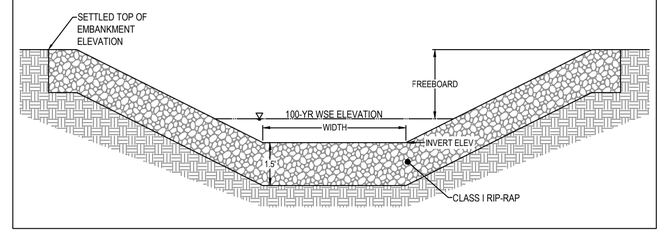


NOTES:
1. POND BOTTOM SHALL BE LINED WITH A MINIMUM OF 12" OF SUITABLE CLAY SOILS WITH A USGS SOIL CLASSIFICATION OF CL OR CH. THE APPROVED CLAY SHALL HAVE A MINIMUM LIQUID LIMIT OF 30%, A MINIMUM PLASTICITY INDEX OF 15%, AND A MAXIMUM HYDRAULIC CONDUCTIVITY OF 1 x 10-7 CM/SEC.
2. ALL MATERIALS SHALL BE PRE-APPROVED PRIOR TO PLACEMENT. SAMPLES SHALL BE TAKEN FOR EACH LIFT PLACED TO VERIFY THE APPROPRIATE HYDRAULIC CONDUCTIVITY RATE HAS BEEN ACHIEVED.
3. INSTALL CLAY LINER IN 6" LIFTS AND COMPACT USING A SHEEPSFOOT ROLLER TO 98% OF MAXIMUM DRY DENSITY AT 2% OF OPTIMUM MOISTURE CONTENT AS DETERMINED BY STANDARD PROCTOR METHOD ASTM D-698.
4. PLACE 8" LAYER OF TOPSOIL OVER CLAY LINER.
5. SPECIAL ATTENTION MUST BE GIVEN TO SEALING AROUND PIPES AND STRUCTURES. COMPACT INTO A NOTCH IN THE SUBGRADE AND HAND COMPACT.

EMERGENCY SPILLWAY:

NOT TO SCALE

EMERGENCY SPILLWAY DESIGN DATA TABLE					
SWM FACILITY I.D.	SETTLED TOP OF EMBANKMENT ELEVATION	INV. OF EMERGENCY SPILLWAY	WIDTH OF EMERGENCY SPILLWAY (FT)	100-YR WSE ELEVATION	FREEBOARD (FT)
1	468.00	466.00	12	466.03	1.97
2	449.00	447.10	25	447.68	1.32



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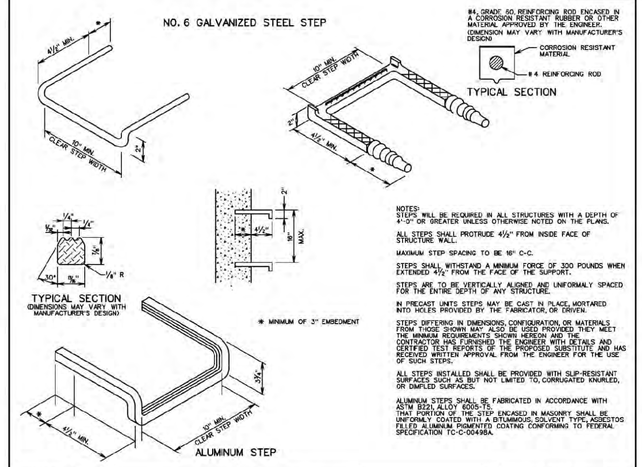
2016 ROAD & BRIDGE STANDARDS

ST-1



NOTES:
STEPS WILL BE REQUIRED IN ALL STRUCTURES WITH A DEPTH OF 4'-0" OR GREATER UNLESS OTHERWISE NOTED ON THE PLANS.

ALL STEPS SHALL PROTRUDE 4½" FROM INSIDE FACE OF STRUCTURE WALL.

MAXIMUM STEP SPACING TO BE 16" C-C.

STEPS SHALL WITHSTAND A MINIMUM FORCE OF 300 POUNDS WHEN EXTENDED 4½" FROM THE FACE OF THE SUPPORT.

STEPS ARE TO BE VERTICALLY ALIGNED AND UNIFORMALY SPACED FOR THE ENTIRE DEPTH OF ANY STRUCTURE.

IN PRECAST UNITS STEPS MAY BE CAST IN PLACE, MORTARED INTO HOLES PROVIDED BY THE FABRICATOR, OR DRIVEN.

STEPS DIFFERING IN DIMENSIONS, CONFIGURATION, OR MATERIALS FROM THOSE SHOWN MAY ALSO BE USED PROVIDED THEY MEET THE MINIMUM REQUIREMENTS SHOWN HEREON AND THE CONTRACTOR HAS FURNISHED THE ENGINEER WITH DETAILS AND CERTIFIED TEST REPORTS OF THE PROPOSED SUBSTITUTE AND HAS RECEIVED WRITTEN APPROVAL FROM THE ENGINEER FOR THE USE OF SUCH STEPS.

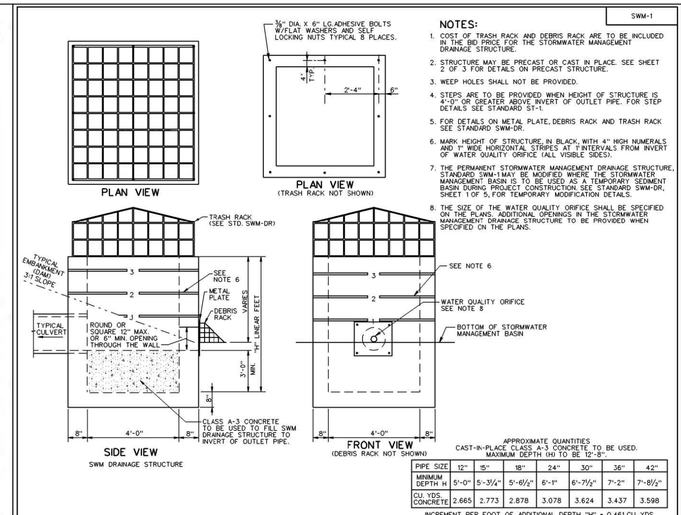
ALL STEPS INSTALLED SHALL BE PROVIDED WITH SLIP-RESISTANT SURFACES SUCH AS BUT NOT LIMITED TO, CORRUGATED KNURLED, OR DIMPLED SURFACES.

ALUMINUM STEPS SHALL BE FABRICATED IN ACCORDANCE WITH ASTM B221, ALLOY 6005-T5.
THAT PORTION OF THE STEP ENCASED IN MASONRY SHALL BE UNIFORMLY COATED WITH A BITUMINOUS, SOLVENT TYPE, ASBESTOS FILLED ALUMINUM PIGMENTED COATING CONFORMING TO FEDERAL SPECIFICATION TT-C-00498A.

SPECIFICATION REFERENCE	STANDARD STEP VIRGINIA DEPARTMENT OF TRANSPORTATION	VDOT ROAD AND BRIDGE STANDARDS	
		REVISION DATE	SHEET 1 OF 1 106.09

2016 ROAD & BRIDGE STANDARDS

SWM-1



NOTES:
1. COST OF TRASH RACK AND DEBRIS RACK ARE TO BE INCLUDED IN THE BID PRICE FOR THE STORMWATER MANAGEMENT DRAINAGE STRUCTURE.
2. STRUCTURE MAY BE PRECAST OR CAST IN PLACE. SEE SHEET 2 OF 3 FOR DETAILS ON PRECAST STRUCTURE.
3. WEEP HOLES SHALL NOT BE PROVIDED.
4. STEPS ARE TO BE PROVIDED WHEN HEIGHT OF STRUCTURE IS 4'-0" OR GREATER ABOVE INVERT OF OUTLET PIPE. FOR STEP DETAILS SEE STANDARD ST-1.
5. FOR DETAILS ON METAL PLATE, DEBRIS RACK AND TRASH RACK SEE STANDARD SWM-DR.
6. MARK HEIGHT OF STRUCTURE, IN BLACK, WITH 4" HIGH NUMERALS AND 1" WIDE HORIZONTAL STRIPES AT 1'INTERVALS FROM INVERT OF WATER QUALITY ORIFICE (ALL VISIBLE SIDES).
7. THE PERMANENT STORMWATER MANAGEMENT DRAINAGE STRUCTURE, STANDARD SWM-1 MAY BE MODIFIED WHERE THE STORMWATER MANAGEMENT BASIN IS TO BE USED AS A TEMPORARY SEDIMENT BASIN DURING PROJECT CONSTRUCTION. SEE STANDARD SWM-DR, SHEET 1 OF 5, FOR TEMPORARY MODIFICATION DETAILS.
8. THE SIZE OF THE WATER QUALITY ORIFICE SHALL BE SPECIFIED ON THE PLANS. ADDITIONAL OPENINGS IN THE STORMWATER DRAINAGE STRUCTURE TO BE PROVIDED WHEN SPECIFIED ON THE PLANS.

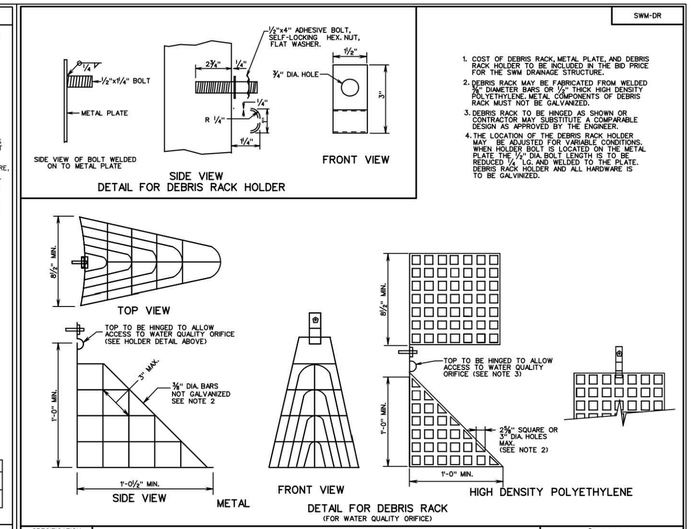
APPROXIMATE QUANTITIES
CAST-IN-PLACE CLASS A-3 CONCRETE TO BE USED.
MAXIMUM DEPTH (H) TO BE 12'-0".

PIPE SIZE	12"	15"	18"	24"	30"	36"	42"
MINIMUM DEPTH H	5'-0"	5'-3½"	5'-6½"	6'-1"	6'-7½"	7'-2"	7'-8½"
CU. YDS. CONCRETE	2.665	2.773	2.878	3.078	3.624	3.437	3.598

INCREMENT PER FOOT OF ADDITIONAL DEPTH "H" = 0.461 CU. YDS.

SPECIFICATION REFERENCE	CAST IN PLACE STORMWATER MANAGEMENT DRAINAGE STRUCTURE VIRGINIA DEPARTMENT OF TRANSPORTATION	VDOT ROAD AND BRIDGE STANDARDS	
302		REVISION DATE 08/10	SHEET 1 OF 3 114.01

SWM-DR

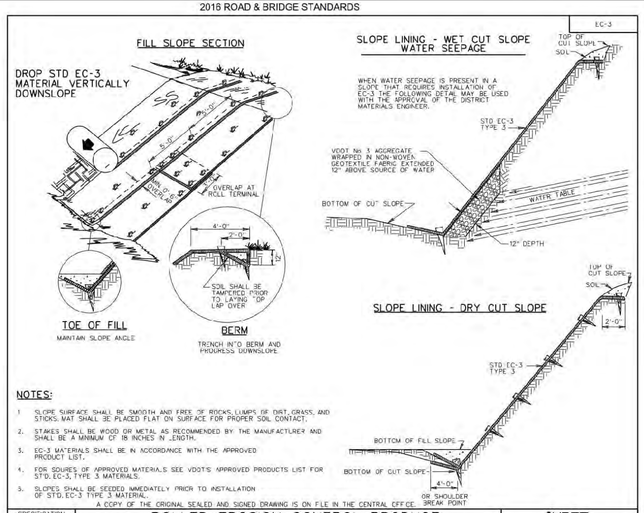


1. COST OF DEBRIS RACK, METAL PLATE, AND DEBRIS RACK HOLDER TO BE INCLUDED IN THE BID PRICE FOR THE SWM DRAINAGE STRUCTURE.
2. DEBRIS RACK MAY BE FABRICATED FROM WELDED ¾" DIAMETER BARS OR ½" THICK HIGH DENSITY POLYETHYLENE. METAL COMPONENTS OF DEBRIS RACK MUST NOT BE GALVANIZED.
3. DEBRIS RACK TO BE HINGED AS SHOWN OR CONTRACTOR MAY SUBSTITUTE A COMPARABLE DESIGN AS APPROVED BY THE ENGINEER.
4. THE LOCATION OF THE DEBRIS RACK HOLDER MAY BE ADJUSTED FOR VARIABLE CONDITIONS. WHEN HOLDER BOLT IS LOCATED ON THE METAL PLATE THE ½" DIA. BOLT LENGTH IS TO BE REDUCED ¼" LG. AND WELDED TO THE PLATE. DEBRIS RACK HOLDER AND ALL HARDWARE IS TO BE GALVANIZED.

SPECIFICATION REFERENCE	STORMWATER MANAGEMENT (SWM) DETAILS DEBRIS RACK, METAL PLATE, WATER QUALITY ORIFICE, CONCRETE CRADLE (FOR SWM DRAINAGE STRUCTURES, SWM RISER PIPES AND SWM DAMS) VIRGINIA DEPARTMENT OF TRANSPORTATION	VDOT ROAD AND BRIDGE STANDARDS	
302		REVISION DATE	SHEET 2 OF 5 114.05

2016 ROAD & BRIDGE STANDARDS

EC-3

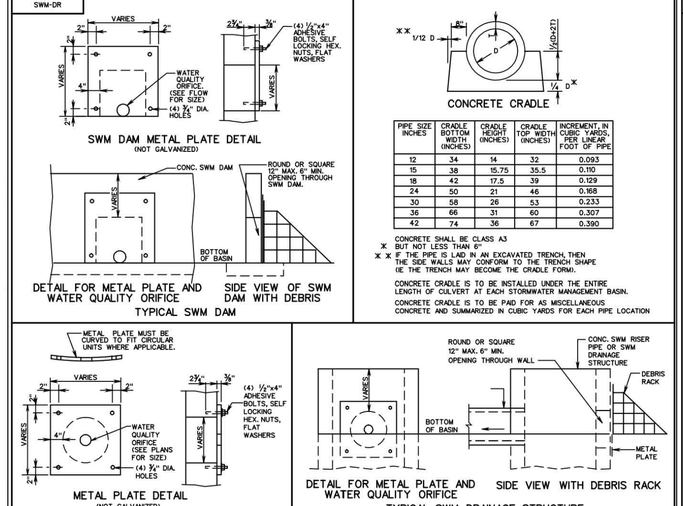


NOTES:
1. SLOPE SURFACE SHALL BE SMOOTH AND FREE OF ROCKS, LUMPS OF DIRT, GRASS, AND STICKS. MAT SHALL BE PLACED FLAT ON SURFACE FOR PROPER SOIL CONTACT.
2. STAKES SHALL BE WOOD OR METAL AS RECOMMENDED BY THE MANUFACTURER AND SHALL BE A MINIMUM OF 18 INCHES IN LENGTH.
3. EC-3 MATERIALS SHALL BE IN ACCORDANCE WITH THE APPROVED PRODUCT LIST.
4. FOR SOURES OF APPROVED MATERIALS SEE VDOT'S APPROVED PRODUCTS LIST FOR STD. EC-3, TYPE 3 MATERIALS.
5. SLOPES SHALL BE SEEDED IMMEDIATELY PRIOR TO INSTALLATION OF STD. EC-3 TYPE 3 MATERIAL.
A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE

SPECIFICATION REFERENCE	ROLLED EROSION CONTROL PRODUCT SOIL STABILIZATION MAT (PERMANENT SLOPE INSTALLATION) VIRGINIA DEPARTMENT OF TRANSPORTATION	VDOT ROAD AND BRIDGE STANDARDS	
244 606		REVISION DATE 07/16	SHEET 3 OF 3 113.05

2016 ROAD & BRIDGE STANDARDS

SWM-DR



PIPE SIZE INCHES	CRADLE BOTTOM WIDTH (INCHES)	CRADLE HEIGHT (INCHES)	CRADLE TOP WIDTH (INCHES)	INCREMENT, IN CUBIC YARDS PER LINEAR FOOT OF PIPE
12	34	14	32	0.093
15	38	15.75	35.5	0.110
18	42	17.5	39	0.129
24	50	21	46	0.168
30	58	26	53	0.233
36	66	31	60	0.307
42	74	36	67	0.390

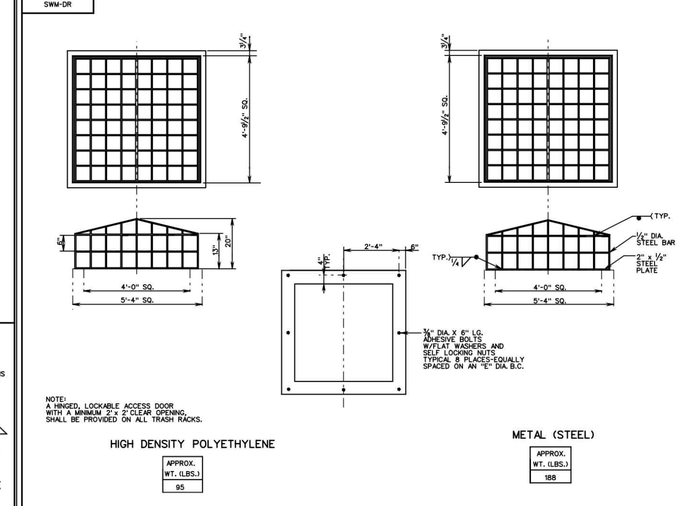
CONCRETE SHALL BE CLASS A3
* BUT NOT LESS THAN 6"
** IF THE PIPE IS LAID IN AN EXCAVATED TRENCH, THEN THE SIDE WALLS MAY CONFORM TO THE TRENCH SHAPE (IE THE TRENCH MAY BECOME THE CRADLE FORM).

CONCRETE CRADLE IS TO BE INSTALLED UNDER THE ENTIRE LENGTH OF CULVERT AT EACH STORMWATER MANAGEMENT BASIN.

CONCRETE CRADLE IS TO BE PAID FOR AS MISCELLANEOUS CONCRETE AND SUMMARIZED IN CUBIC YARDS FOR EACH PIPE LOCATION

VDOT ROAD AND BRIDGE STANDARDS		STORMWATER MANAGEMENT (SWM) DETAILS DEBRIS RACK, METAL PLATE, WATER QUALITY ORIFICE, CONCRETE CRADLE (FOR SWM DRAINAGE STRUCTURES, SWM RISER PIPES AND SWM DAMS) VIRGINIA DEPARTMENT OF TRANSPORTATION	SPECIFICATION REFERENCE
SHEET 3 OF 5 114.06	REVISION DATE		302

SWM-DR



VDOT ROAD AND BRIDGE STANDARDS		STORMWATER MANAGEMENT DETAILS TRASH RACK FOR SWM DRAINAGE STRUCTURES VIRGINIA DEPARTMENT OF TRANSPORTATION	SPECIFICATION REFERENCE
SHEET 5 OF 5 114.08	REVISION DATE		302

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JASON P. GERHART REGISTERED PROFESSIONAL ENGINEER No. 19127 STATE OF WEST VIRGINIA 6-24-24

SEAL:

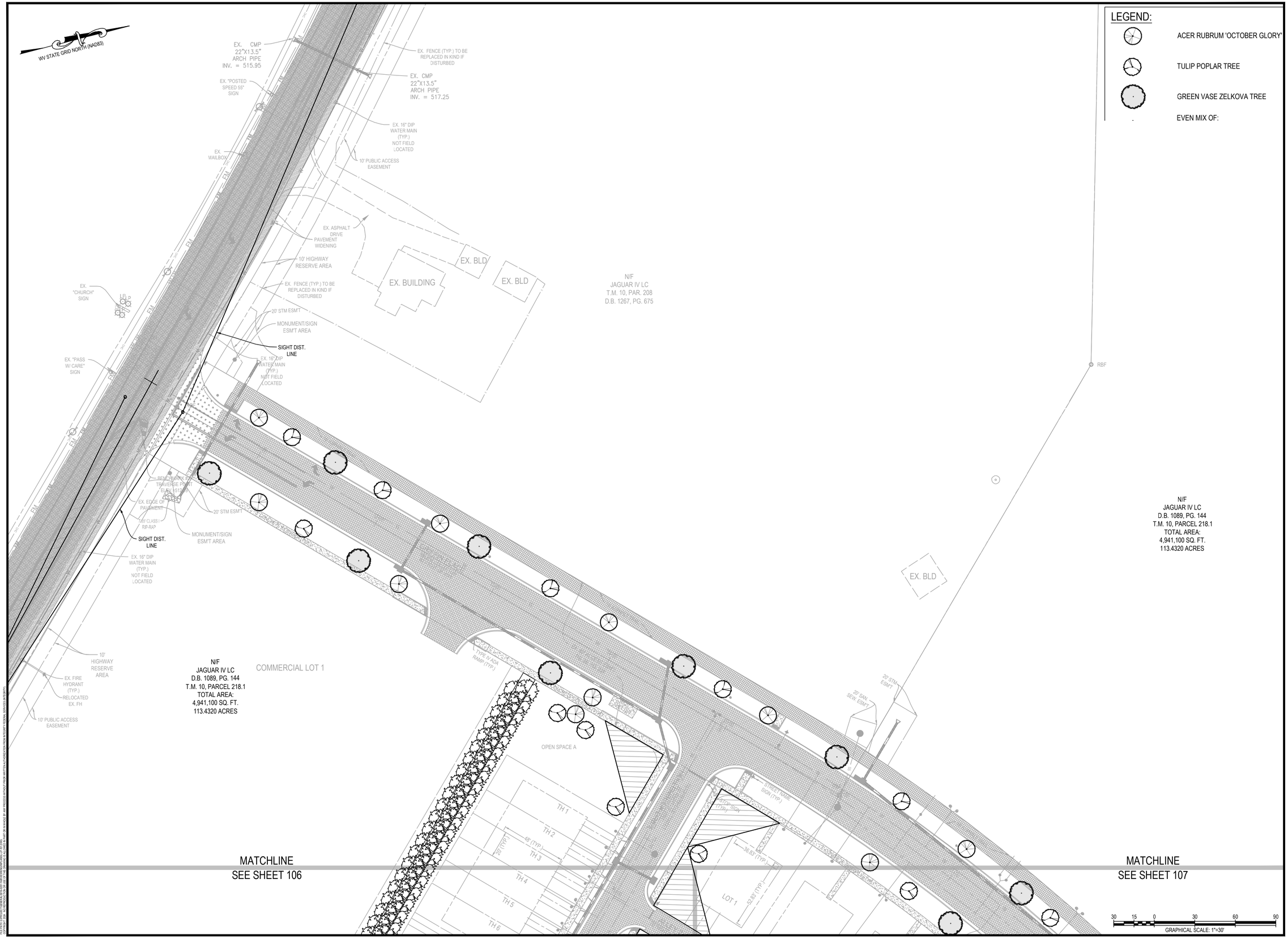
REVISIONS
1. 09/05/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

SWM NOTES AND DETAILS

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: N/A VERT.: N/A
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-CJ-701.DWG	
NCS:	
SHEET:	104 OF 119



LEGEND:

- ACER RUBRUM 'OCTOBER GLORY'
- TULIP POPLAR TREE
- GREEN VASE ZELKOVA TREE
- EVEN MIX OF:

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1-24-25

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LANDSCAPE PLAN

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG.208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

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DATE:	APRIL 2024
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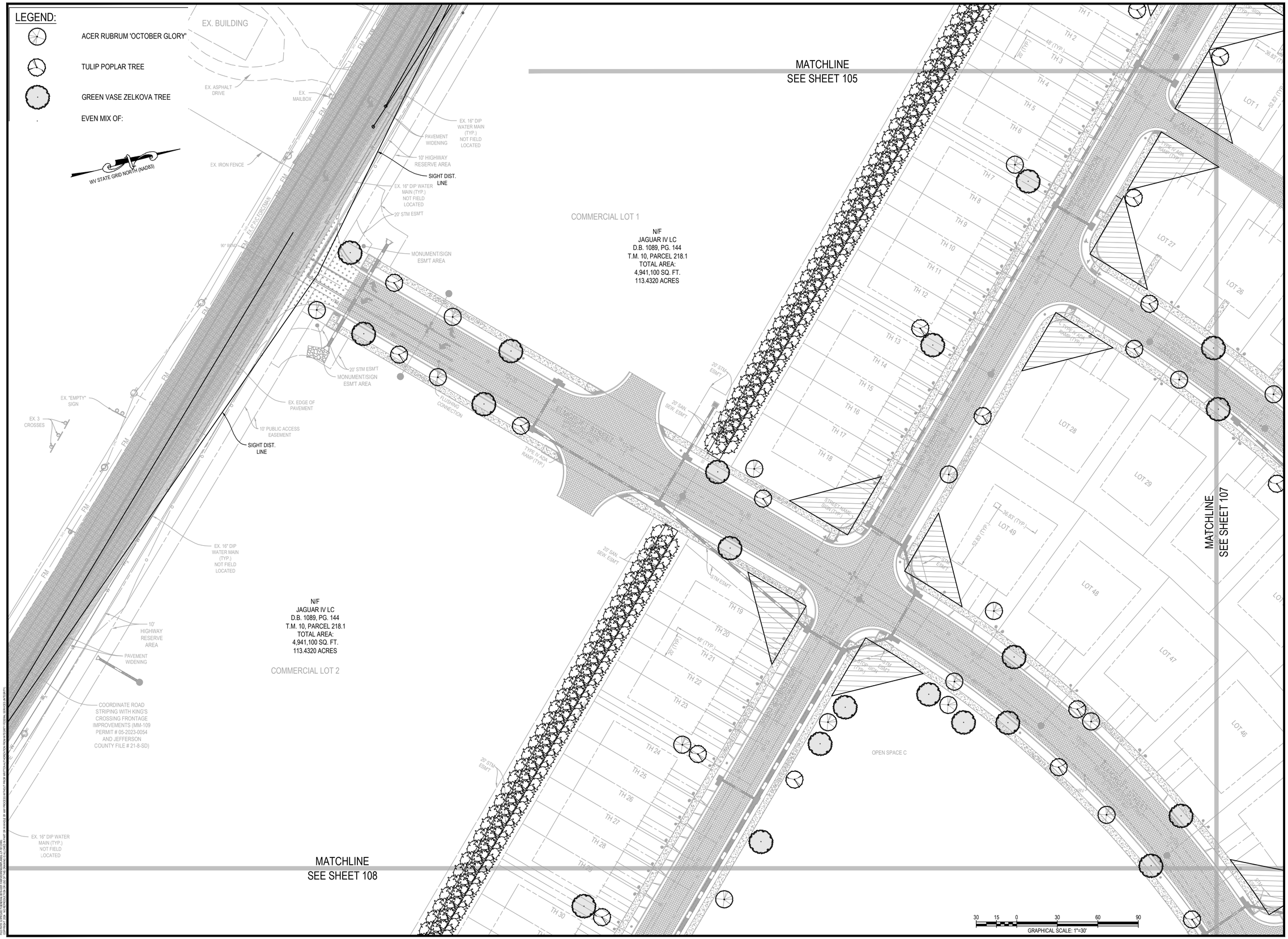
CADD: L-LP-101.DWG	
NCS:	
SHEET:	105 OF 119



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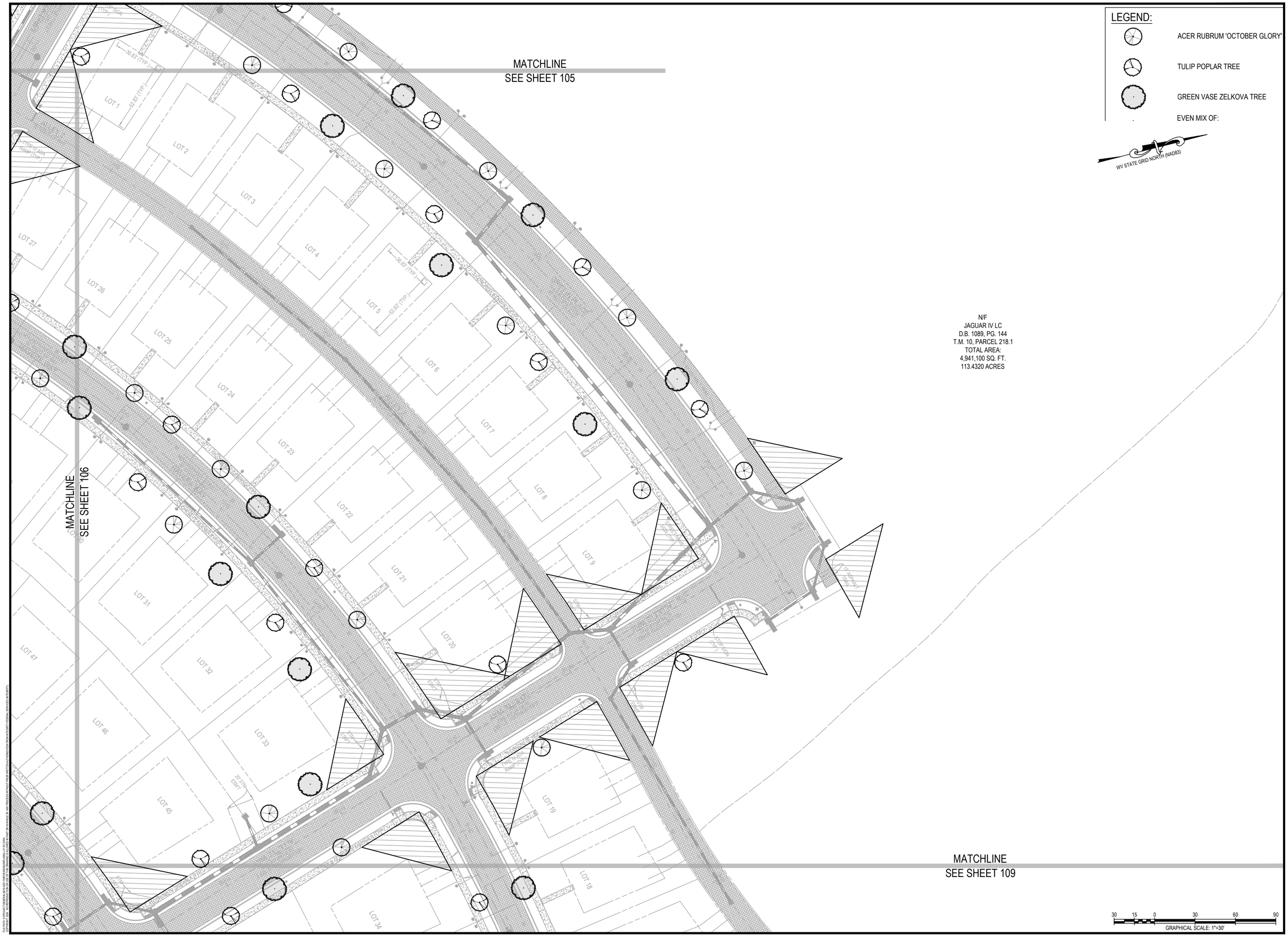

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AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

TAX MAP 10, PARCELS 218.1 AND 208: D.B. 1089, PG. 144 AND D.B. 1267, PG.208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

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DRAWN: TME	CHECK: RPP
CADD: L-LP-101.DWG	
NCS:	
SHEET:	107 OF 119

LEGEND:

ACER RUBRUM 'OCTOBER GLORY'

TULIP POPLAR TREE

GREEN VASE ZELKOVA TREE

EVEN MIX OF:

WV STATE GRID NORTH (NAD83)

MATCHLINE
SEE SHEET 106

COMMUNITY PARK

BENCH (TYP.)

OPEN SPACE C

PLAYGROUND PER COA

PAVILLION W/ ELEC., PICNIC TABLES AND BBQ GRILLS

COMMERCIAL LOT 2

N/F
JAGUAR IV LC
D.B. 1089, PG. 144
T.M. 10, PARCEL 218.1
TOTAL AREA:
4,941,100 SQ. FT.
113.4320 ACRES

EX. GRAVEL DRIVE (TYP.)

EX. RIGHT TO USE TO CITY OF CHARLES TOWN DB. 1135, PG. 622

EX. CHAIN LINK FENCE (TYP.) TO REMAIN

OPEN SPACE B

N/F
CITY OF CHARLES TOWN
T.M. 10, PAR. 218.2
D.B. 1135, PG. 622

20' STM ESMT

SWM AREA 1

10' CLASS I RIP-RAP

EX. BUILDING

STM ESMT

TYPE I RAMP

STREET NAME SIGN (TYP.)

36.83' (TYP.)

52.83' (TYP.)

20' STM ESMT

MATCHLINE
SEE SHEET 109

MATCHLINE
SEE SHEET 110

LOT 61 LOT 60 LOT 59 LOT 58 LOT 57 LOT 56 LOT 55 LOT 54 LOT 53 LOT 52 LOT 51 LOT 50 LOT 62 LOT 63 LOT 64 LOT 88 LOT 87 LOT 86 LOT 85 LOT 84 LOT 83 LOT 82 LOT 89 LOT 90 LOT 91 LOT 92 LOT 93 LOT 94 LOT 95

TH 27 TH 28 TH 29 TH 30 TH 31 TH 32 TH 33 TH 34 TH 35 TH 36 TH 37 TH 38 TH 39 TH 40 TH 41 TH 42 TH 43 TH 44 TH 45

48' (TYP.) 26' (TYP.)

30 15 0 30 60 90
GRAPHICAL SCALE: 1"=30'

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AVALON - SECTION 1

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PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

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CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

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DRAWN: TME	CHECK: RPP
CADD: L-LP-101.DWG	
NCS:	
SHEET:	108 OF 119

LEGEND:

- ACER RUBRUM 'OCTOBER GLORY'
- TULIP POPLAR TREE
- GREEN VASE ZELKOVA TREE
- EVEN MIX OF:

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JEFFERSON COUNTY, WEST VIRGINIA

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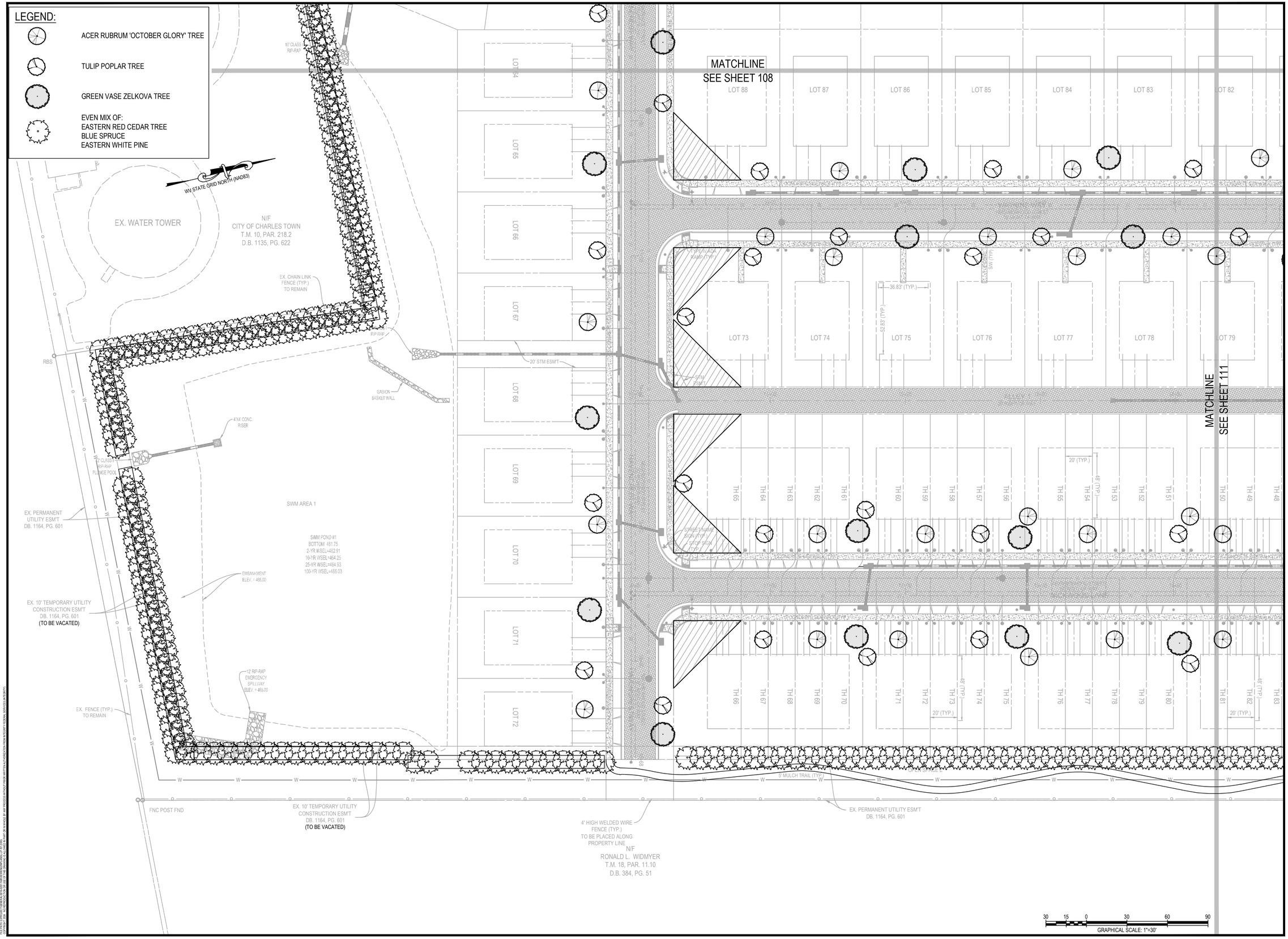

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JEFFERSON COUNTY, WEST VIRGINIA

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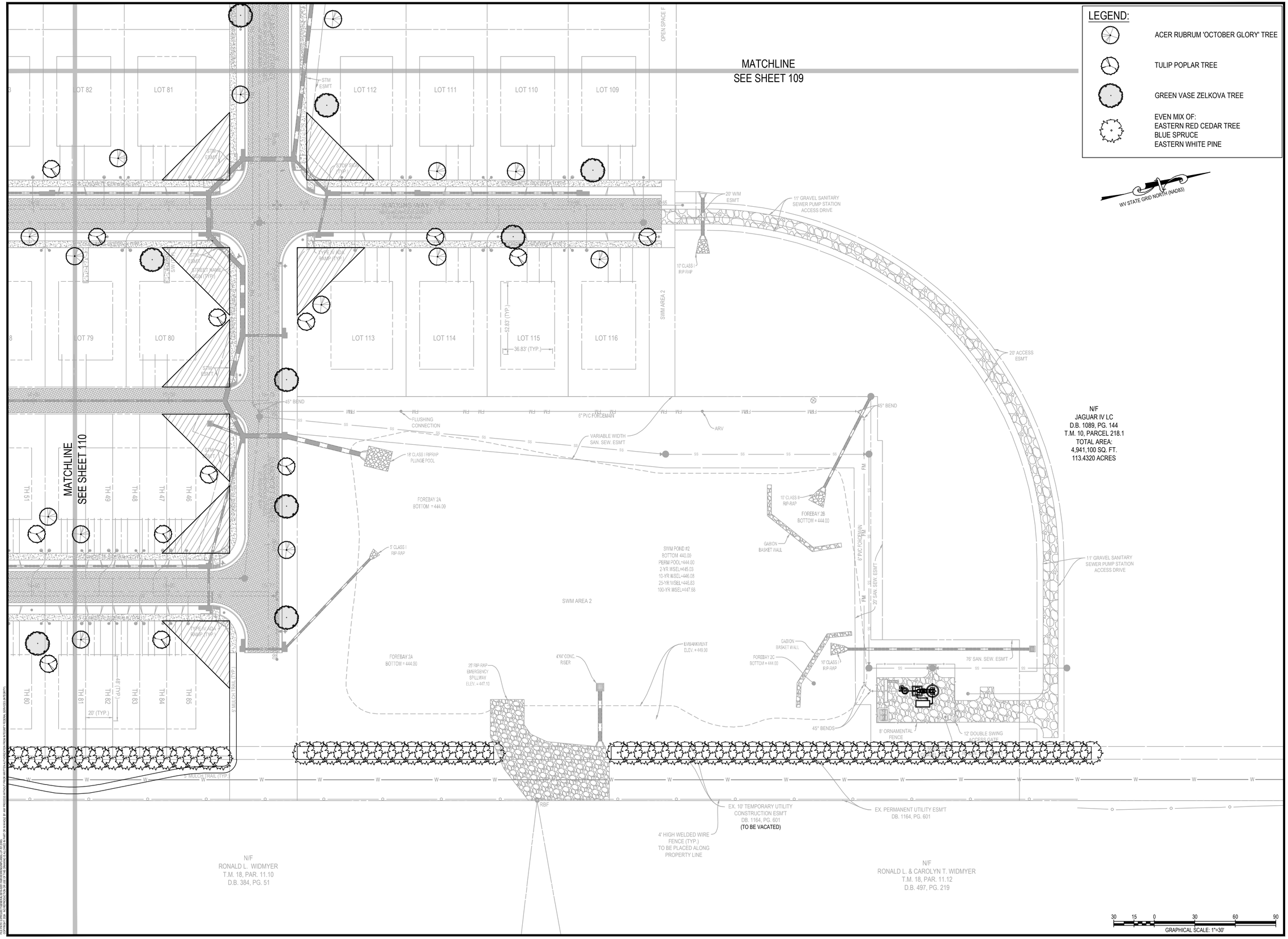

LEGEND:

- ACER RUBRUM 'OCTOBER GLORY' TREE
- TULIP POPLAR TREE
- GREEN VASE ZELKOVA TREE
- EVEN MIX OF:
  EASTERN RED CEDAR TREE
  BLUE SPRUCE
  EASTERN WHITE PINE

WV STATE GRID NORTH (NAD83)

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CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

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CADD: L-LP-101.DWG	
NCS:	
SHEET:	111 OF 119

FILE PATH: G:\PROJECT\5016\FAIRVIEW\DRAWINGS\LP-101.DWG
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Landscaping: Required and Provided

Street - Landscaping

Required	Total Street Frontage	# of Street Trees
1 Tree for every 50' of street frontage (SLDO 1333.16 2.a.)	16,772	336
Provided		**# of Street Trees**
		336

Planting Schedule Deciduous Shade Trees

Label	Quantity	Botanical Name	Common Name	Size (min.)	Container	Comments
AR	112	Acer rubrum 'October Glory'	October Glory Red Maple	2" Caliper	B&B	With Central Leader
GV	112	Green Vase Zelkova	Japanese zelkova	2" Caliper	B&B	
LL	112	Liriodendron tulipifera	tulip poplar	2" Caliper	B&B	

Buffer - Landscaping

Planting Schedule Evergreen Trees

Label	Quantity	Botanical Name	Common Name	Size (min.)	Container	Comments
JV	183	Juniperus Virginiana	Eastern Red Cedar	4' Height	B&B	
PP	183	Pice Pungens	Blue Spruce	4' Height	B&B	
PS	183	Pinus strobus	Eastern White Pine	4' Height	B&B	

Buffer - Tree Percentages

Required

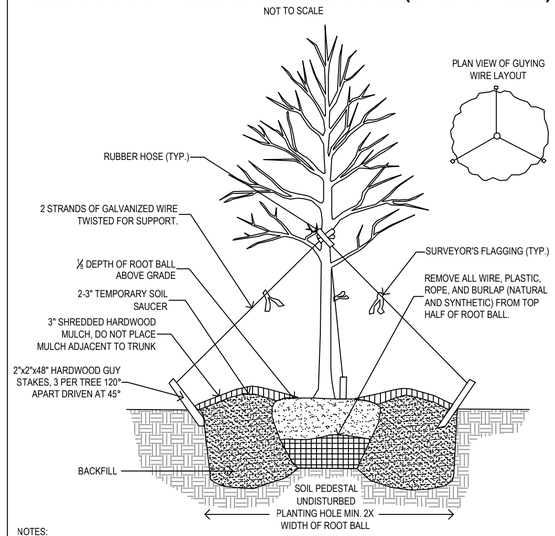
Not more than 40% of any one type or specie of tree shall be permitted. (SLDO 1333.15 J)

Provided

Label	Quantity	Percentage
JV	183	33.33%
PP	183	33.33%
PS	183	33.33%
Total	549	100.00%

DECIDUOUS TREE PLANTING DETAIL (OVER 3" CAL.)

NOT TO SCALE

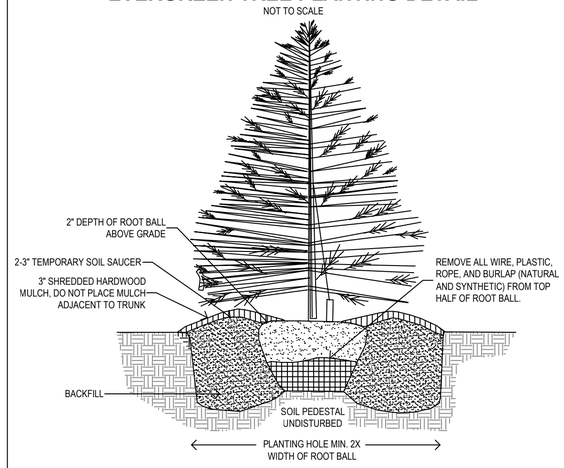


NOTES:

1. STAKING AND GUYING MAY BE REQUIRED TO COUNTER HIGH WINDS, SOIL SETTLEMENT, STEEP SLOPES, VANDALISM, OR OTHER CONDITIONS THREATENING TREE HEALTH OR SUITABLE GROWTH PATTERNS. STAKES TO BE DRIVEN INTO UNDISTURBED SOIL FOR STABILITY.

EVERGREEN TREE PLANTING DETAIL

NOT TO SCALE



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JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
1-24-25

SEAL:

REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST.V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

LANDSCAPE DETAILS

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

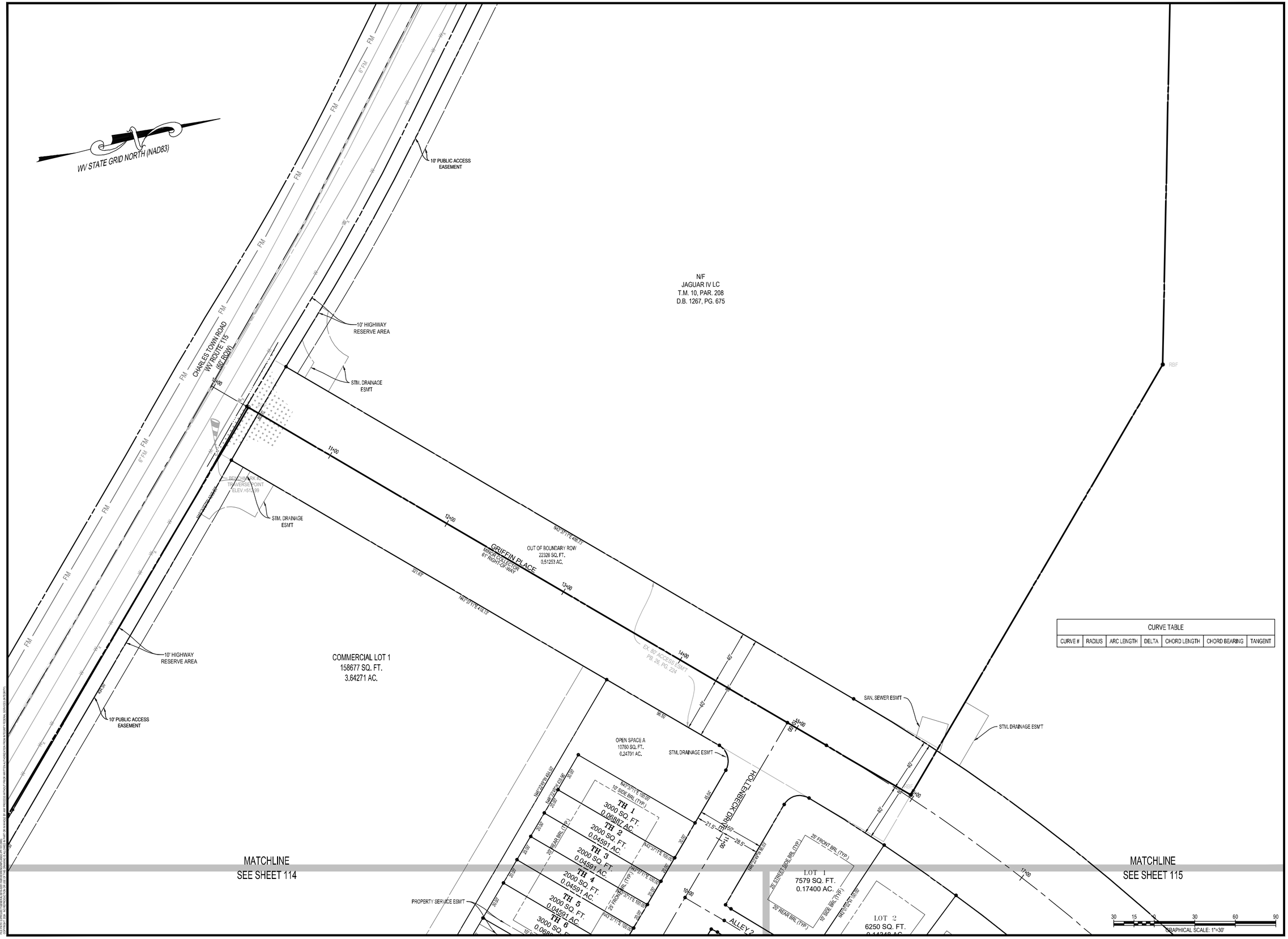
TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG.208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: N/A VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: L-LP-501.DWG	
NCS:	
SHEET:	112 OF 119



CURVE TABLE						
CURVE #	RADIUS	ARC LENGTH	DELTA	CHORD LENGTH	CHORD BEARING	TANGENT

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JASON P. GERHART
REGISTERED
No. 19127
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
1-24-25

SEAL:

REVISIONS

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2. 11/12/2024 - WVDOH DIST'V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

PRELIMINARY PLAT

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
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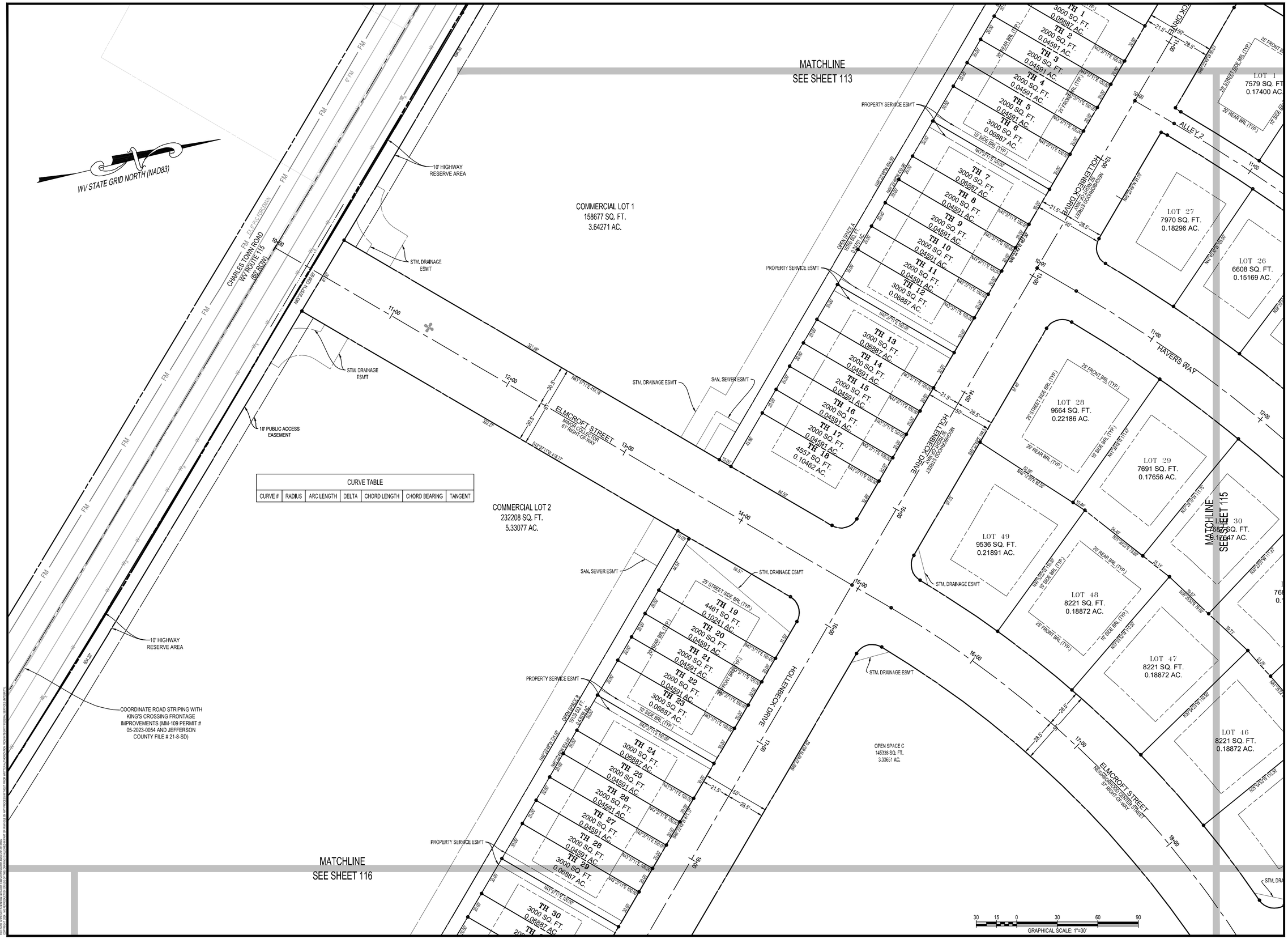
CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: 1" = 30' VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-PP-101.DWG	
NCS:	
SHEET:	113 OF 119



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SEAL: JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER

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PRELIMINARY PLAT

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JEFFERSON COUNTY, WEST VIRGINIA

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DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-PP-101.DWG	
NCS:	
SHEET:	114 OF 119

CURVE TABLE						
CURVE #	RADIUS	ARC LENGTH	DELTA	CHORD LENGTH	CHORD BEARING	TANGENT

GRAPHICAL SCALE: 1"=30'

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SEAL:

REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
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PRELIMINARY PLAT

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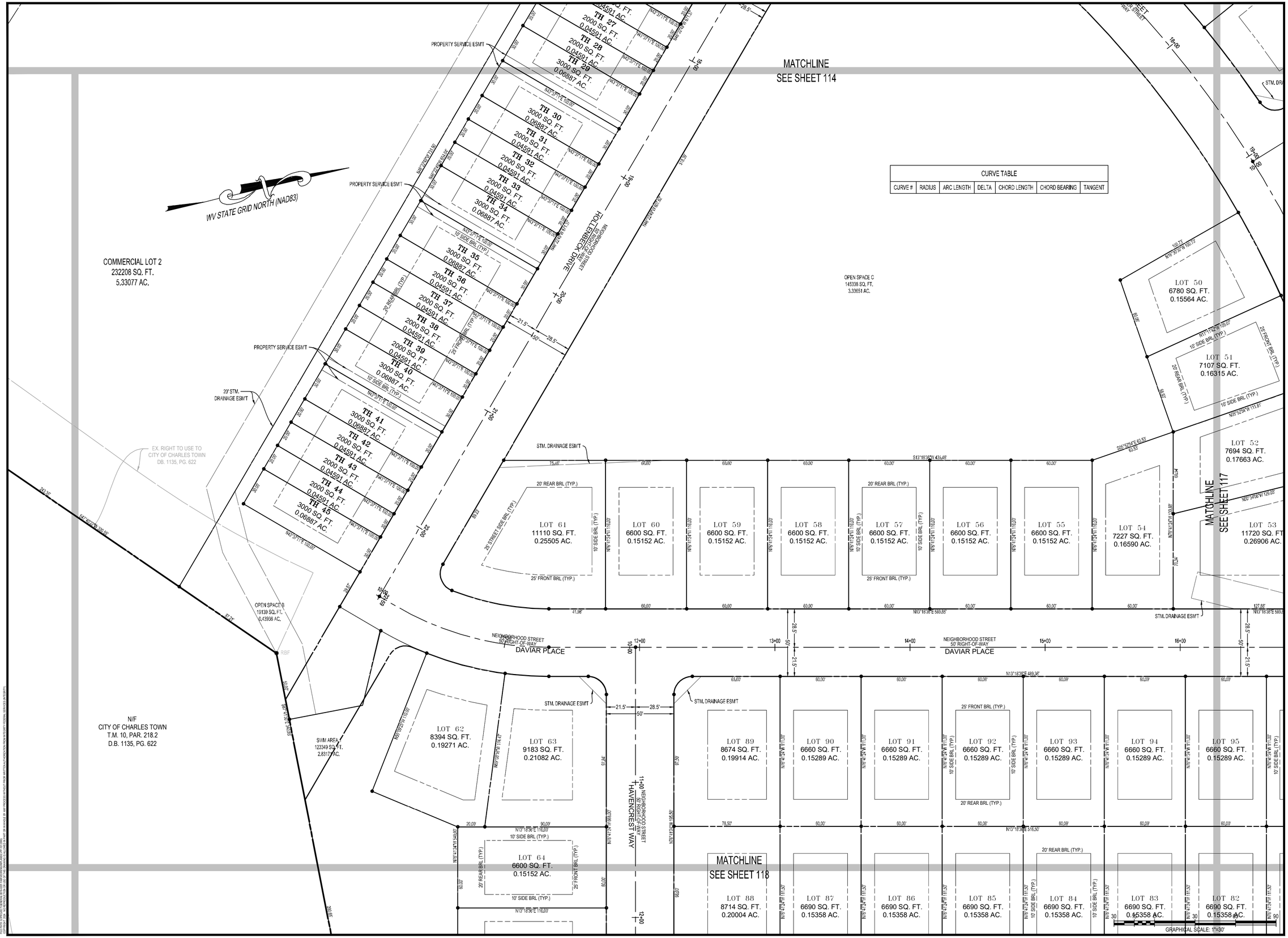
SHEET:	115 OF 119



CURVE TABLE						
CURVE #	RADIUS	ARC LENGTH	DELTA	CHORD LENGTH	CHORD BEARING	TANGENT

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JASON P. GERHART
REGISTERED
No. 19127
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
1-24-25

SEAL:

REVISIONS

1. 09/25/2024 - COUNTY COMMENTS
2. 11/12/2024 - WVDOH DIST V COMMENTS
3. 01/24/2025 - COUNTY COMMENTS

PRELIMINARY PLAT

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JEFFERSON COUNTY, WEST VIRGINIA

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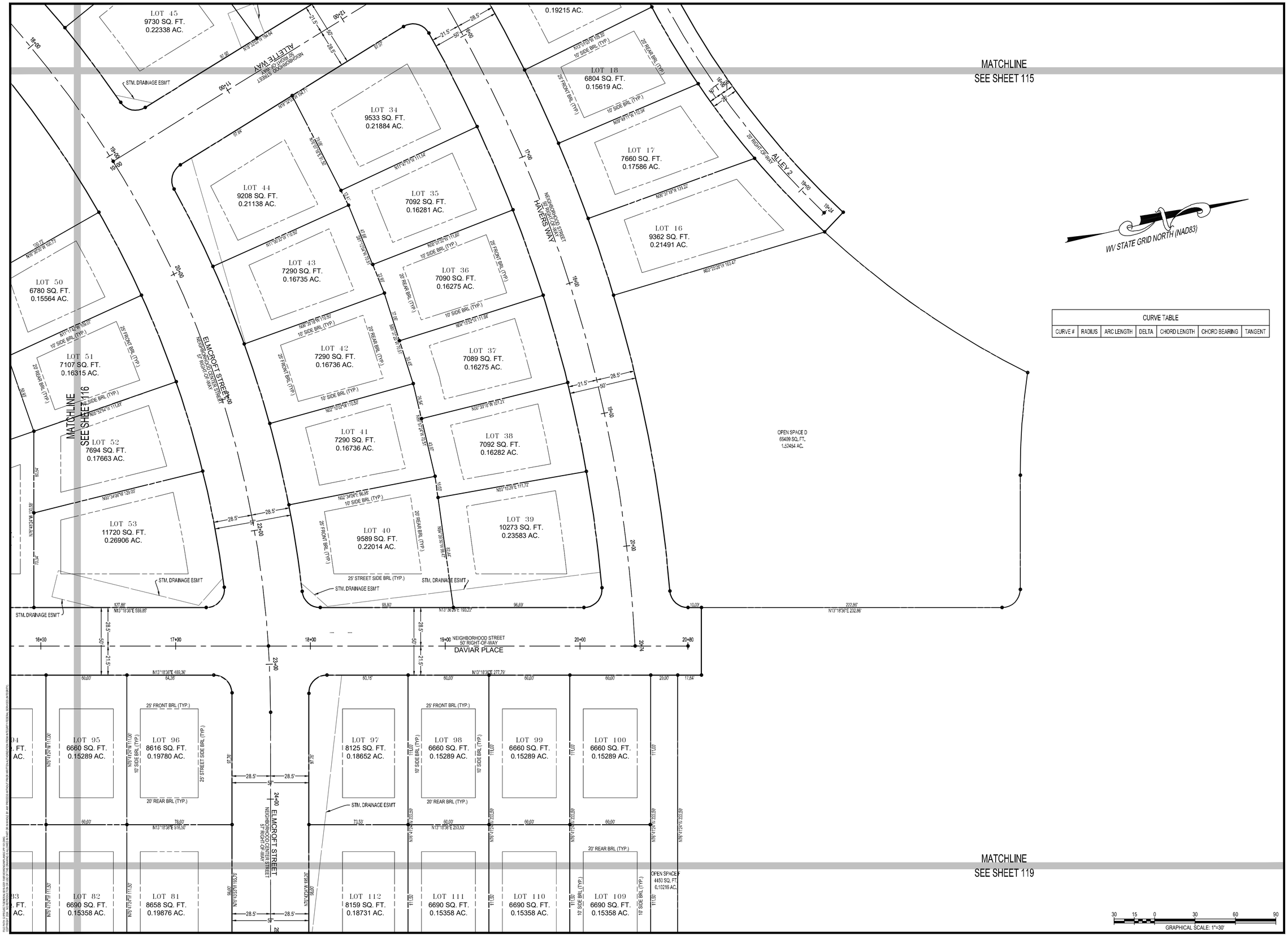
SHEET:	116 OF 119



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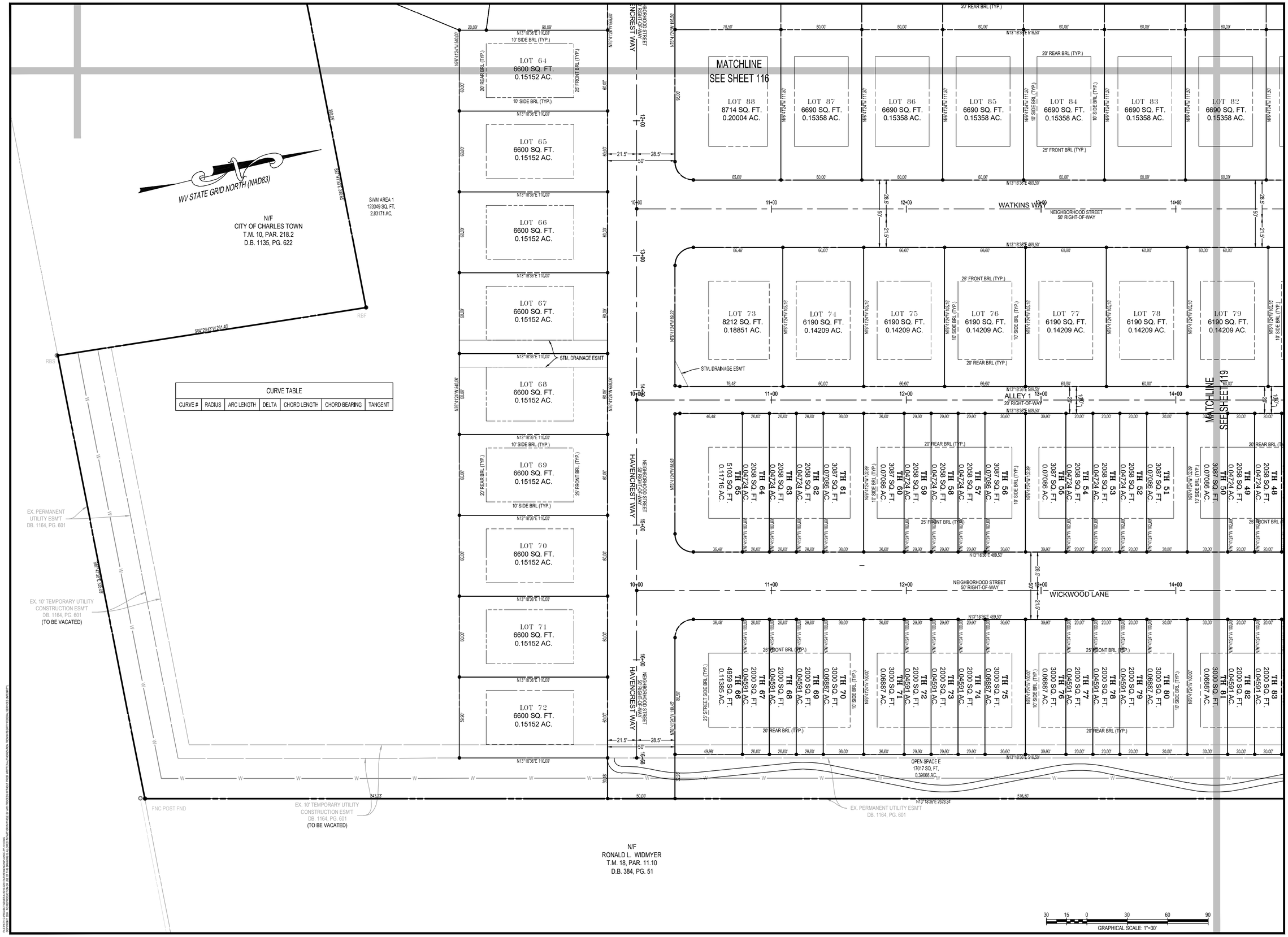
DRAWN: TME	CHECK: RPP
CADD: C-PP-101.DWG	
NCS:	
SHEET:	117 OF 119



CURVE TABLE						
CURVE #	RADIUS	ARC LENGTH	DELTA	CHORD LENGTH	CHORD BEARING	TANGENT

INTEGRITY FEDERAL SERVICES
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REVISIONS

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JEFFERSON COUNTY, WEST VIRGINIA

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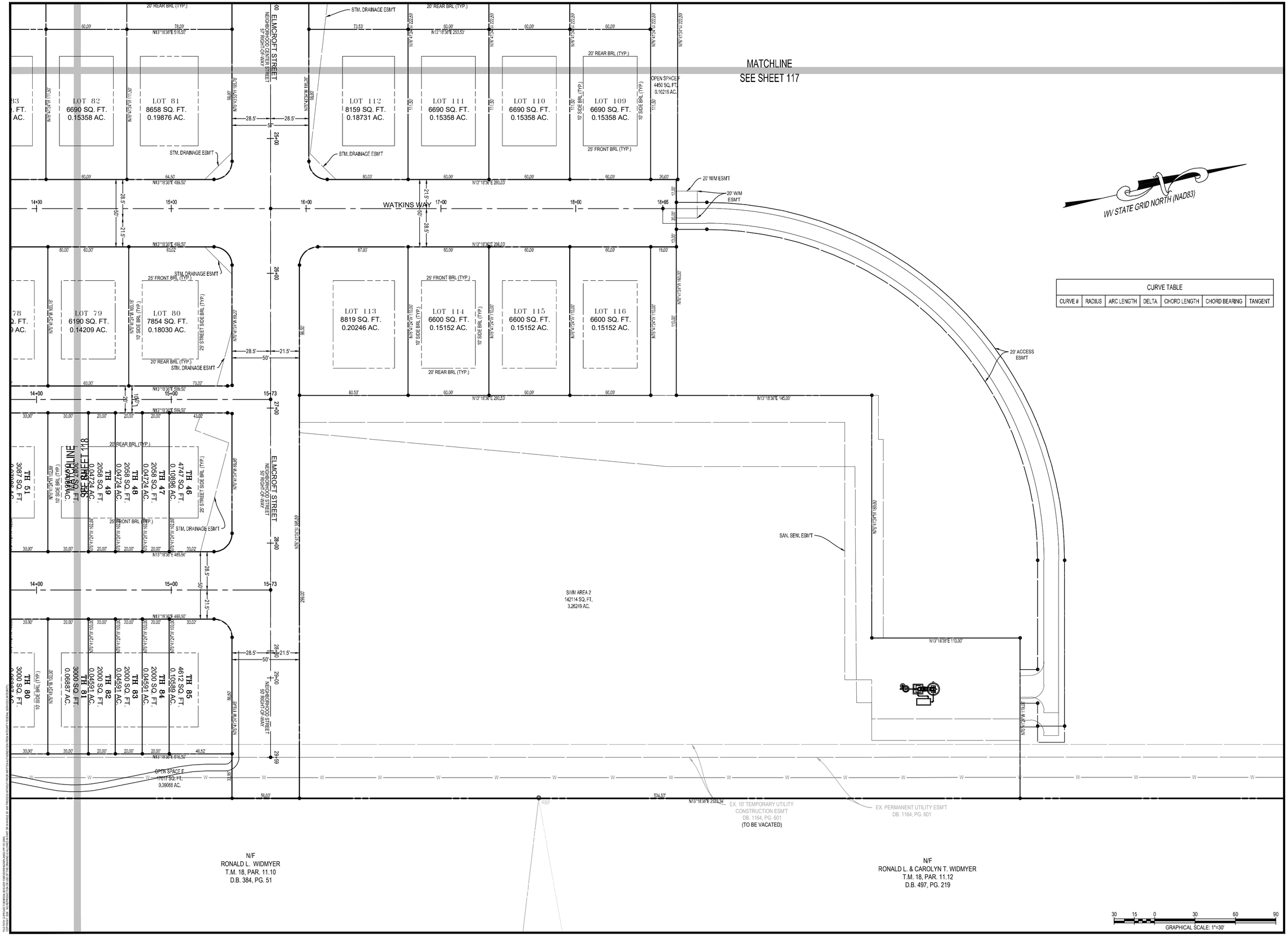
SHEET:	118 OF 119



CURVE TABLE

CURVE #	RADIUS	ARC LENGTH	DELTA	CHORD LENGTH	CHORD BEARING	TANGENT

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SEAL: JASON P. GERHART REGISTERED No. 19127 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER 1-24-25

REVISIONS

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2. 11/12/2024 - HVDOH DIST LV COMMENTS
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PRELIMINARY PLAT

AVALON - SECTION 1
(FORMERLY FAIRVIEW)
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CHARLES TOWN TAX DISTRICT
JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #SLD2024-03

SCALE:	HORIZ.: 1" = 30' VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: C-PP-101.DWG	
NCS:	
SHEET:	119 OF 119

LEGEND:

- LIGHTPOLE
- .5 FOOTCANDLE (fc) COVERAGE
- 1 FOOTCANDLE (FC) COVERAGE

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SEAL:

REVISIONS

EXHIBIT: OVERALL LIGHTING PLAN

AVALON - SECTION 1

(FORMERLY FAIRVIEW)

PRELIMINARY SUBDIVISION / LAND DEVELOPMENT PLAT

TAX MAP 10, PARCELS 218.1 AND 208; D.B. 1089, PG. 144 AND D.B. 1267, PG. 208

CHARLES TOWN TAX DISTRICT

JEFFERSON COUNTY, WEST VIRGINIA

C.T. FILE #XXX-XX

SCALE:	HORIZ.: 1" = 150' VERT.:
DATE:	APRIL 2024
JOB:	5016-0201
DRAWN: TME	CHECK: RPP
CADD: 5016-0201_C-LIGHT.DWG	
NCS:	
SHEET:	1 OF 1

Bond

KNOW ALL MEN BY THESE PRESENTS: BOND NO. 0862861

That LGI Homes - West Virginia, LLC
Address 1450 Lake Robbins Drive, Suite 430, The Woodlands, TX 77380 Phone No. 301-356-5970
as principal, and Harco National Insurance Company, a corporation, organized and existing under the laws of the State of North Carolina, with principal office at 4200 Six Forks Rd, Suite 1400, Raleigh, NC 27609, and duly licensed and authorized to do business in the State of West Virginia, as surety, are held and firmly bound unto the State of West Virginia in the just and full sum of One Hundred Twenty Five Thousand and 00/100 Dollars ($ 125,000.00), for the payment whereof well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally by these presents.

WITNESS the signatures and seals of said principal and surety, both thereunto duly authorized this 9th day of January, 2025.

The condition of the above obligation is such, that whereas, the above bound principal has filed with West Virginia Division of Highways its (his, its, etc.) written application for a permit to install

To construct and maintain (2) entrances to WV-115, for the Avalon Subdivision, (1) at MM 5.400 and (1) at MM 5.522, as per approved plans.

along bridges, roads and highways in the State of West Virginia, in manner and form prescribed by The West Virginia Division of Highways, which may result in damage to said bridges, roads, highways, shoulders, and ditches thereof.

Now, if the said LGI Homes - West Virginia, LLC principal, shall properly repair any and all damages that may result to said bridges, roads, highways, shoulders, and ditches, upon which it may perform work, to as good condition as when same was entered upon, as determined by the District Engineer of The West Virginia Division of Highways having jurisdiction over the work permitted, or pay damages therefore in an amount sufficient to properly restore such bridges, roads, highways, shoulders, and ditches to such original condition; and shall reimburse The West Virginia Division of Highways for all inspection costs incurred by it in connection with said work and repairs of such damages and faithfully comply with all terms, provisions and conditions of said permit and save harmless West Virginia Division of Highways and the State of West Virginia from all losses resulting from the conduct of said work or repairs; then this obligation to be void, otherwise to remain in full force and effect.

By execution of this bond the Principal and the Surety affirm that the text above is a verbatim reproduction of The West Virginia Division of Highways Bond Form SM-6, Revised 5-19-05. Attached notarized signatures and Power-of-Attorney are a part of this contract.

(SEAL)

LGI Homes - West Virginia, LLC (SEAL)
A Corporation
By
Its Charles Merdian, Chief Financial Officer

(SEAL)

Harco National Insurance Company
A Corporation
By Grace J. Gray
Its Attorney-in-Fact

STATE OF Texas,
COUNTY OF Montgomery, TO-WIT:
I, Nicholas Sandoval, a Notary Public in and for the County and State aforesaid, do hereby certify that Charles Meridian, whose name is signed to the foregoing writing, bearing date the 9 day of January, 2025, has this day acknowledged the same before me in my said County and State.

Given under my hand this 9 day of January, 2025.
My commission expires March 13 2028.

Notary Public

NICHOLAS SANDOVAL
Notary ID #134805978
My Commission Expires
March 13, 2028

STATE OF Massachusetts,
COUNTY OF Berkshire, TO-WIT:
I, Donna M. Bishop, a Notary Public in and for the County and State aforesaid, do hereby certify that Grace J. Gray, who signed the foregoing writing bearing date the 9th day of January, 20 25, for _____, a corporation, has this day in my said County, before me, acknowledged the said writing to be the act and deed of said corporation.

Given under my hand this 9th day of January, 20 25.
My commission expires May 30, 2025.

Donna M Bishop
Notary Public

STATE OF _____,
COUNTY OF _____, TO-WIT:
I, _____, a Notary Public in and for the County and State aforesaid, do hereby certify that _____, who signed the foregoing writing bearing date the _____ day of _____, 20_____, for _____, a corporation, has this day in my said County, before me, acknowledged the said writing to be the act and deed of said corporation.

Given under my hand this _____ day of _____, 20 _____.
My commission expires _____.

Notary Public

POWER OF ATTORNEY

Bond # 0862861

HARCO NATIONAL INSURANCE COMPANY
INTERNATIONAL FIDELITY INSURANCE COMPANY

Member companies of IAT Insurance Group, Headquartered: 4200 Six Forks Rd, Suite 1400, Raleigh, NC 27609

KNOW ALL MEN BY THESE PRESENTS: That **HARCO NATIONAL INSURANCE COMPANY**, a corporation organized and existing under the laws of the State of Illinois, and **INTERNATIONAL FIDELITY INSURANCE COMPANY**, a corporation organized and existing under the laws of the State of New Jersey, and having their principal offices located respectively in the cities of Rolling Meadows, Illinois and Newark, New Jersey, do hereby constitute and appoint

ERIC P. PRATT, GRACE J. GRAY, KATHLEEN M. O'BRIEN, DONNA M. BISHOP

North Adams, MA

their true and lawful attorney(s)-in-fact to execute, seal and deliver for and on its behalf as surety, any and all bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof, which are or may be allowed, required or permitted by law, statute, rule, regulation, contract or otherwise, and the execution of such instrument(s) in pursuance of these presents, shall be as binding upon the said **HARCO NATIONAL INSURANCE COMPANY** and **INTERNATIONAL FIDELITY INSURANCE COMPANY**, as fully and amply, to all intents and purposes, as if the same had been duly executed and acknowledged by their regularly elected officers at their principal offices.

This Power of Attorney is executed, and may be revoked, pursuant to and by authority of the By-Laws of **HARCO NATIONAL INSURANCE COMPANY** and **INTERNATIONAL FIDELITY INSURANCE COMPANY** and is granted under and by authority of the following resolution adopted by the Board of Directors of **INTERNATIONAL FIDELITY INSURANCE COMPANY** at a meeting duly held on the 13th day of December, 2018 and by the Board of Directors of **HARCO NATIONAL INSURANCE COMPANY** at a meeting held on the 13th day of December, 2018.

"**RESOLVED**, that (1) the Chief Executive Officer, President, Executive Vice President, Senior Vice President, Vice President, or Secretary of the Corporation shall have the power to appoint, and to revoke the appointments of, Attorneys-in-Fact or agents with power and authority as defined or limited in their respective powers of attorney, and to execute on behalf of the Corporation and affix the Corporation's seal thereto, bonds, undertakings, recognizances, contracts of indemnity and other written obligations in the nature thereof or related thereto; and (2) any such Officers of the Corporation may appoint and revoke the appointments of joint-control custodians, agents for acceptance of process, and Attorneys-in-fact with authority to execute waivers and consents on behalf of the Corporation; and (3) the signature of any such Officer of the Corporation and the Corporation's seal may be affixed by facsimile to any power of attorney or certification given for the execution of any bond, undertaking, recognizance, contract of indemnity or other written obligation in the nature thereof or related thereto, such signature and seals when so used whether heretofore or hereafter, being hereby adopted by the Corporation as the original signature of such officer and the original seal of the Corporation, to be valid and binding upon the Corporation with the same force and effect as though manually affixed."

IN WITNESS WHEREOF, **HARCO NATIONAL INSURANCE COMPANY** and **INTERNATIONAL FIDELITY INSURANCE COMPANY** have each executed and attested these presents on this 31st day of December, 2024

INTERNATIONAL FIDELITY INSURANCE COMPANY CORPORATE SEAL 1904 NEW JERSEY

STATE OF NEW JERSEY
County of Essex

STATE OF ILLINOIS
County of Cook

HARCO NATIONAL INSURANCE COMPANY CORPORATE SEAL 1984 ILLINOIS

Kenneth Chapman
Executive Vice President, Harco National Insurance Company
and International Fidelity Insurance Company

On this 31st day of December, 2024, before me came the individual who executed the preceding instrument, to me personally known, and, being by me duly sworn, said he is the therein described and authorized officer of **HARCO NATIONAL INSURANCE COMPANY** and **INTERNATIONAL FIDELITY INSURANCE COMPANY**; that the seals affixed to said instrument are the Corporate Seals of said Companies; that the said Corporate Seals and his signature were duly affixed by order of the Boards of Directors of said Companies.

SHIRELLE A. OUTLEY My Comm. Exp. 04-04-2023 NOTARY PUBLIC No. 50079910 NEW JERSEY

IN TESTIMONY WHEREOF, I have hereunto set my hand affixed my Official Seal, at the City of Newark, New Jersey the day and year first above written.

Shirelle A. Outley a Notary Public of New Jersey
My Commission Expires April 4, 2023

CERTIFICATION

I, the undersigned officer of **HARCO NATIONAL INSURANCE COMPANY** and **INTERNATIONAL FIDELITY INSURANCE COMPANY** do hereby certify that I have compared the foregoing copy of the Power of Attorney and affidavit, and the copy of the Sections of the By-Laws of said Companies as set forth in said Power of Attorney, with the originals on file in the home office of said companies, and that the same are correct transcripts thereof, and of the whole of the said originals, and that the said Power of Attorney has not been revoked and is now in full force and effect.

IN TESTIMONY WHEREOF, I have hereunto set my hand on this day, January 09, 2025

A00757

Irene Martins, Assistant Secretary

Kimley»Horn

Memorandum

To: Jason Gerhart, P.E.
Project Manager
Integrity Federal Services
148 S. Queen St., Suite 201
Martinsburg, WV 25401

From: Mark Phillips, P.E.

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

Date: February 21, 2025

Subject: Avalon Section 1 Preliminary Plat Review – 4th Submission

This memorandum summarizes our review of the Preliminary Plat for the Fairview subdivision – Section 1 (dated January 24, 2025, prepared by Integrity Federal Services) for 102 single family detached units, 85 single family attached units, and associated infrastructure improvements on 55 acres. The site is currently zoned Neighborhood Residential.

Kimley-Horn's review of this application is limited to the Preliminary Plan and Plat and Application provided. Based upon our review, we have 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, Associate

Planning Commission
101 East Washington Street
Charles Town, WV 25414

SCHEDULED

AGENDA ITEM (ID #)

Meeting: 02/24/25
Department: Planning Commission
Category: Report
Initiator:

Public Hearing: *SLD2025-01* - Huntfield Revised Final Plans for Recreation Center

ATTACHMENTS:

- 1. Staff Report.pdf
- 2. Application.pdf
- 3. 2006 Huntfield Pool Plans.pdf
- 4. Revised Plan Set.pdf
- 5. KH Review.pdf
- 6. Huntfield COA.pdf

Final Plans Change Review

SLD2025-01

Date: For the February 24, 2025 Planning Commission meeting
Applicant: Matthew Monahan on behalf of DR Acquisitions LLC
Property Owner: DR Acquisitions LLC
Report by: James Newman, City Planner, Zoning/Subdivision Administrator.
Proposal: Amending Final Plans
Property Location: TD 03 / Map: 11B / Pcl: CENT.
Current Zoning: Neighborhood Residential (NR)

PROJECT OVERVIEW

Request by DR Acquisitions to modify a final plan for Huntfield Recreation Center Plans. The changes alter the facilities layout, parking arrangements, access points, and landscaping, amongst other changes.

FINAL PLAN – APPLICATION REVIEW DIVERGENCE

This item is presented to the public and the Planning Commission under Subdivision Ordinance Section 1332.09, Amendment of Approved Final Plan and Plats, and specially under section *2*. That Code language states:

2. *If the amendments and changes proposed in an application do not qualify for approval by the Subdivision Administrator under the test in Section 1332.09(B)(1), then the Planning Commission shall consider the application to amend after a publicly-noticed public hearing. The Planning Commission may approve, approve with conditions, or deny the proposed amendment. The proposed amendment will be approved if it meets all requirements of this Ordinance. Upon such approval, the revised Final Plat shall be stamped and signed on behalf of the Planning Commission and thereafter recorded as the Final Record Plat*."

SUBDIVISION/LAND DEVELOPMENT ORDINANCE CRITERIA

1. **Parking requirements**

   43 parking spaces (with 3 handicap) were provided in the 2006 plan set. The three handicap spaces required the users to cross through the parking lot to access the community center.

   Under the revised plan set, 57 parking spaces are provided (with 3 handicap spaces). All handicap spaces are adjacent to the sidewalk path that leads directly to the community center.

   There is no required parking for a pool.

2. **Access Drives**

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

   Kimley-Horn had no comments on this.

   (B) 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.

   Kimley-Horn had no comments on this.

   (C) 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.

   Criterion met.

(D) No Access Drive shall be constructed closer than 100 feet to the nearest intersection

Criterion met.

(E) 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.

Criterion met.

(F) 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.

Criterion met, access is 25 ft. wide

(G) 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.

Kimley-Horn had no comments on this.

3. **Landscaping – Parking Lot, Roads, Trash Collection**

Landscaping islands are required to be installed every 10 parking spaces. Those have been installed.

Landscaping is required around the perimeter of parking lots to reduce glare from vehicle lights. Adequate landscaping has been provided.

A 6ft. tall wooden fence surrounds the dumpster, with landscaping to one side.

4. **Stormwater Control**

Kimley-Horn has reviewed the plan set and has no comments.

5. **Lighting**

A photometric plan is required. The applicant is working with Potomac Edison to get light fixtures and provide a photometric plan.

ZONING ORDIANCE REQUIREMENTS

1. **Setbacks**

Front yard: 25 feet, per the COA.
Rear yard: 20 feet, per the Ordinance.
Accessory structures: Per the COA, no setback requirements.

Setback requirements are met.

2. **<u>Pool specific regulations</u>**

In addition to the other applicable requirements of the City of Charles Town, Swimming Pools shall also be governed by the following provisions:

1. A Swimming Pool shall not involve any Commercial Use if it is an Accessory Use to a principal residential use, and;

2. The design and construction of all Swimming Pools shall be in accordance with the City of Charles Town's Building Code, which is the most current version of the International Building Code.

3. A Swimming Pool shall be within the principle setbacks. A contiguous pool patio that is concrete, pavers, bricks, or other hard impervious non-combustible material that is flush with the surrounding grade shall not be required to meet principle setbacks.

These requirements are all met.

<u>CONDITIONS OF ANNEXATION – REC. CENTER SPECIFICS</u>

City Council approved revisions to the Conditions of Annexation on August 19, 2024. There are specific provisions for the recreational facilities:

v. Community Pool and Associated Facilities:

v) Huntfield proffers the design, permitting, and construction of a community swimming pool, pool club house with bathroom facilities and associated parking lot in similar layout and conformance with the Huntfield Recreation Center preliminary plans (PP-20125).

The proposed layout is generally similar to the 2006 plan set: the pool and community center are to the west parking is in the center, and the basketball court is to the east. The tot lot has shifted from the center to the east, and the parking was consolidated from two lots into one.

(1) Community Pool shall be a minimum of 4,500+ /sf, inclusive of access steps, 3' shallow end and up to 8' deep end, and a 800+ /sf Children's pool.

The proposed main pool is 4,509 sq. ft in area. The proposed children's pool is 800 sq. ft. in area. Pool depth will be verified at the building permit stage of review.

(2) Single Story Pool clubhouse (min 2,100/sf) with men's and women's restroom, locker room, and changing room facilities.

A community center of 2,100 sq. ft. has been provided. Specific room designations will be verified at the building permit stage of review.

(3) Parking area consistent with approved preliminary plans.

The parking area is generally consistent with the approved plan set. The two lots have been consolidated into one, additional parking has been provided, and the access drive no longer features a circle.

(4) Pool and associated land and facilities shall be dedicated to HOA upon completion (defined as issuance of Use & Occupancy Permit) and before use by any residents. HOA shall furnish, supply, operate, and manage facilities from acceptance of facility without financial assistance or contribution from Developer or City.

Plan states that the HOA will be responsible for supervision and maintenance of the facility.

(5) The Pool, Clubhouse and all associated site work shall be complete, dedicated to the HOA, and able to be used by all residents within two (2) years of the effective date of this signed Proffer Amendment.

Plan states that the HOA will be responsible for supervision and maintenance of the facility.

(6) All basketball courts, recreational equipment and green space shall be built out consistent with the Huntfield Recreation Center preliminary plans (PP-20125). The construction of the basketball courts and recreational equipment shall commence no later than the time the pool dedication occurs to the HOA and completed and ready for usage within one (1) year.

Plan states that the HOA will be responsible for supervision and maintenance of the facility.

CONCLUSION

The proposed changes would add additional parking, while consolidating tow lots into one, provides a dedicated emergency vehicle access straight to the pool patio, provides additional property perimeter landscaping, and generally complies with the City's Ordinances, and complies with the revised Conditions of Annexation.

RECOMMENDATION

Table action to allow for provision of a photometric plan.

S/LD Application No._____

SUBDIVISION AND LAND DEVELOPMENT 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 Subdivision and Land Development (S/LD) Application, the Applicant must utilize this form to supply the City with the information prescribed under Section 1332.03 of the Charles Town Subdivision Ordinance. The submission of this form, along with the prescribed information and required fees, shall serve as the Applicant's S/LD Application as required by Ordinance Section 1332.03.

1. DATE January 9th, 20 25

2. APPLICATION TYPE

☒ Minor Subdivision | Final S/LD Plan

☐ Major Subdivision Development*
- Preliminary S/LD Plan and Final Plat

☐ Major Land Development**
- Preliminary S/LD Plan

☐ Major Subdivision and Land Development***
- Preliminary S/LD Plan and Final Plat

*Conventional Subdivision – A Preliminary Plan and Plat Approval and a Final Plan and Plat Approval is required.

**No Division/Merger of Land – A Preliminary Plan and Plat Approval is required for the submission of a building or multiple buildings on one lot where there is no subdivision of land (commonly referred to as a site plan).

***A Preliminary Plan and Plat Approval and a Final Plan and Plat Approval is required for the submission of a building or multiple buildings that will require the merger, adjustment or subdivision of land.

RECEIVED
JAN 23 2025
BY: KA

3. APPLICANT'S NAME* DR Acquisitions, LLC

Address: 10212 Governor Lane Blvd, Ste 1006 - Williamsport, MD 21795

Telephone Number (240)420-6046 Fax Number ( )

Email Address mmonahan@drbgroup.com

4. PROPERTY OWNER'S NAME DR Acquisitions, LLC

Address: 10212 Governor Lane Blvd, Ste 1006 - Williamsport, MD 21795

Telephone Number (240)420-6046 Fax Number ( )

Email Address mmonahan@drbgroup.com

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

Property Address: Prospect Hill Blvd

Tax Map # and Parcel: 011B && 19-03-011B-CENT-0000

Deed Book and Page #: 1263 / 99

Property Area in Square Feet or Acres: 2.76 Acres

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

Revision to previously approved engineering plan STPL-2007-0015. Updates have been made to the architecture of the clubhouse and sizing of the pool per the updated and approved proffers. The general layout between the approved and revised plans remains the same.

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

Property is zoned as Residential (R).

Current land use is Residential Vacant (100).

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

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

Not at this time.

9. 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
STPL-2007-0015	Huntfield Recreation Center Revised	Approved	

10. 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

11. PLAN/PLAT SUBMISSION TO OTHER AGENCIES (Documentation of all required approvals must be attached to this Application or submitted prior to Preliminary S/LD Application approval)

Agency (Specify others as applicable)	Submittal Date	Approval/Permit issued	Date of Approval/Issuance
City of Charles Town	2024-12-12		
City of Charles Town Utility Board			
Jefferson County Planning and Zoning Department			
Jefferson County Addressing Office			
Jefferson County Board of Education			
WV Department of Environmental Protection			
WV Department of Transportation, Division of Highways			
WV State Historic Preservation Office			
WV Office of Environmental Health Services			
U.S. Army Corps of Engineers			

12. FEE CALCULATION (Per Fee Schedule) Filing Fee - $200

AMOUNT PAID $ 200.00

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 1332.03 of the Charles Town S/LD Ordinance and relevant provisions of the Charles Town City Code.

Signature of Applicant

_____ Date 1/9/2025

Signature of Property Owner (If different than Applicant)

_____ Date 1/9/25

Please submit an original completed Application and specified number of Plan/Plat (Three (3) copies at 24" x 36", Adobe PDF format, and Five (5) copies at 11" x 17") 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:_____

CONSTRUCTION PLANS AND PROFILES

SITE PLAN STPL 2005-0004

HUNTFIELD RECREATION CENTER

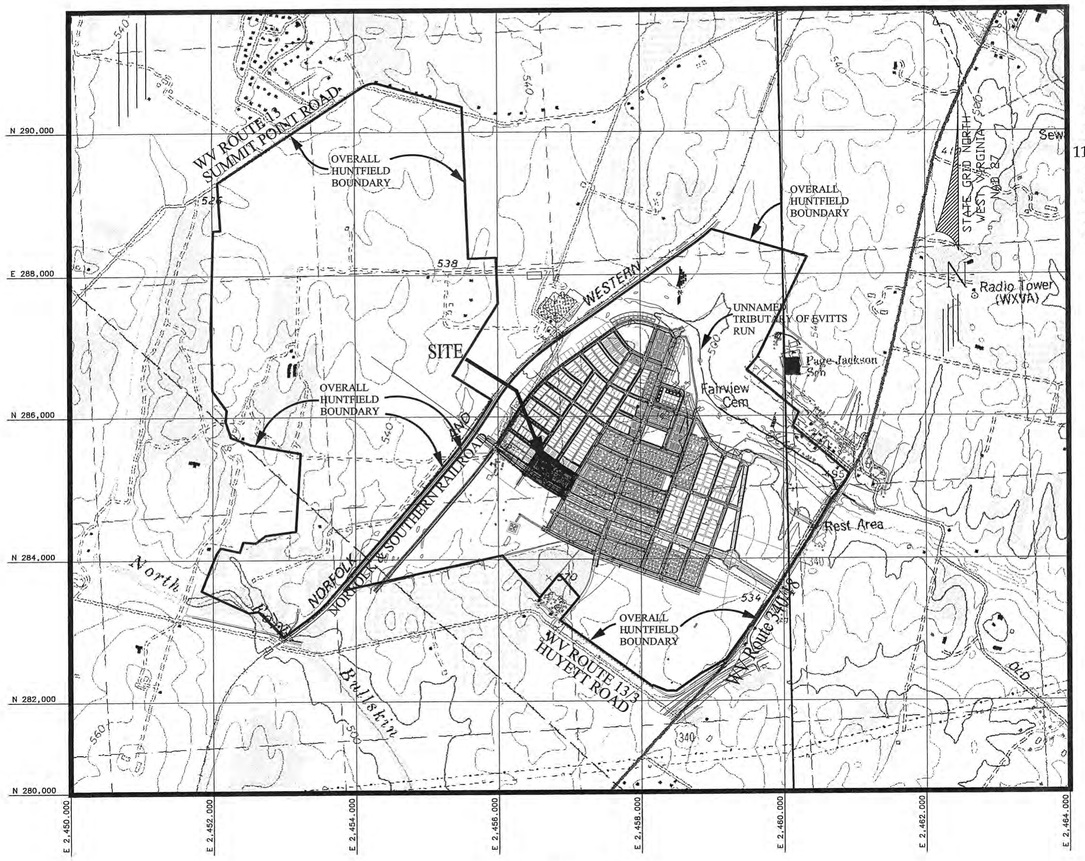
(ACTIVE COMMUNITY CENTER #1)

CHARLES TOWN CORPORATION

JEFFERSON COUNTY, WV

GENERAL NOTES

1. THIS SET OF DRAWINGS PERTAINS TO THE RECREATION CENTER FOR THE EASTERN PORTION OF HUNTFIELD, WHICH CONSISTS OF A TOTAL SITE AREA OF 5.4 ACRES. THE SITE CONTAINS ONE LOT FOR THE USE OF THE RECREATION CENTER. REFERENCE WAS MADE TO THE APPROVED SCHEMATIC PLAN "HUNTFIELD OVERALL COMPOSITE SCHEMATIC PLAN" (SCHM 2004-0002) APPROVED APRIL 12, 2005. NOTE THAT THE "HUNTFIELD OVERALL COMPOSITE SCHEMATIC PLAN" COVERS THE ENTIRE HUNTFIELD DEVELOPMENT.
2. THE PROPERTY DELINEATED HEREON IS A PORTION OF PARCEL 1, AS SHOWN ON CHARLES TOWN CORPORATION TAX ASSESSMENT MAP 11, DEED BOOK 949, PAGE 203, WHICH IS LOCATED AMONG THE LAND RECORDS OF JEFFERSON COUNTY
3. BOUNDARY INFORMATION, SHOWN HEREON, WAS OBTAINED FROM A PLAT SHOWING HUNTFIELD, LC PROPERTY AS RECORDED IN THE OFFICE OF THE CLERK OF THE COUNTY COMMISSION OF JEFFERSON COUNTY, WEST VIRGINIA, IN PLAT BOOK 19, PAGE 49.
4. TOPOGRAPHIC INFORMATION WAS OBTAINED FROM APPALACHIA SURVEY OF WEST VIRGINIA, LLC. BASIS FOR SURVEY WAS NAD'27-NAVD'88.
5. THE PROPERTY SHOWN HEREON WAS ACQUIRED BY HUNTFIELD. AS RECORDED IN THE OFFICE OF THE CLERK OF THE COMMISSION OF JEFFERSON COUNTY, WEST VIRGINIA IN DEED BOOK 949, PAGE 203.
6. THE HOMEOWNER'S ASSOCIATION INC. WILL BE RESPONSIBLE FOR THE MAINTENANCE OF STORM WATER DETENTION/DRAINAGE FACILITIES AND EASEMENTS. IN ADDITION THEY SHALL BE RESPONSIBLE FOR MAINTENANCE OF SIDEWALKS & STREET LIGHTS. THE WEST VIRGINIA DEPARTMENT OF HIGHWAY IS NOT RESPONSIBLE FOR MAINTENANCE OF SIDEWALKS AND STREET LIGHTS.
7. ALL CONSTRUCTION SHALL CONFORM TO CURRENT CITY OF CHARLES TOWN, WVDOH, WVDEP, WVSHPO, AND SANITATION AUTHORITY STANDARDS AND SPECIFICATIONS.
8. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PROVIDED IN ACCORDANCE WITH THE 1993 "WEST VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK FOR DEVELOPING AREAS" & WVDEP REQUIREMENTS AND ASSOCIATED PERMITS.
9. THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE DEVELOPER OR HIS AGENT OF ANY LEGAL RESPONSIBILITY WHICH MAY BE REQUIRED BY THE CODE OF WEST VIRGINIA OR ANY OTHER ORDINANCE ENACTED BY THE CITY OF CHARLES TOWN.
10. STANDARD GUARDRAILS AND HANDRAILS SHALL BE INSTALLED AT HAZARDOUS LOCATIONS AS DETERMINED DURING FINAL FIELD INSPECTION BY CITY OF CHARLES TOWN AND\OR WVDOH.
11. ALL UNDERGROUND UTILITIES WITHIN STREET RIGHT-OF-WAYS SHALL BE INSTALLED TO THE REQUIRED DISTANCE BEYOND THE RIGHT-OF-WAY LINE PRIOR TO THE INSTALLATION OF ANY SUBBASE MATERIAL, CURB AND GUTTER, OR SIDEWALK.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF UTILITY OVERBLASTING FOR FUTURE EXTENSIONS WITH ALL ADJACENT SECTIONS.
13. THESE PLANS MAKE NO REPRESENTATION AS TO SUBSURFACE CONDITIONS AND THE PRESENCE OF SUBSURFACE WATER OR THE NEED FOR SUBSURFACE DRAINAGE FACILITIES.
14. ANY WELLS OR SEPTIC FIELDS WITHIN THE LIMITS OF THE SITE WILL BE ABANDONED IN ACCORDANCE WITH STATE AND LOCAL HEALTH DEPARTMENT REQUIREMENTS AND REGULATIONS PRIOR TO RECORD PLAT APPROVAL.
15. THE SECTION DELINEATED HEREON CONTAINS NO KNOWN ARCHEOLOGICAL OR HISTORICAL LANDMARKS.
16. CONTRACTORS SHALL ARRANGE FOR THE LOCATION OF ALL UNDERGROUND FACILITIES PRIOR TO THE CONSTRUCTION INCLUDING TEST HOLES TO PHYSICALLY LOCATE UNDERGROUND UTILITIES AS NECESSARY.
17. STREET SIGNS AND STOP SIGNS SHALL BE INSTALLED AT ALL INTERSECTIONS AND BE IN COMPLIANCE WITH ALL APPLICABLE ZONING AND CODIFIED ORDINANCE FOR THE CITY OF CHARLES TOWN.
18. FINAL HOUSE AND ACCESSORY LOCATIONS ARE SUBJECT TO APPROVAL AT BUILDING PERMIT SUBMISSION.
19. PARKING FOR THIS SITE PLAN WILL BE IN COMPLIANCE WITH ALL REQUIRED REGULATIONS.
20. WETLAND INFORMATION OBTAINED FROM WETLAND DELINEATION REPORT PREPARED BY GREENHORNE AND O'MARA, INC. DATED JULY 14, 2000.
21. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE ESTABLISHMENT OR CONSTRUCTION OF ALL AREAS OR SITE IMPROVEMENTS SHOWN ON THE SITE PLAN, INCLUDING STREET SIGNS, TRAFFIC SIGNS, OPEN SPACE, RECREATIONAL FACILITIES, STORMWATER FACILITIES, SIDEWALKS, AND OTHER FACILITIES SHOWN ON THIS SITE PLAN.
22. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING ALL IMPROVEMENTS AND AREAS UNTIL CONVEYANCE OF THE IMPROVEMENTS TO THE HOME OWNERS ASSOCIATION OR OTHER ENTITY. UPON RELEASE FROM THE ASSOCIATED PERFORMANCE RELATED BOND OR OTHER FORM OF SURETY BOND POSTED WITH THE CITY OR COUNTY, ALL OPEN SPACE PARCELS, ALLEYS, AND OTHER COMMON ELEMENTS SHALL BE CONVEYED TO HUNTFIELD COMMUNITY ASSOCIATION, INC AT WHICH TIME THE ASSOCIATION SHALL BE RESPONSIBLE FOR THE UPKEEP OF SUCH PARCELS. REFERENCE ARTICLE IV, SECTION 4.1, 4.2 AND 4.3 OF THE DECLARATION OF COVENANTS, CONDITIONS, AND RESTRICTIONS FOR THE HUNTFIELD COMMUNITY ASSOCIATION, INC, WHICH WAS RECORDED FEBRUARY 14, 2003 IN DEED BOOK 970 AT PAGE 154.
23. THE OWNER MUST BOND ALL REQUIRED SITE IMPROVEMENTS AT THE TIME OF RECORD PLAT SUBMITTAL.
24. ALL STREETS SHOWN WITHIN THIS PLAN WITH THE EXCEPTION OF PROSPECT HILL BOULEVARD ARE DEFINED AS LOCAL ROADS PER THE CRITERIA LISTED IN SECTION 906.05 (B) (1) OF THE AMENDMENT TO THE ZONING ORDINANCE OF THE CITY OF CHARLES TOWN WITH REGARD TO ARTICLE EIGHT-A NEIGHBORHOOD RESIDENTIAL (NR) AS ADOPTED MONDAY AUGUST 17, 1998. PROSPECT HILL BOULEVARD IS DEFINED AS A COLLECTOR ROAD.
25. ALL STREETS ARE TO BE DEDICATED TO THE CITY OF CHARLES TOWN PER ARTICLE 8A (E) (3) OF THE AMENDMENT TO THE ZONING ORDINANCE OF THE CITY OF CHARLES TOWN AS ADOPTED AUGUST 17, 1998. CONVEYANCE OF THE STREETS TO THE CITY WILL OCCUR UPON RELEASE FROM THE ASSOCIATED PERFORMANCE RELATED BOND OR OTHER FORM OF SURETY BOND POSTED WITH THE CITY OR COUNTY.
26. THE HOA WILL BE RESPONSIBLE FOR THE SUPERVISION AND MAINTENANCE OF THE ENTIRE FACILITY.



VICINITY MAP

SCALE : 1"= 1000'

SHEET INDEX

1. COVER SHEET
2. PLAN STATUS AND SOILS INFORMATION
3. OVERALL GRADING PLAN
4. OVERALL GEOMETRY PLAN
5. PLAN & PROFILES - Hamilton Street & Battlefield Dr.
6. PLAN & PROFILES - Prospect Hill Blvd., Brandywind Street & Sanitary Clean-Out Line
7. STORM PROFILES
8. STORM INLET & HGL COMPUTATIONS
9. OVERALL DRAINAGE DIVIDES
10. OVERALL EROSION & SEDIMENT CONTROL
11. EROSION & SEDIMENT CONTROL NARRATIVE & CALCULATIONS

11A. EROSION & SEDIMENT CONTROL DETAILS

12. LANDSCAPE PLANS
13. PRELIMINARY RECORD PLAT
14. MISC. DETAILS
15. MISC. DETAILS

APPLICATION #	ASSOCIATED PROJECT	STATUS	APPROVAL DATE
	HUNTFIELD, PHASE I SCHEMATIC	APPROVED	2/11/2002
STPL 2002-0001	HUNTFIELD, PHASE I (SITE PLAN)	APPROVED	6/24/2002
SBRD 2002-0001	HUNTFIELD, PHASE I RECORD PLAT	APPROVED	7/29/2002
RPOC 2003-0001	HUNTFIELD, PHASE I (RECORD PLAT CORRECTION)	APPROVED	Recorded 9/9/03
	HUNTFIELD, REVISED PHASE 1&2A SCHEMATIC	APPROVED	10/22/2002
SPAM 2003-001	HUNTFIELD, PHASE 1 REVISED (SITE PLAN AMMENDMENT)	APPROVED	5/28/2003
SBDR 2003-0001/RPAM 2003-0001	HUNTFIELD, PHASE 1 REVISED (RECORD PLAT AMMENDMENT)	APPROVED	6/16/2003
SCHM 2003-0003	HUNTFIELD, COMPOSITE SCHEMATIC 1	APPROVED	5/28/2003
SPAM 2003-0002	HUNTFIELD, PHASE 1 BLOCK 1 REVISION (SITE PLAN AMMENDMENT)	APPROVED	10/27/2003
RPAM 2003-0002	HUNTFIELD, PHASE 1 BLOCK 1 REVISION (RECORD PLAT AMMENDMENT)	APPROVED	10/27/2003
STPL 2003-0001	HUNTFIELD, PHASE 2A (SITE PLAN)	APPROVED	5/28/2003
SBRD 2003-0002	HUNTFIELD, PHASE 2A RECORD PLAT	APPROVED	3/30/2004
SCHM 2003-0001	HUNTFIELD, PHASE 2B SCHEMATIC	APPROVED	2/24/2003
STPL 2003-0006	HUNTFIELD, PHASE 2B (SITE PLAN)	*PENDING	
SBRD 2004-0002	HUNTFIELD, PHASE 2B SECTION 1 RECORD PLAT	APPROVED	5/24/2004
STPL 2003-0009	HUNTFIELD, PHASE 3A (SITE PLAN)	APPROVED	5/24/2004
SBRD 2004-0003	HUNTFIELD, PHASE 3A SECTION 1 RECORD PLAT	APPROVED	5/24/2004
SBRD 2004-0003	HUNTFIELD, PHASE 3A SECTION 2 RECORD PLAT	APPROVED	6/28/2004
STPL 2004-000	HUNTFIELD, PHASE 3B (SITE PLAN)	IN REVIEW	

NOTES: 1) HUNTFIELD COMPOSITE SCHEMATIC 1 (SCHM 2003-0003) REPLACED PREVIOUSLY APPROVED HUNTFIELD SCHEMATICS.
2) PHASE 2B SITE PLAN APPROVAL PENDING DEPARTMENT OF HIGHWAYS PERMIT. CURRENT PERMIT COVERS ONLY THE LOTS IN PHASE 2B-SECTION 1.

CONTACT "MISS UTILITY" AT

1-800-245-4848

BEFORE ANY CONSTRUCTION PER CITY OF CHARLES TOWN WATER DEPARTMENT ORDINANCE

OWNER / DEVELOPER

HUNTFIELD, L.C.
8614 WESTWOOD CENTER DRIVE, SUITE 900
VIENNA, VIRGINIA 22182
703-442-8992

STATEMENT OF ACCEPTANCE

THE DEVELOPER, IN SIGNING THIS PLAT, AGREES TO ABIDE BY ALL CONDITIONS, TERMS, AND SPECIFICATIONS PROVIDED HEREON.

DAVID K. ULERICK V.P. FOR LAND DEVELOPMENT FOR HUNTFIELD, LC
8614 WESTWOOD CENTER DRIVE SUITE 900
VIENNA, VA 22182
703-442-8992

SURVEYOR'S CERTIFICATION

THE PERIMETER AND ALL LOT BOUNDARIES SHOWN HERON HAVE BEEN ESTABLISHED BY A NETWORK OF TRAVERSE CONTROL HAVING A RELATIVE ERROR OR CLOSURE OF 1 : 7,500 OR BETTER.

DAVID E. LELLOCK, P.S.
URBAN ENGINEERING & ASSOCIATES, INC.

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THESE SEALED PLANS REASONABLY MEET OR EXCEED MINIMUM ACCEPTABLE ENGINEERING STANDARDS AND THOSE STATE AND COUNTY CODE PROVISIONS APPLICABLE ON SAID DATE.

DAVID E. LELLOCK, PE
URBAN ENGINEERING & ASSOCIATES, INC.

SITE PLAN APPROVED

DATE: _____

JEREMY CAMP
ZONING ADMINISTRATOR AND CITY PLANNER
CITY OF CHARLES TOWN, WV

No.	DATE	DESCRIPTION
1	11/29/05	CHANGED SITE PLAN # & ADDED TO TITLE
2	11/29/05	UPDATED GENERAL NOTES #1, #23, #24
3	11/29/05	ADDED GENERAL NOTE #26

REVISIONS

PLAN DATE
10/07/05
12/01/05
02/03/06
02/28/06

Urban Engineering & Associates, Inc.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
PEGASUS BUSINESS CENTER
600 PEGASUS COURT - SUITE 101 WINCHESTER, VIRGINIA 22602
PHONE (540) 450-0211 FAX (540) 450-0210

DAVID E. LELLOCK REGISTERED PROFESSIONAL ENGINEER #5137 STATE OF WEST VIRGINIA

Cover Sheet
HUNTFIELD
Recreation Center (Active Community Center #1)
CHARLES TOWN CORPORATION
JEFFERSON COUNTY, WEST VIRGINIA

SCALE: AS SHOWN C.I. N/A DATE: OCTOBER 2005

SHEET 1 OF 15

PP-20125

Water/Sanitary Sewer Related Facilities

Toilets	7
Urinals	2
Sinks	8
Showers	5
Water Fountains	4
Dishwasher	1

ARNACORN

50-175W
Metal Halide
High Pressure Sodium

DECORATIVE LUMINAIRE

Basic Characteristics of Outdoor Light Fixtures for Active Community Center #1:

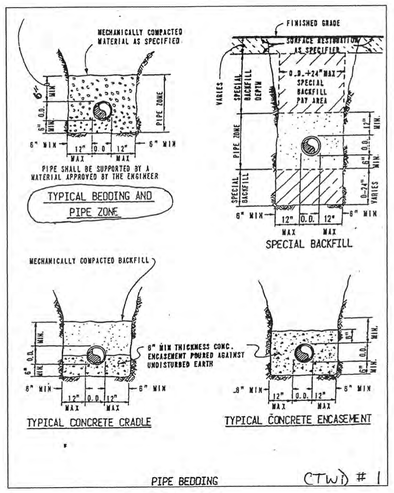
(1) Cooper Westminster acorn acrylic fixtures
(2) 175 watt metal halide with photocontrol receptacle
(3) Type 3 with down light reflector
(4) Multi-tap
(5) Black fiberglass 14' mounting height direct buried series 30 poles, EPA 6.1

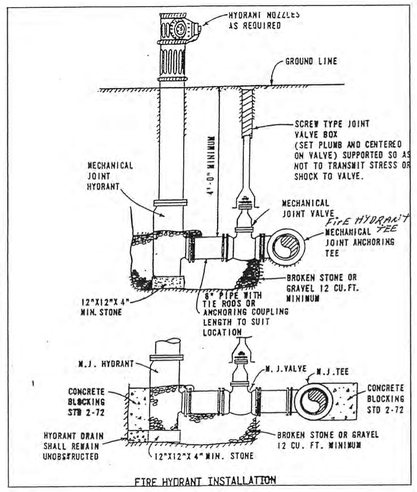
NOTE: Facility lighting will be shielded to and directed aways from residential properties to avoid lighting nuisance.

Parking Calculations

Usage	Square Ft.	Division # Per Reg.	# Space (Raw)	# Spaces (Rounded Up)
Multipurpose	3484	80	43.6	44
	# Occupants			
Pool	155	7	22.1	23

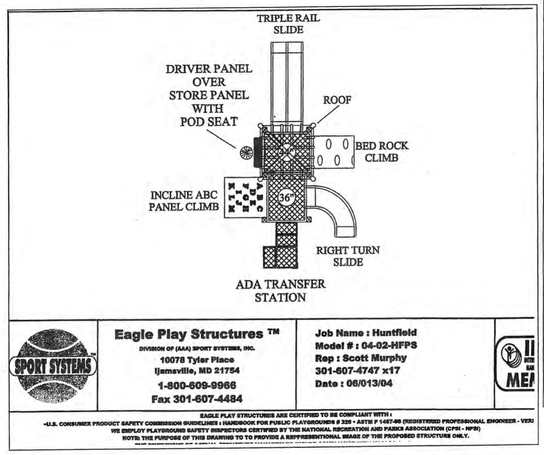
Spaces Required/Provided	67





FIRE HYDRANT INSTALLATION

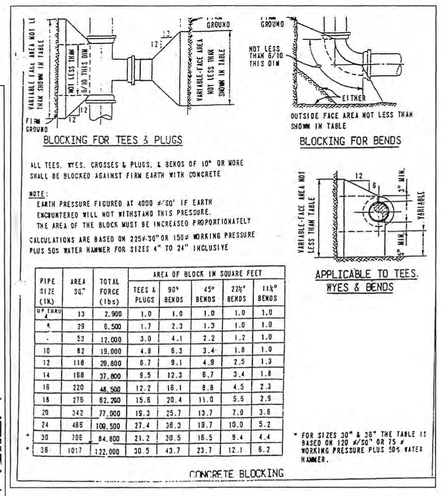
TOT LOT DETAIL



Eagle Play Structures ™
DIVISION OF (AAA) SPORT SYSTEMS, INC.
10078 Tyler Place
Ijamsville, MD 21754
1-800-609-9966
Fax 301-607-4484

Job Name : Huntfield
Model # : 04-02-HFPS
Rep : Scott Murphy
301-607-4747 x17
Date : 06/013/04

EAGLE PLAY STRUCTURES ARE CERTIFIED TO BE COMPLIANT WITH :
•U.S. CONSUMER PRODUCT SAFETY COMMISSION GUIDELINES : HANDBOOK FOR PUBLIC PLAYGROUNDS # 325 • ASTM F 1487-98 (REGISTERED PROFESSIONAL ENGINEER - VERI
WE EMPLOY PLAYGROUND SAFETY INSPECTORS CERTIFIED BY THE NATIONAL RECREATION AND PARKS ASSOCIATION (CPSI - NPS)
NOTE: THE PURPOSE OF THIS DRAWING TO TO PROVIDE A REPRESENTIONAL IMAGE OF THE PROPOSED STRUCTURE ONLY.



ALL TEES, WYES, CROSSES & PLUGS, & BENDS OF 10" OR MORE SHALL BE BLOCKED AGAINST FIRM EARTH WITH CONCRETE

NOTE:
EARTH PRESSURE FIGURED AT 4000 #/SQ' IF EARTH ENCOUNTERED WILL NOT WITHSTAND THIS PRESSURE. THE AREA OF THE BLOCK MUST BE INCREASED PROPORTIONATELY

CALCULATIONS ARE BASED ON 235#/SQ'IN OR 150# WORKING PRESSURE PLUS 50% WATER HAMMER FOR SIZES 4" TO 24" INCLUSIVE

PIPE SIZE (IN)	AREA SQ'	TOTAL FORCE (lbs)	AREA OF BLOCK IN SQUARE FEET				
			TEES & PLUGS	90° BENDS	45° BENDS	22½° BENDS	11¼° BENDS
UP THRU 4	13	2,900	1.0	1.0	1.0	1.0	1.0
6	29	6,500	1.7	2.3	1.3	1.0	1.0
8	52	12,000	3.0	4.1	2.2	1.2	1.0
10	82	19,000	4.8	6.3	3.4	1.8	1.0
12	116	26,800	6.7	9.1	4.9	2.5	1.3
14	158	37,800	9.5	12.3	6.7	3.4	1.8
16	220	48,500	12.2	16.1	8.8	4.5	2.3
18	276	62,260	15.6	20.4	11.0	5.5	2.9
20	342	77,000	19.3	25.7	13.7	7.0	3.6
24	486	109,500	27.4	36.3	19.7	10.0	5.2
* 30	706	84,800	21.2	30.5	16.5	9.4	4.4
* 36	1017	122,000	30.5	43.7	23.7	12.1	6.2

* FOR SIZES 30" & 36" THE TABLE IS BASED ON 120 #/SQ' OR 75 # WORKING PRESSURE PLUS 50% WATER HAMMER.

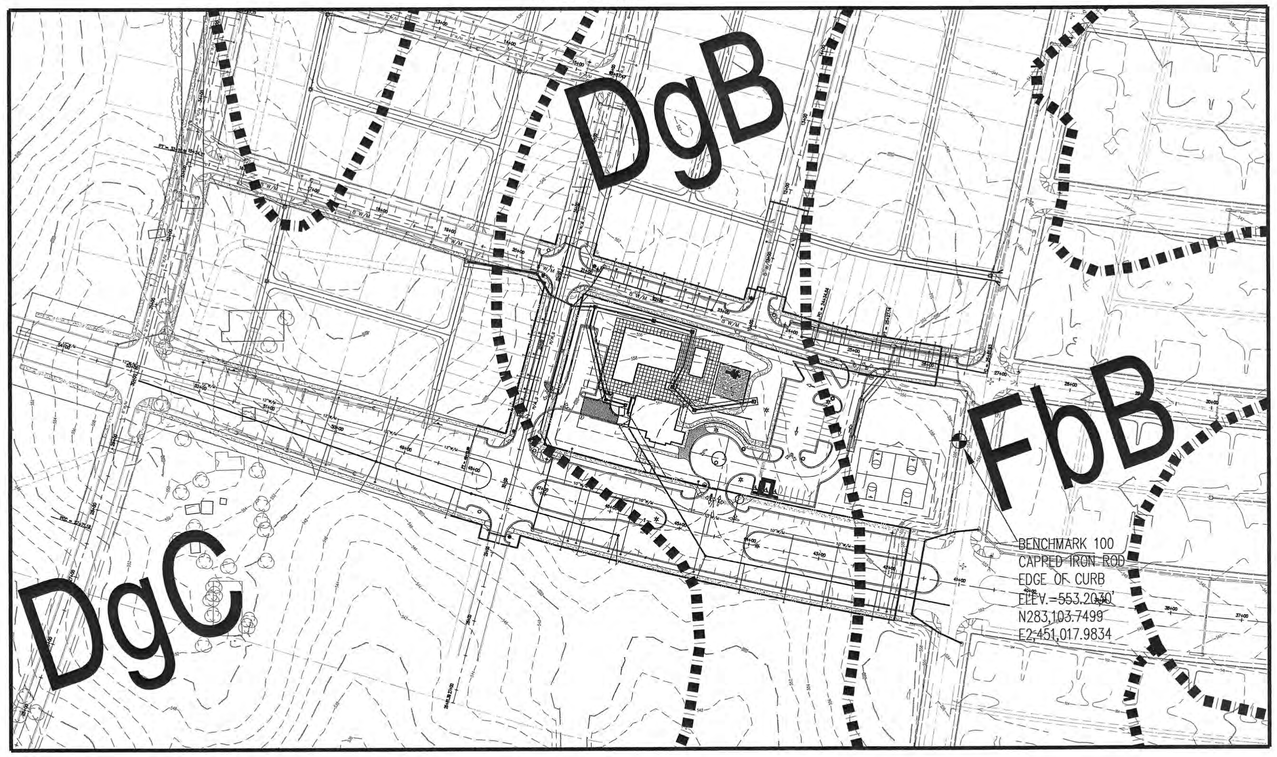
CONCRETE BLOCKING

GENERAL NOTES:

1. ALL LAND ZONED RESIDENTIAL FOR THIS SITE PLAN.
2. ALL LOTS HAVE VEHICULAR ACCESS FROM INTERIOR SUBDIVISION ROADS ONLY.
3. STORM WATER MANAGEMENT SHALL BE PROVIDED BY THE EXISTING STORM WATER MANAGEMENT POND. QUANTITY SHALL BE MANAGED BY THE STORM WATER MANAGEMENT BASIN. THE QUALITY OF RUNOFF DURING CONSTRUCTION SHALL BE MANAGED BY PROPER SEDIMENT AND EROSION CONTROL MEASURES, AS WELL AS LONG, FLAT, WELL MAINTAINED DRAINAGE DITCHES.
4. PRIOR TO RELEASE OF THE DEVELOPMENT TO THE HOME OWNERS ASSOCIATION, THE STORM WATER MANAGEMENT POND SHALL BE PLANTED AS DEEMED NECESSARY WITH WETLAND PLANTINGS TO ENHANCE WATER QUALITY.
5. TO KEEP EROSION AND SEDIMENTATION TO A MINIMUM, DISTURB AS LITTLE EARTH AS POSSIBLE DURING ALL PHASES OF CONSTRUCTION.
6. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN SEVEN (7) CALENDAR DAYS.
7. THE BENCH MARK IS A CAPPED IRON PIPE AT APPROXIMATE STATION 22+00 (25L) NEWBERRY STREET. SEE SOILS MAP FOR LOCATION.
8. ALL UTILITY SERVICES TO DWELLINGS SHALL BE UNDERGROUND.
9. ROOF DRAINS SHALL DISCHARGE TO AREAS DESIGNED OR GRADED TO SAFELY CARRY WATER AWAY FROM DWELLINGS.
10. PAINT STRIPING ON CENTERLINE PER SCHOOL BOARD SPECIFICATIONS.
11. ALL BUILDINGS TO BE SERVED BY CENTRAL WATER AND SEWER. PRIVATE WELLS ARE PROHIBITED.
12. ALL WATERLINE TO BE PVC AWWA C900-DR-18 UNLESS OTHERWISE SPECIFIED.
13. A MINIMUM HORIZONTAL DISTANCE OF 10' SHALL BE MAINTAINED BETWEEN SANITARY SEWER AND POTABLE WATER LINES EXCEPT WHEN CROSSING.
14. SANITARY SEWER LINES TO BE SDR-35 PVC PIPING.

SOILS MAP

SCALE : 1" = 100'



SOILS LEGEND

SYMBOL	NAME	HYDROLOGICAL GROUP
DgB	DUFFIELD SILT LOAM, 2-6% SLOPES	B
DgC	DUFFIELD SILT LOAM, 6-12% SLOPES	B
FbB	FRANKSTOWN SHALY SILT LOAM, 2-6% SLOPES	B
FbC	FRANKSTOWN SHALY SILT LOAM, 6-12% SLOPES	B
Ho	HUNTINGTON SILT LOAM, LOCAL ALLUVIUM	B

SOIL INFORMATION WAS TAKEN FROM A HISTORICAL REPLICA OF "SOIL SURVEY OF JEFFERSON COUNTY WEST VIRGINIA" ISSUED FEBRUARY 1973 PROVIDED BY THE USDA.

LEGEND

SITE

SOILS BOUNDARY

PLAN STATUS

DATE	DESCRIPTION
10-07-05	FIRST SUBMISSION
12-07-05	SECOND SUBMISSION
02-03-06	THIRD SUBMISSION
02-28-06	FOURTH SUBMISSION

No.	DATE	DESCRIPTION
1	11/29/05	ADDED WATER FACILITY TABLE, PARKING CALCS AND TOT LOT DETAIL
2	11/29/05	ADDED OUTDOOR LIGHTING DETAIL

REVISIONS

PLAN DATE
10/07/05
12/07/05
02/03/06
02/28/06

Urban Engineering & Associates, Inc.
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PEGASUS BUSINESS CENTER
600 PEGASUS COURT - SUITE 101 WINCHESTER, VIRGINIA 22602
PHONE (540) 450-0211 FAX (540) 450-0210

REGISTERED PROFESSIONAL ENGINEER #5137 STATE OF WEST VIRGINIA 02/28/06

Plan Status, Soils Information & Misc. Details

HUNTFIELD
Recreation Center (Active Community Center #1)

CHARLES TOWN CORPORATION
JEFFERSON COUNTY, WEST VIRGINIA

SCALE: AS SHOWN
C.I. N/A
DATE: OCTOBER 2005

SHEET 2 OF 15

PP-20125

STANDARD MINIMUM STORM DRAIN EASEMENT WIDTH

PIPE SIZE	MINIMUM STORM DRAIN EASEMENT WIDTH
12-18 INCHES	10 FEET
21-33 INCHES	15 FEET
36-48 INCHES	20 FEET
54-72 INCHES	24 FEET

NOTE: The location of underground electric lines, television cable, phone lines and natural gas cannot be determined until Allegheny Power completes their utility layout plan after approval of the plat.

GRAPHIC SCALE

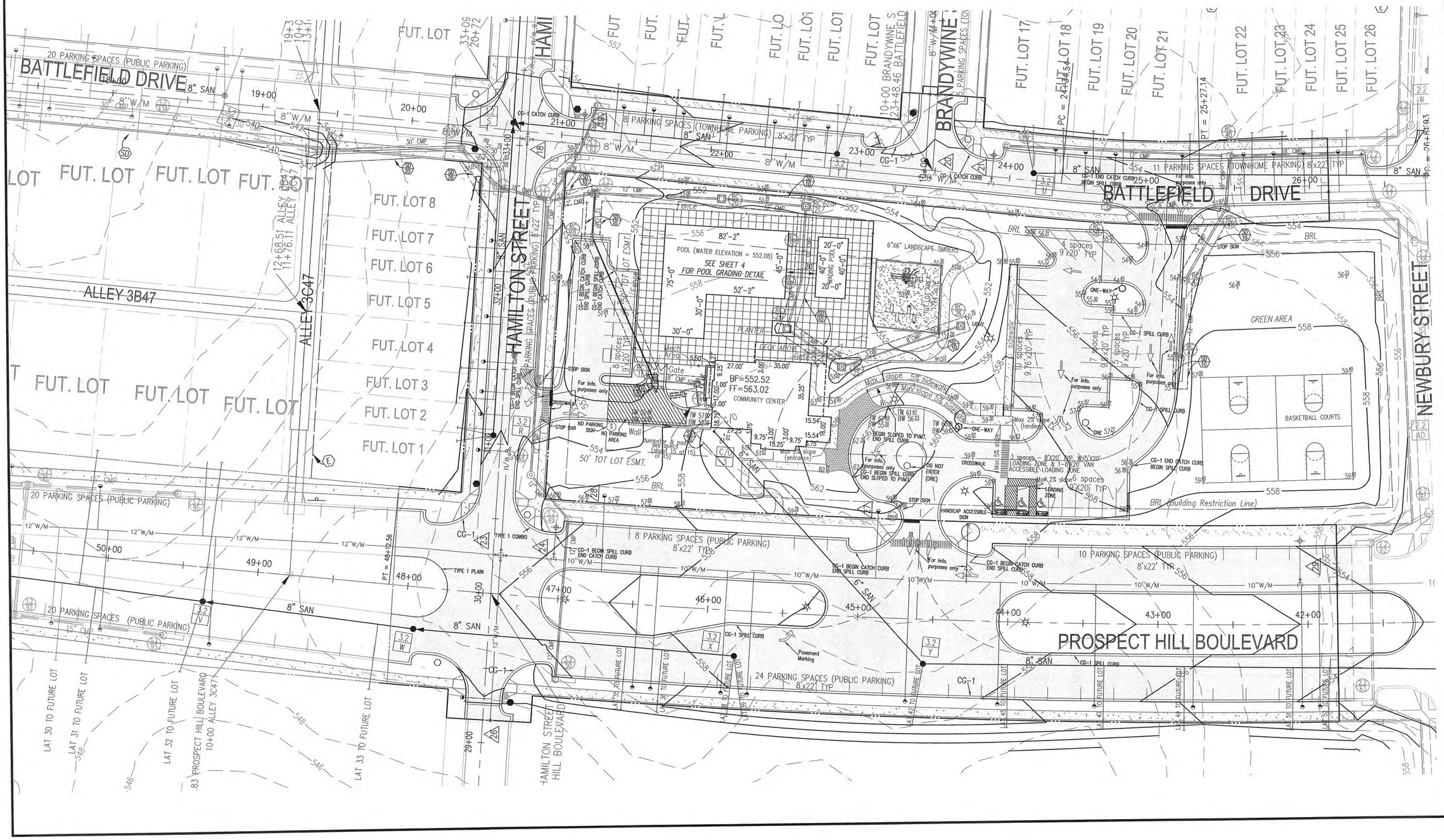
30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

STATE GRID NORTH
WEST VIRGINIA
NAD 27

LEGEND:

- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING TREE LINE
- PROPOSED LIMITS OF CLEARING & GRADING (LOC)
- WATER METER CROCK
- PROPOSED FIRE HYDRANT
- CG-6 CURB & GUTTER
- MIN. 9" MULCH
- ROLL CURB
- ALLEY PAVEMENT
- EXISTING TREE
- RIPRAP
- TRAFFIC BARRICADE
- UTILITY PREBLAST
- PROPOSED SIDEWALK
- PROPOSED HANDICAP RAMP
- STREET LIGHT
- STREET SIGN
- STOP SIGN
- # FOR WATERMAIN FITTINGS SEE SHEET 5
- E INGRESS–EGRESS EASEMENT
- SS 15 SANITARY EASEMENT (WIDTH UNDERNEATH IN FT.)
- SD 10 STORMWATER EASEMENT (WIDTH UNDERNEATH IN FT.)
- RC 19 STORMWATER MANHOLE
- RC H SANITARY MANHOLE



No.	DATE	DESCRIPTION
1	11/29/05	ADDED MULCH TO LEGEND
2	11/29/05	ADDED UNDERGROUND UTILITY NOTE
3	12/07/05	INSERTED PAVEMENT HATCH; MODIFIED CURBS AND CURB LABELS
4	2/03/06	AMENDED HAMILTON ST. ENTRANCE; INTERIOR ACCESSIBLE & ANGULAR PARKING AMENDED.
5	2/03/06	SPOT ELEVATIONS AND FRONT SIDEWALK AMENDED

REVISIONS

PLAN DATE: 10/07/05, 12/07/05, 02/03/06, 02/28/06

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PHONE (540) 450-0211 FAX (540) 450-0210

DAVID E. LELLOCK REGISTERED #15137 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
02/28/06

Overall Grading Plan and Site Plan

HUNTFIELD
Recreation Center (Active Community Center #1)

CHARLES TOWN CORPORATION
JEFFERSON COUNTY, WEST VIRGINIA

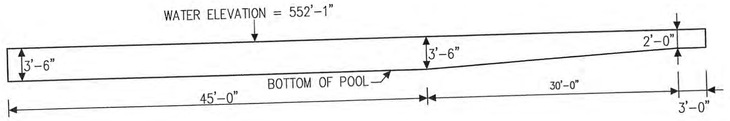
SCALE: 1"=30' C.I. = 2' DATE: OCTOBER 2005

SHEET 3 OF 15

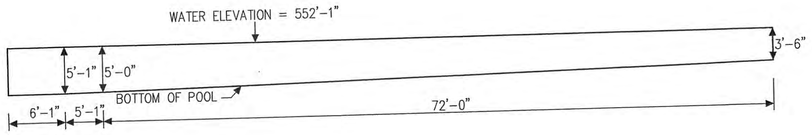
PP-20125

POOL GRADING PLAN

SCALE: 1"=20'



SWIMMING POOL PROFILE (75'-0" SIDE)

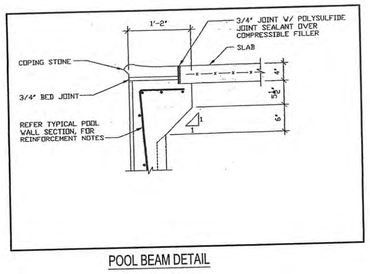


SWIMMING POOL PROFILE (82'-2" SIDE)

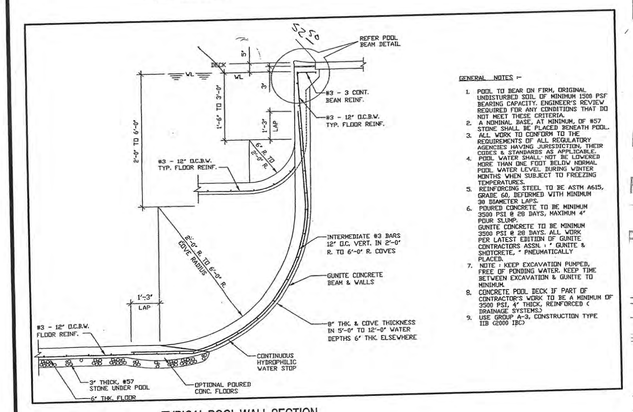
GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.



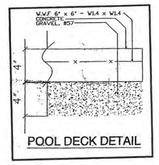
POOL BEAM DETAIL



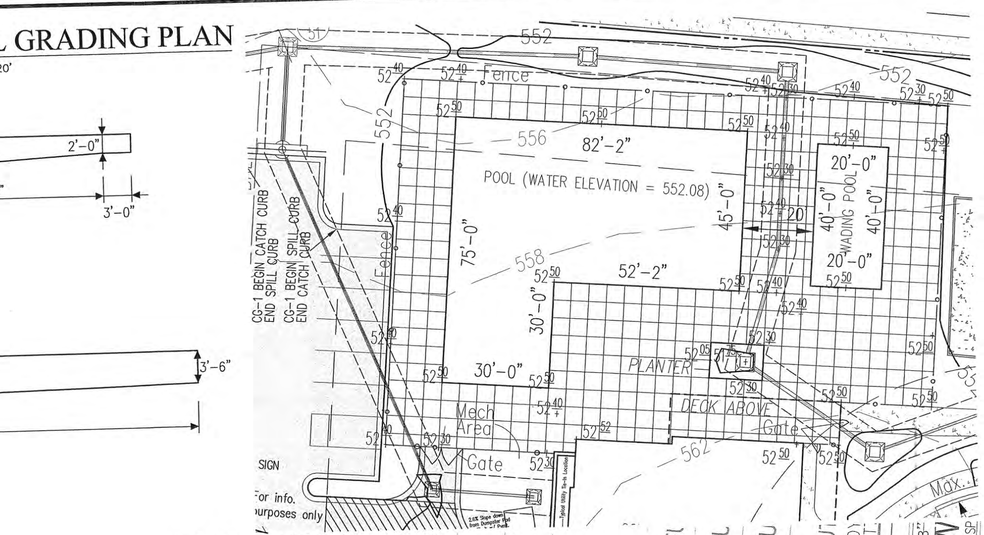
TYPICAL POOL WALL SECTION

GENERAL NOTES :-

1. POOL TO BEAR ON FIRM, ORIGINAL UNDISTURBED SOIL OF MINIMUM 1500 PSF BEARING CAPACITY. ENGINEER'S REVIEW REQUIRED FOR ANY CONDITIONS THAT DO NOT MEET THESE CRITERIA.
2. A NOMINAL BASE, AT MINIMUM OF #57 STONE SHALL BE PLACED BENEATH POOL.
3. POOL TO BE TO CONFORM TO THE REQUIREMENTS OF ALL REGULATORY AGENCIES HAVING JURISDICTION, THEIR CODES & STANDARDS AS APPLICABLE.
4. POOL WATER SHALL NOT BE LOWERED MORE THAN 2'-0" BELOW NORMAL WATER LEVEL DURING WINTER MONTHS WHEN SUBJECT TO FREEZING TEMPERATURES.
5. REINFORCING STEEL TO BE ASTM A615, GRADE 60, DEFORMED IN ACCORDANCE WITH 90 DIAMETER LAPS.
6. POURED CONCRETE TO BE MINIMUM 3500 PSI @ 28 DAYS, MAXIMUM 4" POUR SLUMP.
   GUNITE CONCRETE TO BE MINIMUM 4000 PSI @ 28 DAYS. ALL WORK PER LATEST EDITION OF GUNITE CONTRACTORS ASSN. - GUNITE & SHOTCRETE - PNEUMATICALLY PLACED.
7. NOTE : KEEP EXCAVATION PUMPED, FREE OF PONDING WATER. KEEP TIME BETWEEN EXCAVATION & GUNITE TO MINIMUM.
8. CONCRETE POOL DECK IF PART OF CONTRACTOR'S WORK TO BE A MINIMUM OF 3500 PSI, 4" THICK, REINFORCED & DRAINAGE SYSTEM.
9. USE GROUP "A-2" CONSTRUCTION TYPE IIB (2000 IBC)



POOL DECK DETAIL



LEGEND:

- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING TREE LINE
- PROPOSED LIMITS OF CLEARING & GRADING (LOC)
- WATER METER CROCK
- PROPOSED FIRE HYDRANT
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STANDARD MINIMUM STORM DRAIN EASEMENT WIDTH

PIPE SIZE	MINIMUM STORM DRAIN EASEMENT WIDTH
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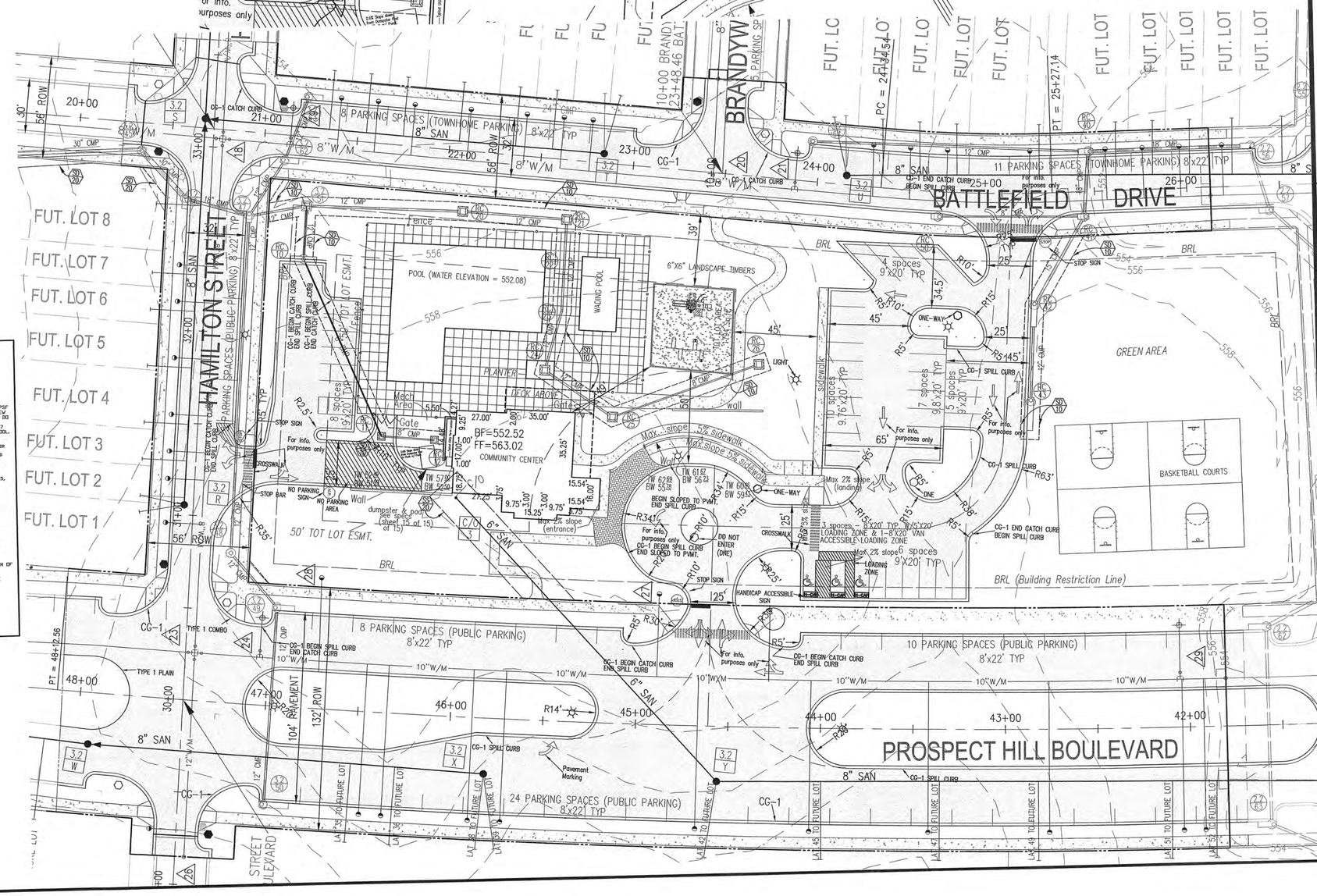
54-72 INCHES	24 FEET

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

STATE GRID NORTH WEST VIRGINIA NAD 27



No.	DATE	DESCRIPTION
1	11/29/05	ADDED POOL CROSS SECTIONS AND POOL DETAILS
2	11/29/05	ADDED MULCH TO LEGEND
3	12/07/05	INSERTED PAVEMENT HATCH, MODIFIED CURBS AND CURB LABELS
4	2/03/06	AMENDED HAMILTON ST. ENTRANCE; INTERIOR ACCESSIBLE & ANGULAR PARKING AMENDED.
5	2/03/06	SPOT ELEVATIONS AND FRONT SIDEWALK AMENDED

REVISIONS

PLAN DATE
10/07/05
12/07/05
02/03/06
02/28/06

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REGISTERED PROFESSIONAL ENGINEER #15137 STATE OF WEST VIRGINIA — 02/28/06

Overall Geometry Plan

HUNTFIELD
Recreation Center (Active Community Center #1)
CHARLES TOWN CORPORATION
JEFFERSON COUNTY, WEST VIRGINIA

DATE: OCTOBER 2005

SCALE: AS SHOWN C.I. = 2'

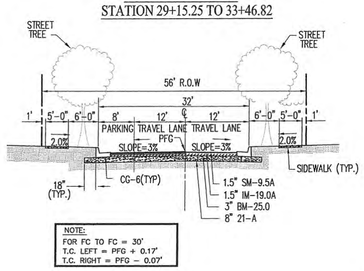
SHEET 4 OF 15

PP-20125

WATER FITTING TABLE

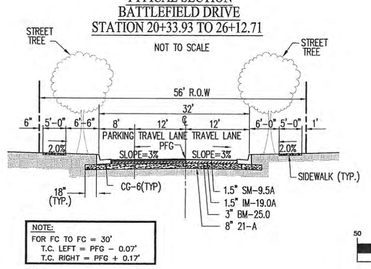
SYMBOL	DESCRIPTION	STATION
18	1–8"X8" CROSS, 4–8" VALVES	20+77.46 BATTLEFIELD DRIVE = 33+04.61 HAMILTON ST.
19	1–8"X6" TEE, 1–6" VALVE, 1 FH	21+14.00 BATTLEFIELD DRIVE
20	1–8"X8" TEE, 3–8" VALVES	23+43.63 BATTLEFIELD DRIVE = 9+05.18 BRANDYWINE ST.
21	1–8"X6" TEE, 1–6" VALVE, 1 FH	23+88.00 BATTLEFIELD DRIVE
22	1–12"X12" CROSS, 2–12" VALVES, 1–12"X10" REDUCER, 1–10" VALVE, 1–12 X 8" REDUCER, 1–8" VALVE	47+40.35 PROSPECT HILL BLVD. = 30+25.89 HAMILTON ST.
23	1–10"X6" TEE, 1–6" VALVE, 1 FH	47+05.00 PROSPECT HILL BLVD.
24	2" BOV	29+15.25 HAMILTON STREET
25	1–2" TAP OFF OF WATER MAIN LEADING TO 1–1.5" WATER METER (RECREATION CTR SERVICE)	44+89.19 PROSPECT HILL BLVD.
26	1–1.5" TAP OFF OF WATER MAIN LEADING TO 1–1" WATER METER (POOL SERVICE)	46+75.00 PROSPECT HILL BLVD.
27	1–10"X6" TEE, 1–6" VALVE, 1 FH	42+05.00 PROSPECT HILL BLVD.

TYPICAL SECTION
HAMILTON STREET
STATION 29+15.25 TO 33+46.82



TYPICAL SECTION
BATTLEFIELD DRIVE
STATION 20+33.93 TO 26+12.71

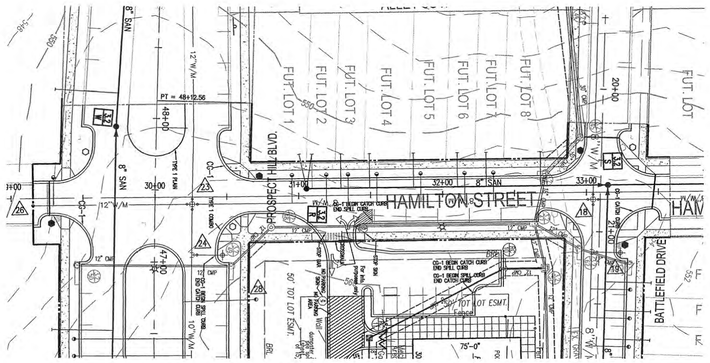
NOT TO SCALE



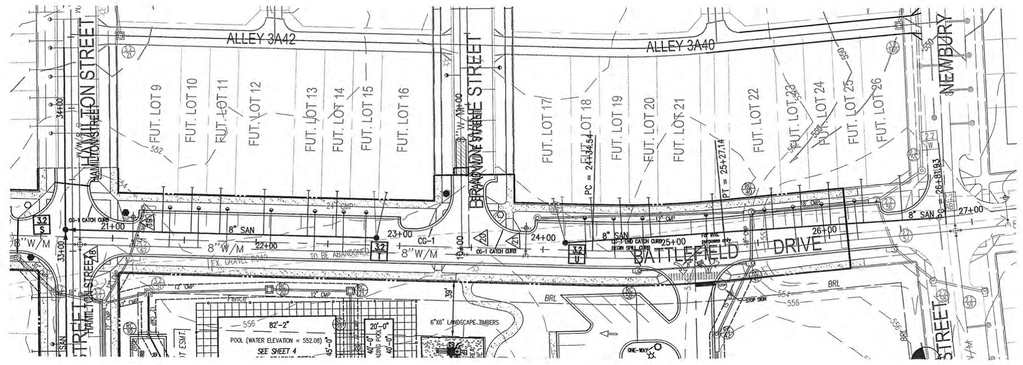
GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

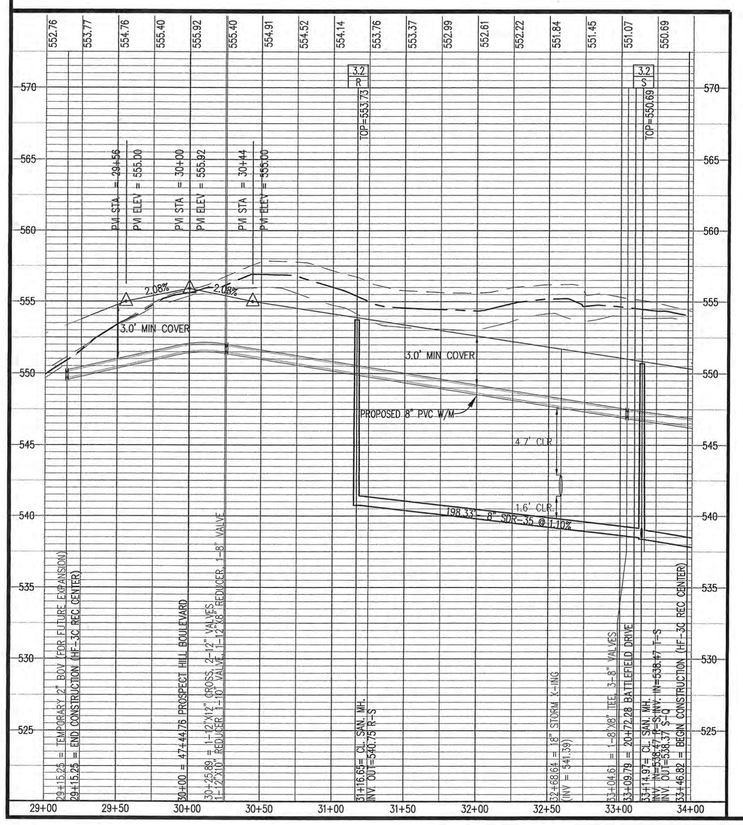


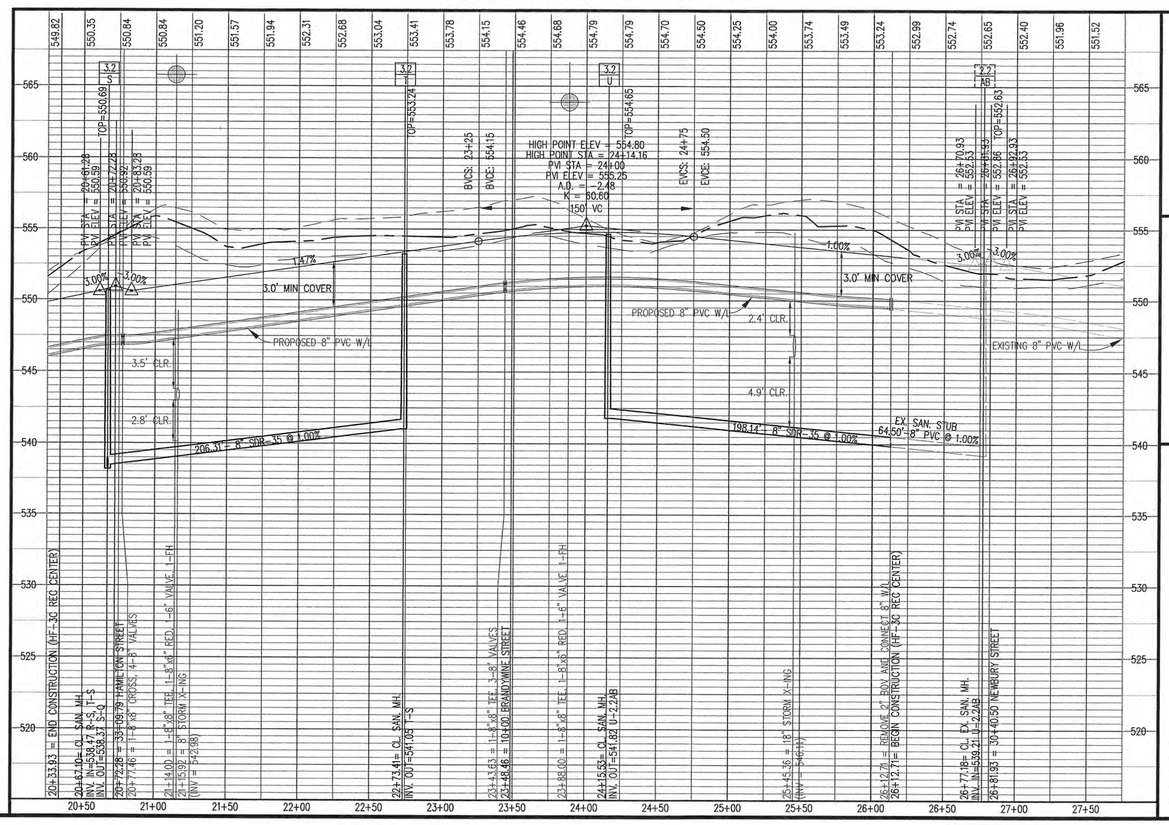
HAMILTON STREET



BATTLEFIELD DRIVE

STATE GRID NORTH
WEST VIRGINIA
NAD 27





EASEMENT LEGEND

- (CS) DENOTES COMMON SHARED EASEMENT
- (PA) DENOTES PUBLIC ACCESS EASEMENT
- (E) DENOTES INGRESS–EGRESS EASEMENT
- (SD) DENOTES SIGHT DISTANCE EASEMENT
- (SD) DENOTES STORM DRAIN EASEMENT
- (SS) DENOTES SANITARY SEWER EASEMENT 10' WIDE UNLESS OTHERWISE NOTED
- (W) DENOTES WATER MAIN EASEMENT 10' WIDE UNLESS OTHERWISE NOTED

LEGEND
EXISTING EASEMENT

- (CS) DENOTES COMMON SHARED EASEMENT
- (PA) DENOTES PUBLIC ACCESS EASEMENT
- (E) DENOTES INGRESS–EGRESS EASEMENT
- (SD) DENOTES SIGHT DISTANCE EASEMENT
- (SD) DENOTES STORM DRAIN EASEMENT
- (SS) DENOTES SANITARY SEWER EASEMENT 10' WIDE UNLESS OTHERWISE NOTED
- (W) DENOTES WATER MAIN EASEMENT 10' WIDE UNLESS OTHERWISE NOTED

LEGEND:

- PROPOSED CURB
- PROPOSED ROLL CURB
- PROPOSED HANDICAP RAMP
- PRE–BLAST FOR FUTURE UTILITIES
- WATER METER
- STREET LIGHT
- STREET SIGN
- STOP SIGN
- ALLEY PAVEMENT

(2) NO PARKING	LEGEND
(3) PRIVATE DRIVE	EX. GRADE 12' LEFT
(A) FIRE LANE "A"	EX. GRADE @ ℄
(B) FIRE LANE "B"	EX. GRADE 12' RIGHT
(C) FIRE LANE "C"	

No.	DATE	DESCRIPTION
1	01/30/06	WATER STRUCTURE 29 ADDED (FIRE HYDRANT)
2	01/30/06	SIDE ELEVATIONS OF HAMILTON AND BATTLEFIELD PROFILES ADJUSTED.
3	01/30/06	TYPICAL STREET SECTIONS AMENDED.

REVISIONS

PLAN DATE
10/07/05
12/01/05
02/03/06
02/28/06

Urban Engineering & Associates, Inc.
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PHONE (540) 450-0211 FAX (540) 450-0210

DALE E. LELLOCK REGISTERED #15157 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER 02/28/06

Plan & Profile - Hamilton Street & Battlefield Drive

HUNTFIELD
Recreation Center (Active Community Center #1)

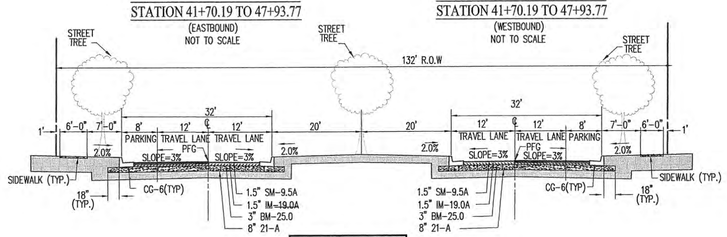
CHARLES TOWN CORPORATION
JEFFERSON COUNTY, WEST VIRGINIA

SCALE: 1"=5'(V), 1"=50'(H) C.I. N/A DATE: OCTOBER 2005

SHEET 5 OF 15

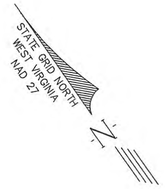
PP-20125

TYPICAL SECTION
PROSPECT HILL BOULEVARD
STATION 41+70.19 TO 47+93.77
(EASTBOUND)
NOT TO SCALE

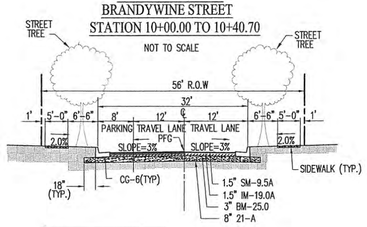


TYPICAL SECTION
PROSPECT HILL BOULEVARD
STATION 41+70.19 TO 47+93.77
(WESTBOUND)
NOT TO SCALE

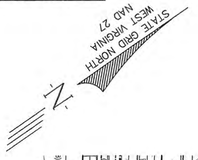
NOTE:
FOR FC TO FC = 32'
T.C. LEFT = PFG – 0.46'
T.C. RIGHT = PFG – 0.46'



TYPICAL SECTION
BRANDYWINE STREET
STATION 10+00.00 TO 10+40.70
NOT TO SCALE



NOTE:
FOR FC TO FC = 30'
T.C. LEFT = PFG + 0.17'
T.C. RIGHT = PFG – 0.07'



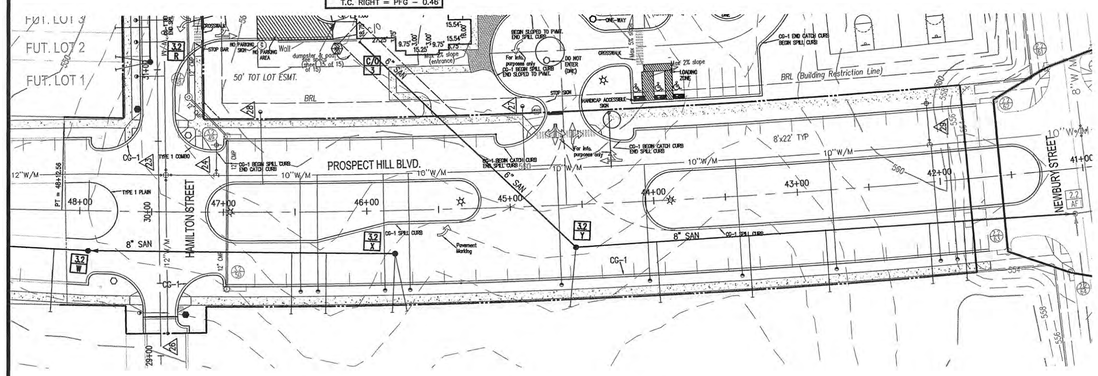
WATER FITTING TABLE

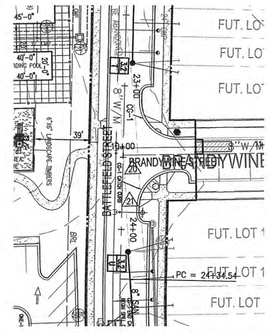
SYMBOL	DESCRIPTION	STATION
1	1–8"X8" CROSS, 4–8" VALVES	20+77.46 BATTLEFIELD DRIVE = 33+04.61 HAMILTON ST.
2	1–8"X6" TEE, 1–6" VALVE, 1 FH	21+14.00 BATTLEFIELD DRIVE
3	1–8"X8" TEE, 3–8" VALVES	23+43.63 BATTLEFIELD DRIVE = 9+05.18 BRANDYWINE ST.
4	1–8"X6" TEE, 1–6" VALVE, 1 FH	23+88.00 BATTLEFIELD DRIVE
5	1–12"X12" CROSS, 2–12" VALVES, 1–12"X10" REDUCER, 1–10" VALVE, 1–12 X 8" REDUCER, 1–8" VALVE	47+40.35 PROSPECT HILL BLVD. = 30+25.89 HAMILTON ST.
6	1–10"X6" TEE, 1–6" VALVE, 1 FH	47+05.00 PROSPECT HILL BLVD.
7	2" BOV	29+15.25 HAMILTON STREET
8	1–2" TAP OFF OF WATER MAIN LEADING TO 1–1.5" WATER METER (RECREATION CTR SERVICE)	44+89.19 PROSPECT HILL BLVD.
9	1–1.5" TAP OFF OF WATER MAIN LEADING TO 1–1" WATER METER (POOL SERVICE)	46+75.00 PROSPECT HILL BLVD.
10	1–10"X6" TEE, 1–6" VALVE, 1 FH	42+05.00 PROSPECT HILL BLVD.

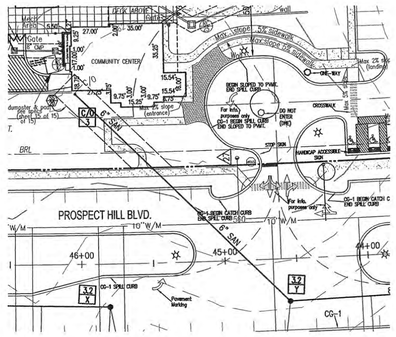
GRAPHIC SCALE

50 0 25 50 100 200

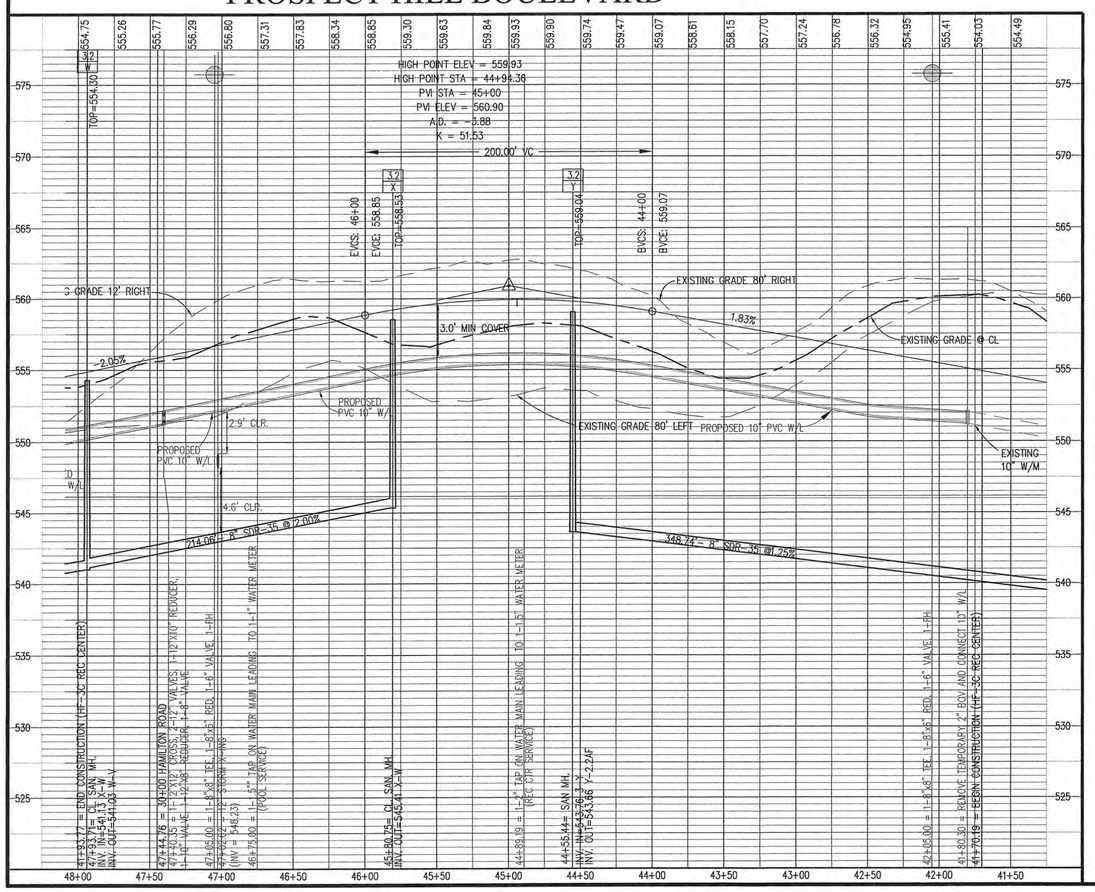
(IN FEET)
1 inch = 50 ft.



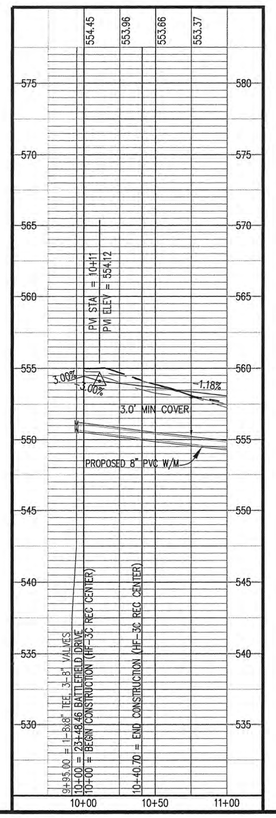




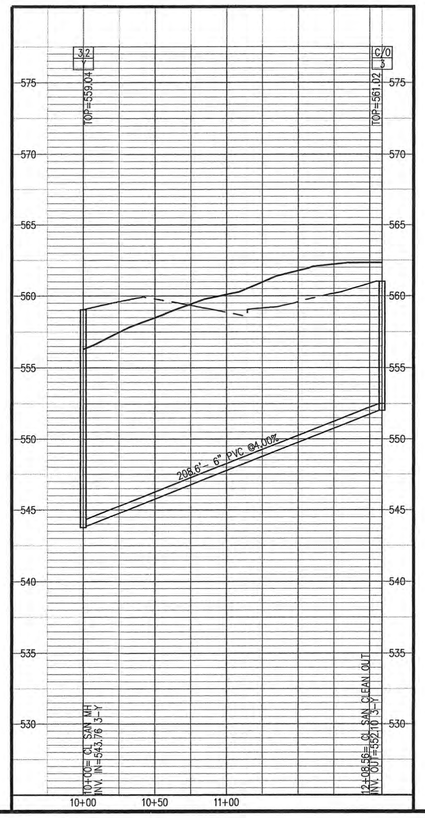
PROSPECT HILL BOULEVARD



BRANDYWINE STREET



SANITARY CLEAN-OUT



EASEMENT LEGEND

- DENOTES COMMON SHARED EASEMENT
- DENOTES PUBLIC ACCESS EASEMENT
- DENOTES INGRESS–EGRESS EASEMENT
- DENOTES SIGHT DISTANCE EASEMENT
- DENOTES STORM DRAIN EASEMENT
- DENOTES SANITARY SEWER EASEMENT 10' WIDE UNLESS OTHERWISE NOTED
- DENOTES WATER MAIN EASEMENT 10' WIDE UNLESS OTHERWISE NOTED

LEGEND
EXISTING EASEMENT

- DENOTES COMMON SHARED EASEMENT
- DENOTES PUBLIC ACCESS EASEMENT
- DENOTES INGRESS–EGRESS EASEMENT
- DENOTES SIGHT DISTANCE EASEMENT
- DENOTES STORM DRAIN EASEMENT
- DENOTES SANITARY SEWER EASEMENT 10' WIDE UNLESS OTHERWISE NOTED
- DENOTES WATER MAIN EASEMENT 10' WIDE UNLESS OTHERWISE NOTED

LEGEND:

- PROPOSED CURB
- PROPOSED ROLL CURB
- PROPOSED HANDICAP RAMP
- PRE–BLAST FOR FUTURE UTILITIES
- WATER METER
- STREET LIGHT
- STREET SIGN
- STOP SIGN
- ALLEY PAVEMENT

	LEGEND
2 NO PARKING	EX. GRADE 12' LEFT
3 PRIVATE DRIVE	EX. GRADE @ ℄
A FIRE LANE "A"	EX. GRADE 12' RIGHT
B FIRE LANE "B"	
C FIRE LANE "C"	

No.	DATE	DESCRIPTION
1	01/30/06	WATER STRUCTURE 29 ADDED (FIRE HYDRANT)
2	01/30/06	FIRE HYDRANT ADDED @ 42+05.00 PROSPECT HILL BLVD.
3	01/30/06	TOP ELEVATION OF C/O 3 ADJUSTED ON PROFILE.
4	01/30/06	TYPICAL STREET SECTIONS AMENDED.
5	01/30/06	SIDEWALK AT PROSPECT HILL BLVD. ENTRANCE AMENDED TO ALLOW FOR SIGHT DISTANCE.

REVISIONS

PLAN DATE
10/07/05
12/01/05
02/03/06
02/28/06

Urban Engineering & Associates, Inc.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
PEGASUS BUSINESS CENTER
600 PEGASUS COURT - SUITE 101 WINCHESTER, VIRGINIA 22602
PHONE (540) 450-0211 FAX (540) 450-0210

DAVID E. LELLOCK REGISTERED #15137 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
02/28/06

Plan & Profile - Prospect Hill Blvd., Brandywine Street & Sanitary Cleanout

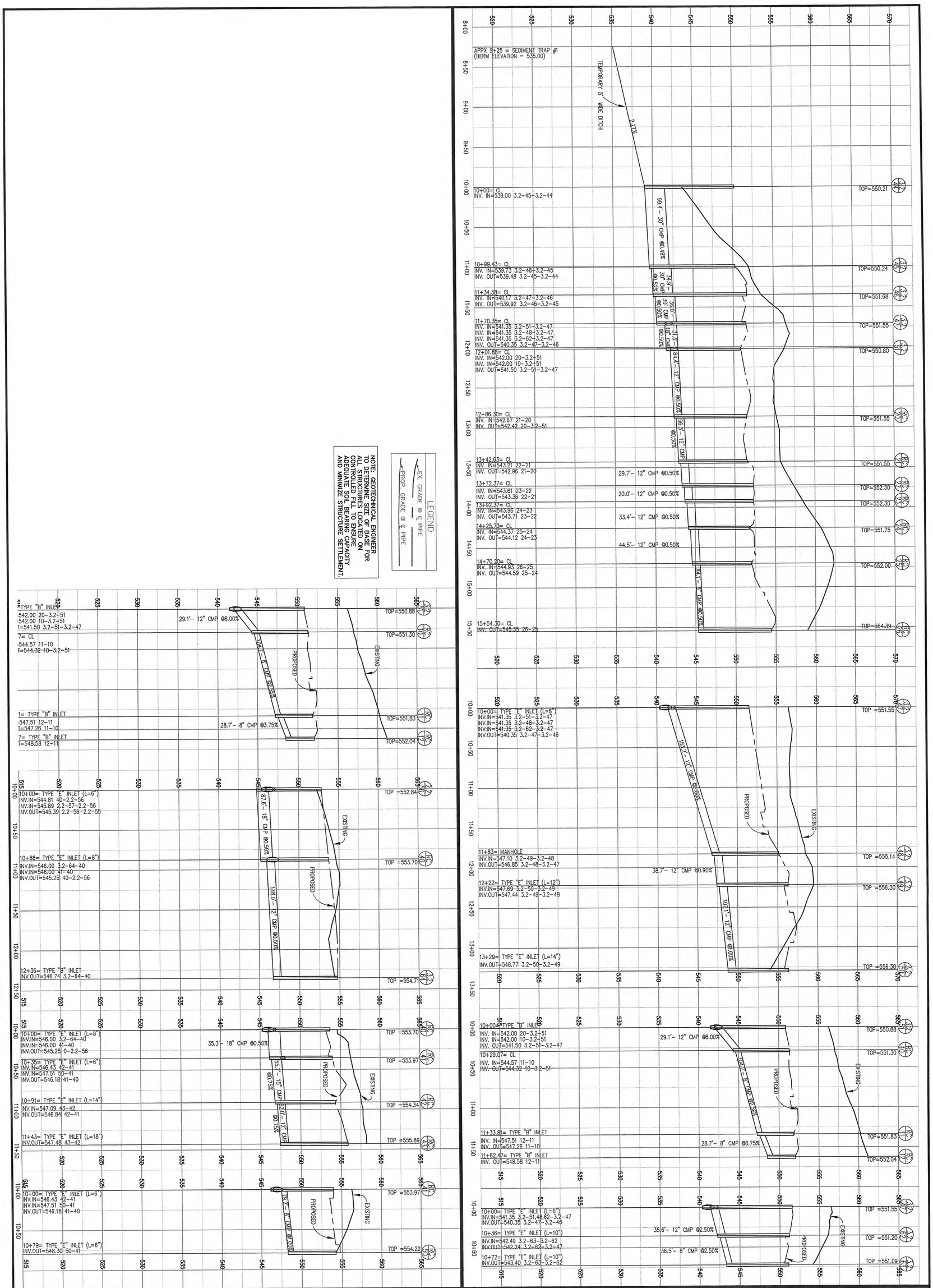
HUNTFIELD
Recreation Center (Active Community Center #1)

CHARLES TOWN CORPORATION
JEFFERSON COUNTY, WEST VIRGINIA

SCALE: 1"=5'(V), 1"=50'(H) C.I. N/A DATE: OCTOBER 2005

SHEET 6 OF 15

PP-20125



Storm Profiles

HUNTFIELD
Recreation Center (Active Community Center #1)

CHARLES TOWN CORPORATION
JEFFERSON COUNTY, WEST VIRGINIA

SCALE: (H) 1"=50' (V) 1"=5' C.I. = N/A DATE: OCTOBER 2005

PP-20125 SHEET 7 OF 15

DAVID E. ELLICK REGISTERED #15137 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER 02/28/06

Urban Engineering & Associates, Inc.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
PEGASUS BUSINESS CENTER
600 PEGASUS COURT - SUITE 101 WINCHESTER, VIRGINIA 22602
PHONE (540) 450-0211 FAX (540) 450-0210

PLAN DATE
10/07/05
12/07/05
02/03/06
02/28/06

No.	DATE	DESCRIPTION
1	11/30/05	AMENDED STM PRF RC 12-10, 3.2-51

REVISIONS

STORM PIPE TABLE

From Point	To Point	Drainage Area	C Factor	C x A Increment	C x A Cumm.	Inlet Time Min.	Rain Fall In/Hr	Runoff Q C.F.S.	Invert Elevation Upper End	Invert Elevation Lower End	Length FT.	Slope %	Dia. IN.	Capacity Q C.F.S.	VEL. F.P.S.	Flow Time MIN.
-																
26	25	0.15	0.5	0.08	0.08	5.00	6.88	0.52	545.35	544.93	84.10	0.50%	8	1.11	3.13	0.45
25	24	0.10	0.71	0.07	0.15	5.00	6.88	1.00	544.59	544.37	44.47	0.50%	12	3.28	3.67	0.20
24	23	0.07	0.85	0.06	0.21	5.00	6.88	1.41	544.12	543.96	33.35	0.50%	12	3.28	4.02	0.14
23	22	0.01	0.85	0.01	0.21	5.00	6.88	1.48	543.71	543.61	20.00	0.50%	12	3.28	4.07	0.08
22	21	0.01	0.85	0.01	0.22	5.00	6.88	1.54	543.36	543.21	29.75	0.50%	12	3.28	4.11	0.12
21	20	0.04	0.85	0.03	0.26	5.00	6.88	1.77	542.96	542.67	56.33	0.50%	12	3.28	4.26	0.22
20	3.2-51	0.03	0.85	0.03	0.28	5.00	6.88	1.95	542.42	542.00	84.42	0.50%	12	3.28	4.36	0.32
3.2-51	3.2-47	0.14	0.7	0.10	0.68	5.00	6.88	4.71	541.50	541.35	31.53	0.50%	18	6.92	4.21	0.12
3.2-47	3.2-46	0.08	0.65	0.05	1.54	5.00	6.88	10.56	540.35	540.17	35.97	0.50%	30	21.00	4.28	0.14
3.2-46	3.2-45	0.14	0.65	0.09	1.63	5.00	6.88	11.19	539.92	539.73	36.16	0.50%	30	21.00	4.35	0.14
*																
3.2-50	3.2-49	0.52	0.51	0.27	0.27	5.00	6.88	1.82	548.77	547.69	107.14	1.00%	12	4.64	5.56	0.32
3.2-49	3.2-48	0.37	0.65	0.24	0.51	5.00	6.88	3.48	547.44	547.10	38.69	0.90%	12	4.41	6.22	0.10
3.2-48	3.2-47	0.00	0	0.00	0.51	5.00	6.88	3.48	546.85	541.35	183.20	3.00%	12	8.04	9.87	0.31
*																
12	11	0.03	0.75	0.02	0.02	5.00	6.88	0.15	548.58	547.51	28.67	3.75%	8	3.05	4.58	0.10
11	10	0.02	0.75	0.02	0.04	5.00	6.88	0.26	547.26	544.58	104.74	2.56%	8	2.52	4.65	0.38
10	3.2-51	0.38	0.7	0.27	0.30	5.00	6.88	2.09	544.33	542.00	29.07	8.00%	8	4.46	12.56	0.04
*																
3.2-63	3.2-62	0.41	0.35	0.14	0.14	5.00	6.88	0.99	543.40	542.49	36.52	2.50%	12	7.34	6.52	0.09
3.2-62	3.2-47	0.23	0.65	0.15	0.29	5.00	6.88	2.02	542.24	541.35	35.59	2.50%	12	7.34	7.98	0.07
*																
3.2-64	40	0.03	0.5	0.02	0.02	5.00	6.88	0.10	546.74	546.00	147.97	0.50%	12	3.28	1.90	1.30
40	2.2-56	0.26	0.35	0.09	0.73	5.00	6.88	5.02	545.25	544.81	87.61	0.50%	18	6.92	4.27	0.34
*																
42	41	0.36	0.65	0.23	0.55	5.00	6.88	3.80	546.84	546.43	55.65	0.75%	15	6.08	5.23	0.18
41	40	0.07	0.65	0.05	0.62	5.00	6.88	4.29	546.18	546.00	35.32	0.50%	18	6.92	4.12	0.14
*																
50	41	0.04	0.65	0.03	0.03	5.00	6.88	0.18	548.30	547.51	79.23	1.00%	8	1.58	3.00	0.44
*																
2.2-65	2.2-64	0.13	0.63	0.08	0.08	5.00	6.88	0.56	546.36	546.19	34.55	0.50%	15	4.96	2.68	0.21
2.2-64	2.2-63	0.25	0.63	0.16	0.24	5.00	6.88	1.65	545.94	545.70	46.59	0.50%	15	4.96	3.63	0.21
2.2-63	2.2-62	0.84	0.55	0.46	0.70	5.00	6.88	4.83	545.45	544.92	107.16	0.50%	18	6.92	4.23	0.42
2.2-62	2.2-61	0.63	0.65	0.41	1.11	5.00	6.88	7.64	544.67	544.45	43.34	0.50%	21	10.43	4.74	0.15
2.2-61	2.2-60	0.20	0.4	0.08	1.19	5.00	6.88	8.19	544.20	544.03	34.19	0.50%	21	10.43	4.80	0.12
*																
2.2-59	2.2-58	0.08	0.63	0.05	0.05	5.00	6.88	0.35	546.93	546.74	36.91	0.50%	15	4.96	2.33	0.26
2.2-58	2.2-57	0.06	0.45	0.03	0.08	5.00	6.88	0.53	546.49	546.32	34.97	0.50%	15	4.96	2.64	0.22
2.2-57	2.2-56	0.27	0.35	0.09	0.17	5.00	6.88	1.18	546.07	545.89	36.31	0.50%	15	4.96	3.32	0.18
2.2-56	2.2-55	0.19	0.35	0.07	0.97	5.00	6.88	6.66	545.39	545.01	37.83	1.00%	18	9.78	5.95	0.11
*																
43	42	0.49	0.65	0.32	0.32	5.00	6.88	2.19	547.48	547.09	52.00	0.75%	12	4.02	5.23	0.17
*																
3.2-45	3.2-44	0.08	0.65	0.05	1.68	5.00	6.88	11.54	539.48	539.00	96.91	0.50%	30	21.00	4.38	0.37

HYDRAULIC GRADE LINE COMPUTATIONS

INLET STATION (1)	UPSTREAM INLET	Outlet Water Surface Elev. (2)	Do in (3)	Qo cfs (4)	Lo ft (5)	Sfo % (6)	Hf ft (7)	JUNCTION LOSS Vo (8)	Ho (9)	Qi (10)	Vi (11)	QiVi (12)	2 Vi /2g	Hi (13)	Angle (14)	Hd (15)	Ht (16)	1.3 Ht (17)	0.5 Ht (18)	FINAL H (19)	Inlet Water Surface Elev. (20)	RIM ELEV. (21)
																			Starting Elevation		541.50	
3.2-44														0.03		0.04	0.09	0.12	0.06	0.35	541.85	550.21
3.2-45		541.50	30	11.54	96.91	0.30	0.29	2.4	0.02													
	3.2-46		30							11.19	2.28	25.50	0.08		54							
3.2-46		542.23	30	11.19	36.16	0.28	0.10	2.3	0.02					0.03		0.02	0.07	0.09	0.05	0.15	542.38	551.68
	3.2-47		30							10.56	2.15	22.72	0.07		36							
3.2-47		542.67	30	10.56	35.97	0.25	0.09	2.2	0.02					0.11		0.20	0.32	0.42	0.21	0.30	542.97	551.55
	3.2-51		18							4.71	2.66	12.54	0.11	0.04	25	0.02						
	3.2-48		12							3.48	4.43	15.41	0.30	0.11	78	0.20						
	3.2-62		12							2.02	2.57	5.17	0.10	0.04	288	0.07						
3.2-51		542.97	18	4.71	31.53	0.46	0.15	2.7	0.03					0.19		0.39	0.61	0.79	0.40	0.54	543.51	550.80
	20		12							1.95	2.48	4.82	0.10	0.03	12	0.01						
	10		8							2.09	5.98	12.49	0.56	0.19	103	0.39						
20		543.51	12	1.95	84.42	0.35	0.30	2.5	0.02					0.03		0.00	0.05	0.07	0.03	0.33	543.84	551.55
	21		12							1.77	2.25	3.99	0.08		3							
21		543.84	12	1.77	56.33	0.29	0.16	2.3	0.02					0.02		0.04	0.08	0.11	0.05	0.22	544.06	551.00
	22		12							1.54	1.96	3.01	0.06		88							
22		544.21	12	1.54	29.75	0.22	0.07	2.0	0.01					0.02		0.00	0.03	0.04	0.02	0.09	544.29	552.40
	23		12							1.48	1.88	2.78	0.06		0							
23		544.61	12	1.48	20.00	0.20	0.04	1.9	0.01					0.02		0.00	0.04	0.05	0.02	0.06	544.67	552.30
	24		12							1.41	1.80	2.55	0.05		13							
24		544.96	12	1.41	33.35	0.19	0.06	1.8	0.01					0.01		0.02	0.04	0.05	0.02	0.09	545.04	551.75
	25		12							1.00	1.28	1.28	0.03		71							
25		545.37	12	1.00	44.47	0.09	0.04	1.3	0.01					0.01		0.02	0.04	0.05	0.02	0.06	545.44	551.50
	26		8							0.52	1.48	0.76	0.03		54							
26		545.59	8	0.52	84.10	0.21	0.18	1.478	0.01					0.00		0.00	0.01	0.01	0.01	0.19	545.78	550.70
	0									0.52	0.00	0.00	0.00		0							
3.2-62		542.97	12	2.02	35.59	0.08	0.03	2.6	0.03					0.01		0.00	0.04	0.05	0.02	0.05	543.02	551.20
	3.2-63		12							0.99	1.26	1.24	0.02		12							
3.2-63		543.49	12	0.99	36.52	0.02	0.01	1.257	0.01					0.00		0.00	0.01	0.01	0.00	0.01	543.50	551.09
	0									0.99	0.00	0.00	0.00		0							
3.2-48		542.97	12	3.48	183.20	0.19	0.34	4.4	0.08					0.11		0.13	0.31	0.40	0.20	0.54	543.51	555.14
	3.2-49		12							3.48	4.43	15.41	0.30		43							
3.2-49		548.10	12	3.48	38.69	0.62	0.24	4.4	0.08					0.03		0.04	0.14	0.18	0.09	0.33	548.43	556.30
	3.2-50		12							1.82	2.32	4.24	0.08		44							
3.2-50		548.69	12	1.82	107.14	0.15	0.17	2.323	0.02					0.00		0.00	0.02	0.03	0.01	0.18	548.87	556.30
	0									1.82	0.00	0.00	0.00		0							
10		543.51	8	2.09	29.07	0.22	0.06	6.0	0.14					0.00		0.00	0.14	0.19	0.09	0.16	543.67	551.30
	11		8							0.26	0.74	0.19	0.01		27							
11		545.24	8	0.26	104.74	0.01	0.01	0.7	0.00					0.00		0.00	0.00	0.01	0.00	0.01	545.26	551.83
	12		8							0.15	0.44	0.07	0.00		62							
12		548.17	8	0.15	28.67	0.00	0.00	0.443	0.00					0.00		0.00	0.00	0.00	0.00	0.00	548.17	552.04
	0									0.15	0.00	0.00	0.00		0							

STORM INLET COMPUTATIONS

INLET NUMBER	TYPE	LENGTH 2.5	TOTAL DEPTH (FT)	DRAINAGE AREA	C	C x A	C x A W	INTENSITY	Q INCR	Q CARRY OVER	Q TOTAL	S GUTTER	Sx CROSS SLOPE	T SPREAD	W	W/T	Sw	Sw/Sx	Eo	a	S'w	Se	Lt	P EFFECTIVE LENGTH	L/Lt	d	E	h	Q INT	d/H	Qb CARRY OVER
26	TYPE "B"			0.15	0.50	0.08	0.08	5.28	0.40	0.00	0.40													1.57		0.19					
25	TYPE "B"			0.10	0.71	0.07	0.07	5.28	0.37	0.00	0.37													1.57		0.19					
24	TYPE "B"			0.07	0.85	0.06	0.06	5.28	0.31	0.00	0.31													1.57		0.16					
23	POOL DECK			0.01	0.85	0.01	0.01	5.28	0.05	0.00	0.05													1.57		0.05					
22	POOL DECK			0.01	0.85	0.01	0.01	5.28	0.04	0.00	0.04													1.57		0.04					
21	TYPE "B"			0.04	0.85	0.03	0.03	5.28	0.18	0.00	0.18													1.57		0.11					
20	TYPE "B"			0.03	0.85	0.03	0.03	5.28	0.13	0.00	0.13													1.57		0.09					
3.2-51	TYPE "B"			0.14	0.70	0.10	0.10	5.28	0.52	0.00	0.52													1.57		0.23					
3.2-47	TYPE "E"	6.0		0.08	0.65	0.05	0.05	5.28	0.27	0.00	0.27	0.0154	0.0200	3.77	1.50	0.40	0.0300	1.50	0.78	1.68	0.09	0.09	5.16		1.16		1.00		0.27		0.00
3.2-46	TYPE "E"	8.0		0.14	0.65	0.09	0.09	5.28	0.48	0.00	0.48	0.0154	0.0200	4.75	1.50	0.32	0.0300	1.50	0.67	1.68	0.09	0.08	6.99		1.14		1.00		0.48		0.00
*																															
3.2-50	TYPE "E"	14.0		0.52	0.51	0.27	0.27	5.28	1.40	0.00	1.40	0.0205	0.0200	6.85	1.50	0.22	0.0300	1.50	0.51	1.68	0.09	0.07	13.49		1.04		1.00		1.40		0.00
3.2-49	TYPE "E"	12.0		0.37	0.65	0.24	0.24	5.28	1.27	0.00	1.27	0.0205	0.0200	6.59	1.50	0.23	0.0300	1.50	0.52	1.68	0.09	0.07	12.78		0.94		0.99		1.26		0.01
3.2-47	TYPE "E"	6.0		0.08	0.65	0.05	0.05	5.28	0.27	0.00	0.27	0.0154	0.0200	3.77	1.50	0.40	0.0300	1.50	0.78	1.68	0.09	0.09	5.16		1.16		1.00		0.27		0.00
*																															
12	TYPE "B"			0.03	0.75	0.02	0.02	5.28	0.12	0.00	0.12													1.57		0.09					
11	TYPE "B"			0.02	0.75	0.02	0.02	5.28	0.08	0.00	0.08													1.57		0.07					
10	TYPE "F"	14.0		0.38	0.70	0.27	0.27	5.28	1.40	0.00	1.40	0.0204	0.0200	6.86	1.50	0.22	0.0300	1.50	0.51	1.68	0.09	0.07	13.50		1.04		1.00		1.40		0.00
*																															
3.2-63	TYPE "E"	10.0		0.41	0.35	0.14	0.14	5.28	0.76	0.00	0.76	0.0147	0.0200	5.74	1.50	0.26	0.0300	1.50	0.58	1.68	0.09	0.07	8.88		1.13		1.00		0.76		0.00
3.2-62	TYPE "E"	10.0		0.23	0.65	0.15	0.15	5.28	0.79	0.00	0.79	0.0147	0.0200	5.84	1.50	0.26	0.0300	1.50	0.58	1.68	0.09	0.07	9.09		1.10		1.00		0.79		0.00
*																															
3.2-64	TYPE "B"	2.5		0.03	0.50	0.02	0.02	5.28	0.08	0.00	0.08	0.0100	0.0200	2.01	1.50	0.75	0.0300	1.50	0.98	1.68	0.09	0.11	2.40		1.04		1.00		0.08		0.00
40	TYPE "E"	8.0		0.26	0.35	0.09	0.09	5.28	0.48	0.00	0.48	0.0098	0.0200	5.20	1.50	0.29	0.0300	1.50	0.63	1.68	0.09	0.08	6.28		1.27		1.00		0.48		0.00
2.2-56	TYPE "E"	6.0		0.19	0.35	0.07	0.07	5.28	0.35	0.00	0.35	0.0140	0.0200	4.26	1.50	0.35	0.0300	1.50	0.72	1.68	0.09	0.09	5.76		1.04		1.00		0.35		0.00
*																															
42	TYPE "E"	14.0		0.36	0.65	0.23	0.23	5.28	1.24	0.00	1.24	0.0172	0.0200	6.75	1.50	0.22	0.0300	1.50	0.51	1.68	0.09	0.07	12.08		1.16		1.00		1.24		0.00
41	TYPE "E"	6.0		0.07	0.65	0.05	0.05	5.28	0.24	0.00	0.24	0.0074	0.0200	4.15	1.50	0.36	0.0300	1.50	0.73	1.68	0.09	0.09	4.03		1.49		1.00		0.24		0.00
*																															
50	TYPE "E"	6.0		0.04	0.65	0.03	0.03	5.28	0.14	0.00	0.14	0.0084	0.0200	3.19	1.50	0.47	0.0300	1.50	0.85	1.68	0.09	0.10	3.08		1.95		1.00		0.14		0.00
*																															
2.2-59	TYPE "E"	6.0		0.08	0.63	0.05	0.05	5.28	0.27	0.00	0.27	0.0100	0.0200	4.07	1.50	0.37	0.0300	1.50	0.74	1.68	0.09	0.09	4.57		1.31		1.00		0.27		0.00
2.2-58	TYPE "E"	6.0		0.06	0.45	0.03	0.03	5.28	0.14	0.00	0.14	0.0100	0.0200	3.13	1.50	0.48	0.0300	1.50	0.86	1.68	0.09	0.10	3.29		1.83		1.00		0.14		0.00
2.2-57	TYPE "E"	8.0		0.27	0.35	0.09	0.09	5.28	0.50	0.00	0.50	0.0140	0.0200	4.91	1.50	0.31	0.0300	1.50	0.66	1.68	0.09	0.08	6.98		1.15		1.00		0.50		0.00
*																															
43	TYPE "E"	18.0		0.49	0.65	0.32	0.32	5.28	1.68	0.00	1.68	0.0250	0.0200	7.07	1.50	0.21	0.0300	1.50	0.50	1.68	0.09	0.07	15.64		1.15		1.00		1.68		0.00

No.	DATE	DESCRIPTION
1	11/29/05	UPDATE TABLES FOR STM 10 AND RUN 12-10
1	02/01/06	UPDATE TABLES (3.2-63 TO 3.2-62)

REVISIONS

PLAN DATE
10/07/05
12/07/05
02/01/06
02/28/06

Urban Engineering & Associates, Inc.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
PEGASUS BUSINESS CENTER
600 PEGASUS COURT - SUITE 101 WINCHESTER, VIRGINIA 22602
PHONE (540) 450-0211 FAX (540) 450-0210

DAVID E. ELLLOCK REGISTERED PROFESSIONAL ENGINEER STATE OF VIRGINIA #15137 02/28/06

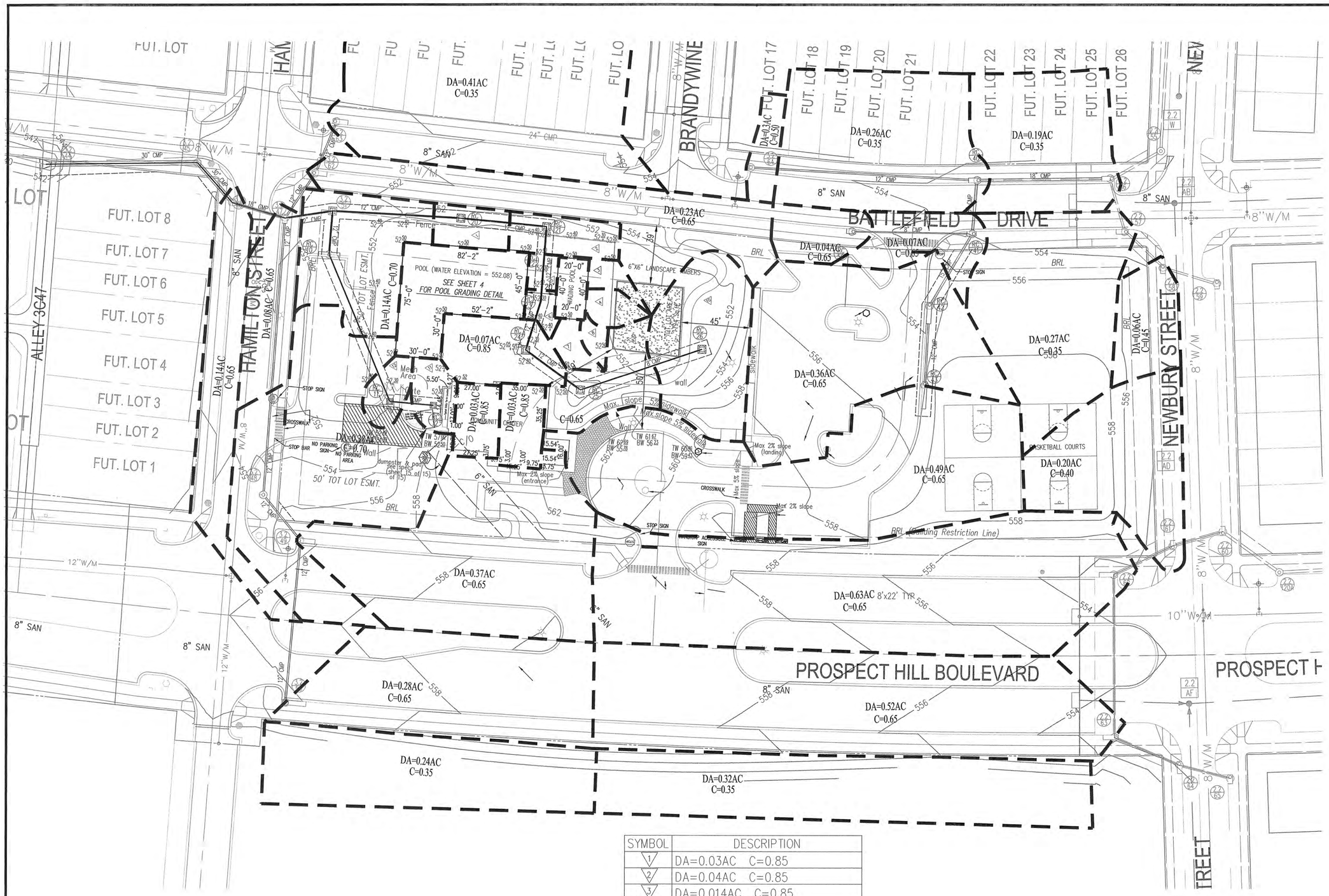
Storm Inlet & HGL Computations

HUNTFIELD
Recreation Center (Active Community Center #1)
CHARLES TOWN CORPORATION
JEFFERSON COUNTY, WEST VIRGINIA

SCALE: (H) 1"=50' (V) 1"=5' C.I. = N/A
DATE: OCTOBER 2005

SHEET 8 OF 15

PP-20125



SYMBOL	DESCRIPTION
1	DA=0.03AC C=0.85
2	DA=0.04AC C=0.85
3	DA=0.014AC C=0.85
4	DA=0.02AC DA=0.75
5	DA=0.01AC C=0.85
6	DA=0.011AC C=0.85
7	DA=0.015AC C=0.85
8	DA=0.01AC C=0.85
9	DA=0.07AC C=0.65
10	DA=0.15AC C=0.50
11	DA=0.03AC C=0.75
12	DA=0.02AC C=0.75

LEGEND

DRAINAGE DIVIDE

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

No.	DATE	DESCRIPTION
		REVISIONS

PLAN DATE
10/07/05
12/03/05
02/03/06
02/28/06

Urban Engineering & Associates, Inc.
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02/28/06

Overall Drainage Divides

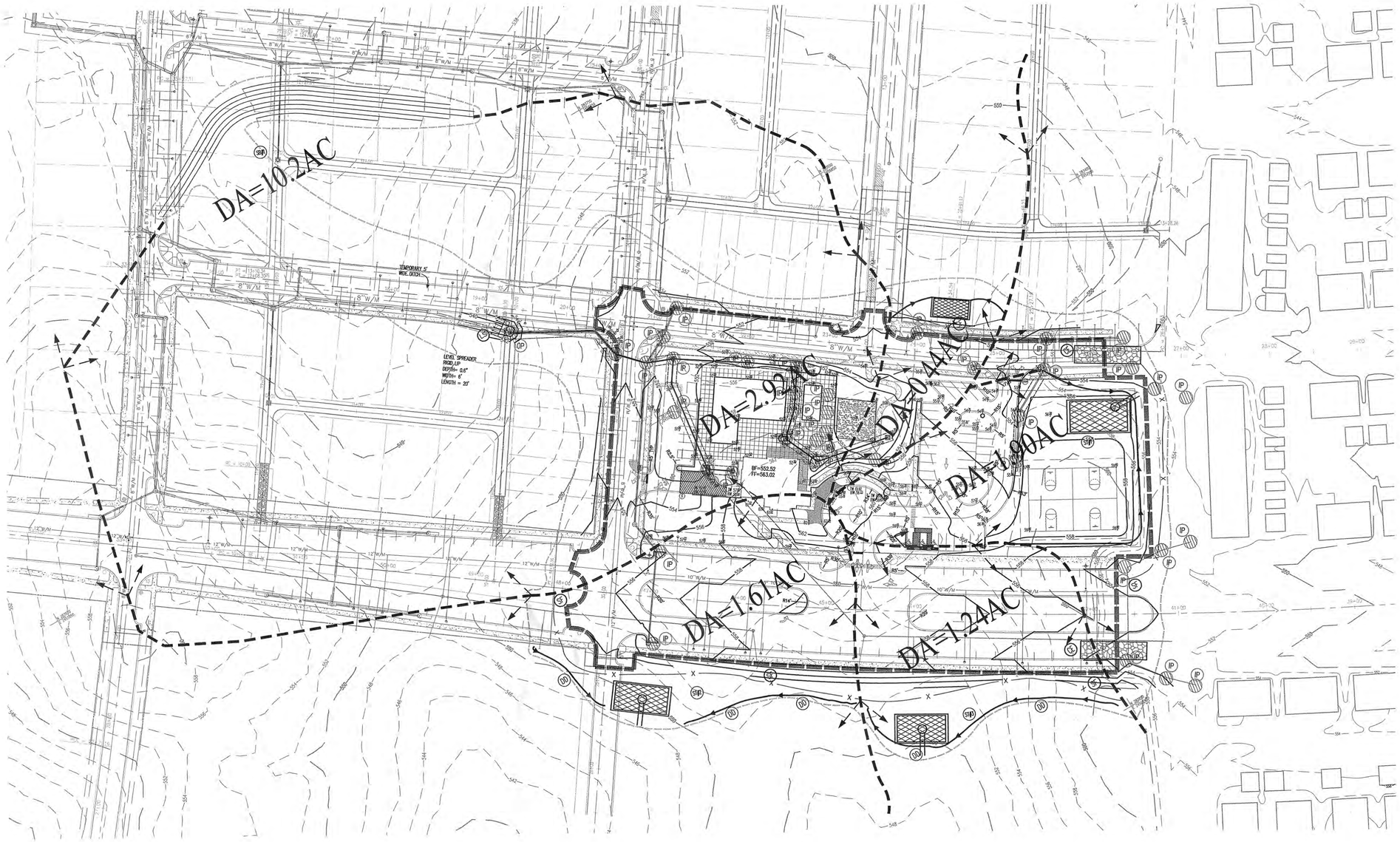
HUNTFIELD
Recreation Center (Active Community Center #1)

CHARLES TOWN CORPORATION
JEFFERSON COUNTY, WEST VIRGINIA

SCALE: 1"=30' C.I. = 2' DATE: OCTOBER 2005

SHEET 9 OF 15

PP-20125



EROSION AND SEDIMENT CONTROL LEGEND

4.79	OUTLET PROTECTION	OP
5.9	CHECK DAM	CD
5.5	SILT FENCE	SF
	STORM DRAIN INLET PROTECTION	IP
3.6	PERMANANT SEEDING	PS
3.33	MULCHING	MU
4.11	TEMPORARY DIVERSION DIKE	DD
5.16	TEMPORARY CONSTRUCTION ENTRANCE	CE
4.31	SEDIMENT TRAP	ST
	LIMITS OF CLEARING	LOC
	PRE-DEVELOPMENT DRAINAGE DIVIDE	
	POST-DEVELOPMENT DRAINAGE DIVIDE	

STATE GRID NORTH
WEST VIRGINIA
NAD 27

N

GRAPHIC SCALE

60 0 30 60 120 240

(IN FEET)
1 inch = 60 ft.

No.	DATE	DESCRIPTION
1	01/30/06	CONSTRUCTION ENTRANCES ADDED.
1	01/30/06	DIVERSION DIKE AND SILT FENCE AMENDED PER WVDEP COMMENTS.

REVISIONS

PLAN DATE
10/07/05
12/07/05
02/03/06
02/28/06

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DAVID L. LLOCK
REGISTERED
#15137
STATE OF VIRGINIA
PROFESSIONAL ENGINEER
02/28/06

Overall Erosion & Sediment Control

HUNTFIELD
Recreation Center (Active Community Center #1)

CHARLES TOWN CORPORATION
JEFFERSON COUNTY, WEST VIRGINIA

SCALE: 1"=60'
C.I. = 2'
DATE: OCTOBER 2005

SHEET 10 OF 15

PP-20125

PROJECT: Huntfield Rec Center
BASIN # 1 **LOCATION:** Per Plan

TOTAL AREA DRAINING TO BASIN: 10.20 acres

BASIN VOLUME DESIGN

WET STORAGE:

1 MINIMUM REQUIRED VOLUME = 67 cu. yds. x TOTAL DRAINAGE AREA (ACRES)
67 cu. yds. X 10.20 Acres = 683 cu. yds.

2 AVAILABLE BASIN VOLUME = 945.6 cu. yds. AT ELEVATION 533.20
(FROM STORAGE - ELEVATION CURVE)

3 EXCAVATE 945.6 cu. yds. To obtain required volume
(ELEVATION CORRESPONDING TO REQUIRED VOLUME = INVERT OF DEWATERING ORIFICE)

4 AVAILABLE VOLUME BEFORE CLEANOUT REQUIRED.
33 cu. yds. X 10.20 Acres = 337 cu. yds.

5 ELEVATION CORRESPONDING TO CLEANOUT LEVEL = 532.20
(FROM STORAGE - ELEVATION CURVE)

6 DIST. FROM INV.OF DEWATERING ORIFICE TO CLEANOUT LEVEL = 1.00 Ft.
(MIN. = 1.0 Ft.)

DRY STORAGE:

7 MINIMUM REQUIRED VOLUME = 67 cu. yds. x TOTAL DRAINAGE AREA (ACRES).
67 cu. yds. X 10.20 Acres = 683 cu. yds.

8 TOTAL AVAILABLE BASIN VOLUME AT CREST OF RISER = 1004.5 cu. yds.
(FROM STORAGE - ELEVATION CURVE) AT ELEVATION 534.20
S= 27,121 cu. ft.
Q= 1.26 cfs
h (avg)= 0.31 Ft.
A= 0.4715 SF
d= 0.78 Ft.

9 DIAMETER OF DEWATERING ORIFICE = 9.3 IN.

10 DIAMETER OF OF FLEXIBLE TUBING = 11.3 IN.
(DIAMETER OF DEWATERING ORIFICE PLUS 2 INCHES)

PRELIMINARY DESIGN ELEVATIONS

11
CREST OF RISER = 534.20
TOP OF DAM = 538.00
DESIGN HIGH WATER = 535.16
UPSTREAM TOE OF DAM = 532.00

12 LENGTH OF FLOW (L) = 226 = 3.6
EFFECTIVE WIDTH (We) = 62.4
IF > 2, BAFFLES ARE NOT REQUIRED 'X'
IF < 2, BAFFLES ARE REQUIRED

RUNOFF

Q=C*I*A

13 Q2 = **10.20 x 0.35 x 5.17 = 18.46**

14 Q25 = **10.20 x 0.35 x 7.74 = 27.63**
(FROM CHAPTER 5)

PRINCIPAL SPILLWAY DESIGN

15 WITH EMERGENCY SPILLWAY, REQUIRED SPILLWAY CAPACITY Qp = Q2 = **N/A** cfs

WITHOUT EMERGENCY SPILLWAY, REQUIRED SPILLWAY CAPACITY Qp = Q25 = **27.63** cfs

16 WITH EMERGENCY SPILLWAY:
ASSUMED AVAILABLE HEAD (h) = **N/A** ft. (USING Q2)
h = CREST OF EMERGENCY SPILLWAY ELEVATION - CREST OF RISER ELEVATION
WITHOUT EMERGENCY SPILLWAY:
ASSUMED AVAILABLE HEAD (h) = **0.96** ft. (USING Q25)
h = DESIGN HIGH WATER ELEVATION - CREST OF RISER ELEVATION

17 RISER DIAMETER (Dr) = 36 in. ACTUAL HEAD (h) = 0.96 ft.
(FROM PLATE 3.14-8) **NUMBER OF RISERS=** 1
NOTE: AVOID ORIFICE FLOW CONDITIONS. **Q / RISER=** 27.63 cfs

18 BARREL LENGTH (l) = 35 ft.
HEAD (H) ON BARREL THROUGH EMBANKMENT = 4.41 ft.
(FROM PLATE 3.14-7) H = Design High Water - Center of barrel elevation

19 BARREL DIAMETER = 24 in. CMP
(PLATE 3.14-A [CORRUGATED PIPE])

20 TRASH RACK ANTI-VORTEX DEVICE
DIAMETER = 54 in.
HEIGHT = 17 in.
(FROM TABLE 3.14-D)

EMERGENCY SPILLWAY DESIGN

21 REQUIRED SPILLWAY CAPACITY Qe = Q25 - Qp = N/A cfs

22 BOTTOM WIDTH (b) = N/A ft.
THE SLOPE OF THE EXIT CHANNEL (s) = N/A ft./foot
MINIMUM LENGTH OF THE EXIT CHANNEL (X) = N/A ft.
(FROM TABLE 3.14-C)

ANTI-SEEP COLLAR DESIGN

23 DEPTH OF WATER AT PRINCIPAL SPILLWAY CREST (Y) = 2.20 ft.
SLOPE OF UPSTREAM FACE OF EMBANKMENT (Z) = 2.0 :1
SLOPE OF PRINCIPAL SPILLWAY BARREL (S) = 0.0071 ft./foot
LENGTH OF BARREL IN SATURATED ZONED (Ls) = 22 ft.

24 NUMBER OF COLLARS REQUIRED = 1
DIMENSIONS = 7.00' x 7.00'
(FROM PLATE 3.14-12)

FINAL DESIGN ELEVATIONS

25
TOP OF DAM = 538.00
MIN. TOP of DAM WIDTH 6.00 ft.
EMBANKMENT SIDE SLOPE (H:V) 2.0 :1
DESIGN HIGH WATER = 535.16
EMERGENCY SPILLWAY CREST = N/A
PRINCIPAL SPILLWAY CREST = 534.20
DEWATERING ORIFICE INVERT = 533.20
CLEANOUT ELEVATION = 532.20
ELEVATION OF UPSTREAM TOE OF DAM OR EXCAVATED BOTTOM
EXCAVATED BOTTOM OF "WET STORAGE AREA"
(IF EXCAVATION WAS PERFORMED) = 532.00

EROSION & SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION

THE HUNTFIELD RECREATION CENTER PLAN ENTAILS THE CONSTRUCTION OF A RECREATION CENTER CONTAINING A POOL, TOT LOT, AND BASKETBALL COURT INCLUDING THE ASSOCIATED ROADS AND PARKING AREAS. APPROXIMATELY 9.1 ACRES WILL BE DISTURBED FOR THE CONSTRUCTION OF THE HUNTFIELD RECREATION CENTER. THE SITE CONSTRUCTION RUN-OFF WILL BE MANAGED BY A COMBINATION OF SEDIMENT TRAPS #1, #2, #3 AND #4, SEDIMENT BASIN #1, SILT FENCE AND EXISTING STORM WATER MANAGEMENT POND B WHICH WAS DESIGNED TO HANDLE SITE CONSTRUCTION RUN-OFF.

SURROUNDING PROPERTY & EXISTING SITE CONDITIONS

SIMILAR DEVELOPMENTS, WHICH WILL BE REFERRED TO AS HUNTFIELD, PHASE I, PHASE 2A, PHASE 2B, PHASE 3A AND PHASE 3B ARE LOCATED TO THE EAST OF THE PROPOSED SITE. FUTURE PHASE 3D PHASE 3E, AND PHASE 3F ARE LOCATED NORTH AND EAST OF THE PROPOSED SITE. THESE FUTURE PHASES AS WELL AS THE REMAINDER OF THE SURROUNDING LAND IS UNDEVELOPED, AND IS USED PREDOMINANTLY FOR CROP PLANTING. IN GENERAL, THE LAND IS RELATIVELY FLAT AND DRAINS FIRST TO THE NORTHWEST AND THEN TO THE NORTHEAST INTO A FLOODPLAIN. REFERENCE SHEET 2 FOR INFORMATION CONCERNING THE SOIL TYPES LOCATED IN THE PROPOSED SITE.

GENERAL E&S REQUIREMENTS

TOPSOIL SHALL BE STRIPPED FROM GRADED AREAS AND STOCKPILED OFFSITE FOR LATER USE. THE OFFSITE TOPSOIL RELOCATION AREA WILL BE THE HUNTFIELD EASTERN RAILROAD BERM (WV NPDES NO. WV0115924, GENERAL PERMIT REGISTRATION NO. WVR101080). ALL STOCKPILES MUST BE STABILIZED BY TEMPORARY VEGETATION WITHIN 7 CALENDAR DAYS. ALL DISTURBED AREAS SHALL BE STABILIZED WITH FAST GERMINATING TEMPORARY VEGETATION WITHIN SEVEN DAYS AFTER GRADING. ALL VEGETATIVE STABILIZATION SHALL BE CHECKED DAILY AND AFTER EACH SIGNIFICANT RAINFALL AND RE-SEEDED AS NEEDED. ALL E&S MEASURES AND CONTROL DEVICES DESCRIBED HEREON SHALL CONFORM TO PHASES 3 THROUGH 5 OF THE "WEST VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK FOR DEVELOPING AREAS". THE JEFFERSON COUNTY INSPECTOR HAS THE AUTHORITY TO ADD OR DELETE EROSION AND SEDIMENT CONTROLS AS NEEDED IN THE FIELD AND AS SITE CONDITIONS WARRANT.

CONSTRUCTION SEQUENCING

1. CONSTRUCT TEMPORARY SEDIMENT TRAPS/BASIN AS SHOWN.
2. CONSTRUCTION SHALL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
3. INSTALL THE TEMPORARY GRAVEL CONSTRUCTION ENTRANCE.
4. INSTALL INLET PROTECTION FOR EXISTING SEWER INLETS. REFERENCE THE E&S PLAN FOR LOCATION OF INLET PROTECTION.
5. CONSTRUCT DIVERSION DIKES AROUND PERIMETER AND PLACE CHECK DAMS AS SHOWN ON THE E&S PLAN.
6. CLEAR REMAINING SITE, IN PHASES NECESSARY TO STAGE CONSTRUCTION.
7. PROVIDE TEMPORARY SEEDING AND MULCHING TO ALL EARTHEN PERIMETER CONTROLS IMMEDIATELY FOLLOWING GRADING.
8. CONSTRUCT THE STORM SEWER ALONG WITH THE ASSOCIATED INLET AND OUTLET PROTECTION SHOWN ON THE PLANS.
9. START RE-VEGETATION AS AREAS ARE BROUGHT TO GRADE OR STAND IDLE FOR MORE THAN (14) CALENDAR DAYS.
10. STABILIZE THE REMAINDER OF THE DISTURBED AREA WITH PERMANENT SEEDING.
11. WHEN THE SITE WORK IS COMPLETE:
    A) REMOVE ALL STRUCTURAL PRACTICES
    B) APPLY PERMANENT SEEDING TO ALL DISTURBED AREAS.
    C) REMOVE ALL ACCUMULATED SEDIMENT FROM THE SEDIMENT TRAPS AND RETURN THE ELEVATIONS TO THE DESIGN GRADES AND ELEVATIONS.

MAINTENANCE

All E&S measures are to be inspected daily by the site superintendent. All devices used for sediment control must be cleaned out when sediment occupies half of the wet capacity of the structure and trapped sediments must be disposed of in the Railroad Berm area. Any damaged controls shall be repaired and/or replaced by the close of the day. No controls are to be removed without the approval of the site inspector. The contractor shall be responsible for any damage or penalties caused by his failure to comply with the erosion and sediment control program or the direction of the site inspector. The design engineer shall be notified of any changes to this program.

1. The check dams will be checked regularly for sediment and cleaned when necessary.

2. The gravel outlets will be checked regularly for sediment buildup, which will prevent drainage. If the gravel is clogged by sediment, it shall be removed and cleaned or replaced.

3. The seeded area will be checked regularly to ensure that a good stand is maintained. Area should be fertilized and reseeded as needed.

STRUCTURAL PRACTICES

1. Temporary Construction Entrance - 5.16
A stone stabilized pad located at points of vehicular ingress and egress on a construction site.

2. Outlet Protection - 4.79
Structurally lined aprons or other acceptable energy dissipating devices placed at the outlets of pipes.

3. Silt Fence - 5.5
A temporary barrier with a life expectancy of six months or less, installed below small disturbed areas or at the toe of a slope.

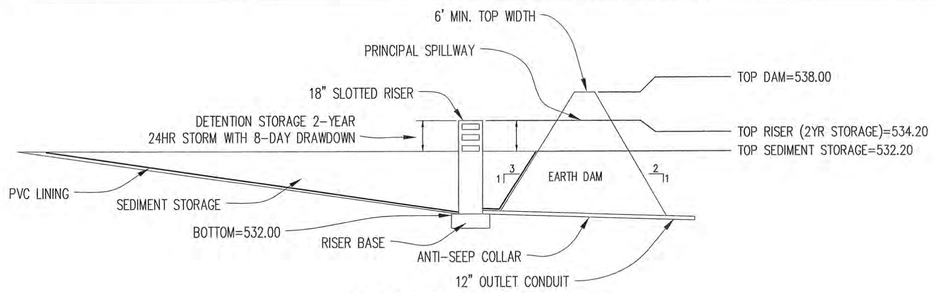
4. Temporary Diversion Dike - 4.11
A diversion consists of a channel or ridge, or a combination channel and ridge, constructed across sloping land either on the contour or at a predetermined grade.

5. Water and Sediment Control Basin - 4.31
An earth embankment or combination ridge and channel generally constructed across the slope and minor water courses to form a sediment trap and a water detention basin.

VEGETATIVE PRACTICES

1. Temporary Critical Area Planting - 3.5
Stabilization of sediment producing areas on a short-term basis (period of time where no construction activity is anticipated for a period of longer than three weeks but less than a year). Reference West Virginia Erosion & Sediment Control Manual for Developing Areas for species to seed, time of seeding, and rates. Seeded areas to be watered and cared for as necessary to provide grass emergence.

2. Permanent Critical Area Planting - 3.6
Stabilization of sediment producing areas on a long term basis with herbaceous or woody plants. Reference West Virginia Erosion & Sediment Control Manual for Developing Areas for species to seed and rate of seeding. Seeded areas to be watered and cared for as necessary to provide grass emergence.



CROSS SECTION

SEDIMENT BASIN #1- STORAGE-ELEVATION CHART

ELEVATION (ft)	AREA (ft2)	AVERAGE AREA (ft2)	INT (ft)	VOL (ft3)	ACCUM. VOL. (ft3)	ACCUM. VOL. (yd3)
530.00	0	0	0.00	0	0	0.00
532.00	6,663	3,332	2.00	6,663	6,663	246.78
534.00	24,782	15,723	2.00	31,445	38,108	1,411.41
536.00	49,867	37,325	2.00	74,649	112,757	4,176.19
537.00	64,683	57,275	1.00	57,275	170,032	6,297.48
538.00	79,496	72,090	1.00	72,090	242,122	8,967.46

SEDIMENT TRAP CALCULATIONS

TRAP ID	DRAINAGE AREA (Acres)	STORAGE REQUIRED (cu.ft.)	ELEVATIONS: OUTLET	BOTTOM	TOP OF CLEAN OUT	WET	DRY	BERM	WET STORAGE: LENGTH (ft.)	WIDTH (ft.)	IRREGULAR SHAPE (sq. ft.)	AREA A1 (sq. ft.)	VOLUME PROVIDED (cu.ft.)	VOLUME REQD. (cu.ft.)	DRY STORAGE: LENGTH (ft.)	WIDTH (ft.)	IRREGULAR SHAPE (sq. ft.)	AREA A1 (sq. ft.)	VOLUME PROVIDED (cu.ft.)	VOLUME REQD. (cu.ft.)	OUTLET
1	1.90	6,874	556.00	554.00	555.00	556.00	558.00	559.50	35	65		2,275	3,868	3,437	35	65		2,275	4,550	3,437	PIPE
2	1.61	5,825	550.00	548.00	549.00	550.00	552.00	553.50	30	60		1,800	3,060	2,912	30	60		1,800	3,600	2,912	PIPE
3	1.24	4,486	549.00	547.00	548.00	549.00	551.00	552.50	30	55		1,650	2,805	2,243	30	55		1,650	3,300	2,243	PIPE
4	0.44	1,592	551.50	549.50	550.50	551.50	553.50	554.50	20	40		800	1,360	796	20	40		800	1,600	796	STONE L= 2.64'

No.	DATE	DESCRIPTION

REVISIONS

PLAN DATE
10/07/05
12/07/05
02/03/06
02/28/06

Urban Engineering & Associates, Inc.
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PEGASUS BUSINESS CENTER
600 PEGASUS COURT - SUITE 101 WINCHESTER, VIRGINIA 22602
PHONE (540) 450-0211 FAX (540) 450-0210

REGISTERED PROFESSIONAL ENGINEER DAVID LEE LOCK #15137 STATE OF WEST VIRGINIA 02/28/06

Erosion & Sediment Control Narrative & Calculations

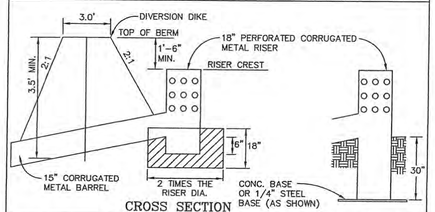
HUNTFIELD
Recreation Center (Active Community Center #1)
CHARLES TOWN CORPORATION
JEFFERSON COUNTY, WEST VIRGINIA

SCALE: 1"=100' C.I. = 2' DATE: OCTOBER 2005

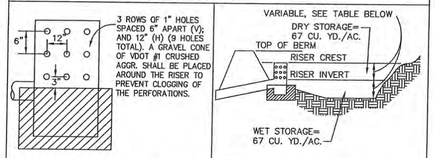
SHEET 11 OF 15

PP-20125

THESE ARE THE RECOMMENDED STANDARD SPECIFICATIONS FOR THE PIPE OUTLET SEDIMENT TRAP. THE DESIGN ENGINEER MAY ALTER THE PIPE AND PERFORATION SIZES PROVIDED ENGINEERING CALCULATIONS CAN JUSTIFY IT. THE DESIRED DRAWDOWN TIMES ARE A MIN. OF 4 HRS. AND A MAX. OF 40 HRS. THE PERFORATION SIZE AND SPACING AS INDICATED BELOW REPRESENTS APPROX. 17 HRS. DRAWDOWN TIME. WHEN SELECTING A DRAWDOWN TIME, THE DESIGNER MUST CONSIDER THE PROXIMITY TO EXISTING RESIDENCES AND THE SAFETY OF SMALL CHILDREN; THUS A SHORTER DRAWDOWN TIME. FOR REMOTE SITES, A LONGER DRAWDOWN TIME WOULD BE MORE APPROPRIATE.



CROSS SECTION



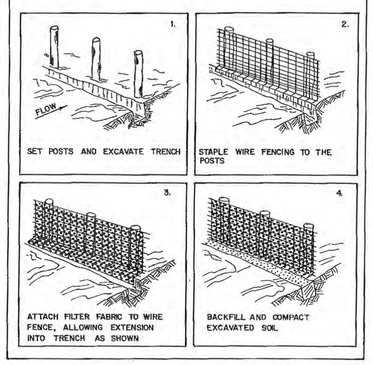
PERFORATED RISER DETAIL

STORAGE VOLUME REQUIRED

TEMPORARY SEDIMENT TRAP
STRUCTURE DETAIL

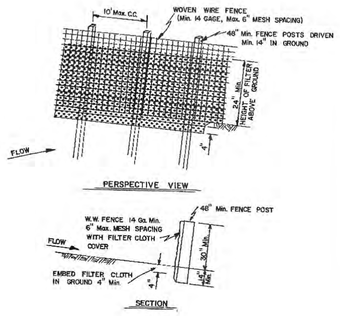
Figure 3

BUILDING A SILT FENCE
A STEP BY STEP PROCEDURE

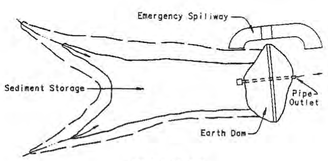


5.6
WV Erosion and Sediment Control Handbook for Developing Areas
May 1993

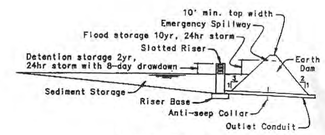
Figure 2 — Silt Fence Detail



May 1993
5.7
WV Erosion and Sediment Control Handbook for Developing Areas



PLAN VIEW
not to scale



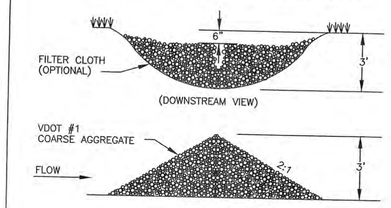
CROSS SECTION
not to scale

Figure 12 — Plan View and Cross Section of Sediment Basin

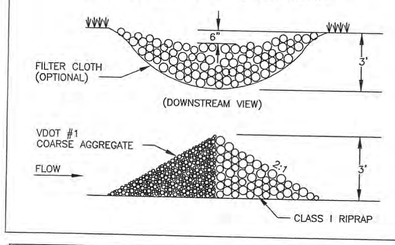
May 1993
4.43
WV Erosion and Sediment Control Handbook for Developing Areas

ROCK CHECK DAM 3.20–1 (CD)

2 ACRES OR LESS OF DRAINAGE AREA:

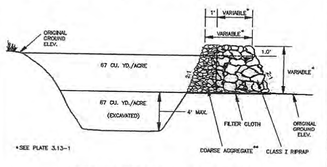


2–10 ACRES OF DRAINAGE AREA:

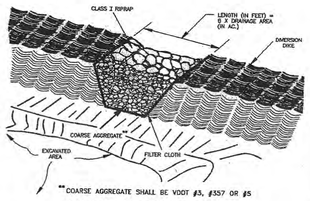


1992 3.13

TEMPORARY SEDIMENT TRAP



CROSS SECTION OF OUTLET



OUTLET (PERSPECTIVE VIEW)

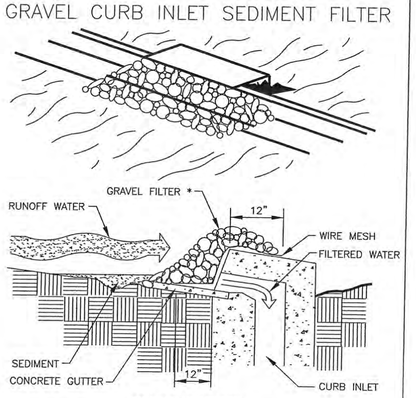
Source: Va. DSWC

Plate 3.13-2

III - 76

STORM DRAIN INLET PROTECTION 3.07–6 (IP)

GRAVEL CURB INLET SEDIMENT FILTER



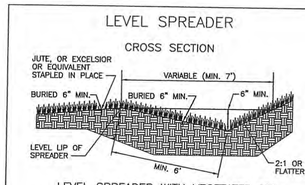
SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE PONDING IN FRONT OF THE STRUCTURE IS NOT LIKELY TO CAUSE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE.

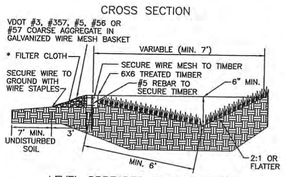
LEVEL SPREADER

CROSS SECTION



LEVEL SPREADER WITH VEGETATED LIP

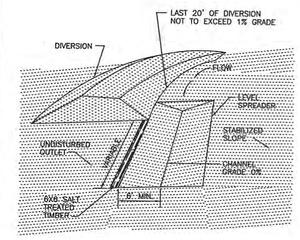
CROSS SECTION



LEVEL SPREADER WITH RIGID LIP

* MIN. PHYSICAL REQUIREMENTS OF FILTER CLOTH NOTED IN STD. & SPEC. 3.19, RIPRAP

LEVEL SPREADER

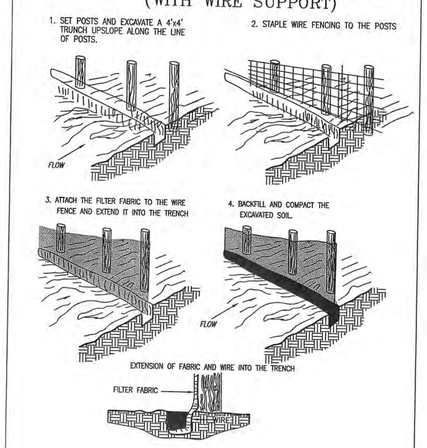


PERSPECTIVE VIEW

NOTE: ALL TEMPORARY BERMS, SWALES AND LEVEL SPREADER DITCH MUST RECEIVE TEMPORARY SEEDING IMMEDIATELY AFTER INSTALLATION

(SF)

CONSTRUCTION OF A SILT FENCE
(WITH WIRE SUPPORT)



IF THE EXISTING TOPSOIL IS TO BE RESPREAD IT SHALL BE TESTED TO DETERMINE THE NEED FOR ANY SOIL AMENDMENTS PRIOR TO SEEDING

For Info on NPDES Storm Water Permit

To comment on Sediment Control Plan:

Call: 800-654-5227

or

plan@wvdep.org

DEP 601 57th Street, SE, Charleston WV 25304

Application date: XX/XX/XX

Greenvest L.C.

Project Name

(304) 724-4144

Public Notice Sign Template

The sign will be at least 24"x24" with 1.6" and 0.8" letters.

TABLE 3.32-C
SITE SPECIFIC SEEDING MIXTURES
FOR APPALACHIAN / MOUNTAIN AREA

	Total lbs. Per Acre
Minimum Lawn Care	
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 September, October.....Annual Rye
November through February.....Winter Rye

*** If flatpea is used, increase to 30lbs./acre. All legume seed must be properly inoculated. Weeping Lovegrass may also be included in any slope or low-maintenance mixture during warmer seeding periods; add 10-20lbs./acres in mixes.

TABLE 3.35-A
ORGANIC MULCH MATERIALS AND APPLICATION RATES

MULCHES:	RATES: Per Acre	RATES: Per 1000 sq.ft.	NOTES:
Straw or Hay	1.5-2 Tons (Minimum 2 tons for winter cover)	70-90 lbs.	Free from weeds and coarse matter. Must be anchored. Spread with mulch blower or by hand.
Fiber Mulch	Minimum 1500lbs.	35 lbs.	Do not use as a mulch for winter cover or during hot, dry periods.* Apply as slurry.
Corn Stalks	4-6 tons	185-275 lbs.	Cut or shredded in 4-6" lengths. Air-dried. Do not use in fine turf areas. apply with a mulch blower or by hand.
Wood Chips	4-6 tons	185-275 lbs.	Free of coarse matter. Air-dried. Treat with 12lbs. Nitrogen per ton. Do not use in fine turf areas. Apply with a mulch blower, chip handler, or by hand.
Bark Chips or Shredded Bark	50-70 cu. yds.	1-2 cu. yds.	Free of coarse matter. Air-dried. Do not use in fine turf areas. Apply with a mulch blower, chip handler, or by hand.

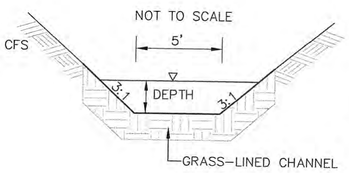
* When fiber mulch is the only available mulch during periods when straw should be used, apply at a minimum rate of 2000 lbs./ac. or 45lbs./1000 s.f.

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 (Secale cereale)	50-100
FEB. 16-APR. 30	Annual Ryegrass (Lolium multi-florum)	60-100
MAY 1-AUG. 31	German Millet (Setaria italica)	50

TYPICAL SECTION
FOR DRAINAGE DITCH

DATA FOR SB#1 DITCH
DISCHARGE APPX. 11.2 CFS
DEPTH APPX. 0.6'



No.	DATE	DESCRIPTION
1	01/20/06	ADDED SEDIMENT TRAP STRUCTURE DETAIL

REVISIONS

PLAN DATE
10/07/05
11/15/05
02/03/06
02/28/06

Urban Engineering & Associates, Inc.
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PEGASUS BUSINESS CENTER
600 PEGASUS COURT - SUITE 101 WINCHESTER, VIRGINIA 22602
PHONE (540) 450-0211 FAX (540) 450-0210

DAVID C. LELLOCK REGISTERED #8537 STATE OF VIRGINIA PROFESSIONAL ENGINEER 02/28/06

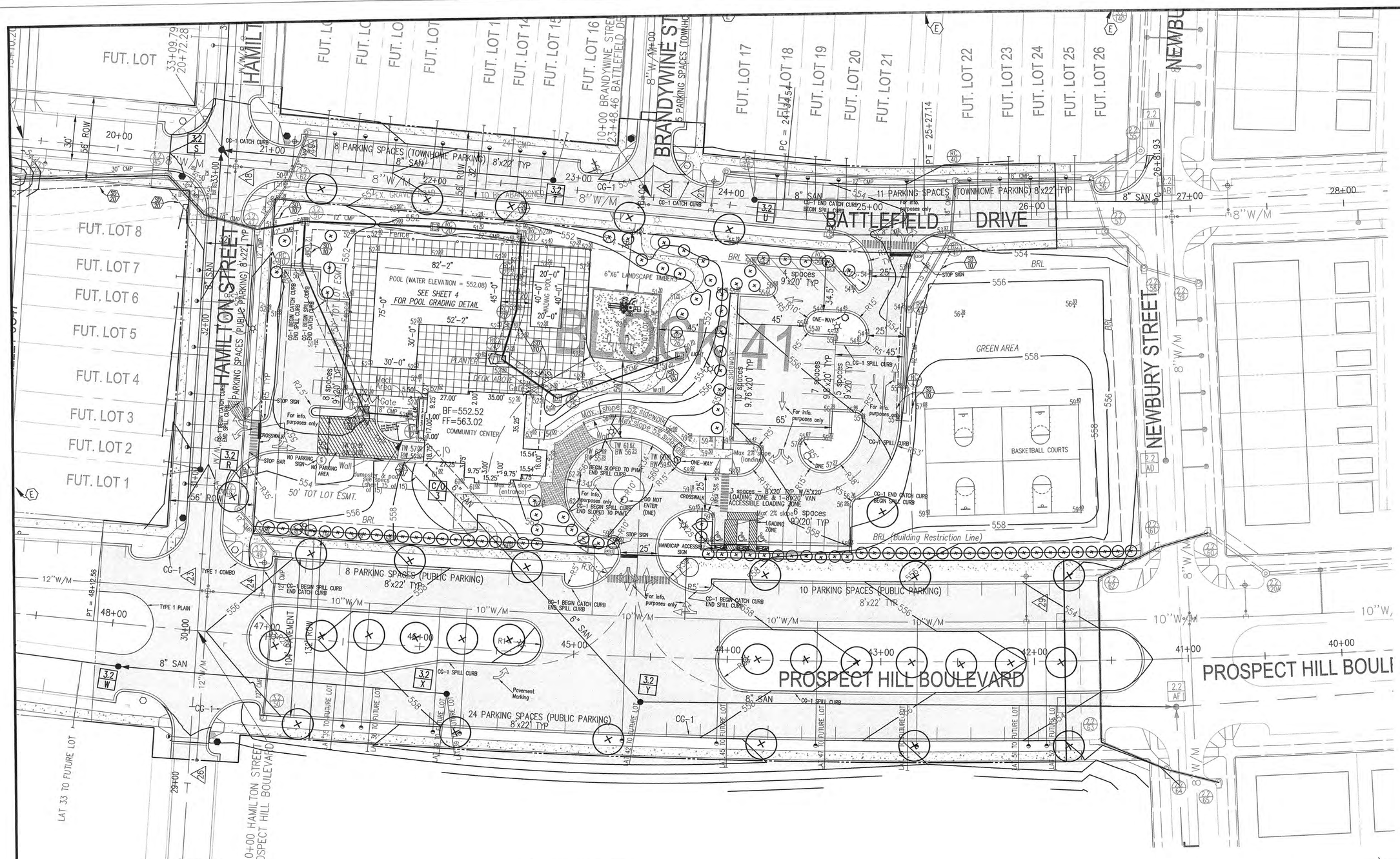
Erosion & Sediment Details

HUNTFIELD
Recreation Center (Active Community Center #1)
CHARLES TOWN CORPORATION
JEFFERSON COUNTY, WEST VIRGINIA

SCALE: 1"=100' C.I. = 2' DATE: OCTOBER 2005

SHEET 11A OF 15

PP-20125



LEGEND

MIN. 9" MULCH

SITE BOUNDRY

STREET TREE AND LANDSCAPE PLANTING LIST

NEIGHBORHOOD CONNECTOR STREET

Plantanus x acerfolia 'Bloodgood' – Bloodgood London Plane (PAB)
Quercus phellos – Willow Oak (QP)
Ulnus Parviflora – Lacebark Elm (UP)

RESIDENTIAL NEIGHBORHOOD STREET

Fraxinus pennsylvanica 'Patmore' – Patmore Ash (FPP)
Quercus phellos – Willow Oak (QP)
Acer rubrum 'October Glory' – October Glory' Red Maple (ARO)

SHRUBS

Clethra alnifloia – Summersweet hummingbird (CA)
Forthergilla gardeni – Fothergilla (FG)
Ilex glabra – 'Shamrock' Inkberry (IGS)
Rhus aromatica – Gro-Low Sumac (ROG)

LANDSCAPE CALCULATIONS

Non-Impervious Areas

Area from interior property to edge of sidewalk:	0.99
Area from edge of sidewalk to edge of roads:	0.33
Area of median strips:	0.38
Area excluded from count (i.e. basketball court):	-0.24
	1.46 Acres

Area for Landscaping Computations

	1.46 Acres
	63597.60 Sq.Ft.

Landscape Requirements:

Trees – 1 per 2000 Sq.Ft	=	32 Trees
Shrubs – 3 per 2000 Sq.Ft.	=	96 Shrubs

Landscape Provided:

32 Trees
96 Shrubs

GENERAL NOTES FOR LANDSCAPING

1. LANDSCAPING FOR ALL ROADS STUBBED OUT FOR FUTURE EXPANSION TO BE PROVIDED WITH FUTURE PLANS.
2. AT THE TIME OF PLANTING, ALL TREES MUST BE A MINIMUM OF 8' IN HEIGHT AND 2.5" IN CALIBER. ALL SHRUBS MUST HAVE A MINIMUM HEIGHT OF 18" AT THE TIME OF PLANTING.
3. TREES AND SHRUBS TO BE PLANTED IN A UNIFORM MANNER SUCH THAT EACH STREET CONTAINS TREES OF A SINGLE SPECIES SELECTED FROM THE TABLE PROVIDE ABOVE.
4. THIS LANDSCAPE PLAN IS DESIGNED TO BE A PRELIMINARY PLAN FOR LANDSCAPE ARCHITECTS TO IMPROVE UPON.
5. ALL OPEN SPACE AREAS SHOWN ARE TO BE COVERED WITH GRASS. HOWEVER, THIS LANDSCAPE PLAN IS A PRELIMINARY PLAN (SEE NOTE 4). OTHER GROUND COVERING MAY BE SUBSTITUTED UPON FINAL DESIGN OF THE LANDSCAPE PLAN BY THE LANDSCAPE ARCHITECT. HOWEVER, THE GROUND COVERING MUST BE APPROVED BY THE CITY OF CHARLES TOWN PRIOR TO PLANTING.

STATE GRID NORTH
WEST VIRGINIA
NAD 27

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

No.	DATE	DESCRIPTION
1	11/29/05	ADDED MULCH TO LEGEND

REVISIONS

PLAN DATE
10/07/05
12/07/05
02/03/06
02/28/06

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600 PEGASUS COURT - SUITE 101 WINCHESTER, VIRGINIA 22602
PHONE (540) 450-0211 FAX (540) 450-0210

DAVID E. LELOCK REGISTERED #15157 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
02/28/06

Landscaping Plans

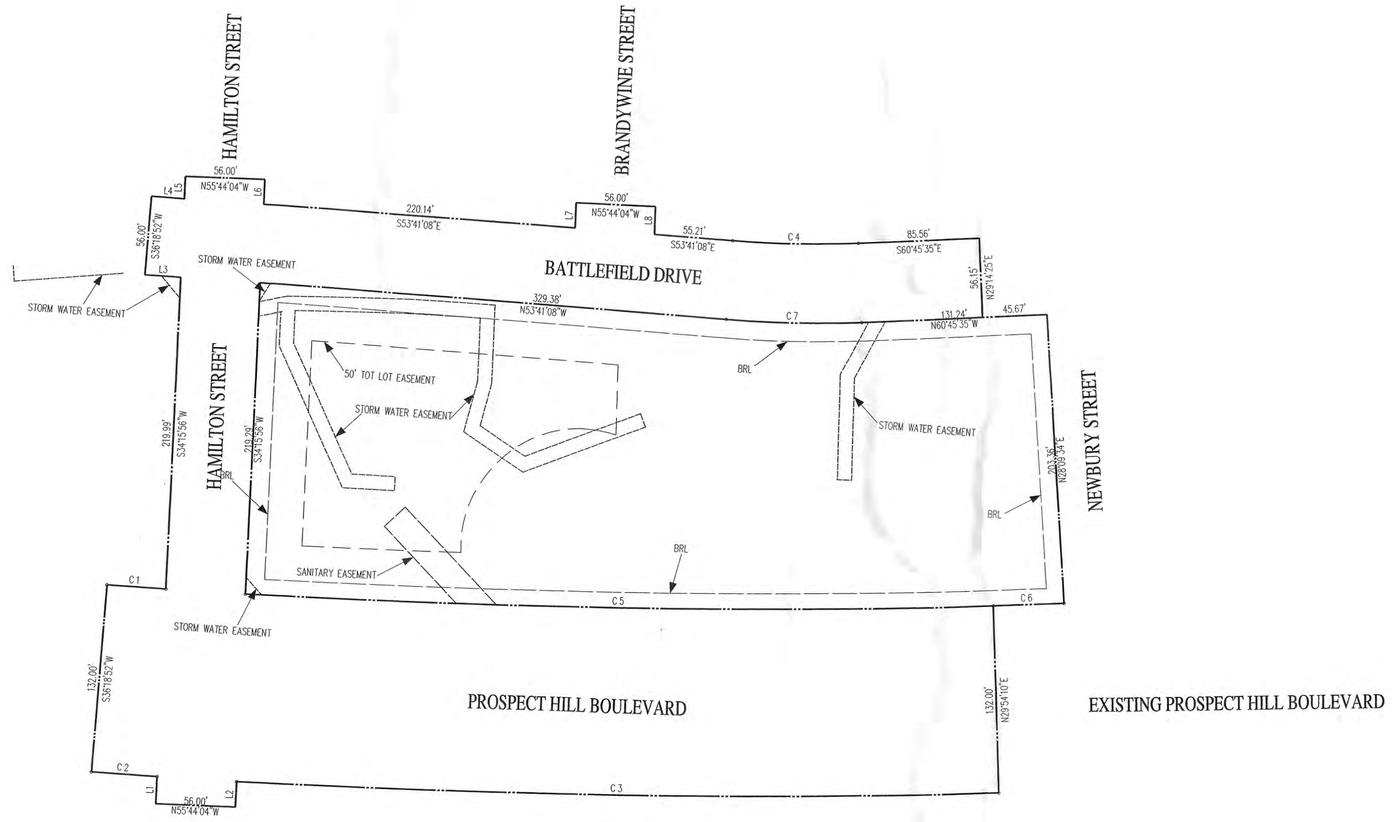
HUNTFIELD
Recreation Center (Active Community Center #1)

CHARLES TOWN CORPORATION
JEFFERSON COUNTY, WEST VIRGINIA

SCALE: 1"=30'
C.I. = 2'
DATE: OCTOBER 2005

SHEET 12 OF 15

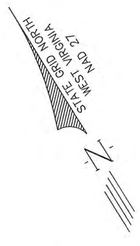
PP-20125



GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.



LINE TABLE		
LINE	LENGTH	BEARING
L1	19.35	S34°15'56"W
L2	18.07	N34°15'56"E
L3	25.19	S53°41'08"E
L4	23.19	S53°41'08"E
L5	15.47	N34°15'56"E
L6	17.47	N34°15'56"E
L7	17.82	N34°15'56"E
L8	19.82	N34°15'56"E

CURVE TABLE						
CURVE	RADIUS	DELTA ANGLE	ARC	TANGENT	CHORD	CHORD BEARING
C1	5584.00	0°25'30"	41.43	20.72	41.43	S53°53'54"E
C2	5716.00	0°27'45"	46.15	23.08	46.15	S53°55'01"E
C3	5716.00	5°23'15"	537.47	268.93	537.27	S57°24'13"E
C4	718.00	7°04'27"	88.65	44.38	88.59	S57°13'22"E
C5	5584.00	5°24'42"	527.42	263.91	527.23	S57°23'29"E
C6	5584.00	0°30'53"	50.16	25.08	50.16	S60°21'17"E
C7	774.00	7°04'27"	95.56	47.84	95.50	S57°13'22"E

No.	DATE	DESCRIPTION
1	11/30/05	AMENDED STORM EASEMENT

REVISIONS

PLAN DATE
10/07/05
12/07/05
02/03/06
02/28/06

Urban Engineering & Associates, Inc.
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PEGASUS BUSINESS CENTER
600 PEGASUS COURT - SUITE 101 WINCHESTER, VIRGINIA 22602
PHONE (540) 450-0211 FAX (540) 450-0210

DAVID E. LELLOCK REGISTERED PROFESSIONAL ENGINEER #9537 STATE OF VIRGINIA
02/28/06

Preliminary Record Plat

HUNTFIELD
Recreation Center (Active Community Center #1)

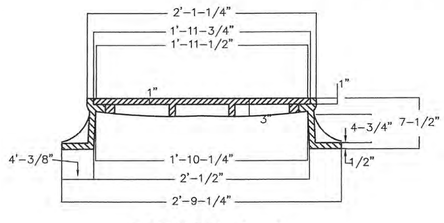
CHARLES TOWN CORPORATION
JEFFERSON COUNTY, WEST VIRGINIA

SCALE: 1"=50' C.I. = 2'
DATE: OCTOBER 2005

SHEET 13 OF 15

PP-20125

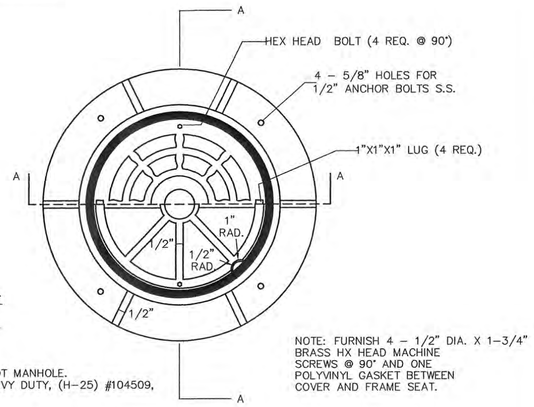
NOTES:
1. ALL ANCHOR BOLTS TO BE IMBEDDED IN CONCRETE WITH ANCHOR-IT-EPOXY AS PER MANUFACTURERS RECOMMENDATIONS.
2. S.S. DENOTES STAINLESS STEEL
3. C/C DENOTES CENTER TO CENTER.



SECTION A-A

NTS

MINIMUM AVERAGE WEIGHT
RING 190#
COVER 120#
TOTAL 310#



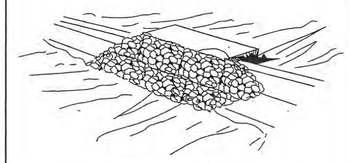
NOTE: FURNISH 4 - 1/2" DIA. X 1-3/4" BRASS HX HEAD MACHINE SCREWS @ 90° AND ONE POLYVINYL GASKET BETWEEN COVER AND FRAME SEAT.

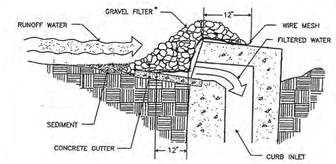
NOTES:
1) DIMENSIONS WILL VARY BASED ON MANHOLE SIZE. DIMENSIONS SHOWN ARE FOR 4-FOOT MANHOLE.
2) MANHOLE FRAMES & LIDS TO BE NEENAH, R-1916-F, EAST JORDAN IRON WORKS, HEAVY DUTY, (H-25) #104509, CAPITOL FOUNDRY OF VA. INC. MODEL #MH-1678-JC-WT OR APPROVED EQUIVALENT.
3) MANHOLE LIDS TO BE MARKED "SANITARY SEWER"

MANHOLE LID

NTS

GRAVEL CURB INLET SEDIMENT FILTER

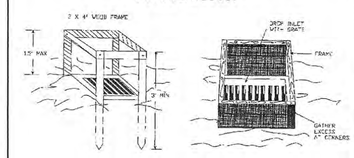




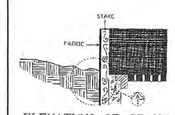
SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE PONDING IN FRONT OF THE STRUCTURE IS NOT LIKELY TO CAUSE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

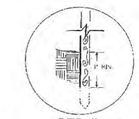
SILT FENCE DROP INLET PROTECTION



PERSPECTIVE VIEWS



ELEVATION OF STAKE AND FABRIC ORIENTATION

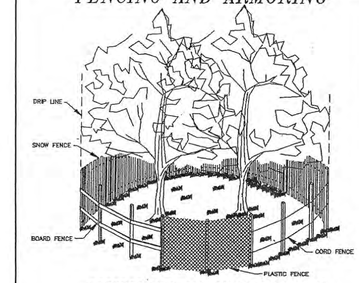


DETAIL A

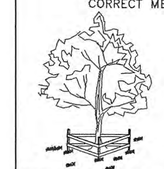
SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPE NO GREATER THAN 5%) WHERE THE INLET SHEET OR OVERLAND FLOWS (NOT EXCEEDING 1 C.F.S.) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREET OR HIGHWAY MEDIANS.

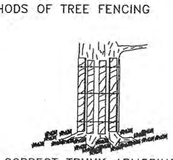
FENCING AND ARMORING



CORRECT METHODS OF TREE FENCING

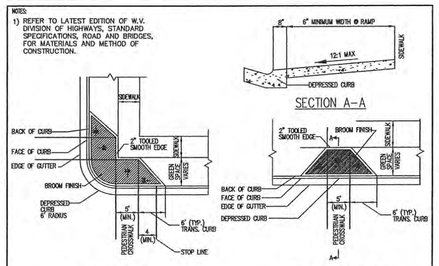


TRIANGULAR BOARD FENCE



CORRECT TRUNK ARMORING

NOTES:
1) REFER TO LATEST EDITION OF W.V. DIVISION OF HIGHWAYS, STANDARD SPECIFICATIONS, ROAD AND BRIDGES, FOR MATERIALS AND METHOD OF CONSTRUCTION.



SECTION A-A

CORNER RAMP

MID-BLOCK RAMP

CITY OF CHARLES TOWN WEST VIRGINIA	STANDARD DETAIL	STANDARD NUMBER
	STANDARD HANDICAP RAMP	HC-1

TEMPORARY DIVERSION DIKE

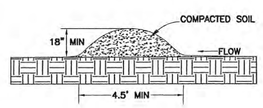
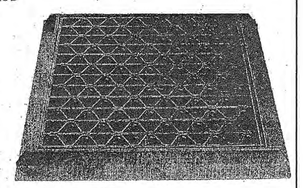
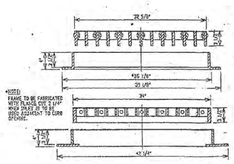


Plate 3.09-1

Heavy Duty
"Single WR" Frame and Grate
Full Flange: 410 lbs.
Side Cut Flange: 405 lbs





*NOTES
FRAME TO BE FABRICATED FROM PLATES, CAST STEEL, HIGH GRADE OF "A-36" BEED ACCURACY TO CURB OPENING.

East Jordan Iron Works, East Jordan, Michigan USA, 1-800-874-4100 or 1-800-MANHOLE

CONSTRUCTION OF A SILT FENCE (WITH WIRE SUPPORT)

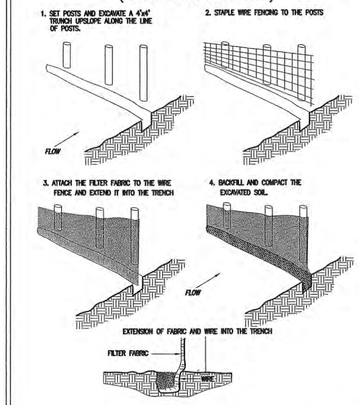
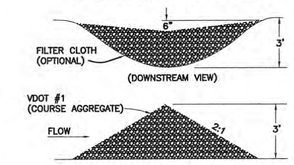


Plate 3.05-1

ROCK CHECK DAM

2 ACRES OR LESS OF DRAINAGE AREA:



2-10 ACRES OR LESS OF DRAINAGE AREA:

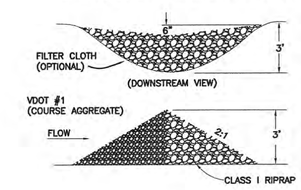
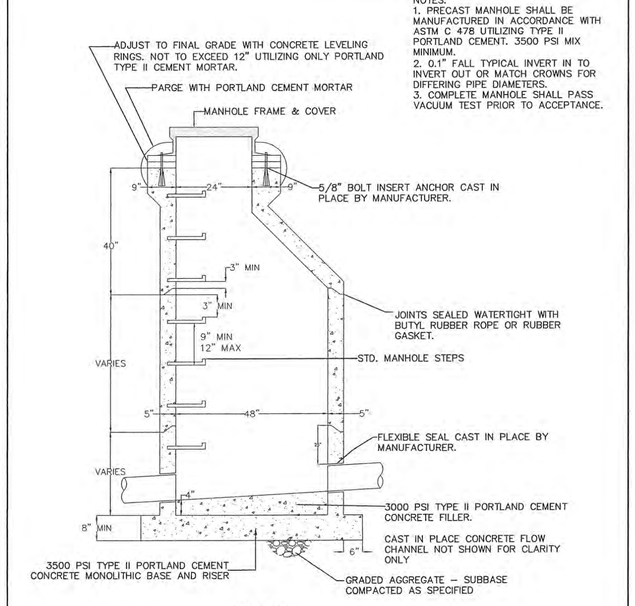


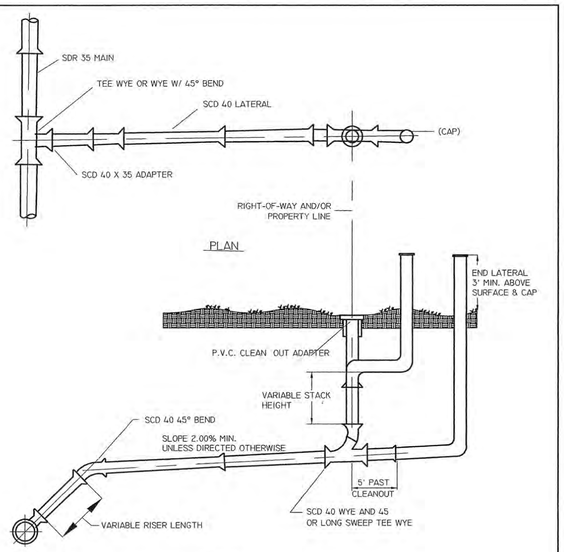
Plate 3.20-1



NOTES:
1. PRECAST MANHOLE SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C 478 UTILIZING TYPE II PORTLAND CEMENT. 3500 PSI MIX MINIMUM.
2. 0.1" FALL TYPICAL INVERT IN TO INVERT OUT OR MATCH CROWNS FOR DIFFERING PIPE DIAMETERS.
3. COMPLETE MANHOLE SHALL PASS VACUUM TEST PRIOR TO ACCEPTANCE.

NO SCALE

STANDARD THROUGH MANHOLE PRECAST BASE



SANITARY LATERAL DETAIL

NTS

STONE CONSTRUCTION ENTRANCE

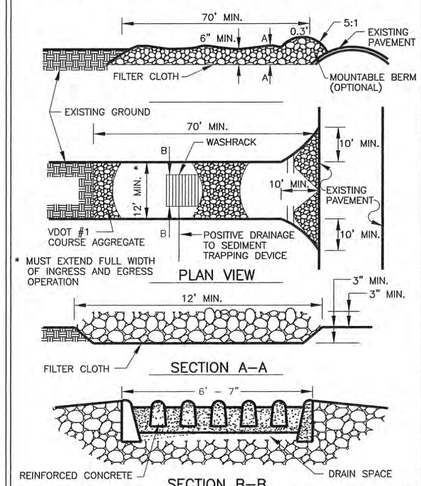
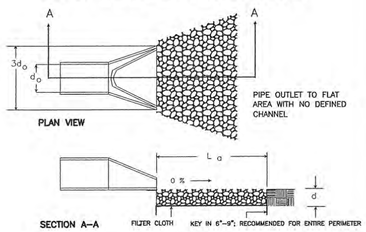
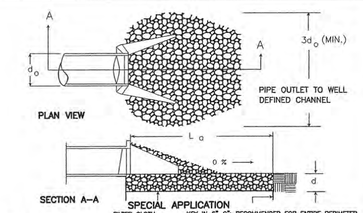


Plate 3.02-1

PIPE OUTLET CONDITIONS





SPECIAL APPLICATION

NOTES: 1. APRON LINING MAY BE RIPRAP, GROUTED RIPRAP, GABION BASKET, OR CONCRETE.
2. La IS THE LENGTH OF THE RIPRAP APRON AS CALCULATED USING PLATES 3.18-3 AND 3.18-4.
3. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER, BUT NOT LESS THAN 6 INCHES.

Plate 3.18-1

No.	DATE	DESCRIPTION
		REVISIONS

PLAN DATE
10/07/05
12/01/05
02/03/06
02/28/06

Urban Engineering & Associates, Inc.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
PEGASUS BUSINESS CENTER
600 PEGASUS COURT - SUITE 101 WINCHESTER, VIRGINIA 22602
PHONE (540) 450-0211 FAX (540) 450-0210

DAVID E. LEWIS BLOCK
REGISTERED PROFESSIONAL ENGINEER
#15137
STATE OF WEST VIRGINIA
02/28/06

Misc. Details

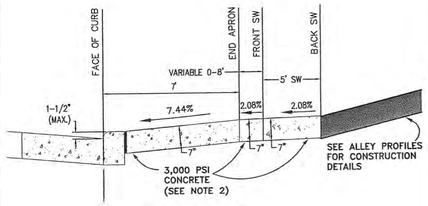
HUNTFIELD
Recreation Center (Active Community Center #1)

CHARLES TOWN CORPORATION
JEFFERSON COUNTY, WEST VIRGINIA

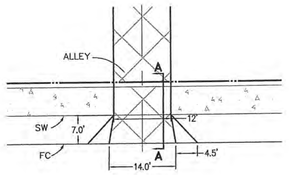
SCALE: AS SHOWN
C.I. = N/A
DATE: OCTOBER 2005

SHEET 14 OF 15

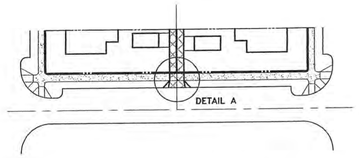
PP-20125



SECTION A–A
NTS

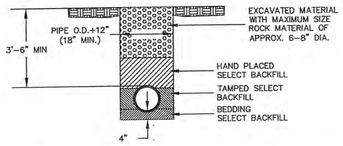


DETAIL A
NTS



DETAIL – TYPICAL ALLEY ENTRANCE
NTS

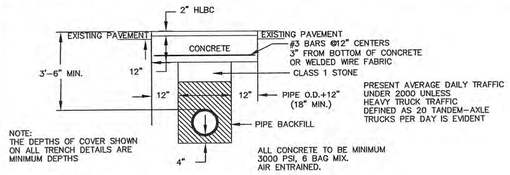
NOTES:
1) SEE CITY OF CHARLES TOWN STANDARD DETAIL DE–1 (RESIDENTIAL DRIVEWAY ENTRANCE) FOR ADDITIONAL INFORMATION.
2) MINIMUM 28–DAY DESIGN STRENGTH OF CONCRETE TO BE 3,000 PSI – REF. WV DIVISION OF HIGHWAYS STANDARD SPECIFICIATIONS ROADS AND BRIDGES, SECTION 500



NOTE:
THE DEPTHS OF COVER SHOWN ON ALL TRENCH DETAILS ARE MINIMUM DEPTHS

NOTE:
LIMESTONE SAND MAY BE USED IF SELECTED BACKFILL IS NOT AVAILABLE

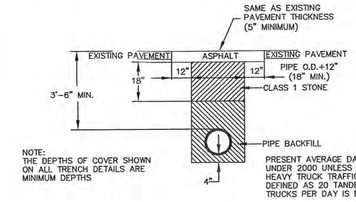
TYPICAL PIPE TRENCH DETAIL
NTS



NOTE:
THE DEPTHS OF COVER SHOWN ON ALL TRENCH DETAILS ARE MINIMUM DEPTHS

WVDOH TYPE B TRENCH
HLBC PAVEMENT
NTS

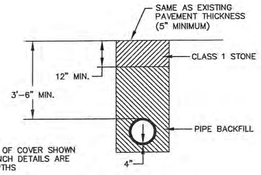
(ALSO FOR CONCRETE DRIVEWAY REPLACEMENT, EXCEPT THAT CONCRETE DEPTH TO BE 6" MIN. WITH NO HLBC)



NOTE:
THE DEPTHS OF COVER SHOWN ON ALL TRENCH DETAILS ARE MINIMUM DEPTHS

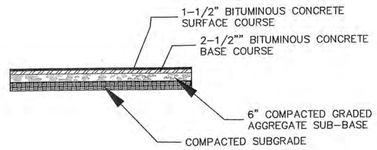
WVDOH TYPE C TRENCH
ASPHALT PAVEMENT
NTS

(ALSO FOR STREETS, DRIVEWAYS AND PARKING LOTS)



NOTE:
THE DEPTHS OF COVER SHOWN ON ALL TRENCH DETAILS ARE MINIMUM DEPTHS

WVDOH TYPE D TRENCH
UNPAVED TRENCH
NTS



NOTES:
1. ALL BASE AND SUBGRADE MATERIAL SHALL BE COMPACTED TO 95% THEORETICAL MAXIMUM DENSITY AS DETERMINED BY AASHTO T–99 METHOD A, WITHIN +2% OF OPTIMUM MOISTURE.

NTS

CITY OF CHARLES TOWN WEST VIRGINIA	STANDARD DETAIL	STANDARD NUMBER
	TYPICAL DRIVEWAY/ PARKING SECTION	PK–1

DRIVEWAY NOTES:

1. DRIVEWAY ENTRANCES SHALL BE PROVIDED FROM ANY ROADWAY TO ALL SINGLE FAMILY RESIDENCES IN ACCORDANCE WITH STANDARD DETAIL DE–1.
2. IN RESIDENTIAL ZONES, THERE WILL BE NO MORE THAN 2 ENTRANCES PER INDIVIDUAL LOT ON A PUBLIC STREET.
3. NO DRIVEWAY SHALL BE CONSTRUCTED CLOSER THAN 40 FEET TO THE NEAREST STREET INTERSECTION.
4. RESIDENTIAL DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD DETAILS DE–1 AND PK–1.
5. DRIVEWAYS SHALL NOT BE LOCATED NEARER THAN THREE (3) FEET FROM AN ADJOINING PROPERTY UNLESS IT IS A DRIVEWAY USED IN COMMON.
6. DRIVEWAY GRADES SHALL NOT EXCEED 3% FROM THE EDGE OF THE INTERSECTING STREET PAVEMENT TO THE PROPERTY LINE, NOR EXCEED 10% FROM THE PROPERTY LINE TO THE GARAGE, CARPORT, OR OTHER OFF–STREET PARKING SPACE.
7. DRIVEWAY CUTS SHALL NOT CREATE SLOPES THAT EXCEED 1:3 UNLESS A RETAINING WALL IS USED TO INSURE THAT THE EARTH WILL NOT SUBSIDE INTO THE DRIVEWAY.

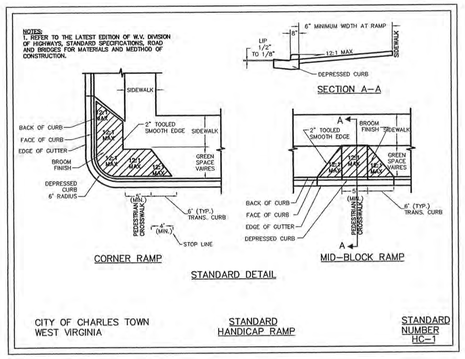
SIDEWALK NOTES:

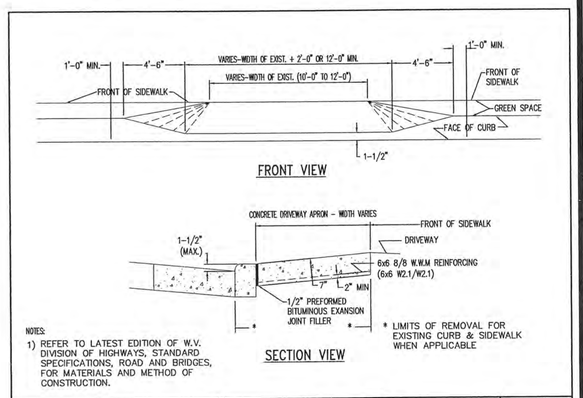
1. SIDEWALKS SHALL BE PROVIDED IN ACCORDANCE WITH THE TABLE SHOWN BELOW:

LAND USE	AVG. LOT SIZE (sf)	DENSITY (du/acre)	SIDEWALK REQUIREMENT STREET FRONTAGE	PARKING REQUIREMENT STREET FRONTAGE
RESIDENTIAL	< 12,001	> 5.51	BOTH SIDES OF STREET	BOTH SIDES OF STREET
COMMERCIAL	N/A	N/A	NO*	YES

* PLANNING COMMISSION MAY REQUIRE SIDEWALKS TO INSURE CONTINUITY OF AN EXISTING PEDESTRIAN ACCESS PATTERN.

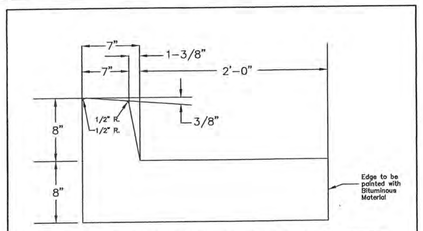
2. SIDEWALKS SHALL BE CONSTRUCTED OF CONCRETE OR, WITH THE APPROVAL OF THE PLANNING COMMISSION, IN APPROPRIATE CIRCUMSTANCES ASPHALT MAY BE USED. THE MINIMUM WIDTH WILL BE FOUR FEET.
3. SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD DETAIL SW–1.
4. SIDEWALKS SHALL NOT BE CONSTRUCTED WITH A CURB AS A SIGNAL INTEGRAL UNIT.
5. WHERE SIDEWALKS ARE A PART OF THE DRIVEWAY, THE SIDEWALK SHALL MAINTAIN GRADE, WITH NO DEPRESSION.
6. HANDICAP RAMPS CONSTRUCTED IN ACCORDANCE WITH STANDARD DETAIL HC–1 SHALL BE PROVIDED AT ALL STREET INTERSECTIONS AND CROSSWALKS.



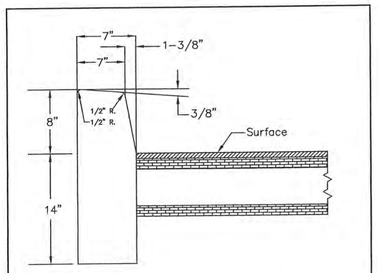


NOTES:
1) REFER TO LATEST EDITION OF W.V. DIVISION OF HIGHWAYS, STANDARD SPECIFICATIONS, ROAD AND BRIDGES, FOR MATERIALS AND METHOD OF CONSTRUCTION.

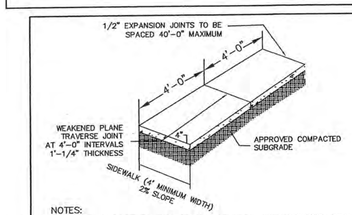
CITY OF CHARLES TOWN WEST VIRGINIA	STANDARD DETAIL	STANDARD NUMBER
	RESIDENTIAL DRIVEWAY ENTRANCE CURB & GUTTER ROADWAY	DE–1



COMBINATION CONCRETE CURB & GUTTER
TYPE I



PLAIN CONCRETE CURBING
TYPE I



NOTES:
1. REFER TO LATEST EDITION OF W.V. DIVISION OF HIGHWAYS, STANDARD SPECIFICATIONS, ROAD & BRIDGES FOR MATERIALS AND METHODS OF CONSTRUCTION.

NTS

CITY OF CHARLES TOWN WEST VIRGINIA	STANDARD DETAIL	STANDARD NUMBER
	CONCRETE SIDEWALK	SW–1

CONSTRUCTION SCHEDULE

Erosion & Sediment Controls and SWM	February, 2006
Clearing & Rough Grading	February to June, 2006
Site Utilities	March to June, 2006
Base Paving	June, 2006
Rec Center Construction	May, 2006–July 2006

City of Charles Town, Building Inspections Department
PO Box 14, Charles Town, WV 25414
Dumpster Pad Specifications "Policy"

A dumpster pad shall be made with minimum 3000 psi fiberglass reinforced concrete that is approximately 12-ft wide x 8-ft deep x 6-in thick (minimums) with a surface slope of 1/8" per foot for drainage and approximately 40-ft long x 10-ft wide straight-in approach drive for the refuse truck. Overhead clearance at the site must be at least 22 feet (14.5 feet on approach drive). A full width rear block to guide dumpster placement shall be provided. Where front wheels sit during dumping cycle, concrete needs to be able to withstand up the 32,000-lb. load that bounces.

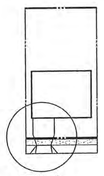
As far as possible, dumpster pads shall be hidden from public view by landscaping or an architectural barrier. If a dumpster is to be so screened the minimum dimensions of an enclosed dumpster pad shall be 12-ft wide x 12-ft deep with the same full width rear block.

Placement, container size, and other restrictions pertaining to trash collection and containment are subject to Article 951 of the Codified Ordinances of the City of Charles Town and/or the International Property Maintenance Code. Zoning restrictions may also apply.

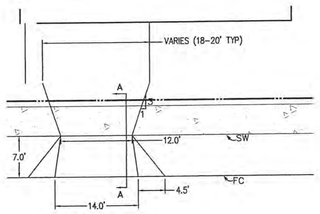
This is a draft please initial approval or change:

J. Camp
J. Dick
10-24-2005

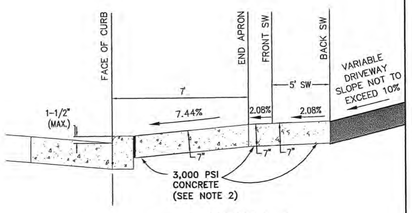
Located at 105 S. George St.
304-725-2311 (ext. 231) – 304-725-1014 (fax)



DETAIL A



DETAIL A



SECTION A–A

DETAIL – TYPICAL DRIVEWAY ENTRANCE
NTS

NOTES:
1) SEE CITY OF CHARLES TOWN STANDARD DETAIL DE–1 (RESIDENTIAL DRIVEWAY ENTRANCE) FOR ADDITIONAL INFORMATION.
2) MINIMUM 28–DAY DESIGN STRENGTH OF CONCRETE TO BE 3,000 PSI – REF. WV DIVISION OF HIGHWAYS STANDARD SPECIFICIATIONS ROADS AND BRIDGES, SECTION 500

ROAD NOTES:

1. SUBGRADES ON CUT SHALL BE COMPACTED FOR A MINUMUM OF ONE (1) FOOT IN DEPTH. SUBGRADES IN FULL SHALL MEET COMPACTION STANDARDS AT ALL LEVELS.
2. GRAVEL USED IN BASE COURSES AND SURFACING SHALL BE CONSTRUCTED ON A COMPACTED SUBGRADE FREE OF ORGANIC MATTER. GRAVEL SHALL BE A WELL–GRADED CRUSHED STONE AGGREGATE SUCH AS 3/4 INCH CRUSHER RUN WHICH SHALL BE PLACED AND ROLLED IN A MOIST CONDITION SO THAT FINES REMAIN MIXED WITH THE MORE COARSE MATERIAL. MINIMUM COMPACTION TO BE 95% OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D698
3. ASPHALT COURSES, WHERE APPLICABLE, SHALL BE APPLIED TO THE PREPARED GRAVEL SURFACE FOLLOWING THE APPLICATION OF A LIQUID ASPHALT PRIME COAT. ASPHALT SHALL CONSIST OF A PLANT–MIXED BITUMINOUS MATERIAL ROLLED SMOOTH. THE ASPHALT SURFACE SHALL BE SMOOTH, SEAMLESS, AND OF A UNIFORM TEXTURE. ASPHALT MATERIAL SHALL COMPLY WITH THE MINIMUM SPECIFICATIONS REQUIRED BY THE WEST VIRGINIA DEPARTMENT OF HIGHWAYS FOR PUBLIC ROADS.
4. ALL STREET R/W'S TO BE DEDICATED TO THE CITY OF CHARLES TOWN ONCE THE STREETS ARE COMPLETED, INSPECTED & ACCEPTED BY THE CITY.
5. UNLESS OTHERWISE SPECIFIED IN THE PLANS, ALL PARKING SPACES SHALL BE 22' X 8' PER THE CITY OF CHARLES TOWN ZONING ORDINANCE.

B. CONSTRUCTION NOTES

2. EARTHWORK SHALL BE COMPACTED TO THE PERCENTAGES OF MAXIMUM DRY DENSITY (ACCORDING TO AASHTO T99C) AS SHOWN BELOW:

a.	ROADWAYS	98%
b.	BUILDING PADS	100%
c.	PARKING LOTS FOR PASSENGER VEHICLES	95%
d.	PARKING LOTS FOR HEAVY TRUCKS	98%
e.	UTILITY TRENCHES	98%

NOTE:
1. SEE ROAD DETAIL PROVIDED ON ROAD AND ALLEY PROFILES FOR PAVEMENT SPECIFICATIONS.

No.	DATE	DESCRIPTION
1	11/29/05	DUMPSTER PAD SPECIFICATIONS ADDED
2	12/07/05	MODIFIED CURB AND GUTTER DETAIL

REVISIONS

PLAN DATE
10/07/05
12/01/05
02/03/06
02/28/06

Urban Engineering & Associates, Inc.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
PEGASUS BUSINESS CENTER
600 PEGASUS COURT - SUITE 101 WINCHESTER, VIRGINIA 22602
PHONE (540) 450-0211 FAX (540) 450-0210

DAVID E. LELLOCK REGISTERED #15157 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
02/28/06

Misc. Details

HUNTFIELD
Recreation Center (Active Community Center #1)
CHARLES TOWN CORPORATION
JEFFERSON COUNTY, WEST VIRGINIA

SCALE: AS SHOWN
C.I. = N/A
DATE: OCTOBER 2005

SHEET 15 OF 15

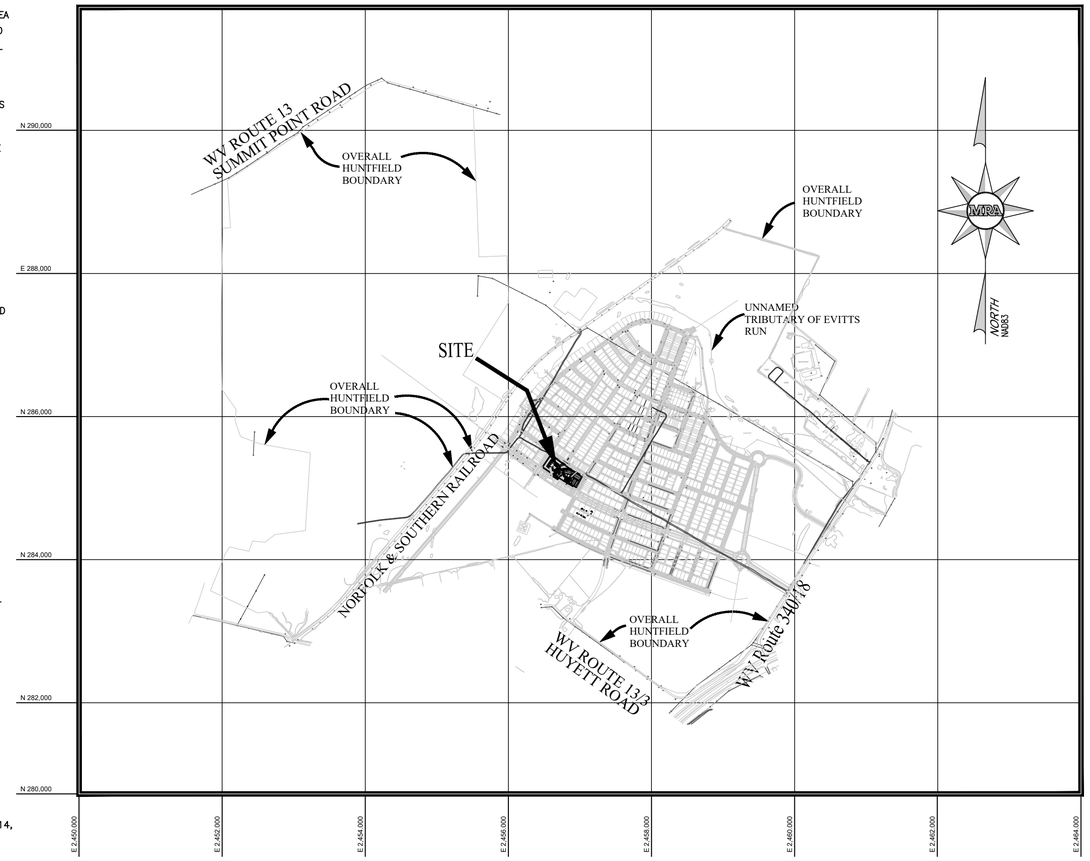
PP-20125

HUNTFIELD

RECREATION CENTER
CONSTRUCTION DRAWINGS
JEFFERSON COUNTY, WEST VIRGINIA

GENERAL NOTES

1. THIS SET OF DRAWINGS PERTAINS TO THE RECREATION CENTER FOR THE EASTERN PORTION OF HUNTFIELD, WHICH CONSISTS OF A TOTAL SITE AREA OF 2.71 ACRES. THE SITE CONTAINS ONE LOT FOR THE USE OF THE RECREATION CENTER. REFERENCE WAS MADE TO THE SCHEMATIC PLAN "HUNTFIELD COMPOSITE SCHEMATIC 1" (SCHM 2004-0002) APPROVED APRIL 12, 2005. THESE PLANS SHALL BE IN CONFORMANCE WITH THE APPROVED SCHEMATIC PLAN & ALL ZONING REQUIREMENTS INCLUDING THOSE MODIFIED IN THE HUNTFIELD PROFFERS. ALL OPEN SPACE, RESIDENTIAL, AND COMMERCIAL REQUIREMENTS SHALL CORRESPOND TO THOSE SET FORTH IN THE SCHEMATIC.
2. THE PROPERTY DELINEATED HEREON IS A PORTION OF PARCEL 1, AS SHOWN ON CHARLES TOWN CORPORATION TAX ASSESSMENT MAP 11, AND AS MORE PARTICULARLY DESCRIBED IN DEED BOOK 949, PAGE 203, WHICH IS LOCATED AMONG THE LAND RECORDS OF JEFFERSON COUNTY.
3. BOUNDARY INFORMATION, SHOWN HEREON, WAS OBTAINED FROM A PLAT SHOWING HUNTFIELD, LC PROPERTY AS RECORDED IN THE OFFICE OF THE CLERK OF THE COUNTY COMMISSION OF JEFFERSON COUNTY, WEST VIRGINIA, IN PLAT BOOK 19, PAGE 49.
4. TOPOGRAPHIC INFORMATION WAS OBTAINED FROM MORRIS & RITCHIE ASSOCIATES, INC. FIELD SURVEY DATED 11/11/2024.
5. THE PROPERTY SHOWN HEREON WAS ACQUIRED BY HUNTFIELD. AS RECORDED IN THE OFFICE OF THE CLERK OF THE COMMISSION OF JEFFERSON COUNTY, WEST VIRGINIA IN DEED BOOK 949, PAGE 203.
6. THE HOMEOWNER'S ASSOCIATION INC. WILL BE RESPONSIBLE FOR THE MAINTENANCE OF STORM WATER DETENTION/DRAINAGE FACILITIES AND EASEMENTS. IN ADDITION THEY SHALL BE RESPONSIBLE FOR MAINTENANCE OF SIDEWALKS & STREET LIGHTS.
7. ALL CONSTRUCTION SHALL CONFORM TO CURRENT CITY OF CHARLES TOWN, WVDOH, WVDEP, WVSHPO, AND SANITATION AUTHORITY STANDARDS AND SPECIFICATIONS.
8. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PROVIDED IN ACCORDANCE WITH THE 1993 "WEST VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK FOR DEVELOPING AREAS" & WVDEP REQUIREMENTS AND ASSOCIATED PERMITS.
9. THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE DEVELOPER OR HIS AGENT OF ANY LEGAL RESPONSIBILITY WHICH MAY BE REQUIRED BY THE CODE OF WEST VIRGINIA OR ANY OTHER ORDINANCE ENACTED BY THE CITY OF CHARLES TOWN.
10. STANDARD GUARDRAILS AND HANDRAILS SHALL BE INSTALLED AT HAZARDOUS LOCATIONS AS DETERMINED DURING FINAL FIELD INSPECTION BY CITY OF CHARLES TOWN AND\OR WVDOH.
11. ALL UNDERGROUND UTILITIES WITHIN STREET RIGHT-OF-WAYS SHALL BE INSTALLED TO THE REQUIRED DISTANCE BEYOND THE RIGHT-OF-WAY LINE PRIOR TO THE INSTALLATION OF ANY SUBBASE MATERIAL, CURB AND GUTTER, OR SIDEWALK.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF UTILITY OVERBLASTING FOR FUTURE EXTENSIONS WITH ALL ADJACENT SECTIONS.
13. THESE PLANS MAKE NO REPRESENTATION AS TO SUBSURFACE CONDITIONS AND THE PRESENCE OF SUBSURFACE WATER OR THE NEED FOR SUBSURFACE DRAINAGE FACILITIES.
14. ANY WELLS OR SEPTIC FIELDS WITHIN THE LIMITS OF THE SITE WILL BE ABANDONED IN ACCORDANCE WITH STATE AND LOCAL HEALTH DEPARTMENT REQUIREMENTS AND REGULATIONS PRIOR TO RECORD PLAT APPROVAL.
15. THE SECTION DELINEATED HEREON CONTAINS NO KNOWN ARCHEOLOGICAL OR HISTORICAL LANDMARKS.
16. CONTRACTORS SHALL ARRANGE FOR THE LOCATION OF ALL UNDERGROUND FACILITIES PRIOR TO THE CONSTRUCTION INCLUDING TEST HOLES TO PHYSICALLY LOCATE UNDERGROUND UTILITIES AS NECESSARY.
17. STREET SIGNS AND STOP SIGNS SHALL BE INSTALLED AT ALL INTERSECTIONS AND BE IN COMPLIANCE WITH ALL APPLICABLE ZONING AND CODIFIED ORDINANCE FOR THE CITY OF CHARLES TOWN.
18. FINAL HOUSE AND ACCESSORY LOCATIONS ARE SUBJECT TO APPROVAL AT BUILDING PERMIT SUBMISSION.
19. PARKING FOR THIS SITE PLAN WILL BE IN COMPLIANCE WITH ALL REQUIRED REGULATIONS.
20. WETLAND INFORMATION OBTAINED FROM WETLAND DELINEATION REPORT PREPARED BY GREENHORNE AND O'MARA, INC. DATED JULY 14, 2000.
21. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE ESTABLISHMENT OR CONSTRUCTION OF ALL AREAS OR SITE IMPROVEMENTS SHOWN ON THE SITE PLAN, INCLUDING STREET SIGNS, TRAFFIC SIGNS, OPEN SPACE, RECREATIONAL FACILITIES, STORMWATER FACILITIES, SIDEWALKS, AND OTHER FACILITIES SHOWN ON THIS SITE PLAN.
22. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING ALL IMPROVEMENTS AND AREAS UNTIL CONVEYANCE OF THE IMPROVEMENTS TO THE HOME OWNERS ASSOCIATION OR OTHER ENTITY. UPON RELEASE FROM THE ASSOCIATED PERFORMANCE RELATED BOND OR OTHER FORM OF SURETY BOND POSTED WITH THE CITY OR COUNTY, ALL OPEN SPACE PARCELS, ALLEYS, AND OTHER COMMON ELEMENTS SHALL BE CONVEYED TO HUNTFIELD COMMUNITY ASSOCIATION, INC AT WHICH TIME THE ASSOCIATION SHALL BE RESPONSIBLE FOR THE UPKEEP OF SUCH PARCELS. REFERENCE ARTICLE IV, SECTION 4.1, 4.2 AND 4.3 OF THE DECLARATION OF COVENANTS, CONDITIONS, AND RESTRICTIONS FOR THE HUNTFIELD COMMUNITY ASSOCIATION, INC, WHICH WAS RECORDED FEBRUARY 14, 2003 IN DEED BOOK 970 AT PAGE 154.
23. THE OWNER MUST BOND ALL REQUIRED SITE IMPROVEMENTS AT THE TIME OF RECORD PLAT SUBMITTAL.
24. ALL STREETS SHOWN WITHIN THIS PLAN WITH THE EXCEPTION OF PROSPECT HILL BOULEVARD ARE DEFINED AS LOCAL ROADS PER THE CRITERIA LISTED IN SECTION 906.05 (B) (1) OF THE AMENDMENT TO THE ZONING ORDINANCE OF THE CITY OF CHARLES TOWN WITH REGARD TO ARTICLE EIGHT-A NEIGHBORHOOD RESIDENTIAL (NR) AS ADOPTED MONDAY AUGUST 17, 1998. PROSPECT HILL BOULEVARD IS DEFINED AS A COLLECTOR ROAD.
25. ALL STREETS ARE TO BE DEDICATED TO THE CITY OF CHARLES TOWN PER ARTICLE 8A (E) (3) OF THE AMENDMENT TO THE ZONING ORDINANCE OF THE CITY OF CHARLES TOWN AS ADOPTED AUGUST 17, 1998. CONVEYANCE OF THE STREETS TO THE CITY WILL OCCUR UPON RELEASE FROM THE ASSOCIATED PERFORMANCE RELATED BOND OR OTHER FORM OF SURETY BOND POSTED WITH THE CITY OR COUNTY.
26. THE HOA WILL BE RESPONSIBLE FOR THE SUPERVISION AND MAINTENANCE OF THE ENTIRE FACILITY.



VICINITY MAP

SCALE : 1"= 1000'

OWNER / DEVELOPER

DR ACQUISITIONS, LLC
10212 GOVERNOR LANE BLVD, STE 1006
WILLIAMSPORT, MD 21795
240-420-6046

SITE PLAN NOTE:

THIS PLAN REPRESENTS A REVISION TO THE PREVIOUSLY APPROVED ENGINEERING PLAN STPL-2007-0015. THE CURRENT REVISION MAINTAINS THE SAME CONCEPTUAL APPROACH AND DESIGN INTENT AS THE APPROVED PLAN, WITH UPDATES AND MODIFICATIONS TO THE BUILDING LAYOUT, GRADING SCHEME, AND STORMWATER COLLECTION TO ADDRESS CHANGES IN EXISTING SITE CONDITIONS AND DEVELOPER CONSTRAINTS. THE APPROVED WATER POLLUTION CONTROL PERMIT #WV0115924 ENCOMPASSES THE ENTIRETY OF THE PROPOSED SITE WORK AND STORMWATER DISCHARGE PROPOSED HEREIN.

ALL CHANGES HAVE BEEN DESIGNED TO ALIGN WITH THE ORIGINAL PROJECT'S OBJECTIVES AND COMPLY WITH APPLICABLE STANDARDS AND REGULATIONS.

CONTACT "MISS UTILITY" AT
1-800-245-4848
BEFORE ANY CONSTRUCTION PER CITY OF CHARLES TOWN WATER DEPARTMENT ORDINANCE

Sheet List Table

Sheet Number	Sheet Title
1	COVER SHEET
2	SITE NOTES & DETAILS
3	SITE PLAN
4	GEOMETRIC PLAN
5	STORM & SANITARY SEWER PROFILES
6	STORM SEWER COMPUTATIONS
7	SITE DRAINAGE DIVIDES
8	PHASE I – EROSION & SEDIMENT CONTROL
9	PHASE II – EROSION & SEDIMENT CONTROL
10	EROSION & SEDIMENT CONTROL NARRATIVE
11	EROSION & SEDIMENT CONTROL NARRATIVE
12	EROSION & SEDIMENT CONTROL DETAILS
13	LANDSCAPE PLAN
14	SITE DETAILS
15	SITE DETAILS

STATEMENT OF ACCEPTANCE

STATEMENT OF ACCEPTANCE

THE DEVELOPER, IN SIGNING THIS PLAT, AGREES TO ABIDE BY ALL CONDITIONS, TERMS, AND SPECIFICATIONS PROVIDED HEREON; AND TO COMPLETE ALL THE IMPROVEMENTS REQUIRED BY THE PRELIMINARY PLAT.

12-12-2024
DATE

MATT MONAHAN c/o DR ACQUISITIONS, LLC
10212 GOVERNOR LANE BLVD
WILLIAMSPORT, MD 21795

CITY OF CHARLES TOWN, West Virginia

☐ PRELIMINARY PLAN APPROVAL
☐ SITE DEVELOPMENT PLAN APPROVAL

BY _____ _____
City Engineer Date

BY _____ _____
City Planner Date

LIST OF WAIVERS / VARIANCES:

– NONE

DATE	REVISIONS
02/20/25	REVISED PER CITY COMMENTS

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
205 E. HIRST ROAD, SUITE 106
PURCELLVILLE, VIRGINIA 20132
PHONE: (703) 994-0047
MRAGTA.COM

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RICHARD J. KEEFE REGISTERED 20000 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER 2/20/25

COVER SHEET

HUNTFIELD
RECREATION CENTER
CONSTRUCTION PLANS & PROFILES
JEFFERSON COUNTY, WEST VIRGINIA

JOB NO.: 22954
SCALE:
DATE: 12-11-2024
DRAWN BY: WZ
DESIGN BY: WZ
REVIEW BY: JKE
SHEET: 1 OF 15

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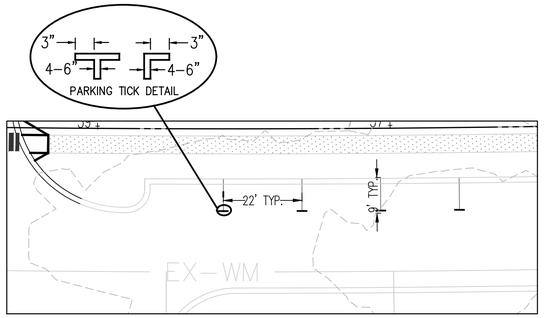
PARKING CALCULATIONS & DETAILS

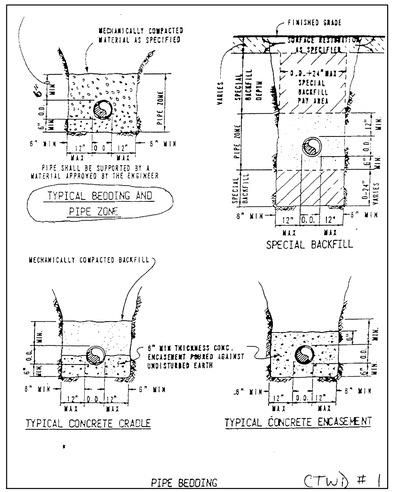
Usage	Square Ft.	Division # Per Reg.	# Space (Raw)	# Spaces (Rounded Up)
Multipurpose	2,100	80	66.5	67
	# Occupants			
Pool	155	7	22.1	23
	Spaces Required			90
	Spaces Provided			103 *

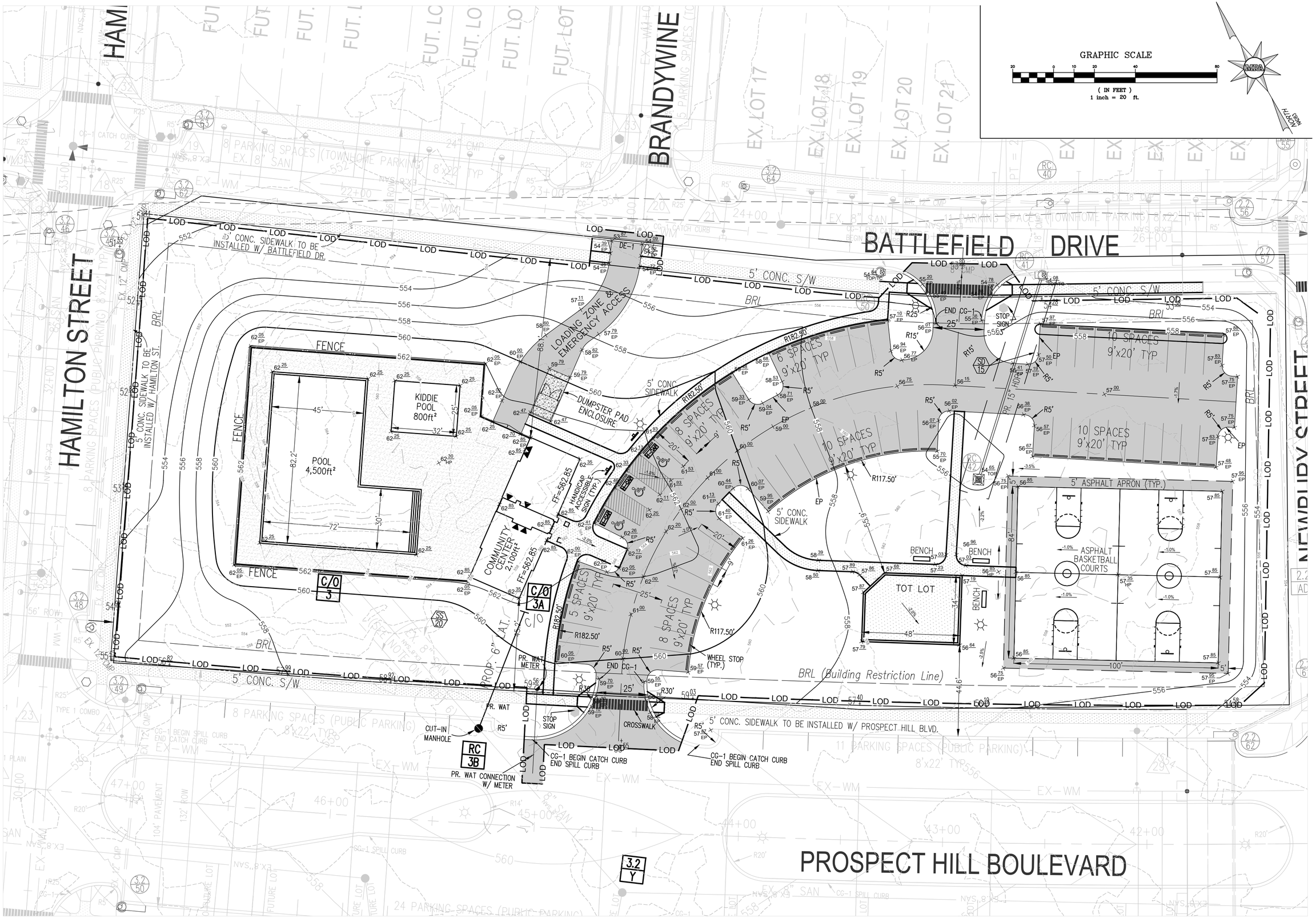
* INCLUDES 57 (3 HANDICAP) OFF-STREET SPACES AND 46 ON-STREET SPACES ADJACENT TO THE COMMUNITY CENTER



NOTES

1. A MARKED CROSSWALK SHALL CONSIST AS A MINIMUM OF 6" SOLID WHITE LINES SPACED AT 6' APART.
2. PARKING TICK SPECIFICATIONS BASED ON 2003 EDITION OF MUTCD STANDARDS FOR PARKING SPACE MARKINGS.


MECHANICALLY COMPACTED MATERIAL AS SPECIFIED
PIPE ZONE
6" MIN
12" O.D. 12"
MAX MAX
PIPE SHALL BE SUPPORTED BY A MATERIAL APPROVED BY THE ENGINEER
TYPICAL BEDDING AND PIPE ZONE
FINISHED GRADE
SURFACE RESTORATION AS SPECIFIED
VARIES
SPECIAL BACKFILL DEPTH
SPECIAL BACKFILL
SPECIAL BACKFILL
SPECIAL BACKFILL



DATE	REVISIONS
02/20/25	REVISED PER CITY COMMENTS

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
205 E. HIRST ROAD, SUITE 106
PURCELLVILLE, VIRGINIA 20132
PHONE: (703) 994-0047
MRAGTA.COM

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RICHARD J. DEAN REGISTERED 20880 STATE OF VIRGINIA PROFESSIONAL ENGINEER

SITE PLAN

HUNTFIELD
RECREATION CENTER
CONSTRUCTION PLANS & PROFILES
JEFFERSON COUNTY, WEST VIRGINIA

JOB NO.:	22954
SCALE:	
DATE:	12-11-2024
DRAWN BY:	WZ
DESIGN BY:	WZ
REVIEW BY:	JKE
SHEET:	3 OF 15

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CONCRETE POOL DECK

4"CONCRETE W/ W.W.F 6"x 6"-W1.4 x W1.4
4"GRAVEL (#57)

LIGHT DUTY PAVING PARKING LOTS

2" BITUM. CONC. SURFACE (VDOT SPEC. SM-9.5A)
2" BITUM. CONC. BASE (VDOT SPEC. BM-25.0)
6" COMPACTED AGGR. SUBBASE (VDOT SPEC. 209, 21-A GRAD.)
* COMPACTED SUBGRADE (SEE NOTE THIS SHEET)

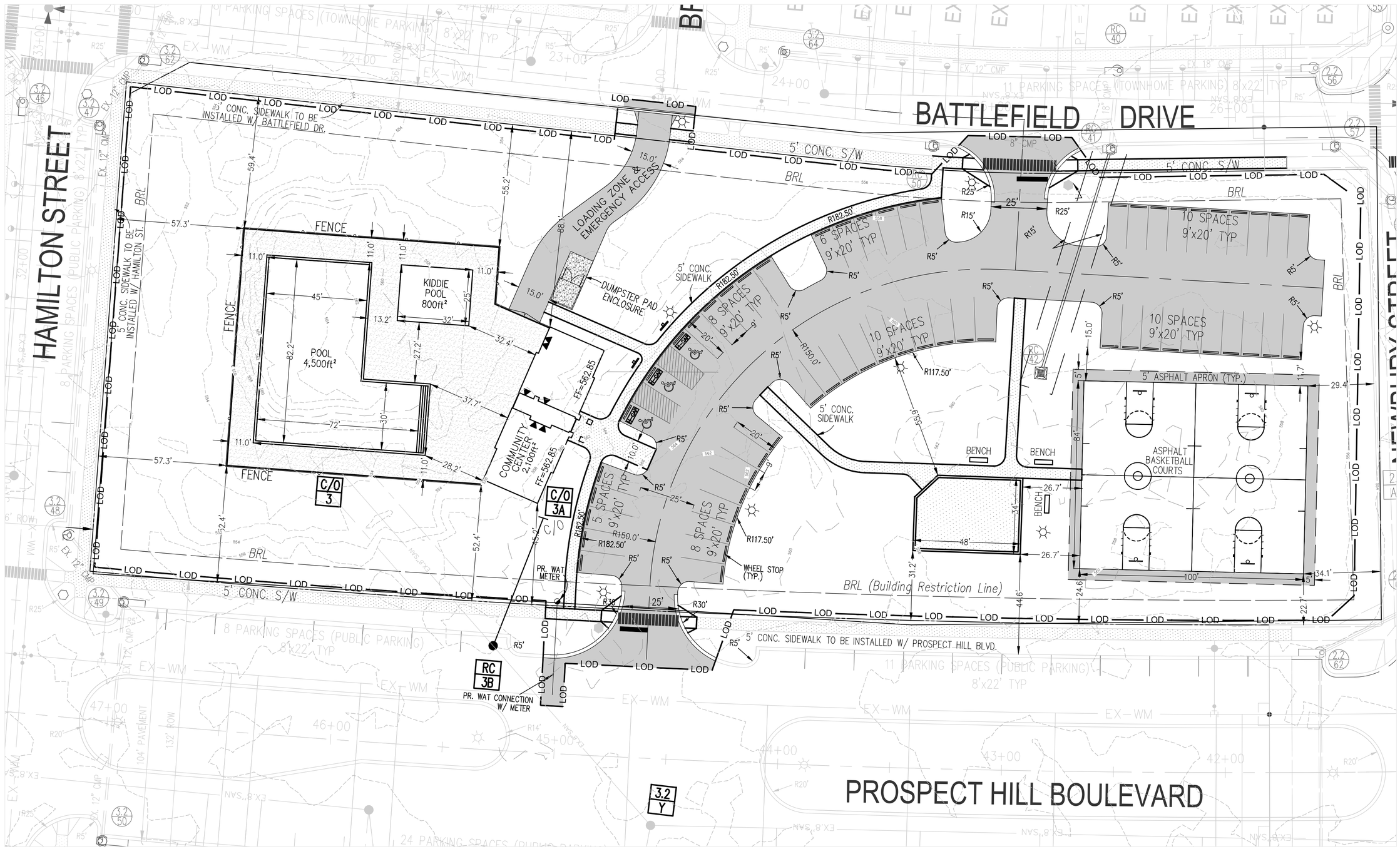
LOADING AREAS

2-1/2"
7" REINFORCED CONC. (USE 3,000 PSI CONC.)
6" MIN. COMP. STONE BASE (21-A GRAD.)
* COMPACTED SUBGRADE
6"X6" - #10 X #10 MESH

*COMPACTED SUBGRADE: TOP 12' TO BE COMPACTED TO 95% OF MAX. DRY DENSITY AS PER ST'D. PROCTOR, ±2% OF OPTIMUM MOISTURE.

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

NORTH



DATE	REVISIONS
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205 E. HIRST ROAD, SUITE 106
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PHONE: (703) 994-0047
MRAGTA.COM

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RICHARD J. KYLES
REGISTERED
20824
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
2/20/25

GEOMETRIC PLAN

HUNTFIELD
RECREATION CENTER
CONSTRUCTION PLANS & PROFILES
JEFFERSON COUNTY, WEST VIRGINIA

JOB NO.:	22954
SCALE:	
DATE:	12-11-2024
DRAWN BY:	WZ
DESIGN BY:	WZ
REVIEW BY:	JKE
SHEET:	4 OF 15

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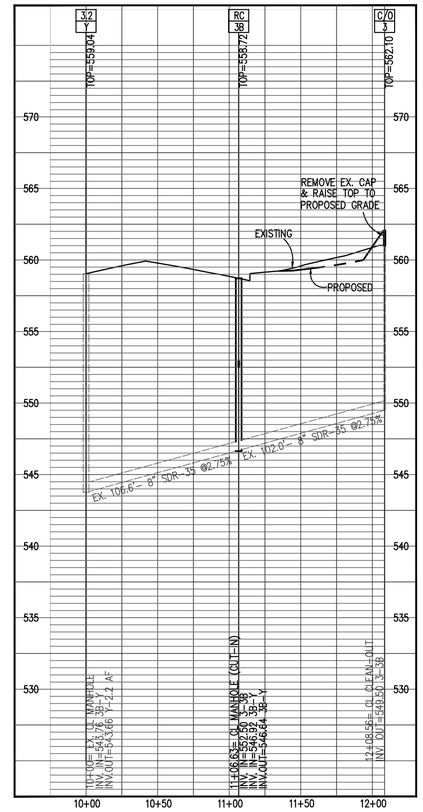
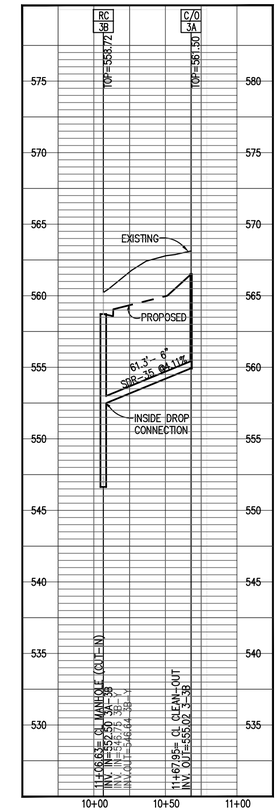
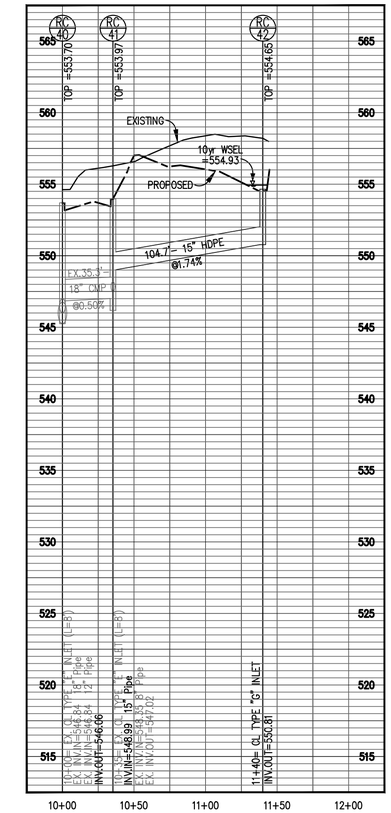
SANITARY
EX. C/O-3 TO EX. 3.2-Y



SANITARY
PR. C/O-3A TO EX. RC-3B



STORM
PR. RC-42 TO EX. RC-40



LEGEND

EX. GRADE @ ℄ PIPE

PROP. GRADE @ ℄ PIPE

NOTE: GEOTECHNICAL ENGINEER TO DETERMINE SIZE OF BASE FOR ALL STRUCTURES LOCATED ON CONTROLLED FILL TO ENSURE ADEQUATE SOIL BEARING CAPACITY AND MINIMIZE STRUCTURE SETTLEMENT.

NOTE: FOR EXISTING SANITARY SEWER PIPE C/O-3 TO RC-3B, IF THE FINAL DESIGN OF THE POOL FACILITIES REQUIRE A SEWER CONNECTION AT THE POOL BUILDING, THIS LINE SHALL BE CONNECTED TO THAT BUILDING, OTHERWISE IT WILL BE ABANDONED IN PLACE.

DATE	REVISIONS

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
205 E. HIRST ROAD, SUITE 106
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MRA

J. K. ERICKSON
LICENSED PROFESSIONAL ENGINEER
36050
STATE OF WEST VIRGINIA
12/11/2024

STORM & SANITARY SEWER PROFILES

HUNTFIELD
RECREATION CENTER
CONSTRUCTION PLANS & PROFILES
JEFFERSON COUNTY, WEST VIRGINIA

JOB NO.:	22954
SCALE:	
DATE:	12-11-2024
DRAWN BY:	WZ
DESIGN BY:	WZ
REVIEW BY:	JKE
SHEET:	5 OF 15

STORMWATER INLET COMPUTATIONS

Inlet No.			Runoff to Inlet								Curb / Sump Inlet Computations																Runoff Intercepted					
Inlet Structure No.	Inlet Type	Length (ft)	Drainage Area (ac)	C	CA	Sum CA	I (in/hr)	Q, increm (cfs)	Q, carryover (cfs)	Qt, gutter (cfs)	S, gutter (ft/ft)	Sx, cross slope (ft/ft)	T, spread (ft)	W (ft)	W/T	Sw (ft/ft)	Sw/Sx	Eo	a (in)	S'w = a/(12W)	Se (ft/f) = Sx + S'wEo	Lt (ft)	P, eff length (ft)	L/Lt	d (ft)	E	h (ft)	Q intercepted	d/h	Qb, carryover (cfs)	d, sump (ft)	T, spread at sag (ft)	Remarks
3.2-47	TYPE "E"	6	0.46	0.55	0.25	--	4.00	1.01	0.00	1.01	0.02	0.03	3.76	2.00	0.53	0.08	2.78	0.94	3.28	0.14	0.16	6.46	--	0.93	0.22	0.99	0.46	1.00	0.48	0.01	--	--	
3.2-46	TYPE "E"	8	0.14	0.65	0.09	--	4.00	0.36	0.00	0.36	0.02	0.03	1.82	2.00	1.10	0.08	2.78	1.00	3.28	0.14	0.17	4.09	--	1.47	0.15	1.00	0.46	0.36	0.33	0.00	--	--	
3.2-50	TYPE "E"	14	0.53	0.65	0.34	--	4.00	1.38	0.00	1.38	0.02	0.03	4.18	2.00	0.48	0.08	2.78	0.91	3.28	0.14	0.15	8.15	--	0.00	0.23	0.00	0.46	0.00	0.51	1.38	--	--	
3.2-49	TYPE "E"	12	0.57	0.63	0.36	--	4.00	1.43	0.00	1.43	0.02	0.03	4.27	2.00	0.47	0.08	2.78	0.90	3.28	0.14	0.15	8.30	--	1.69	0.23	1.00	0.46	1.43	0.51	0.00	--	--	
3.2-63	TYPE "E"	10	0.40	0.35	0.14	--	4.00	0.56	0.00	0.56	0.01	0.03	2.45	2.00	0.82	0.08	2.78	1.00	3.28	0.14	0.17	4.84	--	0.00	0.18	0.00	0.46	0.00	0.39	0.56	--	--	
3.2-62	TYPE "E"	10	0.70	0.54	0.38	--	4.00	1.51	0.00	1.51	0.01	0.03	4.86	2.00	0.41	0.08	2.78	0.86	3.28	0.14	0.15	7.89	--	1.27	0.25	1.00	0.46	1.51	0.55	0.00	--	--	
3.2-64	TYPE "B"	3	0.02	0.50	0.01	--	4.00	0.04	0.00	0.04	0.01	0.03	0.87	2.00	2.29	0.08	2.78	1.00	3.28	0.14	0.17	1.42	--	0.00	0.07	0.00	0.46	0.00	0.16	0.04	--	--	
40	TYPE "E"	8	0.26	0.35	0.09	--	4.00	0.36	0.00	0.36	0.01	0.03	1.99	2.00	1.01	0.08	2.78	1.00	3.28	0.14	0.17	3.57	--	0.70	0.17	0.89	0.46	0.32	0.36	0.04	--	--	
2.2-56	TYPE "E"	6	0.19	0.35	0.07	--	4.00	0.27	0.00	0.27	0.01	0.03	1.65	2.00	1.21	0.08	2.78	1.00	3.28	0.14	0.17	3.48	--	2.30	0.14	1.00	0.46	0.27	0.30	0.00	--	--	
41	TYPE "E"	6	0.09	0.77	0.07	--	4.00	0.28	0.00	0.28	0.01	0.03	1.89	2.00	1.06	0.08	2.78	1.00	3.28	0.14	0.17	2.92	--	2.06	0.16	1.00	0.46	0.28	0.34	0.00	--	--	
50	TYPE "E"	6	0.05	0.54	0.03	--	4.00	0.11	0.00	0.11	0.01	0.03	1.30	2.00	1.54	0.08	2.78	1.00	3.28	0.14	0.17	2.05	--	0.00	0.11	0.00	0.46	0.00	0.24	0.11	--	--	
2.2-59	TYPE "E"	6	0.08	0.63	0.05	--	4.00	0.20	0.00	0.20	0.01	0.03	1.59	2.00	1.26	0.08	2.78	1.00	3.28	0.14	0.17	2.80	--	2.14	0.13	1.00	0.46	0.20	0.29	0.00	--	--	
2.2-58	TYPE "E"	6	0.07	0.56	0.04	--	4.00	0.16	0.00	0.16	0.01	0.03	1.44	2.00	1.39	0.08	2.78	1.00	3.28	0.14	0.17	2.51	--	2.39	0.12	1.00	0.46	0.16	0.26	0.00	--	--	
2.2-57	TYPE "E"	8	0.10	0.60	0.06	--	4.00	0.24	0.00	0.24	0.01	0.03	1.59	2.00	1.26	0.08	2.78	1.00	3.28	0.14	0.17	3.33	--	1.80	0.13	1.00	0.46	0.24	0.29	0.00	--	--	
2.2-63	TYPE "E"	12	0.84	0.65	0.55	--	4.00	2.18	0.00	2.18	0.02	0.03	5.52	2.00	0.36	0.08	2.78	0.81	3.28	0.14	0.14	10.25	--	0.00	0.27	0.00	0.46	0.00	0.59	2.18	--	--	
2.2-62	TYPE "E"	12	0.98	0.70	0.68	--	4.00	2.74	0.00	2.74	0.02	0.03	6.18	2.00	0.32	0.08	2.78	0.76	3.28	0.14	0.13	11.61	--	1.03	0.29	1.00	0.46	2.74	0.64	0.00	--	--	
2.2-61	TYPE "E"	6	0.12	0.50	0.06	--	4.00	0.24	0.00	0.24	0.03	0.03	1.41	2.00	1.42	0.08	2.78	1.00	3.28	0.14	0.17	4.06	--	2.96	0.12	1.00	0.46	0.24	0.26	0.00	--	--	

INLET DESIGN COMPUTATIONS

STRUCTURE #	STRUCTURE	GRATE TYPE	AREA (Ac.)	"C"	"I" (in/hr)	GRATE DESIGN FLOW (cfs)	GRATE DESIGN $AREA_{50}$ (sf)	GRATE DESIGN $PERIM_{50}$ (ft)	GRATE DESIGN DEPTH (ft)	REMARKS
42	GRATE-INLET	TYPE 1	0.82	0.73	6.88	4.13	3.00	9.42	0.28	W.S.E. = 554.93

NOTE: GRATE COMPUTATIONS ASSUME 50% CLOGGING

STORM SEWER DESIGN COMPUTATIONS

FR. Point	To Point	Drain Area "A" (acres)	Runoff Coeff., C	CA Increment	CA Accumulated	Inlet Time (min)	Rainfall (in/hr)	Runoff, Q (cfs)	Upper End Inv	Lower End Inv	Pipe Length (ft)	Slope (ft/ft)	Dia (in)	Capacity (cfs)	Velocity Full Flow (fps)	Velocity Partial Flow (fps)	Flow Time (sec.)	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
2.2-63	2.2-62	0.84	0.65	0.55	0.55	5.0	6.88	3.78	545.45	544.92	107.16	0.0049	18	7.41	2.3	2.6	41.7	
2.2-62	2.2-61	0.98	0.70	0.68	1.23	5.7	6.65	8.18	544.67	544.45	43.34	0.0051	21	11.32	2.6	2.5	17.5	0.51Ac FR. ON-SITE
2.2-61	2.2-60	0.12	0.50	0.06	1.29	6.0	6.55	8.45	544.20	544.03	34.19	0.0050	21	11.20	2.5	2.5	13.8	0.04Ac FR. ON-SITE
3.2-47	3.2-46	0.46	0.55	0.25	1.47	6.8	6.29	9.24	540.34	540.16	35.97	0.0050	30	29.09	3.2	3.3	10.8	0.24Ac FR. ON-SITE
3.2-46	3.2-45	0.14	0.65	0.09	1.56	6.9	6.23	9.72	539.91	539.73	34.95	0.0052	30	29.52	3.3	3.4	10.2	
3.2-50	3.2-49	0.53	0.65	0.34	0.34	5.0	6.88	2.34	548.77	547.69	107.14	0.0101	12	3.59	2.5	2.3	45.7	
3.2-49	3.2-48	0.57	0.63	0.36	0.70	5.8	6.63	4.64	547.44	547.10	38.69	0.0088	12	3.35	2.3	2.3	16.7	0.30Ac FR. ON-SITE
3.2-48	3.2-47	0.00	0.00	0.00	0.70	6.0	6.53	4.64	546.85	541.35	183.20	0.0300	12	6.19	4.3	4.2	43.8	
3.2-63	3.2-62	0.40	0.35	0.14	0.14	5.0	6.88	0.96	543.40	542.49	36.52	0.0249	12	5.64	3.9	3.4	10.6	
3.2-62	3.2-47	0.70	0.54	0.38	0.52	5.2	6.82	3.55	542.24	541.35	35.59	0.0250	12	5.65	3.9	3.7	9.7	0.54Ac FR. ON-SITE
3.2-64	40	0.02	0.50	0.01	0.01	5.0	6.88	0.07	546.74	546.00	147.97	0.0050	12	2.53	1.7	0.9	162.4	
40	2.2-56	0.26	0.35	0.09	0.80	7.7	5.98	4.78	545.25	544.81	87.61	0.0050	18	7.46	2.3	2.2	40.6	
✳ 42	41	0.82	0.73	0.60	0.60	5.0	6.88	4.13	550.81	548.99	104.70	0.0174	15	8.54	3.8	4.3	24.6	0.82Ac FR. ON-SITE
41	40	0.09	0.77	0.07	0.70	5.8	6.62	4.63	547.02	546.84	35.32	0.0051	18	7.52	2.3	2.2	16.4	0.06Ac FR. ON-SITE
50	41	0.05	0.54	0.03	0.03	5.0	6.88	0.21	548.30	547.51	79.23	0.0100	8	1.21	1.9	1.7	47.6	0.02Ac FR. ON-SITE
2.2-59	2.2-58	0.08	0.63	0.05	0.05	5.0	6.88	0.34	546.93	546.74	36.91	0.0051	15	4.65	2.1	1.4	25.6	
2.2-58	2.2-57	0.07	0.56	0.04	0.09	5.4	6.74	0.61	546.49	546.32	34.97	0.0049	15	4.52	2.0	1.7	21.1	0.03Ac FR. ON-SITE
2.2-57	2.2-56	0.10	0.60	0.06	0.15	5.8	6.62	0.99	546.07	545.89	36.31	0.0050	15	4.56	2.0	1.9	19.1	0.04Ac FR. ON-SITE
2.2-56	2.2-55	0.19	0.35	0.07	1.02	8.4	5.75	5.87	545.39	545.01	37.83	0.0100	18	10.56	3.2	3.7	10.3	

*NOTE:

CONNECTION OF STR. 42 TO EX. STR. 41 IS THE ONLY PROPOSED SECTION OF STORM SEWER WITH THIS PLAN.

OTHER COMPUTATIONS ARE SHOWN HEREIN AS REFERENCE TO VERIFY THE DOWNSTREAM PIPE NETWORK HAS ADEQUATE CAPACITY GIVEN THE DRAINAGE AREA CHANGES, AS NOTED IN THE "REMARKS" COLUMN

EXISTING STORM NETWORK COMPUTATIONS ARE PER APPROVED PLAN *STPL-2007-0015*

DATE	REVISIONS

MORRIS & RITCHIE ASSOCIATES, INC.
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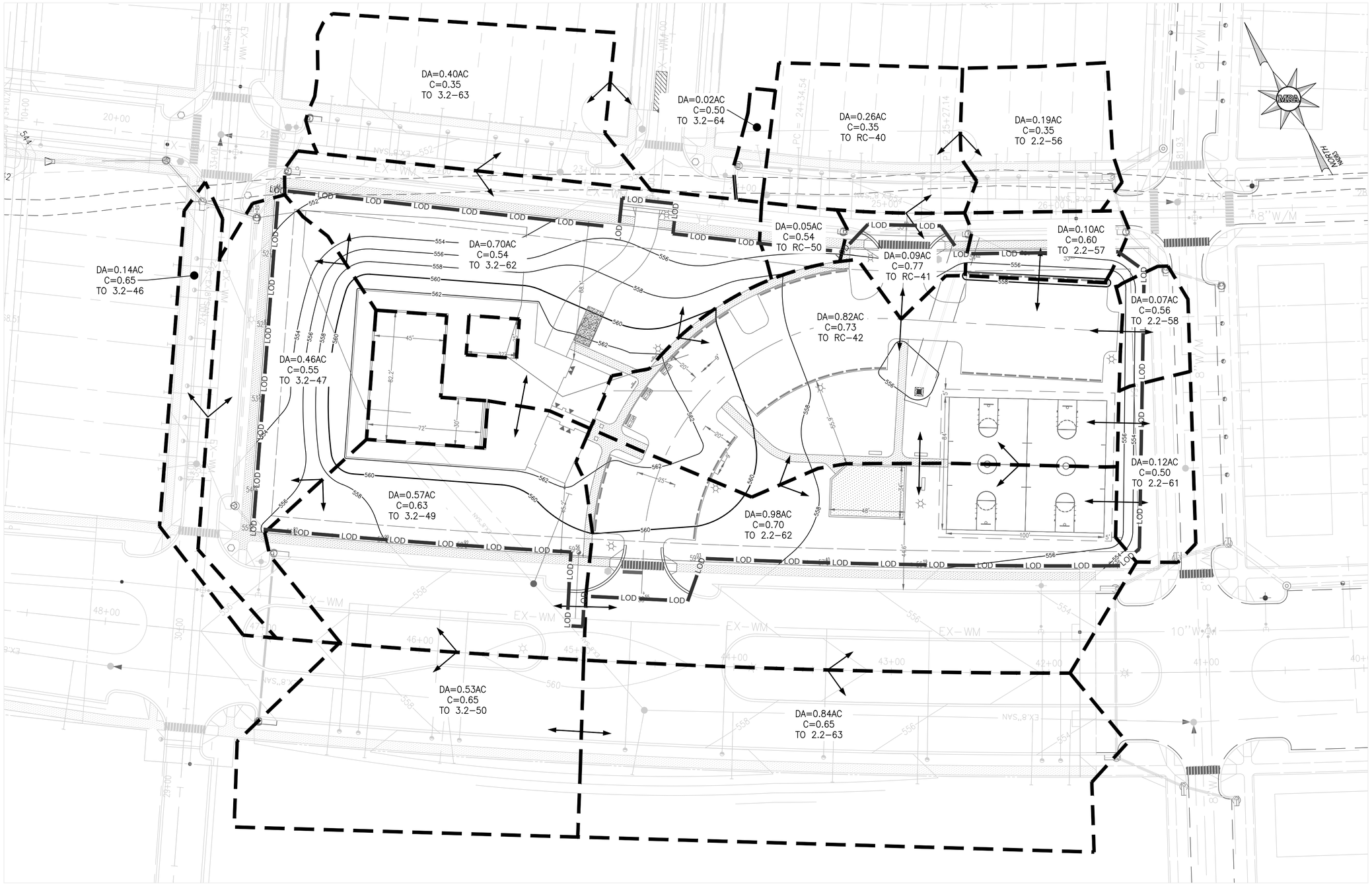
MRA

JAMES K. ERICKSON REGISTERED PROFESSIONAL ENGINEER 16000 STATE OF WEST VIRGINIA
12/11/2024

STORM SEWER COMPUTATIONS

HUNTFIELD
RECREATION CENTER
CONSTRUCTION PLANS & PROFILES
JEFFERSON COUNTY, WEST VIRGINIA

JOB NO.: 22954
SCALE:
DATE: 12-11-2024
DRAWN BY: WZ
DESIGN BY: WZ
REVIEW BY: JKE
SHEET: 6 OF 15



GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

LEGEND

LIMITS OF CLEARING	—— LOD ——
PRE-DEVELOPMENT DRAINAGE DIVIDE	- - - - -

STORMWATER DRAINAGE NOTE:

ASSOCIATED SITE DEVELOPMENT REFERRED TO HEREIN AS HUNTFIELD PHASES 1, 2A, 2B, 3A, 3B, 3D, 3E, AND 3F ARE LOCATED TO THE NORTH AND EAST OF THE PROPOSED SITE. PHASE 3C IS LOCATED TO THE WEST OF THE SITE. SEE SHEET 1 FOR APPROVED ASSOCIATED PLANS SUMMARY.

PROPOSED RECREATION CENTER DEVELOPMENT (~2.71–Ac) DRAINS INTO THE EXISTING STORM SEWER CONVEYANCE SYSTEM INSTALLED WITH PHASES 2B AND 3E, ULTIMATELY OUTFALLING INTO EXISTING DRY EXTENDED DETENTION STORMWATER MANAGEMENT POND B, WHICH IS DESIGNED TO HAVE ADEQUATE STORAGE FOR THE DETENTION AND TREATMENT OF FUTURE SITE CONSTRUCTION RUNOFF (~122.50–Ac). THIS POND WAS INSTALLED WITH DURING PHASE 2B.

THE APPROVED WATER POLLUTION CONTROL PERMIT #WV0115924, ISSUED BY THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, ENCOMPASSES THE ENTIRETY OF THE SITE WORK AND STORMWATER DISCHARGE PROPOSED HEREIN.

DATE	REVISIONS
02/20/25	REVISED PER CITY COMMENTS

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RICHARD J. DEMPSEY REGISTERED 20880 STATE OF PENNSYLVANIA PROFESSIONAL ENGINEER 2/20/25

SITE DRAINAGE DIVIDES

HUNTFIELD

RECREATION CENTER
CONSTRUCTION PLANS & PROFILES
JEFFERSON COUNTY, WEST VIRGINIA

JOB NO.: 22954	
SCALE:	
DATE: 12–11–2024	
DRAWN BY: WZ	
DESIGN BY: WZ	
REVIEW BY: JKE	
SHEET: 7 OF 15	

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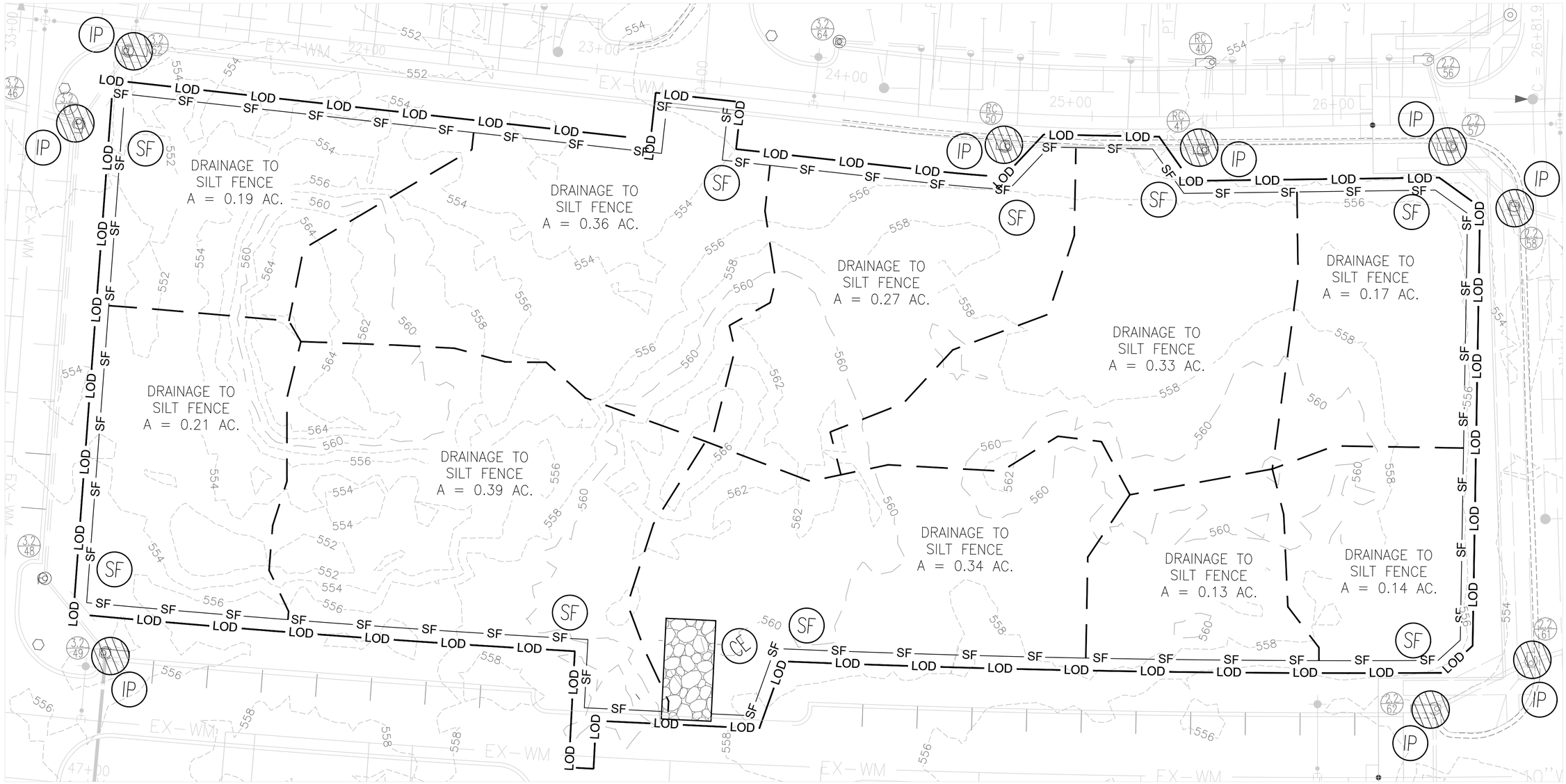

EROSION AND SEDIMENT CONTROL LEGEND

3.02	TEMPORARY CONSTRUCTION ENTRANCE	CE	
3.28	SILT FENCE	SF	—— SF ——
3.33	STORM DRAIN INLET PROTECTION	IP	
3.11	PERMANANT SEEDING	PS	

LIMITS OF CLEARING	—— LOD ——
PRE–DEVELOPMENT DRAINAGE DIVIDE	— — — —
POST–DEVELOPMENT DRAINAGE DIVIDE	— — — —

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

DATE	REVISIONS

MORRIS & RITCHIE ASSOCIATES, INC.
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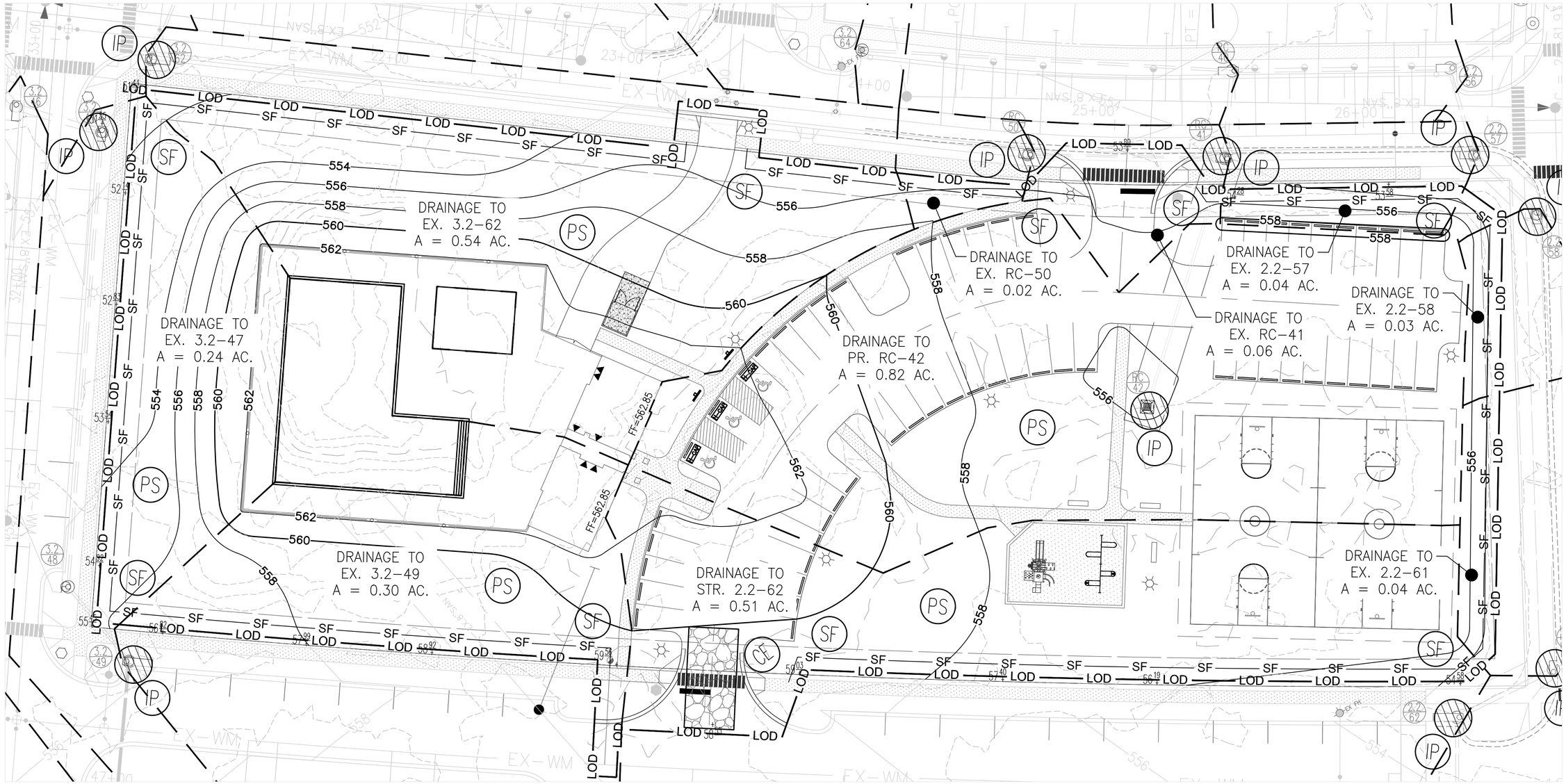
J. K. ERICKSON REGISTERED PROFESSIONAL ENGINEER 22001 STATE OF WEST VIRGINIA
12/11/2024

PHASE I - EROSION & SEDIMENT CONTROL

HUNTFIELD
RECREATION CENTER
CONSTRUCTION PLANS & PROFILES
JEFFERSON COUNTY, WEST VIRGINIA

JOB NO.:	22954
SCALE:	
DATE:	12–11–2024
DRAWN BY:	WZ
DESIGN BY:	WZ
REVIEW BY:	JKE
SHEET:	8 OF 15



EROSION AND SEDIMENT CONTROL LEGEND

3.02	TEMPORARY CONSTRUCTION ENTRANCE	CE	
3.28	SILT FENCE	SF	—— SF ——
3.33	STORM DRAIN INLET PROTECTION	IP	
3.10	TEMPORARY SEEDING	TS	
3.11	PERMANANT SEEDING	PS	

LIMITS OF CLEARING	—— LOD ——
PRE-DEVELOPMENT DRAINAGE DIVIDE	
POST-DEVELOPMENT DRAINAGE DIVIDE	

NORTH
(NAD83)

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

REVISIONS		
DATE	REVISED PER CITY COMMENTS	
02/20/25		

MORRIS & RITCHIE ASSOCIATES, INC.
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RICHARD J. DEAN III
REGISTERED
20880
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER

PHASE II - EROSION & SEDIMENT CONTROL

HUNTFIELD
RECREATION CENTER
CONSTRUCTION PLANS & PROFILES
JEFFERSON COUNTY, WEST VIRGINIA

JOB NO.:	22954
SCALE:	
DATE:	12-11-2024
DRAWN BY:	WZ
DESIGN BY:	WZ
REVIEW BY:	JKE
SHEET:	9 OF 15

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EROSION AND SEDIMENT CONTROL NARRATIVE:

I. PROJECT DESCRIPTION:

THE HUNTFIELD RECREATION CENTER SITE PLAN PROPOSES A SINGLE RECREATION CENTER WITH A POOL FACILITY, TOT LOT, BASKETBALL COURTS, PEDESTRIAN FACILITIES, AND ASSOCIATED PARKING. APPROXIMATELY 2.71 ACRES OF DISTURBANCE ARE PROPOSED WITH THIS SITE PLAN. CONSTRUCTION RELATED RUNOFF WILL BE MANAGED BY SILT FENCE ENCOMPASSING THE ENTIRETY OF DISTURBED AREAS. THE PROPOSED SILT FENCE WILL REMAIN IN PLACE WHERE APPLICABLE THROUGHOUT THE ENTIRETY OF CONSTRUCTION UNTIL THE SITE IS STABILIZED AND REMOVAL IS APPROVED.

II. EXISTING SITE CONDITIONS:

SITE CONSISTS OF MILD SLOPES DRAINING AWAY FROM THE SITE IN ALL DIRECTIONS (SITE IS LOCATED AT A GEOGRAPHICAL HIGH POINT). LIGHT UNDERBRUSH WITH OCCASIONAL THICK POCKETS MAKEUP THE EXISTING SURFACE COVER.

III. ADJACENT AREAS:

SITE IS BOUNDED BY RESIDENTIAL DEVELOPMENT ON ALL SIDES AND BUFFERED BY BATTLEFIELD DRIVE TO THE NORTH, NEWBURY STREET TO THE EAST, PROSPECT HILL BOULEVARD TO THE SOUTH, AND HAMILTON STREET TO THE WEST.

IV. CRITICAL AREAS:

THERE ARE NO KNOWN CRITICAL AREAS ON OR AROUND THIS SITE

V. SOILS:

SYMBOL	NAME / DESCRIPTION	SOIL TYPE
DgB	DUFFIELD SILT LOAM, 2-6% SLOPES	B
DgC	DUFFIELD SILT LOAM, 6-12% SLOPES	B
FbB	FRANKSTOWN SHALY SILT LOAM, 2-6% SLOPES	B
FbC	FRANKSTOWN SHALY SILT LOAM, 6-12% SLOPES	B
Ho	HUNTINGTON SILT LOAM, LOCAL ALLUVIUM	B

SOILS INFORMATION PROVIDED BY THE USDA SOIL SURVEY OF JEFFERSON COUNTY, WEST VIRGINIA

VI. POTENTIAL EROSION PROBLEM AREAS:

THERE ARE NO KNOWN POTENTIAL EROSION PROBLEM AREAS ON THIS SITE.

VII. EROSION AND SEDIMENT CONTROL ELEMENTS:

UNLESS OTHERWISE NOTED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE CONSTRUCTED AND MAINTAINED IN STRICT COMPLIANCE WITH THE LATEST EDITION OF THE WEST VIRGINIA EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL AND APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.

1. MARK CLEARING LIMITS:

PRIOR TO BEGINNING LAND DISTURBING ACTIVITIES, CLEARLY MARK ALL CLEARING LIMITS, SENSITIVE AREAS AND THEIR BUFFERS, AND TREES THAT ARE TO BE PRESERVED WITHIN THE CONSTRUCTION AREA. PLASTIC, METAL, OR STAKE WIRE FENCE MAY BE USED TO MARK CLEARING LIMITS. SAFETY FENCE SHOULD BE INSTALLED TO PREVENT PUBLIC ACCESS TO POTENTIALLY HAZARDOUS AREAS OF THE SITE AND TO PREVENT ACCESS TO EROSION AND SEDIMENT CONTROL MEASURES.

2. ESTABLISH CONSTRUCTION ACCESS:

ALL CONSTRUCTION ACCESS SHALL ENTER AND EXIT THE SITE THROUGH THE STABILIZED CONSTRUCTION ENTRANCE AS SHOWN ON THE PLANS LOCATED ON THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. IF WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. CONTRACTOR SHALL SUPPLY A WATER SOURCE BY PROVIDING A WATER TRUCK/WATER TANK ON SITE OR BY USE OF EXISTING ON SITE WATER SERVICE. THE CONSTRUCTION ENTRANCE LOCATION MAY BE SHIFTED TO ACCOMMODATE CONSTRUCTION PHASING. ANY SHIFT IN THE LOCATION SHALL BE APPROVED BY CITY OF CHARLES TOWN ENGINEERING.

3. INSTALL SEDIMENT CONTROLS:

THE DUFF LAYER, NATIVE TOPSOIL, AND NATURAL VEGETATION SHALL REMAIN IN AN UNDISTURBED STATE TO THE MAXIMUM EXTENT PRACTICABLE. PRIOR TO LEAVING THE CONSTRUCTION SITE, SURFACE RUNOFF FROM DISTURBED AREAS SHALL PASS THROUGH AN APPROPRIATE SEDIMENT CONTROL MEASURE. BMP'S INTENDED TO TRAP SEDIMENT ON SITE SHALL BE CONSTRUCTED AS ONE OF THE FIRST STEPS IN GRADING. THESE BMP'S SHALL BE FUNCTIONAL PRIOR TO LAND DISTURBING ACTIVITIES TAKING PLACE EARTHEN STRUCTURES SUCH AS DAMS, DIKES, AND DIVERSIONS SHALL BE SEEDED AND MULCHED AS PER TEMPORARY AND PERMANENT SOIL STABILIZATION MEASURES.

SILT FENCE:
SILT FENCE SHALL BE PLACED ALONG DOWN-SLOPE SIDES OF DISTURBED AREAS TO INTERCEPT AND DETAIN SMALL AMOUNTS OF SEDIMENT FROM DISTURBED AREAS DURING CONSTRUCTION OPERATIONS IN ORDER TO PREVENT SEDIMENT FROM LEAVING THE SITE.

INLET PROTECTION:
INLET PROTECTION SHALL BE BE PLACED ON ALL STORM DRAIN DROP INLETS OR CURB INLETS TO TRAP SEDIMENT BEFORE CONTAMINATED RUNOFF ENTERS A STORM DRAINAGE SYSTEM. STORM DRAIN INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY FOLLOWING INSTALLATION OF STORMWATER CONTROLS OR PRIOR TO CONSTRUCTION ACTIVITIES FOR EXISTING STORM DRAINS OR WHERE STORM DRAIN INLETS ARE TO BE MADE OPERATIONAL BEFORE PERMANENT STABILIZATION OF THE CORRESPONDING DISTURBED DRAINAGE AREA.

4. STABILIZE SOILS:

THE GENERAL PERMIT REQUIRES THAT ALL GRADED AREAS THAT ARE AT FINAL GRADE MUST BE SEEDED AND MULCHED WITHIN 4 DAYS AND AREAS THAT WILL NOT BE WORKED AGAIN FOR 14 DAYS OR MORE MUST BE SEEDED AND MULCHED WITH 4 DAYS. SELECTED SOIL STABILIZATION MEASURES SHALL BE APPROPRIATE FOR THE TIME OF YEAR, SITE CONDITIONS, AND ESTIMATED DURATION OF USE. ALL SOIL STOCKPILES MUST BE STABILIZED AND PROTECTED WITH SEDIMENT TRAPPING MEASURES. LINEAR CONSTRUCTION ACTIVITIES SUCH AS RIGHT-OF-WAY AND EASEMENT CLEARING, ROADWAY DEVELOPMENT, PIPELINES, AND TRENCHING FOR UTILITIES, SHALL BE CONDUCTED TO MEET THE SOIL STABILIZATION TIMEFRAME REQUIREMENTS. CONTRACTOR SHALL INSTALL THE BEDDING MATERIALS, ROADBEDS, STRUCTURES, PIPELINES, OR UTILITIES AND RE-STABILIZE THE DISTURBED SOILS SO THAT THE 4 DAY REQUIREMENTS ARE MET.

TEMPORARY SEEDING:
TEMPORARY STABILIZATION SHALL BE APPLIED TO AREAS WHERE CONSTRUCTION ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT LIKELY RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. AREAS INCLUDE DENUDED AREAS, SOIL STOCKPILES, DIKES, DAMS, SIDES OF SEDIMENT BASINS, TEMPORARY ROAD BANKS, ETC. TEMPORARY STABILIZATION SHALL BE APPLIED TO ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL. COMPLETION MUST BE ACHIEVED WITHIN 4 DAYS.

PERMANENT SEEDING:
PERMANENT STABILIZATION SHALL BE APPLIED TO ALL AREAS DISTURBED BY CONSTRUCTION IMMEDIATELY FOLLOWING FINISH GRADING. PERMANENT STABILIZATION MUST BE COMPLETED NO LATER THAN 4 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THE AREAS. PERMANENT STABILIZATION SHALL BE INITIATED ON DISTURBED AREAS WHERE PERMANENT, LONG-LIVED VEGETATIVE COVER IS NEEDED TO STABILIZE THE SOIL AND ROUGH-GRADED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR SIX MONTHS OR MORE. COMPLETION MUST BE ACHIEVED WITHIN 4 DAYS. PERMANENT STABILIZATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED, THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.

MULCHING:
THE APPLICATION OF STRAW, HAY OR OTHER SUITABLE MATERIALS TO THE SOIL SURFACE TO PREVENT EROSION BY PROTECTING THE SOIL SURFACE FROM RAINDROP IMPACT AND REDUCING THE VELOCITY OF OVERLAND FLOW. AREAS THAT HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED SHOULD BE MULCHED IMMEDIATELY FOLLOWING SEEDING. AREAS THAT CANNOT BE SEEDED BECAUSE OF THE SEASON SHOULD BE MULCHED TO PROVIDE SOME PROTECTION TO THE SOIL SURFACE.

TOPSOILING:
TOPSOILING IS THE SPREADING OF TOPSOIL OF A SUITABLE QUALITY OVER AN AREA TO BE STABILIZED BY ESTABLISHING VEGETATION. IF TOPSOIL IS TO BE STOCKPILED AT SITE, IT SHALL BE IN A LOCATION THAT WILL NOTE ERODE, BLOCK DRAINAGE, OR INTERFERE WITH WORK ON THE SITE. ALL SOIL STOCKPILES SHALL BE STABILIZED BY TEMPORARY SEEDING AND MULCHING AND PROTECTED WITH SEDIMENT TRAPPING MEASURES SUCH AS SILT FENCE. TOPSOIL SHALL BE SPREAD AT A LIGHTLY COMPACTED DEPTH OF 2 TO 4 INCHES. 4 INCHES OR GREATER IS RECOMMENDED FOR AREAS WHERE FINE-TEXTURED (CLAYEY) SUBSOIL OR OTHER ROOT LIMITING FACTORS ARE PRESENT.

5. PROTECT SLOPES:

THE GENERAL PERMIT PROHIBITS UP-SLOPE RUNOFF FROM FLOWING DOWN FILL SLOPES. ALL FILL SURFACE RUNOFF SHALL BE CONTAINED WITH TEMPORARY BERMS AND IN PIPES, SLOPE DRAINS, OR STABILIZED CHANNELS. DRAINAGE SHALL BE PROVIDED TO REMOVE GROUND WATER INTERSECTING THE SLOPE SURFACE OF EXPOSED SOIL AREAS. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES, CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS. SOILS ON SLOPES SHALL BE STABILIZED AS SPECIFIED IN TEMPORARY AND PERMANENT SOIL STABILIZATION MEASURES.

6. PROTECT DRAIN INLETS:

STORM DRAIN INLETS OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SURFACE WATER RUNOFF DOES NOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR TREATED TO REMOVE SEDIMENT. APPROACH ROADS SHALL BE KEPT CLEAN.

INLET PROTECTION:
INLET PROTECTION SHALL BE BE PLACED ON ALL STORM DRAIN DROP INLETS OR CURB INLETS TO TRAP SEDIMENT BEFORE CONTAMINATED RUNOFF ENTERS A STORM DRAINAGE SYSTEM. STORM DRAIN INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY FOLLOWING INSTALLATION OF STORMWATER CONTROLS, PRIOR TO CONSTRUCTION ACTIVITIES FOR EXISTING STORM DRAINS, OR WHERE STORM DRAIN INLETS ARE TO BE MADE OPERATIONAL BEFORE PERMANENT STABILIZATION OF THE CORRESPONDING DISTURBED DRAINAGE AREA.

CULVERT INLET PROTECTION:
CULVERT INLET PROTECTION SHALL BE BE PLACED ON ALL STORM CULVERT INLETS TO PREVENT SEDIMENT FROM ENTERING, ACCUMULATING IN, AND BEING TRANSFERRED BY THE CULVERT AND ASSOCIATED DRAINAGE SYSTEM. CULVERT INLET PROTECTION MAY ALSO PROVIDE EROSION CONTROL AT STORM CULVERT INLETS DURING THE PHASE OF A PROJECT WHERE ELEVATION AND DRAINAGE PATTERNS CHANGE, CAUSING ORIGINAL CONTROL MEASURES TO BE INEFFECTIVE OR IN NEED OF REMOVAL.

7. CONVEY STORMWATER IN A NON-EROSIVE MANNER:

POINTS OF DISCHARGE AND RECEIVING STREAMS SHALL BE PROTECTED FROM EROSION DUE TO INCREASES IN THE VOLUME, VELOCITY, AND PEAK FLOW RATE OF SURFACE WATER RUNOFF FROM THE PROJECT SITE. ALL STORMWATER CONVEYANCE CHANNELS SHALL BE STABILIZED FOR EXPECTED FLOWS.

OUTLET PROTECTION:
OUTLET PROTECTION SHALL BE INSTALLED AT ALL CULVERT OUTLETS OF ALL TYPES, PIPE CONDUITS FROM ALL SEDIMENT BASINS, SWM PONDS, AND NEW CHANNELS CONSTRUCTED AS OUTLETS FOR CULVERTS AND CONDUITS. OUTLET PROTECTION SHALL BE PROVIDED IN THE FORM OF A RIP-RAP-LINED APRON CONSTRUCTED AT A ZERO OR MINIMUM SLOPE TO SLOW THE OUTLET VELOCITY AND ADEQUATELY PROTECT SOILS FROM SCOUR BY REDUCING FLOW.

8. CONTROL OTHER POLLUTANTS:

ALL POLLUTANTS, INCLUDING WASTE MATERIALS AND DEMOLITION DEBRIS, THAT OCCUR ON SITE DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF SURFACE OR GROUND WATER. WOODY DEBRIS MAY BE CHOPPED AND SPREAD ON SITE. COVER, CONTAINMENT, AND PROTECTION FROM VANDALISM SHALL BE PROVIDED FOR ALL CHEMICALS, LIQUID PRODUCTS, PETROLEUM PRODUCTS, AND NON-INERT WASTES PRESENT ON SITE. ALL MATERIALS USED ON THE SITE SHALL BE PROPERLY STORED, HANDLED, DISPENSED AND DISPOSED OF FOLLOWING ALL APPLICABLE LABEL DIRECTIONS. FLAMMABLE AND COMBUSTIBLE LIQUIDS SHALL BE STORED AND HANDLED ACCORDING TO APPLICABLE REGULATIONS, AND, AT A MINIMUM, ACCORDING TO OSHA STANDARDS 29 CFR 1926 152. ONLY APPROVED CONTAINERS AND PORTABLE TANKS SHALL BE USED FOR STORAGE AND HANDLING OF FLAMMABLE AND COMBUSTIBLE LIQUIDS. MAINTENANCE AND REPAIR OF HEAVY EQUIPMENT AND VEHICLES INVOLVING OIL CHANGES, HYDRAULIC SYSTEM DRAIN DOWN, SOLVENT AND DE-GREASING CLEANING OPERATIONS, FUEL TANK DRAIN DOWN AND REMOVAL, AND OTHER ACTIVITIES WHICH MAY RESULT IN DISCHARGE OR SPILLAGE OF POLLUTANTS TO THE GROUND OR INTO SURFACE WATER RUNOFF MUST BE CONDUCTED USING SPILL PREVENTION MEASURES, SUCH AS DRIP PANS. CONTAMINATED SURFACES SHALL BE CLEANED IMMEDIATELY FOLLOWING ANY DISCHARGE OR SPILL INCIDENT. WHEEL WASH OR TIRE BATH WASTEWATER SHALL BE DISCHARGED TO A SEPARATE ON-SITE TREATMENT SYSTEM OR TO THE SANITARY SEWER.
APPLICATION OF AGRICULTURAL CHEMICALS INCLUDING FERTILIZERS AND PESTICIDES SHALL BE CONDUCTED IN A MANNER AND AT APPLICATION RATES THAT WILL NOT RESULT IN LOSS OF CHEMICAL TO SURFACE WATER RUNOFFF. MANUFACTURERS RECOMMENDATIONS FOR APPLICATION RATES AND PROCEDURES SHALL BE FOLLOWED. IN THE EVENT OF AN ACCIDENTAL SPILL, IMMEDIATE ACTION SHALL BE TAKEN BY THE CONTRACTOR TO CONTAIN AND REMOVE THE SPILLED MATERIAL. THE SPILL SHALL BE REPORTED TO THE APPROPRIATE AGENCIES IN THE REQUIRED TIME FRAMES. AS REQUIRED UNDER PROVISIONS OF THE CLEAN WATER ACT, ANY SPILL OR DISCHARGE ENTERING WATERS OF THE UNITED STATES SHALL BE PROPERLY REPORTED.

9. CONTROL DEWATERING:

FOUNDATION, VAULT, AND UTILITY TRENCH DEWATERING WATER SHALL BE DISCHARGED INTO A CONTROLLED CONVEYANCE SYSTEM PRIOR TO DISCHARGE TO A SEDIMENT POND. CHANNELS RECEMNG THE DISCHARGED WATER MUST BE STABILIZED. HIGHLY TURBID OR CONTAMINATED WATER FROM CONSTRUCTION EQUIPMENT OPERATIONS, WORK INSIDE A COFFERDAM, SHALL BE HANDLED SEPARATELY FROM SURFACE WATER. IF DEWATERING IS REQUIRED FOR SMALL VOLUMES OF LOCALIZED DEWATERING ON THIS SITE, A PUMP AND DEWATERING FILTER BAG SHALL BE UTILIZED. THE FILTER BAG SHALL DISCHARGE TO A DITCH OR SWALE WITH A WELL ESTABLISHED VEGETATIVE AREA.

10. MAINTAIN BMP'S:

TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL BMP'S SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. MAINTENANCE AND REPAIR SHALL BE CONDUCTED IN ACCORDANCE WITH THE BMP'S. AT A MINIMUM ALL INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL WILL BE CONDUCTED AT LEAST ONCE EVERY FOUR (4) CALENDAR DAYS AND WITHIN 24 HOURS OF THE OCCURRENCE OF A PRECIPITATION EVENT OF 0.25 INCHES OR GREATER, OR THE OCCURRENCE OF RUNOFF FROM SNOWMELT SUFFICIENT TO CAUSE A DISCHARGE. TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S SHOULD BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMP'S ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL RESULTING FROM REMOVAL OF BMP'S OR VEGETATION SHALL BE PERMANENTLY STABILIZED.

11. MANAGE THE PROJECT:

A SEQUENCE OF CONSTRUCTION HAS BEEN PROVIDED ON THIS SHEET TO DESCRIBE AN OVERALL CONSTRUCTION SEQUENCE AS IT RELATES TO EROSION AND SEDIMENT CONTROL BMP'S AND CONSTRUCTION OF VARIOUS ELEMENTS OF THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR THE DETAILS OF THE DAY TO DAY OPERATIONS. THE PRIMARY PROJECT MANAGER SHALL EVALUATE, WITH INPUT FROM UTILITIES AND OTHER CONTRACTORS, THE SURFACE WATER MANAGEMENT REQUIREMENTS FOR THE ENTIRE PROJECT, INCLUDING THE UTILITIES, WHEN PREPARING THE SEDIMENT CONTROL PLAN. ALL BMP'S SHALL BE INSPECTED, MAINTAINED, AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. WHENEVER INSPECTION AND/OR MONITORING REVEALS THAT THE BMP'S IDENTIFIED IN THE SEDIMENT CONTROL PLAN ARE INADEQUATE, THE SEDIMENT CONTROL PLAN SHALL BE MODIFIED, AS APPROPRIATE, IN A TIMELY MANNER. CONTRACTOR SHALL REPORT SPILLAGE OR DISCHARGE OF POLLUTANTS WITHIN 24-HOURS. THE SEDIMENT CONTROL PLAN SHALL BE RETAINED ON SITE. THE SEDIMENT CONTROL PLAN SHALL BE MODIFIED WHENEVER THERE IS A SIGNIFICANT CHANGE IN THE DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE OF ANY BMP. THE WVDEP MUST BE NOTIFIED OF ANY CHANGES TO THE CONSTRUCTION SWPP.

12. STABILIZATION:

THE CONTRACTOR SHALL INITIATE PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY UPON REACHING FINAL GRADE. PERMANENT STABILIZATION MUST BE COMPLETED NO LATER THAN 4 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. FOR THOSE AREAS NOT AT FINAL GRADE THAT WILL NOT BE DISTURBED FOR GREATER THAN 14 DAYS, THE CONTRACTOR SHALL INITIATE TEMPORARY SOIL STABILIZATION. COMPLETION MUST BE ACHIEVED WITHIN 4 DAYS. A NOTICE OF TERMINATION MUST BE FILED WITH THE WIDEP WHEN THE SITE REACHES FINAL STABILIZATION. FINAL STABILIZATION MEANS THAT ALL SOIL-DISTURBING ACTIVITIES ARE COMPLETED, AND THAT EITHER A PERMANENT VEGETATIVE COVER WITH A DENSITY OF 70% OR GREATER HAS BEEN ESTABLISHED OR THAT THE SURFACE HAS BEEN STABILIZED BY HARD COVER SUCH AS PAVEMENT OR BUILDINGS. (THE 70% REQUIREMENT REFERS TO THE TOTAL VEGETATED AREA AND NOT JUST A PERCENT OF THE SITE)

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STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
12/11/2024

EROSION & SEDIMENT CONTROL NARRATIVE

HUNTFIELD
RECREATION CENTER
CONSTRUCTION PLANS & PROFILES
JEFFERSON COUNTY, WEST VIRGINIA

JOB NO.: 22954
SCALE:
DATE: 12-11-2024
DRAWN BY: WZ
DESIGN BY: WZ
REVIEW BY: JKE
SHEET: 10 OF 15

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VIII. EROSION AND SEDIMENT CONTROL NOTES:

7. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE CONSTRUCTED AND MAINTAINED IN STRICT COMPLIANCE WITH THE LATEST EDITION OF THE WEST VIRGINIA EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL AND APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.

8. AREAS OF DEVELOPMENT SHALL BE PLANNED IN PHASES AND STAGES IN ORDER TO PREVENT THE TRANSPORT OF SEDIMENT FROM THE DEVELOPMENT SITE DURING CONSTRUCTION AND MINIMIZE EXPOSURE TO DISTURBED GROUND. REVEGETATION OF EXPOSED AREAS AND THE MAINTENANCE OF THAT VEGETATION SHALL BE AN INTEGRAL PART OF THE CLEARING ACTIVITIES FOR ANY PHASE.

9. NO DISTURBED AREA IS TO REMAIN DENUDED FOR MORE THAN FOUR (4) DAYS EXCEPT FOR MATERIAL STORAGE AREAS OR FOR THOSE AREAS ON WHICH ACTUAL CONSTRUCTION ACTIVITIES ARE CURRENTLY BEING PERFORMED UNLESS AUTHORIZED BY CITY OF CHARLES TOWN.

10. ALL SOIL STOCKPILES SHALL BE STABILIZED BY TEMPORARY SEEDING AND MULCHING AND PROTECTED WITH PERIMETER SEDIMENT CONTROLS SUCH AS SILT FENCE TO PREVENT CONTACT WITH STORMWATER RUNOFF. ALL STOCKPILES MUST BE LOCATED OUTSIDE OF ANY VEGETATED BUFFER AREAS AND SHOULD BE LOCATED AS FAR AS PRACTICABLE FROM STORMWATER CONVEYANCE SYSTEMS AND WATER BODIES.

11. ALL SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING SITE GRADING OPERATIONS TO REDUCE RUNOFF VELOCITIES AND EROSION. TEMPORARY AND/OR PERMANENT STABILIZATION MEASURES SHALL BE APPLIED TO ALL SLOPES AS SPECIFIED IN THE SOIL STABILIZATION MEASURES.

12. DURING CONSTRUCTION, PROTECT ALL FILLS SO THAT RUNOFF DOES NOT GO DOWN THE FACE OF THE HILL, UTILIZE BERMS, TEMPORARY SLOPE DRAINS, OR OTHER METHODS TO DIVERT RUNOFF AWAY FROM THE FILL AND INTO A SEDIMENT TRAPPING STRUCTURE. AS MORE FILL IS ADDED, SLOPE THE TOP (OR BERM IT) TO DIRECT WATER AWAY FROM THE SLOPE AND TO A STABLE CONVEYANCE SYSTEM. SEED & MULCH EVERY 4 DAYS OR 15' OF FILL.

13. NO OFF-SITE SOURCE OF BORROW MATERIALS IS ANTICIPATED FOR THIS PROJECT. IN THE EVENT THAT AN OFF-SITE SOURCE OF BORROW MATERIALS IS USED, AN EROSION AND SEDIMENT CONTROL PLAN SHALL BE PROVIDED FOR THE BORROW PIT AND THE BORROW PIT SHALL MEET ALL APPLICABLE REQUIREMENTS AND PERMITS OF THE WVDEP.

14. DUE TO GRADE CHANGES DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION AND SEDIMENT CONTROL MEASURES (SILT FENCES, ETC.) TO PREVENT EROSION AND POLLUTANT DISCHARGE OFF-SITE.

IX. SOIL STABILIZATION:

1. EXCEPT AS NOTED BELOW, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOUR DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS PERMANENTLY CEASED.

2. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 4TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASES IS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS CONDITIONS ALLOW.

3. WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 14 DAYS FROM WHEN ACTIVITIES CEASED, (E.G. THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY HALTED IS LESS THAN 14 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE BY THE FOURTH DAY AFTER CONSTRUCTION ACTIVITIES HAVE TEMPORARILY CEASED.

TEMPORARY STABILIZATION:

AREAS LEFT DENUDED FOR MORE THAN 4 DAYS, BUT NOT YET AT FINAL GRADE SHALL BE TEMPORARILY STABILIZED, SELECTION OF TEMPORARY SEED MIXTURE SHALL DEPEND ON THE TIME OF YEAR DURING APPLICATION, SELECT PLANTS APPROPRIATE TO THE SEASON AND SITE CONDITIONS, REFER TO TABLE 3.10.1 TEMPORARY SEEDING OF THE WEST VIRGINIA EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL FOR A LIST OF COVER PLANTS, APPROVED PLANTING DATES, AND APPLICATION RATES.

PERMANENT STABILIZATION:

AREAS DISTURBED BY CONSTRUCTION SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISH GRADING.

COMMON NAME	APPLICATION RATE	PREFERRED PLANTING DATES
KENTUCKY 31 FESCUE	45 LBS./ACRE	3/1-6/15 & 8/15-9/15
RED FESCUE	20 LBS./ACRE	
KENTUCKY BLUEGRASS	25 LBS./ACRE	
WHITE DUTCH CLOVER	5 LBS./ACRE	

FERTILIZER: DETERMINED BY SOIL TEST
LIME: 90 LBS./1,000 SQ. FT. PULVERIZED AGRICULTURAL GRADE LIMESTONE
MULCH: 70-90 LBS./1,000 SQ. FT. STRAW OR HAY MULCH

ALTERNATIVE SEED MIXTURES MAY BE SUBSTITUTED AS APPROVED BY GORDON. SELECT PLANTS APPROPRIATE TO THE SEASON AND SITE CONDITIONS. REFER TO TABLE 3.11.1 PERMANENT SEEDING OF THE WEST VIRGINIA EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL FOR A LIST OF COVER PLANTS APPROVED PLANTING DATES, AND APPLICATION RATES.

X. UNDERGROUND UTILITY LINE INSTALLATION:

1. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
2. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES, CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS.
3. 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.
4. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
5. ALL TRENCHES SHALL BE SEEDED AND MULCHED WITHIN 4 DAYS AFTER BACKFILLING.
6. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.

XI. SEQUENCE OF CONSTRUCTION:

PHASE I:
PHASE I OPERATIONS SHALL INCLUDE EROSION CONTROL MEASURES NEEDED TO DIVERT MAJOR OFF-SITE CLEAN WATER AND ON-SITE DRAINAGE FLOWS AROUND THE WORK AREAS AND CONTROL EROSION AND SEDIMENTATION ASSOCIATED WITH INITIAL CLEARING AND GRADING OPERATIONS.

1. CONTACT WEST VIRGINIA MISS UTILITY AT 800-245-4848, AT LEAST THREE WORKING DAYS PRIOR TO BEGINNING WORK, LOCATE ALL UTILITIES,
2. CONTACT CITY OF CHARLES TOWN ENGINEERING AT 304-725-2311 AT LEAST FIVE WORKING DAYS PRIOR TO BEGINNING WORK.
3. STAKE/FLAG LIMITS OF CONSTRUCTION, SENSITIVE AREAS, AND TREES THAT ARE TO BE PRESERVED. LIMITS OF CONSTRUCTION MUST REMAIN MARKED THROUGHOUT THE ENTIRE SITE DEVELOPMENT.
4. INSTALL TEMPORARY STABILIZED CONSTRUCTION ENTRANCE AND ESTABLISH A PROTECTED STAGING AND EQUIPMENT PARKING AREA.
5. INSTALL INLET PROTECTION AT DESIGNATED LOCATIONS, AND ANY ADDITIONAL AS PER INSPECTOR RECOMMENDATION.
6. CLEAR AND GRUB AREAS FOR THE INSTALLATION OF PERIMETER CONTROLS. ONLY THE MINIMUM AREAS NECESSARY TO INSTALL PERIMETER EROSION CONTROL MEASURES SHALL BE CLEARED AND GRUBBED,
7. INSTALL PERIMETER CONTROLS SUCH AS SILT FENCE. STABILIZE ALL EROSION AND SEDIMENT CONTROL MEASURES IMMEDIATELY AFTER INSTALLATION. STABILIZE AREAS BETWEEN PERIMETER SEDIMENT CONTROL MEASURES AND THE LIMITS OF CONSTRUCTION.
8. CLEAR AND GRUB THE REMAINDER OF THE SITE. ALL UNSUITABLE MATERIAL (LOGS, BRUSH, VEGETATIVE MATTER, ETC.) WHICH WILL INTERFERE WITH THE GRADING AND/OR STABILITY OF FILL AREAS SHALL BE REMOVED AND/OR DISPOSED OF PROPERLY.
10. ESTABLISH SOIL STOCKPILES AND PROTECT WITH SILT FENCE, STRIP AND STOCKPILE TOPSOIL TO USE IN THE FINISH GRADING OPERATIONS, STOCKPILES SHALL BE SEEDED AND MULCHED IF THEY ARE TO REMAIN UNDISTURBED FOR 14 DAYS OR LONGER.

PHASE II:
THE PHASE II EROSION AND SEDIMENT CONTROL MEASURES ARE INTENDED FOR THE FINAL STAGES OF SITE DEVELOPMENT, PHASE I CONTROL MEASURES, WHICH ARE NOT IN CONFLICT WITH FINAL CONSTRUCTION AND PROVIDE EFFECTIVE CONTROL, SHALL REMAIN IN PLACE FOR FINAL DEVELOPMENT. THE CONTRACTOR SHALL FOLLOW THE CITY OF CHARLES TOWN ENGINEERING DEPARTMENT'S DIRECTION IN PROVIDING ADDITIONAL CONTROL MEASURES NEEDED DURING THE DEVELOPMENT PROCESS, TO ENSURE THAT SEDIMENT IS PREVENTED FROM POLLUTING OFF-SITE AREAS, STREAMS AND/OR PROTECTED ON-SITE AREAS. THE FOLLOWING SEQUENCE OF CONSTRUCTION IS SUGGESTED.

1. ROUGH GRADE THE SITE INCLUDING DRIVE AISLE EXTENSION, EQUIPMENT AREA AND SWALES.
2. BEGIN CONSTRUCTION OF BUILDING PAD.
3. THROUGHOUT CONSTRUCTION, INITIATE TEMPORARY OR PERMANENT STABILIZATION MEASURES IMMEDIATELY FOLLOWING THE COMPLETION OF THE MOST RECENT LAND DISTURBING ACTIVITY. DISTURBED AREAS SHALL BE SEEDED AND MULCHED IF THEY ARE TO REMAIN UNDISTURBED FOR 14 DAYS OR LONGER.
4. INSTALL SANITARY SEWER AND ASSOCIATED HARDWARE.
5. CONSTRUCT THE BASE PAVEMENT FOR DRIVE AISLES, AND PARKING AREAS.
6. INSTALL ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES AS NEEDED THROUGHOUT CONSTRUCTION.
7. FINAL GRADE ALL AREAS OF THE SITE LEAVING SEDIMENT CONTROLS IN PLACE AS NEEDED. SPREAD TOPSOIL OVER AREAS TO BE SEEDED.
10. PERMANENTLY STABILIZE ALL AREAS NOT COVERED BY HARD COVER SUCH AS PAVEMENT OR BUILDINGS.
11. OBTAIN CITY OF CHARLES TOWN ENGINEERING APPROVAL PRIOR TO THE REMOVAL OF ANY SEDIMENT CONTROLS. NO EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED UNTIL ALL UP-SLOPE AREAS THAT DRAIN TO THEM HAVE BEEN STABILIZED.

XII. MAINTENANCE PROGRAM:

1. AT A MINIMUM, INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROLS ARE TO BE CONDUCTED ONCE EVERY FOUR CALENDAR DAYS & WITHIN 24 HOURS AFTER ANY STORM EVENT OF 0.25 INCHES OR GREATER OF RAINFALL PER 24 HOURS BY THE SITE SUPERINTENDENT OR HIS REPRESENTATIVE. ANY DAMAGED STRUCTURE SHOULD BE REPAIRED IMMEDIATELY.

2. SILT FENCING AND SUPER SILT FENCING SHOULD BE CLEANED AT 50% CAPACITY AND SPREAD ON SITE WHERE PRACTICAL. SEDIMENT REMOVAL SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE AND CAUSE SEDIMENTATION PROBLEMS.

3. INLET PROTECTION DEVICES SHOULD BE INSPECTED WEEKLY AT A MINIMUM AND DAILY AFTER EACH STORM EVENT OF 0.25 INCHES OR MORE. INLET PROTECTION DEVICES SHOULD BE CLEANED OR REMOVED AND REPLACED BEFORE SIX INCHES OF SEDIMENT CAN ACCUMULATE.

4. EROSION AND SEDIMENT CONTROL STRUCTURES SHALL NOT BE REMOVED UNTIL ALL AREAS ABOVE THEM HAVE BEEN STABILIZED AND SEEDED AREAS ESTABLISHED. NO CONTROL SHALL BE REMOVED WITHOUT APPROVAL FROM JEFFERSON COUNTY ENGINEERING.

5. DEVICES SHOWN ARE TO BE CONSIDERED MINIMUM EROSION AND SEDIMENTATION CONTROLS. ADDITIONAL CONTROLS MAY BE NECESSARY DUE TO CONTRACTOR'S PHASING OR OTHER UNANTICIPATED CONDITIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADDITIONAL DEVICES AS NECESSARY IN ORDER TO CONTROL EROSION AND SEDIMENTATION.

6. THE CONTRACTOR IS TO PROVIDE ADEQUATE MEANS OF CLEANING AND REMOVING ALL LAYING DUST AS NECESSARY BY APPLYING EITHER MOISTURE, CALCIUM CHLORIDE, OR OTHER APPROVED MATERIALS ALONG THOSE SECTIONS OF THE PROJECT ADJACENT TO EXISTING DWELLINGS OR PUBLIC ACCESS.

7. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH WORKING DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO STOCKPILE AREAS. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED AS MUCH AS POSSIBLE BY SHOVELING OR SWEEPING.

8. AREAS WHERE SEED HAS FAILED TO GERMINATE ADEQUATELY (UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70%) WITHIN 30 DAYS AFTER SEEDING AND MULCHING MUST BE RE-SEEDED IMMEDIATELY, OR AS SOON AS WEATHER CONDITIONS ALLOW.

CITY OF CHARLES TOWN EROSION & SEDIMENT CONTROL NOTES

1. ANY AREA OF EXPOSED SOIL WHERE NO CONSTRUCTION IS ANTICIPATED FOR A PERIOD OF LONGER THAN THREE WEEKS OR WHERE CONSTRUCTION ACTIVITY HAS STOPPED FOR THREE WEEKS SHALL BE TEMPORARILY STABILIZED.

2. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT STABILIZATION SHALL BE COMPLETED WITHIN FOUR CALENDAR DAYS AFTER COMPLETION OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND FOUR CALENDAR DAYS AFTER REACHING FINAL GRADE FOR ALL OTHER DISTURBED OR GRADED AREAS.

   THESE PROVISIONS DO NOT APPLY TO THOSE AREAS THAT ARE SHOWN ON THE PLAN FOR MATERIAL STORAGE OR FOR THOSE AREAS ON WHICH ACTUAL CONSTRUCTION ACTIVITIES ARE CURRENTLY BEING PERFORMED.

   THESE TIME REQUIREMENTS MAY BE EXTENDED, AS DEEMED NECESSARY BY THE JEFFERSON COUNTY ENGINEER IN THE EVENT THAT ADVERSE CONDITIONS PREVENT COMPLIANCE WITH THE STATED TIME LIMITATIONS FOR THE COMPLETION OF PERMANENT OR TEMPORARY STABILIZATION.

3. STABILIZATION WILL BE CONSIDERED ADEQUATE WHEN THE FOLLOWING CONDITIONS ARE MET:

   A) WATER COURSES, STREAM BANKS, AND DRAINAGE EASEMENTS SHALL BE 100% STABILIZED AND FREE FROM EROSION AND DEPOSITION.

   B) SLOPES STEEPER THAN 10% SHALL HAVE AT LEAST 98% STABLE GROUND COVER, AS DETERMINED BY THE CITY OF CHARLES TOWN ENGINEER.

   C) ALL OTHER AREAS SHALL HAVE AT LEAST 85% STABLE GROUND COVER, AS DETERMINED BY THE CITY OF CHARLES TOWN ENGINEER.

   D) GRASS VEGETATION SHALL HAVE REACHED A MINIMUM OF 3 INCHES OF HEIGHT OR HAVE BEEN MOWED BACK TO A MINIMUM OF 2 INCHES IN HEIGHT.

4. FOR ALL PROJECTS ADJACENT TO OR WITHIN 500 FEET OF A CONTINUOUSLY FLOWING STREAM, NO GRADING, EXCAVATING, REMOVAL, OR DESTRUCTION OF TOPSOIL, TREES, OR OTHER VEGETATIVE COVER, OR CONSTRUCTION ACTIVITY SHALL RESULT IN POINT OR NON-POINT LOADING OF SUSPENDED MATTER SUCH THAT TURBIDITY STANDARDS SPELLED OUT IN THE WATER RESOURCES BOARD LEGISLATIVE RULES ARE VIOLATED. SAID STANDARDS STATE THAT TURBIDITY SHALL NOT EXCEED 10 NTU'S OVER BACKGROUND TURBIDITY WHEN THE BACKGROUND IS 50 NTU'S OR LESS, OR HAVE MORE THAN A 10% INCREASE IN TURBIDITY (PLUS 10 NTU'S MINIMUM) WHEN THE BACKGROUND TURBIDITY IS MORE THAN 50 NTU'S.

5. NO OFF-SITE SOURCE OF BORROW MATERIALS IS ANTICIPATED FOR THIS PROJECT. IN THE EVENT THAT AN OFF-SITE SOURCE OF BORROW MATERIALS IS USED, AN EROSION AND SEDIMENT CONTROL PLAN SHALL BE PROVIDED FOR THE BORROW PIT AND THE BORROW PIT SHALL MEET ALL APPLICABLE REQUIREMENTS AND PERMITS OF THE WVDEP

6. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE THAT ALL EROSION AND SEDIMENT CONTROL MEASURES ARE PERFORMING AS DESIGNED. THE CITY OF CHARLES TOWN ENGINEER MAY REQUIRE MODIFICATIONS TO AN APPROVED PLAN, REQUIRE ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES, OR CAUSE NEW PLANS TO BE SUBMITTED AS A RESULT OF FIELD INSPECTION REVEALING THE APPROVED PLANS DO NOT PROVIDE ADEQUATE PROTECTION. MODIFICATIONS MAY ALSO BE REQUESTED BY THE OWNER OR DEVELOPER DUE TO UNFORESEEN FIELD CONDITIONS.

7. ALL RESIDENTIAL AND COMMERCIAL/INDUSTRIAL BUILDING LOTS SHALL HAVE A STABILIZED CONSTRUCTION ENTRANCE INSTALLED PRIOR TO BEGINNING CONSTRUCTION ON THE LOT.

DATE	REVISIONS

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
205 E. HIRST ROAD, SUITE 106
PURCELLVILLE, VIRGINIA 20132
PHONE: (703) 994-0047
MRAGTA.COM

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MRA

J. K. ERICKSON
LICENSED
16050
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
12/11/2024

EROSION & SEDIMENT CONTROL NARRATIVE

HUNTFIELD
RECREATION CENTER
CONSTRUCTION PLANS & PROFILES
JEFFERSON COUNTY, WEST VIRGINIA

JOB NO.: 22954
SCALE:
DATE: 12-11-2024
DRAWN BY: WZ
DESIGN BY: WZ
REVIEW BY: JKE
SHEET: 11 OF 15

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Public Notice Sign Template
The sign will be at least 24"x24" with 1.6" and 0.8" letters.

For Info on NPDES Storm Water Permit

To comment on Sediment Control Plan:

Call: 800-654-5227

or

DEP.Comments@wv.gov

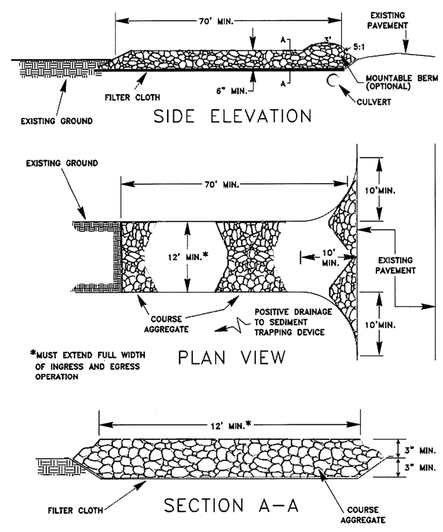
DEP 601 57th Street, SE,
Charleston WV 25304

Reference ID: Huntfield

Permit Number: WVR111523
Contact: DR Acquisitions, LLC
(304) 926-0440

FIGURE 3.02.1

STONE CONSTRUCTION ENTRANCE

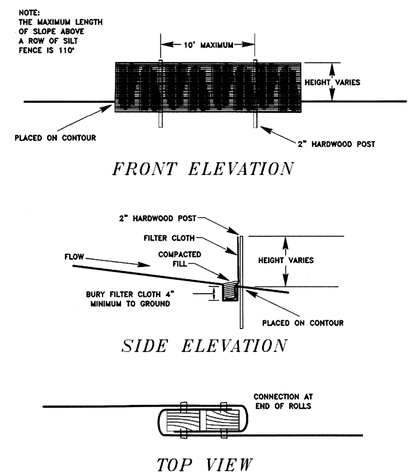


SOURCE: ADAPTED from 1983 Maryland Standards for Soil Erosion and Sediment Control and Va. DSWC

3.02-2

FIGURE 3.27.2

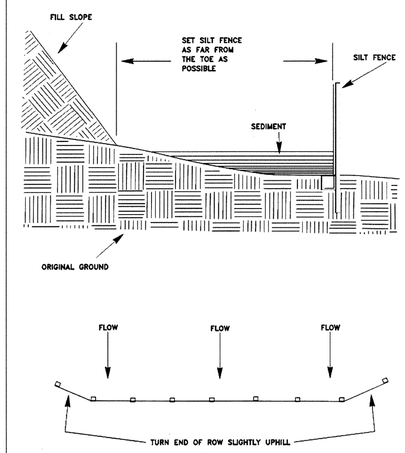
SILT FENCE



3.27-4

FIGURE 3.27.1

PLACEMENT OF SILT FENCE



3.27-5

TABLE 3.32-C
SITE SPECIFIC SEEDING MIXTURES
FOR APPALACHIAN / MOUNTAIN AREA

	Total lbs. Per Acre
Minimum Lawn Care	
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 September, October.....Annual Rye
November through February.....Winter Rye

*** If flatpea is used, increase to 30lbs./acre. All legume seed must be properly inoculated. Weeping Lovegrass may also be included in any slope or low-maintenance mixture during warmer seeding periods; add 10-20lbs./acres in mixes.

TABLE 3.35-A
ORGANIC MULCH MATERIALS AND APPLICATION RATES

MULCHES:	RATES: Per Acre	RATES: Per 1000 sq.ft.	NOTES:
Straw or Hay	1.5-2 Tons (Minimum 2 tons for winter cover)	70-90 lbs.	Free from weeds and coarse matter. Must be anchored. Spread with mulch blower or by hand.
Fiber Mulch	Minimum 1500lbs.	35 lbs.	Do not use as a mulch for winter cover or during hot, dry periods.* Apply as slurry.
Corn Stalks	4-6 tons	185-275 lbs.	Cut or shredded in 4-6" lengths. Air-dried. Do not use in fine turf areas. apply with a mulch blower or by hand.
Wood Chips	4-6 tons	185-275 lbs.	Free of coarse matter. Air-dried. Treat with 12lbs. Nitrogen per ton. Do not use in fine turf areas. Apply with a mulch blower, chip handler, or by hand.
Bark Chips or Shredded Bark	50-70 cu. yds.	1-2 cu. yds.	Free of coarse matter. Air-dried. Do not use in fine turf areas. Apply with a mulch blower, chip handler, or by hand.

* When fiber mulch is the only available mulch during periods when straw should be used, apply at a minimum rate of 2000 lbs./ac. or 45lbs./1000 s.f.

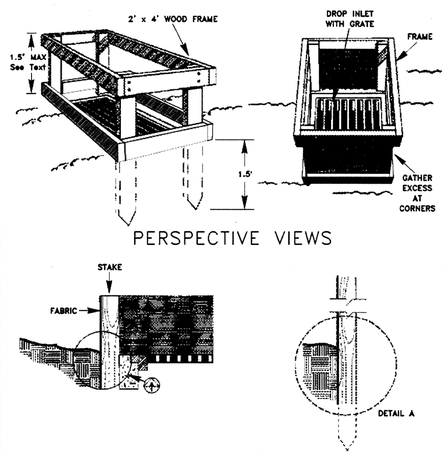
IF THE EXISTING TOPSOIL IS TO BE RESPREAD IT SHALL BE TESTED TO DETERMINE THE NEED FOR ANY SOIL AMENDMENTS PRIOR TO SEEDING

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 (Secale cereale)	50-100
FEB. 16-APR. 30	Annual Ryegrass (Lolium multi-florum)	60-100
MAY 1-AUG. 31	German Millet (Setaria italica)	50

FIGURE 3.33.1

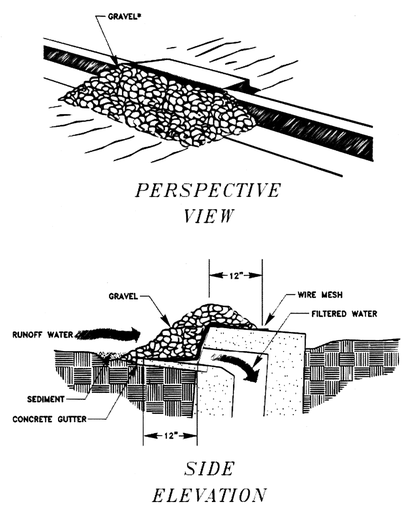
SILT FENCE DROP INLET PROTECTION



3.33-7

FIGURE 3.33.6

GRAVEL AND WIRE CURB INLET PROTECTION



* GRAVEL SHALL BE CLEAN 3/4" TO 2" COARSE AGGREGATE

3.33-12

DATE	REVISIONS

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
205 E. HIRST ROAD, SUITE 106
PURCELLVILLE, VIRGINIA 20132
PHONE: (703) 994-0047
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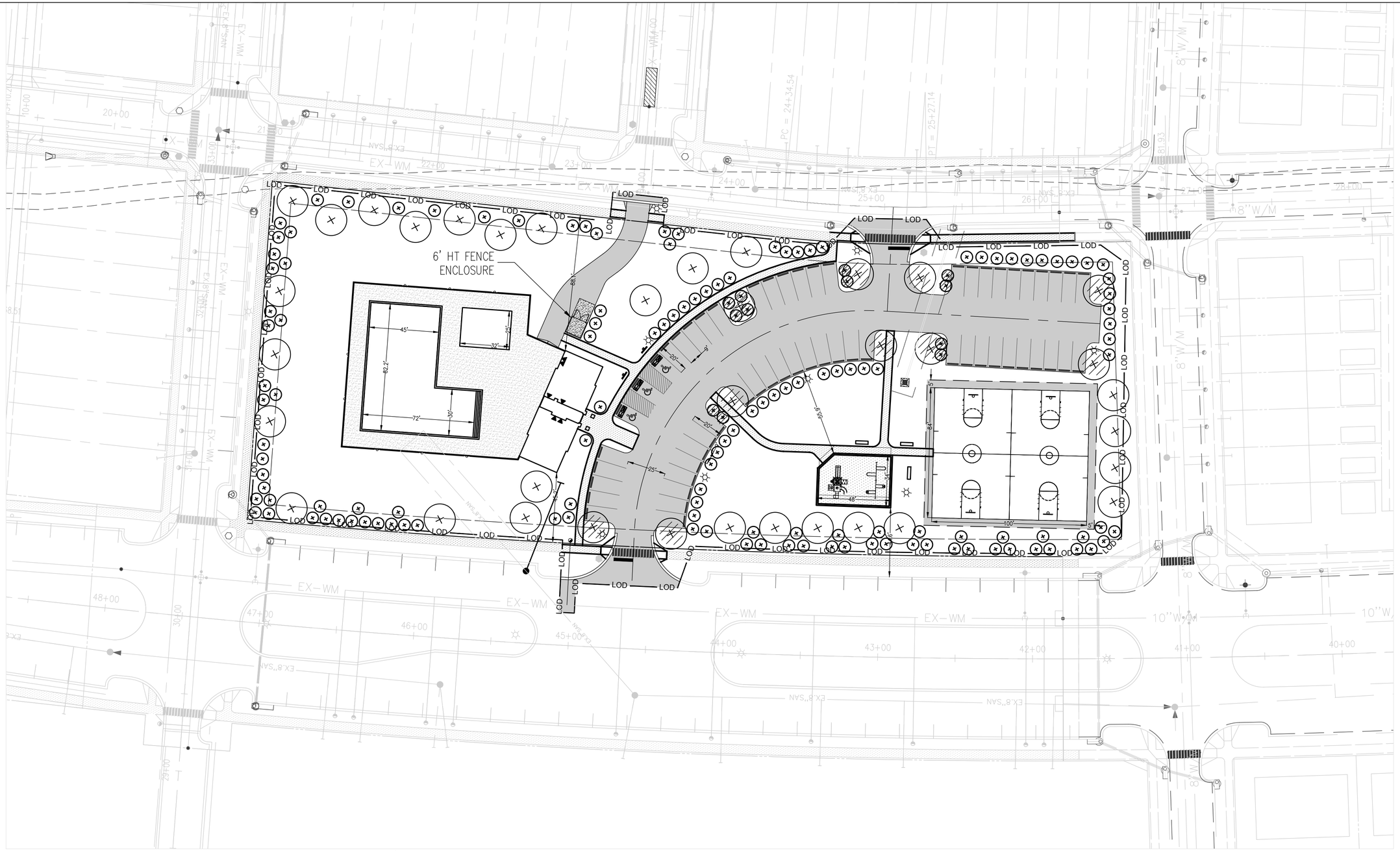
J. E. ERICKSON REGISTERED PROFESSIONAL ENGINEER 22954 STATE OF WEST VIRGINIA
12/11/2024

EROSION & SEDIMENT CONTROL DETAILS

HUNTFIELD
RECREATION CENTER
CONSTRUCTION PLANS & PROFILES
JEFFERSON COUNTY, WEST VIRGINIA

JOB NO.: 22954
SCALE:
DATE: 12–11–2024
DRAWN BY: WZ
DESIGN BY: WZ
REVIEW BY: JKE
SHEET: 12 OF 15



LEGEND

MIN. 9" MULCH

SITE BOUNDRY

DESIGNATED INTERIOR PARKING LOT LANDSCAPING

STREET TREE AND LANDSCAPE PLANTING LIST

NEIGHBORHOOD CONNECTOR STREET

Plantanus x acerfolia 'Bloodgood' – Bloodgood London Plane (PAB)
Quercus phellos – Willow Oak (QP)
Ulnus Parviflora – Lacebark Elm (UP)

RESIDENTIAL NEIGHBORHOOD STREET

Fraxinus pennsylvanica 'Patmore' – Patmore Ash (FPP)
Quercus phellos – Willow Oak (QP)
Acer rubrum 'October Glory' – October Glory' Red Maple (ARO)

SHRUBS

Clethra alnifloia – Summersweet hummingbird (CA)
Forthergilla gardeni – Fothergilla (FG)
Ilex glabra – 'Shamrock' Inkberry (IGS)
Rhus aromatica – Gro-Low Sumac (ROG)

LANDSCAPE CALCULATIONS

Total Site Area =	2.71 AC / 118,047 SF
Impervious Area =	–1.32 AC / 57,499 SF
Pervious Area	1.39 AC / 60,547 SF
Area for Landscaping Computations	
	1.39 Acres
	60,407.00 Sq.Ft.
Landscape Requirements:	
Trees – 1 per 2000 Sq.Ft =	31 Trees
Shrubs – 3 per 2000 Sq.Ft. =	93 Shrubs
Landscape Provided:	34 Trees
	146 Shrubs

PARKING LOT AREA = ±24,242 SF
5% DEVOTED INTERIOR LANDSCAPING = ±1,212 SF REQUIRED
= ±3,007 SF PROVIDED

57 PARKING SPACES PROVIDED
1 SHADE TREE PER 10 SPACES (10 / 56) = 5.6 TREES REQUIRED / 10 PROVIDED
2 SHRUBS PER 10 SPACES = 11.2 SHRUBS REQUIRED / 12 PROVIDED

GENERAL NOTES FOR LANDSCAPING

1. LANDSCAPING FOR ALL ROADS STUBBED OUT FOR FUTURE EXPANSION TO BE PROVIDED WITH FUTURE PLANS.
2. AT THE TIME OF PLANTING, ALL TREES MUST BE A MINIMUM OF 8' IN HEIGHT AND 2.5" IN CALIBER. ALL SHRUBS MUST HAVE A MINIMUM HEIGHT OF 18" AT THE TIME OF PLANTING.
3. TREES AND SHRUBS TO BE PLANTED IN A UNIFORM MANNER SUCH THAT EACH STREET CONTAINS TREES OF A SINGLE SPECIES SELECTED FROM THE TABLE PROVIDE ABOVE.
4. THIS LANDSCAPE PLAN IS DESIGNED TO BE A PRELIMINARY PLAN FOR LANDSCAPE ARCHITECTS TO IMPROVE UPON.
5. ALL OPEN SPACE AREAS SHOWN ARE TO BE COVERED WITH GRASS. HOWEVER, THIS LANDSCAPE PLAN IS A PRELIMINARY PLAN (SEE NOTE 4). OTHER GROUND COVERING MAY BE SUBSTITUTED UPON FINAL DESIGN OF THE LANDSCAPE PLAN BY THE LANDSCAPE ARCHITECT. HOWEVER, THE GROUND COVERING MUST BE APPROVED BY THE CITY OF CHARLES TOWN PRIOR TO PLANTING.

NORTH

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

DATE	REVISIONS
02/20/25	REVISED PER CITY COMMENTS

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
205 E. HIRST ROAD, SUITE 106
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RICHARD J. KYLE
REGISTERED
20684
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
2-20-25

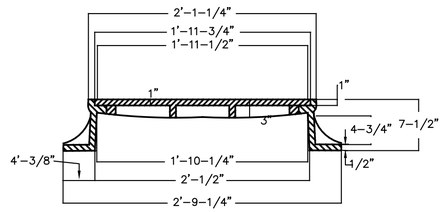
LANDSCAPE PLAN

HUNTFIELD
RECREATION CENTER
CONSTRUCTION PLANS & PROFILES
JEFFERSON COUNTY, WEST VIRGINIA

JOB NO.:	22954
SCALE:	
DATE:	12-11-2024
DRAWN BY:	WZ
DESIGN BY:	WZ
REVIEW BY:	JKE
SHEET:	13 OF 15

L:\Projects\Huntfield\Engineering\Rec Center Plan\Sheets\HF3C-RC-Landscape.dwg, 2/20/2025 3:10:56 PM, CStephenson,
1:1, Copyright 2025 Morris & Ritchie Associates, Inc.

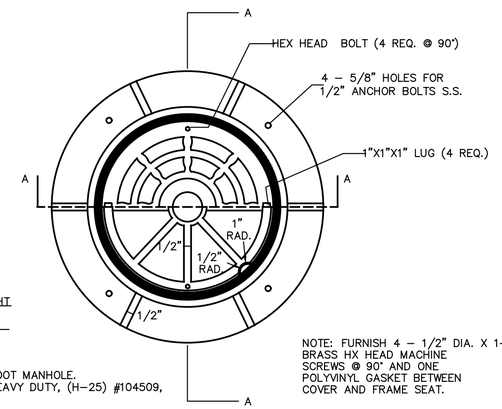
NOTES:
1. ALL ANCHOR BOLTS TO BE IMBEDDED IN CONCRETE WITH ANCHOR-IT-EPOXY AS PER MANUFACTURERS RECOMMENDATIONS.
2. S.S. DENOTES STAINLESS STEEL
3. C/C DENOTES CENTER TO CENTER.



SECTION A-A

NTS

MINIMUM AVERAGE WEIGHT
RING 190#
COVER 120#
TOTAL 310#



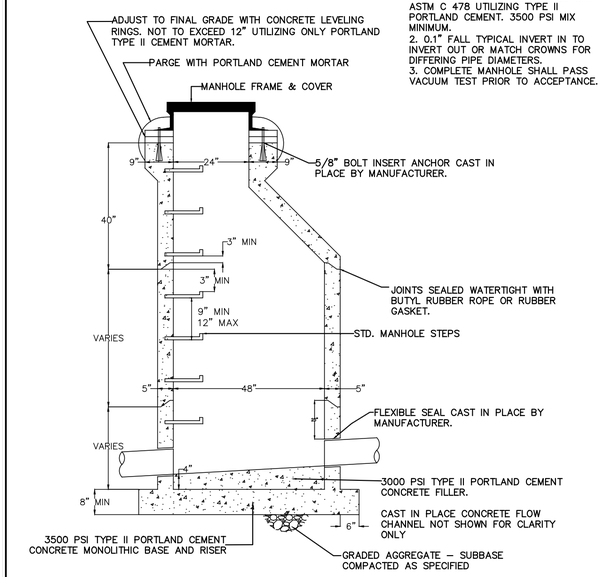
NOTE: FURNISH 4 - 1/2" DIA. X 1-3/4" BRASS HX HEAD MACHINE SCREWS @ 90° AND ONE POLYVINYL GASKET BETWEEN COVER AND FRAME SEAT.

NOTES:
1) DIMENSIONS WILL VARY BASED ON MANHOLE SIZE. DIMENSIONS SHOWN ARE FOR 4-FOOT MANHOLE.
2) MANHOLE FRAMES & LIDS TO BE NEENAH, R-1916-F, EAST JORDAN IRON WORKS, HEAVY DUTY, (H-25) #104509, CAPITOL FOUNDRY OF VA. INC. MODEL #MH-1678-JC-WT OR APPROVED EQUIVALENT.
3) MANHOLE LIDS TO BE MARKED "SANITARY SEWER"

MANHOLE LID

NTS

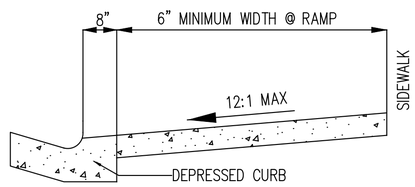
NOTES:
1. PRECAST MANHOLE SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C 478 UTILIZING TYPE II PORTLAND CEMENT. 3500 PSI MIX MINIMUM.
2. 0.1" FALL TYPICAL INVERT IN TO INVERT OUT OR MATCH CROWNS FOR DIFFERING PIPE DIAMETERS.
3. COMPLETE MANHOLE SHALL PASS VACUUM TEST PRIOR TO ACCEPTANCE.



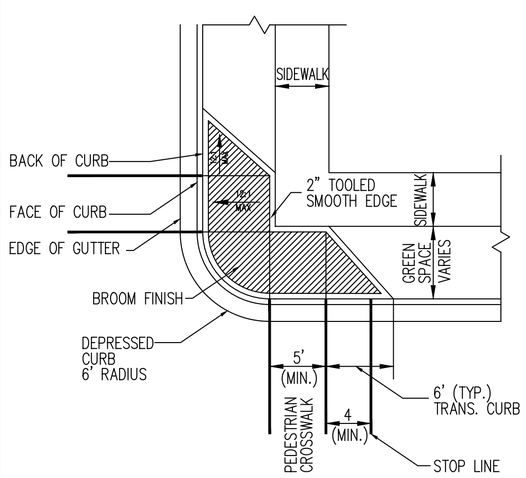
NO SCALE

STANDARD THROUGH MANHOLE PRECAST BASE

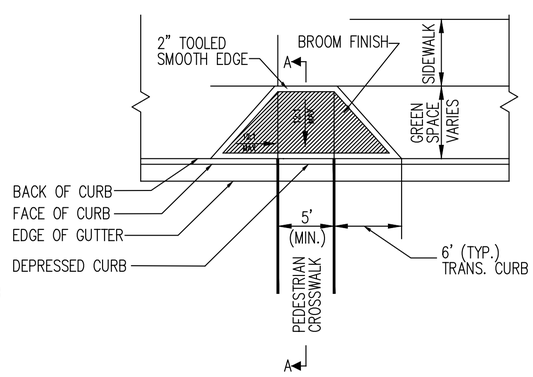
NOTES:
1) REFER TO LATEST EDITION OF W.V. DIVISION OF HIGHWAYS, STANDARD SPECIFICATIONS, ROAD AND BRIDGES, FOR MATERIALS AND METHOD OF CONSTRUCTION.



SECTION A-A

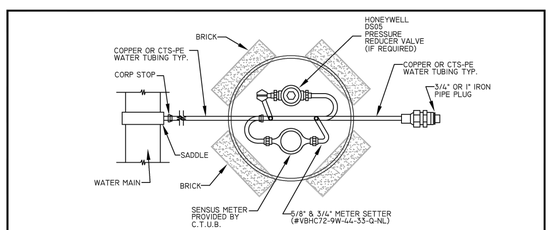


CORNER RAMP

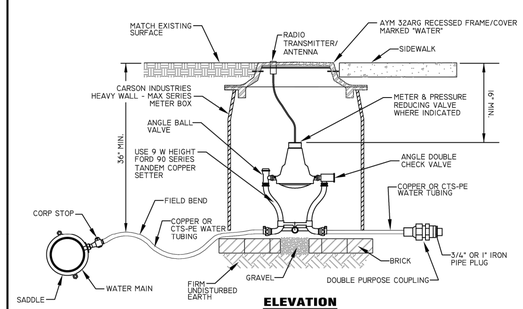


MID-BLOCK RAMP

CITY OF CHARLES TOWN WEST VIRGINIA	STANDARD DETAIL	STANDARD NUMBER
	STANDARD HANDICAP RAMP	HC-1



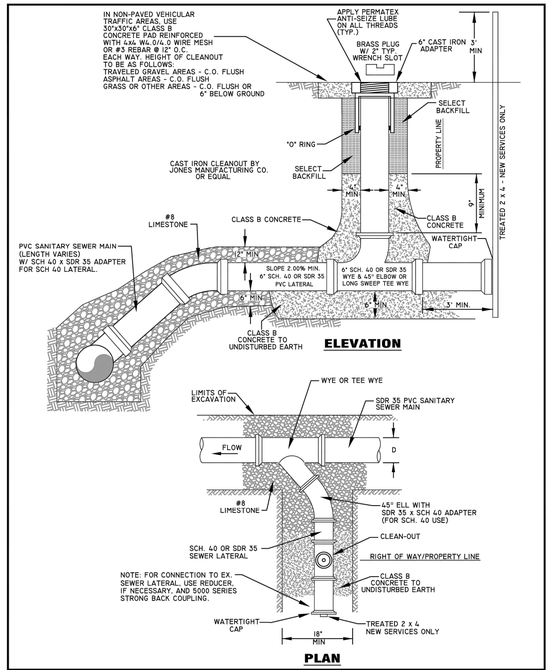
PLAN VIEW



ELEVATION

NOTES:
1. ALL BOLTS TO BE STAINLESS STEEL
2. CONNECT NEW METER SETTER TO EXISTING SERVICE LINES FOR LOCATIONS REQUIRING ONLY METER REPLACEMENT
3. PRESSURE REDUCING VALVE REQUIRED IF STATIC SYSTEM PRESSURES EXCEED 100 PSI
4. ALL METERS TO BE SENSUS RADIO READ PLACED AT PROPERTY LINE.

Charles Town Utility Board 832 S. George Street, P.O. Box 359, Charles Town, WV 25414 Phone: (304) 725-2316 • Fax: (304) 725-4313	METERED CONNECTION DETAIL	Standard Detail No. W-1 NOT TO SCALE APRIL 2015



ELEVATION

PLAN

Charles Town Utility Board 832 S. George Street, P.O. Box 359, Charles Town, WV 25414 Phone: (304) 725-2316 •Fax: (304) 725-4313	NEW LATERAL CONNECTION DETAIL	Standard Detail No. S-13 NOT TO SCALE SEPTEMBER 2015

DATE	REVISIONS

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
205 E. HIRST ROAD, SUITE 106
PURCELLVILLE, VIRGINIA 20132
PHONE: (703) 994-0047
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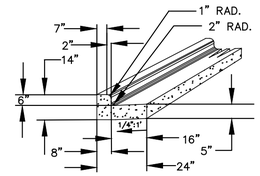
MRA

JAMES K. ERICKSON JR. REGISTERED 16056 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
12/11/2024

SITE DETAILS

HUNTFIELD
RECREATION CENTER
CONSTRUCTION PLANS & PROFILES
JEFFERSON COUNTY, WEST VIRGINIA

JOB NO.: 22954
SCALE:
DATE: 12-11-2024
DRAWN BY: WZ
DESIGN BY: WZ
REVIEW BY: JKE
SHEET: 14 OF 15

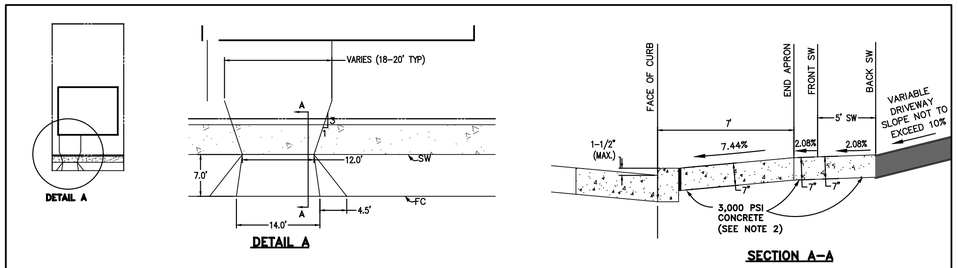


NOTES:

1. REFER TO LATEST EDITION OF W.V. DIVISION OF HIGHWAYS, ROAD & STANDARD SPECIFICATIONS BRIDGES FOR MATERIALS AND METHODS OF CONSTRUCTION.

NTS

CITY OF CHARLES TOWN WEST VIRGINIA	STANDARD DETAIL	STANDARD NUMBER
	COMBINATION CONCRETE CURB AND GUTTER	CG–1



DETAIL – TYPICAL DRIVEWAY ENTRANCE

NTS

NOTES:
1) SEE CITY OF CHARLES TOWN STANDARD DETAIL DE–1 (RESIDENTIAL DRIVEWAY ENTRANCE) FOR ADDITIONAL INFORMATION.
2) MINIMUM 28–DAY DESIGN STRENGTH OF CONCRETE TO BE 3,000 PSI – REF. WV DIVISION OF HIGHWAYS STANDARD SPECIFICATIONS ROADS AND BRIDGES, SECTION 500

ROAD NOTES:

1. SUBGRADES ON CUT SHALL BE COMPACTED FOR A MINUMUM OF ONE (1) FOOT IN DEPTH. SUBGRADES IN FULL SHALL MEET COMPACTION STANDARDS AT ALL LEVELS.
2. GRAVEL USED IN BASE COURSES AND SURFACING SHALL BE CONSTRUCTED ON A COMPACTED SUBGRADE FREE OF ORGANIC MATTER. GRAVEL SHALL BE A WELL–GRADED CRUSHED STONE AGGREGATE SUCH AS 3/4 INCH CRUSHER RUN WHICH SHALL BE PLACED AND ROLLED IN A MOIST CONDITION SO THAT FINES REMAIN MIXED WITH THE MORE COARSE MATERIAL. MINIMUM COMPACTION TO BE 95% OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D698
3. ASPHALT COURSES, WHERE APPLICABLE, SHALL BE APPLIED TO THE PREPARED GRAVEL SURFACE FOLLOWING THE APPLICATION OF A LIQUID ASPHALT PRIME COAT. ASPHALT SHALL CONSIST OF A PLANT–MIXED BITUMINOUS MATERIAL ROLLED SMOOTH. THE ASPHALT SURFACE SHALL BE SMOOTH, SEAMLESS, AND OF A UNIFORM TEXTURE. ASPHALT MATERIAL SHALL COMPLY WITH THE MINIMUM SPECIFICATIONS REQUIRED BY THE WEST VIRGINIA DEPARTMENT OF HIGHWAYS FOR PUBLIC ROADS.
4. ALL STREET R/W'S TO BE DEDICATED TO THE CITY OF CHARLES TOWN ONCE THE STREETS ARE COMPLETED, INSPECTED & ACCEPTED BY THE CITY.
5. UNLESS OTHERWISE SPECIFIED IN THE PLANS, ALL PARKING SPACES SHALL BE 22' X 8' PER THE CITY OF CHARLES TOWN ZONING ORDINANCE.

CONSTRUCTION NOTES

EARTHWORK SHALL BE COMPACTED TO THE PERCENTAGES OF MAXIMUM DRY DENSITY (ACCORDING TO AASHTO T99C) AS SHOWN BELOW:

a. ROADWAYS 98%
b. BUILDING PADS 100%
c. PARKING LOTS FOR PASSENGER VEHICLES 95%
d. PARKING LOTS FOR HEAVY TRUCKS 98%
e. UTILITY TRENCHES 98%

SIDEWALK NOTES:

1. SIDEWALKS SHALL BE PROVIDED IN ACCORDANCE WITH THE TABLE SHOWN BELOW:

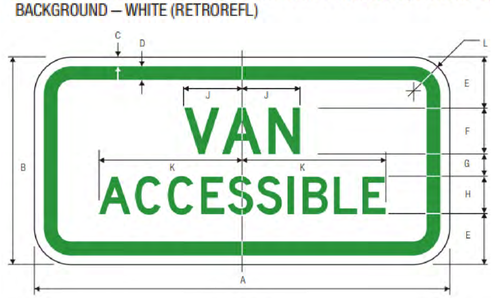
LAND USE	AVG. LOT SIZE (sf)	DENSITY (du/acre)	SIDEWALK REQUIREMENT STREET FRONTAGE	PARKING REQUIREMENT STREET FRONTAGE
RESIDENTIAL	< 12,001	> 5.51	BOTH SIDES OF STREET	BOTH SIDES OF STREET
COMMERCIAL	N/A	N/A	NO*	YES

* PLANNING COMMISSION MAY REQUIRE SIDEWALKS TO INSURE CONTINUITY OF AN EXISTING PEDESTRIAN ACCESS PATTERN.

2. SIDEWALKS SHALL BE CONSTITUTE OF CONCRETE OR, WITH THE APPROVAL OF THE PLANNING COMMISSION, IN APPROPRIATE CIRCUMSTANCES ASPHALT MAY BE USED. THE MINIMUM WIDTH WILL BE FOUR FEET.
3. SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD DETAIL SW–1.
4. SIDEWALKS SHALL NOT BE CONSTRUCTED WITH A CURB AS A SIGNAL INTEGRAL UNIT.
5. WHERE SIDEWALKS ARE A PART OF THE DRIVEWAY, THE SIDEWALK SHALL MAINTAIN GRADE, WITH NO DEPRESSION.
6. HANDICAP RAMPS CONSTRUCTED IN ACCORDANCE WITH STANDARD DETAIL HC–1 SHALL BE PROVIDED AT ALL STREET INTERSECTIONS AND CROSSWALKS.

R7-8 NO PARKING

LEGEND – GREEN (RETROREFL), WHITE SYMBOL ON BLUE (RETROREFL)
BACKGROUND – WHITE (RETROREFL)



R7-8a
VAN ACCESSABLE

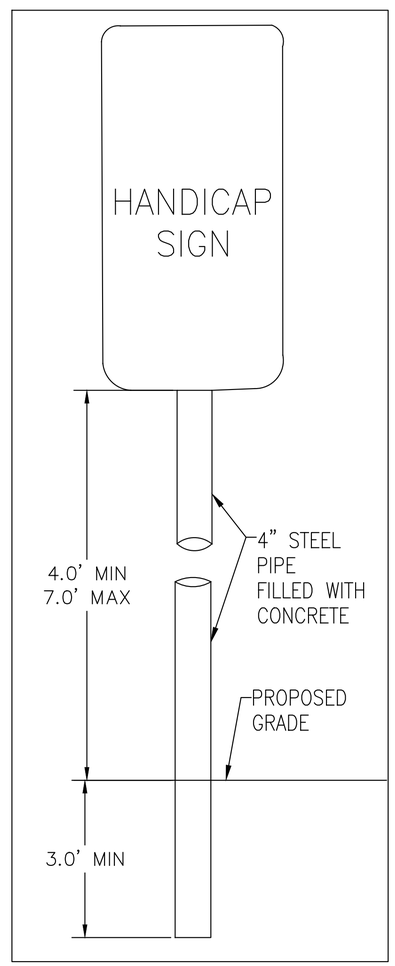
	A	B	C	D	E	F	G	H	J	K	L
	300	150	10	15	37	40 D	11	25 D	50	97	40
C	450	225	10	15	55	50 D	25	40 D	62.5	155	40

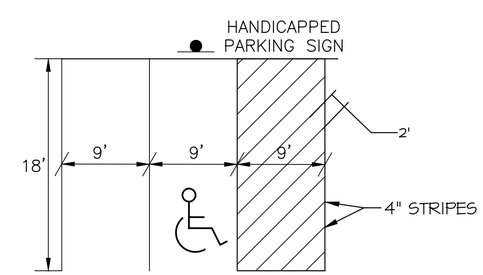
PARKING APPLICATION

COLORS: LEGEND – GREEN (RETROREFLECTIVE) OR BLACK
BACKGROUND – WHITE (RETROREFLECTIVE)

DIRECTIONAL APPLCATION

COLORS: LEGEND – WHITE (RETROREFLECTIVE)
BACKGROUND – BLUE (RETROREFLECTIVE)





(NOT TO SCALE)

VAN ACCESSIBLE HANDICAPPED PARKING DETAIL

NOTE: CONTRACTOR TO MAINTAIN A 2.08% MAX SLOPE IN ALL DIRECTIONS IN HANDICAPPED PARKING AREAS.

DATE	REVISIONS

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
205 E. HIRST ROAD, SUITE 106
PURCELLVILLE, VIRGINIA 20132
PHONE: (703) 994-0047
MRAGTA.COM

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MRA

JAMES K. ERICKSON JR. REGISTERED 36050 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
12/11/2024

SITE DETAILS

HUNTFIELD
RECREATION CENTER
CONSTRUCTION PLANS & PROFILES
JEFFERSON COUNTY, WEST VIRGINIA

JOB NO.: 22954
SCALE:
DATE: 12–11–2024
DRAWN BY: WZ
DESIGN BY: WZ
REVIEW BY: JKE
SHEET: 15 OF 15

Kimley»Horn

Memorandum

To: Dan Ebersole
DR Acquisitions, LLC, Manager
10212 Governor Lane Blvd, Ste 1006
Williamsport, MD 21795

From: Mark Phillips, P.E.

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

Date: February 24, 2025

Subject: Huntfield Recreation Center Construction Drawings Plan Review – 2nd Submission

This memorandum summarizes our review of the Huntfield Recreation Center Plans (dated December 11, 2024, prepared by Morris Ritchie & Associates, Inc.) for a proposed Recreation Center on approximately 2.71 acres. All land zoned residential for this site plan; the site is proposed to consist of 61 (2 handicap) off-street parking spaces and 46 on-street spaces adjacent to the community center.

Kimley-Horn's review of this application is limited to the Recreation Center Construction Drawing and Application provided. Based upon our review, we have no further comments.

Thank you for the opportunity to review these plans. 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

Huntfield List of Proffers

Proffer Amendment 3

Approval Date 8/19/24

Original Proffers: Jan 7, 2002

Resolution for Amendment of Proffers 1 - May 17, 2004

Proffer Amendment 2 - August 1, 2005

Proffer Amendment 3 – August 19, 2024

1) EDUCATION- Huntfield, proffers to dedicate up to 17 acres of land to Jefferson County Board of Education. The land proposed to be donated to the Jefferson County Board of Education shall be identified via conceptual plan within one (1) year of the effective date of this document.

2) TRANSPORTATION- Huntfield, will maintain its commitment to participate with the West Virginia Division of Highways and other developments to pay for Huntfield's pro rata share of required road improvements directly attributable in part to Huntfield.

3) HISTORY- Huntfield proffers to provide any historic or archeologic reports and studies, as required by the State Historic Preservation Office, Division of Culture and History.

4) SOILS – "Huntfield proffers to identify and remediate any known environmental conditions in any manner, method or process that meets or exceeds West Virginia Department of Environmental Protection (WVDEP) de minimus soils standards and provide the report/documentation to the purchaser indicating proper soil remediation no later than at each home settlement.

5) OVERALL PLANNING

   a) Huntfield proffers to actively participate with the City and adjacent landowners in the comprehensive planning, preservation, and development of the Old Route 340 corridor between Huntfield's boundaries and Evitt's Run.

   b) Huntfield proffers to construct a 8' hiker/biker trail in a location in accordance with the Master Plan and within a timeframe in accordance with the mutual agreement of the city and Huntfield.

      i) A contiguous sidewalk system from Huntfield to the Augustine Avenue Trail shall be constructed.

   c) Huntfield proffers continued participation and coordination with the Eastern Panhandle Transportation Authority (EPTA) to provide bus service between Huntfield and downtown Charles Town, and any other major Charles Town developments. Huntfield shall further present development site plans which incorporate shuttle stops and other appropriate shuttle infrastructure in the Huntfield project.

   d) Within 12 months of the full execution of this proffer amendment, Huntfield shall collect and distribute community information and future traffic volume projections and relevant data to the City, to incorporate into other/future traffic studies conducted by others.

i) Additionally, Huntfield shall cooperate with the City to provide all necessary construction easements or Right of Ways for current and future planned trails, walkways, and pedestrian crossings.

e) Lord Fairfax Street shall be developed as an alternative access point pursuant to the Huntfield Overall Composite Schematic plan with City of Charles Town Planning Commission approval date of April 12, 2005 (PREL-20107).

6) OTHER CONTRIBUTIONS- To offset its proportionate share of the costs of capital improvements and operating expenses brought about by the development of Huntfield, Huntfield proffers to pay the city the following per unit proffer fees:

a) The City shall collect $2,448 per single family, townhome or attached villa style dwelling unit, or any other style residence approved for permit, to be used for public facilities, infrastructure, and other improvements within the City. This monetary proffered fee shall be separate and exclusive of any County imposed Impact Fee. The City Fee shall be paid at Building Permit application for each dwelling unit.

b) Huntfield proffers to dedicate to the City up to 10 (ten) acres of improved (utilities and hard surface road frontage) but vacant land, for the use and benefit of the City for the purpose of constructing, operating, and maintaining municipal facilities.

7) CONDITIONS OF DEVELOPMENT OF PHASE I – The foregoing proffers are conditioned upon the following:

a) Current plans being processed in the County will be administered under the NR Zoning Ordinance, and accepted as currently designed, by the City with the following conditions:

i) Minimum lot width shall be reduced to 50 feet at the street.
ii) Minimum lot area shall be reduced to 5,000 square feet.
iii) Front yard setback shall be 25 feet from the edge of pavement.
iv) Encroachment within the front yard setback shall be no more than 30% or 8.34 feet.
v) Side yard setbacks shall be reduced to 5 feet minimum.
vi) No setback from the property line for accessory structures shall be required.
vii) Minimum paving width shall be 24 feet.

b) All plans submitted to the City for development within Huntfield beyond Phase I shall continue to be administered and processed under the NR Zoning Ordinance with the above-listed conditions until such time as the City has created and adopted the new zoning classification pursuant to its Resolution and Annexation Agreement.

8) CONDITIONS OF OVERALL DEVELOPMENT

The City and Huntfield agree to the following performance, design standards, and modifications to the Neighborhood Residential zoning regulations:

Huntfield List of Proffers

Proffer Amendment 3

Approval Date 8/19/24

The foregoing proffers are further conditioned upon the following:

a) To allow the development of not more than 3,200 homes with the Property, according to "Neo Traditional and New Urbanist Planning Concepts." (*While Neo-Traditional Development often features primarily rear loaded homes, the intent of this agreement is to allow front loaded homes in designated areas so long as the development, as a whole, is in keeping with Neo-Traditional design including, but not limited to, walkability, connectivity, mixed-houses, quality architecture and design, urban design, increased density, and open space.*) Note, this is not an all-inclusive or exhaustive list of the characteristics of neo-traditional style but is used to illustrate the larger development style. All plans for the development of the Property now and in the future may be administered, at the option of Huntfield, under the Neighborhood Residential zoning classification with the following conditions:

b) The minimum 200,000 square feet of commercial, retail or office space proffered by Huntfield shall satisfy all requirements for land are devoted to office and/or commercial. This agreement does not preclude Huntfield from developing commercial/retail/office space beyond the 200,000 square feet requirements;

c) Huntfield will dedicate 15% of the total land area to open and recreational space. All active and passive recreational facilities provided in Huntfield shall be credited towards the 15% open space requirements specified herein. In addition, Huntfield will provide a minimum 50-foot buffer on either side of Bullskin Run measured from the edge of the stream bank and a landscaped 50-foot buffer along major highways (i.e. US Route 340, 340 Bypass, WV Route 9).

d) Maximum Building Heights shall be as follows:

   i) Single Family Detached - 45' (forty-five feet), but not more than (3) three stories

   ii) Townhouse - 45' (forty-five feet), but no more than 4 (four) stories Multi-Family - 55' (fifty-five feet), but not more than 4 (four) stories

   iii) Office, Commercial, Civic and Mixed Use – 60' (sixty feet), but not more than (5) five stories

e) Minimum Lot Widths shall be as follows:

   i) Single Family Detached - 50' (fifty-feet), however 45' (forty-five feet) for Active Adult Community (development)

   ii) Townhouses – Mix of 16' (sixteen feet) to 24' (twenty-four feet);

f) Minimum Lot Sizes shall be as follows:

i) Single Family Detached – 5,000 (five thousand square feet), however 4,500 (forty-five hundred square feet) for Active Adult Community (development)

ii) Townhouses – 1,600 square feet;

g) Townhouse portions of development shall be permitted to have an area less than five acres;

h) Townhouse units shall be permitted at a maximum density of 16 units per net acre;

i) Multi-family units, as defined in the City's zoning ordinances, shall be permitted within Huntfield consistent with the City of Charles Town Zoning and Subdivision Ordinance requirements.

j) The minimum rear yard setback for units with attached rear-load garages shall be 10' (ten feet);

k) Alleys may be dead-end streets when intersection would cause a curb cut on a collector street;

l) Alleys may provide lot access and satisfy road frontage requirements when the lots served by those alleys front on open space;

m) Cul-de-sac streets shall be permitted in limited instances and require approval by the Planning Commission. When allowed, the cul-de-sac terminus shall include a landscaped circle.

n) The designated Village Center shall be permitted for Central Business District, General Commercial and Neighborhood Residential uses as defined in the present City of Charles Town Zoning Ordinance. The designed Neighborhood Centers shall be permitted for Office Residential, Neighborhood Residential and Neighborhood Commercial uses as defined in the present City of Charles Town Zoning Ordinance. Future changes in the existing Zoning Ordinances shall be made Applicable to this paragraph.

o) In order to allow townhouses to be constructed with both decks and two-car garages, accessory buildings may occupy up to 40% of the rear yard of any townhouse lot.

p) The development of gated communities (i.e. restricted access to specific neighborhoods) is not permitted, other than Active Adult Development.

q) To enable Huntfield to perform its obligations under the Annexation Agreement, the City shall work cooperatively with Huntfield to ensure that Huntfield may obtain the amount of sewage treatment plant capacity needed to serve the Property at each stage of its development until built out.

r) In addition to the proffered commitment to approach Pan Tran to provide bus services between Huntfield and downtown Charles Town, Huntfield shall cooperate with any efforts initiated by the City to provide transit services to Huntfield.

s) Huntfield will submit a "Master Schematic Plan", to City Planning Commission prior to applicable approvals for Phase 4 of the development that incorporate the "Neo Traditional and new Urbanist Concepts" and an exhibit illustrating the location, total land area and public accessibility of proposed recreational and open space. Subsequent site plans submitted to support this Master Schematic Plan will provide the detailed design and concepts as they relate to street and block networks; an interconnected pedestrian sidewalk and trail system; landscape screening, buffers and design consideration to mitigate the visual impacts of parking lots; street and parking lot landscaping using the West Virginia Division of Forestry's Recommended Trees for City and Communities publication as the species guide; and design and pedestrian attributes as related to the Village Center, major civic and public use buildings should be located in or adjacent to the village and neighborhood centers or adjacent to the civic green, square or park in the village center. Public space components and civic buildings should terminate vistas whenever possible. Public and civic use buildings may front on open spaces such as parks and greens.

t) Garage Configuration:

The areas shaded and/or hatched and noted in Exhibit A as Zone 1, Zone 2, and Zone 3 are subject to specific garage configuration conditions as follows:

i) **Zone 1**: The use of rear entry, alley access parking or rear-loading detached or attached garages for residential garage parking is required. The homes in Zone 1 must provide parking to the rear of the home as indicated in Exhibit A.

ii) **Zone 2**: Single family attached or detached residential units with front loading garages or parking (defined as access from street facing front of the home) are permitted without a recessed garage requirement so long as a minimum 25' length minimum driveway is provided extending from back of sidewalk to the front of the garage. Zone 2 includes all land shown/illustrated within Exhibit A.

iii) **Zone 3**: Single family attached or detached residential units with front loading garages or parking (defined as access from the street facing front of the home) are permitted without a recessed garage requirement so long as a minimum 25' length minimum driveway is provided extending from back of sidewalk to the front of the garage. Zone 3 includes all the land as noted (and not illustrated) within Exhibit A to include the remaining 481.25 deeded acres to the northwestern side of railroad tracks.

v. Community Pool and Associated Facilities:

iv) Huntfield proffers the design, permitting, and construction of a community swimming pool, pool club house with bathroom facilities and associated parking lot in similar layout

and conformance with the Huntfield Recreation Center preliminary plans (PP-20125).

(1) Community Pool shall be a minimum of 4,500+ /sf, inclusive of access steps, 3' shallow end and up to 8' deep end, and a 800+ /sf Children's pool.

(2) Single Story Pool clubhouse (min 2,100/sf) with men's and women's restroom, locker room, and changing room facilities.

(3) Parking area consistent with approved preliminary plans.

(4) Pool and associated land and facilities shall be dedicated to HOA upon completion (defined as issuance of Use & Occupancy Permit) and before use by any residents. HOA shall furnish, supply, operate, and manage facilities from acceptance of facility without financial assistance or contribution from Developer or City.

(5) The Pool, Clubhouse and all associated site work shall be complete, dedicated to the HOA, and able to be used by all residents within two (2) years of the effective date of this signed Proffer Amendment.

(6) All basketball courts, recreational equipment and green space shall be built out consistent with the Huntfield Recreation Center preliminary plans (PP-20125). The construction of the basketball courts and recreational equipment shall commence no later than the time the pool dedication occurs to the HOA and completed and ready for usage within one (1) year.

9) <u>ZONING YIELD</u>

a) Approved under the zoning shall be 3,200 residential units of single family detached, single family attached, multi-family, and 200,000 to 1,000,000 square feet commercial, retail, and office development. If desired, Huntfield may produce a market study identifying the potential to increase the total square footage of commercial, retail and office space beyond the required minimum of 200,000 square feet. In order to achieve the desired maximum commercial development of 1,000,000 square feet, the City acknowledges that Floor Area Ratios (FAR's) of greater than 1 or building heights of 75 feet may be considered by the City of Charles Town.

b) Phasing of development or building permits – No phasing of development or building permits will be imposed with the exception of Article 10.a as outlined herein. (Subject to availability of adequate infrastructure facilities).

10) <u>SEQUENCE OF DEVELOPMENT</u>

a) All lots in Zone 1 as defined herein, shall have homes/residences constructed and fully built out prior to any residential construction is permitted to commence in Zone 3 (as defined herein). All land within Zone 2 is specifically excluded from this restriction.

Huntfield List of Proffers

Proffer Amendment 3

Approval Date 8/19/24

Proffer Amendment 3 Adopted by Council the 19th day of August, 2024

Robert M. Trainor
Mayor

John Nissel
City Manager/Clerk

Dan Ebersole
DR Acquisitions, LLC, Manager

Planning Commission
101 East Washington Street
Charles Town, WV 25414

SCHEDULED

AGENDA ITEM (ID #)

Meeting: 02/24/25
Department: Planning Commission
Category: Report
Initiator:

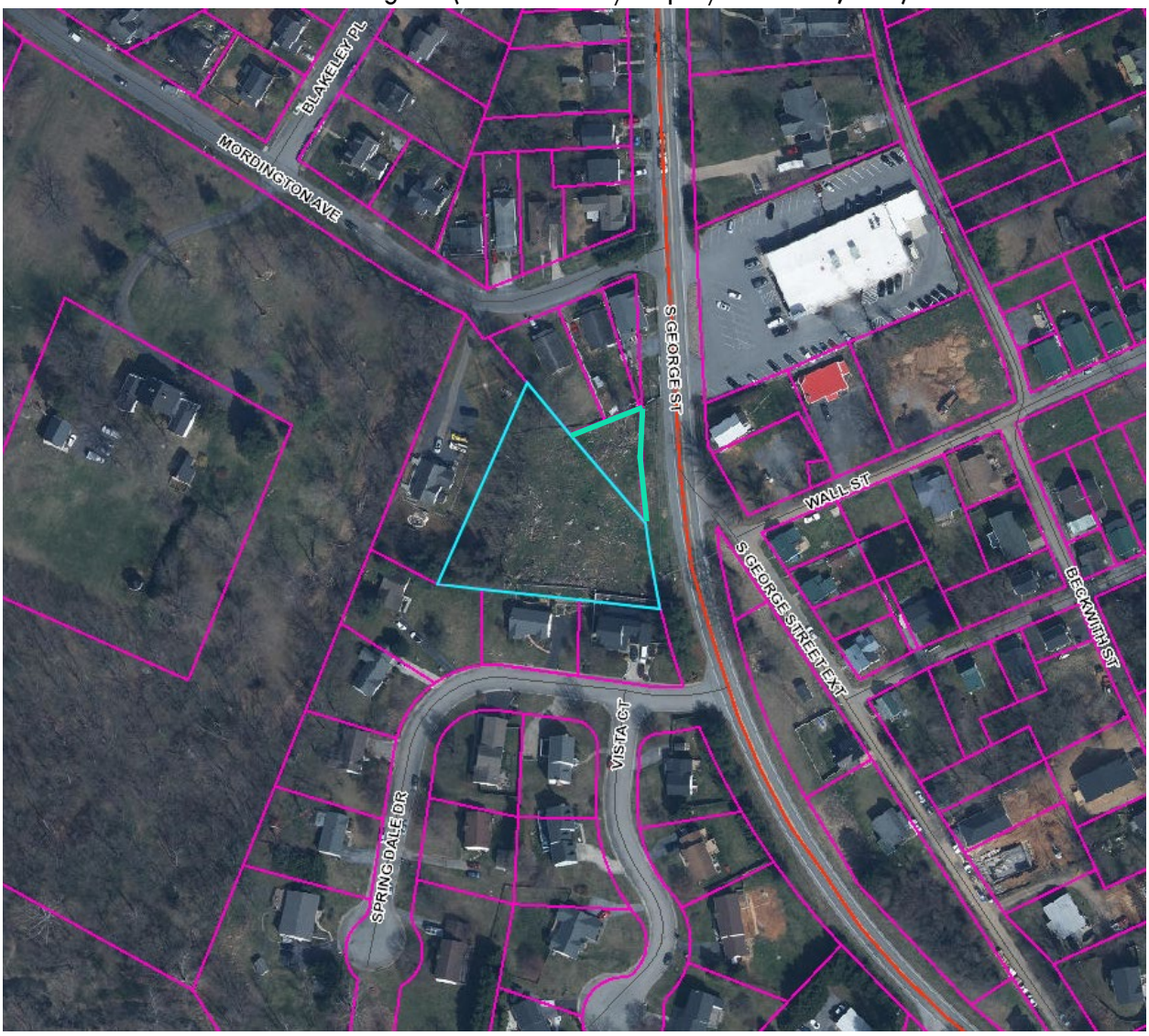
Public Hearing: *WV2024-05* - David Acly Waiver Request for Access Drive

ATTACHMENTS:

- 1. Staff Report.pdf
- 2. Application.pdf
- 3. Survey.pdf

Waiver Request
WV2024-05

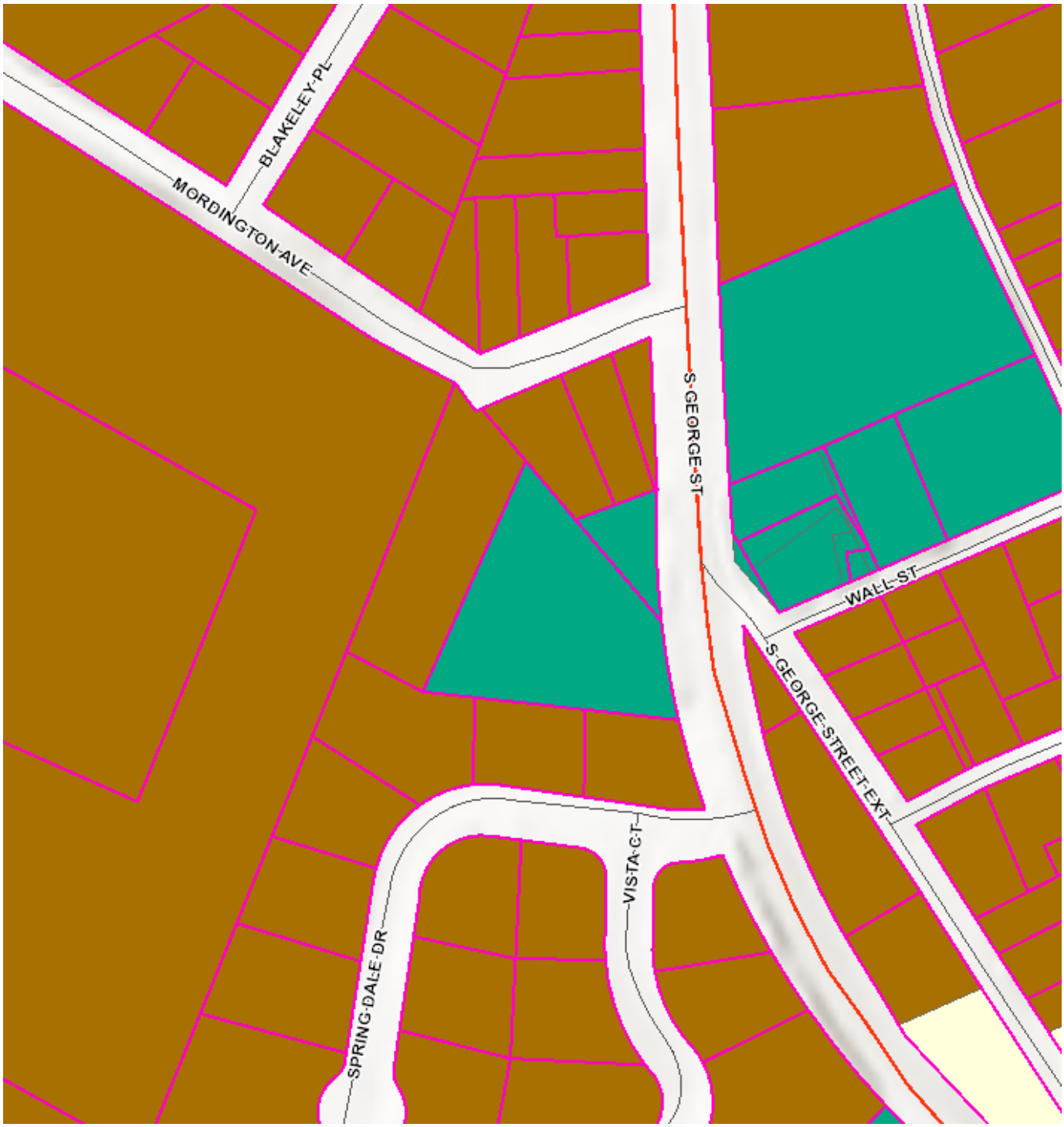
Date: For the February 24, 2025 Planning Commission meeting
Applicant: David Acly
Property Owner: Zales Construction LLC.
Report by: James Newman, City Planner, Zoning/Subdivision Administrator.
Location: Vacant lots on S. George St (Tax District 3/Map 6/ Parcels 4, 147)



OVERVIEW

The applicant is requesting a waiver from access drive standards. The drive will be used as an access point for four single family detached units, each with their own driveway connecting to the drive.

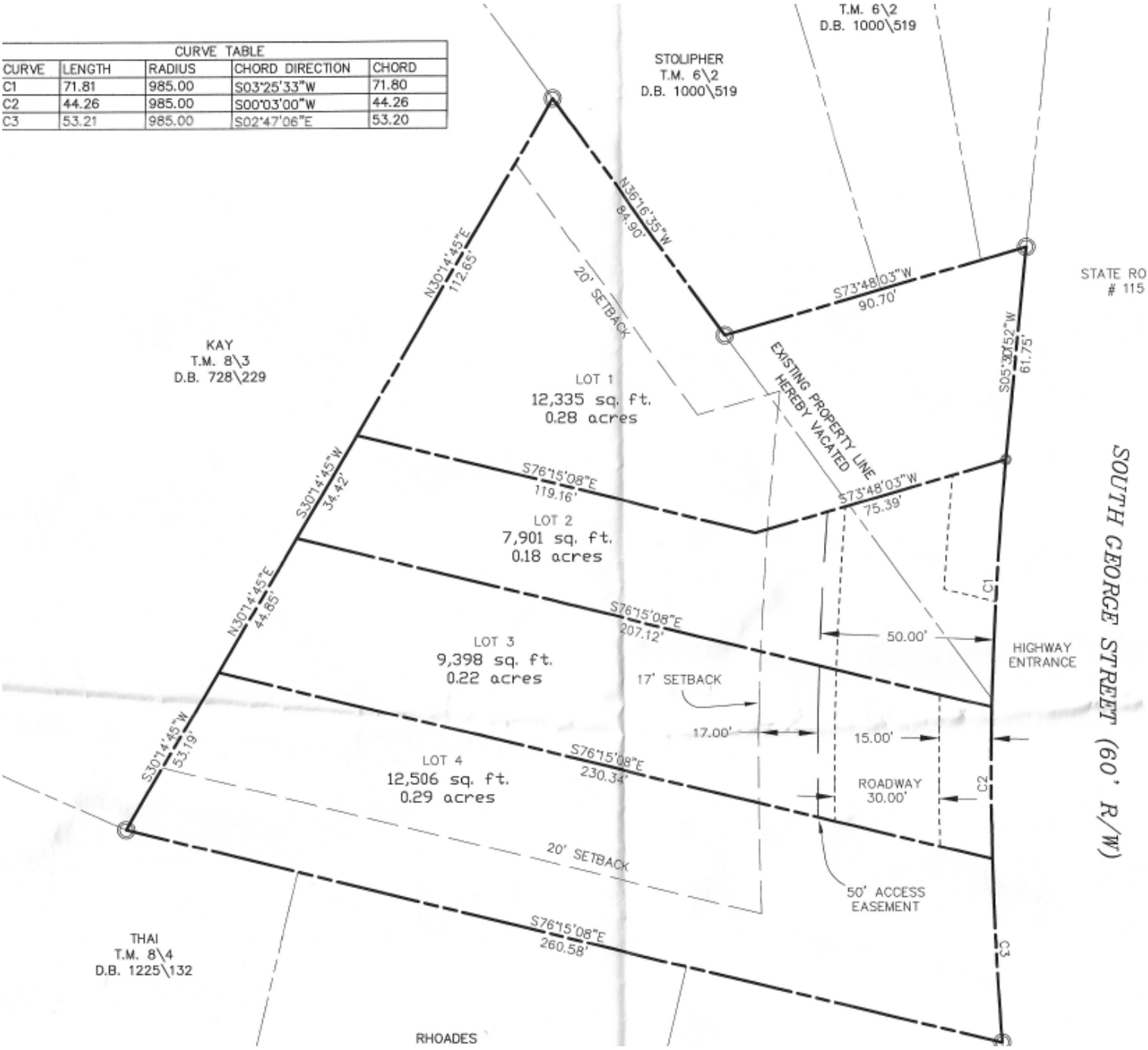
CURRENT ZONING



Key:
Brown – Old Town Residential
Green – Old Town Mixed Use Commercial

LOT DIMENSIONS

CURVE TABLE				
CURVE	LENGTH	RADIUS	CHORD DIRECTION	CHORD
C1	71.81	985.00	S03°25'33"W	71.80
C2	44.26	985.00	S00°03'00"W	44.26
C3	53.21	985.00	S02°47'06"E	53.20



BOARD OF ZONING APPEALS
The applicant went to Board of Zoning Appeals to obtain a variance from lot size in order to divide the two lots into four. The request was approved by the Board on December 17, 2024. The Board was aware that this waiver was going to be requested.

REQUESTED WAIVER:
Section 1333.08 Access Drive Standards:
D. No Access Drive shall be constructed closer than 100 feet to the nearest intersection.

The nearest intersection is of S. George St. with S. George St. Extension, which is directly opposite the proposed access drive entrance for this property.

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 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 along is not sufficient reason to grant an exception from the requirements.

REVIEW CRITERIA
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;*
   The access drive will be privately maintained by all four property owners.

b. *The waiver, if granted, will not adversely affect the public health, safety or welfare, or the rights of adjacent property owners or residents;*
   The proposed waiver will allow for one entrance onto S. George St. rather than four separate driveway entrance. The speed limit of 25 MPH and the prevalence of other intersections in this area should prime drivers to be aware of potential intersecting traffic while driving. Per the applicant, the Division of Highways has a site visit scheduled for the week of February 24.

c. *That the waiver, if granted, will be in keeping with the intent and purpose of this Ordinance; and;*
   The Charles Town Subdivision and Land Development Ordinance is intended 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.

The proposed development allows for in-fill development while keeping the access limited to a single point.

d. *That the waiver, if granted, will result in a project of better quality and/or character.*
The waiver will allow for the development of four infill lots while reducing the number of potential intersection points from four to one.

CONCLUSION

The applicant is seeking the following waiver:

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

The waiver will allow for the development of four lots that will use a shared access easement.

RECOMMENDATION

Approval subject to a condition:

1. Approval of the waiver is contingent upon approval of an entrance permit for the access drive by the Division of Highways.

Waiver Application No._____

RECEIVED
DEC 30 2024
BY: VG

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 12/30, 2024

2. APPLICANT'S NAME* David Acly

Address: 1213 Mare st Ranson WV 25438

Telephone Number (304) 886 1449 Fax Number ( )

Email Address David acly@gmail.com

3. PROPERTY OWNER'S NAME Zeles Construction LLC

Address: 659 waterside Dr Harpers Ferry WV 25425

Telephone Number (703) 675-6193 Fax Number ( )

Email Address Alexsalgato@gmail.com

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

Property Address: Approx 750 S. George st Charles Town WV 25414

Tax Map # and Parcel: Tm 6 parcel 4 & 147

Deed Book and Page #: DB 1307/21

Property Area in Square Feet or Acres: .97 Acres

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

Currently a vacant lot parcels zoned old town mixed use Commerical

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

Create a shared use Driveway to Feed 4 new single Family homes

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

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

Construction of four Single Family homes

8. DESCRIPTION OF THE WAIVER REQUEST:

To create a Driveway within 100 Feet of and intersection (1333.08D)

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

1333.08D

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;

If waiver is granted I will clean up and Eye Sore Currently In City limits

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;

I dont Believe a Shared Driveway will have any negative impacts on any neighbors or general public

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

If granted It would enable the Construction of the 4 Single Family homes

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

If granted it will Allow the growth of old Charles Town and clean up the property

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
Kirsten Robertson	101 Springdale Dr	Charles Town 25414
Robin Rhoads	111 Springdale Dr	" "
Hung Thai	121 Springdale Dr	" "
Jason Rankin	620 Morelington Ave	" "
Stolpher Mordingtonllc	624 Mordington Ave	" "
" "	626 Mordington Ave	" "
Susana Hernandez	650 S. George St.	" "
Lutman properties	67 Lutmans Ln Apollo	Shenandoah Junction wv 25442

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
BA2024-08	Zales construction	lot verner	Approved 12-18-2024

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 12-30-2024

Signature of Property Owner (If different than Applicant)

_____ Date 12-30-2024

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:_____

_____

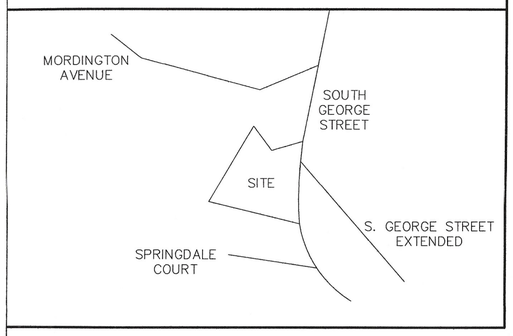
_____

_____

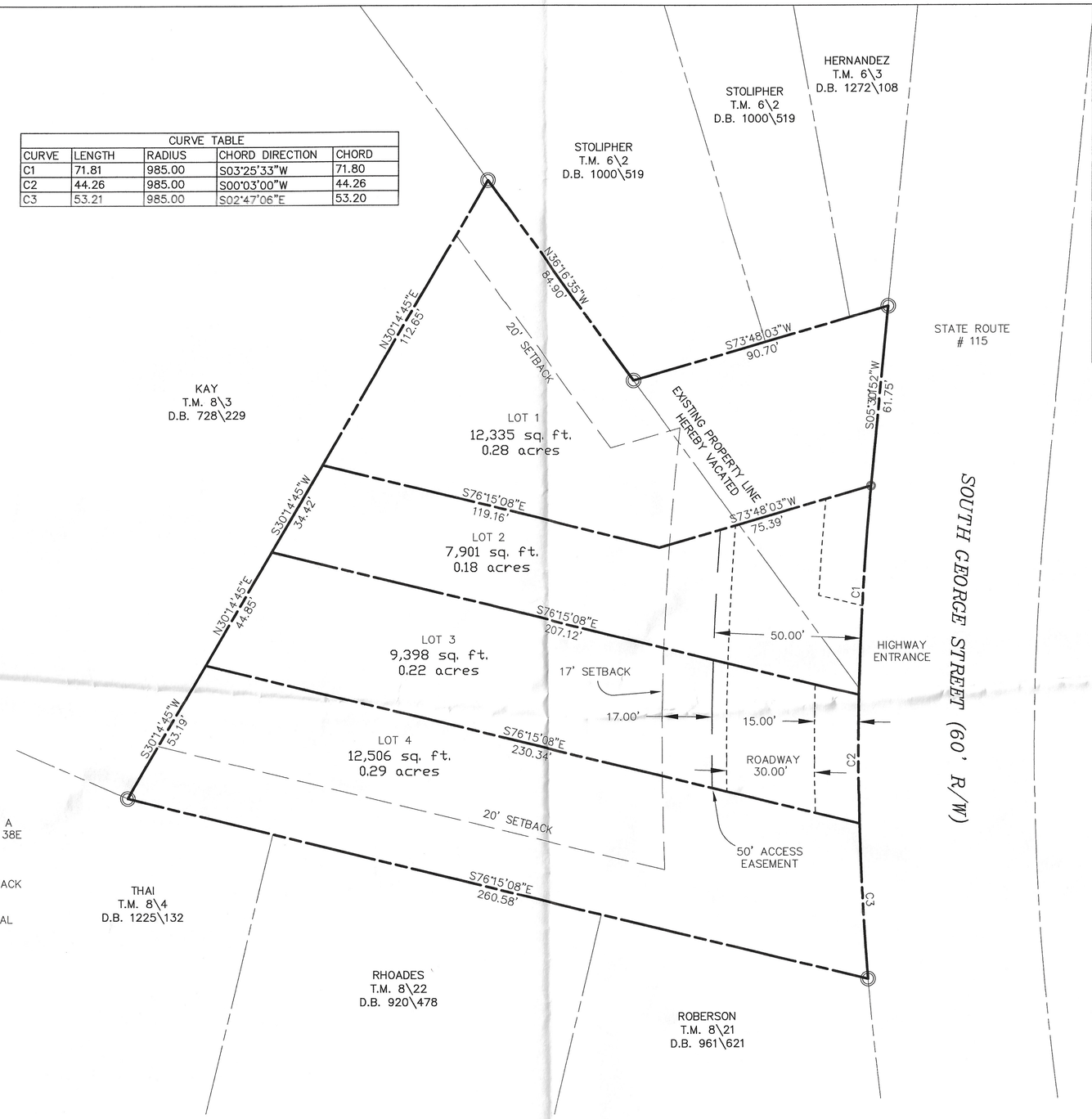
_____

_____

VICINITY MAP 1" = 300'



CURVE TABLE				
CURVE	LENGTH	RADIUS	CHORD DIRECTION	CHORD
C1	71.81	985.00	S03°25'33"W	71.80
C2	44.26	985.00	S00°03'00"W	44.26
C3	53.21	985.00	S02°47'06"E	53.20



LEGEND

O = SET 5\8" REBAR

◎ = FOUND 5\8" REBAR

ACREAGE TABLE

LOT 1	0.28 acres
LOT 2	0.18 acres
LOT 3	0.22 acres
LOT 4	0.29 acres
TOTAL AREA	0.97 acres

THE PLATTING OR DEDICATION OF THE FOLLOWING DESCRIBED LAND (T.M. 6 PARCELS 147 & 4) IS WITH THE FREE CONSENT AND IN ACCORDANCE WITH THE DESIRES OF THE UNDERSIGNED OWNERS. PROPRIETORS, AND TRUSTEES, IF ANY.

ZALES CONSTRUCTION LLC.

NOTES:

THIS PROPERTY IS NOT MAPPED IN AN AREA DESIGNATED AS A SPECIAL FLOOD AREA AS SHOWN ON FEMA PANEL 540037C0138E DATED 12\18\2009.

THE CHANGE TO THESE LINES DOES NOT CREATE A SETBACK VIOLATION OR INCREASE THE NON-CONFORMITY OF ANY SETBACK VIOLATION.

THIS PROPERTY IS CURRENTLY ZONED : OLD TOWN RESIDENTIAL

THIS PLAT WAS APPROVED FOR RECORDATION BY THE CITY OF CHARLES TOWN

ZONING ADMINISTRATOR

SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT ALL THE MONUMENTATION AS SHOWN ON THIS PLAT HAS BEEN FOUND OR SET BY ME AND THAT IT HAS AN ACCURACY OF CLOSURE THAT IS EQUAL TO OR GREATER THAN 1 PART IN 7,500.

PETER H. LORENZEN P.S.

PETER H LORENZEN LICENSED No. 948 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

ZALES MINOR SUBDIVISION

PLAT SHOWING MINOR SUBDIVISION OF TAX MAP 6 PARCELS 4 & 147. STANDING IN THE NAME OF ZALES CONSTRUCTION, LLC, AS RECORDED IN THE OFFICE OF THE COUNTY CLERK OF JEFFERSON COUNTY IN DEED BOOK 1307\21 LOCATED IN CHARLES TOWN CORPORATION, JEFFERSON COUNTY, WEST VIRGINIA.

DWG # ZALES DATE-11/27/24

Planning Commission
101 East Washington Street
Charles Town, WV 25414

SCHEDULED

AGENDA ITEM (ID #)

Meeting: 02/24/25
Department: Planning Commission
Category: Report
Initiator:

Zoning/SALDO Overhaul - Advisory Committee

-Need two commissioners to serve.

ATTACHMENTS: