CITY OF GOODLETTSVILLE
MUNICIPAL PLANNING COMMISSION
MEETING AGENDA

Monday July 6, 2026 5:00 PM

ITEM #1 Approval of July 6, 2026 Agenda

ITEM #2 Approval of June 1, 2026 Meeting Minutes

ITEM #3 Public Forum on Planning Related Topics

ITEM #4 ALLRIDES TOUCHLESS WASH, LLC/M2 Group, LLC: Request site plan approval for a 3,514 square feet car wash on 1.00 acre at 956 Louisville Highway. The property is referenced as Sumner County Tax Map/Parcel# 14105001000 and is zoned CG, Commercial General and Interchange Overlay District. Property Owner: ALLRIDES Touchless Wash, LLC

ITEM #5 Club Car Wash Operations/Cochran Engineering: Request site plan approval for a 4,565 square feet car wash on 1.48 acres at 155 Long Hollow Pike. The property is referenced as Davidson County Tax Map/Parcel# 02601015400 and is zoned CPUD, Commercial Planned Unit Development. Property Owner: Josh and Sarah Bowmar

ITEM #6 Rivergate Master Plan - Merus/Rivergate Holdings, LLC: Request revised preliminary master plan to include additional right in/right out driveway onto Rivergate Parkway, revised location of uses, and additional units of residential use per a previous master plan amendment. The properties are referenced as Davidson County Tax Map/Parcels# 02614006200, 02614006300, 02614006100, 03402007700, 02614005400, and 02614003400. The properties are zoned RC1, Regional Center Planned Unit Development High Intensity. Property Owners: Rivergate MP Holdings, LLC, Dillard TN. Operating LTD Partnership, 756 Plaza Partners GP, and Just Trucks, LLC.

DISCUSSION ITEM

- South Dickerson Pike - Paradyme Vehicle Storage and Gym - Conceptual Proposal

GOODLETTSVILLE CITY HALL MASSIE CHAMBERS

A government committed to operating with efficiency and integrity in all we do as we strive to enhance the quality of life for the community we serve.

CITY OF GOODLETTSVILLE
MUNICIPAL PLANNING COMMISSION
AGENDA STAFF REPORT

MONDAY JULY 6, 2026 5:00 PM

ITEM #1 Approval of July 6, 2026 Agenda

STAFF NOTES: N/A

MOTION OPTIONS:

1. Approve as listed
2. Approve with agenda amendments as determined by the Planning Commission

ITEM #2 Approval of June 1, 2026 Meeting Minutes

STAFF NOTES: N/A

MOTIONS OPTIONS:

1. Approve as listed
2. Approve with minute amendments as determined by the Planning Commission

ITEM #3 Public Forum on Planning Related Topics

STAFF NOTES: N/A

MOTION OPTIONS: N/A

ITEM #4 ALLRIDES TOUCHLESS WASH, LLC/M2 Group, LLC: Request site plan approval for a 3,514 square foot car wash on 1.00 acre at 956 Louisville Highway. The property is referenced as Sumner County Tax Map/Parcel# 14105001000 and is zoned CG, Commercial General and Interchange Overlay District. Property Owner: ALLRIDES Touchless Wash, LLC

STAFF NOTES:

The request is for site plan approval for a 3,514 square foot car wash on 1.00 acre at 956 Louisville Highway. The proposal is to add a new car wash with 3 self-service bays, 2 express automatic bays, and 7 vacuum stalls. The proposal meets requirements for improvements to parking, stormwater infrastructure, landscaping, lighting, and design standards.

The property is located within the Exit 98 Louisville Highway Interchange Overlay Area that permits the following additional uses: convenience commercial; personal services; financial, consultative and administrative services; and general retail trade.

STAFF STIPULATION:

1. Complete City's Engineer Consultant plan review comments prior to any project land disturbance permit issuance

MOTION OPTIONS:

1. Approve the site plan that meets the City's Zoning Ordinance and Design Guidelines with the listed staff stipulation including any additional items determined by the Planning Commission

2. Deny the site plan based on the Planning Commission's determination during the meeting that the site plan does not meet the City's Zoning Ordinance and Design Guidelines and define the items needed to revise the plan to meet the City's Zoning Ordinance and Design Guideline site plan requirements

3. Defer request to include additional information as determined by the Planning Commission

Staff recommendation to be provided at meeting

ITEM #5 Club Car Wash Operations/Cochran Engineering: Request site plan approval for a 4,565 square foot car wash on 1.48 acres at 155 Long Hollow Pike. The property is referenced as Davidson County Tax Map/Parcel# 02601015400 and is zoned CPUD, Commercial Planned Unit Development. Property Owner: Josh and Sarah Bowmar

STAFF NOTES:

The request is for site plan approval for a 4,565 square foot car wash on 1.48 acres at 155 Long Hollow Pike. The proposal is to add a new car wash with one automated bay, 18 vacuum stalls, lobby, office, restroom, and equipment room. The proposal meets requirements for improvements to parking, landscaping, sidewalk, lighting, and design standards.

Given configuration and size of the parcel, the applicant requested a variance from the 60 ft. water quality riparian buffer zone requirements under Sec. 18-306. The Administrator may approve variances from the water quality buffer requirements, and staff has approved a variance from the 60 ft. water quality riparian buffer zone requirements.

STAFF STIPULATIONS:

1. Complete City's Engineer Consultant plan review comments pertaining to stormwater prior to any project land disturbance permit issuance

2. Obtain TDEC approvals for necessary permits

3. Obtain TDOT approval for access onto Long Hollow Pike

MOTION OPTIONS:

1. Approve the site plan that meets the City's Zoning Ordinance and Design Guidelines with the listed staff stipulations including any additional items determined by the Planning Commission

2. Deny the site plan based on the Planning Commission's determination during the meeting that the site plan does not meet the City's Zoning Ordinance and Design Guidelines and define the items needed to revise the plan to meet the City's Zoning Ordinance and Design Guideline site plan requirements

3. Defer request to include additional information as determined by the Planning Commission

Staff recommendation to be provided at meeting

ITEM #6 **Rivergate Master Plan - Merus/Rivergate Holdings, LLC:** Request revised preliminary master plan to include additional right in/right out driveway onto Rivergate Parkway, revised location of uses, and additional units of residential use per a previous master plan amendment. The properties are referenced as Davidson County Tax Map/Parcels# 02614006200, 02614006300, 02614006100, 03402007700, 02614005400, and 02614003400. The properties are zoned RC1, Regional Center Planned Unit Development High Intensity. Property Owners: Rivergate MP Holdings, LLC, Dillard TN. Operating LTD Partnership, 756 Plaza Partners GP, and Just Trucks, LLC.

STAFF NOTES:

The latest request to revise the master plan includes an additional right in/right out driveway onto Rivergate Parkway, revised location of uses, and additional units of residential use.

An additional right in/right out driveway will be located across from Wren Road and improve access to commercial uses on the west side of the development. The revised location of uses includes approximately 10,000 sq. ft. of additional commercial space. The additional residential use consists of 30 more townhouses and a shift of 50 more multifamily units from Metro Nashville to Goodlettsville city limits. Additional parking spaces have been added to exceed parking requirements.

Below is a summary of prior actions on the master plan by the Planning Commission:

- **August 4, 2025:** Planning Commission approved a master plan.
- **December 1, 2025:** Planning Commission approved a master plan amendment to replace a 120-room hotel and 17,000 square feet commercial uses with 87,000 square feet of commercial use, including a 51,000 square feet grocery retail center and smaller retail and restaurant spaces. The amendment also included that the 340-unit apartment use would be transferred to an additional phase.
- **February 2, 2026:** Planning Commission approved a master plan amendment to relocate the 340-unit apartment use to the defined master plan area replacing the 75,000 square feet entertainment and 46,000 square feet commercial and medical office uses.

MOTION OPTIONS:

1. Approve the master plan amendment based on the request meeting the intention for a mixed-use redevelopment project master plan and not altering the overall mixed use design intention of the redevelopment project

2. Deny the proposed master plan amendment if the Planning Commission determines the proposed alterations would alter the overall mixed use design intention of the redevelopment project

3. Defer the request to include additional information as determined by the Planning Commission

Staff recommendation to be provided at meeting

DISCUSSION ITEM

South Dickerson Pike - Paradyme Vehicle Storage and Gym - Conceptual Proposal

STAFF NOTES:

The proposal is for 95 luxury storage units, a 10,000 square foot gym, and parking spaces at 1219 S Dickerson Pike. The luxury storage units are intended for personal use and are a minimum size of 600 square feet.

Mini-warehouse/self-storage facilities are permitted in CS, Commercial Services by conditional use approval and the size requires a variance from the maximum individual storage unit size requirement given it is greater than five hundred (500) square feet.

The proposal will be heard by the Board of Zoning and Sign Appeals on Tuesday, July 7, 2026.

OFFICIAL MINUTES OF THE MEETING

GOODLETTSVILLE PLANNING AND ZONING COMMISSION

June 1, 2026 Goodlettsville City Hall
5:00 p.m. Massie Chambers-Auditorium

Present: Chairman Scott Trew, Billy Barnfield, Terry Coats, Commissioner Cisco Gilmore, Jeff Parnell, and Mayor Rusty Tinnin.

Absent: Judy Wheeler

Also Present: Sean Pfalzer (Staff), Tim Ellis-City Manager, Russell Freeman-City Attorney, Sharon Reed (Staff), Jenni Spivey (Staff), and Alex West (Staff).

Trew called the meeting to order, and Commissioner Gilmore offered prayer.

Item #1 Approval of Agenda: Mayor Rusty Tinnin made a motion to approve the agenda, Barnfield seconded the motion. The motion passed.

Item #2 Approval of May 4, 2026 Meeting Minutes: Mayor Rusty Tinnin made a motion to approve the minutes of the May 4, 2026 meeting, Commissioner Gilmore seconded the motion. The motion passed.

Item #3 Trew opened the Public Forum on Planning Related Topics.

Andy Thorpe - 131 N Wynridge Way
Thorpe stated it is troubling that we have leadership that has a conflict of interest and they express it in these meetings in public. Thorpe stated that he expects better than the minimum and look towards what is the best and provide the best for the citizens. Thorpe discussed roads with a 10% slope being really steep and a poor decision. Thorpe discussed the buffer zone in the stream. Thorpe stated that the Commission is looking to cut corners and provide the benefit for the developers, but not for the citizens. Thorpe stated that he is fed up with it and wants better. Thorpe is opposed to the Ironwood development.

James Childress – 127 N Maple Ridge Lane
James Childress stated that his property abuts where they are going to put a retention pond and removing trees. Childress discussed where they are drawing the property lines and that was not where the property lines were when he moved into the house. Childress discussed the retention pond and worried about erosion and the slope there. Childress expressed concern that the trees along the fence line may fall on his house when they cut them down. Childress asked that they keep some of the trees so he would not have to look at what they are doing over there. Childress is opposed to the Ironwood development.

Andrea Stillwell – 116 Forest Oaks Dr.
Stillwell is opposed to the Ironwood development. Stillwell stated as neighbors they have continued to come before not only this body but the City Commissioners with concerns about the environmental impact, traffic impact, and safety impact. Stillwell stated the plans they share with them do not alleviate those concerns. Stillwell asks that they think twice about the

consideration of the plans and the impact it's going to have on those directly impacted as well as those that live in the community. Stillwell asked they consider denying or deferring the plans so they can continue to have questions answered about what the final plans will be and how the developer will be held accountable on those plans.

Connie Childress – 127 N Maple Ridge Lane
Connie Childress discussed wanting to save the line of trees the developer marked for removal. Childress stated the trees provide privacy, and worth saving for the habitat. Childress stated that no one on either commission has stood up and said can we save it and that's what she is asking them to do.

Sarah Childress – 127 N Maple Ridge Lane
Sarah Childress would like to ask the representative for the Ironwood Development to please take care to preserve wildlife as much as possible when building this neighborhood. Childress discussed a landmark study that found a net loss of over 3 billion birds in North America alone. Childress stated that the land is small, but it hosts dozens of bird species, dozens of mammals, and many, many amphibians and reptiles. Childress believes they are worth protecting to preserve the beauty and biodiversity of the land they live on.

Michael Kelly – 100 S Maple Ridge Lane
Kelly stated that they are not listening to the people. Kelly asked that they hear and think about what they are saying to them. Kelly wants to know how a 10% grade in the Ironwood Development makes sense. Kelly stated they are making choices based on real estate they are involved in and know about. Kelly stated all we ask if for people to pay attention, listen to who puts you in the seats and listen to us.

Trew asked for additional comments and no additional comments were received.
Barnfield made a motion to close the public forum, seconded by Coats. The motion passed.

The Public Forum was closed.

AGENDA

Item #4 Community Development Staff: Requests recommendation to the Goodlettsville City Commission to amend the Zoning Ordinance Sections 14-201(3), 14-208 (1)(b) to define provisions for fence regulations.

Item Representative: Sean Pfalzer, Staff

Staff Discussion:

- This item was deferred at the May 4, 2026 Planning Commission meeting.
- The City's Board of Zoning and Sign Appeals recently reviewed an administrative appeal regarding the fence section of the Zoning Ordinance.
- The appeal was based on the ordinance section limiting solid fences over four (4') feet in the front yard of the property and the percentage of open portions of the fence that would be required to not be considered a solid type of fence.
- A Board of Zoning and Signs Appeals member provided a Zoning Ordinance amendment suggestion to address the open and solid fence ordinance text.

- New revisions from the City Attorney have been incorporated since the May Planning Commission meeting to further clarify definitions of open style and solid style fences and front height requirements for residential districts.
- Staff presented Zoning Ordinance Amendments Sections: Fence Regulations 14-201(3) Definitions and 14-208(1)(b) Fences and Walls.

- Motion Option 1: Recommend approval to the City Commission for the amendment of the Zoning Ordinance to include provisions for fence regulations as presented by staff or with ordinance revisions determined by the Planning Commission. (Staff Recommendation)
- Motion Option 2: Recommend denial to the City Commission to not include provisions for fence regulations section in the Zoning Ordinance.
- Motion Option 3: Defer request to include additional information as determined by the Planning Commission.

Planning Commission Discussion:

- City Attorney Freeman discussed adding definitions for the front of the principal building and the face façade or it's designed street address.
- City Attorney Freeman referenced corner lots that may access their street right-of-way off of one street, but the front of the house may face another, if we're considering not allowing four (4') feet above the front façade, that needs to be defined.
- Trew commented eight (8') feet in a residential area seems pretty extreme.
- City Attorney Freeman responded obviously that eight (8') feet in height poses some issues for our first responders if they have to access over the fence with any equipment and or bodies.
- Trew commented this will be a recommendation to the City Commission so, if we do approve this, they would have the ability to change anything in the ordinance.

Motion: Motion by Barnfield to approve with an amendment to change residential from eight (8') feet in height to six (6') feet in height and add the definition of the front of the principal building to be that side of the house facing the street right-of-way which is the 911 address.

- Mayor Tinnin clarified that no eight (8') feet fence at all even in the backyards of residential districts.
- Barnfield responded that's my motion.
- Mayor Tinnin stated I assume the yards that have eight (8') feet fencing would be grandfathered in.
- City Attorney Freeman responded absolutely.
- Commissioner Gilmore asked will we have an understandable definition of the front of the principal building?
- City Attorney Freeman responded defining the front of the house, the height of the fence and from the front façade to the back of the property it's clarified that way as well.

Motion: Motion by Barnfield to approve with an amendment to change residential from eight (8') feet in height to six (6') feet in height and add the definition of the front of the principal building to be that side of the house facing the street right-of-way which is the 911 address., seconded by Commissioner Gilmore. The motion passed unanimously.

Item #5 Ironwood Residential Development, Phillips Builders/Development Management Group, LLC: Requests final master plan approval for sixty-six (66) one family detached dwelling unit lots. The properties are referenced as Sumner County Tax Map 140 Parcels 124 and 124.01. Property Owner: William B Ralph JR Trustee (15-24)

Item Representative: David Abby, Development Management Group and Jason Phillips, Phillips Builders

Staff Discussion:

- At the October 6, 2025 meeting, the Planning Commission denied recommendation to the City Commission to annex and rezone the 45.02-acre properties at 4408 Long Hollow Pk.
- At the November 2025 meeting, the City Commission approved on first reading resolutions to approve the plan of services for the proposed annexation of 45.02 acres at 4408 Long Hollow Pk. and a 1,770 feet section of Long Hollow Pk.
- At the December 2025 meeting, the City Commission adopted resolutions to approve the plan of services for the proposed annexation of 45.02 acres at 4408 Long Hollow Pk and a 1,770 feet section of Long Hollow Pk. right of way and roadway.
- At the May 4, 2026 the Planning Commission deferred approval of the Final Master Plan for sixty-six (66) single family dwelling unit lots at 4408 Long Hollow Pike.
- The final master plan meets setback requirements, and exceeds rear setback requirements for lots that abut the Wynridge subdivision and the west side of the property.
- Primary access is from Long Hollow Pk/SR 174 with a proposed turn lane.
- The project design provides gated limited-access emergency drive that connects to Wynridge.
- The project design provides 29% open space, exceeding the 10% requirement.
- The plan identifies tree preservation/removal, street-yard plantings along Long Hollow Pk. and Type 1 buffer plantings using existing trees and supplemental shrubs.
- Outstanding Road Design Issues: Correcting the road plan/profiles for consistency, addressing accessibility items, and cul-de-sac grading tie-ins for emergency vehicles.
- Outstanding Environment, Stream, and Erosion Control Issues: Clarify stream crossing and erosion control measures, any temporary stream crossing, riprap/outlet protection, and erosion protection at Road F.
- Outstanding Drainage and Stormwater Issues: Need to provide full details for the major drainage structures/box culverts, resolve drainage and stormwater design gaps, including detention pond outlet structure details and placement of water quality treatment units.
- Outstanding Utilities Issues: Need details for the sewage pump station, sanitary sewer force main, utility easements across lots including lot 35, sewer profiles, and existing sewer connection detail.
- Staff Stipulation-Complete City's Engineer Consultant plan review comments prior to any project land disturbance permit issuance.
- Staff Stipulation- Obtain TDEC approvals for necessary permits.
- Staff Stipulation- Obtain TDOT approval for the proposed turn lane improvements at Long Hollow Pike.

- Motion Option 1: Approve the final master plan with the defined staff stipulations. (Staff Recommendation)

- Motion Option 2: Deny the final master plan and define the needed plan amendments based on the Planning Commission's determination during the meeting that the final master plan does not meet the City's Subdivision Regulations and Zoning Ordinance.
- Motion Option 3: Defer the request for the applicant to provide additional requested information as determined by the Planning Commission during the meeting discussion.

Planning Commission Discussion:

- Abby discussed the trees along one lot, stating they have already looked at some of the grading and have made some adjustments trying to save some more trees.
- Trew asked if they made a decision regarding the trees near the Maple Ridge cul-de-sac about sixty (60') feet tall will they stay or fall?
- Abby responded they are trying to only remove the trees for the emergency drive connection that go into the cul-de-sac.
- Trew asked if the detention pond near the Maple Ridge cul-de-sac there by necessity?
- Abby responded it is there by necessity and there are several lots going to drain to that location.
- Abby commented they are still completing those designs, but any overflow will be directed toward the stream that's there and not directed anywhere toward theirs.
- Trew asked if the detention pond will be wet always or dry most of the time?
- Abby responded it's going to be dry and considered a dry detention pond.
- Trew asked who will be responsible for maintaining the grass all around the detention pond?
- Abby responded that it would be a part of the HOA as part of the common space.
- Mayor Tinnin stated that citizens are concerned about the 10% grade, can he help them with clarification or a better understanding of what we need to know about that?
- Abby stated they have done what they can to get it down, but there's a lot of topography on the site.
- Commissioner Gilmore asked for clarification on the maximum 10% grade.
- Pfalzer responded the 10% maximum is in the road design specifications for subdivisions but not sure of the history of how long that has been in place.
- Pfalzer responded you would request a variance if you're going to be above that maximum.
- Commissioner Gilmore asked when the deadline for the plans was to be turned into the City for approval?
- Pfalzer responded that the deadline for the submission of these plans was Thursday May 21st and we didn't receive them until Tuesday May 26th.
- Commissioner Gilmore asked if the OHM Engineer that reviewed the plans has any reservations regarding what has been turned in on the plans.
- James Robert from OHM Engineering responded for the purposes of tonight's approval, master plan, the majority of the items have been resolved so we're comfortable with approval of the master plan.
- James Robert from OHM Engineering commented that for engineering, construction grading purposes, there's a lot of smaller detailed items in the plans to be resolved.
- Commissioner Gilmore commented deadlines are in place for the purpose of staff and engineering to have time to review and approve and going forward I do not want future projects not being turned in on time.
- Barnfield asked if they have plans for the access gate and what that will look like?

- Abby responded that they are trying to get an exact design on it, but it will be a knox box lock.

Motion: Motion by Commissioner Gilmore to defer the request for applicant to provide additional information. Motion failed due to no second.

Motion: Motion by Barnfield to approve the request with stipulations and giving staff the ability to work out minor details, seconded by Parnell. The motion passed five (5) yes votes and one (1) Commissioner Gilmore no vote.

Item #6 Dean Patel: Requests recommendation to the City Commission to rezone the 4.73-acre properties at 622 Rivergate Pkwy, 611 Wade Circle, 645 Wade Circle, 647 Wade Circle referenced as Davidson County Tax Map/Parcels# 02613004300, 02610001300, 02614000400, and 02614000300 from CSL, Commercial Services Limited to RC2PUD, Regional Center Planned Unit Development Low Intensity Limited Property Owner: Atlas, LLC

Item Representative: Dean Patel, 622 Rivergate Pkwy.

Staff Discussion:

- The request is to rezone the 4.73-acre properties from CSL, Commercial Services Limited to RC2PUD, Regional Center Planned Unit Development Low Intensity to permit proposed redevelopment of the property as a mixed-use development consisting of hotel, retail, and office uses.
- The proposed rezoning from CSL, Commercial Services Limited to RC2PUD, Regional Center Planned Unit Development Low Intensity is consistent with the City's Comprehensive Plan Update that envisions the Rivergate area as a Regional Center that aims to serve a mix of uses, including commercial, retail, and office uses.
- The property at 622 Rivergate Pkwy lies within the Interchange Overlay, the proposed planned unit development district regulations for RC2PUD would set the permitted uses for the property.
- The RC2PUD, Regional Center Planned Unit Development Low Intensity supports building heights up to seven stories, consistent with the preliminary concepts for the site.

- Motion Option 1; Recommend to the Goodlettsville City Commission approval of the RC2PUD, Regional Center Planned Unit Development Low Intensity zoning district based on the Planning Commission's determination during the meeting that the proposal is in compliance with the City's Comprehensive Plan. (Staff Recommendation)
- Motion Option 2: Recommend to the Goodlettsville City Commission denial of the RC2PUD, Regional Center Planned Unit Development Low Intensity zoning designation based on the Planning Commission's determination during the meeting that the proposal is not in compliance with the City's Comprehensive Plan.
- Motion Option 3: Defer the request to include additional information as determined by the Planning Commission.

Planning Commission Discussion:

- Patel stated they are working hard to re-develop the whole corner property and hoping to open up the Atlas Hotel the front building in the next few weeks.
- Trew asked if the retail building will have rooms on the second floor?

- Patel responded on the front side it will have shops on the top and bottom and back side will be hotel rooms.
- Patel discussed renovations for the small businesses, professional building depending on the needs of the retail business.
- City Attorney Freeman clarified the proposed re-zoning includes the three existing buildings at 622 Rivergate Pkwy, plus the other two (2) parcels Patel owns.
- Patel responded in addition to 622 Rivergate Pkwy, there are three (3) parcels they own, 611 Wade Circle, 645 Wade Circle, and 647 Wade Circle.
- Parnell stated this is a PUD that is being requested so, how does that work if it does not work out with the retail design and wants to revert back to a hotel?
- Pfalzer responded once it goes through the City Commission he would come back with a final master plan for review, approval and changes.
- Trew commented if we change the zoning, the hotel as it stands will be fine and if he decides he can not make the retail work on the existing building facing Wade Circle and wants to revert back to hotel rooms he will be okay with that as well. Is that correct?
- West responded with the PUD it would be similar to what we're currently doing with Rivergate Mall.
- West responded the hotel use is already there so with the PUD zoning it allows the Planning Commission flexibility to review, design and approve or amend the PUD master plan.
- City Manager Ellis asked if the change in zoning would permit the hotel to be used as an apartment at some point?
- West responded they could make that a preliminary and final stipulation to remove that as part of the zoning.
- Mayor Tinnin asked City Attorney Freeman if that is a stipulation they can put on this, so that it can never be apartments?
- City Attorney Freeman responded in these situations we could create a new classification of zoning taking out the apartment usage.
- Commissioner Gilmore confirmed so we would add a stipulation with the motion.
- Parnell stated that he is grateful that Mr. Patel is here and doing what he is doing for the City of Goodlettsville and excited to see the retail part of the building.
- Parnell stated that he did not want the retail part to go away and is confident that he can get those spaces filled and in support of the retail component on the front of the building.
- Patel responded that it is the goal to bring more attention and people to the property.
- Parnell stated so, if I was to make a motion to approve it with the stipulation that the large building in the back stay hotel, the front building is half retail, half hotel, and the proposed commercial building is a five-story building and no apartments shall ever be would you be okay with that motion?
- Patel responded that's exactly what our goal is yes, sir.
- Patel stated that they are calling it the Atlas Hotel and Lofts because of extended stay these people stay weekly, no monthly and they want the ability to terminate their rental agreement anytime.
- Patel stated the goal is boutique hotel front side and lofts.
- Barnfield asked on the five-story building, did he know what the square footage was going to be?
- Patel responded he was guessing around thirty (30') to thirty-five (35') thousand square feet.
- Barnfield asked what is the requirement per square foot for parking?

- City Attorney Freeman responded he did not know the specific number but at a glance if you have a thirty-five (35') thousand square feet I don't think this is going to be enough parking.
- City Attorney Freeman discussed stipulations for parking based on how high and the square footage and stipulations for minimum size of retail space.
- Barnfield asked if they went a minimum size of 600 square footage for retail space would that be okay?
- Patel responded yes that there would be two rooms.
- Barnfield recommended he research the parking requirements as he is looking at building the building.

Motion: Motion by Parnell to approve the request with stipulations the large building staying a hotel, the back building staying a hotel, the front building changing to half hotel in the back, half retail in the front, and the five-story (5) commercial building approved as part of this RC2PUD and no apartments shall ever be on the site.

- Patel commented the building on the back side building #3 are like studios and people stay there from six (6) months to eight (8) months people like a traveling nurse or someone traveling for work.
- City Attorney Freeman confirmed with Patel they are a one (1) week stay it terminates and restarts weekly.
- Patel responded yes, it's a weekly rental and they reserve the right to terminate at any time.

Motion: Motion by Parnell to approve the request for RC2PUD, with stipulations, the large existing hotel building stay a hotel, the back existing hotel building stay a hotel, the front existing hotel building to be split half and half with hotel on the back side and retail on the front, and a five-story (5) proposed commercial building to be added to the site and no apartments shall ever be on this site which is classified as multifamily, seconded by Barnfield. The motion passed unanimously.

Item #7 Richards and Southern, Inc./615 Design Group: Request site plan approval for a 4,536 square feet warehouse expansion on 1.59 acres at 114 Lindberg Avenue. The property is referenced as Davidson County Tax Map/Parcel# 01816004400 and is zoned CG, Commercial General and CSL, Commercial Services Limited. Property Owner: Terry Calonge

Item Representative: Eric Cox, 615 Design Group

Staff Discussion:

- The request is for site plan approval for a warehouse expansion at 114 Lindberg Avenue.
- The proposal is to expand the existing warehouse from 14,925 square feet to 19,461 square feet and provide associated parking, stormwater infrastructure, and landscaping improvements.
- The City is aware of ongoing drainage issue in the vicinity of the Bass and Lindberg intersection, East of N. Main Street in Goodlettsville.
- The proposal replaces some existing concrete parking with a paver system to help improve stormwater performance and reduce runoff impacts from the proposed expansion.

- Staff Stipulation- The exterior of the existing warehouse is predominately metal siding and the proposed minor addition aims to maintain a consistent exterior. The proposal requires a design variance from the design standards of minimum of seventy-five (75%) percent of exterior building materials be brick or stone.

- Motion Option 1: Approve the site plan that meets the City's Zoning Ordinance and Design Guidelines with the listed staff stipulation including any additional items determined by the Planning Commission. (Staff Recommendation)
- Motion Option 2: Deny the site plan based on the Planning Commission's determination during the meeting that the site plan does not meet the City's Zoning Ordinance and Design Guidelines and define the items needed to revise the plan to meet the City's Zoning Ordinance and Design Guideline site plan requirements.
- Motion Option 3: Defer the request to include additional information as determined by the Planning Commission.

Planning Commission Discussion:

- Commissioner Gilmore asked Cox, was it a total of two (2) houses going to be demolished?
- Cox responded with just one (1) house right next to the site.
- Commissioner Gilmore commented since the existing building does not meet the new comprehensive plan, do we amend the request with the stipulation?
- Pfalzer responded they can approve with the staff stipulation.

Motion: Motion by Commissioner Gilmore to approve the site plan with staff stipulation, seconded by Mayor Tinnin. The motion passed unanimously.

With no further business, the meeting was adjourned at 7:00 pm.

_____ _____

Scott Trew, Chairman Sharon Reed, Planning Assistant

DRAFT

SITE PLAN FOR:

ALLRIDES TOUCHLESS WASH

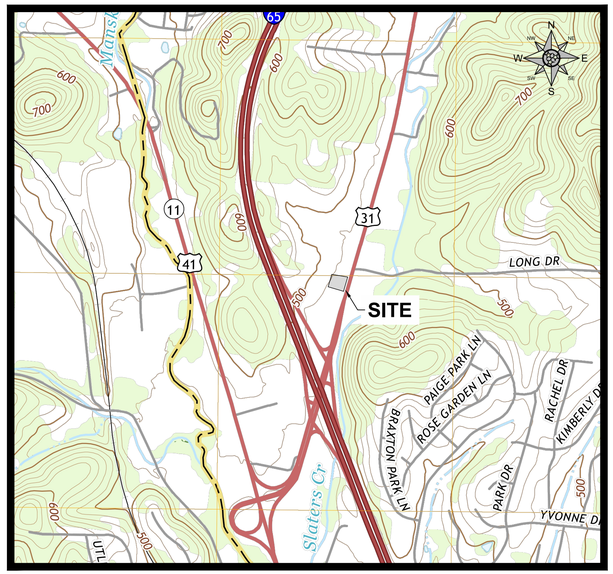
TAX MAP 141, PARCEL 50.01

956 LOUISVILLE HIGHWAY
CITY OF GOODLETTSVILLE
SUMNER COUNTY, TENNESSEE 37072
JUNE 24, 2026

SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
C000	COVER SHEET
C001	GENERAL NOTES
C100	EXISTING CONDITIONS & DEMOLITION PLAN
C200	SITE PLAN
C300	GRADING & DRAINAGE PLAN
C301	PAVER SUBGRADE GRADING PLAN
C400	EPSC PLAN
C500	UTILITY PLAN
C600	SITE DETAILS
C601	SITE DETAILS
C602	EPSC DETAILS
L1.00	LANDSCAPE PLAN
PAGE 1 OF 1	PHOTOMETRIC PLAN

SITE DATA

LOT NUMBER:	MAP 141, PARCEL 50.01
ADDRESS:	956 LOUISVILLE HIGHWAY
CITY:	GOODLETTSVILLE
COUNTY:	SUMNER COUNTY
STATE:	TENNESSEE
CIVIL DISTRICT:	16
EXISTING ZONING:	CG - COMMERCIAL GENERAL INTERCHANGE OVERLAY DISTRICT
AREA OF SITE;	1.00± AC (43,718± SF)
AREA OF DISTURBANCE	0.82± AC (35,668± SF)
MINIMUM REQUIRED SETBACK LINES: FRONT YARD: SIDE YARD: REAR YARD:	 40' 10' 30'
DEVELOPER:	ALLRIDES, LLC 297 HURT ROAD HENDERSONVILLE, TN 37035 PHONE: 815-414-6782 EMAIL: STEVEMCCLURE315@GMAIL.COM CONTACT NAME: STEVE MCCLURE
BUILDING SQUARE FOOTAGE:	SEE ARCHITECTURAL PLANS 3,514 ± S.F.
MAXIMUM BUILDING HEIGHT: PROPOSED BUILDING HEIGHT:	4 STORIES 27'-4"
MAXIMUM FLOOR AREA RATIO: PROPOSED FLOOR AREA RATIO:	2.00 0.08
MAXIMUM LOT COVERAGE: PROPOSED LOT COVERAGE:	40% 8.04%
PROPOSED PARKING:	2 SPACES (INCL. 1 ADA, VAN ACCESSIBLE)



VICINITY MAP
SCALE: 1" = 1,000'
SOURCE: USGS
GOODLETTSVILLE QUADRANGLE, TENNESSEE
7.5-MINUTE SERIES

1000' 0 1000' 2000'
GRAPHIC SCALE

REFERENCE:

PROPERTY CONTAINED HEREIN IS NOT REQUIRED TO BE COVERED UNDER TDEC NPDES PERMIT AS THE DISTURBANCE IS LESS THAN ONE (1) ACRE.

WATERSHED: MADISON CREEK WATERSHED (NOT SUPPORTING) WATER BODY ID: 051302020301

DEVELOPER:

ALLRIDES, LLC
ADDRESS: 297 HURT ROAD
HENDERSONVILLE, TN 37035
PHONE: 615-414-6782
EMAIL: STEVEMCCLURE315@GMAIL.COM
CONTACT NAME: STEVE MCCLURE

CIVIL ENGINEER:

M2 GROUP, LLC
ADDRESS: P.O. BOX 2543
BRENTWOOD, TENNESSEE 37024
PHONE: 615-656-0257
EMAIL: RICH@M2GROUPLLC.COM
CONTACT NAME: RICHARD V. SPECKMAN, P.E.

SURVEYOR:

SURVEY MATTERS
ADDRESS: 107 HILLCREST AVENUE
SIMPSONVILLE, SOUTH CAROLINA 29681
PHONE: 864-451-0176
EMAIL: NICK@SURVEY-MATTERS.COM
CONTACT NAME: NICHOLAS MANSFIELD, RLS

UTILITY COMPANIES:

WATER
WHITE HOUSE UTILITY DISTRICT
PHONE: 615-672-4110

SEWER
GOODLETTSVILLE UTILITY
PHONE: 833-264-1116

ELECTRIC
CUMBERLAND ELECTRIC MEMBERSHIP CORPORATION
PHONE: 800-987-2362

GAS
PIEDMONT NATURAL GAS
PHONE: 800-752-7504

TELEPHONE
AT&T
PHONE: 800-288-2020

CABLE
COMCAST
PHONE: 800-934-6489

FEMA FLOODPLAIN NOTE:

THE PROPERTY SHOWN HEREON IS LOCATED IN ZONE X, AREA OF MINIMAL FLOOD HAZARD, ACCORDING TO F.I.R.M. "SUMNER COUNTY, TENNESSEE" PANEL 377 OF 477, MAP NUMBER 47165C0377H. EFFECTIVE DATE FEBRUARY 26, 2021.

NOTES TO CONTRACTOR:

1. THE CONTRACTOR SHALL REFER TO ALL PLANS WITHIN THIS PLAN SET AND THE WRITTEN PROJECT SPECIFICATIONS. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THIS PROJECT.

2. SURVEY AND TOPOGRAPHIC INFORMATION SHOWN WAS TAKEN FROM AS-BUILT SURVEY FOR QUICKTRIP #7144 PREPARED BY SURVEY MATTERS, DATED 04/21/2022. BOUNDARY INFORMATION WAS TAKEN FROM FINAL PLAT OF ALLRIDES SUBDIVISION HIGHWAY 31-W, PREPARED BY ANTHONY T. BOLLINGER, R.L.S. DATED 12/26/25 (R.O.S.C.T. PB38, PG67). M2 GROUP, LLC. TAKES NO RESPONSIBILITY FOR THE CORRECTNESS, ACCURACY, OR COMPLETENESS OF THIS SURVEY INFORMATION.

Know what's below.
Call before you dig.

REVISION #	DATE	DESCRIPTION
1	06/24/2026	CITY COMMENTS

RICHARD V SPECKMAN
REGISTERED ENGINEER
STATE OF TENNESSEE
06-24-2026

SITE PLAN FOR:
ALLRIDES TOUCHLESS WASH
956 LOUISVILLE HIGHWAY
CITY OF GOODLETTSVILLE
SUMNER COUNTY, TENNESSEE 37072

M2 GROUP
P.O. BOX 2543
BRENTWOOD, TN 37024-2543
615-656-0257 | M2GROUPLLC.COM

COVER SHEET

DATE :	PROJECT NO. :	DRAWN BY :	CHECKED BY :
JUNE 24, 2026	25-332	JPN/RLE	BS/RVS

C000

GENERAL NOTES:

1. EXISTING CONDITIONS AS DEPICTED ON THESE PLANS ARE GENERAL AND ILLUSTRATIVE IN NATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXAMINE THE SITE AND BE FAMILIAR WITH EXISTING CONDITIONS PRIOR TO BIDDING ON THIS PROJECT. IF CONDITIONS ENCOUNTERED DURING EXAMINATION ARE SIGNIFICANTLY DIFFERENT THAN THOSE SHOWN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.

2. THE CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR COMPLYING WITH APPLICABLE FEDERAL, STATE, AND LOCAL REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTORS TO INITIATE, MAINTAIN, AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH THE WORK.

3. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL CODES, OBTAIN ALL PERMITS, AND PAY ALL FEES REQUIRED FOR THE EXECUTION OF THE WORK.

4. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES, INCLUDING IRRIGATION LINES, TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN, AND REPAIR CONTRACTOR CAUSED DAMAGE ACCORDING TO CURRENT LOCAL STANDARDS AND AT THE CONTRACTOR'S EXPENSE. COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY. RELOCATE IRRIGATION LINES AS NECESSARY FOR CONSTRUCTION.

5. CONTRACTOR SHALL PROVIDE PROTECTION TO ALL PAVEMENT, FENCES, TREES, AND STRUCTURES THAT ARE TO REMAIN. CONTRACTOR-CAUSED DAMAGE SHALL BE REPAIRED TO MATCH EXISTING CONDITIONS AT NO ADDITIONAL COST TO THE OWNER.

6. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A CONSTRUCTION SCHEDULE FOR VARIOUS SITEWORK ELEMENTS SO THAT PERIODIC SITE VISITS MAY BE COORDINATED TO ALLOW FOR TIMELY INSPECTION CERTIFICATION OF CONSTRUCTION AND REPORTS TO AGENCIES, AND TO AVOID DELAYS IN ISSUANCE OF CERTIFICATE OF OCCUPANCY.

7. THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER'S REPRESENTATIVE FOR ANY AND ALL INJURIES AND/OR DAMAGES TO PERSONNEL, EQUIPMENT AND/OR EXISTING FACILITIES OCCURRING IN THE COURSE OF THE DEMOLITION AND CONSTRUCTION DESCRIBED IN THE PLANS AND SPECIFICATIONS.

8. ALL WORK PERFORMED BY THE CONTRACTOR SHALL CONFORM TO THE LATEST REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT.

9. ANY WORK PERFORMED IN THE LOCAL RIGHT OF WAYS SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL REQUIREMENTS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE NECESSARY PERMITS FOR THE WORK, SCHEDULE NECESSARY INSPECTIONS, AND PROVIDE THE NECESSARY TRAFFIC CONTROL MEASURES AND DEVICES, ETC., FOR WORK PERFORMED IN THE RIGHT OF WAYS.

10. ALL GROUND SURFACE AREA THAT HAVE BEEN EXPOSED OR LEFT BARE AS A RESULT OF CONSTRUCTION AND ARE TO FINAL GRADE AND ARE TO REMAIN SO, SHALL BE SEEDED AND MULCHED AS SOON AS PRACTICAL IN ACCORDANCE WITH SPECIFICATIONS.

11. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THE PROJECT.

12. BEFORE INSTALLATION OF STORM OR SANITARY SEWER, OR OTHER UTILITY THE CONTRACTOR SHALL VERIFY ALL CROSSINGS, BY EXCAVATION WHERE NECESSARY, REPAIR CONTRACTOR-CAUSED DAMAGE ACCORDING TO LOCAL STANDARDS AT CONTRACTOR'S EXPENSE, AND INFORM THE OWNER AND THE ENGINEER OF ANY CONFLICTS. THE ENGINEER WILL BE HELD HARMLESS IN THE EVENT THEY ARE NOT NOTIFIED OF DESIGN CONFLICTS PRIOR TO CONSTRUCTION.

13. WHERE CURB IS PRESENT, DIMENSIONS ARE SHOWN TO THE FACE OF CURB, OTHERWISE DIMENSIONS ARE SHOWN TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

14. SITE SIGNAGE AND STRIPING BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.).

15. ALL TRENCHING, PIPE LAYING AND BACKFILLING SHALL BE IN ACCORDANCE WITH ALL FEDERAL OSHA REGULATIONS. CONTRACTOR TO PAY PARTICULAR ATTENTION TO 29 CFR PART 1926, SUBPARTS M AND P.

DEMOLITION AND PROTECTION NOTES:

1. DEMOLITION AND REMOVAL OPERATIONS SHALL COMMENCE ONLY AFTER ALL INITIAL EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE AND FUNCTIONAL.

2. THE CONTRACTOR SHALL DEVELOP AND IMPLEMENT A WASTE MANAGEMENT PLAN PRIOR TO THE COMMENCEMENT OF WORK. AT A MINIMUM THE PLAN SHALL INCLUDE:

   2.1. THE PROPER PROCEDURES FOR DISPOSAL OR RECLAIMING FOR REUSE / RECYCLING.

   2.2. DESIGNATED AREAS FOR WASTE MANAGEMENT CONTAINERS. CONTAINERS SHALL BE PROPERLY MARKED FOR ALLOWABLE AND PROHIBITED ITEMS AND MATERIALS.

   2.3. DESIGNATED CHEMICAL STORAGE AREAS, APPROPRIATE CHEMICAL STORAGE CONTAINERS, AND PROCEDURES FOR SPILL CONTROL. CHEMICALS SHALL NOT BE PERMITTED TO INFILTRATE TO GROUNDWATER OR BE PUMPED UNTREATED FROM PIT DEWATERING FACILITIES.

   2.4. A CONCRETE WASHOUT AREAS LOCATED AWAY FROM DESIGNATED CONSTRUCTION EXIT.

3. PROVIDE NEAT AND STRAIGHT SAWCUTS OF EXISTING PAVEMENT ALONG ALL LIMITS OF PAVEMENT DEMOLITION.

4. CLEARING LIMITS SHALL BE PHYSICALLY MARKED IN THE FIELD BY THE CONTRACTOR.

5. ALL DEMOLISHED MATERIALS BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED. DISPOSE OF OFF THE OWNER'S PROPERTY IN A LEGAL MANNER. PROLONGED STORAGE OR THE SALE OF DEMOLISHED ITEMS OR MATERIALS ON-SITE IS NOT PERMITTED WITHOUT PRIOR NOTIFICATION AND CONSENT OF OWNER.

6. ALL PAVEMENT, BASE COURSE, SIDEWALKS, CURBS, BUILDINGS, FOUNDATIONS, ETC., IN THE AREA TO BE REMOVED SHALL BE REMOVED FULL DEPTH. EXISTING BASE COURSE MATERIALS MAY BE WORKED INTO THE NEW PAVEMENT OR BUILDING SUBGRADE PROVIDED THAT THE GRADATION, CONSISTENCY, COMPACTION, SUBGRADE CONDITION, ETC., ARE IN ACCORDANCE WITH THE SPECIFICATIONS. BASE COURSE MATERIALS SHALL NOT BE WORKED INTO THE SUBGRADE OF AREAS TO RECEIVE PLANTING.

7. THE CONTRACTOR SHALL USE WATER SPRINKLING AND OTHER SUITABLE METHODS AS NECESSARY TO CONTROL DUST AND DIRT CAUSED BY THE DEMOLITION WORK.

8. ALL EXISTING FEATURES REMAINING AND NOT SPECIFICALLY MENTIONED THAT INTERFERE WITH THE NEW CONSTRUCTION SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER. BEFORE PROCEEDING WITH DEMOLITION WORK, NOTIFY THE ENGINEER OF DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THE DRAWINGS.

9. HAZARDOUS MATERIALS ARE NOT ANTICIPATED TO BE ENCOUNTERED. IF SUSPECTED HAZARDOUS MATERIALS ARE DISCOVERED, IMMEDIATELY NOTIFY THE OWNER.

10. CAVITIES LEFT BY STRUCTURE REMOVAL SHALL BE BACKFILLED WITH SATISFACTORY MATERIAL AND COMPACTED TO 98% OF MAXIMUM DENSITY PER ASTM D698 - STANDARD PROCTOR.

11. PAVEMENT MARKINGS TO BE REMOVED SHALL BE PAINTED OVER TO MATCH PAVEMENT OR REMOVED WITH WIRE BRUSHING.

12. EXCEPT AS SHOWN, NO TREES SHALL BE REMOVED AND/OR VEGETATION DISTURBED WITHOUT APPROVAL OF THE ENGINEER AND/OR THE OWNER'S REPRESENTATIVE.

13. ALL UTILITY DISCONNECTION, REMOVAL, RELOCATION, CUTTING, CAPPING AND/OR ABANDONMENT SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY/AGENCY. UTILITY CONTACTS ARE LISTED ON THE COVER SHEET.

14. THE BURNING OF CLEARED MATERIAL AND DEBRIS SHALL NOT BE ALLOWED UNLESS CONTRACTOR OBTAINS PRIOR WRITTEN AUTHORIZATION FROM THE LOCAL AUTHORITIES.

15. CONTRACTOR SHALL PROTECT ALL CORNER PINS, MONUMENTS, PROPERTY CORNERS AND BENCHMARKS DURING DEMOLITION ACTIVITIES. IF DISTURBED, CONTRACTOR SHALL HAVE DISTURBED ITEMS RESET BY A LICENSED SURVEYOR AT NO ADDITIONAL COST TO THE OWNER.

LAYOUT AND PAVING NOTES:

1. THE CONTRACTOR SHALL CHECK EXISTING GRADES, DIMENSIONS, AND INVERTS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO BEGINNING WORK.

2. PROVIDE A SMOOTH AND FLUSH TRANSITION BETWEEN EXISTING TO REMAIN AND NEW PAVEMENT, SIDEWALKS, AND CURBS . FIELD ADJUSTMENT OF FINAL GRADES MAY BE NECESSARY. INSTALL ALL UTILITIES PRIOR TO INSTALLATION OF PAVEMENT.

3. CONCRETE WALKS AND PADS SHALL HAVE A BROOM FINISH CONSTRUCTED PERPENDICULAR TO THE TRAVEL PATH. ALL CONCRETE SHALL BE 4,000 P.S.I. UNLESS OTHERWISE NOTED. CURB RAMPS, SIDEWALK SLOPES, AND DRIVEWAY RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALL CURRENT LOCAL REQUIREMENTS. IF APPLICABLE, THE CONTRACTOR SHALL REQUEST INSPECTION OF SIDEWALK AND RAMP FORMS FROM THE AUTHORITY HAVING JURISDICTION PRIOR TO PLACEMENT OF CONCRETE.

4. DIMENSIONS ARE TO THE FACE OF CURB, EDGE OF CONCRETE, OR TO THE FACE OF BUILDING, UNLESS OTHERWISE NOTED.

5. PARKING STRIPES SHALL BE 4-INCH WHITE PAVEMENT PAINT, UNLESS OTHERWISE NOTED. LANE STRIPES SHALL BE 4 INCH PAVEMENT PAINT, COLOR AS INDICATED ON PLAN. STOP BARS AND CROSSWALK MARKINGS SHALL BE 24-INCH WHITE PAVEMENT PAINT.

6. CONCRETE CONTRACTION JOINTS SHALL BE CONSTRUCTED TO A DEPTH OF AT LEAST 1/4 THE CONCRETE THICKNESS AND SHALL DIVIDE CONCRETE ROUGHLY INTO SQUARES WITH MAXIMUM 10-FOOT DIMENSIONS. CONCRETE EXPANSION JOINTS SHALL BE INSTALLED AT MAXIMUM 60-FOOT SPACING AND AT ALL ABUTTING RIGID OBJECTS.

7. MAINTAIN ONE SET OF RECORD DRAWINGS MARKUPS ON THE JOB SITE FOR DISTRIBUTION TO THE ENGINEER UPON COMPLETION.

8. ALL DAMAGE TO EXISTING PAVEMENT TO REMAIN, WHICH RESULTS FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED WITH LIKE MATERIALS AT THE CONTRACTOR'S EXPENSE.

9. THE CONTRACTOR SHALL PROVIDE AN AS-BUILT SURVEY CONSISTING OF THE FOLLOWING:

   9.1. THE SURVEY SHALL BE PREPARED, SIGNED AND SEALED BY A SURVEYOR REGISTERED IN THE STATE IN WHICH THIS PROJECT RESIDES AND SUBMITTED TO THE ENGINEER IN ELECTRONIC FORMAT PRIOR TO COMPLETION OF THE PROJECT. THE SURVEY SHALL BE PREPARED USING THE SAME HORIZONTAL AND VERTICAL DATUM AS THE ORIGINAL SURVEY.

   9.2. SHOWING ALL BUILDINGS, CURB LINES, EDGES OF PAVEMENT, SIDEWALKS, AND PARKING STRIPING.

   9.3. LOCATING ALL UNDERGROUND UTILITIES WITHIN THE LIMITS OF THE PROJECT INCLUDING: GREASE TRAP, OIL/WATER SEPARATOR, DRAINAGE AND SANITARY STRUCTURES, WATER VALVES, METERS, PIV'S, AND HYDRANTS.

   9.4. INCLUDING ALL ACCESSIBLE PATHS, PEDESTRIAN RAMPS AND LANDINGS, AND ACCESSIBLE PARKING AREAS INCLUDING AISLES AND DROP-OFF/PICK-UP AREAS. DIMENSION FULL LENGTH AND WIDTH OF ALL PEDESTRIAN RAMPS AND LANDINGS. SHOW ELEVATIONS AND SLOPES, INCLUDING LONGITUDINAL AND CROSS SLOPES FOR ALL ACCESSIBLE AREAS.

GRADING AND DRAINAGE NOTES:

1. NOTIFY LOCAL UTILITY LOCATOR SERVICE (CALL 811 OR SUBMIT ON-LINE) OF INTENDED DEMOLITION / GRADING / EXCAVATION / UTILITY TRENCHING CONSTRUCTION.

2. CONTRACTOR SHALL INSTALL TEMPORARY EROSION CONTROL MEASURES PRIOR TO BEGINNING GRADING OPERATIONS.

3. NO TREES SHALL BE REMOVED NOR VEGETATION DISTURBED EXCEPT AS NECESSARY FOR GRADING PURPOSES. ALL TREES, INCLUDING YOUNG SAPLINGS, PINES, AND UNDERSTORY SPECIES SHALL BE PROTECTED IF THEY FALL OUTSIDE THE PROPOSED LIMITS OF GRADING, EVEN IF THEY ARE NOT LOCATED OR IDENTIFIED ON THE PLANS. DO NOT OPERATE OR STORE HEAVY EQUIPMENT, NOR HANDLE/STORE MATERIALS WITHIN THE DRIPLINES OF TREES TO BE PROTECTED.

4. TREE PROTECTION SHALL CONSIST OF THE FOLLOWING STEPS:

   4.1. CONTRACTOR SHALL HIRE A LICENSED LANDSCAPE CONTRACTOR TO OVERSEE TREE PROTECTION.

   4.2. PRIOR TO ANY GRADING OPERATIONS, LOCATE TREES TO BE PROTECTED AND NEATLY CUT ROOTS TO A DEPTH OF 30-INCHES AT THE DRIP LINE OR THE DIMENSIONED LIMITS SHOWN USING A UTILITY TRENCHING MACHINE.

   4.3. TREAT EXPOSED ROOTS WITH A HORTICULTURAL TREE PRUNING PROTECTION PRODUCT.

   4.4. PRUNE TREE LIMBS BY THE SAME PROPORTIONAL PERCENTAGE AS TREE ROOTS REMOVED (I.E., 25% OF ROOTS REMOVED SHALL RESULT IN 25% OF TREE LIMBS REMOVED).

   4.5. INSTALL A MINIMUM 4-FOOT HIGH CONSTRUCTION FENCE TO THE LIMITS SHOWN.

   4.6. BEGIN CLEARING AND GRADING OPERATIONS.

5. SURVEY AND TOPOGRAPHIC INFORMATION SHOWN WAS TAKEN FROM AS-BUILT SURVEY FOR QUICKTRIP #7144 PREPARED BY SURVEY MATTERS, DATED 04/21/2022. BOUNDARY INFORMATION WAS TAKEN FROM FINAL PLAT OF ALLRIDES SUBDIVISION HIGHWAY 31-W, PREPARED BY ANTHONY T. BOLLINGER, R.L.S., DATED 12/26/2025 (R.O.S.C.T. PB38, PG67). M2 GROUP, LLC. TAKES NO RESPONSIBILITY FOR THE CORRECTNESS, ACCURACY, OR COMPLETENESS OF THIS SURVEY INFORMATION.

6. THE CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS AND INVERTS PRIOR TO BEGINNING WORK. INSTALL STORM SEWERS BEGINNING AT THE DISCHARGE TIE POINT ELEVATION AND THEN PROCEEDING UPSTREAM.

7. TOPSOIL SHALL BE STRIPPED FROM ALL CUT AND FILL AREAS, STOCKPILED AND REDISTRIBUTED OVER GRADED AREAS TO A MINIMUM DEPTH OF 6-INCHES. CONSTRUCT TEMPORARY STOCKPILES FREE DRAINING AND PROVIDE EROSION AND SEDIMENT CONTROLS AROUND AREA.

8. SATISFACTORY TOPSOIL IS DEFINED AS MATERIAL FREE OF SUBSOIL, CLAY LUMPS, STONES, OBJECTS OVER 1-INCH IN DIAMETER, OR CONTAMINANTS.

9. TOP OF GRATE ELEVATIONS FOR CURB INLETS ARE GIVEN TO THE CENTER OF THE INLETS AT THE FACE OF CURB. THE GRATES SHALL SLOPE LONGITUDINALLY WITH THE PAVEMENT GRADE. ADJUST THE CASTING HOOD TO FALL ALONG THE CURB LINE.

10. IN THE EVENT OF ANY DISCREPANCIES FOUND IN THE DRAWINGS OR IF PROBLEMS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK.

11. SPOT ELEVATIONS AND CONTOURS REPRESENT PROPOSED FINISHED GRADE AND TOP OF FINISHED PAVEMENT.

12. CONTOUR LINES AND SPOT ELEVATIONS ARE THE RESULT OF A DETAILED ENGINEERING GRADING DESIGN AND REFLECT A PLANNED INTENT WITH REGARD TO DRAINAGE. THE CONTRACTOR IS RESPONSIBLE FOR GRADING ALL AREAS TO POSITIVELY DRAIN. SHOULD THE CONTRACTOR HAVE ANY QUESTION OF THIS INTENT OR ANY PROBLEMS WITH CONTINUITY OF GRADES, THE ENGINEER SHALL BE CONTACTED PRIOR TO BEGINNING WORK.

13. ALL PERMANENT CUT AND FILL SLOPES SHALL BE NO STEEPER THAN 3 HORIZONTAL:1 VERTICAL. TEMPORARY CUT SLOPES SHALL BE NO STEEPER THAN 2 HORIZONTAL:1 VERTICAL UNLESS TEMPORARY SHORING IS PROVIDED, OR UNLESS AUTHORIZED BY A LICENSED GEOTECHNICAL ENGINEER.

14. CONTRACTOR SHALL DISPOSE OF EXCESS MATERIAL OFF THE OWNER'S PROPERTY IN A LEGAL MANNER AT NO ADDITIONAL COST.

15. EXISTING MANHOLE, VALVE AND CATCH BASIN CASTINGS TO REMAIN SHALL BE RESET TO MATCH NEW GRADE. BUILDING ADDITION FINISH FLOOR ELEVATIONS SHALL MATCH EXISTING.

16. ALL CURBS, PAVEMENT AND SIDEWALKS SHALL BE BACKFILLED FLUSH WITH TOPSOIL, SEEDED AND MULCHED.

17. ALL PIPES UNDER PAVED AREAS SHALL BE BACKFILLED WITH CRUSHED STONE. ALL PIPES UNDER LAWN AREAS SHALL BE BACKFILLED WITH SATISFACTORY MATERIAL COMPACTED TO 98% OF MAXIMUM PER ASTM D698 - STANDARD PROCTOR.

18. ALL HEADWALLS SHALL HAVE A MINIMUM 10' x 20' x 1.5' RIP-RAP APRON INSTALLED USING 8" MINIMUM DIAMETER STONE, UNLESS OTHERWISE SPECIFIED.

19. FINAL FINISH GRADE TOLERANCES SHALL BE MAXIMUM 0.10 FOOT ABOVE OR BELOW DESIGN ELEVATIONS WITHIN PAVED AREAS, AND MAXIMUM 0.25 FOOT ABOVE OR BELOW DESIGN FINISH ELEVATIONS IN OTHER AREAS. NO TOLERANCE IS ALLOWED WHEN MAXIMUM OR MINIMUM SLOPES ARE SPECIFIED.

20. ADA PARKING AND LOADING AREAS SHALL NOT EXCEED 2.0% IN ANY DIRECTION. ADA ACCESS ROUTES SHALL NOT EXCEED 2.0% CROSS SLOPE AND 5.0% LONGITUDINAL SLOPE, EXCEPT WHERE ADA RAMPS ARE SPECIFIED. ADA RAMPS SHALL NOT EXCEED 2.0% CROSS SLOPE AND 8.33% LONGITUDINAL SLOPE.

21. EARTHWORK FILL SHALL INCLUDE STRIPPING TOPSOIL AND PLACING ENGINEERED FILL IN MAXIMUM 8" COMPACTED LIFTS WITH DENSITY OF 98% OF MAXIMUM PER ASTM D698 - STANDARD PROCTOR.

22. PROVIDE AN AS-BUILT SURVEY BY A LICENSED SURVEYOR TO INCLUDE ALL STORMWATER MANAGEMENT FEATURES, UNDERGROUND BASINS, PONDS, BIOSWALES, RAIN GARDENS, WATER QUALITY UNITS, AND OUTLET STRUCTURES.

23. ALL STORM DRAINAGE PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED. PIPE LENGTHS SHOWN ARE APPROXIMATE TWO-DIMENSIONAL LENGTHS FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.

24. IF BLASTING IS REQUIRED, CONTRACTOR SHALL COMPLY WITH APPLICABLE REQUIREMENTS IN NFPA 495, "EXPLOSIVE MATERIALS CODE," AND PREPARE A BLASTING PLAN CONTAINING THE FOLLOWING:

   24.1. TYPES OF EXPLOSIVES AND SIZES OF CHARGE TO BE USED IN EACH AREA OF ROCK REMOVAL, TYPES OF BLASTING MATS, SEQUENCE OF BLASTING OPERATIONS, AND PROCEDURES THAT WILL PREVENT DAMAGE TO SITE IMPROVEMENTS AND STRUCTURES ON THE PROJECT SITE AND ADJACENT PROPERTIES.

   24.2. SEISMOGRAPHIC MONITORING DURING BLASTING OPERATIONS.

   24.3. A BLASTING PLAN KEPT AT THE CONSTRUCTION SITE, ALONG WITH OTHER BLASTING RECORDS REQUIRED. RECORDS SHALL BE AVAILABLE FOR REVIEW BY THE OWNER UPON REQUEST. OBTAIN PERMITS FROM AUTHORITIES HAVING JURISDICTION BEFORE BRINGING EXPLOSIVES TO THE PROJECT SITE. PERFORM BLASTING WITHOUT WEAKENING THE BEARING CAPACITY OF ROCK SUBGRADE AND WITH THE LEAST-PRACTICAL DISTURBANCE OF ROCK TO REMAIN.

   24.4. ENGAGEMENT OF A QUALIFIED, INDEPENDENT AGENCY TO PERFORM A PRE-BLAST AND POST-BLAST SURVEY OF ALL STRUCTURES SUBJECT TO BLAST VIBRATIONS. CONTRACTOR SHALL COORDINATE ALL BLASTING ACTIVITIES WITH THIS AGENT, INCLUDING BLASTING PLANS, SCHEDULES, ETC. CONTRACTOR MAY, AT HIS EXPENSE, HIRE A VIBRATION CONSULTANT TO REVIEW THE BLASTING PLAN AND MAKE RECOMMENDATIONS. REVIEW OF THE BLASTING DESIGN, SURVEY, MONITORING, AND TECHNIQUES BY THE ENGINEER OR VIBRATION CONSULTANT SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR ACCURACY, ADEQUACY, AND SAFETY OF THE BLASTING. NOTHING CONTAINED HEREIN SHALL RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR CLAIMS ARISING FROM HIS CONSTRUCTION OPERATIONS. IN THE EVENT THAT A PROPERTY OWNER DENIES ACCESS FOR THE PRE-CONSTRUCTION SURVEY OF STRUCTURES AND FACILITIES; THE CONTRACTOR SHALL NOTIFY SUCH PROPERTY OWNER BY CERTIFIED MAIL STATING THAT THIS IS FINAL NOTIFICATION. A COPY OF THE BLASTING RECORDS SHALL BE SUBMITTED TO THE ENGINEER.

   24.5. AT LEAST 24 HOURS IN ADVANCE, THE CONTRACTOR SHALL NOTIFY ADJACENT RESIDENCES AND BUSINESSES SUBJECT TO BLASTING VIBRATIONS OF THE INTENT TO BLAST. CONTRACTOR SHALL DISCLOSE THE ANTICIPATED TIME OF DAY AND SCHEDULE FOR BLASTING. SUBMIT NOTICE OF BLASTING COMPLAINTS TO OWNER WITHIN 24 HOURS OF RECEIPT THEREOF. THE NOTICE SHALL IDENTIFY THE ORIGIN OF COMPLAINT AND SHALL CONTAIN A BRIEF DESCRIPTION OF ALLEGED DAMAGES OR OTHER CIRCUMSTANCES UPON WHICH THE COMPLAINT IS PREDICATED. CONTRACTOR SHALL ASSIGN EACH COMPLAINT A SEPARATE NUMBER, IN ASCENDING ORDER, AND SHOW IN EACH NOTICE ALL PREVIOUS COMPLAINT NUMBERS REGISTERED BY THE SAME COMPLAINANT.

SITE UTILITIES NOTES:

1. WATER AND SEWER CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE LOCAL CODES AND SPECIFICATIONS.

2. THE CONTRACTOR IS PARTICULARLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF THE EXISTING UTILITIES SHOWN IS BASED ON LIMITED TOPOGRAPHIC SURVEYS AND RECORD DRAWINGS. THE CONTRACTOR SHALL NOT RELY ON THIS INFORMATION AS BEING EXACT OR COMPLETE. SHOULD UNCHARTED UTILITIES BE ENCOUNTERED DURING EXCAVATION OPERATIONS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER AS SOON AS POSSIBLE FOR INSTRUCTIONS.

3. MAINTAIN 10-FOOT HORIZONTAL AND 18-INCH VERTICAL SEPARATION BETWEEN SANITARY SEWER AND WATER SUPPLY LINES.

4. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE SEQUENCING OF CONSTRUCTION FOR ALL UTILITY LINES SO THAT WATER LINES, GAS LINES, AND UNDERGROUND ELECTRIC DO NOT CONFLICT WITH SANITARY SEWERS OR STORM SEWERS. INSTALL UTILITIES PRIOR TO FINAL PAVEMENT SURFACE CONSTRUCTION.

5. BACKFILL UTILITY TRENCHES UNDER PAVEMENT AREAS WITH CRUSHED STONE. BACKFILL UTILITY TRENCHES IN LAWN AREAS WITH SATISFACTORY FILL MATERIAL COMPACTED TO AT LEAST 98% OF MAXIMUM PER ASTM D698 - STANDARD PROCTOR.

6. ADJUST ALL NEW AND EXISTING-TO-REMAIN UTILITY SURFACE FEATURES, INCLUDING BUT NOT LIMITED TO CASTINGS, FIRE HYDRANTS, VALVE BOXES, PEDESTALS, CLEANOUTS, ETC. TO MATCH PROPOSED FINISH GRADE.

7. THRUST BLOCK ALL WATERLINE FITTINGS WITH CONCRETE (2,500 P.S.I. MIN.) POURED AGAINST UNDISTURBED EARTH TO SUSTAIN 120 PERCENT TEST PRESSURE SPECIFIED. FORM THRUST BLOCKING SO AS TO NOT EMBED JOINTS, BOLTS, VALVE BOXES OR OPERATING NUTS.

8. PROVIDE COMBINATION AIR/VACUUM VALVE AT HIGH POINTS IN WATERLINE AS NECESSARY FOR EXPELLING AIR DURING FILLING OF WATERLINE. PROVIDE BRONZE CORPORATION STOP FOR CLOSING VALVE DURING TESTING AND SERVICE. LEAVE COMBINATION AIR/VACUUM VALVE COMPONENTS PLUGGED AND ATTACHED TO PIPE AFTER SUCCESSFUL TEST.

9. CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS AND INVERTS PRIOR TO BEGINNING WORK. INSTALL GRAVITY SEWER BEGINNING AT THE TIE POINT ELEVATION AND THEN PROCEEDING UPSTREAM.

10. ALL MANHOLES SHALL HAVE MINIMUM CLEAR OPENING OF 24". ADJUST CASTINGS TO SLOPE LONGITUDINALLY WITH ROAD GRADES AS REQUIRED.

11. CONTRACTOR SHALL MAINTAIN A MARKED-UP SET OF AS-BUILT PLANS SHOWING ALL NEW UTILITIES AND EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION. DRAWINGS SHALL INCLUDE VERTICAL AND HORIZONTAL INFORMATION EITHER BY FIELD SURVEY ON THE APPROPRIATE STATE PLANE COORDINATE SYSTEM, OR BY FIELD MEASUREMENTS INCLUDING AT LEAST TWO DIMENSIONS FROM KNOWN SITE FEATURES/MONUMENTS TO EACH MANHOLE, CATCH BASIN, AND PIPING APPURTENANCES.

12. ALL SANITARY SEWER PIPE SHALL BE SDR 35 PVC UNLESS NOTED OTHERWISE.

13. ALL WATER MAINS SHALL BE AWWA C151, PRESSURE CLASS 350 DIP UNLESS NOTED OTHERWISE.

14. ALL FIRE HYDRANT ASSEMBLIES SHALL BE INSTALLED BETWEEN 3' AND 7' FROM PAVED SURFACE.

15. ALL FIRE HYDRANTS SHALL MEET CURRENT AWWA STANDARD C502.

16. NON-METALLIC PIPE SHALL BE INSTALLED WITH DETECTION TAPE OR OTHER ACCEPTABLE MEANS OF DETECTION.

EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) NOTES:

1. REFER TO STORMWATER POLLUTION PREVENTION PLAN (SWPPP) BOUND NARRATIVE FOR ADDITIONAL REQUIREMENTS.

2. CONSTRUCT TEMPORARY EPSC MEASURES AS SHOWN ON THE DRAWINGS PRIOR TO BEGINNING GRADING OPERATIONS.

3. ALL DRAINAGE STRUCTURES, PIPES WITHIN THE LIMITS OF CONSTRUCTION AND IMMEDIATELY DOWNSTREAM OF THE SITE, AND STORMWATER FACILITIES SHALL HAVE SEDIMENT REMOVED PRIOR TO FINAL ACCEPTANCE.

4. SILT BARRIERS AND SEDIMENT BASINS SHALL BE CLEANED OF ACCUMULATED SEDIMENT WHEN APPROXIMATELY 50% FILLED.

5. ALL GRADED AREAS NOT RECEIVING STONE OR PAVEMENT STABILIZATION SHALL RECEIVE TEMPORARY SEEDING WITHIN 10 DAYS OF REACHING FINAL SUBGRADE ELEVATION.

6. ALL LOCATIONS OF TEMPORARY EPSC DEVICES SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER.

7. WHEN THE EPSC DEVICES ARE NO LONGER REQUIRED FOR THE INTENDED PURPOSE (IN THE OPINION OF THE ENGINEER), THEY SHALL BE REMOVED.

8. REPLACE DAMAGED AND WORN OUT SILT BARRIERS AS DIRECTED BY THE ENGINEER.

9. PROVIDE EROSION CONTROL MATTING (NORTH AMERICAN GREEN SC 150 OR EQUAL) TO SLOPES 3:1 OR STEEPER. EROSION CONTROL MATTING SHALL BE PHOTODEGRADABLE OR BIODEGRADABLE.

10. DEWATERING OF EXCAVATION AREA SHALL BE COMPLETED ONLY WITH PRE-APPROVED PUMPING AND FILTERING EQUIPMENT. PUMPING RATE SHALL NOT EXCEED 80% OF THE RECOMMENDED MAXIMUM RATE BY SEDIMENT TANK / FILTER BAG MANUFACTURER.

11. THE ENGINEER, WHOSE SEAL IS AFFIXED TO THIS DOCUMENT, CERTIFIES THAT THESE PLANS HAVE BEEN PREPARED BY UNDER HIS/HER DIRECT SUPERVISION. THIS PROJECT IS PLANNED TO DISTURB LESS THAN ONE ACRE, IT THEREFORE IS NOT REQUIRED TO BE COVERED UNDER THE STATE'S GENERAL NPDES PERMIT TO DISCHARGE STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY.

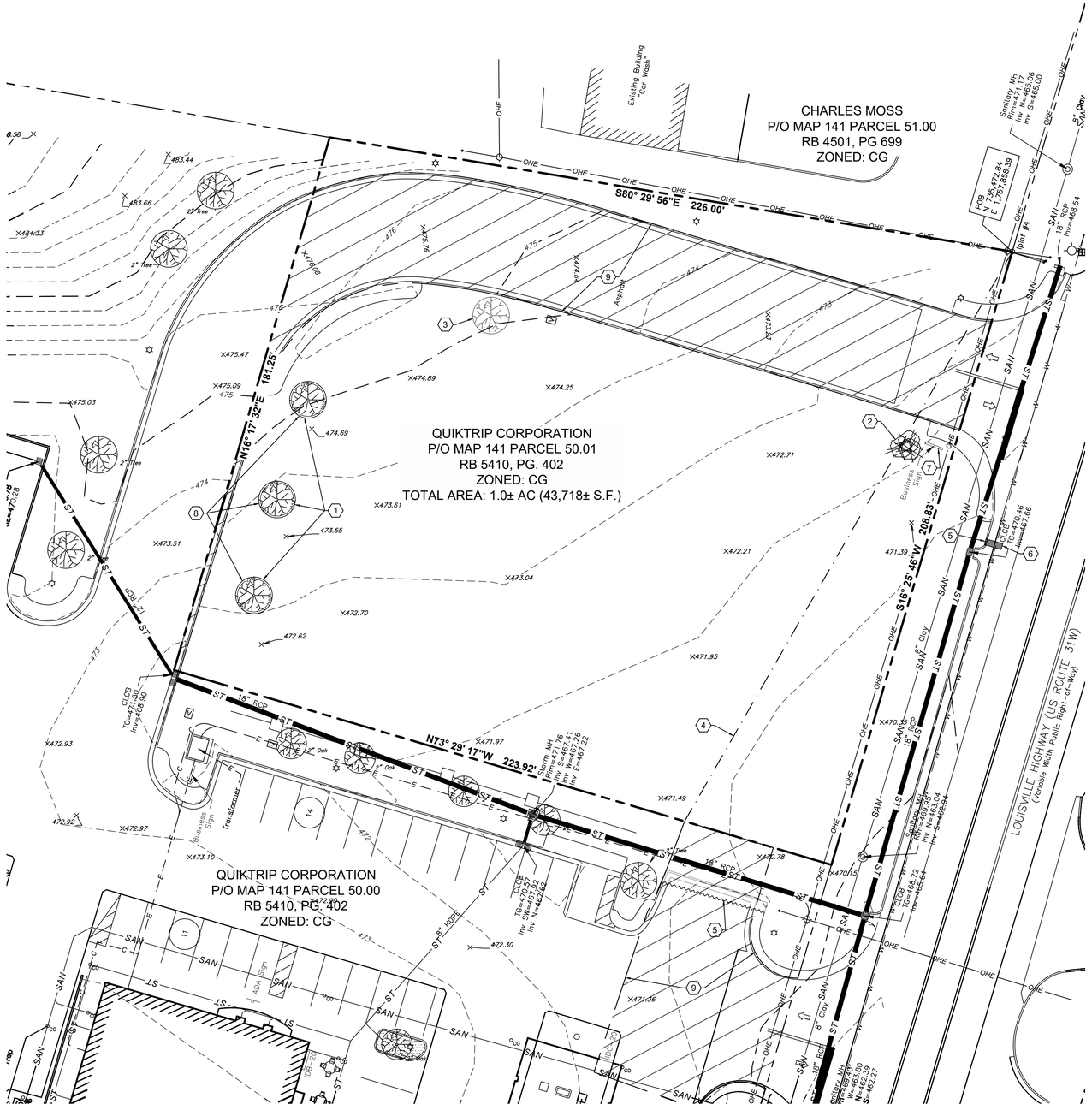
12. EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL A PERMANENT GROUND COVER IS ESTABLISHED. SEEDED AREAS MUST HAVE A MINIMUM 70% COVERAGE (ENGINEER WILL DETERMINE APPROXIMATE PERCENTAGE OF COVER) PRIOR TO REMOVAL OF THE TEMPORARY EROSION CONTROL DEVICES. FINAL SEEDING AND ESTABLISHMENT OF GROUNDCOVER SHALL BE APPLIED TO ANY AREA DISTURBED AS A RESULT OF THE REMOVAL OF THE EROSION CONTROL MEASURES.

CONSTRUCTION SEQUENCING

1. INSTALL CONSTRUCTION ENTRANCE
2. INSTALL EROSION PREVENTIONS AND SEDIMENT CONTROL MEASURES
3. CONTACT CITY OF GOODLETTSVILLE FOR INSPECTION OF EROSION PREVENTION AND SEDIMENT CONTROL DEVICES AND TO OBTAIN A FULL GRADING PERMIT.
4. CLEAR, GRUB, AND GRADE THE SITE
5. CONSTRUCT REMAINDER OF SITE PER APPROVED PLANS INCLUDING INSTALLATION OF ALL ADDITIONAL EPSC MEASURES SHOWN ON THE PLANS OR AS DIRECTED BY THE EPSC INSPECTOR
6. UPON PERMANENT STABILIZATION OF THE SITE, REMOVE ALL TEMPORARY EROSION CONTROL DEVICES

ABBREVIATIONS WITHIN PLAN SET:

TYP	TYPICAL
REF	REFERENCE
PUDE	PUBLIC UTILITY AND DRAINAGE EASEMENT
TDOT	TENNESSEE DEPARTMENT OF TRANSPORTATION
DIA	DIAMETER
GA



CODED NOTES

1. EXISTING TREE TO BE PROTECTED
2. EXISTING LANDSCAPE TO BE PROTECTED
3. EXISTING TREE TO BE REMOVED
4. VISIBILITY EASEMENT 8' HEIGHT RESTRICTION (PER PLAT)
5. SAW CUT EXISTING CURB/PAVEMENT TO A SMOOTH STRAIGHT LINE
6. OPEN CUT TO CONNECT TO WATER MAIN AND REPAIR CURB/PAVEMENT
7. EXISTING SIGNAGE TO BE PROTECTED
8. TREE PROTECTION FENCE TO BE INSTALLED
9. EXISTING INGRESS/EGRESS EASEMENT SHOWN PER RB 6800, PG2 79-103 R.O.S.C.T.

LEGEND

SYMBOL	NOTE
	OPEN CUT EXISTING ROAD
	EXISTING INGRESS/EGRESS EASEMENT (SEE NOTE #9)
	SAW CUT EXISTING CURB
	EXISTING TREE
	VISIBILITY EASEMENT
ST	EXISTING STORM PIPE
SAN	EXISTING SANITARY SEWER PIPE
	EXISTING STORM STRUCTURES
	EXISTING SANITARY SEWER MANHOLE
W	EXISTING WATER LINE
OHE	EXISTING OVERHEAD ELECTRIC
	SUBJECT PROPERTY LINE
	ADJOINING PROPERTY LINE
	BUILDING SETBACK LINE
475	EXISTING MAJOR CONTOUR
476	EXISTING MINOR CONTOUR
×475.02	EXISTING SPOT ELEVATION
	EXISTING LIGHT POLE

N
NW NE
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GRAPHIC SCALE

NOTE: SURVEY AND TOPOGRAPHIC INFORMATION SHOWN WAS TAKEN FROM AS-BUILT SURVEY FOR QUICKTRIP #7144 PREPARED BY SURVEY MATTERS, DATED 04/21/2022. BOUNDARY INFORMATION WAS TAKEN FROM FINAL PLAT OF ALLRIDES SUBDIVISION HIGHWAY 31-W, PREPARED BY ANTHONY T. BOLLINGER, R.L.S, DATED 12/26/25 (R.O.S.C.T. PB38, PG67). M2 GROUP, LLC. TAKES NO RESPONSIBILITY FOR THE CORRECTNESS, ACCURACY, OR COMPLETENESS OF THIS SURVEY INFORMATION.

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

REVISION #	DATE	DESCRIPTION
1	06/24/2026	CITY COMMENTS

RICHARD V SPECKMAN REGISTERED ENGINEER 121373 STATE OF TENNESSEE
06-24-2026

SITE PLAN FOR:
ALLRIDES TOUCHLESS WASH
958 LOUISVILLE HIGHWAY
(US ROUTE 31W) & PETWAY ST
SUMNER COUNTY, TENNESSEE 37072

M2 GROUP
P.O. BOX 2543
BRENTWOOD, TN 37024-2543
615.656.0287 / M2GROUPLLC.COM

EXISTING CONDITIONS & DEMOLITION PLAN

DATE: JUNE 24, 2026 | DRAWN BY: JPN/RLE
PROJECT NO.: 25-332 | CHECKED BY: BS/RVS

C100

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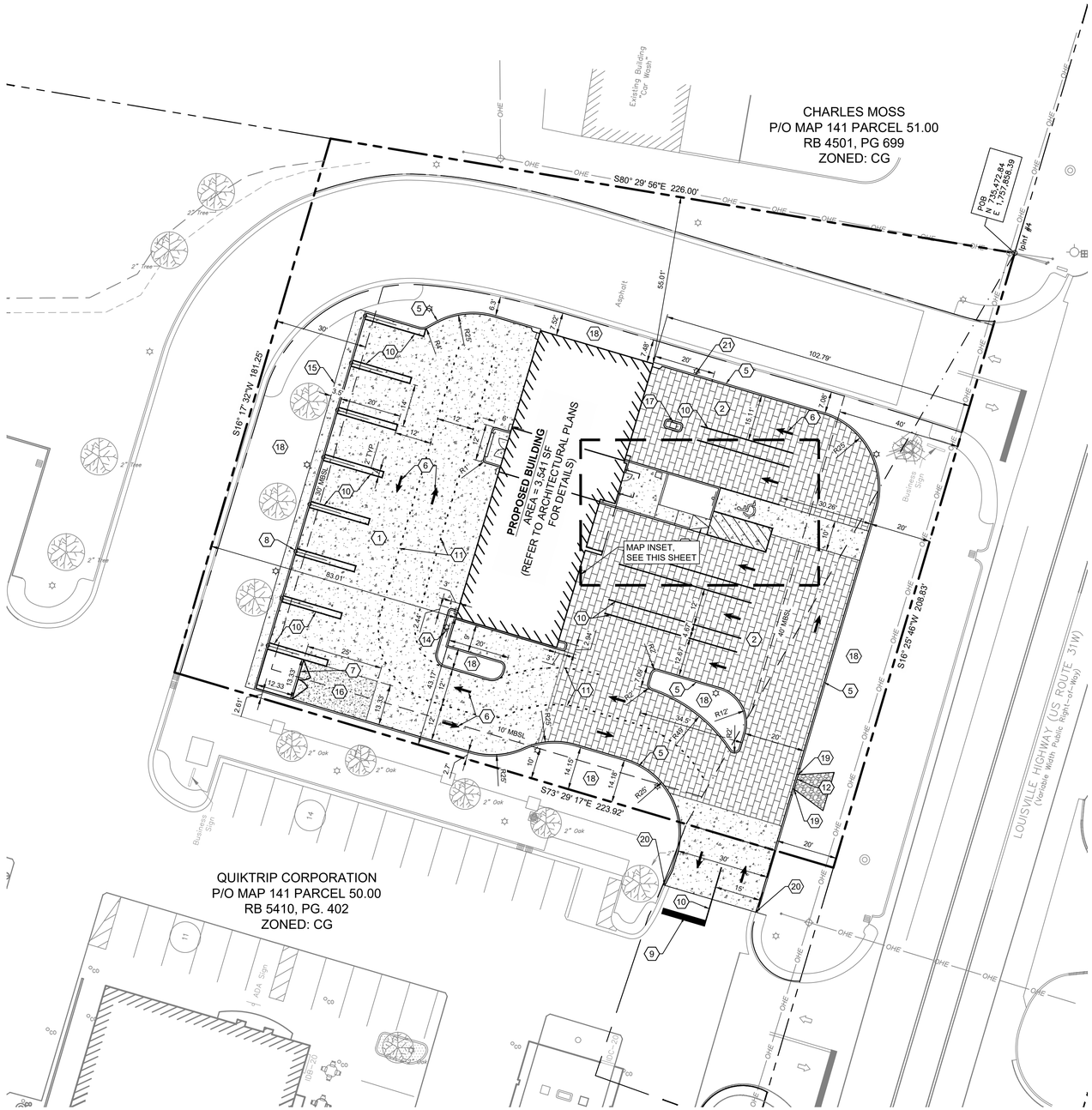
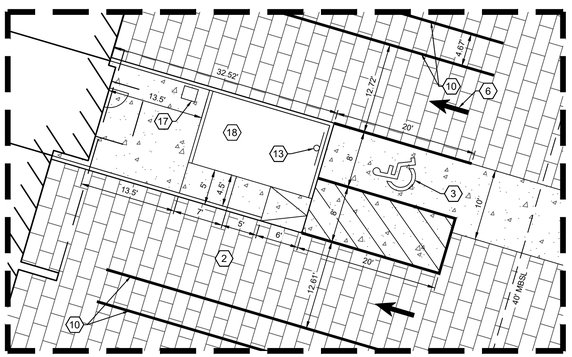
25-332 - EXISTING CONDITIONS & DEMOLITION PLAN.DWG | Tuesday, June 23, 2026 2:13:09 PM

CODED NOTES

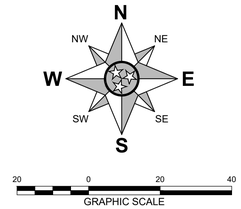
1. LIGHT DUTY CONCRETE PAVEMENT
2. PERMEABLE PAVERS
3. ADA PARKING AREA
4. ADA CURB RAMP
5. 6" POST CURB
6. DIRECTIONAL ARROW
7. DUMPSTER ENCLOSURE (SEE ARCHITECTURAL PLANS FOR DETAILS INCLUDING DIMENSIONS AND BOLLARDS)
8. VACUUM (SEE ARCHITECTURAL PLANS)
9. STOP BAR
10. SINGLE SOLID WHITE LINE (SSWL)
11. SINGLE BROKEN WHITE LINE (SBWL)
12. 5' CURB CUT
13. ADA PARKING SIGN (VAN ACCESSIBLE)
14. "EMPLOYEE PARKING ONLY" SIGN
15. CONCRETE SIDEWALK
16. HEAVY DUTY CONCRETE PAVEMENT
17. PAY KIOSK (SEE ARCHITECTURAL PLANS)
18. LANDSCAPE AREA (SEE LANDSCAPE PLANS)
19. CURB TAPER
20. 5' TRANSITION TO MATCH EXISTING CURB LINE
21. FLUSH CURB





MAP INSET

SCALE: 1" = 10'



LEGEND

SYMBOL	NOTE
	HEAVY DUTY CONCRETE PAVEMENT
	LIGHT DUTY CONCRETE PAVEMENT
	PERMEABLE PAVERS
	EXISTING TREE
	VISIBILITY EASEMENT
	EXISTING STORM STRUCTURES
	EXISTING SANITARY SEWER MANHOLE
OHE	EXISTING OVERHEAD ELECTRIC
	SUBJECT PROPERTY LINE
	ADJOINING PROPERTY LINE
	BUILDING SETBACK LINE
	RIPRAP
	PROPOSED CURB
	PROPOSED PAVEMENT MARKINGS
	PROPOSED DOOR(S)
	EXISTING LIGHT POLE
	PROPOSED LIGHT POLE (SEE SHEET C600 FOR DETAIL)

REFERENCE NOTE:

1. SEE SHEET C001 FOR GENERAL NOTES

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

REVISION #	DATE	DESCRIPTION
1	06/24/2026	CITY COMMENTS

RICHARD V. SPECKMAN REGISTERED ENGINEER STATE OF TENNESSEE 06-24-2026

SITE PLAN FOR:
ALLRIDES TOUCHLESS WASH
956 LOUISVILLE HIGHWAY
CITY OF GOODLETTSVILLE
SUMNER COUNTY, TENNESSEE 37072

M2 GROUP
P.O. BOX 2543
BRENTWOOD, TN 37024-2543
615-656-0257 / M2GROUPLLC.COM

SITE PLAN

DATE :	JUNE 24, 2026	DRAWN BY :	JPN/RLE
PROJECT NO. :	25-332	CHECKED BY :	BS/RVS

C200

25-332 - SITE PLAN.DWG | Tuesday, June 23, 2026 2:13:16 PM

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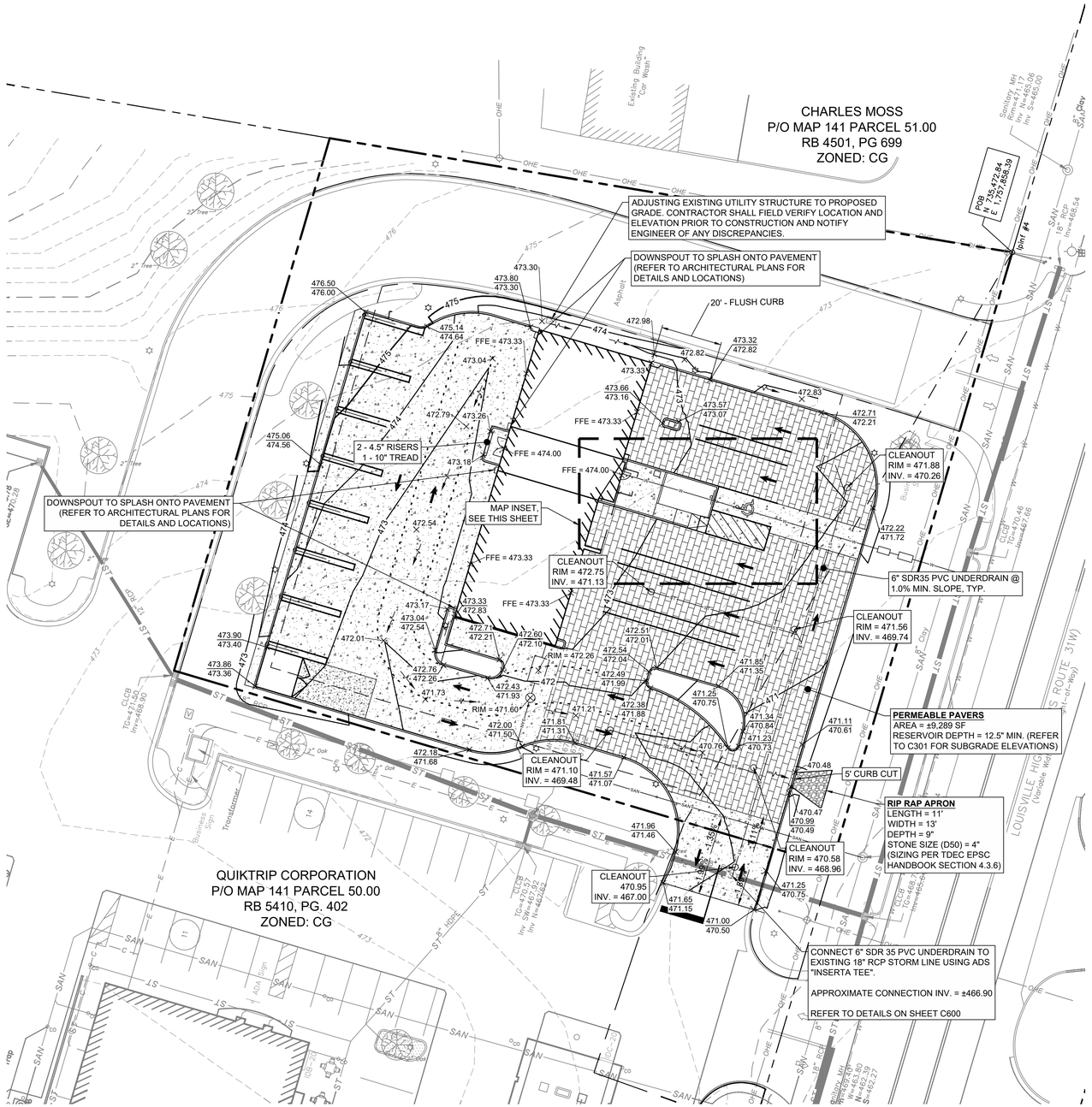

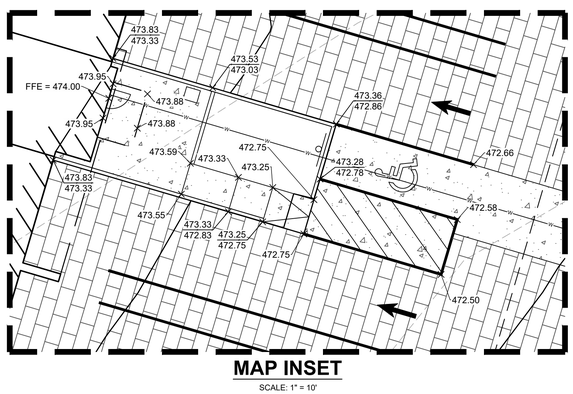

NOTE: SURVEY AND TOPOGRAPHIC INFORMATION SHOWN WAS TAKEN FROM AS-BUILT SURVEY FOR QUICKTRIP #7144 PREPARED BY SURVEY MATTERS, DATED 04/21/2022. BOUNDARY INFORMATION WAS TAKEN FROM FINAL PLAT OF ALLRIDES SUBDIVISION HIGHWAY 31-W, PREPARED BY ANTHONY T. BOLLINGER, R.L.S, DATED 12/26/25 (R.O.S.C.T. PB38, PG67). M2 GROUP, LLC. TAKES NO RESPONSIBILITY FOR THE CORRECTNESS, ACCURACY, OR COMPLETENESS OF THIS SURVEY INFORMATION.

N
NW NE
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20 0 20 40
GRAPHIC SCALE

LEGEND

SYMBOL	NOTE
	CONCRETE PAVEMENT
	HEAVY DUTY CONCRETE PAVEMENT
	PERMEABLE PAVERS
	EXISTING TREE
	VISIBILITY EASEMENT
ST	EXISTING STORM PIPE
SAN	EXISTING SANITARY SEWER PIPE
	EXISTING STORM STRUCTURES
	EXISTING SANITARY SEWER MANHOLE
W	EXISTING WATER LINE
OHE	EXISTING OVERHEAD ELECTRIC
	SUBJECT PROPERTY LINE
	ADJOINING PROPERTY LINE
	BUILDING SETBACK LINE
	RIPRAP
	PROPOSED CURB
	PROPOSED PAVEMENT MARKINGS
ST ST	PROPOSED 6" PVC SDR 35 UNDERDRAIN
XXX.XX XXX.XX	TOP CURB ELEVATION BTM CURB ELEVATION
XXX	PROPOSED SPOT ELEVATION
	DRAINAGE FLOW ARROW
W W	PROPOSED 2" REHAU PEX WATER SERVICE
SAN SAN	PROPOSED 6" PVC SDR 35 SANITARY SEWER SERVICE
	EXISTING LIGHT POLE
	PROPOSED LIGHT POLE

REFERENCE NOTE:

1. SEE SHEET C001 FOR GENERAL NOTES

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REVISION #	DATE	DESCRIPTION
1	06/24/2026	CITY COMMENTS

RICHARD V SPECKMAN
REGISTERED ENGINEER
STATE OF TENNESSEE
06-24-2026

SITE PLAN FOR:
ALLRIDES TOUCHLESS WASH
968 LOUISVILLE HIGHWAY
(FUTURE ADDRESS TBD)
SUMNER COUNTY, TENNESSEE 37072

M2 GROUP
P.O. BOX 2543
BRENTWOOD, TN 37024-2543
615-656-2207 / M2GROUP-LLC.COM

GRADING & DRAINAGE PLAN

DATE: JUNE 24, 2026
PROJECT NO. : 25-332
DRAWN BY : JPN/RLE
CHECKED BY : BS/RVS

C300

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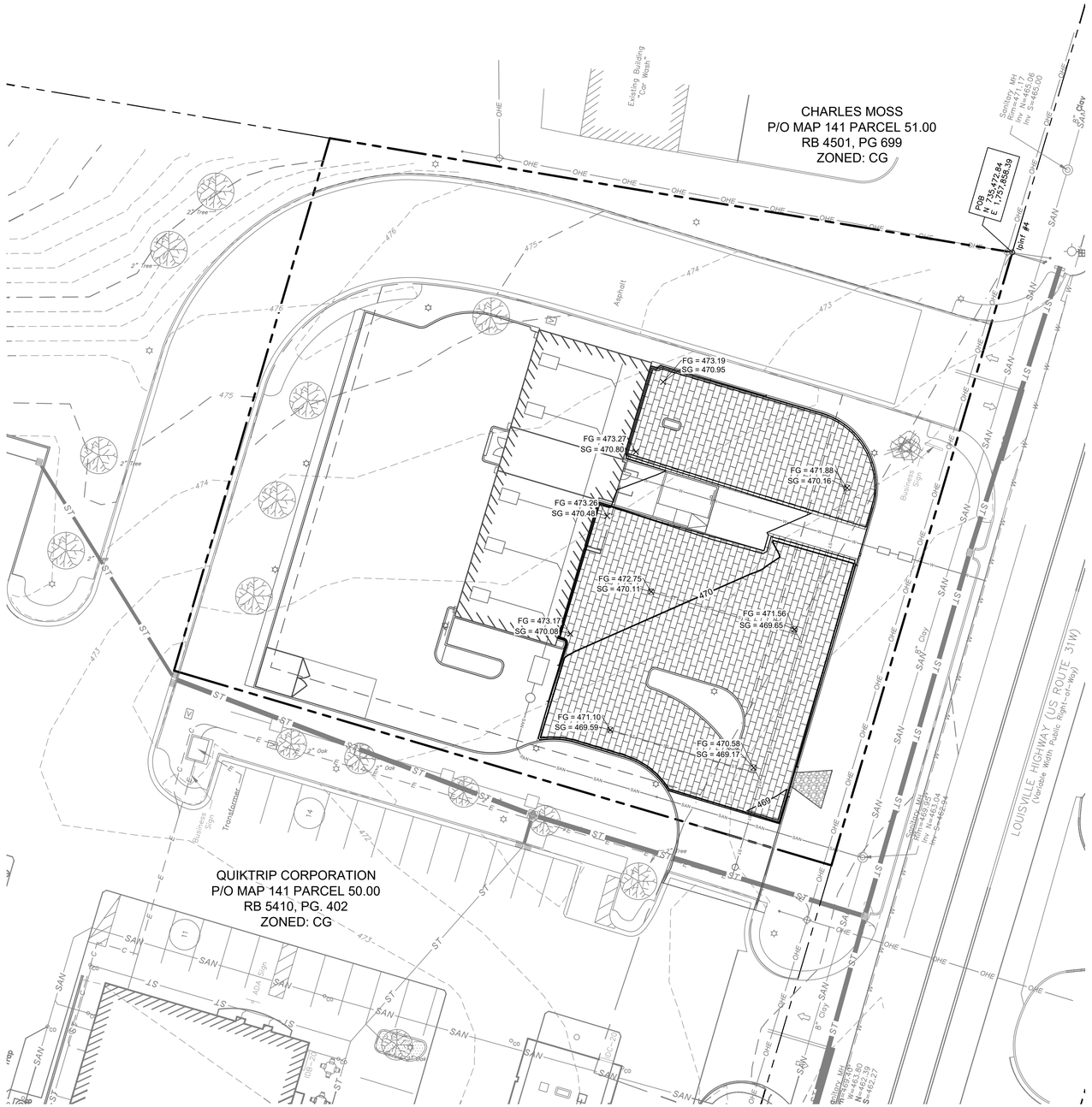
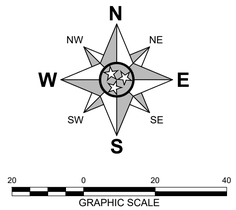
25-332 - GRADING & DRAINAGE PLAN.DWG | Tuesday, June 23, 2026 2:13:26 PM





LEGEND

SYMBOL	NOTE
SG = XXX	PROPOSED SUBGRADE ELEVATION
FG = XXX	PROPOSED SURFACE ELEVATION

NOTE: SURVEY AND TOPOGRAPHIC INFORMATION SHOWN WAS TAKEN FROM AS-BUILT SURVEY FOR QUICKTRIP #7144 PREPARED BY SURVEY MATTERS, DATED 04/21/2022. BOUNDARY INFORMATION WAS TAKEN FROM FINAL PLAT OF ALLRIDES SUBDIVISION HIGHWAY 31-W, PREPARED BY ANTHONY T. BOLLINGER, R.L.S, DATED 12/26/25 (R.O.S.C.T. PB38, PG67). M2 GROUP, LLC. TAKES NO RESPONSIBILITY FOR THE CORRECTNESS, ACCURACY, OR COMPLETENESS OF THIS SURVEY INFORMATION.

REFERENCE NOTE:

1. SEE SHEET C001 FOR GENERAL NOTES
2. SEE SHEET C600 FOR PERMEABLE PAVER SECTION

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

REVISION #	DATE	DESCRIPTION
1	06/24/2026	CITY COMMENTS

RICHARD V SPECKMAN REGISTERED ENGINEER No. 76579 STATE OF TENNESSEE

06-24-2026

SITE PLAN FOR:
ALLRIDES TOUCHLESS WASH
956 LOUISVILLE HIGHWAY
CITY OF GOODLETTSVILLE
SUMNER COUNTY, TENNESSEE 37072

M2 GROUP
P.O. BOX 2543
BRENTWOOD, TN 37024-2543
615-656-0257 / M2GROUPLLC.COM

PAVER SUBGRADE GRADING PLAN

DATE :	JUNE 24, 2026	DRAWN BY :	JPN/RLE
PROJECT NO. :	25-332	CHECKED BY :	BS/RVS

C301

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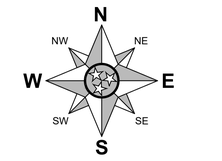

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GRAPHIC SCALE

CODED NOTES

1. SILT FENCE
2. CONCRETE WASHOUT
3. 20' X 50' CONSTRUCTION ENTRANCE
4. INLET PROTECTION
5. HIGH-VISIBILITY PROTECTION FENCE

LEGEND

SYMBOL	NOTE
	RIPRAP CONSTRUCTION ENTRANCE
	INLET PROTECTION
SF	SILT FENCE
	CONCRETE WASHOUT
	LIMITS OF DISTURBANCE (±0.82 AC)
HVIZ HVIZ	HIGH-VISIBILITY PROTECTION FENCE

EPSC NOTES:

CONSTRUCTION SHALL BE SEQUENCED AND STAGED TO: MINIMIZE THE EXPOSURE TIME OF GRADED OR DENUDED SOIL AREAS, PRESERVE TOPSOIL, AND MINIMIZE SOIL COMPACTION. NO WORK SHALL BE STARTED UNTIL THE CONTRACTOR'S PLAN FOR THE STAGING OF THEIR OPERATIONS, INCLUDING THE PLAN FOR STAGING OF TEMPORARY AND PERMANENT EPSC MEASURES, HAS BEEN ACCEPTED BY THE ENGINEER. THE CONTRACTOR'S EPSC PLAN SHALL INCORPORATE AND SUPPLEMENT, AS ACCEPTABLE, THE ORDER OF CONSTRUCTION ACTIVITIES AND THE BASIC EPSC DEVICES DEPICTED ON THE EPSC PLAN CONTAINED WITHIN THE APPROVED SWPPP.

1. INSTALL STABILIZED CONSTRUCTION EXITS.
2. INSTALL PERIMETER PROTECTION WHERE RUNOFF SHEET FLOWS FROM THE SITE.
3. INSTALL INITIAL EPSC MEASURES BEFORE CLEARING, GRUBBING, EXCAVATION, GRADING, CULVERT OR BRIDGE CONSTRUCTION, CUTTING, FILLING, OR ANY OTHER EARTHWORK OCCURS, EXCEPT AS SUCH WORK MAY BE NECESSARY TO INSTALL EPSC MEASURES.
4. PERFORM CLEARING AND GRUBBING (NOT MORE THAN TWO WEEKS PRIOR TO GRADING OR EARTH-MOVING. REFER TO THE STABILIZATION PRACTICES BELOW.).
5. REMOVE AND STORE TOPSOIL
6. STABILIZE DISTURBED AREAS WITHIN 2 WEEKS OF COMPLETING ANY STAGE AND/OR PHASE OF ACTIVITY (STEEP SLOPES SHALL BE STABILIZED WITHIN 1 WEEK AFTER CONSTRUCTION ACTIVITY HAS TEMPORARY OR PERMANENTLY CEASED).
7. INSTALL UTILITIES AND PAVER UNDERDRAIN SYSTEM.
8. INSTALL INLET AND CULVERT PROTECTION ONCE STRUCTURES ARE IN PLACE AND CAPABLE OF INTERCEPTING FLOW.
9. PERFORM FINAL GRADING AND INSTALL BASESTONE FOR BOTH PAVERS AND CONCRETE PAVEMENT.
10. COMPLETE FINAL PAVING AND SEALING OF CONCRETE, INSTALL FINAL PAVER BEDDING LAYER AND PAVER SURFACE.
11. INSTALL TRAFFIC CONTROL AND PROTECTION DEVICES.
12. COMPLETE FINAL STABILIZATION (TOPSOIL, SEEDING, MULCH, EROSION CONTROL BLANKET, SOD, ETC.)
13. REMOVE TEMPORARY EROSION CONTROLS AND ACCUMULATED SEDIMENT FROM AREAS THAT HAVE ESTABLISHED AT LEAST 70 PERCENT UNIFORM PERMANENT VEGETATIVE COVER.
14. RE-STABILIZE AREAS DISTURBED BY REMOVAL ACTIVITIES.

REFERENCE NOTE:

1. SEE SHEET C001 FOR GENERAL NOTES
2. SEE SHEET C602 FOR ADDITIONAL INFORMATION

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REVISION #	DATE	DESCRIPTION
1	06/24/2026	CITY COMMENTS

RICHARD V SPECKMAN
REGISTERED ENGINEER
STATE OF TENNESSEE
117573
06-24-2026

SITE PLAN FOR:
ALLRIDES TOUCHLESS WASH
956 LOUISVILLE HIGHWAY
(OFF OF GALLATIN PIKE)
SUMNER COUNTY, TENNESSEE 37072

M2 GROUP
P.O. BOX 2543
BRENTWOOD, TN 37024-2543
615.656.0287 / M2GROUP.LLC.COM

EPSC PLAN

DATE :	JUNE 24, 2026	DRAWN BY :	JPN/RLE
PROJECT NO. :	25-332	CHECKED BY :	BS/RVS

C400

25-332 - EPSC PLAN.DWG | Tuesday, June 23, 2026 2:13:44 PM

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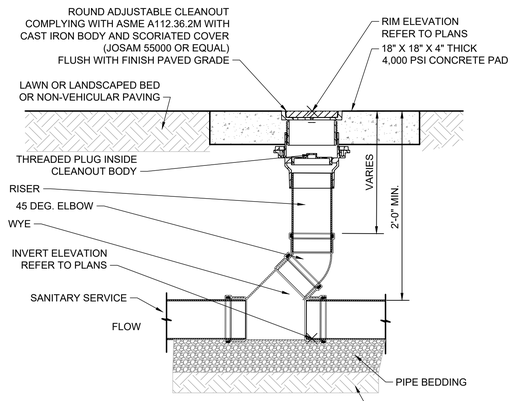
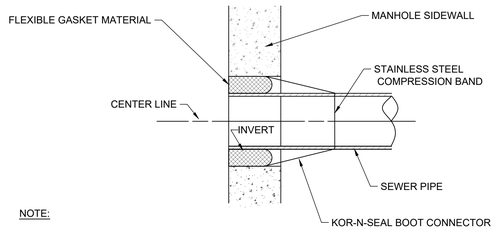
CODED NOTES

1. EXISTING FIRE HYDRANT
2. 2" REHAU PEX WATER SERVICE (REFER TO PLUMBING PLANS FOR INTERNAL CONTINUATION, NOT THIS SET)
3. 2" WATER METER AND BACKFLOW PREVENTOR (REFER TO WHUD STANDARD DETAILS)
4. UTILITY CROSSING. 2" WATER SERVICE TO BE INSTALLED WITH MINIMUM 18" CLEARANCE FROM SANITARY SEWER
5. PROPOSED 2" CONNECTION TO EXISTING 12" WATER MAIN USING TAPPING SLEEVE & VALVE
6. UTILITY CROSSING. 6" STORM UNDERDRAIN TO BE INSTALLED WITH MINIMUM 18" CLEARANCE FROM SANITARY SEWER
7. 6" PVC SDR 35 - SANITARY SEWER AT 1.0% MINIMUM SLOPE (REFER TO PLUMBING PLANS FOR INTERNAL CONTINUATION, NOT THIS SET)
8. SAMPLE WELL (REFER TO PLUMBING PLANS, NOT THIS SET)
9. SAND AND GREASE TRAP (REFER TO PLUMBING PLANS, NOT THIS SET)
10. LIGHT POLE (REFER TO PHOTOMETRIC PLANS), TYP.
11. INTERIOR DRAINAGE SYSTEM TO CONVEY WASH RUNOFF INTO SAND AND GREASE TRAP SYSTEM (REFER TO PLUMBING PLANS, NOT THIS SET).



NOTES:
1. FITTINGS AND RISER TO MATCH SERVICE PIPE SIZE AND MATERIAL.
2. ARRANGEMENT SHOWN IS FOR IN-LINE CLEANOUT. REPLACE WYE AND 45 WITH LONG SWEEP 90 IF END OF LINE CLEANOUT.

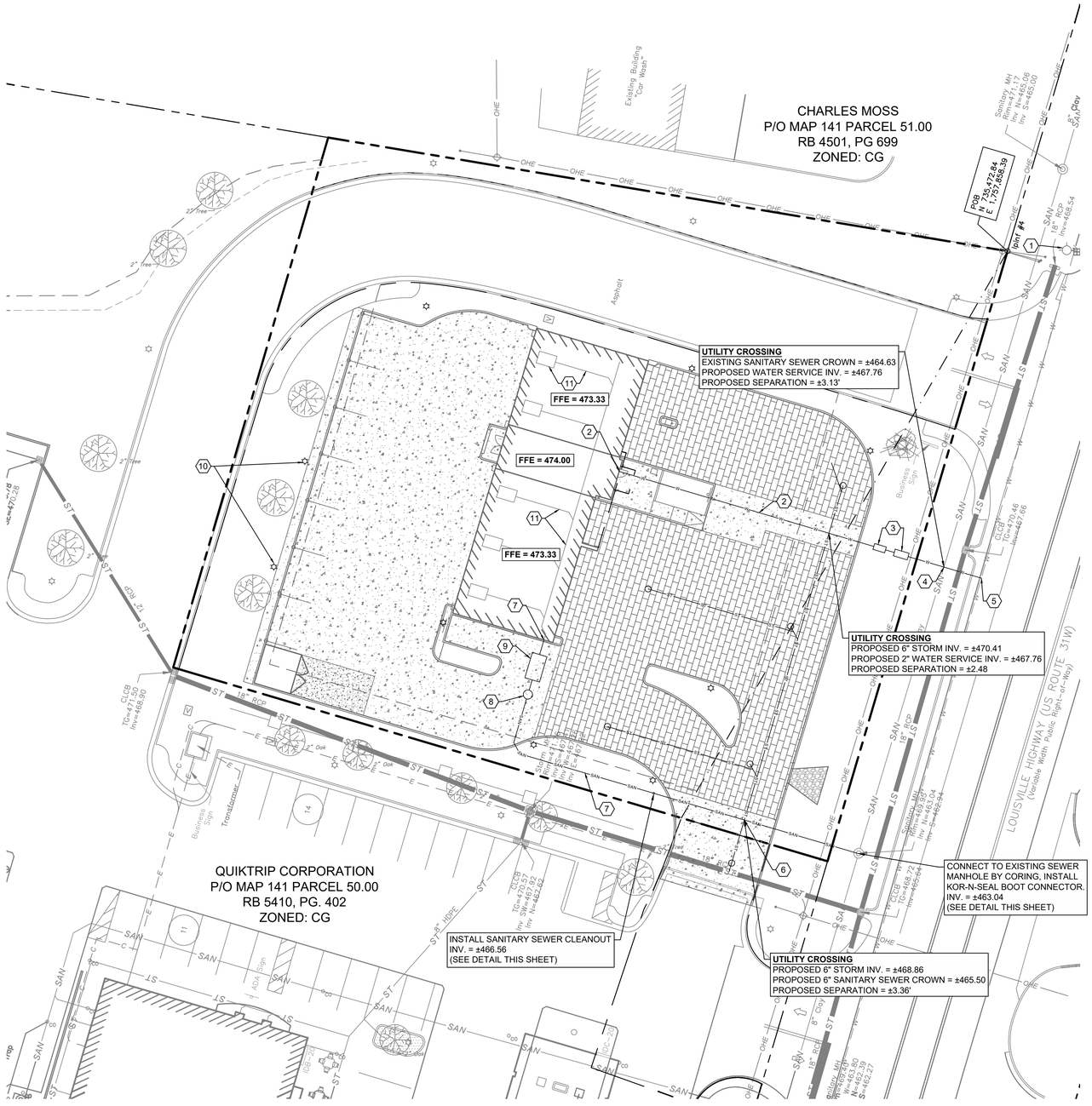
SANITARY SEWER CLEANOUT
N.T.S.



NOTE:

INSTALLATION AND MATERIALS SHALL MEET FEDERAL, STATE, AND LOCAL CODE REQUIREMENTS.

KOR-N-SEAL BOOT CONNECTOR
N.T.S.



LEGEND

SYMBOL	NOTE
	CONCRETE PAVEMENT
	HEAVY DUTY CONCRETE PAVEMENT
	PERMEABLE PAVERS
	EXISTING TREE
	VISIBILITY EASEMENT
ST	EXISTING STORM PIPE
SAN	EXISTING SANITARY SEWER PIPE
	EXISTING STORM STRUCTURES
	EXISTING SANITARY SEWER MANHOLE
W	EXISTING WATER LINE
OHE	EXISTING OVERHEAD ELECTRIC
	SUBJECT PROPERTY LINE
	ADJOINING PROPERTY LINE
	BUILDING SETBACK LINE
	RIPRAP
	PROPOSED CURB
	PROPOSED PAVEMENT MARKINGS
ST ST	PROPOSED 6" PVC SDR 35 UNDERDRAIN
XXX.XX / XXX.XX	TOP CURB ELEVATION / BTM CURB ELEVATION
XXX	PROPOSED SPOT ELEVATION
	DRAINAGE FLOW ARROW
W W	PROPOSED 2" REHAU PEX WATER SERVICE
SAN SAN	PROPOSED 6" PVC SDR 35 SANITARY SEWER SERVICE
	EXISTING LIGHT POLE
	PROPOSED LIGHT POLE

LIGHT POLE NOTE:

LIGHT FIXTURES SHALL BE PER SIGNIFY MODEL NUMBER OPF-S-7L-830-BLC (OR APPROVED EQUAL). LIGHT POLE SHALL BE PER UNITED LIGHTING STANDARDS MODEL NUMBER RSP-20-4-11 (OR APPROVED EQUAL). COORDINATE FIXTURE DESIGN AND PROCUREMENT WITH SESCO LIGHTING, CONTACT: GRETCHEN MAST, GMAST@SESCOLIGHTING.COM)

REFERENCE NOTE:

1. SEE SHEET C001 FOR GENERAL NOTES
2. SEE SHEET C000 FOR UTILITY CONTACT INFORMATION

Know what's below. Call before you dig.

REVISION #	DATE	DESCRIPTION
1	06/24/2026	CITY COMMENTS

RICHARD V SPECKMAN — REGISTERED ENGINEER — 130473 — STATE OF TENNESSEE
06-24-2026

SITE PLAN FOR:
ALLRIDES TOUCHLESS WASH
956 LOUISVILLE HIGHWAY
(OTOE COUNTY MAP 141 PARCEL 51.00)
SUMNER COUNTY, TENNESSEE 37072

M2 GROUP
P.O. BOX 2543
BRENTWOOD, TN 37024-2543
615.656.0287 / INFO@M2LLC.COM

UTILITY PLAN

DRAWN BY :	JPN/RLE
CHECKED BY :	BS/RVS
DATE :	JUNE 24, 2026
PROJECT NO. :	25-332

C500

25-332 - UTILITY PLAN.DWG, Tuesday, June 23, 2026 2:14:03 PM

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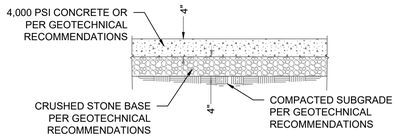
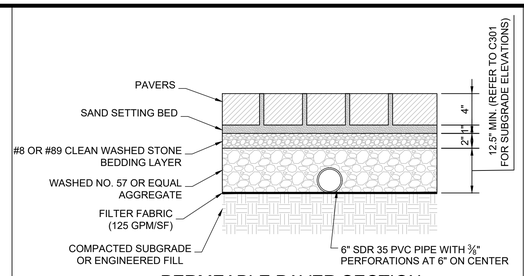
NOTE:
EXPANSION JOINTS ARE TO BE SPACED 25' TO 30' APART DEPENDING ON TRANSVERSE JOINT MARKINGS.

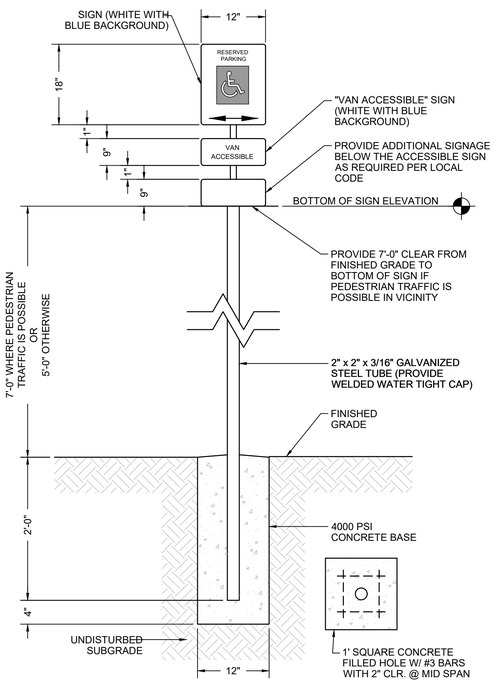


CONCRETE SIDEWALK SECTION
N.T.S.

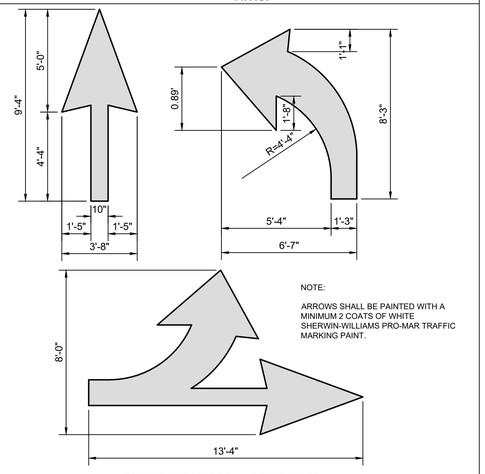


PERMEABLE PAVER SECTION
N.T.S.

NOTES:
1. THE R7-8 SIGN SHOULD BE USED TO DEFINE WHICH PARKING SPACE OR SPACES ARE RESERVED FOR THE DISABLED OR WHEELCHAIR ACCESSIBLE IN ACCORDANCE WITH STATE & LAW ORDINANCE.
2. PARKING SPACES SIGNED AS WHEEL CHAIR ACCESSIBLE PARKING SPACES MUST BE SUPPLEMENTED WITH PAVEMENT MARKINGS WHERE THERE IS A SUITABLE PAVEMENT SURFACE.
3. ATTACH SIGNAGE TO TUBE WITH 3/8" CADMIUM PLATED BOLTS, NUTS AND WASHERS.

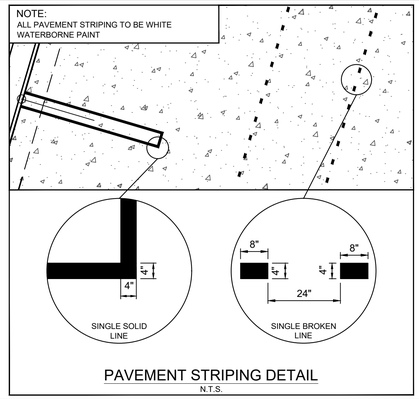


ACCESSIBLE PARKING SIGN & SYMBOL
N.T.S.



NOTE:
ARROWS SHALL BE PAINTED WITH A MINIMUM 2 COATS OF WHITE SHERWIN-WILLIAMS PRO-MAR TRAFFIC MARKING PAINT.

DIRECTIONAL ARROWS
N.T.S.



PAVEMENT STRIPING DETAIL
N.T.S.

Inserta Tee® Hole Saw Detail



Use of Inserta Tee Hole Saw is required for installation of Inserta Tee fittings. Silver and Gold hole saws are wet diamond bit. Reference detail STD 1100 for installation instructions.

- Heavy Duty ½" drill motor recommended for coring into plastic mainlines.
- Heavy Duty ½" drill motor recommended when using silver hole saws (4"-8") into non-plastic mainlines.
- Heavy Duty ½" drill motor recommended when using gold hole saws (4"-10") into non-plastic mainlines.

Hole Saws for Coring machines are equipped with 1 ¼" x 7 (tread) female adapter nut.

Common Hole Saws

Hole Saw Series	Mainline Pipe Type	Lateral Size	2" (50mm)	3" (75mm)	4" (100mm)	6" (150mm)	8" (200mm)	10" (250mm)	12" (300mm)	15" (375mm)	18" (450mm)	24" (600mm)
Red	Plastic	Hole Saw Size	-	-	4 ½" (114mm)	6 ½" (165mm)	8 ½" (222mm)	-	-	-	-	-
		Hole Saw Depth	-	-	4 ½" (114mm)	4 ½" (114mm)	4 ½" (114mm)	-	-	-	-	-
		Pilot Drill	-	-	12mm	12mm	12mm	-	-	-	-	-
Blue	Plastic	Hole Saw Size	2 ⅝" (67mm)	3 ½" (89mm)	4 ½" (114mm)	6 ½" (165mm)	8 ½" (222mm)	10 ½" (276mm)	12 ½" (327mm)	15 ½" (403mm)	18 ½" (503mm)	25 ½" (650mm)
		Hole Saw Depth	4" (102mm)	6" (165mm)	6" (165mm)	6" (165mm)	6" (165mm)	7 ½" (191mm)	7 ½" (191mm)	7 ½" (191mm)	7 ½" (191mm)	10 ½" (267mm)
		Pilot Drill	12mm	12mm	12mm	12mm	12mm	½"	½"	½"	½"	½"
Silver	Non-Plastic	Hole Saw Size	-	-	4 ½" (114mm)	6 ½" (165mm)	8 ½" (222mm)	-	-	-	-	-
		Hole Saw Depth	-	-	6 ½" (165mm)	6 ½" (165mm)	6 ½" (165mm)	-	-	-	-	-
		Pilot Drill	-	-	10mm	10mm	10mm	-	-	-	-	-
Gold	Non-Plastic	Hole Saw Size	2 ⅝" (67mm)	3 ½" (89mm)	4 ½" (114mm)	6 ½" (165mm)	8 ½" (222mm)	10 ½" (276mm)	12 ½" (327mm)	15 ½" (403mm)	18 ½" (503mm)	25 ½" (650mm)
		Hole Saw Depth	4" (102mm)	4" (102mm)	4" (102mm)	4" (102mm)	4" (102mm)	7" (178mm)	7" (178mm)	7" (178mm)	7" (178mm)	10" (254mm)
		Pilot Drill	¼"	¼"	¼"	¼"	¼"	¼"	¼"	¼"	¼"	¼"

Uncommon Hole Saws

Hole Saw Series	Mainline Pipe Type	Lateral Size	2" (50mm)	3" (75mm)	4" (100mm)	6" (150mm)	8" (200mm)	10" (250mm)	12" (300mm)	15" (375mm)	18" (450mm)	24" (600mm)
Orange	Arc Textiles Aquaflow ADS HP Pipe	Hole Saw Size	-	-	4 ½" (114mm)	6 ½" (165mm)	8 ½" (216mm)	10 ½" (273mm)	12 ½" (324mm)	15 ½" (400mm)	18 ½" (464mm)	-
		Hole Saw Depth	4 ½" (114mm)	6 ½" (165mm)	6 ½" (150mm)	6 ½" (150mm)	6 ½" (150mm)	7 ½" (191mm)	7 ½" (191mm)	7 ½" (191mm)	7 ½" (191mm)	7 ½" (191mm)
		Pilot Drill	-	-	12mm	12mm	12mm	½"	½"	½"	½"	½"
Grey	Solid Wall PE	Hole Saw Size	-	-	4 ½" (114mm)	6 ½" (165mm)	8 ½" (222mm)	-	-	-	-	-
		Hole Saw Depth	-	-	6 ½" (165mm)	6 ½" (165mm)	6 ½" (165mm)	-	-	-	-	-
		Pilot Drill	-	-	½"	½"	½"	-	-	-	-	-

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS REQUESTED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS REVIEWED THE SUITABILITY OF THE PRODUCTS SHOWN HEREON FOR USE ON THIS PROJECT. ADS' STANDARD DETAILS ARE GENERIC AND NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

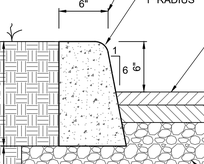
	INSERTA TEE HOLE SAW DETAIL	//ADS 4640 TRUEMAN BLVD HILLIARD, OH 43026	DRAWN BY: mbw 01/27/26
	DRAWING NUMBER STD-1102		CHK'D: ENG. SCALE: N.T.S. SHEET: 1

INSERTA TEE® FITTINGS
FATBOY™, SDR26, SDR35 GASKETED BELL GRAVITY APPLICATIONS

A. BELL END ACCEPTS PIPE WITH SDR26, SDR28, SDR35 AND ASTM D3034 OR EQUIVALENT O.D. SPECIFICATION IN 4" AND 6" SIZES.

B. CURVATURE VARIES WITH MAINLINE DIAMETERS.

C. SPIGOT END PVC SDR35, ASTM D3034 DIAMETERS 4" AND 6"



INSERTA TEE SIZE	HOLE DIAMETER
4" (100mm)	4 ½" (114mm)
6" (150mm)	6 ½" (165mm)

PART #	PART NAME
1	HUB ADAPTOR
2	RUBBER GASKET
3	SECURING CLAMP
4	RUBBER SLEEVE (AVAILABLE IN NITRILE AND EPDM BY SPECIAL ORDER)
4A	UPPER SEGMENT*
4B	LOWER SEGMENT*
4C	REFER TO STD - 1103: WALL THICKNESS CHART

* DISTANCE BETWEEN 4A AND 4B WILL VARY BY PRODUCT TYPE.
** WILL NOT APPEAR ON RUBBER SLEEVES FOR CONCRETE OR CLAY PIPE

MATERIALS
PVC SDR 26 ASTM D3034
ASTM F477
BAND SS #301
SCREW SS #305
HOUSING SS #301

BUILT IN STOP FOLLOWS CONTOUR OF MAINLINE PIPE

CUSTOM MADE TO MATCH THE INTERIOR RADIUS OF THE MAINLINE PIPE OR STRUCTURE

NOTE: FOR INSTALLATION INSTRUCTIONS, REFER TO DETAIL STD-1100. FOR PROTRUSION INFORMATION, REFER TO DETAIL STD-1101. FOR HOLE SAW INFORMATION, REFER TO DETAIL ST-1102. INSERTA TEE FATBOY DESIGN: US PATENT NO. US20080303270A1.

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS REQUESTED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS REVIEWED THE SUITABILITY OF THE PRODUCTS SHOWN HEREON FOR USE ON THIS PROJECT. ADS' STANDARD DETAILS ARE GENERIC AND NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

	INSERTA TEE FITTINGS FATBOY™, SDR26, SDR35 GASKETED BELL GRAVITY APPLICATIONS	//ADS 4640 TRUEMAN BLVD HILLIARD, OH 43026	DRAWN BY: mbw 01/27/26
	DRAWING NUMBER STD-1106		CHK'D: ENG. SCALE: N.T.S. SHEET: 1

INSERTA TEE® SERVICE CONNECTION SPECIFICATION

Scope
This specification describes Inserta Tee service connections for use in gravity-flow sewer and storm drainage applications.

Product Requirements
Inserta Tee service connections, as manufactured by Inserta Tee, shall consist of a PVC hub, rubber sleeve, and stainless steel band. Connection shall be a compression fit into the cored wall of a mainline pipe. Hub shall be made from heavy-duty PVC material. Stainless steel clamping assembly shall be of SS #301 for the band and housing and SS #305 for screws. Rubber sleeve and gasket, when applicable, shall meet the requirements of ASTM F477. Gaskets shall be installed by the manufacturer. A water-based solution provided by the manufacturer shall be used during assembly.

The Inserta Tee can be installed into any mainline pipe or structure. Connection hubs are available to connect to corrugated polyethylene, corrugated polypropylene, PVC C900, SDR 26 HWS, SDR 35 (gasketed bell), IPS/Sch 40 (gasketed bell & solvent weld bell). Availability of connection diameters is based on the service pipe material.

Joint Performance
Inserta Tee® product shall provide a watertight connection according to the requirements of ASTM D3212 or ASTM F2946-12 (additional specifications listed below)*

Field Pipe and Joint Performance
To assure watertightness, field performance verification may be accomplished by testing in accordance with ASTM F2487. Appropriate safety precautions must be used when field-testing any pipe material. Contact the manufacturer for recommended leakage rates.

Installation
Installation shall be in accordance with manufacturer's recommended installation guidelines (reference detail STD-1100A for step-by-step installation instructions). The use of installation methods or hole saws not purchased from Inserta Fittings will void the performance warranty of the product. Backfill around the Inserta Tee service connection shall be of the same material type and compaction level as specified for the mainline pipe installation. For shallow H-20 traffic applications (< 2' of cover) or deep burial applications (>= 25' in burial depth), Inserta Tee shall be encased in concrete. Actual dimensions of concrete must be designed (by others) taking into consideration local soil conditions & other applicable design factors, but shall extend no less than 12" in any direction from the fitting. Contact your local representative or visit the website at www.adspipe.com for a copy of the latest installation guidelines.

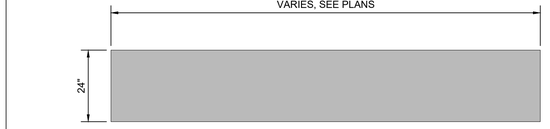
Scan QR code for installation video

* Inserta Tee® fittings have been tested to the following specifications: ASTM F2946-12, ASTM D3212, ASTM F2487, paragraph 10.2 of ASTM F1336-07 Impact resistance test, ASTM D2412-77, ASTM F1336 Section 10.3, ASTM F477, ASTM C-443, ASTM C1103.

CSA Standard B182.4M, NQ 3624-135, (Updated versions: CSA B182.2, BNQ3624-135)

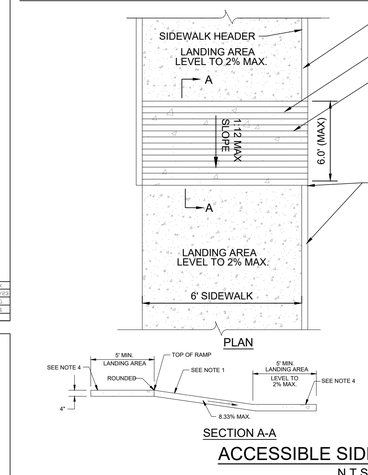
ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS REQUESTED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS REVIEWED THE SUITABILITY OF THE PRODUCTS SHOWN HEREON FOR USE ON THIS PROJECT. ADS' STANDARD DETAILS ARE GENERIC AND NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

	INSERTA TEE SERVICE CONNECTION SPECIFICATION	//ADS 4640 TRUEMAN BLVD HILLIARD, OH 43026	DRAWN BY: mbw 01/27/26
	DRAWING NUMBER STD-1100		CHK'D: ENG. SCALE: N.T.S. SHEET: 1



NOTES:
1. STOP BAR SHALL BE PAINTED WITH A MINIMUM 2 COATS OF WHITE SHERWIN-WILLIAMS PRO-MAR TRAFFIC MARKING PAINT.
2. EDGE OF STOP BAR SHALL BE PARALLEL TO EDGE OF HIGHWAY TRAVEL WAY.

STOP BAR
N.T.S.



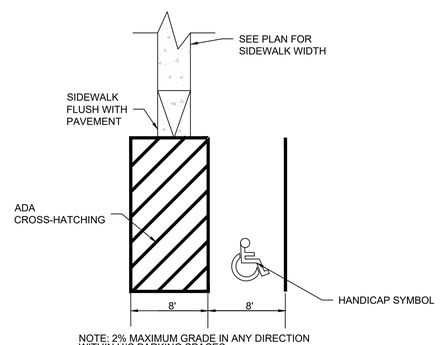
PLAN

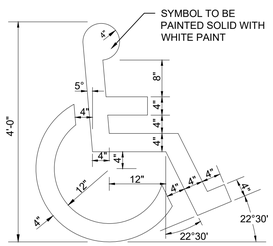
NOTES:
1. SURFACES OF CURB RAMPS SHALL HAVE GROOVES EXTENDING THE FULL WIDTH AND DEPTH OF THE CURB RAMP IN A WAY THAT WILL NOT ALLOW WATER TO ACCUMULATE; SURFACES SHALL HAVE A LIGHT REFLECTIVE VALUE AND TEXTURE THAT SIGNIFICANTLY CONTRAST WITH THE ADJOINING PEDESTRIAN ACCESSIBLE ROUTE.
2. THE BOTTOM OF THE RAMP SHALL HAVE A ½" LIP OF 45°.
3. CONSTRUCT PER ADA STANDARDS.
4. MAINTAIN LANDING AREA LEVEL TO 2% MAX. SLOPE.

SECTION A-A

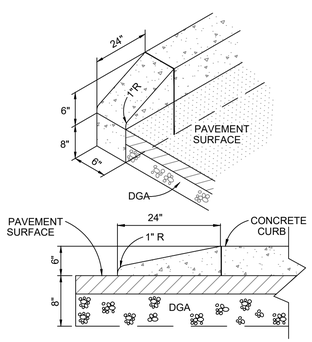
ACCESSIBLE SIDEWALK RAMP
N.T.S.

NOTE:
1. ALL WORK PERFORMED BY THE CONTRACTOR SHALL COMPLY THE PERTINENT PROVISIONS OF THE AMERICANS WITH DISABILITIES ACT.
2. CROSS SLOPE OF THE RAMP SHALL NOT EXCEED 1:50.
3. SURFACE TEXTURE OF THE RAMP SHALL BE STABLE, FIRM AND SLIP RESISTANT. THE SURFACE SHALL BE COARSE BROOMED FINISH TRANSVERSE TO THE SLOPE OF THE RAMP.





ADA PARKING DETAILS
N.T.S.



CURB TAPER
N.T.S.

TYPICAL CROSS-SECTION

NOTES:
1. CURB SHALL BE CONSTRUCTED IN 10 FOOT LENGTHS, OR EXTRUDED AND THEN SAWCUT AT 10 FOOT INTERVALS TO A DEPTH OF 1.75".
2. 1/2" EXPANSION JOINTS SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 50 FEET, AT THE ENDS OF RETURNS, AND AT ALL POINTS WHERE THE NEW CURB AND GUTTER ABUTS OTHER CONCRETE STRUCTURES OR INLET CASTINGS.
3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI (TYP.)

6" POST CURB
N.T.S.

REVISION #	DATE	DESCRIPTION
1	06/24/2026	CITY COMMENTS

RICHARD V SPECKMAN — REGISTERED ENGINEER — STATE OF TENNESSEE — 120573
06-24-2026

SITE PLAN FOR:
ALLRIDES TOUCHLESS WASH
956 LOUISVILLE HIGHWAY
PORTION OF PARCEL 87
SUMNER COUNTY, TENNESSEE 37072

M2 GROUP
P.O. BOX 2543
BRENTWOOD, TN 37024-2543
615-656-0287 / M2GROUP.LLC.COM

SITE DETAILS

DATE : JUNE 24, 2026 | DRAWN BY : JPM/RLE | CHECKED BY : BS/RVS
PROJECT NO. : 25-332

C600

25-332 - SITE DETAILS.DWG | Tuesday, June 23, 2026 2:14:19 PM

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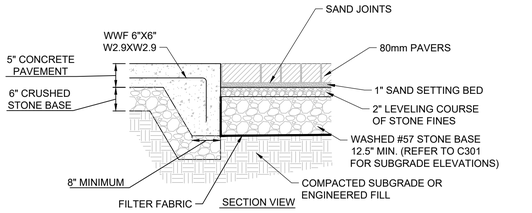
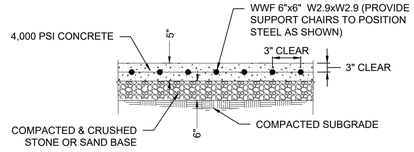


CONCRETE PAVEMENT TO PERMEABLE PAVER TRANSITION

N.T.S.

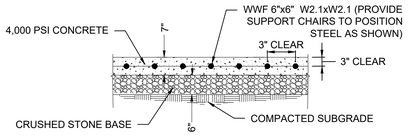
NOTE:
EXPANSION JOINTS ARE TO BE SPACED 25' TO 30' APART DEPENDING ON TRANSVERSE JOINT MARKINGS.



LIGHT DUTY CONCRETE SECTION

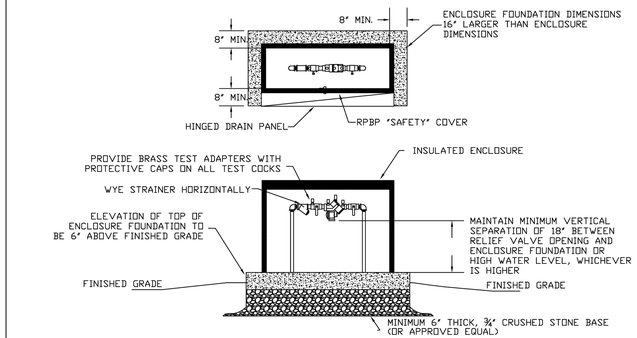
N.T.S.

NOTES:
1. USE 4,000 PSI CONCRETE
2. USE GRADE 60 STEEL
3. PROVIDE CONTROL JOINTS AT 10' CENTERS
4. PROVIDE EXPANSION JOINS WHERE PAVEMENT ABUTS RIGID MATERIAL



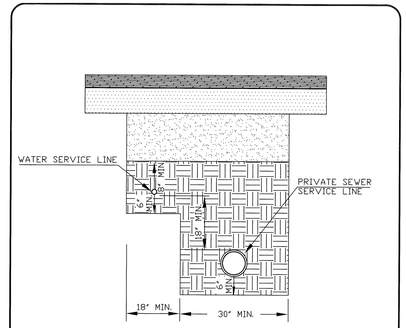
HEAVY DUTY CONCRETE SECTION

N.T.S.



NOTES:
1. A THREE FOOT (3') MINIMUM HORIZONTAL SEPARATION BETWEEN RPBP FOUNDATION AND ALL OTHER ITEMS SHALL BE MAINTAINED.
2. CONDUIT AND ELECTRICAL CIRCUIT FOR HEAT TRACING OF RPBP ASSEMBLY INSTALLATION SHALL BE PROVIDED BY CONTRACTOR.
3. SEE APPROVED W.H.U.D. MATERIAL LIST.

White House Utility District	WHITE HOUSE UTILITY DISTRICT	DATE : AUG 2008 SCALE : N.T.S.
	SMALL RPBP PLAN & PROFILE VIEW DETAIL (3/4" - 2")	STD-W-10

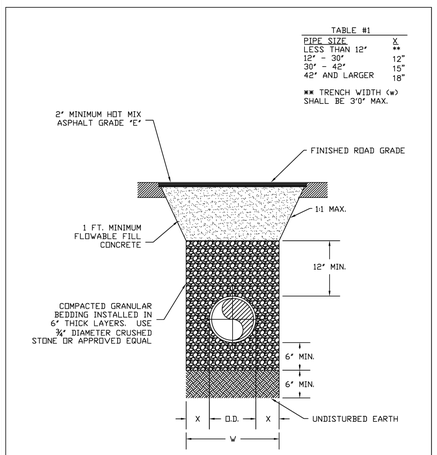


NOTES:

THE PORTION OF THE TRENCH FROM A POINT 6 INCHES BELOW THE BOTTOM OF THE SEWER SERVICE TO A POINT 8 INCHES ABOVE THE TOP OF THE WATER SERVICE SHALL BE #57 OR # 67 CRUSHED STONE PLACED IN 6-INCH LAYERS.

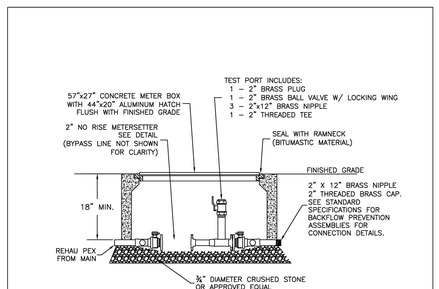
TRENCH REPAIR SHOULD BE IN ACCORDANCE WITH METRO PUBLIC WORKS.

METRO WATER SERVICES	
TRENCHES FOR PRIVATE SERVICES	LICENSED DISTRIBUTION OPERATOR
NOT TO SCALE DATE: 8/18/17 METRO WATER SERVICES	DIRECTOR OF WATER AND SEWERAGE SERVICES
DWG. NO. SHEMATIC 13	



NOTES:
1. WIDTH OF TRENCH (W) = O.D. + 2X WHERE "X" IS THE DISTANCE FROM OUTSIDE PIPE TO THE EDGE OF TRENCH
2. SEE APPROVED W.H.U.D. MATERIALS LIST.

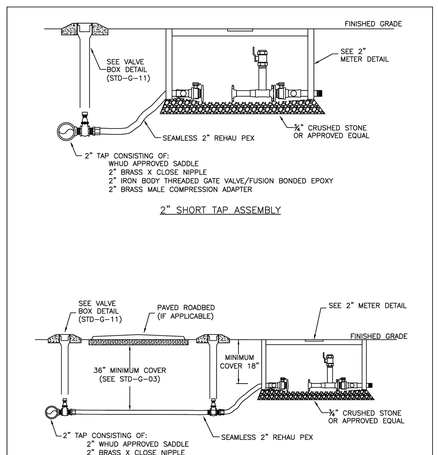
White House Utility District	WHITE HOUSE UTILITY DISTRICT	DATE : JUNE 2016 SCALE : N.T.S.
	PAVEMENT REPLACEMENT: ASPHALT REPLACEMENT DETAIL	STD-G-03



NOTE: CONTRACTOR TO PROVIDE WHUD APPROVED METER AND TELEMETRY

NOTES:
1. CONCRETE VAULT IS TO BE 4500 PSI @ 28 DAYS.
2. CONCRETE VAULT IS TO BE REINFORCED WITH #3 BARS.
3. ENTIRE VAULT AREA IS TO HAVE A MINIMUM BEDDING OF 3" DEEP ¾" DIA. CRUSHED STONE OR APPROVED EQUAL.
4. SEE APPROVED W.H.U.D. MATERIAL LIST.

White House Utility District	WHITE HOUSE UTILITY DISTRICT	DATE : JAN 2015 SCALE : N.T.S.
	2" WHUD APPROVED METER	STD-W-04

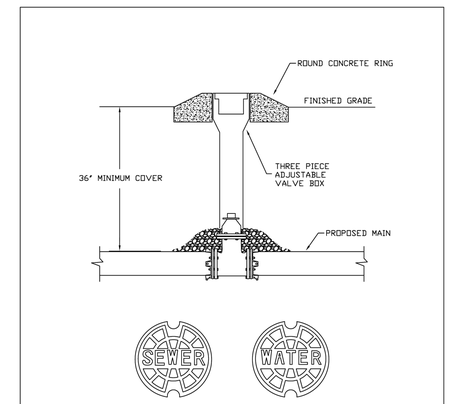


2" SHORT TAP ASSEMBLY

2" LONG TAP ASSEMBLY

NOTES:
1. CONTRACTOR TO PROVIDE ALL LABOR AND MATERIALS INCLUDING MAKING THE 2" MAIN TAP.
2. SEE APPROVED W.H.U.D. MATERIALS LIST.

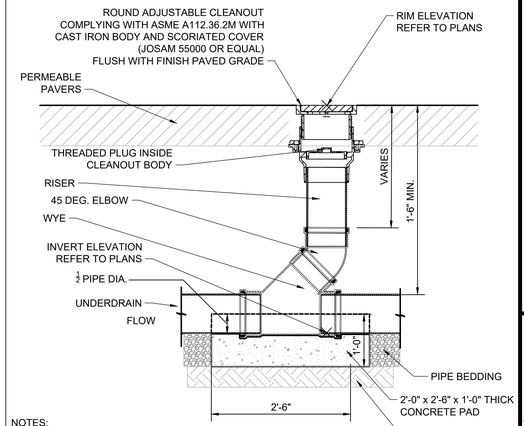
White House Utility District	WHITE HOUSE UTILITY DISTRICT	DATE : JAN 2015 SCALE : N.T.S.
	2" TAP ASSEMBLY DETAIL	STD-W-05



ROUND CAST-IRON, VALVE BOX LID SHALL BE LABELED WITH APPROPRIATE CALLOUT, "SEWER" OR "WATER"

NOTES:
1. EXTENSION STEMS ARE REQUIRED IF BURY DEPTH FROM VALVE OPERATING NUT TO FINISHED GRADE IS GREATER THAN 48". (SEE STD-G-12).
2. SEE APPROVED W.H.U.D. MATERIALS LIST.

White House Utility District	WHITE HOUSE UTILITY DISTRICT	DATE : AUG 2008 SCALE : N.T.S.
	VALVE BOX DETAIL	STD-G-11



NOTES:
1. FITTINGS AND RISER TO MATCH UNDERDRAIN PIPE SIZE AND MATERIAL .
2. ARRANGEMENT SHOWN IS FOR IN-LINE CLEANOUT. REPLACE WYE AND 45 WITH LONG SWEEP 90 IF END OF LINE CLEANOUT.

EXTERIOR CLEANOUT, TRAFFIC RATED

N.T.S.

REVISION #	DATE	DESCRIPTION
1	06/24/2026	CITY COMMENTS

RICHARD V SPECKMAN — REGISTERED ENGINEER — STATE OF TENNESSEE — 06-24-2026

SITE PLAN FOR:
ALLRIDES TOUCHLESS WASH
966 LOUISVILLE HIGHWAY
(HWY 31E) & TROUSDALE DR
SUMNER COUNTY, TENNESSEE 37072

M2 GROUP
P.O. BOX 2343
BRENTWOOD, TN 37024-2343
615.656.0287 / M2GROUP.LLC.COM

SITE DETAILS

DRAWN BY : JPN/RLE
CHECKED BY : BS/RVS
DATE : JUNE 24, 2026
PROJECT NO. : 25-332

C601

25-332 - SITE DETAILS.DWG | Tuesday, June 23, 2026 2:37:40 PM

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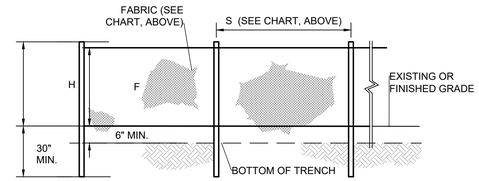
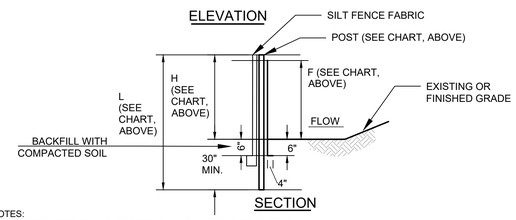
POST SIZE, MATERIAL AND SPACING CHART		
	WITHOUT BACKING	WITH BACKING
MIN. LENGTH = L	58"	58"
MIN. HEIGHT = H	18"	30"
MAX. SPACING = S	6'-0"	6'-0"
MATERIAL	2.25"x2.25" PINE OR 1.25 LB./FT. STEEL	1.25 LB./FT. STEEL
	WITHOUT BACKING	WITH BACKING
TENSILE STRENGTH (LBS. MIN.) (1) (ASTM D-4632)	WARP - 120 FILL - 100	WARP - 310 FILL - 200
ELONGATION (% MAX.) (ASTM D-4632)	20	--
AOS (APPARENT OPENING SIZE) (MAX. SIEVE SIZE) (ASTM D-4751)	#30	#70
FLOW RATE (GAL./MIN./SQ. FT.) (GDT-87) (MAX.)	4	18
ULTRAVIOLET STABILITY (2) (ASTM D-4632 AFTER 300 HOURS WEATHERING IN ACCORDANCE WITH ASTM D-4355)	70	90
BURSTING STRENGTH (PSI MIN.) (ASTM D-3786 DIAPHRAGM BURSTING STRENGTH TESTER)	250	400
MINIMUM FABRIC WIDTH (INCHES) = F+6"	26"	38"

(1) MINIMUM ROLL AVERAGE OF FIVE SPECIMENS.
(2) PERCENT OF REQUIRED INITIAL MINIMUM STRENGTH.
(3) PROVIDE WIRE FABRIC BACKING FOR TYPE C.



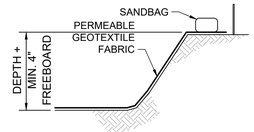
ELEVATION



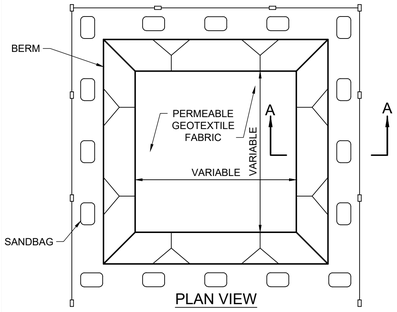
SECTION

NOTES:
1. USE SILT FENCE WITHOUT BACKING UNLESS OTHERWISE NOTED.
2. SILT FENCE SHALL BE INSTALLED USING A MECHANICAL TRENCHING MACHINE.
3. FABRIC, IN AREAS WHERE ROCK PROHIBITS PROPER EMBEDMENT, SHALL BE SECURED BY PLACING CLEAN CRUSHED STONE OR SAND ALONG THE BASE OF THE FENCE, 20 POUNDS OF STONE OR SAND, PER FOOT, MIN.
4. FILTER FABRIC SHALL BE FASTENED TO WOODEN POSTS WITH A MINIMUM OF FIVE, 17 GAUGE (½" WIDE X 1½" LONG) WIRE STAPLES.
5. FILTER FABRIC SHALL BE FASTENED TO STEEL POSTS WITH A MINIMUM OF FIVE WIRES OR PLASTIC ZIP TIES WITH A MINIMUM OF 50 LBS TENSILE STRENGTH.
6. CONTRACTOR SHALL PERIODICALLY REMOVE ACCUMULATED SEDIMENT WHEN SEDIMENT DEPTH REACHES 12".

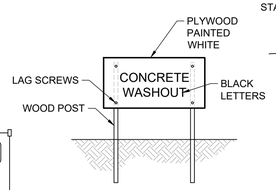
SILT FENCE
N.T.S.



SECTION A-A

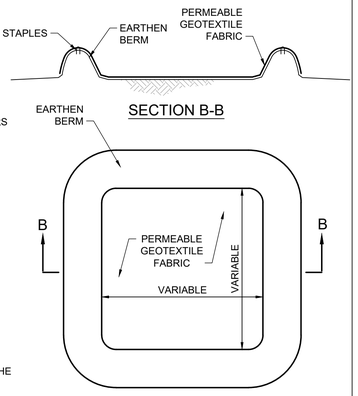


PLAN VIEW
TYPE "BELOW GRADE"



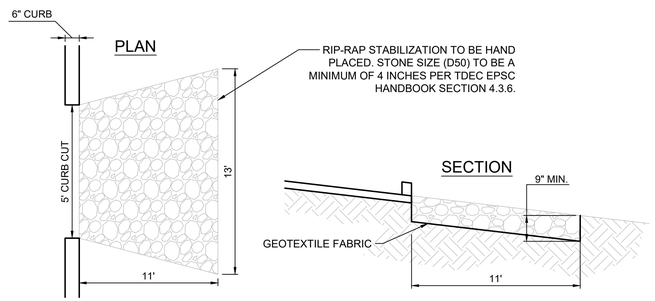
CONCRETE WASHOUT SIGN (OR EQUIVALENT)

NOTES:
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. SIGNAGE IDENTIFYING THE CONCRETE WASHOUT AREA SHALL BE INSTALLED WITHIN 5FT. OF THE WASHOUT FACILITY.

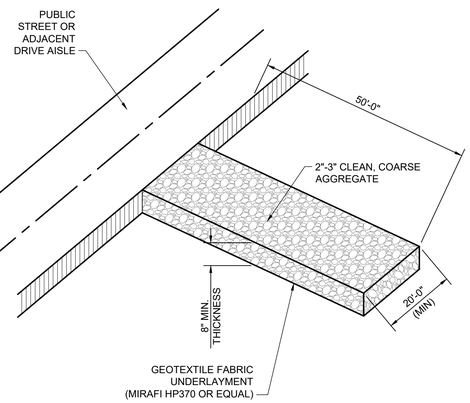


PLAN VIEW
TYPE "ABOVE GRADE"
WITH EARTHEN BERMS

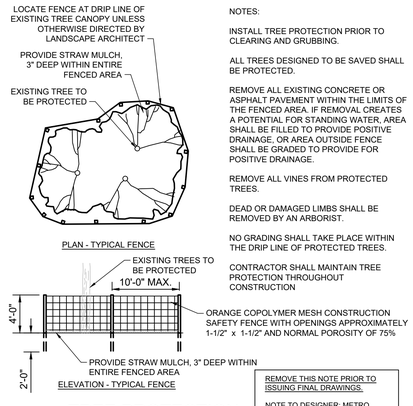
CONCRETE WASHOUT
N.T.S.



RIP RAP AT CURB CUT
N.T.S.



CONSTRUCTION ENTRANCE
N.T.S.



NOTES:

INSTALL TREE PROTECTION PRIOR TO CLEARING AND GRUBBING.

ALL TREES DESIGNED TO BE SAVED SHALL BE PROTECTED.

REMOVE ALL EXISTING CONCRETE OR ASPHALT PAVEMENT WITHIN THE LIMITS OF THE FENCED AREA. IF REMOVAL CREATES A POTENTIAL FOR STANDING WATER, AREA SHALL BE FILLED TO PROVIDE POSITIVE DRAINAGE, OR AREA OUTSIDE FENCE SHALL BE GRADED TO PROVIDE FOR POSITIVE DRAINAGE.

REMOVE ALL VINES FROM PROTECTED TREES.

DEAD OR DAMAGED LIMBS SHALL BE REMOVED BY AN ARBORIST.

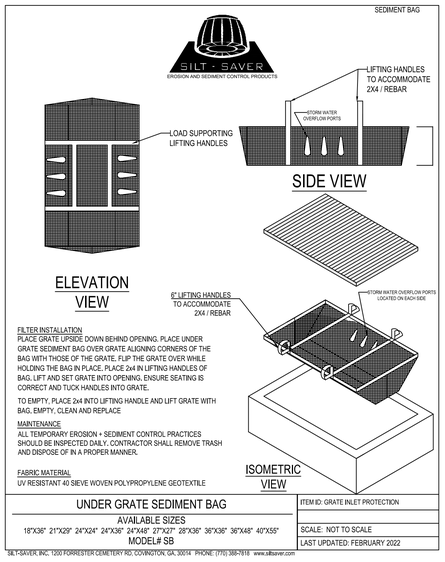
NO GRADING SHALL TAKE PLACE WITHIN THE DRIP LINE OF PROTECTED TREES.

CONTRACTOR SHALL MAINTAIN TREE PROTECTION THROUGHOUT CONSTRUCTION

REMOVE THIS NOTE PRIOR TO ISSUING FINAL DRAWINGS.

NOTE TO DESIGNER: METRO NASHVILLE REQUIRES FENCE FABRIC TO BE CHAIN LINK IN LIEU OF COPOLYMER MESH.

TREE PROTECTION
N.T.S.



FILTER INSTALLATION
PLACE GRATE UPSIDE DOWN BEHIND OPENING. PLACE UNDER GRATE SEDIMENT BAG OVER GRATE ALIGNING CORNERS OF THE BAG WITH THOSE OF THE GRATE. FLIP THE GRATE OVER WHILE HOLDING THE BAG IN PLACE. PLACE 2x4 IN LIFTING HANDLES OF BAG. LIFT AND SET GRATE INTO OPENING, ENSURE SEATING IS CORRECT AND TUCK HANDLES INTO GRATE.

TO EMPTY, PLACE 2x4 INTO LIFTING HANDLE AND LIFT GRATE WITH BAG, EMPTY, CLEAN AND REPLACE

MAINTENANCE
ALL TEMPORARY EROSION + SEDIMENT CONTROL PRACTICES SHOULD BE INSPECTED DAILY. CONTRACTOR SHALL REMOVE TRASH AND DISPOSE OF IN A PROPER MANNER.

FABRIC MATERIAL
UV RESISTANT 40 SIEVE WOVEN POLYPROPYLENE GEOTEXTILE

UNDER GRATE SEDIMENT BAG	ITEM ID: GRATE INLET PROTECTION
AVAILABLE SIZES 18"X36" 21"X29" 24"X24" 24"X36" 24"X48" 27"X27" 28"X36" 36"X36" 36"X48" 40"X55" MODEL# SB	SCALE: NOT TO SCALE LAST UPDATED: FEBRUARY 2022

SIL-SAVER, INC. 1200 FORRESTER CEMETERY RD. COVINGTON, GA. 30014 PHONE: (770) 388-7818 www.silsaver.com

REVISION #	DATE	DESCRIPTION
1	06/24/2026	CITY COMMENTS

RICHARD V SPECKMAN
REGISTERED ENGINEER
STATE OF TENNESSEE
06-24-2026

SITE PLAN FOR:
ALLRIDES TOUCHLESS WASH
956 LOUISVILLE HIGHWAY
(CITY OF GALLATIN, TN)
SUMNER COUNTY, TENNESSEE 37072

M2 GROUP
P.O. BOX 2543
BRENTWOOD, TN 37024-2543
615-656-0287 / M2GROUP.LLC.COM

EPSC DETAILS

DATE :	JUNE 24, 2026	DRAWN BY :	JPN/RLE
PROJECT NO. :	25-332	CHECKED BY :	BS/RVS

C602

25-332 - SITE DETAILS.DWG | Tuesday, June 23, 2026 2:14:32 PM

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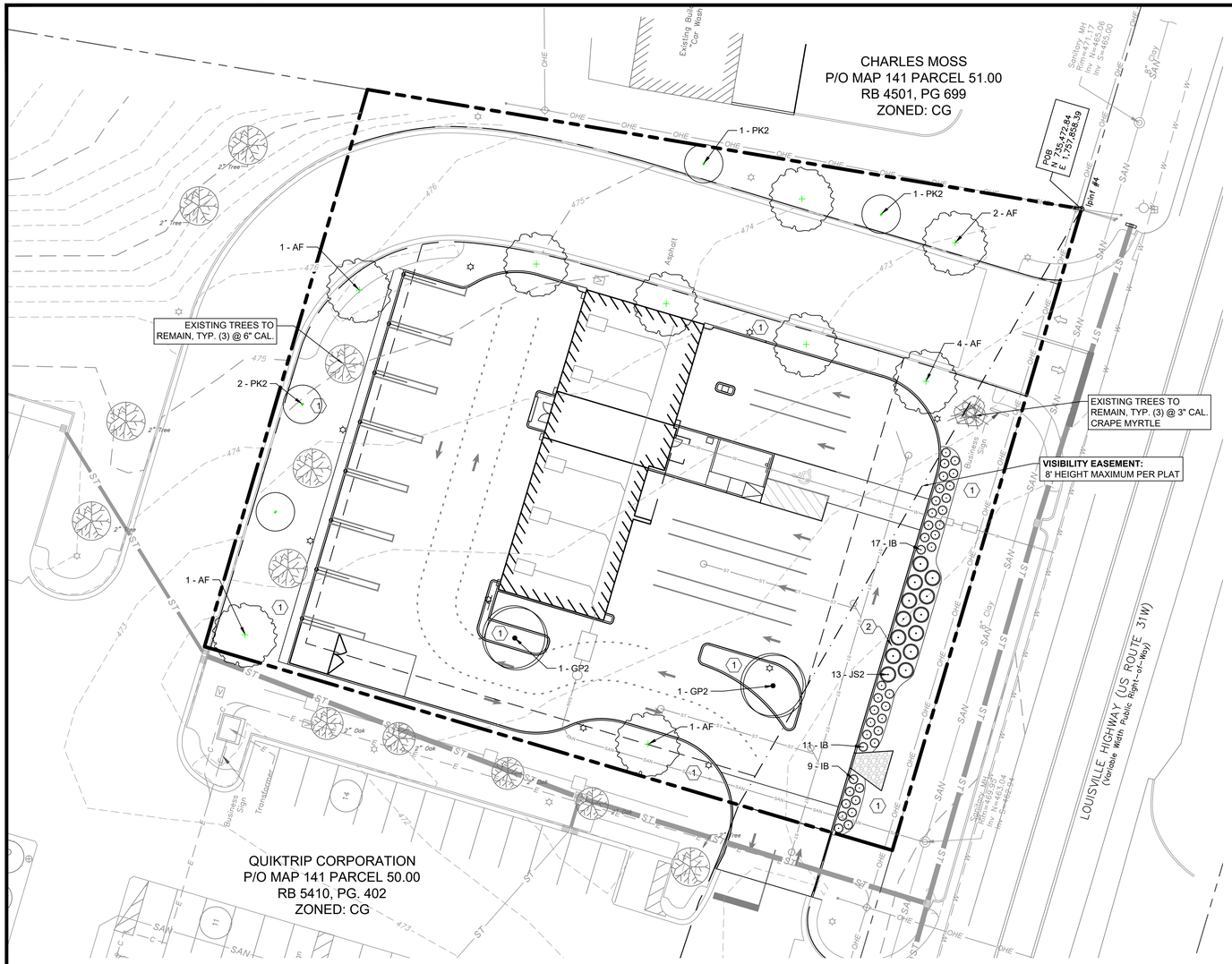
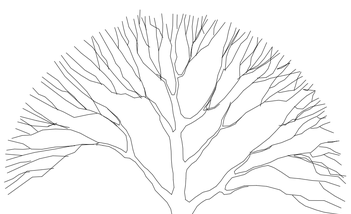
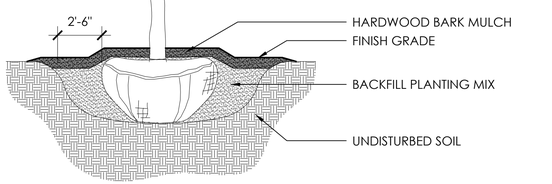


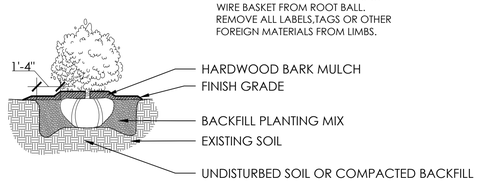


NOTES:
1. TOP OF ROOT BALL TO BE 2"-3" ABOVE ADJACENT FINISH GRADE
2. REMOVE ROPE AND BURLAP FROM TOP 1/3 OF ROOT BALL CUT TOP 1/3 OF WIRE BASKET FROM ROOT BALL. REMOVE ALL LABELS, TAGS OR OTHER FOREIGN MATERIALS FROM LIMBS.



1 DECIDUOUS TREE PLANTING
SCALE: 1/4" = 1'-0"

NOTES:
1. TOP OF ROOT BALL TO BE 2"-3" ABOVE ADJACENT FINISH GRADE
2. REMOVE ROPE AND BURLAP FROM TOP 1/3 OF ROOT BALL. CUT TOP 1/3 OF WIRE BASKET FROM ROOT BALL. REMOVE ALL LABELS,TAGS OR OTHER FOREIGN MATERIALS FROM LIMBS.



2 SHRUB PLANTING
SCALE: 1/2" = 1'-0"

PLANT SCHEDULE

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	HEIGHT	SPACING	REMARKS
TREES								
AF	9	Acer rubrum 'Frank Jr.'	Redpointe® Maple	3" CAL.	B&B	16'-18'	PER PLANS	
GP2	2	Ginkgo biloba 'PNI 2720'	Princeton Sentry® Maidenhair Tree	4" CAL.	B&B	16'-18'	PER PLANS	
PK2	4	Prunus serrulata 'Kwanzan'	Kwanzan Japanese Flowering Cherry	2" CAL.	B&B	12'-14' HT.	PER PLANS	
SHRUBS								
IB	37	Ilex cornuta 'Burfordii Nana'	Dwarf Burford Holly	#3	CONT.	18"-24"	48" O.C.	
JS2	13	Juniperus x pfitzeriana 'Sea Green'	Sea Green Pfitzer Juniper	#5	CONT.	24"-30"	72" O.C.	

GENERAL NOTES - LANDSCAPE PLANTING

1. EACH CONTRACTOR IS TO VERIFY WITH OWNER AND UTILITY COMPANIES THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION, TO DETERMINE IN THE FIELD THE ACTUAL LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL CALL UTILITY PROTECTION SERVICE 72 HOURS PRIOR TO CONSTRUCTION.

2. EXAMINE FINISH SURFACE, GRADES, TOPSOIL QUALITY AND DEPTH. DO NOT START ANY WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. VERIFY LIMITS OF WORK BEFORE STARTING.

3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM ALL WORK IN A MANNER THAT PROTECTS COMPLETED WORK BY OTHERS, SUCH AS CURBS, UTILITIES, STORM DRAINAGE, FENCES, DRIVEWAY APRONS, DRIVES, VEGETATION, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF SATISFACTORY REPAIR OF ALL DAMAGE IN KIND RESULTING FROM HIS FAILURE TO COMPLY.

4. ALL PLANTING OPERATIONS SHALL ADHERE TO THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1) 2014. CONTRACTOR IS RESPONSIBLE FOR ALL PLANT QUANTITIES SHOWN ON THE PLANS

5. QUANTITIES OF PLANTS AS SHOWN BY PLANT SYMBOLS ON THE PLAN SHALL GOVERN OVER THE QUANTITIES SHOWN IN THE PLANT LIST. THE CONTRACTOR IS TO VERIFY PLANT LIST TOTALS WITH QUANTITIES SHOWN ON PLAN. THE LANDSCAPE ARCHITECT SHALL BE ALERTED BY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO FINAL BID NEGOTIATION.

6. ALL WORK SHALL MEET OR EXCEED THE REQUIREMENTS OF ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS, ORDINANCES AND REQUIREMENTS.

7. ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE LANDSCAPE ARCHITECT. THE OWNER SHALL RECEIVE TAGS FROM EACH PLANT SPECIES AND A LIST OF PLANT SUPPLIERS.

8. PLANT SHALL BE PRUNED PRIOR TO DELIVERY ONLY UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT.

9. LIFTING STRAPS, ROOTBALL STRAPS AND WIRE BASKETS ARE TO BE REMOVED AND BURLAP IS TO BE ROLLED BACK ONE-THIRD ON ALL B&B PLANT MATERIAL. ANY SYNTHETIC BURLAP SHALL BE COMPLETELY REMOVED FROM ANY PLANT MATERIAL

10. SHADE TREE MEASUREMENT: CALIPER SHALL BE MEASURED AT SIX INCHES ABOVE THE ROOTBALL. HEIGHT SHALL BE MEASURED FROM THE CROWN OF THE ROOT BALL TO THE TOP OF MATURE GROWTH. SPREAD SHALL BE MEASURED TO THE END OF BRANCHING EQUALLY AROUND THE CROWN FROM THE CENTER OF THE TRUNK. MEASUREMENTS ARE NOT TO INCLUDE ANY TERMINAL GROWTH. SINGLE TRUNK TREES SHALL BE FREE OF "V" CROTCHES THAT COULD BE POINTS OF WEAK LIMB STRUCTURE OR DISEASE INFESTATION. WHERE TREES ARE PLANTED IN ROWS, THEY SHALL BE UNIFORM IN SIZE AND SHAPE

11. SHRUBS MEASUREMENT: HEIGHT SHALL BE MEASURED FROM THE GROUND TO THE TOP OF THE PLANT. SPREAD SHALL BE MEASURED TO THE END OF BRANCHING EQUALLY AROUND THE SHRUB MASS. MEASUREMENTS ARE NOT TO INCLUDE ANY TERMINAL GROWTH.

12. ALL SOIL IN PLANT BED AREAS IS TO BE A BLEND OF CLEAN SIFTED TOP SOIL AND ORGANIC CONTENT. SEE NOTE #16.

13. ALL LANDSCAPE BED AREAS TO BE IRRIGATED WITH UNDERGROUND SYSTEM. IRRIGATION PLAN TO BE SUBMITTED TO LANDSCAPE ARCHITECT FOR REVIEW PRIOR TO INSTALLATION.

14. NO SUBSTITUTIONS OF PRODUCTS, PLANT TYPES OR SIZES SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE OWNER, LANDSCAPE ARCHITECT AND CITY OF GOODLETTSVILLE. REQUESTS FOR SUBSTITUTION SHALL BE IN WRITING, AND SHALL STATE THE REASONS FOR THE SUBSTITUTION REQUEST, THE SUGGESTED ALTERNATIVE, AND THE CHANGES IN COST. REQUESTS FOR SUBSTITUTION IN PLANT MATERIALS SHALL STATE THE NAMES OF NURSERIES WHO HAVE BEEN UNABLE TO SUPPLY THE ORIGINALLY SPECIFIED MATERIAL.

15. FINISHED PLANTING BEDS SHALL BE GRADED SO AS NOT TO IMPEDE DRAINAGE AWAY FROM BUILDINGS.

16. ACCEPTABLE TOPSOIL SHALL BE A FERTILE, FRIABLE NATURAL LOAM, UNIFORM IN COMPOSITION, FREE OF STONES, LIMBS, PLANTS AND THEIR ROOTS, DEBRIS AND OTHER EXTRANEOUS MATTER OVER 1 INCH IN DIAMETER. THE SOIL SHALL BE CAPABLE OF SUSTAINED PLANT GROWTH AND HAVE A 5% MINIMUM ORGANIC CONTENT

17. NO TREES SHALL BE PLANTED WITHIN 10' OF A SEWER OR WATER LINE.

18. SURVEY PROVIDED BY: SURVEY MATTERS, LLC.

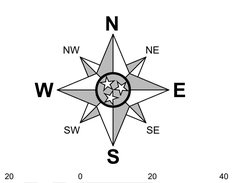
19. SEE CIVIL DRAWINGS, BY M2 GROUP LLC, FOR SITE UTILITY AND GRADING INFORMATION. ANY CONFLICTS BETWEEN THE DRAWINGS ARE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNER.

SITE LANDSCAPING : CONSTRUCTION NOTES

1. BERMUDA SEED OR SOD AREA, FILL WITH TOPSOIL, MINIMUM DEPTH SHALL BE 6". MEET ADJACENT SURFACES FLUSH. PROVIDE POSITIVE DRAINAGE ACROSS ALL SURFACES. ROLL ALL SOD UPON INSTALLATION TO ASSURE UNIFORM GRADE.

2. LANDSCAPE AREA, FILL WITH TOPSOIL, MINIMUM DEPTH SHALL BE 24". MEET ADJACENT SURFACES FLUSH. MOUND TO PROVIDE POSITIVE DRAINAGE ACROSS ALL SURFACES. MULCH UPON COMPLETION

LANDSCAPE REQUIREMENTS		
OVERALL SITE		
Total Required	70 ACI	
Total Provided	70 ACI	
Existing Canopy	18	
Existing Understory	9	
Provided Canopy	35	
Provided Understory	8	
Total Provided	**70**	
LANDSCAPE ISLANDS	1 Canopy Tree per Island	
Required Trees	2	
Provided Trees	2	
Parking Frontage Screening	1 Shrub per 2 Linear Feet	
Required Shrubs	50	
Provided Shrubs	50	



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

REVISION #	DATE	DESCRIPTION
1	06/24/2026	CITY COMMENTS

BRIAN GALLAGHER REGISTERED LANDSCAPE ARCHITECT TENNESSEE NO. 1370
6/24/2026

SITE PLAN FOR:
ALLRIDES TOUCHLESS WASH
958 LOUISVILLE HIGHWAY
GOODLETTSVILLE, TENNESSEE
SUMNER COUNTY, TENNESSEE 37072

M2 GROUP
P.O. BOX 3543
BRENTWOOD, TN 37024-3543
615-656-0257 | M2GROUP-LLC.COM

LANDSCAPE PLAN

DATE :	JUN 24, 2026	DRAWN BY :	BJG
PROJECT NO. :	25-332	CHECKED BY :	BJG

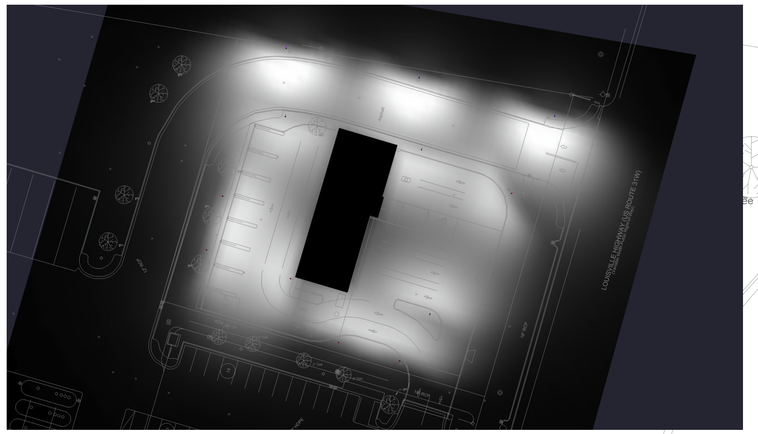
L1.00

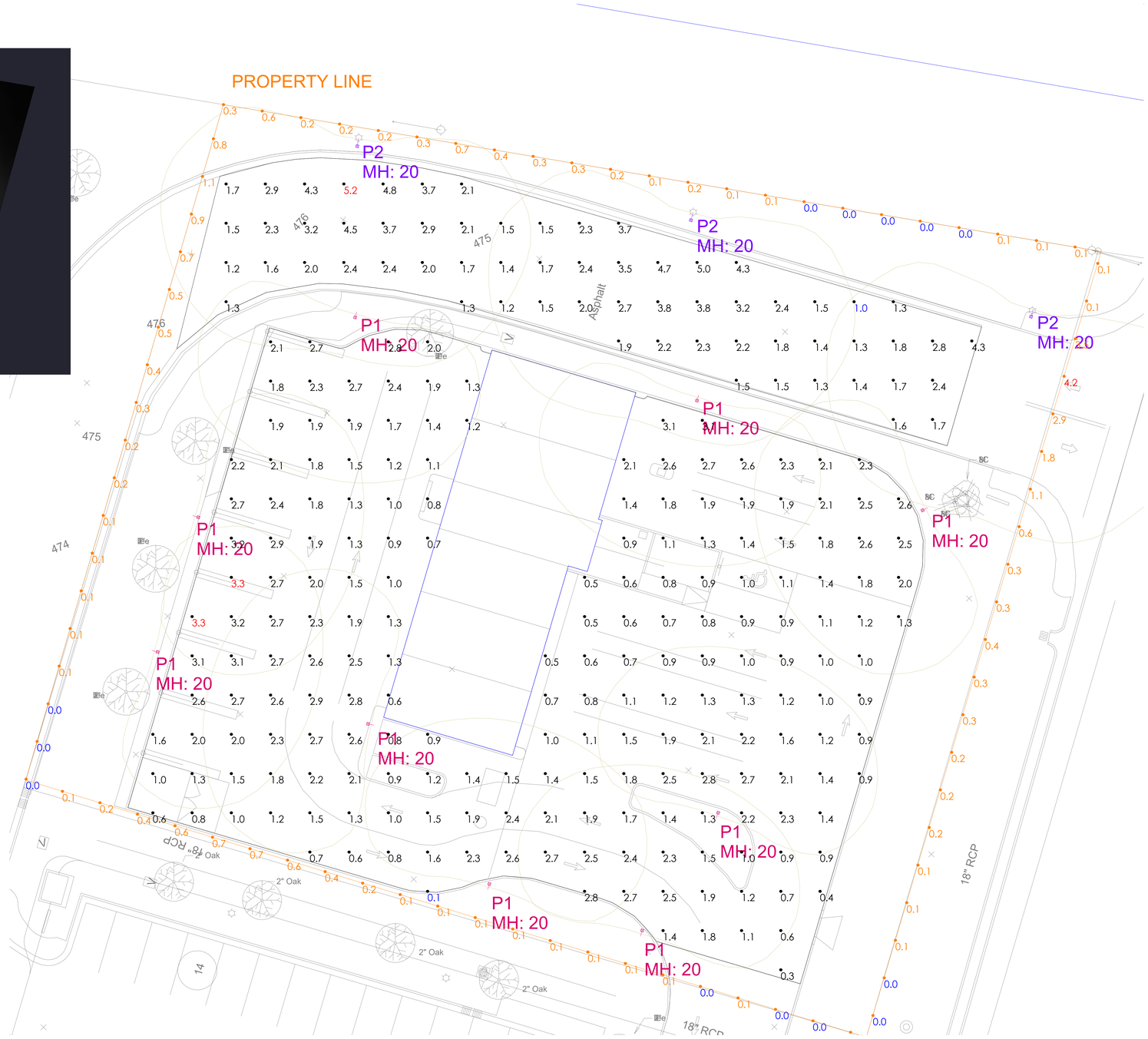
TARGETING: GOODLETSVILE DESIGN GUIDELINES
- PROPERTY LINE: 0.5 MIN MAX

Luminaire Schedule									
Symbol	Qty	Label	Arrangement	Luminaire Lumens	LLF	Luminaire Watts	Total Watts	Description	[MANUFAC]
	9	P1	Single	4440	1.000	42	378	OPF-S-7L-830-BLC	Gardco by Signify
	3	P2	Single	10279	1.000	103	309	OPF-S-16L-830-BLC	Gardco by Signify

Calculation Summary										
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	Point Spacing	Calc. Plane Height
CAR WASH DRIVE	Illuminance	Fc	1.67	3.3	0.1	16.70	33.00	10	0
ENTANCE DRIVE	Illuminance	Fc	2.42	5.2	1.0	2.42	5.20	10	0
PROPERTY LINE	Illuminance	Fc	0.38	4.2	0.0	N.A.	N.A.	N.A.	N.A.

NOTES:
- WHEN THE LLF IS NOT 0.9 OR 1.0 THE WATTAGE INFORMATION WILL BE CONSIDERED AS APPROXIMATE.
- LUMINAIRES WERE DEFINED WITH PROPOSED OUTPUTS AND OPTICS
- LUMINAIRES WERE PLACED AT PROPOSED LOCATIONS
- LUMINAIRES DEFINED WITH 3000K CCT AND BACKLIGHT SHIELDS TO REDUCE GLARE PER ORDINANCE





PHOTOMETRY - SITE
Scale: 1 inch= 12 Ft.

SESCO LIGHTING

Disclaimer
SESCO Lighting provides this photometric report for purposes of comparison within the SESCO Lighting product line only. The information provided is based on standardized industry procedures.

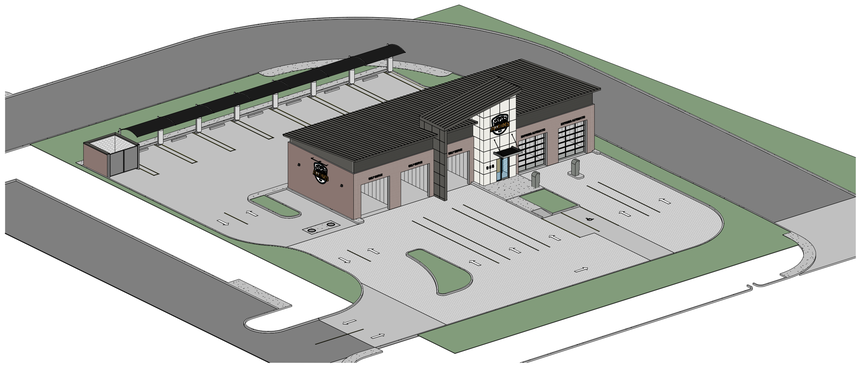
This laboratory performance will always differ from that observed in the field due to a great number of variables, both known and unknown (installation methods, power quality, lamping, recoverable and non-recoverable light loss factors, etc.)

In general, SESCO Lighting considers numerical studies to be predictive in that they cannot characterize the visual performance of any luminaire, single or grouped. As such, specification decisions must be thoroughly based upon experience, consultation with the manufacturer, and, above all, common sense.

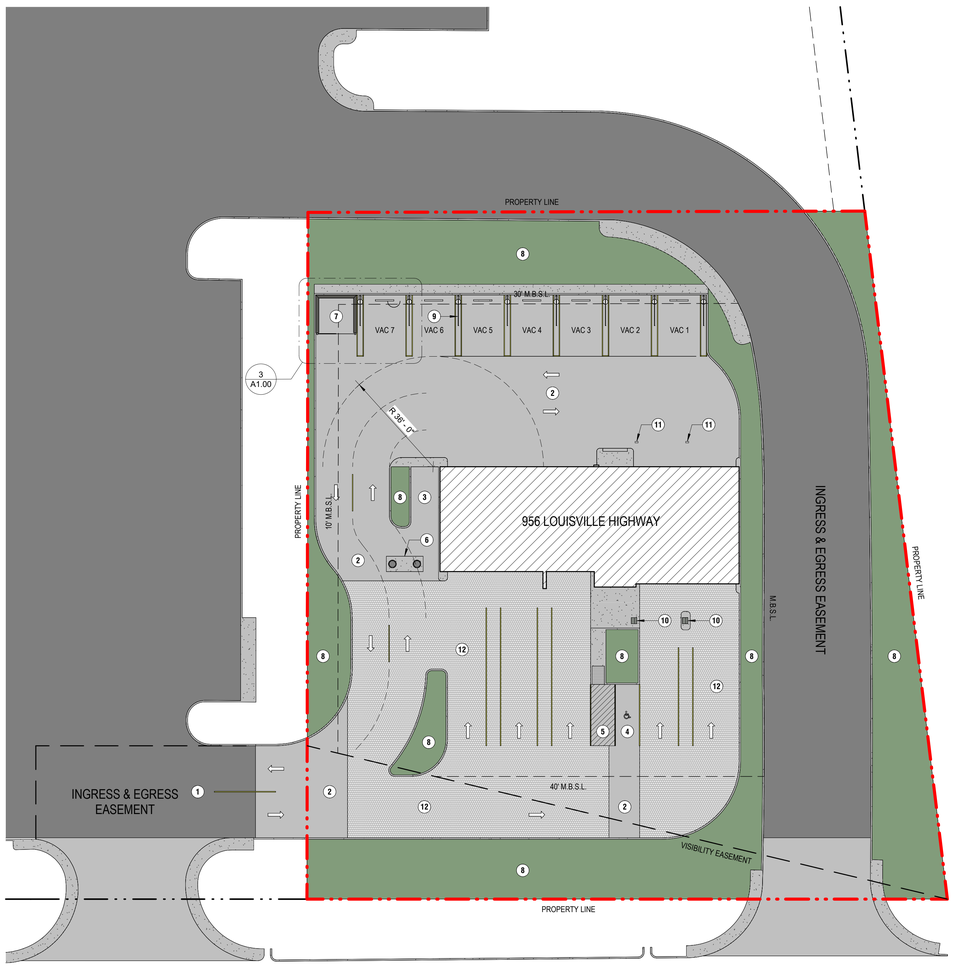
Sales Rep: GRETCHEN MAST
Office: NASHVILLE
Contact: (615) 383-2030
Processed By: M.SALINAS, S.OAKLEY
Filename: 06-17-2026 CAR WASH GOODLETSVILLE - SITE.AGI

CAR WASH
GOODLETTSVILLE

Date:6/17/2026

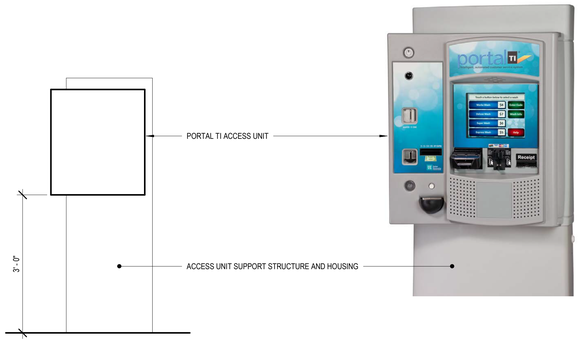


2 Site Plan Axonometric

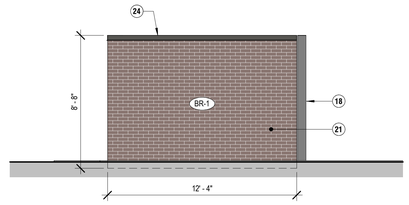


1 Architectural Site Plan
1" = 20'-0"

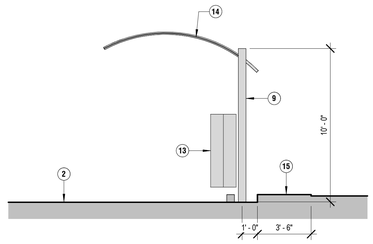
0' 20' 40' 80'



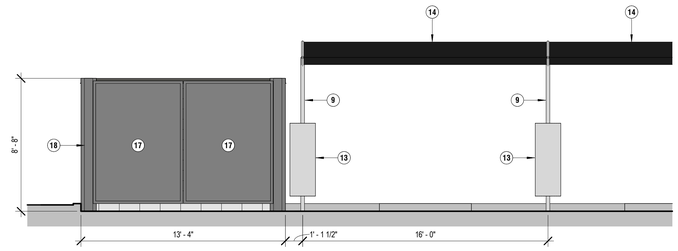
7 Access Unit (Portal TI)
3/4" = 1'-0"



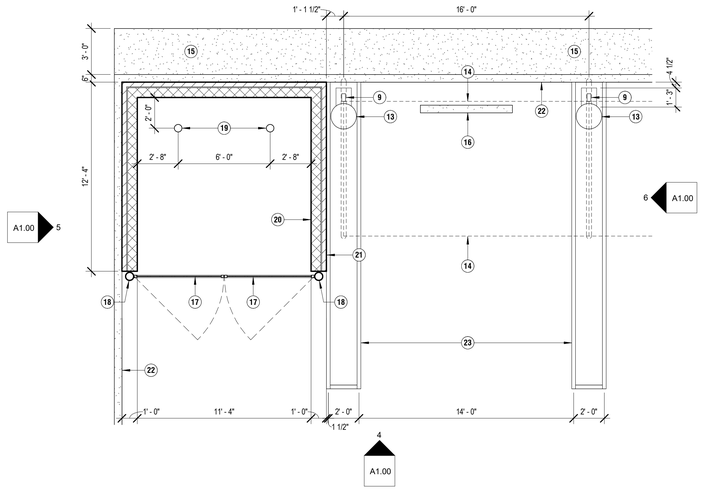
5 Dumpster Enclosure Elevation
1/4" = 1'-0"



6 Vacuum Elevation
1/4" = 1'-0"



4 Dumpster Enclosure and Vacuum Stalls
1/4" = 1'-0"



3 Dumpster Enclosure and Vacuum Stalls
1/4" = 1'-0"

LEGEND:

- PROPERTY LINE
- EXISTING PROPERTY LINE
- BUILDING LINE
- EASEMENT
- STREAM LINE
- STREAM BUFFER
- (1) KEYNOTE
- NORTH ARROW
- SPOT ELEVATION

PROPERTY INFORMATION:

PARCEL ID: 141 050.00 000

ADDRESS: 956 LOUISVILLE HIGHWAY
GOODLETTSVILLE, SUMNER COUNTY, TENNESSEE
37072

AREA: 1.00 ACRE

ZONING SUMMARY:

GOODLETTSVILLE ZONING ORDINANCE

SECTION 14-206: COMMERCIAL DISTRICT REGULATIONS

TABLE III - BULK LOT AND OPEN SPACE REQUIREMENTS - COMMERCIAL DISTRICTS

CG - COMMERCIAL GENERAL - INTERCHANGE OVERLAY DISTRICT

MIN. LOT SIZE:	10,000 SF
MAX. LOT COVERAGE:	40% (ALL BUILDINGS)
ACTUAL LOT COVERAGE:	**3,528 / 43,719 = 0.08 (8%)**
MAX. HEIGHT:	4 STORIES
MAX. FAR:	2.00
ACTUAL FAR:	**3,528 / 43,719 = 0.08**
MIN. FRONT SETBACK:	40'
MIN. SIDE SETBACK:	10'
MIN. REAR SETBACK:	30'

GENERAL NOTES:

1. COORDINATE ALL WORK SCHEDULING AND COMPLY WITH SAFETY PROCEDURES THAT PROTECT ALL OCCUPANTS IN CONSTRUCTION AREAS.
2. CONSTRUCTION DEBRIS SHALL BE REMOVED AND/OR STORED AWAY FROM THE BUILDING ON A DAILY BASIS. DISPOSE OF TRASH AS REQUIRED BY ORDINANCE OR CODE.
3. PROPER SITE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES. DAMAGE CAUSED BY FAILING TO MAINTAIN SITE DRAINAGE SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
4. PROVIDE COMPACTED FILL AT RUTS OR HOLES CAUSED BY CONSTRUCTION ACTIVITIES. REPAIR ANY CONCRETE DAMAGED DURING CONSTRUCTION.
5. ALL NEW PAVING SHALL BE AS DETAILED ON CIVIL DRAWINGS.
6. ALL TRAFFIC PAINT SHALL BE WHITE.
7. ACCESSIBLE PARKING SPACE TO BE DESIGNATED BY BLUE STRIPING AND EITHER A BLUE SYMBOL ON A WHITE BACKGROUND OR A WHITE SYMBOL ON A BLUE BACKGROUND. ACCESSIBLE PARKING STALLS REQUIRE THE INSTALLATION OF THE PROPER SIGNAGE.
8. ALL PARKING SPACES SHALL BE LAID OUT IN ACCORDANCE WITH THE TYPICAL DETAIL AS SHOWN ON THIS PLAN, UNLESS OTHERWISE INDICATED ON THIS PLAN.
9. PRIOR TO INSTALLATION OF PAVING, CONTRACTOR SHALL VERIFY AND COORDINATE ALL CONDUIT SIZES AND ROUTES.
10. REFERENCE LANDSCAPE DRAWINGS FOR PLANTING AND SEEDING SCOPE OF WORK.

SITE PLAN KEYNOTES:

1. EXISTING ASPHALT DRIVEWAY
2. CONCRETE PAVING
3. EMPLOYEE PARKING
4. ACCESSIBLE PARKING
5. ACCESSIBLE AISLE
6. SAND/GREASE TRAP
7. DUMPSTER ENCLOSURE
8. LANDSCAPE AREA (LSA)
9. VACUUM CANOPY SUPPORT
10. ACCESS UNIT (RE: WASH EQUIPMENT DWGS.)
11. COUNTDOWN TIMER (RE: WASH EQUIPMENT DWGS.)
12. PERMEABLE PAVERS
13. 92000 SERIES VACUUM
14. FABRIC AWNING
15. CONCRETE SIDEWALK
16. 6" CONCRETE WHEEL STOP
17. 1" ALUMINUM PANELS ON 2" TUBE STEEL ALUMINUM FRAME
18. 6" DIAMETER STEEL PIPE - PAINTED
19. 3'-0" TALL - 6" DIAMETER STEEL PIPE BOLLARD - CONCRETE FILLED
20. 8" CMU WITH #5 VERTICAL BARS AT 32" O.C. AND HORIZONTAL JOINT REINFORCING AT 24" O.C.
21. BRICK VENEER (BR-1) WITH ADJUSTABLE TIES AT 24" O.C. VERTICAL AND HORIZONTAL
22. 6" CONCRETE CURB
23. PAINTED PARKING STRIPE
24. PRE-FINISHED METAL COPING

FUSION ARCHITECTURE, PC

V: 615.454.3916
W: FUSIONARCHITECTURE.COM

KYLE M. KRAMER — REGISTERED ARCHITECT — STATE OF TENNESSEE

09.25.2024

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Scales as stated hereon are valid on the original drawing only.

These plans were prepared in this office under our personal supervision, and to the best of our knowledge comply with state and local codes.

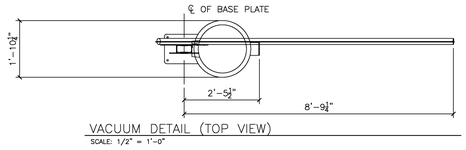
PHASE / REVISION	DATE
SCHEMATIC DESIGN	04.17.2025
SITE PLAN SUBMITTAL	06.23.2025
CONSTRUCTION DOCUMENTS	07.06.2025

ALLRIDES TOUCHLESS WASH
956 LOUISVILLE HIGHWAY
GOODLETTSVILLE, TENNESSEE 37072

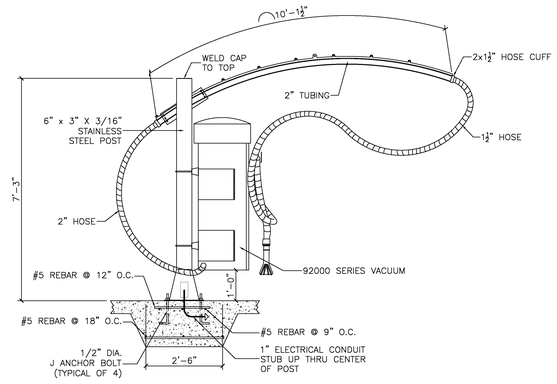
PROJECT NUMBER
60-005-25

SHEET TITLE
Architectural Site Plan

SHEET NUMBER
A1.00

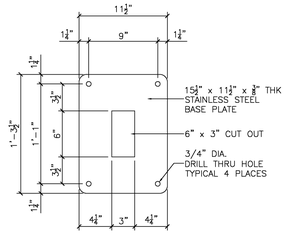


VACUUM DETAIL (TOP VIEW)
SCALE: 1/2" = 1'-0"

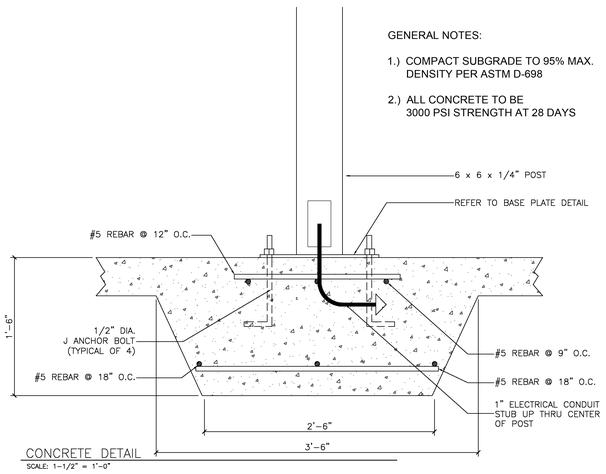


VACUUM DETAIL (SIDE VIEW)
SCALE: 1/2" = 1'-0"

1 Vacuum Arch Details
1/2" = 1'-0"



BASE PLATE DETAIL
SCALE: 1-1/2" = 1'-0"



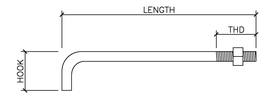
CONCRETE DETAIL
SCALE: 1-1/2" = 1'-0"

2 Vacuum Arch Foundation Details
1 1/2" = 1'-0"

GENERAL NOTES:

1.) COMPACT SUBGRADE TO 95% MAX. DENSITY PER ASTM D-698

2.) ALL CONCRETE TO BE 3000 PSI STRENGTH AT 28 DAYS



ANCHOR BOLT DETAILS			
DIA.	LENGTH	THD.	HOOK
1/2"	1'-3"	3"	3"

ANCHOR BOLT NOTES:
4~ 10" x 1/2" DIA. ANCHORS – EPOXY SET &
4~ 1/2" DIA. x 8" WEDGE ANCHORS
ARE AN ACCEPTABLE ALTERNATE
TO J ANCHOR BOLTS

STRUCTURAL LOAD TABLE

LIVE LOAD TO FRAMES	12 PSF	
WIND LOAD	120 MPH	(3 SEC. GUST)
AUXILIARY LOAD	0 PSF	
OTHER LOADS	0 PSF	
TOTAL DEAD LOAD	2.0 PSF	

FUSION ARCHITECTURE, PC

V: 615.454.3916
W: FUSIONARCHITECTURE.COM

KYLE M. KRAMER
REGISTERED ARCHITECT
STATE OF TENNESSEE
09.25.2024

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These plans were prepared in this office under our personal supervision, and to the best of our knowledge comply with state and local codes.

PHASE	REVISION	DATE
SCHEMATIC DESIGN		04.17.2025
SITE PLAN SUBMITTAL		06.25.2025
CONSTRUCTION DOCUMENTS		07.06.2025

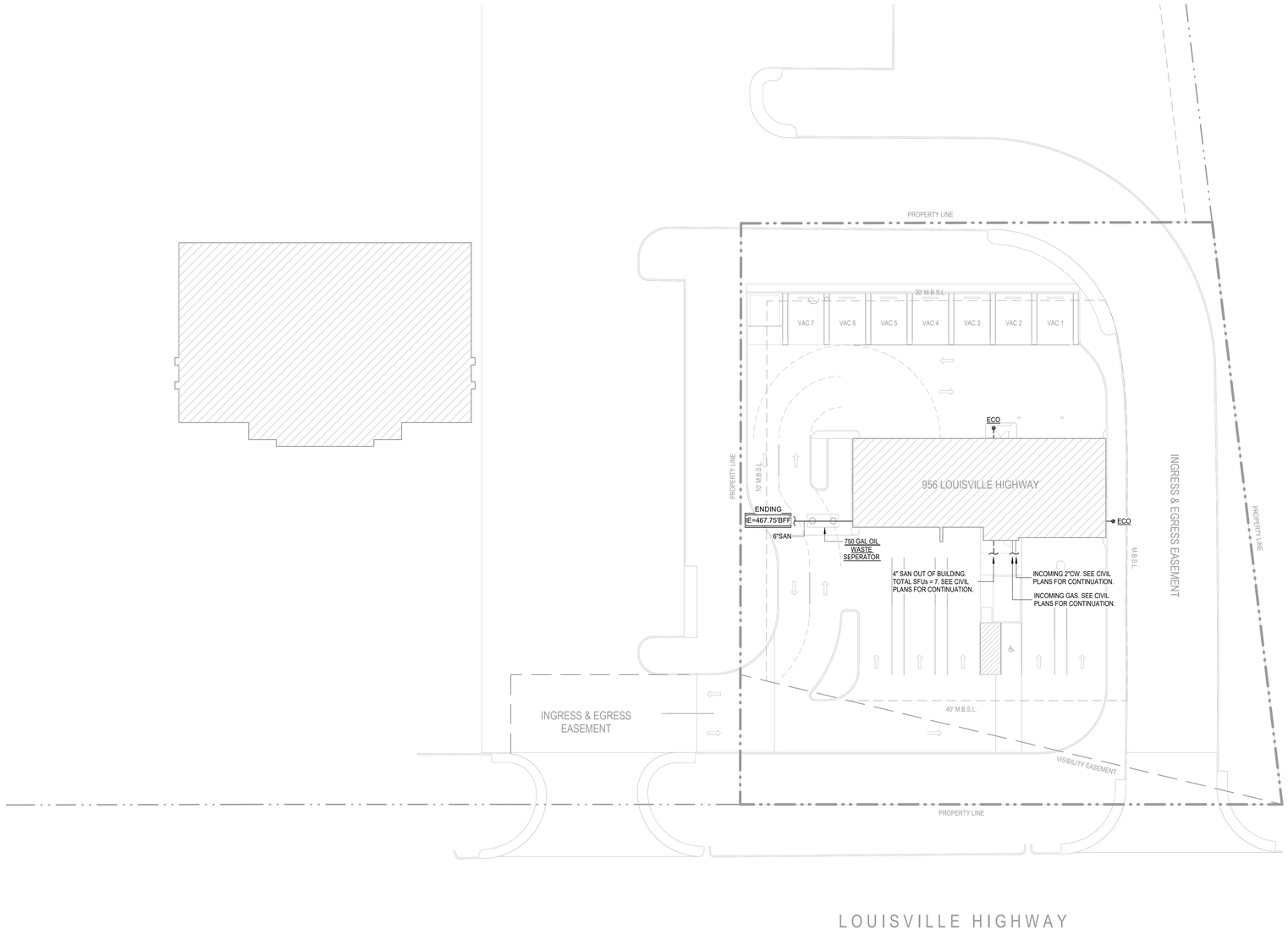
ALLRIDES TOUCHLESS WASH

956 LOUISVILLE HIGHWAY
GOODLETTSVILLE, TENNESSEE 37072

PROJECT NUMBER
60-005-25

SHEET TITLE
Site Details

SHEET NUMBER
A1.10



N

1 **PLUMBING SITE PLAN**
Scale: 1" = 20'-0"

FUSION ARCHITECTURE

FUSION ARCHITECTURE, PC

V: 615.454.3916
W: FUSIONARCHITECTURE.COM

BRADLEY KALMANS
REGISTERED ENGINEER
AGRICULTURE
CONNECTICUT
No. 10961
STATE OF TENNESSEE
06/25/2026

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PHASE | REVISION	DATE
SCHEMATIC DESIGN	04.17.2026
SITE PLAN SUBMITTAL	06.25.2026
CONSTRUCTION DOCUMENTS	

ALLRIDES TOUCHLESS WASH

956 LOUISVILLE HIGHWAY
GOODLETTSVILLE, TENNESSEE 37072

ALLRIDES TOUCHLESS WASH

PROJECT NUMBER
60-005-25

SHEET TITLE
PLUMBING SITE PLAN

SHEET NUMBER
P1.00

DWG NAME: J:\2025\M25-9311 - CCW, 155 Long Hollow Pike, Goodlettsville TN\M25-9311A\ENGINEERING\AUTOCAD DRAWINGS\02_ Preliminary\M25-9311A_0_COVER.dwg LAYOUT TAB: COVER PLOTTED ON: Jun 24, 2026 - 1:20pm PLOTTED BY: KFarrell

CONTACT INFORMATION

OWNER / DEVELOPER

OWNER: CLUB CAR WASH OPERATING, LLC
REPRESENTATIVE: JUSTIN BARNES
ADDRESS: 1591 E. PRATHERSVILLE RD; COLUMBIA, MO 65202
PHONE: (573) 999-5178

SEWER

OWNER: CITY OF GOODLETTSVILLE
REPRESENTATIVE: JEFF McCORMICK
ADDRESS: 215 CARTWRIGHT ST.; GOODLETTSVILLE TN 37072
PHONE: 615-851-2200

WATER

OWNER: MADISON SUBURBAN UTILITY DISTRICT
REPRESENTATIVE: JIM WADE
ADDRESS: 721 MYATT DRIVE; MADISON TN 37115
PHONE: 615-868-3201 EXT 206

ELECTRIC

OWNER: NASHVILLE ELECTRIC SERVICE
REPRESENTATIVE: DARRELL THOMPSON
ADDRESS: 1214 CHURCH STREET, NASHVILLE, TN 37246
PHONE: (615)-736-6900

GAS

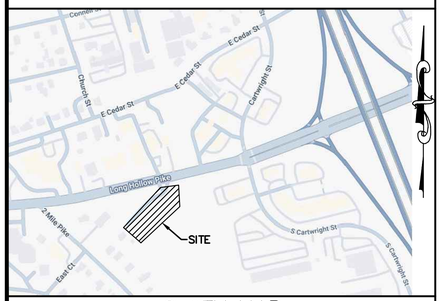
OWNER: PIEDMONT NATURAL GAS
REPRESENTATIVE: JANEL SMITH
ADDRESS: 83 CENTURY BOULEVARD, NASHVILLE, TN 37214
PHONE: (800)-752-7504

TELEPHONE

OWNER: AT&T
REPRESENTATIVE: TIM SMITH
ADDRESS: 410 WEST MAGNOLIA AVE, KNOXVILLE, TN 37917
PHONE: (865)-312-4115

SPECIAL NOTES :

SITE BENCHMARK:
ELEV=451.37
THE SITE BENCHMARK IS A 5/8" IRON PIN WITH A RED CAP LABELED "TRAVERSE PT". LOCATED NORTH OF NORTHWEST PROPERTY LINE AND SOUTH OF THE MASKERS CREEK TRIBUTARY.



VICINITY MAP
NO SCALE

PRELIMINARY PLANS
CLUB CAR WASH
GOODLETTSVILLE, TENNESSEE

PROJECT ADDRESS
155 LONG HOLLOW PIKE
GOODLETTSVILLE, TN 37072

PROJECT NO. M25-9311A

- CIVIL ENGINEERING
- LAND SURVEYING
- ARCHITECTURE
- SITE DEVELOPMENT
- MASTER PLANNING
- GENERAL CONSULTING

8 EAST MAIN STREET, WENTZVILLE, MISSOURI 63385
TELEPHONE (636) 332-4574
FAX (636) 327-0760
E-MAIL wentmail@cochraneng.com

JUNE, 2026

SHEET INDEX

	SHEET
GENERAL NOTES AND LEGEND	1 OF 16
EXISTING CONDITIONS	2 OF 16
SITE PLAN	3 OF 16
UTILITY PLAN	4 OF 16
GRADING PLAN	5 OF 16
EROSION AND SEDIMENT CONTROL PLAN	6 OF 16
SWPPP GENERAL NOTES AND DETAILS	7 OF 16
STORM SEWER PLAN AND PROFILE	8 OF 16
EXISTING DRAINAGE AREA MAP	9 OF 16
PROPOSED DRAINAGE AREA MAP	10 OF 16
EXISTING TRIBUTARY DRAINAGE AREA MAP	11 OF 16
PROPOSED TRIBUTARY DRAINAGE AREA MAP	12 OF 16
DETAILS	13 OF 16
DETAILS	14 OF 16
LANDSCAPE PLAN	15 OF 16
PHOTOMETRICS PLAN	16 OF 16

All OSHA rules & regulations established for the type of construction required by these plans shall be strictly followed (ie. Trenching, Blasting, etc.)

Tennessee 811

KURTIS J. DANIELS
REGISTERED ENGINEER
AGRICULTURE
No. 127527
STATE OF TENNESSEE

4/24/26
DATE

Kurtis J. Daniels No. 127527
Registered Professional Engineer
State of Tennessee
for Cochran Engineering & Surveying

SITE NOTES

1. SITE BENCHMARK:
   ELEV.=451.37
   THE SITE BENCHMARK IS A 5/8" IRON PIN WITH A RED CAP LABELED "TRAVERSE PT". LOCATED NORTH OF NORTHWEST PROPERTY LINE AND SOUTH OF THE MASKERS CREEK TRIBUTARY.
2. ZONED: CPUD COMMERCIAL PLANNED UNIT DEVELOPMENT
   FRONT YARD 60 FT.
   SIDE YARD 30 FT.
   REAR YARD 30 FT.
3. FLOODZONE:
   THIS SITE FALLS WITHIN "FLOODWAY ZONE AE", THE FLOODWAY IS THE CHANNEL OF A STREAM PLUS ANY ADJACENT FLOODPLAIN AREAS THAT MUST BE KEPT FREE OF ENCROACHMENT SO THE THE 1% ANNUAL CHANCE FLOOD CAN BE CARRIED WITHOUT SUBSTANTIAL INCREASES IN FLOOD HEIGHTS; "ZONE AE", THE 1% ANNUAL CHANCE FLOOD (100-YEAR FLOOD), ALSO KNOW AS THE BASE FLOOD, IS THE FLOOD THAT HAS A 1% CHANCE OF BEING EQUALED OR EXCEEDED IN ANY GIVEN YEAR; UNSHADED "ZONE X", AREAS TO BE DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL FLOOD PLAIN, PER FIRM, FLOOD INSURANCE RATE MAP, FOR DAVIDSON COUNTY, TENNESSEE, MAP NUMBER 47037C0129J, EFFECTIVE DATE OF FEBRUARY 25, 2022. FLOOD ZONES SHOWN HEREON ARE DETERMINED BY SCALING.
4. EFFORTS WILL BE MADE TO DIRECT DRAINAGE TO EXISTING DISCHARGE POINTS.
5. ALL STORM WATER RUNOFF SHALL MEET GOVERNING AUTHORITY CURRENT STANDARDS.
6. THE SITE SHALL CONFORM TO CITY OF GOODLETTSVILLE CURRENT STANDARDS.
7. THE TOPOGRAPHIC INFORMATION AS SHOWN HEREON PER FIELDWORK PERFORMED BY OHM ADVISORS.
8. TOTAL SITE ACREAGE 1.48 AC (64,278 SF.)
9. THIS SITE IS SERVED BY:
   WATER – MADISON SUBURBAN UTILITY DISTRICT
   SANITARY SEWER – CITY OF GOODLETTSVILLE
   FIRE – CITY OF GOODLETTSVILLE FIRE DEPARTMENT
   TELEPHONE – AT&T
   ELECTRIC – NASHVILLE ELECTRIC SERVICE
   GAS – PIEDMONT NATURAL GAS
10. THE DEVELOPMENT SHALL BE SERVED BY UNDERGROUND ELECTRIC.
11. BOUNDARY INFORMATION IS PER SURVEY PERFORMED BY OHM ADVISORS.
12. THIS SITE WILL DEVELOP IN ONE PHASE.
13. ALL UTILITIES ARE TO BE LOCATED UNDERGROUND.
14. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY THE SURVEYOR.
15. NO INVESTIGATION WAS PERFORMED BY COCHRAN REGARDING HAZARDOUS WASTE, UNDERGROUND CONDITIONS OR UTILITIES AFFECTING THE TRACT.
16. ALL GREEN SPACE AREAS SHALL BE SODDED.
17. SIGNAGE FOR THIS SITE WILL REQUIRE A SEPARATE APPROVAL AND PERMIT.
18. ALL CONCRETE PARKING IS TO BE STRIPED WITH 4" WIDE PAINTED WHITE LINES AS INDICATED. ADA STRIPING SHALL BE BLUE.
19. CONTRACTOR SHALL SAW CUT ALL CURB AND GUTTER SECTIONS, CONCRETE MEDIANS, AND ALONG PAVEMENT WHERE PROPOSED CONSTRUCTION TIES INTO EXISTING AREAS. CONTRACTOR SHALL MAINTAIN TRAFFIC FLOW AND PROVIDE TRAFFIC CONTROL THROUGHOUT CONSTRUCTION.

UTILITY NOTES

1. UNDERGROUND STRUCTURES, FACILITIES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS. THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN.
2. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON PLANS.
3. CONTRACTOR TO CONTACT TELEPHONE, ELECTRIC, GAS, WATER AND CABLE COMPANIES TO HAVE UNDERGROUND UTILITIES LOCATED ON THIS SITE AND ADJACENT TO THIS SITE PRIOR TO DOING ANY EXCAVATING.
4. ALL TRENCHES UNDER PAVED AREAS SHALL BE BACKFILLED WITH GRANULAR MATERIAL AND COMPACTED TO 95% STANDARD PROCTOR.
5. ALL SURVEY MONUMENTS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED BY A LICENSED LAND SURVEYOR LICENSED IN THE STATE OF TENNESSEE AT THE CONTRACTOR'S EXPENSE.
6. UTILITY CONTRACTOR WILL BE RESPONSIBLE FOR ALL TAPPING AND TIE-IN FEES REQUIRED, AS WELL AS COST OF UNDERGROUND SERVICE CONNECTIONS AND METERS TO THE BUILDING.
7. NEW WATER LINES SHALL BE SDR 21 PVC OR C900. ALL WATERLINES CONSTRUCTED SHALL HAVE A MINIMUM OF 42 INCHES OF COVER BELOW FINISHED GRADE, UNLESS OTHERWISE INDICATED ON PLANS.
8. CONTRACTOR SHALL COORDINATE ADJUSTMENTS TO EXISTING UTILITIES WITH APPROPRIATE UTILITY COMPANY AS WORK PROGRESSES.
9. CONTRACTOR SHALL COORDINATE THE SCHEDULING AND LOCATION OF THE DEMOLITION AND INSTALLATION OF ALL UTILITIES, INCLUDING STAKEOUT, CONDUIT REQUIRED, TRENCHING REQUIRED, ETC. CONTRACTOR SHALL CONTACT EACH UTILITY PROVIDER WITH AT LEAST 30 DAYS ADVANCE NOTICE OF ANY WORK TO BE DONE.
10. ALL UNDERGROUND ELECTRIC AND TELEPHONE WIRE THAT LIE BENEATH PAVED AREAS SHALL BE INSTALLED IN CONDUIT. CONTRACTOR SHALL COORDINATE WITH EACH UTILITY SERVICE PROVIDER FOR SIZE AND TYPE OF CONDUIT REQUIRED. CONDUIT SHALL BE PROVIDED AT THE CONTRACTORS EXPENSE.
11. CONTRACTOR SHALL PROVIDE A MINIMUM OF 18" OF VERTICAL CLEARANCE BETWEEN SANITARY SEWER AND WATERLINES AND A MINIMUM OF 18" VERTICAL OF CLEARANCE BETWEEN STORM SEWERS AND WATERLINES. THIS MAY MEAN THAT LOWERING OF WATERLINES MAY BE NECESSARY.
12. LOCATION OF SITE UTILITIES SHALL BE VERIFIED BY CONTRACTOR FROM THE PROPER UTILITY COMPANY PROVIDING SERVICE.
13. ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.
14. UTILITY CONTRACTOR SHALL HAVE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER THIS SYSTEM PRIOR TO INSTALLATION.
15. ALL NECESSARY INSPECTIONS, TESTING, AND/OR CERTIFICATIONS REQUIRED BY CODES, THE CITY, AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL CONNECTION OF SERVICES.
16. ALL DRAINAGE STRUCTURES, STORM SEWER PIPES, AND THE WATER METER LID SHALL MEET HEAVY DUTY TRAFFIC (H20) LOADING REQUIREMENTS.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UNDERGROUND UTILITIES THAT ARE REQUIRED TO BE REMOVED OR RELOCATED.
18. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
19. UTILITY CONNECTIONS SHALL BE COORDINATED WITH THE ARCHITECT/MEP.
20. ALL SEWERS AND STRUCTURES SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD CONSTRUCTION SPECIFICATIONS OF THE GOVERNING AGENCY.
21. ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT.
22. CONTRACTOR SHALL OBTAIN AND FOLLOW INSTALLATION REQUIREMENTS FOR STORM SEWER, SANITARY SEWER, & WATER MAIN FROM PIPE MANUFACTURER FOR EACH TYPE OF PIPE MATERIAL.
23. CONTRACTOR SHALL INSTALL A FACTORY CAP EQUAL TO THE SIZE OF UTILITY STUB TO BE SEALED OFF, AND BLOCK THE CAP WITH CONCRETE AT UTILITIES NOTES TO BE "CAPPED AND MARKED."
24. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES HAVING UNDERGROUND UTILITIES ON SITE, OR IN RIGHT-OF-WAY, 30 DAYS PRIOR TO EXCAVATION. CONTRACTOR SHALL CONTACT UTILITY LOCATING COMPANY AND LOCATE ALL UTILITIES PRIOR TO START OF GRADING.
25. ALL NEW UNDERGROUND FACILITIES INSTALLED, WITH THE EXCEPTION OF STORM SEWER AND SANITARY SEWER MAINS AND LATERALS THAT ARE INSTALLED AT DEPTHS MORE THAN SIX FEET, SHALL BE INSTALLED WITH A DETECTABLE UNDERGROUND LOCATION DEVICE UNLESS THE FACILITY IS CAPABLE OF BEING DETECTED FROM ABOVE GROUND WITH AN ELECTRONIC LOCATING DEVICE. AT A MINIMUM THIS WILL INCLUDE WATER, STORM SEWER AND SANITARY SEWER.

GRADING NOTES

1. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
2. RUBBISH, TRASH, GARBAGE, LITTER OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS, MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
3. ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THIS PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE INITIATED AS SOON AS PRACTICABLE.
4. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 7 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN.
5. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE.
6. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
7. CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT THAT MAY HAVE COLLECTED IN ANY STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.
8. ON-SITE & OFF-SITE STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.
9. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
10. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES TO PREVENT EROSION.
11. ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY, THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD.
12. ALL GRADING AND MATERIAL PLACEMENT ON THE SITE SHALL BE COMPACTED TO 95% STANDARD PROCTOR UNLESS A GEOTECHNICAL REPORT FOR THE SITE HAS DIFFERING REQUIREMENTS. IF A GEOTECHNICAL REPORT IS AVAILABLE THEN THE REPORT SHALL GOVERN.

PAD PREPARATION NOTE

COCHRAN WAS NOT PROVIDED A GEOTECHNICAL REPORT FOR THE PROJECT. CONTRACTOR SHALL REVIEW AND FOLLOW ANY RECOMMENDATIONS PROVIDED IN GEOTECHNICAL REPORT, IF ONE IS AVAILABLE.

SOIL PREPARATION AND COMPACTION NOTE

REMOVE ALL STUMPS, BUSHES, TREES, WEEDS, ROOTS AND OTHER SURFACE OBSTRUCTIONS FROM THE SITE. CONTRACTOR TO STRIP ALL TOPSOIL FROM THE ENTIRE AREA TO BE GRADED. AFTER THE REMOVAL OF ALL FOREIGN ORGANIC MATTER, AND AFTER STRIPPING OF TOPSOIL, THE ENTIRE SURFACE TO BE FILLED, OR AREAS THAT ARE CUT TO SUBGRADE SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 12 INCHES AND THEN COMPACTED TO THE RECOMMENDED LEVEL. PROOF ROLL SHALL BE PERFORMED AFTER SUFFICIENT COMPACTION IS ACHIEVED.

THE MAXIMUM THICKNESS OF FILL SHALL BE IN LOOSE LIFTS NOT TO EXCEED 8 INCHES. THE FILL COMPACTION OPERATIONS AND BACKFILL FOR ALL TRENCHES SHALL PRODUCE AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY TEST. ALL OTHER AREAS SHALL BE COMPACTED TO 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. ANY SOFT AREAS ENCOUNTERED DURING PROOF ROLLING SHALL BE UNDERCUT AND REPLACED WITH A PROPERLY COMPACTED FILL. THE COMPACTION OF THE FILL SHALL BE TESTED DURING PLACEMENT BY A QUALIFIED SOIL TECHNICIAN TO DETERMINE IF THE PROPER DENSIFICATION IS TAKING PLACE. ALL FILL USED ON THE SITE SHOULD BE APPROVED BY THE SOIL ENGINEER. AFTER PROOF ROLLING, NO WATER SHOULD BE ALLOWED TO POND ON THE SURFACE.

LANDSCAPE NOTES

1. ALL AREAS ON SITE THAT ARE DISTURBED SHALL BE SODDED.
2. ALL LANDSCAPE BEDS TO HAVE SHREDDED OAK BARK MULCH UNLESS OTHERWISE NOTED.
3. ANY LANDSCAPE BED NOT EDGED BY CONCRETE CURBING SHALL HAVE A SPADE-CUT EDGE.
4. ALL AREAS ARE TO BE IRRIGATED.

ADA COMPLIANCE

ALL ADA PARKING SPACES SHALL HAVE A 2% OR LESS SLOPE IN ANY DIRECTION. ALL WALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2% (1.5% PREFERRED). ALL WALKS SHALL HAVE A 5% OR LESS LONGITUDINAL SLOPE WHERE POSSIBLE. WHERE WALKS REQUIRE A SLOPE MORE THAN 5% LONGITUDINALLY WITH MORE THAN 6" OF VERTICAL RISE, THE CONTRACTOR SHALL INSTALL HANDRAILS MEETING ADA GUIDELINES. THE LONGITUDINAL SLOPE OF ANY WALK SHALL NOT EXCEED 8.33%. ANY WALK WITH A SLOPE BETWEEN 5% AND 8.33% SHALL NOT EXCEED 30FT. HORIZONTALLY IN LENGTH WITHOUT A LANDING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING ADA PARKING PAVEMENT, WALKS, ETC. MEETS CURRENT ADA AND MUNICIPALITY GUIDELINES.

DRAWING LEGEND

Item	Symbol
RIGHT-OF-WAY	R/W
PROPERTY LINE	
EXISTING MAJOR CONTOUR	XXX
EXISTING MINOR CONTOUR	
EXISTING EASEMENT	
EXISTING FENCE	×
EXISTING OVERHEAD UTILITIES	OHU
EXISTING WATER LINE	W
EXISTING STORM SEWER	SS
EXISTING SANITARY LINE	SAN
EXISTING FIBEROPTIC CABLE	FO
EXISTING SANITARY LATERAL	LAT
EXISTING UNDERGROUND TELEPHONE	UGT
EXISTING UNDERGROUND CABLE	UGC
FLOOD ZONES	
EXISTING SANITARY MANHOLE	S
EXISTING SANITARY/STORM CLEAN-OUT	CO
EXISTING CABLE PEDESTAL	C
EXISTING CURB INLET	
EXISTING GRATED INLET	
EXISTING FLARED END SECTION	
EXISTING SIGN	
EXISTING WATER VALVE	
EXISTING FIRE HYDRANT	
EXISTING WATER METER	WM
EXISTING UTILITY POLE	
BENCHMARK	
EXISTING TREE	
EXISTING TREELINE	
EXISTING ASPHALT PAVEMENT	
EXISTING CONCRETE PAVEMENT	
NEW MAJOR CONTOUR	XXX
NEW MINOR CONTOUR	
NEW SETBACK LINE	
NEW EASEMENT LINE	
NEW FENCE	×
NEW STORM SEWER PIPE	SS
NEW WATER LINE	W
NEW SANITARY LATERAL	LAT
NEW GAS LINE	G
SANITARY GRINDER PUMP	
SANITARY CLEAN OUT	CO
TRANSFORMER	T
STORM MANHOLE	
STORM INLET	
FLARED END SECTION	
GRATED INLET	
GRATED INLET WITH SIDE INTAKE	
SIGN	
WATER METER	WM
LIGHT	
SPOT ELEVATION	XXX.XX
ACCESSIBLE PARKING SYMBOL	
NEW TREELINE	
NEW BUILDING	
NEW HEAVY DUTY CONCRETE	
NEW STANDARD DUTY CONCRETE	
NEW CONCRETE PAVEMENT/SIDEWALK	

OWNER:
JOSH AND SARAH BOWMAR
8940 NE 29TH STREET
ANKENY, IA 50021

DEVELOPER:
CLUB CAR WASH OPERATIONS
1591 E. PRATHERSVILLE RD.
COLUMBIA, MO 65202

COCHRAN
North Office
8 East Main Street
Wentzville, Missouri 63385
636-332-4574 (tel.)
636-327-0760 (fax)
wentmail@cochraneng.com
• Civil Engineering • Land Surveying • Architecture • Site Development • General Consulting • Master Planning
TENNESSEE State Certificate of Authority Numbers: 11201

Two working days prior to the start of any excavation on this site, contractor shall call 1-800-351-1111 for utility location information.

All OSHA rules & regulations established for the type of construction required by these plans shall be strictly followed (ie. Trenching, Blasting, etc.)

KURTIS J. DANIELS REGISTERED ENGINEER AGRICULTURE COMMERCE No. 127527 STATE OF TENNESSEE
KURTIS J. DANIELS
127527
6/24/26

PRELIMINARY PLANS
CLUB CAR WASH
GOODLETTSVILLE, TENNESSEE

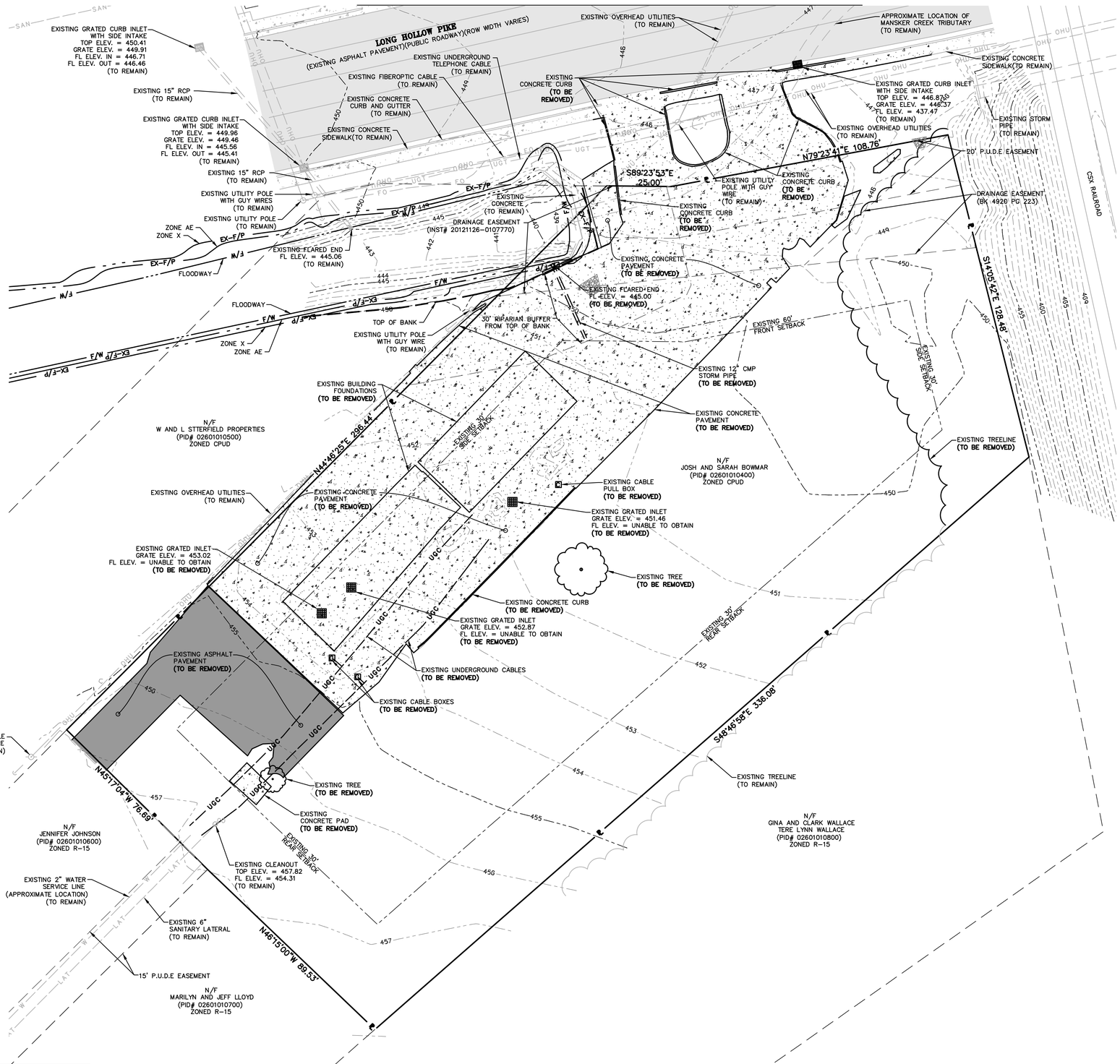
GENERAL NOTES AND LEGEND

DATE:	REVISION:	DWN. BY:	APP'D. BY:

DWN. BY: KAF
APP'D. BY: KJD
DATE: JUNE 2026
SCALE: NO SCALE
PROJ. NO: M25-9311A
DWG. NO: 1 OF 16

DWG NAME: J:\2025\M25-9311 - CCW, 155 Long Hollow Pike, Goodlettsville TN\M25-9311A\ENGINEERING\AUTOCAD DRAWINGS\02_ Preliminary\M25-9311A_1_GENERAL NOTES AND LEGEND.dwg LAYOUT TAB: GENERAL NOTES AND LEGEND PLOTTED ON: Jun 24, 2026 - 1:20pm PLOTTED BY: KFarrell

EXISTING CONDITIONS



SCALE: 1"=20'
JUNE 2026

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• Land Surveying
• Architecture
• Site Development
• General Consulting
• Master Planning

TENNESSEE State Certificate of Authority Numbers: 11201

Two working days prior to the start of any excavation on this site, contractor shall contact the Tennessee one call utility location information.

All OSHA rules & regulations established for the type of construction involved on these plans shall be strictly followed (ie. Trenching, Blasting, etc.)

KURTIS J. DANIELS
REGISTERED ENGINEER
AGRICULTURAL
No. 127527
STATE OF TENNESSEE
KURTIS J. DANIELS
127527

PRELIMINARY PLANS
CLUB CAR WASH
GOODLETTSVILLE, TENNESSEE

	DRN. BY:	APP'D. BY:
DATE:		
REVISIONS:		
DATE:		

EXISTING CONDITIONS

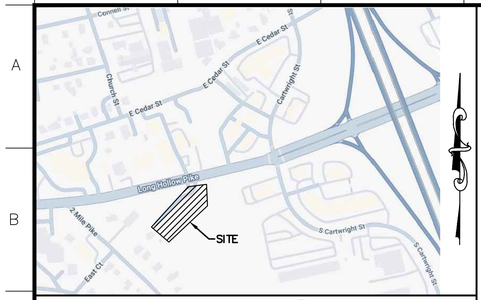
DRN. BY:	APP'D. BY:
KAF	KJD

DATE: JUNE 2026
SCALE: 1:20
PROJ. NO.: M25-9311A
DWG. NO.: 2 OF 16

Tennessee811

DWG NAME: J:\2025\M25-9311 - CCW, 155 Long Hollow Pike, Goodlettsville TN\M25-9311A\ENGINEERING\AUTOCAD DRAWINGS\02_ Preliminary\M25-9311A_2_EXISTING CONDITIONS.dwg LAYOUT TAB: EXISTING CONDITIONS PLOTTED ON: Jun 24, 2026 - 1:20pm PLOTTED BY: KFarrell

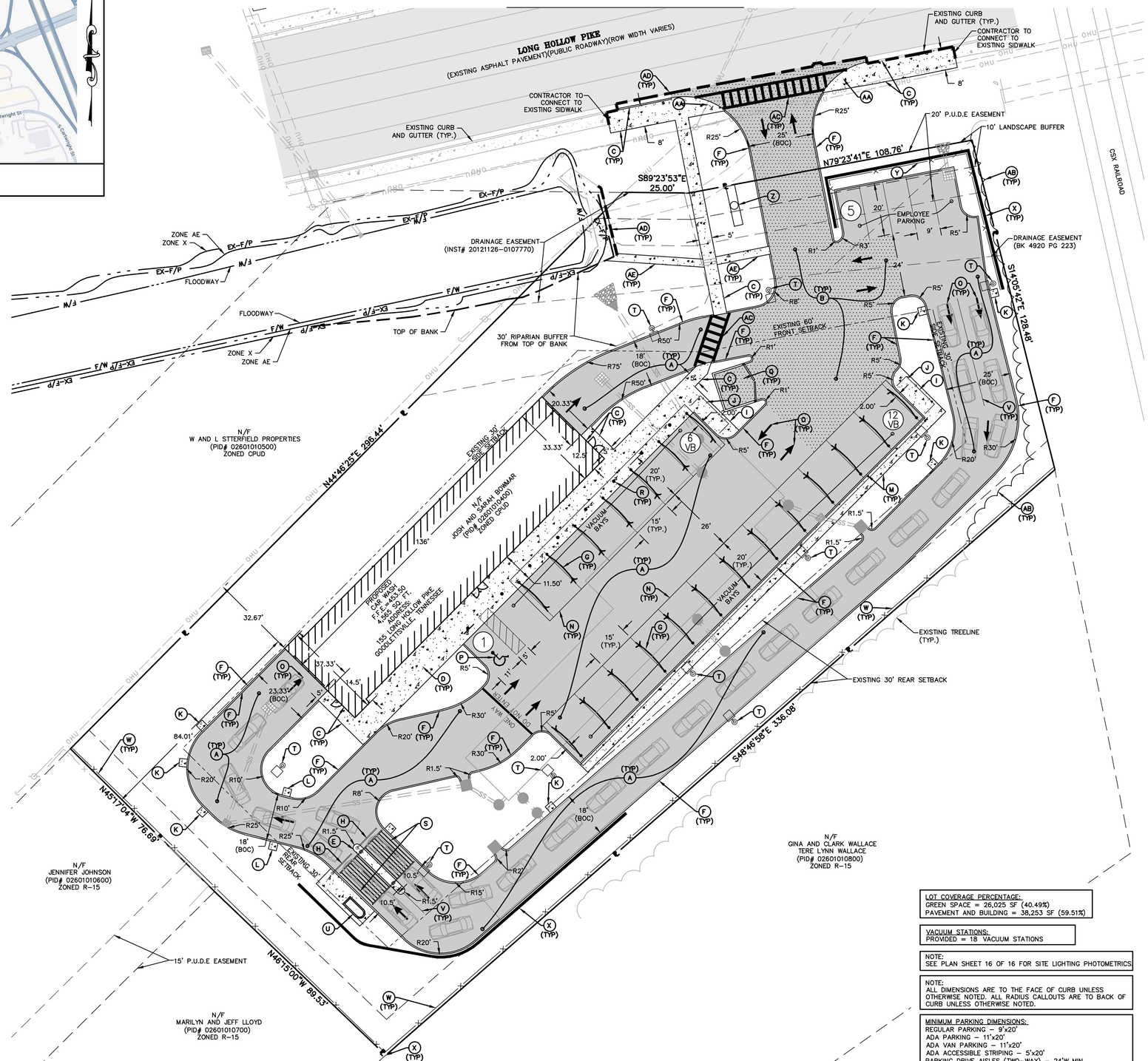
SITE PLAN

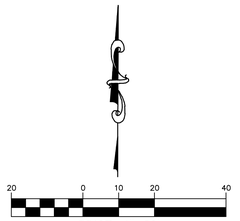


VICINITY MAP
NO SCALE

DRAWING LEGEND

- RIGHT-OF-WAY — R/W
- PROPERTY LINE — ℄
- EXISTING MAJOR CONTOUR — XXX
- EXISTING MINOR CONTOUR
- EXISTING EASEMENT
- EXISTING FENCE — X
- EXISTING OVERHEAD UTILITIES — OHU
- EXISTING WATER LINE — W
- EXISTING STORM SEWER — SS
- EXISTING SANITARY LINE — SAN
- EXISTING FIBEROPTIC CABLE — FO
- EXISTING SANITARY LATERAL — LAT
- EXISTING UNDERGROUND TELEPHONE — UGT
- EXISTING UNDERGROUND CABLE — UGC
- FLOOD ZONES
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY/STORM CLEAN-OUT — CO
- EXISTING CABLE PEDESTAL
- EXISTING CURB INLET
- EXISTING GRATED INLET
- EXISTING FLARED END SECTION
- EXISTING SIGN
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- EXISTING UTILITY POLE
- BENCHMARK
- EXISTING TREE
- EXISTING TREELINE
- EXISTING ASPHALT PAVEMENT
- EXISTING CONCRETE PAVEMENT
- NEW MAJOR CONTOUR — XXX
- NEW MINOR CONTOUR
- NEW SETBACK LINE
- NEW EASEMENT LINE
- NEW FENCE — X
- NEW STORM SEWER PIPE — SS
- NEW WATER LINE — W
- NEW SANITARY LATERAL — LAT
- NEW GAS LINE — G
- SANITARY GRINDER PUMP
- SANITARY CLEAN OUT — CO
- TRANSFORMER
- STORM MANHOLE
- STORM INLET
- FLARED END SECTION
- GRATED INLET
- GRATED INLET WITH SIDE INTAKE
- SIGN
- WATER METER
- LIGHT
- SPOT ELEVATION — XXX.XX
- ACCESSIBLE PARKING SYMBOL
- NEW TREELINE
- NEW BUILDING
- NEW HEAVY DUTY CONCRETE
- NEW STANDARD DUTY CONCRETE
- NEW CONCRETE PAVEMENT/SIDEWALK





SCALE: 1"=20'
JUNE 2026

SITE LEGEND

- (A) NEW STANDARD DUTY CONCRETE PAVEMENT. SEE DETAIL, SHEET 13 OF 16.
- (B) NEW HEAVY DUTY CONCRETE PAVEMENT. SEE DETAIL, SHEET 13 OF 16.
- (C) NEW 4" THICK CONCRETE SIDEWALK. SEE DETAIL, SHEET 13 OF 16.
- (D) NEW 6" THICK CONCRETE SIDEWALK. SEE DETAIL, SHEET 13 OF 16.
- (E) NEW 3' WIDE CONCRETE ISLAND, SEE DETAIL, SHEET 13 OF 16.
- (F) NEW 6" VERTICAL CURB AND GUTTER. SEE DETAIL, SHEET 13 OF 16.
- (G) NEW VACUUM ARMS. BY OWNER.
- (H) NEW STOP ARMS. BY OWNER.
- (I) NEW 7'x17' CONCRETE PAD FOR VACUUM TURBINE.
- (J) NEW METAL TURBINE SCREENING. SEE DETAIL, SHEET 13 OF 16.
- (K) NEW 3'X3'X4" CONCRETE PADS FOR SIGNS AND TRASH CANS.
- (L) NEW 3'X3'X6" CONCRETE PADS FOR CAMERA ARCH.
- (M) NEW 4" THICK CONCRETE PAD.
- (N) NEW TRELLIS STRUCTURE FOR VACUUM BAYS. BY OWNER
- (O) NEW TRAFFIC FLOW ARROWS. SEE DETAIL, SHEET 13 OF 16.
- (P) NEW ACCESSIBLE PARKING STALL WITH SIGNAGE AND STRIPING. SEE DETAILS, SHEET 13 OF 16.
- (Q) NEW TRASH ENCLOSURE. SEE DETAIL, SHEET 13 OF 16.
- (R) NEW BOLLARDS. SEE DETAIL, SHEET 13 OF 16.
- (S) NEW PRE-FABRICATED STRUCTURE. BY OWNER.
- (T) NEW LIGHT STANDARD. SEE DETAIL, SHEET 16 OF 16.
- (U) NEW ATTENDANT KIOSK. BY OWNER.
- (V) NEW 12" BLACK STACKING LANE STRIPING WITH 4" RED CENTER STRIPE.
- (W) NEW 6' TALL VINYL SCREENING WALL. PER CITY OF GOODLETTSVILLE REQUIREMENTS.
- (X) NEW RETAINING WALL. SEE DETAIL, SHEET 13 OF 16.
- (Y) NEW 4' TALL BLACK METAL FENCE. SEE DETAIL, SHEET 13 OF 16.
- (Z) NEW PYLON SIGN. PER SEPARATE PERMIT.
- (AA) NEW ADA RAMP. SEE DETAIL, SHEET 13 OF 16.
- (AB) NEW TREELINE.
- (AC) NEW CROSSWALK. SEE DETAIL, SHEET 13 OF 16.
- (AD) CONTRACTOR TO SAW CUT EXISTING PAVEMENT FULL DEPTH TO ENSURE A SMOOTH JOINT.
- (AE) NEW CONCRETE FLUME SEE DETAIL, SHEET 13 OF 16.

NOTES:

1. TOTAL SITE ACREAGE: ± 64,278 SQ. FT. OR ±1.48 ACRES
2. EXISTING ZONING: CPUD COMMERCAIL PLANNED UNIT DEVELOPMENT
3. BUILDING SETBACKS
   FRONT – 60'
   REAR – 30'
   SIDE – 30'
4. THE SITE LAND USE SHALL BE AUTOMATED CARWASH WITH VACUUMS.
5. THIS SITE IS SERVED BY:
   WATER – MADISON SUBURBAN UTILITY DISTRICT
   SEWER – CITY OF GOODLETTSVILLE
   TELEPHONE – AT&T
   ELECTRIC – NASHVILLE ELECTRIC SERVICE
   GAS – PIEDMONT NATURAL GAS
   FIBEROPTIC – CENTURYLINK/BRIGHTSPEED
   FIRE – CITY OF GOODLETTSVILLE FIRE DEPARTMENT
6. THIS SITE FALLS WITHIN "FLOODWAY ZONE AE", THE FLOODWAY IS THE CHANNEL OF A STREAM PLUS ANY ADJACENT FLOODPLAIN AREAS THAT MUST BE KEPT FREE OF ENCROACHMENT SO THE THE 1% ANNUAL CHANCE FLOOD CAN BE CARRIED WITHOUT SUBSTANTIAL INCREASES IN FLOOD HEIGHTS; "ZONE AE", THE 1% ANNUAL CHANCE FLOOD (100-YEAR FLOOD), ALSO KNOW AS THE BASE FLOOD, IS THE FLOOD THAT HAS A 1% CHANCE OF BEING EQUALED OR EXCEEDED IN ANY GIVEN YEAR; UNSHADED "ZONE X", AREAS TO BE DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL FLOOD PLAIN, PER FIRM, FLOOD INSURANCE RATE MAP, FOR DAVIDSON COUNTY, TENNESSEE, MAP NUMBER 47037C0129J, EFFECTIVE DATE OF FEBRUARY 25, 2022. FLOOD ZONES ARE DETERMINED BY SCALING.
7. EFFORTS WILL BE MADE TO DIRECT DRAINAGE TO EXISTING DISCHARGE POINTS.
8. ALL UTILITIES ARE TO BE LOCATED UNDERGROUND.
9. THE SITE SHALL CONFORM TO THE CITY OF GOODLETTSVILLE STANDARDS.
10. NO INVESTIGATION HAS BEEN PERFORMED BY COCHRAN REGARDING HAZARDOUS WASTE, UNDERGROUND CONDITIONS OR UTILITIES AFFECTING THE TRACT SHOWN HEREON.
11. THIS DRAWING DOES NOT CONSTITUTE A BOUNDARY SURVEY.
12. ALL PAVEMENT STRIPING SHALL BE 4" WIDE PAINTED WHITE LINES AND THE ADA STRIPING SHALL BE BLUE.
13. LOCATION, REPLACEMENT, AND CONNECTION OF THE UTILITIES SHALL BE COORDINATED WITH THE UTILITY COMPANIES.
14. ALL MECHANICAL, HVAC, AND UTILITY EQUIPMENT SHALL BE SCREENED FROM PUBLIC VIEW ACCORDING TO CITY REQUIREMENTS.
15. STORMWATER SHALL BE DIRECTED TO EXISTING DRAINAGE SWALE.
16. ALL DISTURBED AREAS INTENDED FOR GRASS SHALL BE SODDED.
17. UNDERGROUND STRUCTURES, FACILITIES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, DEEDS AND RECORDS. THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS NOT KNOWN.
18. ALL SIGNAGE SHALL BE PERMITTED VIA A SEPARATE PERMIT APPLICATION.
19. A LIGHTING PLAN WILL BE PREPARED ACCORDING TO CITY REQUIREMENTS AND SUBMITTED TO THE CITY FOR REVIEW. ALL EXTERIOR LIGHTING, BUILDING AND PARKING LOT LIGHTS & LANDSCAPING LIGHTS, SHALL BE DIRECTED AWAY FROM HIGHWAYS, PUBLIC ROADS & PROPERTIES SO THAT NO LIGHT IS CAST ON ADJOINING PROPERTIES OR PUBLIC ROADWAYS. MAX LIGHT HEIGHT IS 14'-0". THE POLES, POLES BASE & FIXTURES SHALL BE BLACK. ALL LIGHTING SHALL BE LED & SERVE WITH UNDERGROUND ELECTRIC.
20. THE ADMINISTRATION OF THE LANDSCAPING PLAN FOR THIS PROJECT WILL BE ACCOMPLISHED VIA THE PROVIDED PLAN FOR LOCATION, TYPE, SIZE AND QUANTITY.
21. ALL OPEN SPACE AND LANDSCAPE BEDS SHALL BE IRRIGATED. ALL LANDSCAPING MATERIAL AND DESIGN WILL FOLLOW THE APPROVED LANDSCAPING PLAN, INCLUDING TYPES OF PLANTS AND SPACING.

LOT COVERAGE PERCENTAGE:
GREEN SPACE = 26,025 SF (40.49%)
PAVEMENT AND BUILDING = 38,253 SF (59.51%)

VACUUM STATIONS:
PROVIDED = 18 VACUUM STATIONS

NOTE:
SEE PLAN SHEET 16 OF 16 FOR SITE LIGHTING PHOTOMETRICS.

NOTE:
ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED. ALL RADIUS CALLOUTS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.

MINIMUM PARKING DIMENSIONS:
REGULAR PARKING – 9'x20'
ADA PARKING – 11'x20'
ADA VAN PARKING – 11'x20'
ADA ACCESSIBLE STRIPING – 5'x20'
PARKING DRIVE AISLES (TWO-WAY) – 24'W MIN.

PARKING REQUIREMENTS:
FOUR SPACES PER 1,000 OF GROSS LEASABLE AREA (GLA)
ONE SPACE PER EMPLOYEE PLUS 4 SPACES PER BAY

TOTAL SPACES REQUIRED:	= 5 SPACES
TOTAL SPACES PROVIDED:	= 5 SPACES
TOTAL STACKING SPACES REQUIRED:	= 16 SPACES
TOTAL STACKING SPACES PROVIDED:	= 29 SPACES
ADA TOTAL SPACES REQUIRED:	= 1 SPACES
ADA TOTAL SPACES PROVIDED:	= 1 SPACES

NOTE:
ALL PARKING ISLANDS ARE TO BE INSPECTED AND APPROVED BY THE CITY OF GOODLETTSVILLE PLANNING DEPARTMENT PRIOR TO THE INSTALLATION OF ANY PLANT MATERIAL OR SOIL.

OWNER:
JOSH AND SARAH BOWMAR
8940 NE 29TH STREET
ANKENY, IA 50021

DEVELOPER:
CLUB CAR WASH OPERATIONS
1591 E. PRATHERSVILLE RD.
COLUMBIA, MO 65202

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wentmail@cochraneng.com
• Civil Engineering
• Land Surveying
• Architecture
• Site Development
• General Consulting
• Master Planning
TENNESSEE State Certificate of Authority Numbers: 11201

Two working days prior to the start of any excavation on this site, contractor shall contact Tennessee One Call for utility location information.

All OSHA rules & regulations established for the type of excavation involved in these plans shall be strictly followed (ie. Trenching, Blasting, etc.)

KURTIS J. DANIELS
REGISTERED ENGINEER
AGRICULTURE
No. 127527
STATE OF TENNESSEE
KURTIS J. DANIELS 127527

PRELIMINARY PLANS
CLUB CAR WASH
GOODLETTSVILLE, TENNESSEE

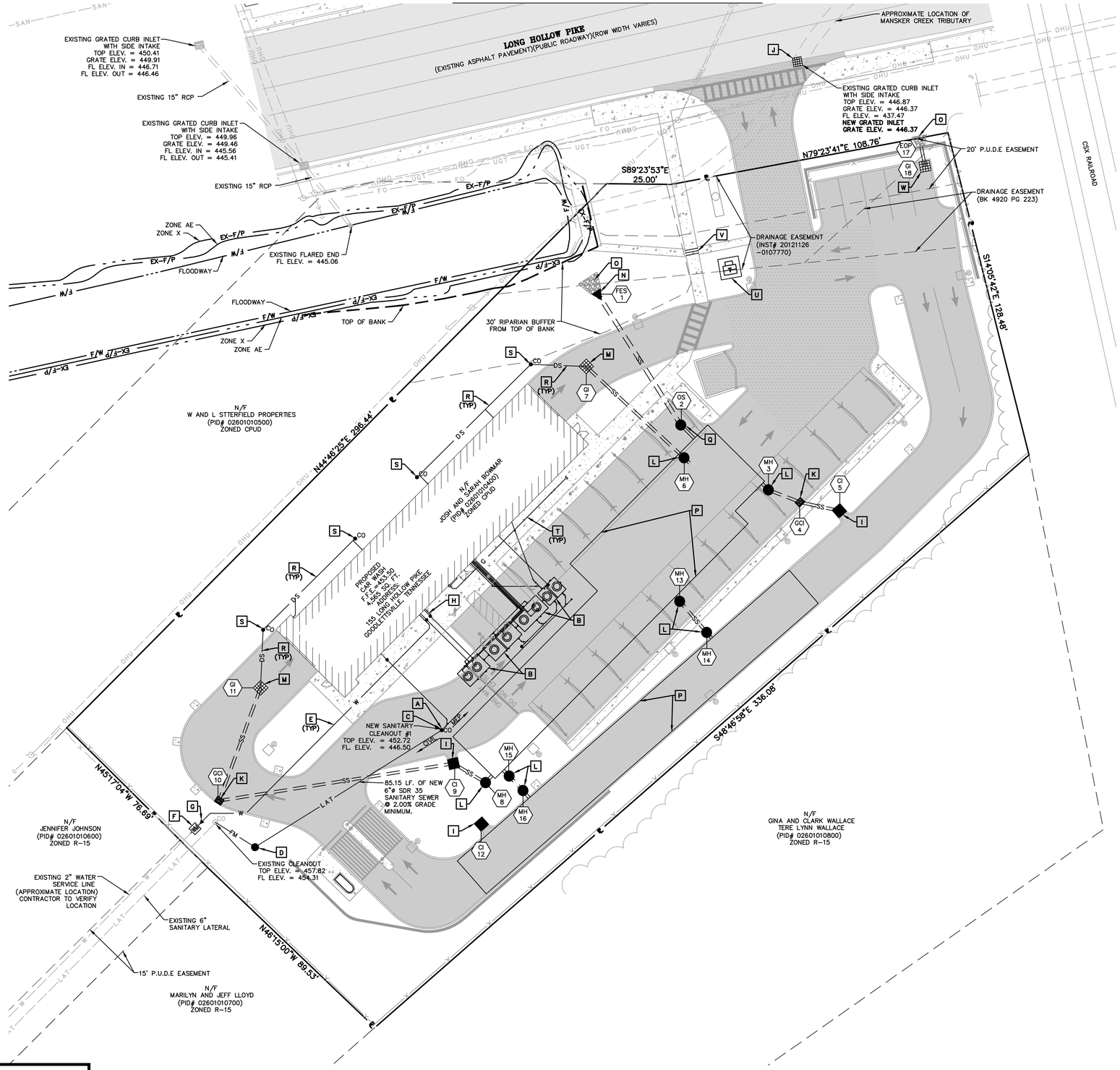
DRN. BY:	APP'D. BY:
KAF	KJD

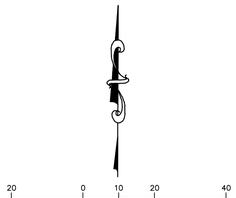
DATE: JUNE 2026
SCALE: 1:20
PROJ. NO: M25-9311A
DWG. NO: 3 OF 16
SITE PLAN

Tennessee 811

DWG NAME: J:\2025\M25-9311 - CCW, 155 Long Hollow Pike, Goodletsville TN\M25-9311A\ENGINEERING\AUTOCAD DRAWINGS\02_ Preliminary\M25-9311A_3_SITE PLAN.dwg LAYOUT TAB: SITE PLAN PLOTTED ON: Jun 24, 2026 – 1:20pm PLOTTED BY: KFarrell

UTILITY PLAN





SCALE: 1"=20'
JUNE 2026

UTILITY LEGEND

- A — REFER TO ARCHITECTURAL AND MEP PLANS FOR CONTINUATION OF SANITARY SEWER CONNECTION TO THE BUILDING. FL ELEV. = 446.50.
- B — NEW SANITARY SEWER LATERAL AND GREASE INTERCEPTORS.
- C — NEW SANITARY CLEANOUT. SEE DETAIL, SHEET 14 OF 16.
- D — NEW GRINDER PUMP.
- E — NEW 4"ø C900 PVC WATER SERVICE LINE.
- F — NEW 2" WATER METER. SEE DETAIL, SHEET 14 OF 16.
- G — NEW 2"X4" INCREASER.
- H — IRRIGATION LINE TO IRRIGATION SYSTEM.
- I — NEW CURB INLET. SEE DETAIL, SHEET 14 OF 16.
- J — NEW GRATED INLET TOP. SEE DETAIL, SHEET 14 OF 16.
- K — NEW GRATED INLET WITH SIDE INTAKE. SEE DETAIL, SHEET 14 OF 16.
- L — NEW STORM MANHOLE. SEE DETAIL, SHEET 14 OF 16.
- M — NEW NYLOPLAST GRATED INLET. SEE DETAIL, SHEET 14 OF 16.
- N — NEW FLARED END SECTION. SEE DETAIL, SHEET 14 OF 16.
- O — NEW RIPRAP PAD. SEE HYDRAULICS REPORT FOR DIMENSIONS.
- P — NEW UNDERGROUND DETENTION.
- Q — NEW OUTFALL STRUCTURE. SEE DETAIL, SHEET 13 OF 16.
- R — NEW 8"ø SDR 26 PVC DOWNSPOUT COLLECTOR. SEE DETAIL, SHEET 14 OF 16.
- S — NEW DOWNSPOUT CLEAN-OUT. SEE DETAIL, SHEET 14 OF 16.
- T — NEW GAS LINE. CONTRACTOR SHALL COORDINATE WITH MEP AND UTILITY PROVIDER.
- U — NEW TRANSFORMER PAD, CONTRACTOR SHALL COORDINATE WITH MEP AND UTILITY PROVIDER.
- V — NEW (3) 6"ø PVC PIPES.
- W — NEW GRATED INLET. SEE DETAIL, SHEET 14 OF 16.

NOTE:
BACKFLOW PREVENTER LOCATED INSIDE THE BUILDING.

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TENNESSEE State Certificate of Authority Numbers: 11201

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No. 127527
STATE OF TENNESSEE
KURTIS J. DANIELS
127527

PRELIMINARY PLANS
CLUB CAR WASH
GOODLETTSVILLE, TENNESSEE

DRWN. BY:	APPD. BY:
KAF	KJD

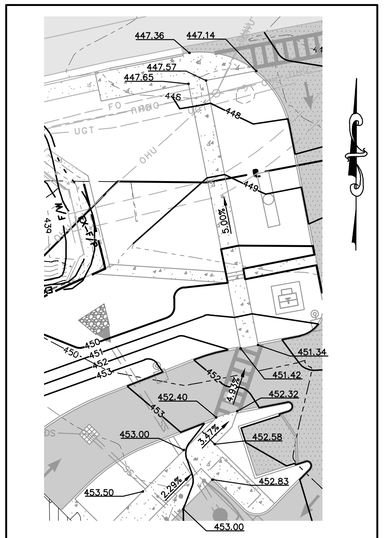
DATE: JUNE 2026
SCALE: 1:20
PROJ. NO: M25-9311A
DRG. NO: 4 OF 16

UTILITY PLAN

Tennessee811

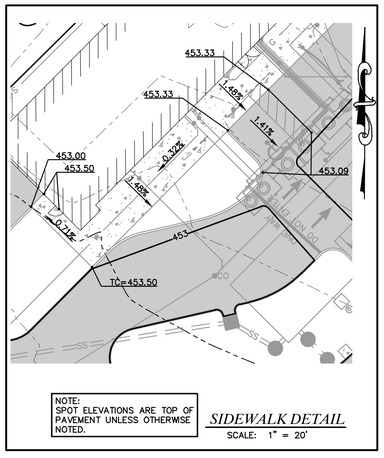
DWG NAME: J:\2025\M25-9311 - CCW, 155 Long Hollow Pike, Goodlettsville TN\M25-9311A\ENGINEERING\AUTOCAD DRAWINGS\02_ Preliminary\M25-9311A_4_UTILITY PLAN.dwg LAYOUT TAB: UTILITY PLAN PLOTTED ON: Jun 24, 2026 - 1:20pm PLOTTED BY: KFarrell

GRADING PLAN



NOTE:
SPOT ELEVATIONS ARE TOP OF PAVEMENT UNLESS OTHERWISE NOTED.

SIDEWALK DETAIL
SCALE: 1" = 20'



NOTE:
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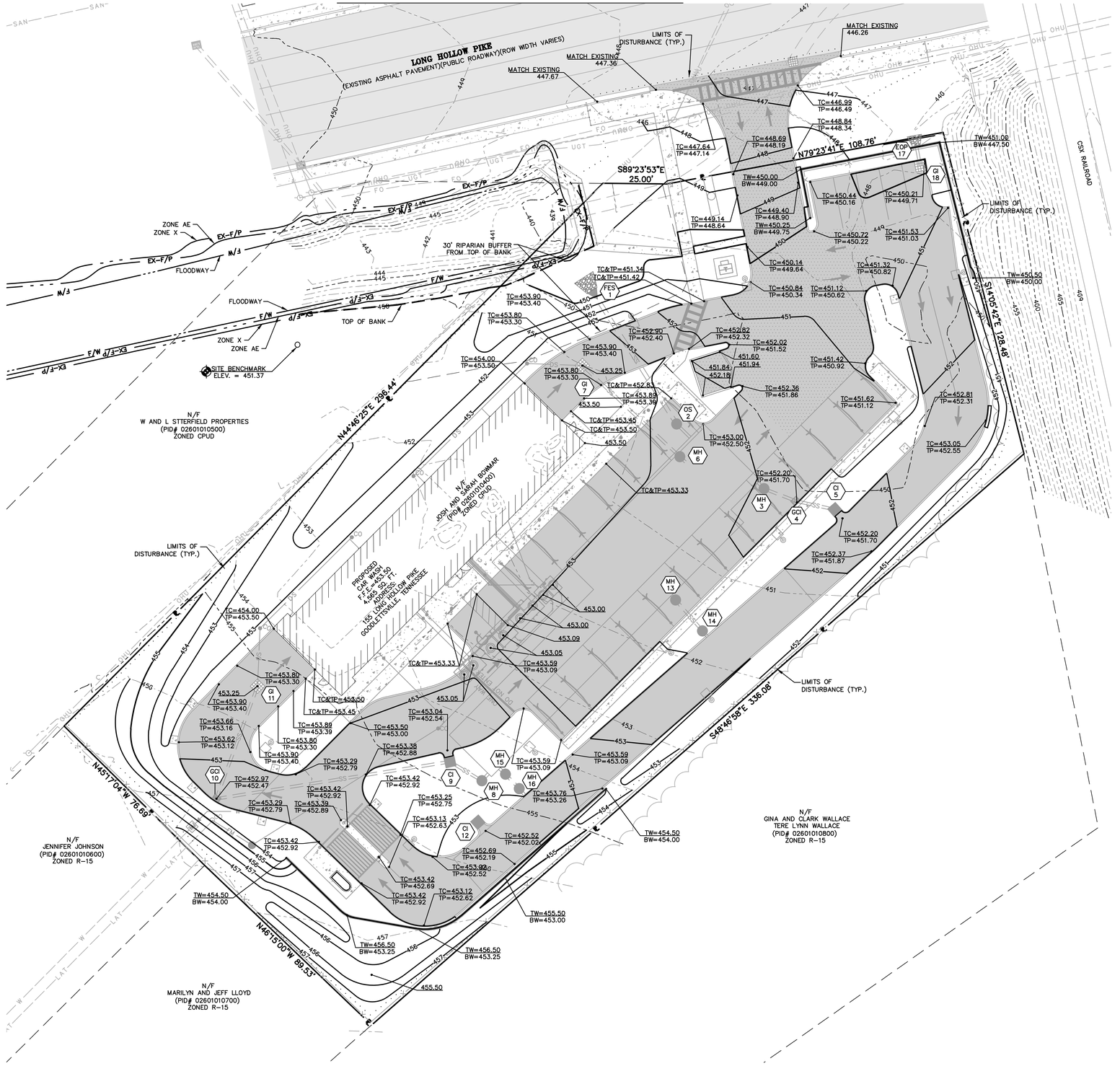
SIDEWALK DETAIL
SCALE: 1" = 20'



20 0 10 20 40
SCALE: 1"=20'
JUNE 2026

OWNER:	DEVELOPER:
JOSH AND SARAH BOWMAR 8940 NE 29TH STREET ANKENY, IA 50021	CLUB CAR WASH OPERATIONS 1591 E. PRATHERSVILLE RD. COLUMBIA, MO 65202

NOTE:
PROVIDE CITY WITH A COPY OF GRADING COMPACTION TEST RESULTS.

NOTE:
ALL SPOT ELEVATIONS SHOWN ON THIS PLAN ARE TOP OF PAVEMENT UNLESS OTHERWISE NOTED.

SITE DISTURBANCE
TOTAL SITE AREA = 1.48 AC.
DISTURBED AREA = 1.54 AC.

GRADING QUANTITY:

CUT - 1,468 CY.
FILL - 1,886 CY.

NOTE:
THESE QUANTITIES ARE RAW NUMBERS. THE CONTRACTOR SHALL NOT USE THESE NUMBERS AS THEIR BID QUANTITIES. THE CONTRACTOR SHALL DETERMINE THEIR OWN QUANTITIES.

Tennessee 811

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STATE OF TENNESSEE
KURTIS J. DANIELS
127527

PRELIMINARY PLANS
CLUB CAR WASH
GOODLETTSVILLE, TENNESSEE

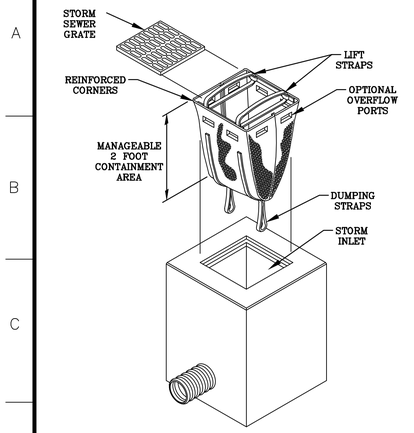
DRN. BY:	APPD. BY:
KAF	KJD

DATE: JUNE 2026
SCALE: 1:20
PROJ. NO: M25-9311A
DWG. NO:

GRADING PLAN
5 OF 16

DWG NAME: J:\2025\M25-9311 - CCW, 155 Long Hollow Pike, Goodlettsville TN\M25-9311A\ENGINEERING\AUTOCAD DRAWINGS\02_ Preliminary\M25-9311A_5_GRADING PLAN.dwg LAYOUT TAB: GRADING PLAN PLOTTED ON: Jun 24, 2026 - 1:20pm PLOTTED BY: KFarrell

EROSION AND SEDIMENT CONTROL PLAN



IP4 DANDY SACK GRATED INLET PROTECTION
NO SCALE



SCALE: 1"=20'
JUNE 2026

SWPPP LEGEND

- SF — NEW SILT FENCE. SEE DETAIL, SHEET 6 OF 16.
- IP1 — NEW DANDY CURB INLET PROTECTION. SEE DETAIL, THIS SHEET.
- IP2 — NEW DANDY SACK GRATED CURB INLET PROTECTION. SEE DETAIL, THIS SHEET.
- IP3 — NEW FILTREXX SILT SOCK INLET PROTECTION. SEE DETAIL, SHEET 6 OF 16.
- IP4 — NEW DANDY SACK GRATED INLET PROTECTION. SEE DETAIL, THIS SHEET.
- CE — TEMPORARY CONSTRUCTION ENTRANCE. SEE DETAIL, SHEET 6 OF 16.
- LD — LIMITS OF DISTURBANCE.

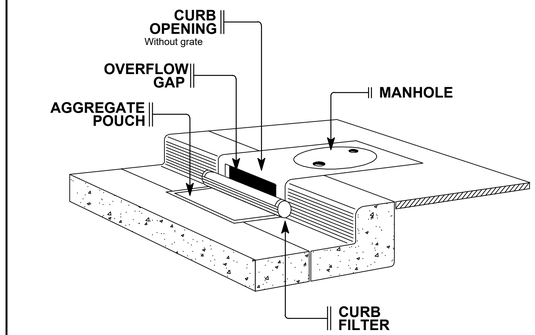
NOTE:
ALL TRUCKS SHALL BE WASHED DOWN BEFORE LEAVING SITE.

NOTE:
ALL INLETS ARE TO RECEIVE INLET SILT FENCE PROTECTION (SEE DETAIL, SHEET 5 OF 16 AND 6 OF 16)

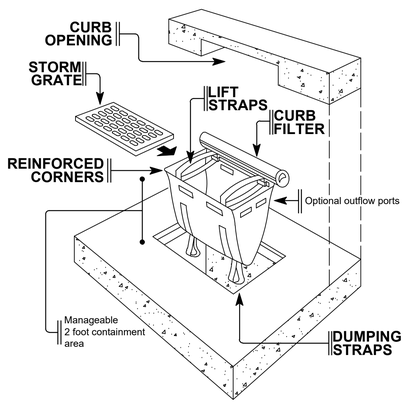
SOIL EROSION/SEDIMENTATION CONTROL OPERATION TIME SCHEDULE

NOTE: GENERAL CONTRACTOR TO COMPLETE TABLE WITH THEIR SPECIFIC PROJECT SCHEDULE

CONSTRUCTION SEQUENCE	AUG.	SEP.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY.	JUN.	JUL.
TEMPORARY CONTROL MEASURES												
ROUGH GRADE / SEDIMENT CONTROL												
PERMENANT CONTROL MEASURES												
SEED AND FINAL STABILIZATION												



IP1 DANDY CURB INLET PROTECTION
NO SCALE



IP2 DANDY SACK GRATED CURB INLET PROTECTION
NO SCALE

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No. 127527
STATE OF TENNESSEE
KURTIS J. DANIELS
127527

Tennessee 811

PRELIMINARY PLANS
CLUB CAR WASH
GOODLETTSVILLE, TENNESSEE

DRWN. BY:	APPD. BY:
KAF	KJD

DATE: JUNE 2026
SCALE: 1:20
PROJ. NO.: M25-9311A
DWG. NO.: 6 OF 16

EROSION AND SEDIMENT CONTROL PLAN

DATE: | REVISION: | DRWN. BY: | APPD. BY:

DWG NAME: J:\2025\M25-9311 - CCW, 155 Long Hollow Pike, Goodlettsville TN\M25-9311A\ENGINEERING\AUTOCAD DRAWINGS\02_ Preliminary\M25-9311A_6_EROSION AND SEDIMENT CONTROL PLAN PLOTTED ON: Jun 24, 2026 - 1:20pm PLOTTED BY: Kfarrell

DWG NAME: J:\2025\M25-9311 - CCW, 155 Long Hollow Pike, Goodlettsville TN\M25-9311A\ENGINEERING\AUTOCAD DRAWINGS\02_ Preliminary\M25-9311A_7_SWPPP GENERAL NOTES AND DETAILS.dwg LAYOUT TAB: S.W.P.P.P. GENERAL NOTES AND DETAILS PLOTTED ON: Jun 24, 2026 - 1:20pm PLOTTED BY: KFarrell

S.W.P.P.P. GENERAL NOTES AND DETAILS

GENERAL EROSION NOTES:

1. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE STATE OF TENNESSEE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT (NPDES PERMIT) AND BECOME FAMILIAR WITH THEIR CONTENTS.
2. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE SWPPP. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
3. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.
4. SITE MAP MUST CLEARLY DELINEATE ALL STATE WATERS.
5. CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE GENERAL PERMIT.
6. GENERAL CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES.
7. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.
8. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOATATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
9. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
10. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
11. THE LOCAL AGENCY(IES) MUST BE NOTIFIED AT LEAST FORTY-EIGHT HOURS PRIOR TO THE COMMENCEMENT OF ANY GRADING OPERATIONS.
12. NO GRADED AREA IS TO REMAIN WITHOUT VEGETATIVE GROUND COVERFOR MORE THAN THIRTY (30) DAYS WITHOUT BEING SEEDED AND MULCHED OR SODDED.
13. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS STOPPED FOR AT LEAST 14 DAYS, SHALL BE TEMPORARILY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS FROM THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS.
14. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE.
15. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
16. CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.
17. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
18. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES) TO PREVENT EROSION.
19. ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY, THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING.
20. THE CONTRACTOR SHALL FIELD INVESTIGATE THE ENTIRE SITE PRIOR TO HIS BID SUBMITTAL NOTING THE EXISTING VEGETATION AND TREES AND INCLUDING THE REMOVAL AND DISPOSAL IN HIS BID.
21. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. LOCATION, RELOCATION AND CONNECTION OF THE UTILITIES SHALL BE COORDINATED WITH THE UTILITY COMPANIES.
22. UNDERGROUND STRUCTURES, FACILITIES, AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS. THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN.
23. FLOOD ZONE: THIS SITE FALLS WITHIN "FLOODWAY ZONE AE", THE FLOODWAY IS THE CHANNEL OF A STREAM PLUS ANY ADJACENT FLOODPLAIN AREAS THAT MUST BE KEPT FREE OF ENCROACHMENT SO THE THE 1% ANNUAL CHANCE FLOOD CAN BE CARRIED WITHOUT SUBSTANTIAL INCREASES IN FLOOD HEIGHTS; "ZONE AE", THE 1% ANNUAL CHANCE FLOOD (100-YEAR FLOOD), ALSO KNOW AS THE BASE FLOOD, IS THAT FLOOD THAT HAS A 1% CHANCE OF BEING EQUALED OR EXCEEDED IN ANY GIVEN YEAR; UNSHADED "ZONE X", AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, PER FIRM, FLOOD INSURANCE RATE MAPS, FOR DAVIDSON COUNTY, TENNESSEE AND INCORPORATED AREAS, MAP NUMBER 47037C0129J, EFFECTIVE DATE OF FEBRUARY 25, 2022. FLOOD ZONES SHOWN HEREON ARE DETERMINED BY SCALING.
24. THE BOUNDARY INFORMATION AND CONTOURS AS SHOWN IS FROM A TOPOGRAPHIC SURVEY PERFORMED BY OHM ADVISORS.
25. TEMPORARY SILTATION CONTROL STRUCTURES SHALL BE MAINTAINED UNTIL A VEGETATIVE COVER OF AREA DISTURBED IS ESTABLISHED AT A SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON THE SITE, AS DETERMINED BY THE CITY ENGINEER.
26. WHERE NATURAL VEGETATION IS REMOVED DURING GRADING, VEGETATION SHALL BE REESTABLISHED VEGETATIVE COVER OF AREA DISTURBED AS TO PREVENT EROSION. PERMANENT TYPE GRASSES SHALL BE ESTABLISHED AS SOON AS POSSIBLE OR DURING THE NEXT SEEDING PERIOD AFTER GRADING HAS BEEN COMPLETED.
27. WHEN GRADING OPERATIONS ARE COMPLETED OR SUSPENDED FOR MORE THAN THIRTY (30) DAYS, PERMANENT GRASS MUST BE ESTABLISHED TO VEGETATIVE COVER TO PROVIDE EROSION CONTROL ON THE SITE. BETWEEN PERMANENT GRASS SEEDING PERIODS, TEMPORARY COVER SHALL BE PROVIDED ACCORDING TO THE CITY ENGINEER'S RECOMMENDATIONS. ALL FINISHED GRADES (AREAS NOT TO BE DISTURBED BY FUTURE IMPROVEMENTS) IN TWENTY (20) PERCENT SLOPES (5 HORIZONTAL TO 1 VERTICAL) SHALL BE MULCHED.
28. ALL EROSION AND SEDIMENT CONTROL FACILITIES SHALL BE INSPECTED FOLLOWING EACH RAINSTORM CAUSING SIGNIFICANT RUNOFF, OR BEING OF SUFFICIENT INTENSITY OR DURATION AS TO STOP CONSTRUCTION OR GRADING PROGRESS. THE SEDIMENT CONTROL FACILITIES SHALL BE CLEANED OF SEDIMENT, REPAIRED IF DAMAGED AND RESTORED TO SERVICEABLE CONDITIONS IF:
    1. EROSION SEDIMENT HAS ACCUMULATED IN SILT DEVICES,
    2. SEDIMENT EROSION CONTROL DEVICES HAVE BEEN DAMAGED,
    3. OBVIOUS GULLIES OR SEDIMENT DEPOSITS HAVE BEEN FORMED ON THE DOWNSTREAM SIDE OF CONTROL DEVICES, OR
    4. SEDIMENT HAS BEEN CARRIED BEYOND THE WORKING SITE.
29. THE DEVELOPER MUST SUPPLY CITY CONSTRUCTION INSPECTORS WITH ALL COPIES OF INTERIM SOIL TESTING REPORTS.
30. ALL FILLED PLACES UNDER PROPOSED STORM AND SANITARY SEWER, PROPOSED ROADS, AND/OR PAVED OR FUTURE PAVED AREAS SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD COMPACTION TEST. ALL FILL PLACED IN PROPOSED ROADS SHALL BE COMPACTED FROM THE BOTTOM OF THE FILL UP. ALL TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACK FILLING OPERATIONS.
31. AREA SHALL BE TEMPORARILY RESEEDED AT A RATE OF 6-8 LBS. OF RYE GRASS PER 1000 SQ. FT. FERTILIZER SHALL BE APPLIED AT A RATE OF 50 LBS. PER 10,000 SQ. FT.

EROSION CONTROL NOTES:

1. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE FROM BUILDINGS FOR ALL NATURAL & PAVED AREAS.
2. ALL UNSURFACED AREAS ARE TO RECEIVE FOUR INCHES OF TOPSOIL. CONTRACTOR TO SEED, MULCH, AND FERTILIZE ALL AREAS OUTSIDE OF PAVED AREAS THAT WERE DISTURBED DURING CONSTRUCTION UNTIL AN ACCEPTABLE STAND OF GRASS IS ESTABLISHED.
3. NO LAND CLEARING OR GRADING SHALL BEGIN UNTIL ALL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
4. SHOULD CONSTRUCTION STOP FOR LONGER THAN 14 DAYS, THE SITE SHALL BE STABILIZED AND SEEDED AS SPECIFIED BY TEMPORARY SEEDING MIX. STABILIZATION MUST OCCUR WITHIN 7 DAYS IF SLOPES ARE GREATER THAN 35%.
5. MAINTAIN EROSION CONTROL MEASURES AFTER EACH RAIN AND AT LEAST TWICE A WEEK.
6. THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE AS THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SOIL SEDIMENT FROM LEAVING THE SITE.
7. CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL ORDINANCES THAT APPLY.
8. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY ON SITE INSPECTION.
9. LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY GOVERNING AUTHORITIES.
10. CONTRACTOR SHALL BE RESPONSIBLE TO TAKE WHATEVER MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION.
11. ALL CUT OR FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.
12. EFFORTS WILL BE MADE TO DIRECT DRAINAGE TO EXISTING DISCHARGE POINTS.
13. ALL STORM WATER RUNOFF SHALL MEET LOCAL AGENCY(IES) STANDARDS.
14. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO KEEP ALL MUD AND SILT ON SITE AND OFF OF STREETS.
15. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING STORM WATER RUN-OFF AND SILTATION UNDER CONTROL DURING CONSTRUCTION.
16. CONTRACTOR SHALL MAINTAIN THE SITE IN A WELL-DRAINED MANNER IN ORDER TO ASSUME THE SHORTEST POSSIBLE DRYING TIME AFTER EACH RAINFALL. THIS WILL MEAN THAT PUMPING OF STANDING WATER IN LOW AREAS ON THE SITE WILL MOST LIKELY BE REQUIRED DURING CONSTRUCTION.

MAINTENANCE:
ALL MEASURES STATED ON THIS EROSION AND SEDIMENT CONTROL PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON IN ACCORDANCE WITH THE SCHEDULE LISTED BELOW:

1. OPERATORS SHALL ENSURE PROPER INSTALLATION, MAITENANCE, AND OVERALL EFFECTIVENESS OF EROSION PREVENTION AND SEDIMENT CONTROLS (EPSCs) BY PERFORMING TWICE WEEKLY INSPECTIONS.
2. INSPECTIONS MUST VERIFY AND DOCUMENT THE FUNCTIONALITY AND PERFORMANCE OF THE EPSC MEASURES DESCRIBED IN THE SWPPP.
3. INITIAL INSPECTIONS SHALL ALSO INDICATE IF ALL EPSCs HAVE BEEN INSTALLED AS DESIGNED IN THE SUBMITTED SPPP AND EPSC PLANS; AND, IF NOT, MEASURES THAT NEED TO BE TAKEN SO THOSE EPSCs MEET THE DESIGN SPECIFICATIONS IN THE FIELD SWPPP AND EPSC PLANS.
4. TWICE WEEKLY INSPECTIONS CAN BE PERFORMED BY:
    A. A PERSON WITH A VALID CERTIFICATION FROM THE "LEVEL I – FUNDAMENTALS OF EROSION PREVENTION AND SEDIMENT CONTROL" COURSE,
    B. A LICENSED PROFESSIONAL ENGINEER OR LANDSCAPE ARCHITECT,
    C. A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC), OR
    D. A PERSON WHO HAS SUCCESSFULLY COMPLETED THE "LEVEL II – DESIGN PRINCIPLES FOR EROSION PREVENTION AND SEDIMENT CONTROL FOR CONSTRUCTION SITES" COURSE.
5. INSPECTIONS SHALL BE PERFORMED AT LEAST 72 HOURS APART.
6. WHERE SITES OR PORTIONS OF CONSTRUCTION SITES HAVE BEEN TEMPORARILY STABILIZED, INSPECTIONS ONLY HAVE TO BE CONDUCTED ONCE PER MONTH UNTIL CONSTRUCTION ACTIVITY RESUMES.

ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CLEANED AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:

1. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING, OR DETERIORATION.
2. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED.
3. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS OR REPLACED IF DAMAGED IN THE EVENT OF A BLOWOUT, UNDERMINING, AND BYPASS. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT FENCE.
4. THE CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OR FULL REPLACEMENT OF THE CONSTRUCTION ENTRANCES AS CONDITIONS DEMAND.
5. OUTLET STRUCTURES IN THE SEDIMENTATION BASINS SHALL BE MAINTAINED IN OPERATIONAL CONDITIONS AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.
6. ALL CURB AND AREA INLETS SHALL HAVE INLET PROTECTION SUFFICIENT TO PREVENT TRANSPORTED SOIL FROM BEING DEPOSITED IN THE FORM OF SILT IN THE STORM DRAINAGE SYSTEMS ON-SITE OR OFF-SITE. INLETS SHALL BE INSPECTED AFTER EACH STORM EVENT AND MEASURES SHOULD BE TAKEN TO RESTORE CAPACITY AFTER STORM EVENTS WHEN NEEDED.
7. ALL FINISHED GRADES THAT EXCEED 20% (5 HORIZONTAL TO 1 VERTICAL) SHALL BE MULCHED.
8. CONCRETE WASHOUTS ARE REQUIRED TO BE EMPTIED REGULARLY ON A ROUTINE SCHEDULE, SUCH THAT A MINIMUM FREEBOARD OF FOUR INCHES IS PROVIDED FOR ABOVE-GRADE WASHOUT FACILITIES AND 12 INCHES FOR BELOW-GRADE WASHOUT FACILITIES. REMOVE CONCRETE ONCE IT HAS HARDENED. REMOVE ACCUMULATED MATERIALS ONCE 75% OF THE STORAGE CAPACITY IS FILLED. INSPECT PLASTIC LININGS, GEOTEXTILES, AND SIDEWALLS OF WASHOUTS TO ENSURE THERE ARE NO TEARS OR LEAKS.

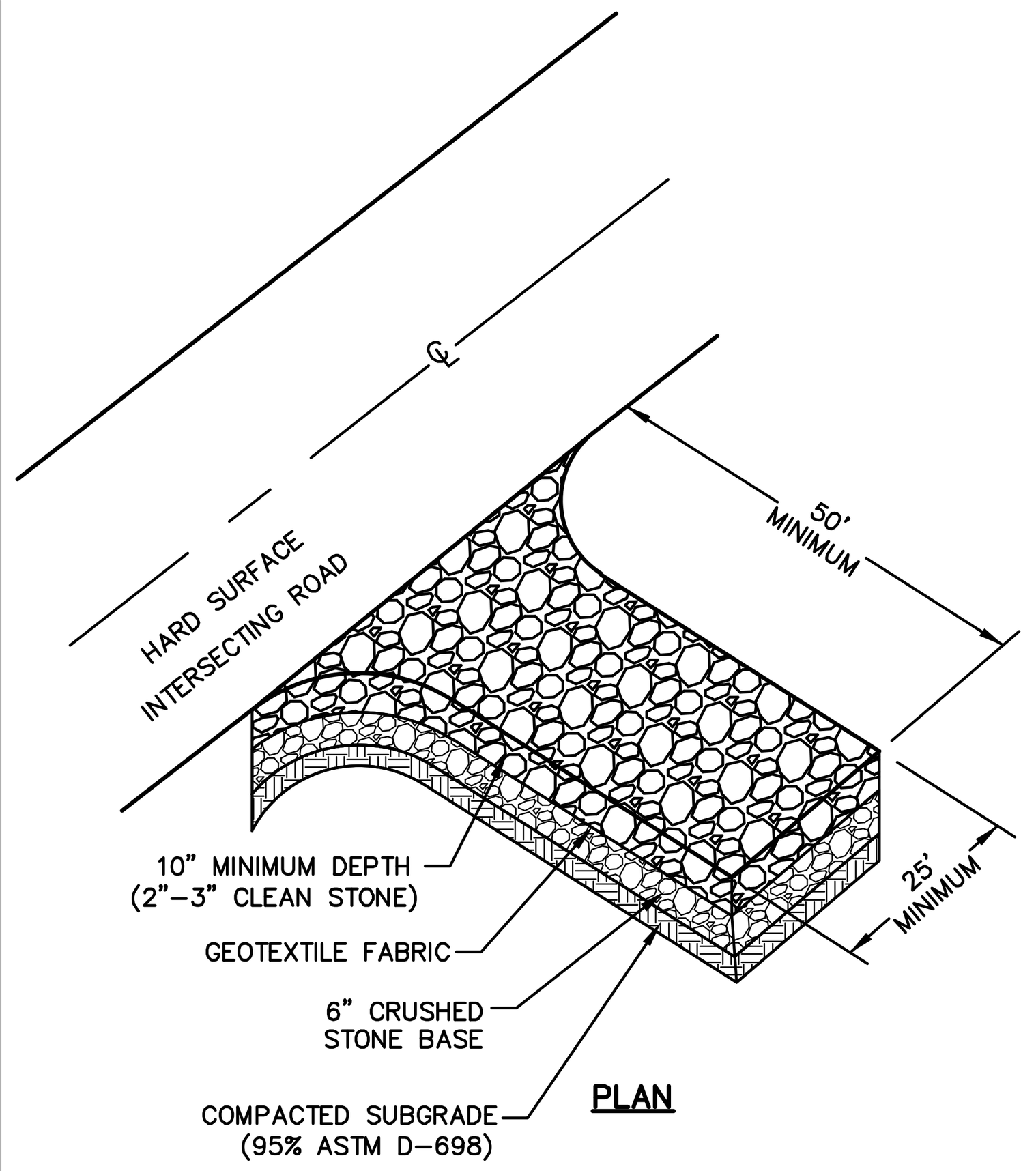
SEQUENCE OF CONSTRUCTION

INSTALL EROSION CONTROL ITEMS.

1. INSTALL TEMPORARY CONTROL MEASURES
2. BEGIN DEMOLITION OF CONCRETE/ASPHALT PAVEMENT.
3. PERFORM GRADING ACTIVITIES.
4. TEMPORARY SEED DENUDED AREAS.
5. PAVE SITE.
6. FINAL SEEDING/SOD.
7. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES (ONLY IF SITE IS STABILIZED).

OWNER:	*DEVELOPER*:
JOSH AND SARAH BOWMAR 8940 NE 29TH STREET ANKENY, IA 50021	CLUB CAR WASH OPERATIONS 1591 E. PRATHERSVILLE RD. COLUMBIA, MO 65202

Tennessee811

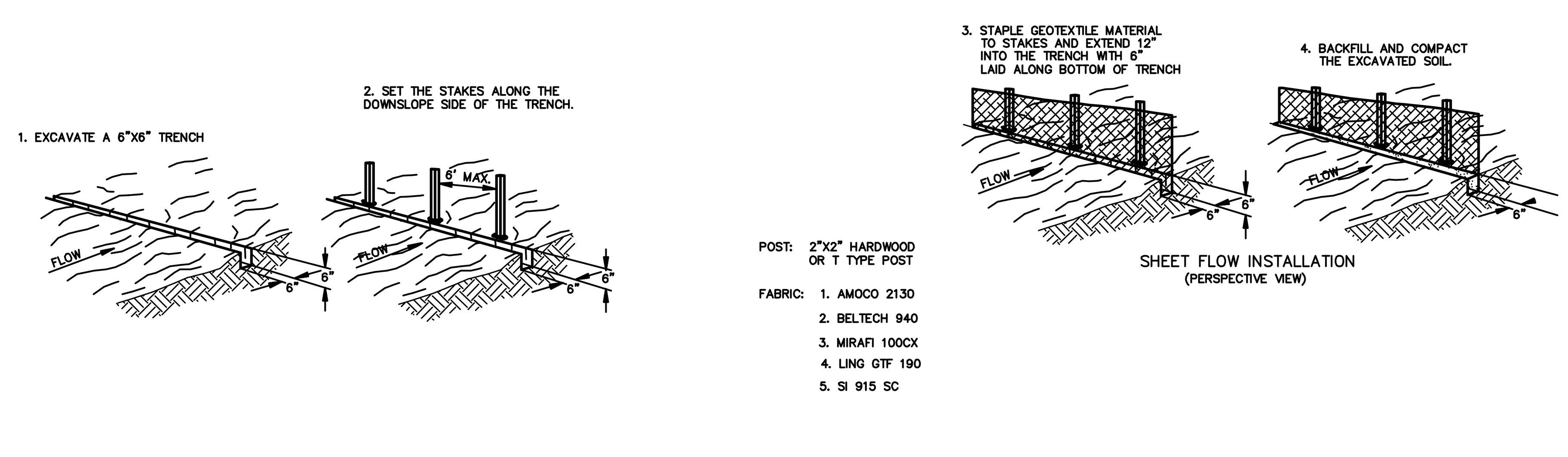


PERFORMANCE STANDARDS:

1. ALL SITE ACCESS MUST BE CONFINED TO THE CONSTRUCTION EXIT(S). BARRICADE TO PREVENT USE OF ANY LOCATIONS OTHER THAN THE CONSTRUCTION EXIT(S) WHERE VEHICLES OR EQUIPMENT MAY ACCESS THE SITE.
2. CONTRACTOR TO LOCATE TEMPORARY CONSTRUCTION FENCING, JERSEY BARRIERS, OR BOTH ALONG THE SIDES OF THE CONSTRUCTION EXIT TO PREVENT CONSTRUCTION TRAFFIC FROM SHORT CIRCUITING/BYPASSING THE EXIT.
3. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION EXIT(S) IS NOT SUFFICIENT TO PREVENT TRACKING OF DIRT, DUST OR MUD, THEN A RUMBLE STRIP OR HDPE MATERIAL SHOULD ADDED TO REDUCE TRACK OUT AND TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. ALL WASH WATER MUST BE ROUTED TO A SEDIMENT TRAP OR OTHER TREATMENT AREA AND SHALL NOT BE DIRECTLY DISCHARGED OFF-SITE.
4. LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE MUST BE INSPECTED FOR EVIDENCE OF SEDIMENT TRACKING BEYOND THE PERMITTED PROJECT AREA. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
5. ANY SEDIMENT DEPOSITED ON THE ROADWAY SHALL BE SWEPT AS NECESSARY (AND WITHIN THE SAME DAY AS DISCOVERY) AND DISPOSED OF IN AN APPROPRIATE MANNER. SEDIMENT SHALL NOT BE WASHED INTO STORM SEWER SYSTEMS.
6. EXIT(S) SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD BEYOND THE EXIT(S). THIS MAY REQUIRE PERIODIC TOP DRESSING OR REPLACEMENT OF THE CONSTRUCTION EXIT(S) AS CONDITIONS DEMAND.
7. CONTRACTOR SHALL BE PERMITTED TO TURN THE STONE WHEN THE SURFACE BECOMES SMOOTH AND SURFACE VOIDS ARE FILLED TO MAINTAIN EFFECTIVENESS OF CONSTRUCTION EXIT UNTIL SUCH TIME THAT VOIDS BELOW THE SURFACE BECOME FILLED AND THE CONSTRUCTION EXIT IS NO LONGER EFFECTIVE. AT SUCH A TIME THE CONTRACTOR SHALL REMOVE THE INEFFECTIVE STONE AND REPLACE PER DETAIL.
8. IF EXIT BMP IS STILL INEFFECTIVE, GC MUST CONTACT THE ENGINEER AND SUBMIT AN RFI AS NECESSARY.

NOTE TO GC: THE GOAL OF A CONSTRUCTION EXIT AND ASSOCIATED WHEEL WASH AREAS IS TO ELIMINATE TRACK OUT. SIMPLY MANAGING TRACK OUT THROUGH DESIGNATED OR CONTINUAL STREET SWEEPING IS NOT AN ACCEPTABLE PRACTICE. WHILE STREET SWEEPING IS AN ACCEPTABLE PRACTICE FOR REMOVING DUST AND MINIMAL AMOUNTS OF FINE SEDIMENT, OBSERVABLE TRACK OUT FROM THE PROJECT SHOULD TRIGGER THE USE OF ADDITIONAL MEASURES (WHEEL WASH), CONSIDERATION OF ALTERNATE EXITS, OR DISCONTINUING VEHICLE TRAFFIC UNTIL CONDITIONS ON-SITE HAVE IMPROVED. TRACK OUT IS A SEDIMENT RELEASE. ALL SEDIMENT RELEASES MUST BE REPORTED TO THE SWCT VIA THE ONLINE CRITICAL INCIDENT REPORT.

(CE) TEMPORARY CONSTRUCTION ENTRANCE
NO SCALE

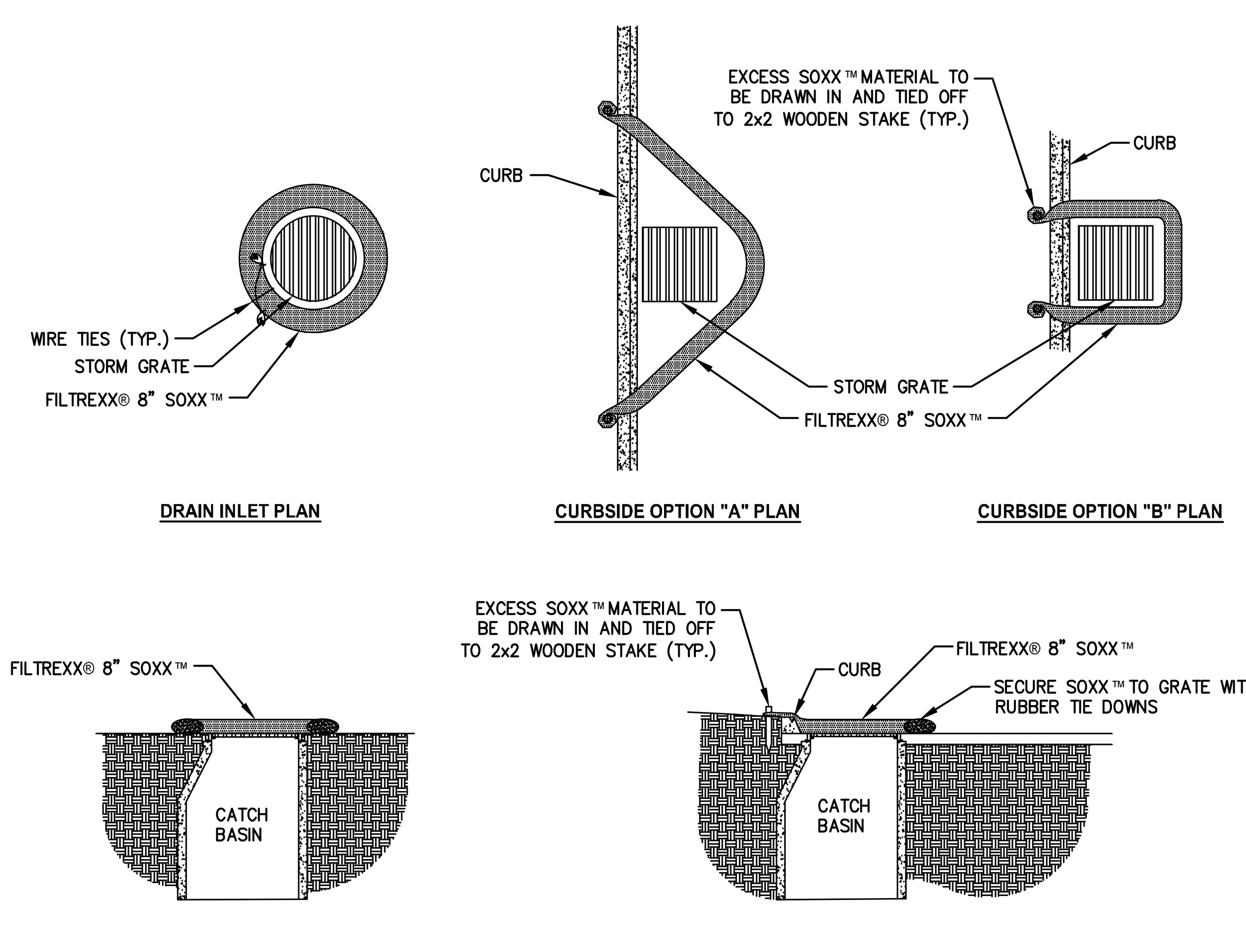


POST: 2"X2" HARDWOOD OR T TYPE POST

FABRIC:
1. AMOCO 2130
2. BELTECH 940
3. MIRAFI 100CX
4. LING GTF 190
5. SI 915 SC

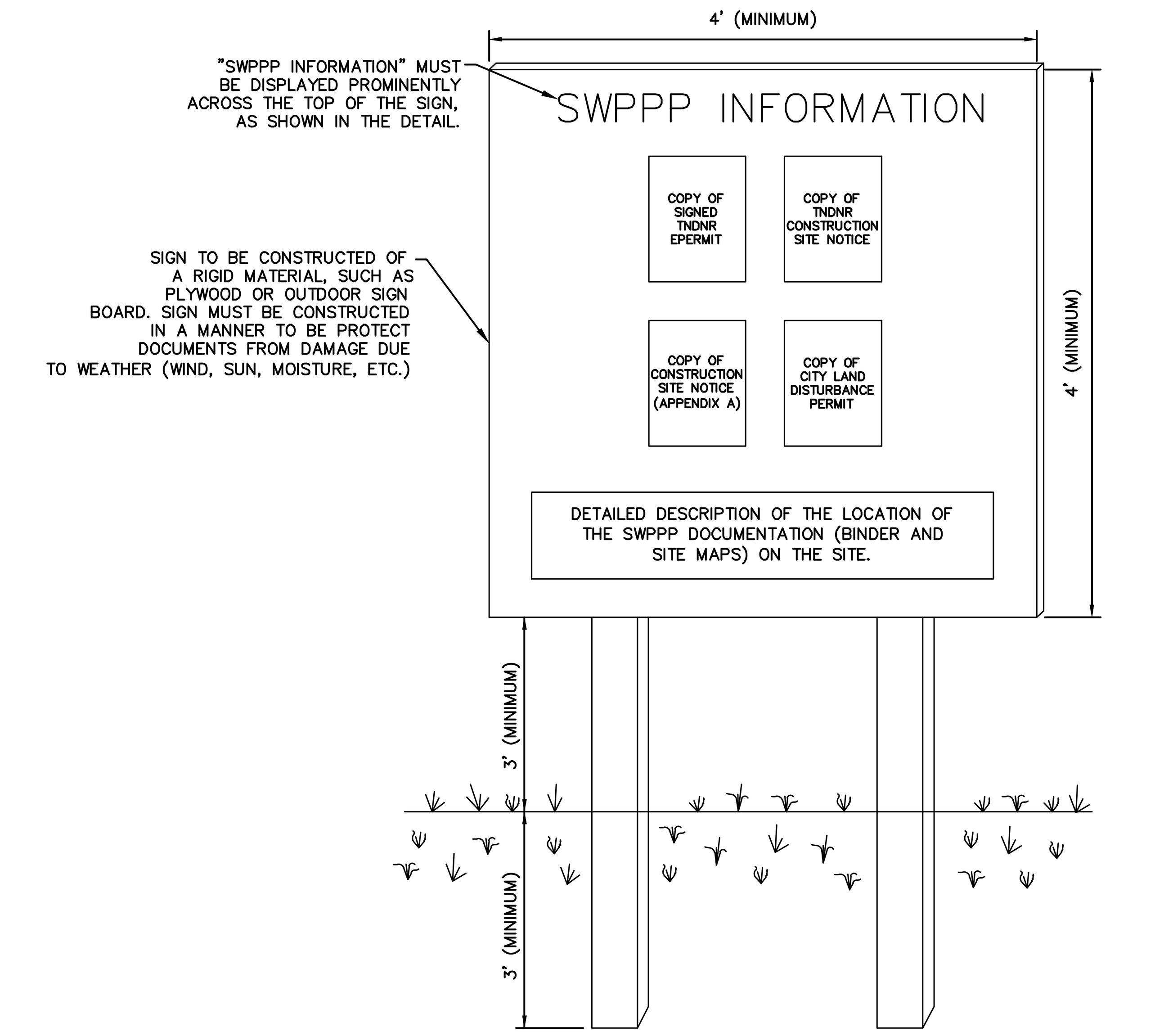
NOTE: INSTALL IN ACCORDANCE WITH SILT FENCE DETAIL, EXCEPT AS NOTED ABOVE.

(SF) SEDIMENTATION/SILT FENCE WITHOUT WIRE SUPPORT
NO SCALE



NOTES:
1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
2. FILTER MEDIA™ FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

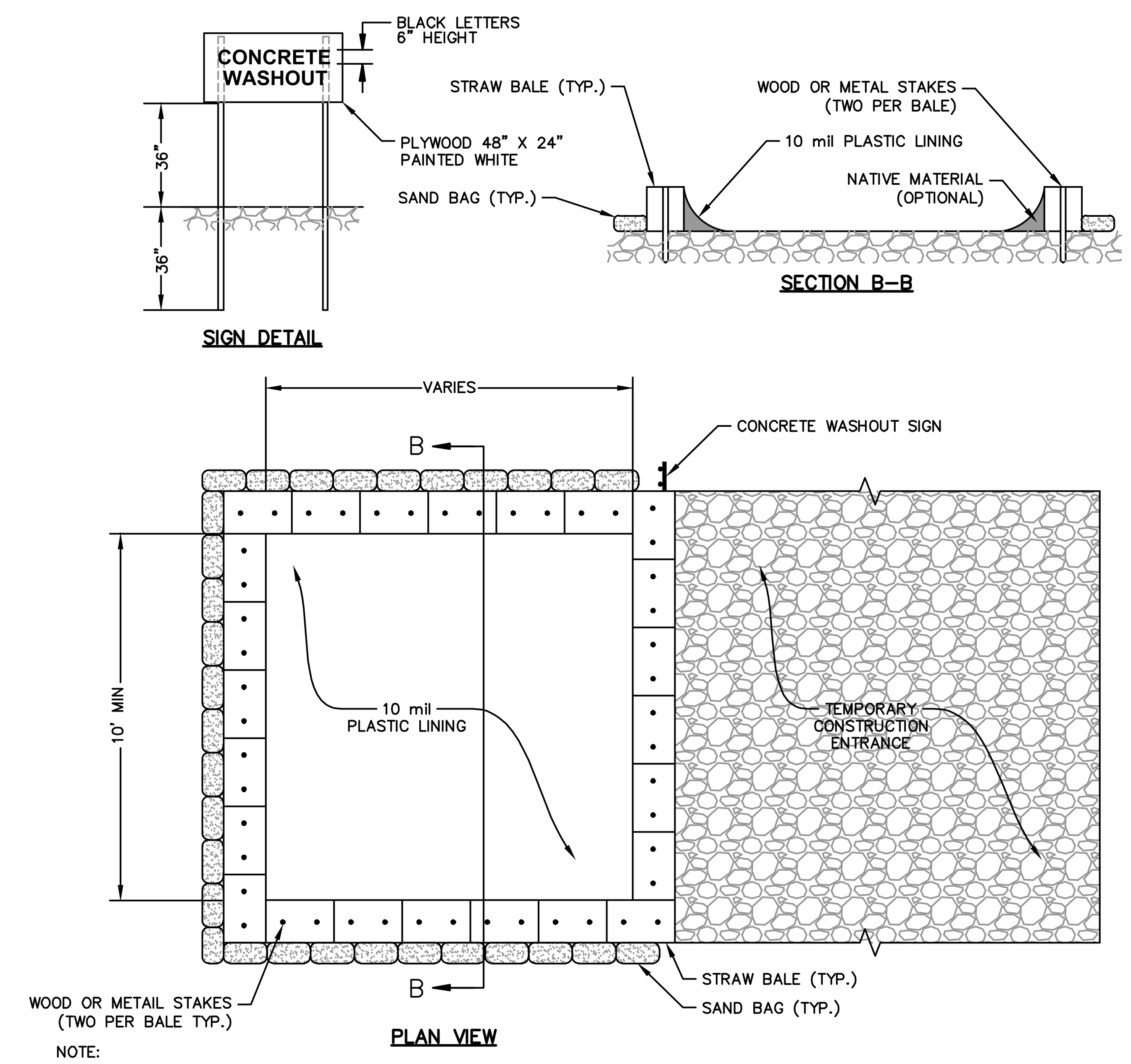
(IP3) FILTREXX SILT SOCK INLET PROTECTION
NO SCALE



NOTES:

1. THE SWPPP INFORMATION SIGN MUST BE LOCATED IN A PROMINENT, PUBLICLY ACCESSIBLE LOCATION NEAR THE MAIN ENTRANCE OF THE SITE. SUCH THAT THE DOCUMENTATION CAN BE READ WITHOUT ACCESSING THE JOBSITE, BUT NOT OBSTRUCTING VIEWS AS TO CAUSE A TRAFFIC SAFETY HAZARD.
2. ALL POSTED DOCUMENTS MUST BE MAINTAINED IN A CLEARLY READABLE CONDITION AT ALL TIMES THROUGHOUT CONSTRUCTION AND UNTIL THE NOTICE-OF-TERMINATION (NOT) IS FILED FOR THE PERMIT.
3. ALL PAGES OF NOTICES OF INTENT AND PERMIT AUTHORIZATIONS MUST BE POSTED. THE CONTRACTOR MAY UTILIZE ACCESSIBLE WATERPROOF FOLDERS TO STORE THESE DOCUMENTS IF IT WILL BE DIFFICULT TO POST ALL PAGES INDIVIDUALLY.
4. CONTRACTOR SHALL POST OTHER STORMWATER AND/OR EROSION AND SEDIMENT CONTROL RELATED PERMITS ON THE SIGN AS REQUIRED BY THE GOVERNING AGENCIES.
5. SUBSEQUENT PERMIT MODIFICATION REQUESTS OR RENEWAL APPLICATIONS AND THEIR ASSOCIATED AUTHORIZATIONS OR RESPONSES SHALL BE POSTED ON THE SWPPP SIGN.
6. SIGN SHALL BE LOCATED OUTSIDE OF PUBLIC RIGHT-OF-WAY AND EASEMENTS UNLESS APPROVED BY THE GOVERNING AGENCY.
7. CONTRACTOR IS RESPONSIBLE FOR ENSURING STABILITY OF THE SWPPP INFORMATION SIGN.

SWPPP INFORMATION SIGN
NO SCALE



NOTE:

1. CONCRETE WASHOUT AREA (CWA) SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT.
2. THE LOCATION OF ALL CONCRETE WASHOUT STRUCTURES MUST BE CONSTRUCTED WITH MINIMUM SETBACK DIMENSIONS OF 5 FEET ABOVE GROUNDWATER, AND 50 FEET FROM THE TOP OF BANK OF PERENNIAL STREAM, OTHER SURFACE WATER BODY, OR WETLAND.
3. CWA SHALL INCLUDE A FLAT SURFACE PIT THAT IS AT LEAST 10' X 10' WITH THE WALLS BUILT OF HAYBALES END TO END DOUBLE STAKED INTO THE GROUND.
4. CWA MUST BE INSTALLED WITH A LOW PERMEABLE POLYPROPYLENE OR POLYETHYLENE GEOMEMBRANE WITH A MINIMUM 10-MIL THICKNESS.
5. SIGNS SHALL BE PLACED AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
6. CWA SHALL BE EMPTIED REGULARLY ON A ROUTINE SCHEDULE, SUCH THAT A MINIMUM FREEBOARD OF FOUR INCHES IS PROVIDED FOR ABOVE-GRADE WASHOUT FACILITIES AND 12 INCHES FOR BELOW-GRADE WASHOUT FACILITIES. REMOVE ACCUMULATED MATERIALS ONCE 75% OF THE STORAGE CAPACITY IS FILLED.

(CW) TEMPORARY CONCRETE WASHOUT DETAIL
NO SCALE

636-332-4574 (tel.)
636-327-0760 (fax)
wentmail@cochraneng.com
North Office
8 East Main Street
Wentzville, Missouri 63385
COCHRAN
• Civil Engineering
• Land Surveying
• Architecture
• Site Development
• General Consulting
• Master Planning
TENNESSEE State Certificate of Authority Numbers: 11201

Two working days prior to the start of any excavation on this site, contractor shall call 1-800-351-1111 for utility location information.

All OSHA rules & regulations established for the type of construction required by these plans shall be strictly followed (ie. Trenching, Blasting, etc.)

KURTIS J. DANIELS REGISTERED ENGINEER XVI AGRICULTURE COMMERCE No. 127527 STATE OF TENNESSEE

KURTIS J. DANIELS
127527
6/24/26

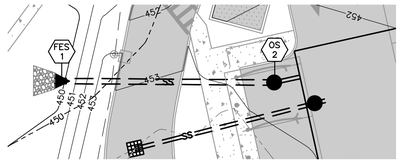
PRELIMINARY PLANS
CLUB CAR WASH
GOODLETTSVILLE, TENNESSEE

DATE:	REVISION:	DWN. BY:	APP'D. BY:

S.W.P.P.P. GENERAL NOTES AND DETAILS

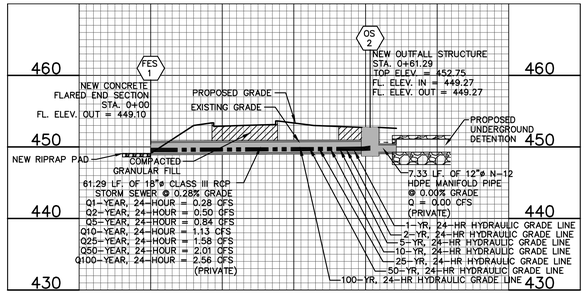
DWN. BY: KAF	APP'D. BY: KJD
DATE: JUNE 2026	
SCALE: NO SCALE	
PROJ. NO: M25-9311A	
DWG. NO: *7 OF 16*	

STORM SEWER PLAN AND PROFILE

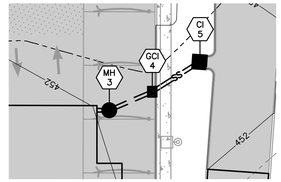


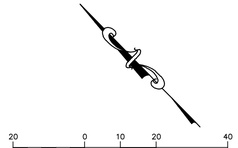


PLAN VIEW 1

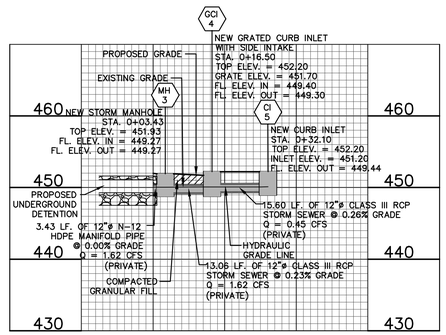


PROFILE VIEW 1

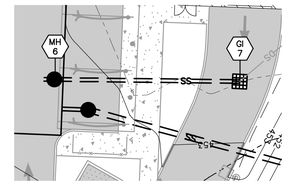


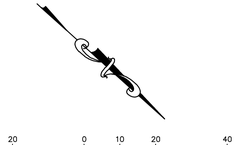


PLAN VIEW 2



PROFILE VIEW 2





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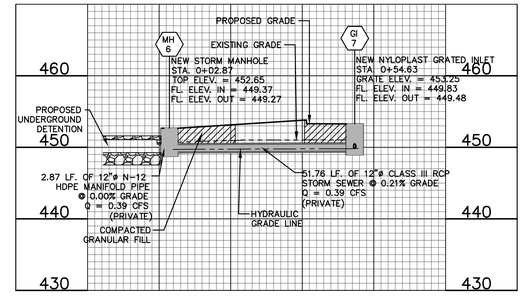
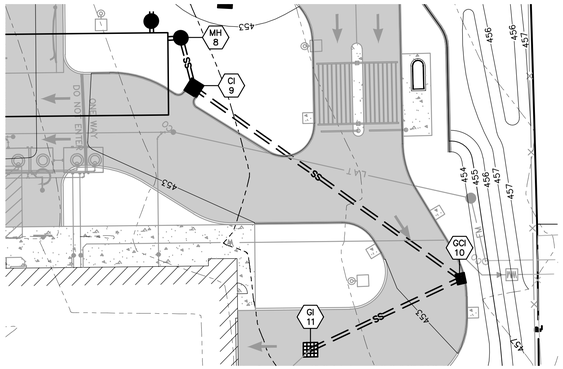
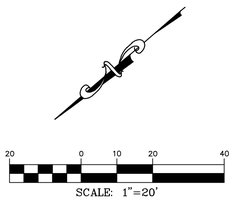


PROFILE VIEW 3





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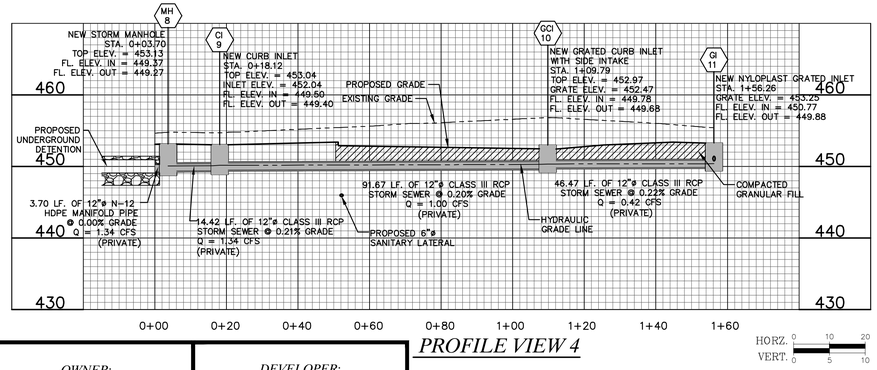
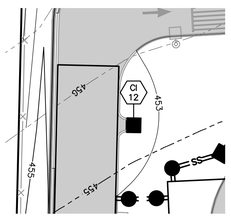
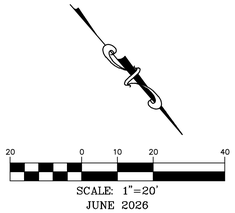
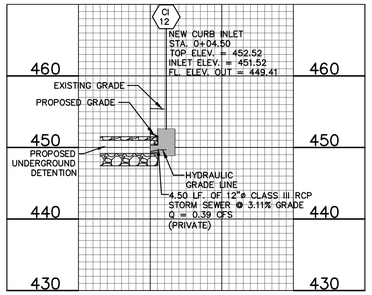


PROFILE VIEW 4

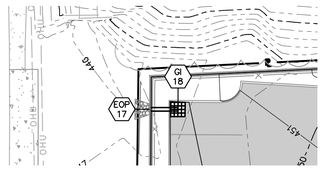


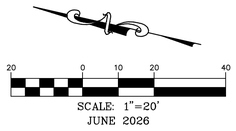


PLAN VIEW 5

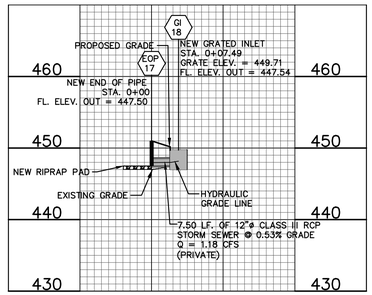


PROFILE VIEW 5





PLAN VIEW 6



PROFILE VIEW 6

OWNER:
JOSH AND SARAH BOWMAR
8940 NE 29TH STREET
ANKENY, IA 50021

DEVELOPER:
CLUB CAR WASH OPERATIONS
1591 E. PRATHERSVILLE RD.
COLUMBIA, MO 65202

NOTE:
HP STORM POLYPROPYLENE PIPE MEETING ASTM F2881 MAY BE USED AS AN ALTERNATE TO RCP PIPE ON STORM SEWERS. CONTRACTOR SHALL VERIFY WITH GOVERNING AUTHORITY THAT THIS IS AN ACCEPTABLE ALTERNATE. IF HP STORM PIPE IS UTILIZED IT SHALL BE INSTALLED ACCORDING TO MANUFACTURES SPECIFICATIONS.

North Office
1901 Chouteau Avenue
Wentzville, Missouri 63385
636-332-4574 (tel.)
636-327-0760 (fax)
wentmail@cochraneng.com

- Civil Engineering
- Land Surveying
- Architecture
- Site Development
- General Consulting
- Master Planning

TENNESSEE State Certificate of Authority Numbers: 11201

Two working days prior to the start of any excavation on this site, contractor shall contact Tennessee One Call utility location information.

All OSHA rules & regulations established for the type of construction involved in these plans shall be strictly followed (ie. Trenching, Blasting, etc.)

KURTIS J. DANIELS
REGISTERED ENGINEER
AGRICULTURE
No. 127527
STATE OF TENNESSEE
KURTIS J. DANIELS 127527

PRELIMINARY PLANS
CLUB CAR WASH
GOODLETTSVILLE, TENNESSEE

STORM SEWER PLAN AND PROFILE

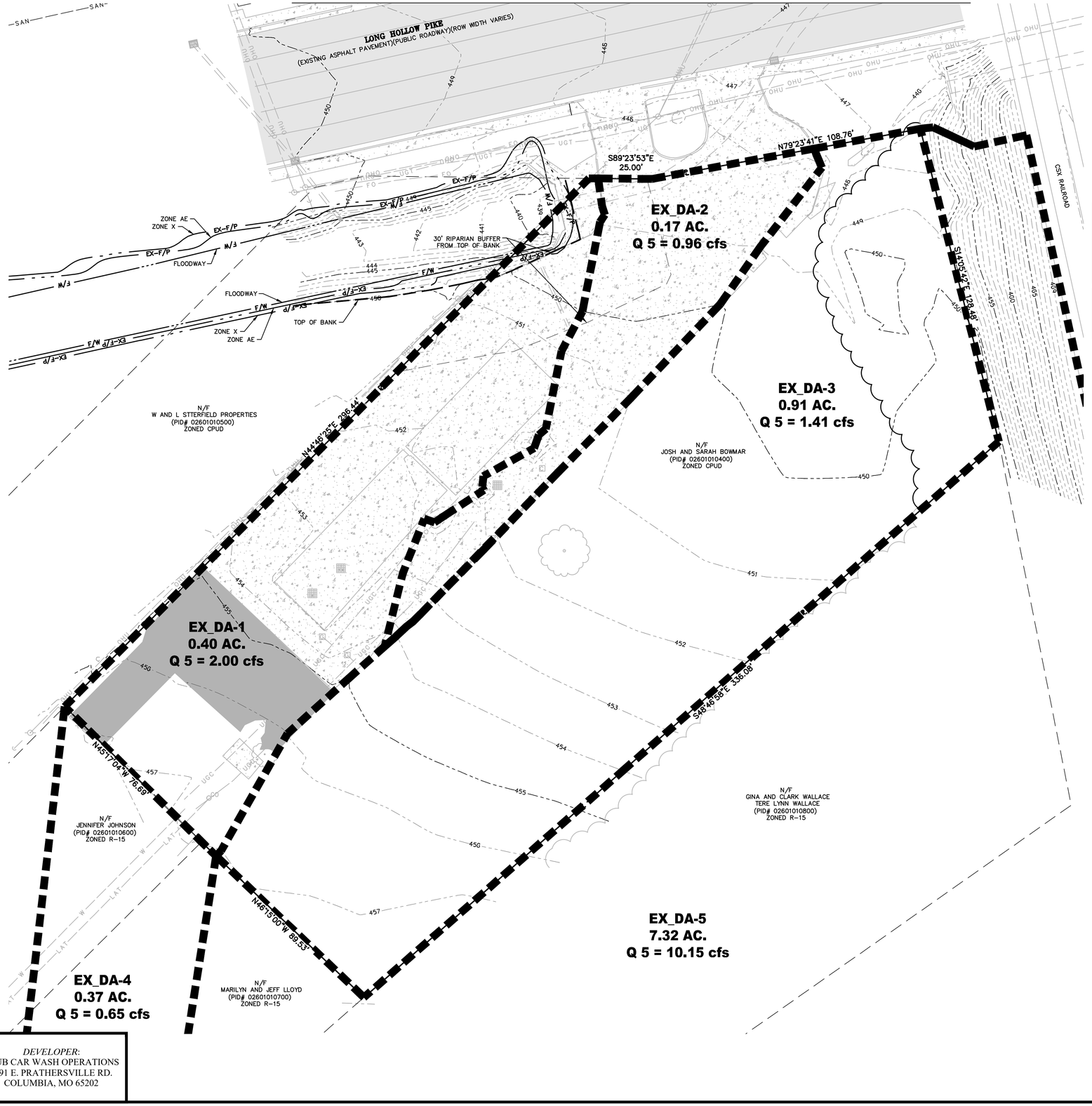
DWN. BY:	APPD. BY:
KAF	KJD
DATE:	JUNE 2026
HOR. SCALE:	1:20
VERT. SCALE:	1:10
PROJ. NO:	M25-9311A
DWG. NO:	8 OF 16

DATE:	REVISION:	DWN. BY:	APPD. BY:

Tennessee 811

DWG NAME: J:\2025\M25-9311 - CCW, 155 Long Hollow Pike, Goodlettsville TN\M25-9311A\ENGINEERING\AUTOCAD DRAWINGS\02_ Preliminary\M25-9311A_8_STORM SEWER PLAN AND PROFILE.dwg LAYOUT TAB: STORM SEWER PLAN AND PROFILE PLOTTED ON: Jun 24, 2026 - 1:20pm PLOTTED BY: KFarrell

EXISTING DRAINAGE AREA MAP



SCALE: 1"=20'
JUNE 2026

EXISTING RATIONAL METHOD CALCULATIONS								
	PERVIOUS	GRAVEL	IMPERVIOUS	TOTAL AREA	COMPOSITE C	Tc	INTENSITY	5 YR. FLOW
1	0.07	0.00	0.33	0.40	0.80	7.50	6.25	2.00
2	0.00	0.00	0.17	0.17	0.90	5.00	6.25	0.96
3	0.90	0.00	0.01	0.91	0.31	10.50	4.99	1.41
4	0.34	0.00	0.03	0.37	0.35	8.90	4.99	0.65
5	6.93	0.00	0.39	7.32	0.33	18.00	4.20	10.15

ONSITE RATIONAL METHOD FLOW DIFFERENTIAL	
EXISTING 5 YR.	4.37
PROPOSED 5 YR.	6.11
DIFFERENCE	+1.74

RUNOFF COEFFICIENT	
EXISTING	0.51
PROPOSED	0.66

OWNER:
JOSH AND SARAH BOWMAR
8940 NE 29TH STREET
ANKENY, IA 50021

DEVELOPER:
CLUB CAR WASH OPERATIONS
1591 E. PRATHERSVILLE RD.
COLUMBIA, MO 65202

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wentmail@cochraneng.com
OCHRAN
• Civil Engineering
• Land Surveying
• Architecture
• Site Development
• General Consulting
• Master Planning
TENNESSEE State Certificate of Authority Numbers: 11201

Two working days prior to the start of any excavation on this site, contractor shall contact the Tennessee one call utility location information.

All OSHA rules & regulations established for the type of excavation encountered on these plans shall be strictly followed (ie. Trenching, Blasting, etc.)

KURTIS J. DANIELS
REGISTERED ENGINEER
AGRICULTURE
No. 127527
STATE OF TENNESSEE
KURTIS J. DANIELS
127527

PRELIMINARY PLANS
CLUB CAR WASH
GOODLETTSVILLE, TENNESSEE

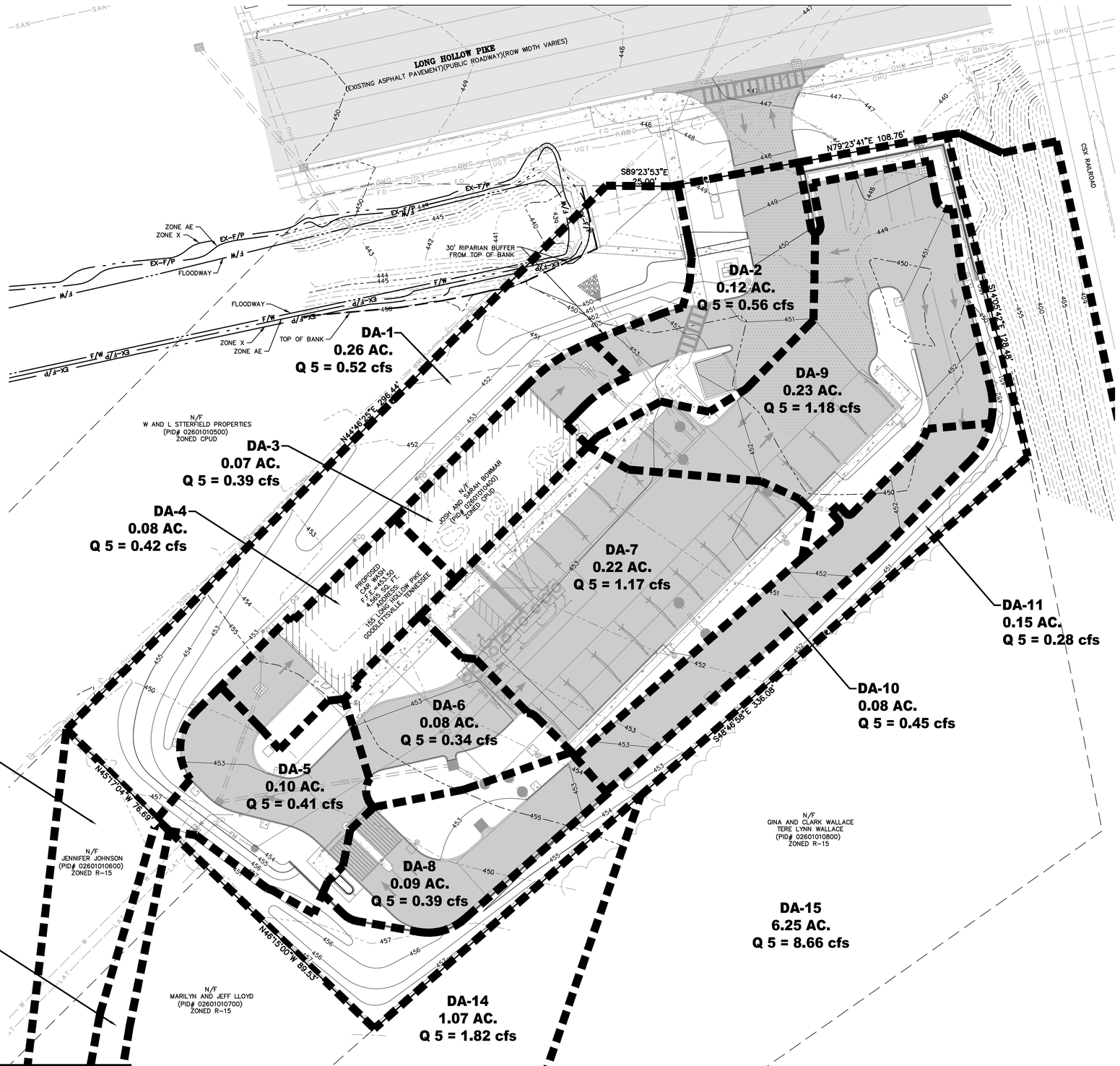
EXISTING DRAINAGE AREA MAP

DRWN. BY:	APPD. BY:
KAF	KJD

DATE: JUNE 2026
SCALE: 1: 20
PROJ. NO: M25-9311A
DWG. NO:
9 OF 16

DWG NAME: J:\2025\M25-9311 - CCW, 155 Long Hollow Pike, Goodlettsville TN\M25-9311A\ENGINEERING\AUTOCAD DRAWINGS\02_ Preliminary\M25-9311A_9_EXISTING DRAINAGE AREA MAP.dwg LAYOUT TAB: EXISTING DRAINAGE AREA MAP PLOTTED ON: Jun 24, 2026 - 1:20pm PLOTTED BY: KFarrell

PROPOSED DRAINAGE AREA MAP



PROPOSED RATIONAL METHOD CALCULATIONS								
	PERVIOUS	GRAVEL	IMPERVIOUS	TOTAL AREA	COMPOSITE C	Tc	INTENSITY	5 YR. FLOW
1	0.25	0.00	0.01	0.26	0.32	7.40	6.25	0.52
2	0.03	0.00	0.09	0.12	0.75	5.00	6.25	0.56
3	0.00	0.00	0.07	0.07	0.90	5.00	6.25	0.39
4	0.01	0.00	0.07	0.08	0.83	5.00	6.25	0.42
5	0.04	0.00	0.06	0.10	0.66	5.00	6.25	0.41
6	0.03	0.00	0.05	0.08	0.68	5.00	6.25	0.34
7	0.02	0.00	0.20	0.22	0.85	5.00	6.25	1.17
8	0.03	0.00	0.06	0.09	0.70	5.00	6.25	0.39
9	0.03	0.00	0.20	0.23	0.82	5.00	6.25	1.18
10	0.00	0.00	0.08	0.08	0.90	5.00	6.25	0.45
11	0.15	0.00	0.00	0.15	0.30	5.00	6.25	0.28
12	0.12	0.00	0.01	0.13	0.35	8.90	4.99	0.23
13	0.08	0.00	0.01	0.09	0.37	9.80	4.99	0.17
14	0.99	0.00	0.08	1.07	0.34	10.10	4.99	1.82
15	5.94	0.00	0.31	6.25	0.33	18.00	4.20	8.66

ONSITE RATIONAL METHOD FLOW DIFFERENTIAL	
EXISTING 5 YR.	4.37
PROPOSED 5 YR.	6.11
DIFFERENCE	+1.74

RUNOFF COEFFICIENT	
EXISTING	0.51
PROPOSED	0.66

SCALE: 1"=20'
JUNE 2026

OWNER:
JOSH AND SARAH BOWMAR
8940 NE 29TH STREET
ANKENY, IA 50021

DEVELOPER:
CLUB CAR WASH OPERATIONS
1591 E. PRATHERSVILLE RD.
COLUMBIA, MO 65202

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Wentzville, Missouri 63385
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• General Consulting
• Master Planning
TENNESSEE State Certificate of Authority Numbers: 11201

Two working days prior to the start of any excavation on this site, contractor shall contact TN one call for utility location information.

All OSHA rules & regulations established for the type of excavation encountered shall be strictly followed (ie. Trenching, Blasting, etc.)

KURTIS J. DANIELS
REGISTERED ENGINEER
No. 127527
STATE OF TENNESSEE
AGRICULTURE
KURTIS J. DANIELS 127527

PRELIMINARY PLANS
CLUB CAR WASH
GOODLETTSVILLE, TENNESSEE

PROPOSED DRAINAGE AREA MAP

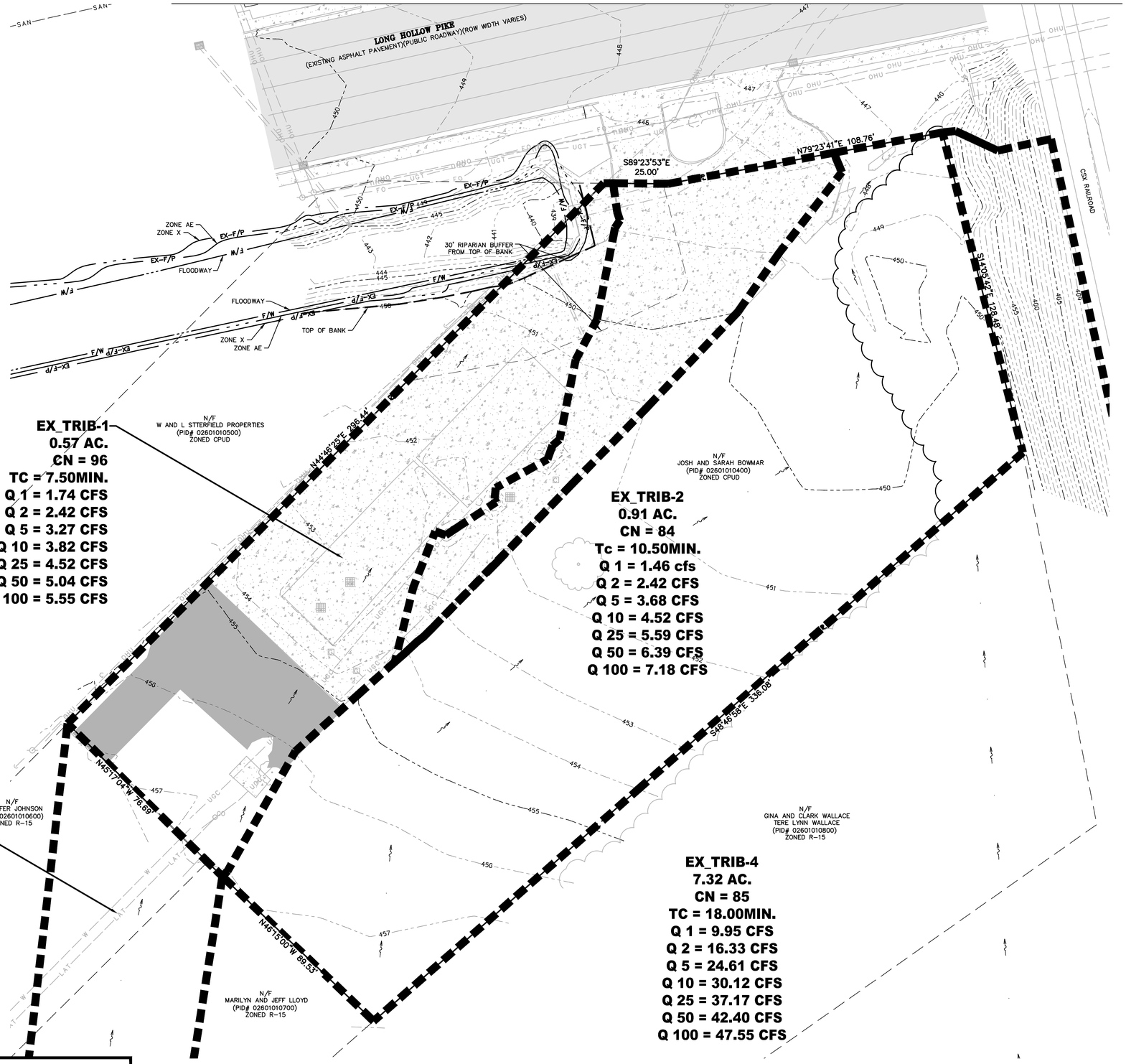
DATE:	REVISION:	DRWN. BY:	APPD. BY:
		KAF	KJD

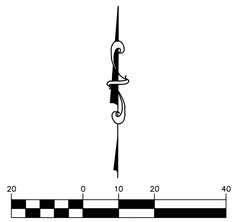
DATE: JUNE 2026
SCALE: 1:20
PROJ. NO.: M25-9311A
DWG. NO.: *10 OF 16*

DRAINAGE AREA MAP.dwg LAYOUT TAB: PROPOSED DRAINAGE AREA MAP PLOTTED ON: Jun 24, 2026 - 1:21pm PLOTTED BY: KFarrell

DWG NAME: J:\2025\M25-9311 - CCW, 155 Long Hollow Pike, Goodlettsville TN\M25-9311A\ENGINEERING\AUTOCAD DRAWINGS\02_ Preliminary\M25-9311A_10_PROPOSED DRAINAGE AREA MAP.dwg

EXISTING TRIBUTARY DRAINAGE AREA MAP





SCALE: 1"=20'
JUNE 2026

OWNER:	*DEVELOPER*:
JOSH AND SARAH BOWMAR 8940 NE 29TH STREET ANKENY, IA 50021	CLUB CAR WASH OPERATIONS 1591 E. PRATHERSVILLE RD. COLUMBIA, MO 65202

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wentmail@cochraneng.com
• Civil Engineering
• Land Surveying
• Architecture
• Site Development
• General Consulting
• Master Planning
COCHRAN
TENNESSEE State Certificate of Authority Numbers: 11201

Two working days prior to the start of any excavation on this site, contractor shall notify all utilities for the utility location information.

All OSHA rules & regulations established for the type of construction performed on these plans shall be strictly followed (ie. Trenching, Blasting, etc.)

KURTIS J. DANIELS
REGISTERED ENGINEER
127527
STATE OF TENNESSEE
AGRICULTURE
KURTIS J. DANIELS 4/24/26
127527

PRELIMINARY PLANS
CLUB CAR WASH
GOODLETTSVILLE, TENNESSEE

EXISTING TRIBUTARY DRAINAGE AREA MAP

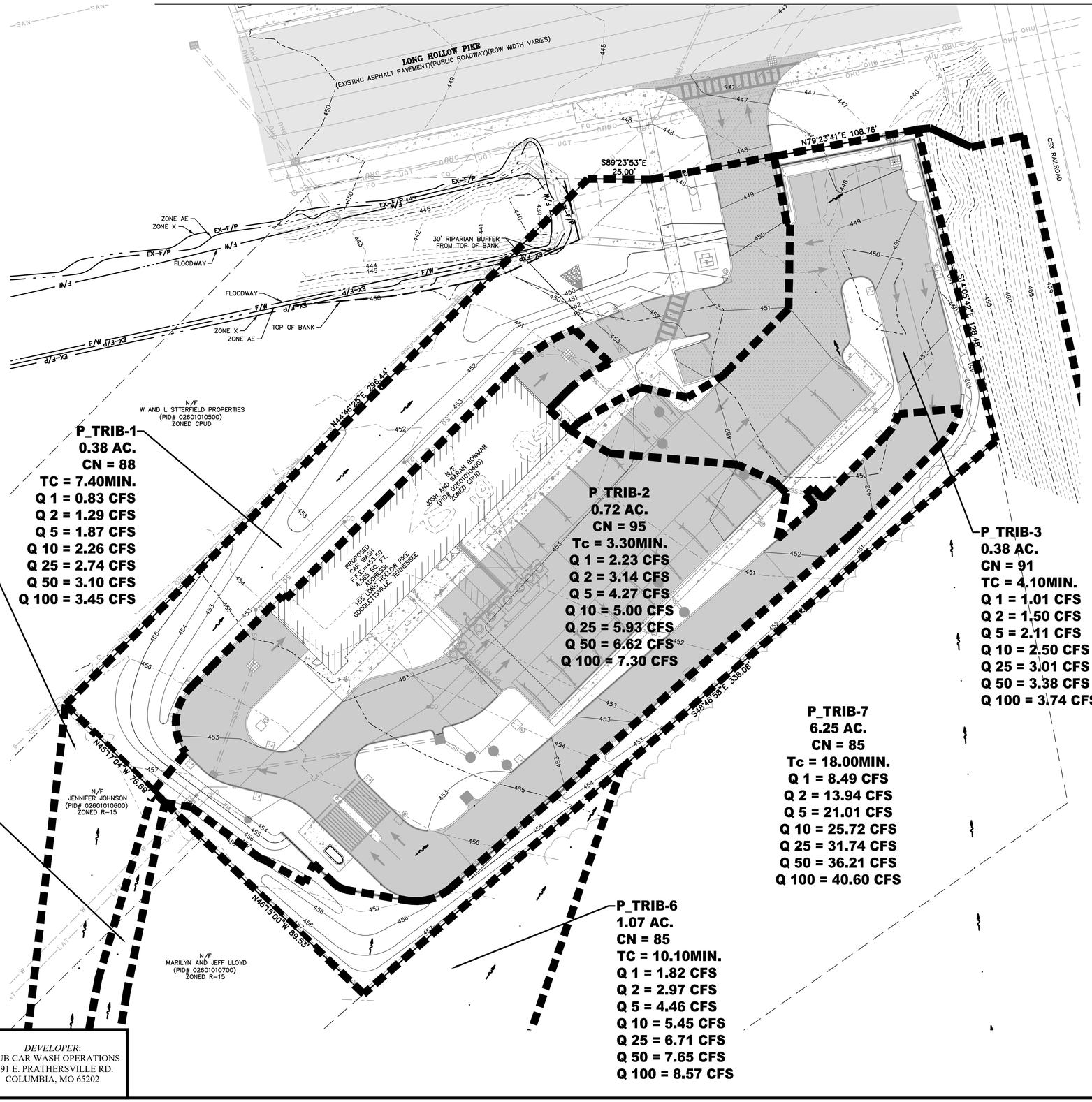
DRN. BY:	APP'D. BY:
KAF	KJD

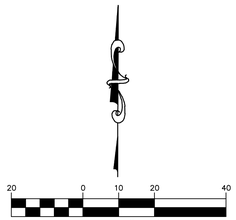
DATE: JUNE 2026
SCALE: 1:20
PROJ. NO: M25-9311A
DWG. NO:

11 OF 16

DWG NAME: J:\2025\M25-9311 - CCW, 155 Long Hollow Pike, Goodlettsville TN\M25-9311A\ENGINEERING\AUTOCAD DRAWINGS\02_ Preliminary\M25-9311A_11_EXISTING TRIBUTARY DRAINAGE AREA MAP.dwg LAYOUT TAB: EXISTING TRIBUTARY DRAINAGE AREA MAP PLOTTED ON: Jun 24, 2026 - 1:21pm PLOTTED BY: KFarrell

PROPOSED TRIBUTARY DRAINAGE AREA MAP





OWNER:	*DEVELOPER*:
JOSH AND SARAH BOWMAR 8940 NE 29TH STREET ANKENY, IA 50021	CLUB CAR WASH OPERATIONS 1591 E. PRATHERSVILLE RD. COLUMBIA, MO 65202

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- General Consulting
- Master Planning

COCHRAN

TENNESSEE State Certificate of Authority Numbers: 11201

Two working days prior to the start of any excavation on this site, contractor shall notify all affected owners of utility location information.

All OSHA rules & regulations established for the type of construction involved in these plans shall be strictly followed (ie. Trenching, Blasting, etc.)

KURTIS J. DANIELS
REGISTERED ENGINEER
AGRICULTURAL
No. 127527
STATE OF TENNESSEE

KURTIS J. DANIELS
127527

PRELIMINARY PLANS
CLUB CAR WASH
GOODLETTSVILLE, TENNESSEE

PROPOSED TRIBUTARY DRAINAGE AREA MAP

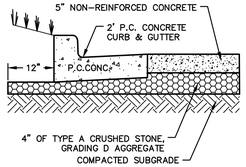
DATE:	REVISION:	DRN. BY:	APPD. BY:

DRN. BY:	APPD. BY:
KAF	KJD

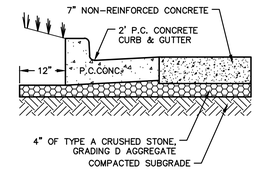
DATE: JUNE 2026
SCALE: 1:20
PROJ. NO.: M25-9311A
DWG. NO.:

12 OF 16

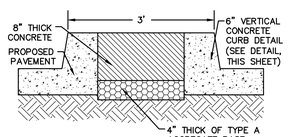
DWG NAME: J:\2025\M25-9311 - CCW, 155 Long Hollow Pike, Goodlettsville TN\M25-9311A\ENGINEERING\AUTOCAD DRAWINGS\02_ Preliminary\M25-9311A_12_PROPOSED TRIBUTARY DRAINAGE AREA MAP.dwg LAYOUT TAB: PROPOSED TRIBUTARY DRAINAGE AREA MAP PLOTTED ON: Jun 24, 2026 - 1:21pm PLOTTED BY: KFarrell



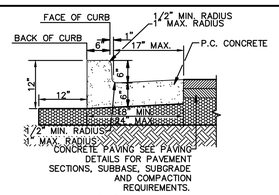
STANDARD DUTY CONCRETE PAVING
NO SCALE



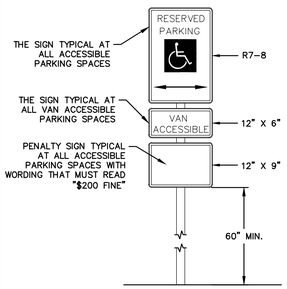
HEAVY DUTY CONCRETE PAVING
NO SCALE



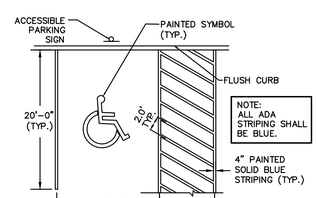
CONCRETE ISLAND DETAIL
NO SCALE



TYPE "A" CONCRETE CURB AND GUTTER
NO SCALE



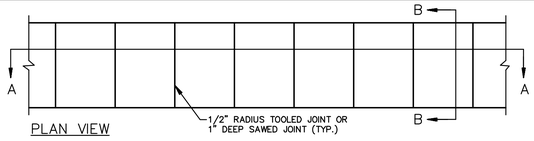
ACCESSIBLE PARKING SIGN DETAIL
NO SCALE

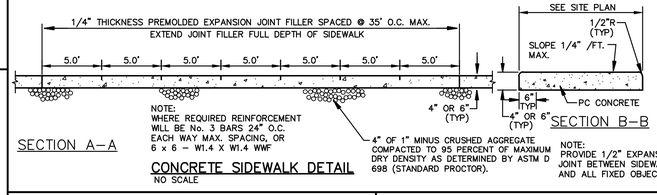


ACCESSIBLE STRIPING DETAIL
NO SCALE

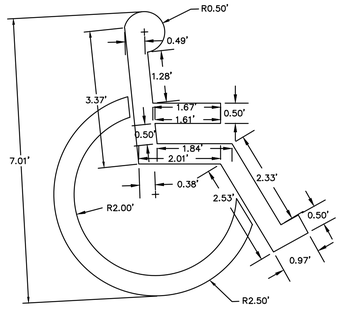
OWNER:
JOSH AND SARAH BOWMAR
8940 NE 29TH STREET
ANKENY, IA 50021

DEVELOPER:
CLUB CAR WASH OPERATIONS
1591 E. PRATHERSVILLE RD.
COLUMBIA, MO 65202

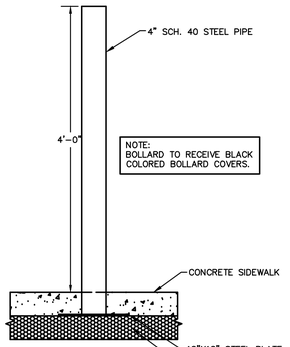




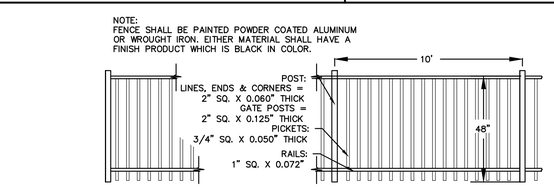
CONCRETE SIDEWALK DETAIL
NO SCALE



ACCESSIBLE PARKING SPACE SYMBOL DETAIL
NO SCALE



PIPE BOLLARD
NO SCALE

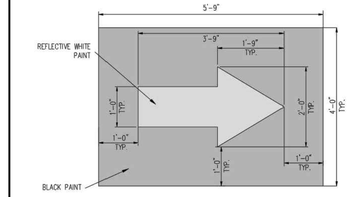


METAL FENCE DETAIL
NO SCALE

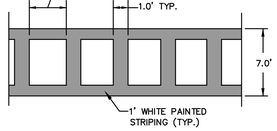
NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTING A WALL MANUFACTURER WHO WILL BE RESPONSIBLE FOR THE WALL DESIGN ACCORDING TO SITE CHARACTERISTICS AND SUBMIT TO THE CITY FOR WALL PERMIT INDEPENDENT OF THE PERMIT ASSOCIATED WITH THIS SET OF PLANS.
2. TYPICAL SECTION PROVIDED FOR REFERENCE ONLY. WALL DESIGN ENGINEER TO PRODUCE SUFFICIENT DETAILS AS NECESSARY ON RETAINING WALL CONSTRUCTION PLANS.
3. THE QUANTITIES OF WALL SHOWN IN THE BID FORM ARE BASED UPON SQUARE FEET OF EXPOSED WALL ACCORDING TO THE TW AND BW ELEVATIONS SHOWN ON THE PLANS. ANY BLOCK OR FOOTING BELOW THE BW ELEVATION SHOWN ON THE PLANS ARE DEPENDENT ON THE CONTRACTOR AND SELECTED WALL MANUFACTURER/DESIGNER AND SHOULD BE INCLUDED IN THE CONTRACTOR'S UNIT PRICE FOR THE WALL. THE CONTRACTOR SHALL NOT RECEIVE UNIT PRICE PAYMENT FOR ANY BLOCK BELOW FINISH GRADE OR ANY ADDITIONAL PAYMENT FOR THE WALL FOOTING.

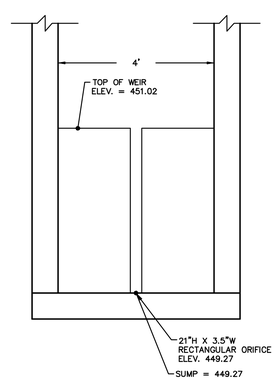
TYPICAL SECTION REINFORCED RETAINING WALL DETAIL
NO SCALE



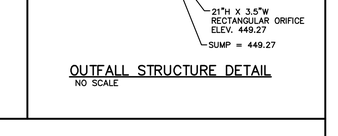
TRAFFIC FLOW ARROW DETAIL
NO SCALE

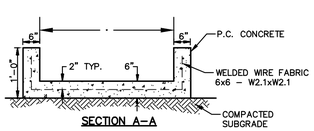


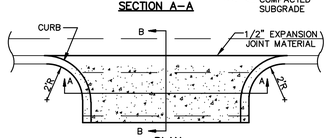
CROSSWALK DETAIL
NO SCALE



OUTFALL STRUCTURE DETAIL
NO SCALE







CONCRETE FLUME DETAIL
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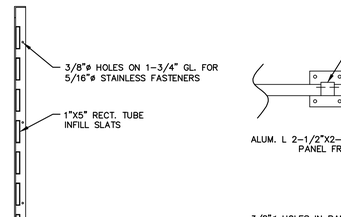
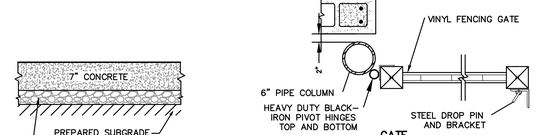
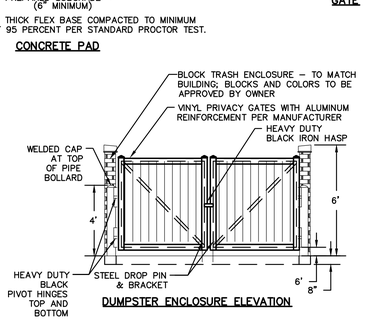


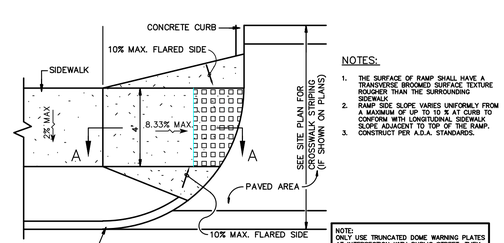
NOTE:
PANELS SHIPPED FULLY FABRICATED AND ASSEMBLED. PANEL FRAMEWORK AND ILFILL COLOR TO BE DETERMINED. PANEL FRAME WORK AND INFILL COMPOSITE COLOR TO BE DETERMINED.

TYPICAL METAL TURBINE SCREENING DETAIL
NO SCALE





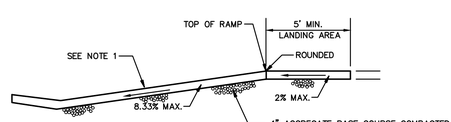
TRASH ENCLOSURE DETAIL
NO SCALE



NOTES:

1. THE SURFACE OF RAMP SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE ROUGHER THAN THE SURROUNDING SIDEWALK.
2. RAMP SIDE SLOPE VARIES UNIFORMLY FROM A MAXIMUM OF UP TO 10 % AT CURB TO CONFORM WITH LONGITUDINAL SIDEWALK SLOPE ADJACENT TO TOP OF THE RAMP.
3. CONSTRUCT PER A.D.A. STANDARDS.

NOTE:
ONLY USE TRUNCATED DOME WARNING PLATES AT INTERSECTION WITH PUBLIC STREET. THEY ARE NOT REQUIRED FOR COMMERCIAL ENTRANCES.



ADA RAMP IN SIDEWALK
NO SCALE

OCHRAN
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wentzmail@ochraneng.com
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• Civil Engineering
• Land Surveying
• Architecture
• Site Development
• General Consulting
• Master Planning
TENNESSEE State Certificate of Authority Numbers: 11201

Two working days prior to the start of any excavation on this site, contractor shall notify all affected utility location information.

All OSHA rules & regulations established for the type of construction involved shall be strictly followed (ie. Trenching, Blasting, etc.)

KURTIS J. DANIELS
REGISTERED ENGINEER
AGRICULTURE
STATE OF TENNESSEE
No. 127527
KURTIS J. DANIELS
127527

PRELIMINARY PLANS
CLUB CAR WASH
GOODLETTSVILLE, TENNESSEE

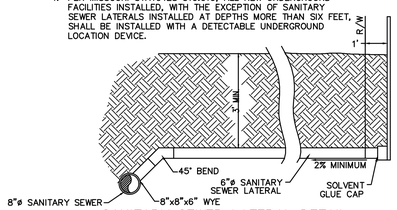
DRN. BY:	APPD. BY:
KAF	KJD

DATE: JUNE 2026
SCALE: NO SCALE
PROJ. NO.: M25-9311A
DWG. NO.: 13 OF 16
DETAILS

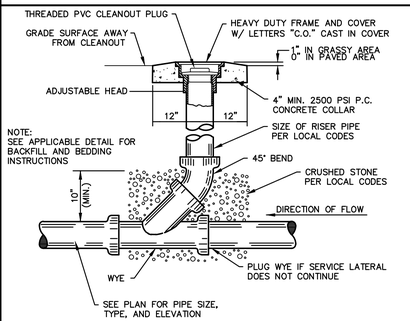
Tennessee811

DWG NAME: J:\2025\M25-9311 - CCW, 155 Long Hollow Pike, Goodlettsville TN\M25-9311A\ENGINEERING\AUTOCAD DRAWINGS\02_ Preliminary\M25-9311A_13_DETAILS.dwg LAYOUT TAB: DETAILS PLOTTED ON: Jun 24, 2026 – 1:21pm PLOTTED BY: KFarrell

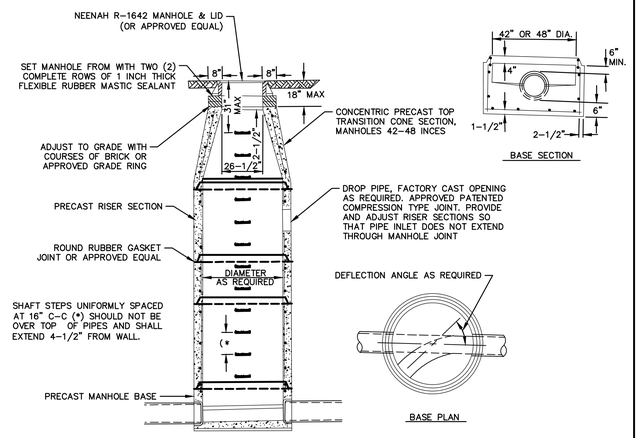
NOTE:
1. SANITARY SEWER LATERALS TO BE 13' MINIMUM.
2. LATERALS EXTENDING UNDER STREETS TO BE TERMINATED 1' BEYOND R/W LINES.
3. 1" MINUS GRANULAR BACKFILL TO BE USED UNDER ALL PAVED AREAS.
4. PER MISSOURI STATUTES 319.019, ALL NEW UNDERGROUND FACILITIES INSTALLED, WITH THE EXCEPTION OF SANITARY SEWER LATERALS INSTALLED AT DEPTHS MORE THAN SIX FEET, SHALL BE INSTALLED WITH A DETECTABLE UNDERGROUND LOCATION DEVICE.



SANITARY SEWER LATERAL DETAIL
NO SCALE

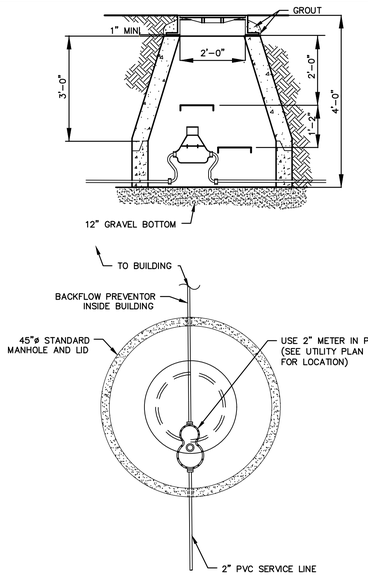


SANITARY SEWER CLEAN-OUT DETAIL
NO SCALE

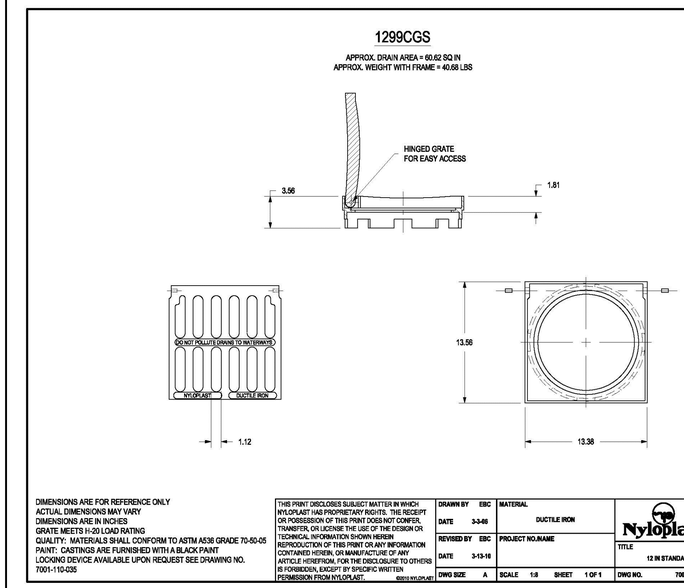


NOTES:
1) THE MINIMUM INSIDE DIAMETER FOR THE BASE AND RISER SECTIONS SHALL BE 42 INCHES FROM 8 INCH DIAMETER SANITARY SEWER AND ALL STORM SEWERS. THE MINIMUM INSIDE DIAMETER FOR SANITARY/STORM SEWER LARGER THAN 8 INCH DIAMETER IS 48 INCHES. MANHOLE SHALL MEET ASTM C-478 REQUIREMENTS.
2) FLOWLINE ELEVATIONS OF INCOMING PIPES SHALL BE 0.2 FEET HIGHER THAN THAT OF OUTGOING PIPE.
3) PIPE SIZES LARGER THAN 24 INCH DIAMETER MAY REQUIRE MANHOLE DIAMETERS OF 60 INCH, 72 INCH OR 96 INCH AS DETERMINED BY OUTSIDE DIAMETERS AND ORIENTATIONS FOR CONNECTING OF PIPES.
4) ECCENTRIC CONES SHALL BE USED ON DIAMETERS 60 INCH AND LARGER. STEPS SHALL EXTEND DOWN VERTICAL WALL OF CONE.
5) PRIOR TO FABRICATION, SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL OF MANHOLES ON PIPE DIAMETERS LARGER THAN 24 INCH AND ALSO FOR THOSE STRUCTURES WITH A DROP PIPE CONNECTION.

STORM MANHOLE DETAIL
NO SCALE



METER PIT DETAIL
NO SCALE



DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
GRATE MEETS H-20 LOAD RATING
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-035

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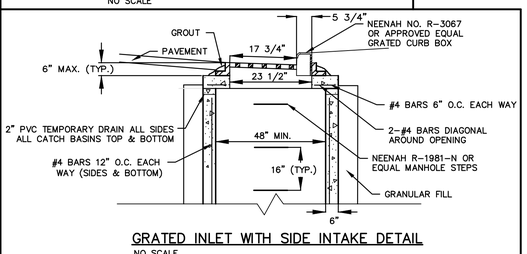
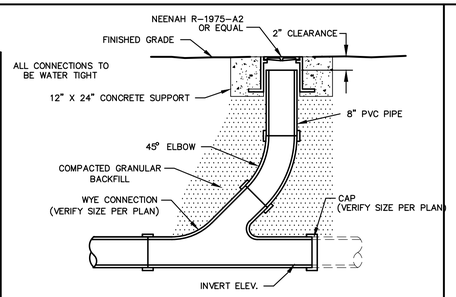
DRAWN BY	EBC	MATERIAL	DUCTILE IRON
DATE	3-3-06		
REVISED BY	EBC	PROJECT NO./NAME	
DATE	3-13-16		
DWG SIZE	A	SCALE 1/8	SHEET 1 OF 1

Nyloplast
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com
TITLE: 12 IN STANDARD GRATE ASSEMBLY
DWG NO. 7001-110-203 REV C

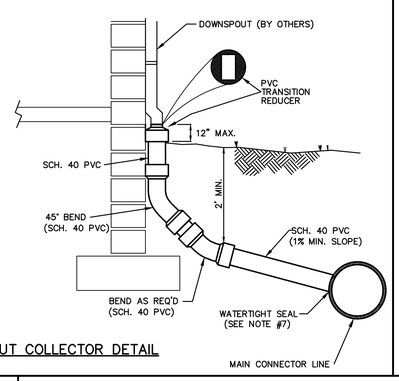


GRATED INLET WITH SIDE INTAKE DETAIL
NO SCALE



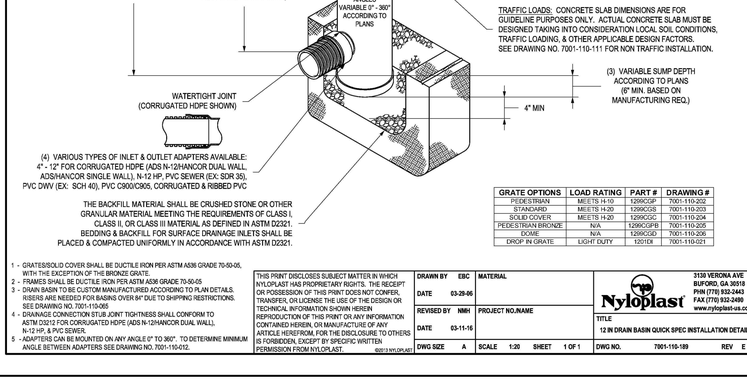
DOWNSPOUT CLEANOUT DETAIL
NO SCALE

1. ALL TRENCHES SHALL HAVE A BEDDING OF WELL GRADED, 1" MINUS, GRANULAR MATERIAL FROM 4" BELOW THE BOTTOM OF THE PIPE TO 1/2 THE DIAMETER OF THE PIPE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
2. IN AREAS TO BE PAVED OVER, ENTIRE TRENCH TO BE BACKFILLED WITH WELL GRADED 1" MINUS GRANULAR MATERIAL & COMPACTED TO 95% OF THE STANDARD PROCTOR DENSITY.
3. IN AREAS OF CLEAN DIRT CUTS OUTSIDE OF PAVED AREAS, TRENCH MAY BE BACKFILLED WITH SAME MATERIAL AND COMPACTED TO 95% OF THE STANDARD PROCTOR DENSITY.
4. IN AREAS OF ROCK CUT, THE TRENCH SHALL BE BACKFILLED WITH WELL GRADED 1" MINUS GRANULAR MATERIAL TO 6" ABOVE TOP OF PIPE.
5. BACKFILL SHALL BE HOLLOWED OUT FOR PIPE JOINTS AND FITTINGS. PIPE JOINTS ARE TO BE UNSUPPORTED.
6. IN ALL CASES TRENCHING & BACKFILLING SHALL MEET OR EXCEED THE PIPE MANUFACTURER'S RECOMMENDED INSTALLATION METHODS
7. WATERTIGHT CONNECTION SHALL BE MAINTAINED WITH ANY TRANSITION FROM SCHEDULE 40 PVC PIPE TO ANY OTHER PIPE TYPE.
8. THE DOWNSPOUT COLLECTOR DRAIN SHALL BE INSTALLED BEFORE THE DOWNSPOUTS ARE INSTALLED ON THE BUILDING. SITEWORK CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK TO AND INCLUDING THE RODENT SCREEN. BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONNECTION AT THE POINT OF THE RODENT SCREEN.
9. DOWNSPOUT SIZE WILL CONTROL SCH 40 SIZE TO MAIN COLLECTOR LINE



DOWNSPOUT COLLECTOR DETAIL
NO SCALE

NYLOPLAST 12" DRAIN BASIN: 2812AG _ _ X



(4) VARIOUS TYPES OF INLET & OUTLET ADAPTERS AVAILABLE: 4" - 12" FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL ADS/HANCOR SINGLE WALL), N-12 HP, PVC SEWER (EX: SDR 35), PVC DWV (EX: SCH 40), PVC C900/C905, CORRUGATED & RIBBED PVC

THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-10	1299CGP	7001-110-202
STANDARD	MEETS H-20	1299CGS	7001-110-203
SOLID COVER	MEETS H-20	1299CGC	7001-110-204
PEDESTRIAN BRONZE	N/A	1299CGPB	7001-110-205
DOME	N/A	1299CGD	7001-110-206
DROP IN GRATE	LIGHT DUTY	1201DR	7001-110-021

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05, WITH THE EXCEPTION OF THE BRONZE GRATE.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

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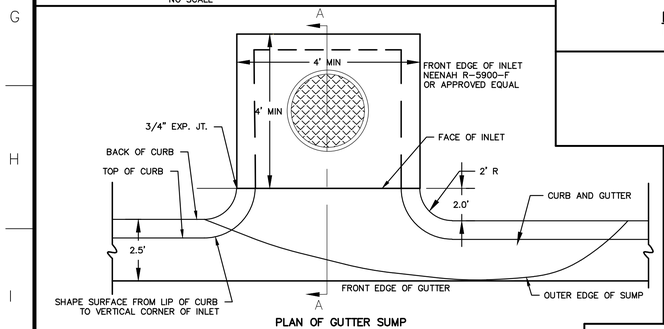
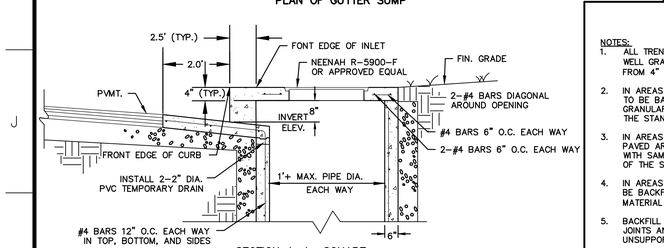
DRAWN BY	EBC	MATERIAL	
DATE	03-29-06		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	03-11-16		
DWG SIZE	A	SCALE 1:20	SHEET 1 OF 1

Nyloplast
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com
TITLE: 12 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL
DWG NO. 7001-110-189 REV E

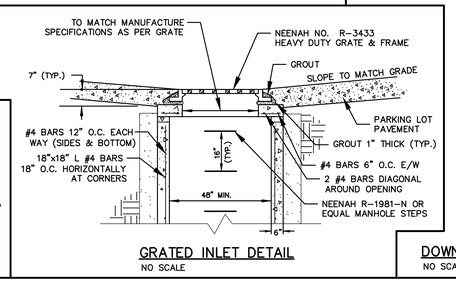


PLAN OF GUTTER SUMP



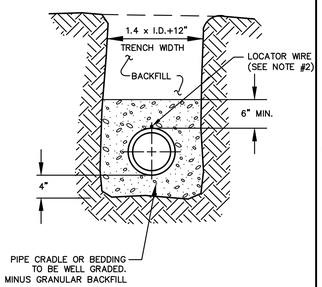
SECTION A-A SQUARE

CURB INLET DETAIL
NO SCALE

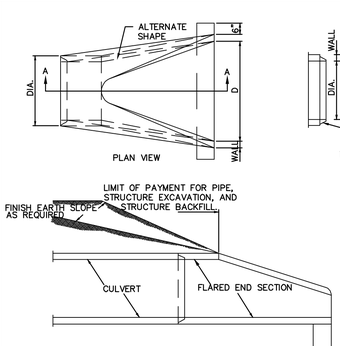


GRATED INLET DETAIL
NO SCALE

NOTES:
1. ALL TRENCHES SHALL HAVE A BEDDING OF WELL GRADED, 1" MINUS, GRANULAR MATERIAL FROM 4" BELOW THE BOTTOM OF THE PIPE.
2. IN AREAS TO BE PAVED OVER, ENTIRE TRENCH TO BE BACKFILLED WITH WELL GRADED GRANULAR MATERIAL & COMPACTED TO 95% OF THE STANDARD PROCTOR DENSITY.
3. IN AREAS OF CLEAN DIRT CUTS OUTSIDE OF PAVED AREAS, TRENCH MAY BE BACKFILLED WITH SAME MATERIAL AND COMPACTED TO 95% OF THE STANDARD PROCTOR DENSITY.
4. IN AREAS OF ROCK CUT, THE TRENCH SHALL BE BACKFILLED WITH WELL GRADED GRANULAR MATERIAL TO 6" ABOVE TOP OF PIPE.
5. BACKFILL SHALL BE HOLLOWED OUT FOR PIPE JOINTS AND FITTINGS. PIPE JOINTS ARE UNSUPPORTED.
6. INSTALLATION OF STORM SEWER TO MEET WITH MANUFACTURER SPECIFICATIONS.
7. ALL STORM SEWER STRUCTURES TO MEET WITH THE JURISDICTIONAL SEWER SPECIFICATIONS.
8. PER MISSOURI STATUTES 319.019, ALL NEW UNDERGROUND FACILITIES INSTALLED, WITH THE EXCEPTION OF STORM SEWER INSTALLED AT DEPTHS MORE THAN SIX FEET, SHALL BE INSTALLED WITH A DETECTABLE UNDERGROUND LOCATION DEVICE.



STORM SEWER TRENCHING DETAIL
NO SCALE



FLARED END DETAIL
NO SCALE

ADJOINING PIPE DIA.	REINFORCEMENT: BARREL SECTION REINFORCEMENT, CIRCULAR, INNER CAGE SQ.IN./LIN. FT.	BARREL SECTION REINFORCEMENT, CIRCULAR, OUTER CAGE SQ.IN./LIN. FT.	BARREL SECTION REINFORCEMENT, ELLIPTICAL SQ.IN./LIN. FT.	FLARE SECTION REINFORCEMENT (ONE LAYER ONLY IN CENTER OF WALL), AREA OF LONGITUDINAL SQ. IN./LIN. FT.	FLARE SECTION REINFORCEMENT (ONE LAYER ONLY IN CENTER OF WALL), AREA OF TRANSVERSE SQ. IN./LIN. FT.
12"	0.07			0.048	0.048
15"	0.07			0.054	0.054
18"	0.07		0.07	0.060	0.060
21"	0.07		0.07	0.066	0.066
24"	0.07		0.07	0.072	0.072
27"	0.13		0.11	0.078	0.078
30"	0.14		0.12	0.084	0.084
33"	0.15		0.13	0.090	0.090
36"	0.12	0.09	0.13	0.096	0.096
42"	0.15	0.12	0.17	0.108	0.108
48"	0.18	0.14	0.20	0.120	0.120
54"	0.22	0.16	0.24	0.132	0.132
60"	0.25	0.19	0.28	0.144	0.144
66"	0.31	0.23	0.34	0.156	0.156
72"	0.35	0.21	0.39	0.170	0.170
78"	0.40	0.24	0.44	0.185	0.185
84"	0.46	0.28	0.51	0.205	0.205

DIA.	WALL	A	B MIN.	C MIN.	D	E
12"	2"	4"	4'-0"	6"	2'-0"	18"
15"	2-1/4"	6"	3'-10"	6"	2'-0"	18"
18"	2-1/2"	9"	3'-10"	6"	3'-0"	18"
21"	2-3/4"	9"	3'-2"	6"	3'-6"	18"
24"	3"	9-1/2"	2'-6"	6"	4'-0"	24"
27"	3-1/4"	10-1/2"	2'-1"	6"	4'-0"	24"
30"	3-1/2"	1'-0"	1'-7"	6"	5'-0"	24"
33"	3-3/4"	1'-2"	1'-7"	6"	5'-6"	24"
36"	4"	1'-3"	2'-10"	8"	6'-0"	24"
42"	4-1/2"	1'-9"	2'-11"	8"	6'-6"	24"
48"	5"	2'-0"	2'-2"	8"	7'-0"	24"
54"	5-1/2"	2'-3"	2'-11"	8"	7'-6"	36"
60"	6"	2'-6"	3'-3"	8"	8'-0"	36"
66"	6-1/2"	2'-0"	1'-9"	8"	8'-6"	36"
72"	7"	2'-0"	2'-9"	10"	9'-0"	36"
78"	7-1/2"	2'-3"	2'-3"	10"	9'-6"	36"
84"	8"	2'-6"	2'-0"	10"	10'-0"	36"

GENERAL NOTES:
1. SLIGHT VARIATIONS IN BOTH SHAPE AND DIMENSIONS FROM THOSE SHOWN MAY BE ACCEPTED IF APPROVED BY THE ENGINEER.
2. NOT MORE THAN THREE LIFT HOLES MAY BE DRILLED OR CAST IN THE END SECTION FOR HANDLING ANY LAYING.
3. LIFT LUGS OR BARS WILL BE PERMITTED IN PRECAST TOE WALLS.
4. TOE WALLS MAY BE CAST-IN-PLACE OR PRECAST.

OWNER:
JOSH AND SARAH BOWMAR
8940 NE 29TH STREET
ANKENY, IA 50021

DEVELOPER:
CLUB CAR WASH OPERATIONS
1591 E. PRATHERSVILLE RD.
COLUMBIA, MO 65202

OCHRAN
North Office
1901 Chouteau Street
Wentzville, Missouri 63385
636-332-4574 (tel.)
636-327-0760 (fax)
wentmail@ochraneng.com
• Civil Engineering
• Land Surveying
• Architecture
• Site Development
• General Consulting
• Master Planning
TENNESSEE State Certificate of Authority Numbers: 11201

Two working days prior to the start of any excavation on this site, contractor shall contact all affected utility location information.

All OSHA rules & regulations established for the type of excavation involved in these plans shall be strictly followed (ie. Trenching, Blasting, etc.)

KURTIS J. DANIELS
REGISTERED ENGINEER
127527
STATE OF TENNESSEE
KURTIS J. DANIELS 127527

PRELIMINARY PLANS
CLUB CAR WASH
GOODLETTSVILLE, TENNESSEE

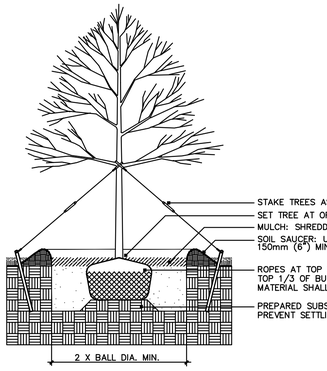
DATE:	APPD. BY:	DRWN. BY:	REVISION:

DRWN. BY: KAF
APPD. BY: KJD
DATE: JUNE 2026
SCALE: NO SCALE
PROJ. NO.: M25-9311A
DWG. NO.: 14 OF 16
DETAILS

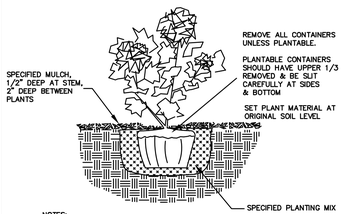
Tennessee811

DWG NAME: J:\2025\M25-9311 - CCW, 155 Long Hollow Pike, Goodletsville TN\M25-9311A\ENGINEERING\AUTOCAD DRAWINGS\02_ Preliminary\M25-9311A_14_DETAILS.dwg LAYOUT TAB: DETAILS PLOTTED ON: Jun 24, 2026 - 1:21pm PLOTTED BY: KFarrell

LANDSCAPE PLAN



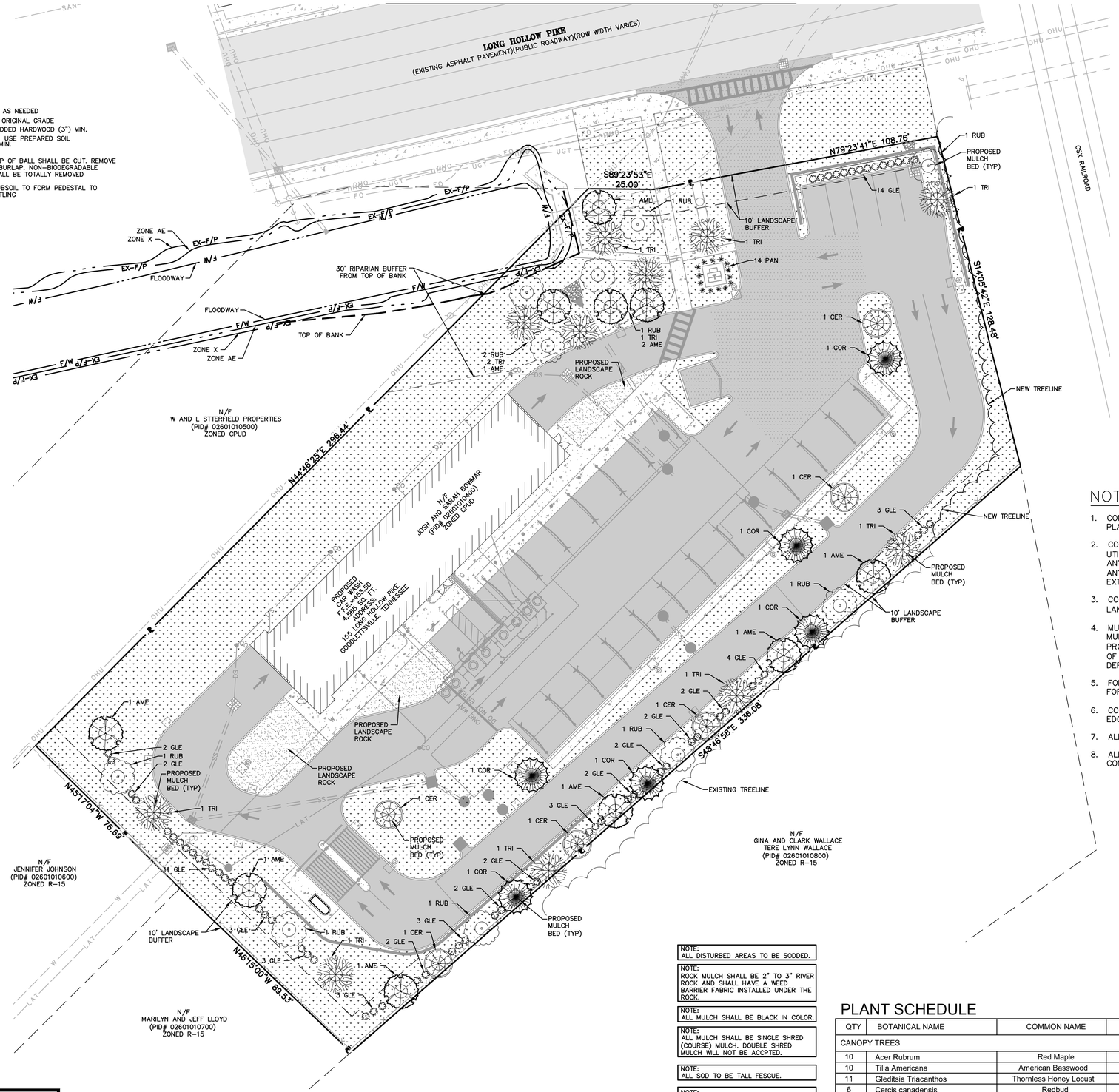
DECIDUOUS TREE PLANTING

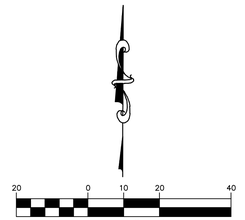


NOTES:

1. WATER THOROUGHLY FOLLOWING PLANTING.
2. SIZE OF HOLE REQUIRED VARIES WITH CONTAINER SIZE, BUT MUST BE LARGER THAN CONTAINER ON ALL SIDES AND BOTTOM.
3. AVOID DAMAGE TO ROOT STRUCTURE IN HANDLING & PLANTING.

SHRUB PLANTING





SCALE: 1"=20'
JUNE 2026

LANDSCAPE LEGEND

- RED MAPLE "RUB"
- AMERICAN BASSWOOD "AME"
- THORNLESS HONEY LOCUST "TRI"
- DOGWOOD "COR"
- REDBUD "CER"
- GLENCOE BOXWOOD EVERGREEN "GLE"
- HEAVY METAL SWITCH GRASS "PAN"
- AREAS TO BE SODDED
- AREAS TO HAVE LANDSCAPE ROCK

NOTES:

1. CONTRACTOR SHALL VERIFY ALL PLANT QUANTITIES. PLANT QUANTITIES ON PLANS PREVAIL OVER THOSE LISTED IN PLANT LIST.
2. CONTRACTOR SHALL VERIFY SITE CONDITIONS, INCLUDING UNDERGROUND UTILITIES PRIOR TO START OF WORK. REPORT TO OWNER'S REPRESENTATIVE ANY CONDITION THAT MAY AFFECT CONTRACT. CONTRACTOR SHALL REPAIR ANY DAMAGE TO SITE ELEMENTS DUE TO CONTRACTOR'S ACTIVITY AT NO EXTRA COST TO OWNER.
3. CONTRACTOR SHALL COORDINATE SCHEDULE AND INSTALLATION OF LANDSCAPING WITH THE OWNER'S REPRESENTATIVE.
4. MULCH ENTIRE SHRUB PLANTING AREAS WITH 3" DEPTH OF SHREDDED BARK MULCH. ALL SHRUBS BEDS IN LAWN AREAS TO HAVE SPADE CUT EDGE. PROVIDE 4' DIA. MULCH RING AROUND ALL NEW TREES WITH MIN. 3" DEPTH OF SHREDDED BARK MULCH. GROUND COVER BEDS TO RECEIVE MIN. 2" DEPTH OF SHREDDED BARK MULCH.
5. FORMAL LINES AND GROUPINGS OF A SPECIES OF TREE SHALL BE MATCHED FOR SIZE AND FORM.
6. CONTRACTOR SHALL COORDINATE SCHEDULE AND STAKING/LOCATION OF BED EDGES WITH IRRIGATION CONTRACTOR.
7. ALL DISTURBED AREAS SHALL BE SODDED.
8. ALL SEEDED AREAS ON SLOPES OF 3:1 OR GREATER SHALL HAVE EROSION CONTROL BLANKETS AS SPECIFIED.

LANDSCAPE REQUIREMENTS:

1 CANOPY TREE PER LANDSCAPE ISLAND
REQUIRED TREES = 6
PROVIDED TREES = 6

STREET FRONTS
1 CANOPY TREE PER 40 FT OF R/W
REQUIRED TREES = 4
PROVIDED TREES = 4

1 SHRUB PER 2 FT OF PARKING
REQUIRED SHRUBS = 13
PROVIDED SHRUBS = 13

TYPE 4 BUFFER YARD
3 CANOPY TREE, 1 UNDERSTORY TREE
10 SHRUBS PER 100 LINEAR FEET
502.3 TOTAL FEET
REQUIRED CANOPY TREES = 16
PROVIDED CANOPY TREES = 16
REQUIRED UNDERSTORY TREES = 6
PROVIDED UNDERSTORY TREES = 6
REQUIRED SHRUBS = 51
PROVIDED SHRUBS = 51

NOTE:
ALL DISTURBED AREAS TO BE SODDED.

NOTE:
ROCK MULCH SHALL BE 2" TO 3" RIVER ROCK AND SHALL HAVE A WEED BARRIER FABRIC INSTALLED UNDER THE ROCK.

NOTE:
ALL MULCH SHALL BE BLACK IN COLOR.

NOTE:
ALL MULCH SHALL BE SINGLE SHRED (COURSE) MULCH. DOUBLE SHRED MULCH WILL NOT BE ACCPTED.

NOTE:
ALL SOD TO BE TALL FESCUE.

NOTE:
THE GLENCOE BOXWOOD EVERGREENS SHALL BE PLANTED IN A MANNER TO CREATE A HEDGEROW. LANDSCAPE INSTALLER SHALL INSURE THESE SHRUBS CREATE A HEDGEROW AND SHALL BE 30" IN HEIGHT AT THE TIME OF INSTALLATION.

PLANT SCHEDULE

QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	TYPE
CANOPY TREES					
10	Acer Rubrum	Red Maple	3 IN	AS SHOWN	B&B
10	Tilia Americana	American Basswood	3 IN	AS SHOWN	B&B
11	Gleditsia Triacanthos	Thornless Honey Locust	3 IN	AS SHOWN	B&B
6	Cercis canadensis	Redbud	3 IN	AS SHOWN	B&B
6	Cornus Florida	Flowering Dogwood	3 IN	AS SHOWN	B&B
SHRUBS					
14	Panicum virgatum "Heavy Metal"	Heavy Metal Blue Switch Grass	1 GAL	AS SHOWN	CONT
65	Boxus hybrid "Glencoe"	Glencoe Boxwood Evergreen	3 GAL	AS SHOWN	CONT

OWNER:
JOSH AND SARAH BOWMAR
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ANKENY, IA 50021

DEVELOPER:
CLUB CAR WASH OPERATIONS
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COLUMBIA, MO 65202

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COCHRAN
TENNESSEE State Certificate of Authority Numbers: 11201

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No. 127527
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KURTIS J. DANIELS
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PRELIMINARY PLANS
CLUB CAR WASH
GOODLETTSVILLE, TENNESSEE

DATE:	REVISION:	DRWN. BY:	APPD. BY:

DRWN. BY: KAF
APPD. BY: KJD
DATE: JUNE 2026
SCALE: 1:20
PROJ. NO: M25-9311A
DWG. NO:

LANDSCAPE PLAN

15 OF 16

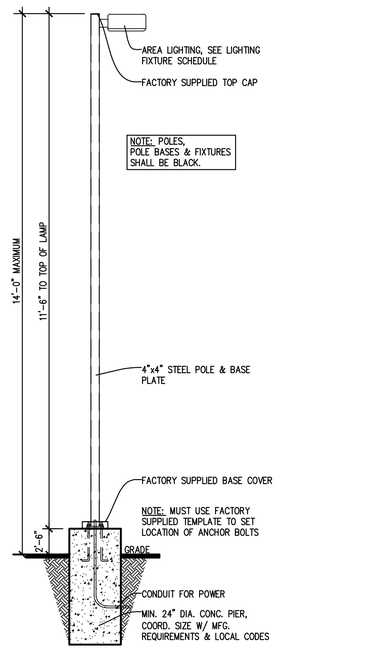
Tennessee811

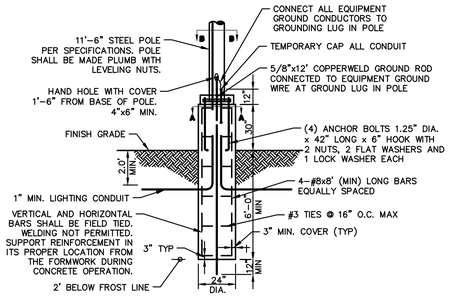
DWG NAME: J:\2025\M25-9311 - CCW, 155 Long Hollow Pike, Goodlettsville TN\M25-9311A\ENGINEERING\AUTOCAD DRAWINGS\02_ Preliminary\M25-9311A_15_LANDSCAPE PLAN.dwg LAYOUT TAB: LANDSCAPE PLAN PLOTTED ON: Jun 24, 2026 - 1:21pm PLOTTED BY: Kfarrell

PHOTOMETRIC PLAN



SCALE: 1"=20'
JUNE 2026





NOTES:
1. 3500 PSI MIN. 28 DAY COMPRESSIVE STRENGTH CONCRETE WITH GRADE 60 REINFORCING STEEL.
2. IF WATER IS PRESENT IN HOLE, REMOVE BEFORE POURING CONCRETE.
3. FOUNDATION EXCAVATION SHALL BE BY 24" AUGER IN UNDISTURBED OR PROPERLY COMPACTED FILL PER SPECIFICATIONS.
4. FOUNDATION SHALL HAVE A MINIMUM ALLOWABLE END BEARING OF 2000 PSF.
5. FOUNDATION HAS BEEN DESIGNED FOR A COHESIVE SOIL BASED ON A MINIMUM COHESIVE VALUEOF 1000 PSF.
6. FOUNDATION HAS BEEN DESIGNED FOR A GRANULAR SOIL BASED ON A MINIMUM LATERAL SOIL PRESSURE OF 1000 PSF, UTILIZING AASHTO FIGURE 1.8.2C(4) OF "EMBEDMENT OF POSTS WITH OVERTURNING LOADS."
7. EXPOSED CONCRETE SHALL BE PAINTED TRAFFIC YELLOW.
8. DETAIL FOR 11'-6" POLE AND 14'-0" MOUNTING HEIGHT WITH MAX. FIXTURE EPA 4.6 SQ.FT.

STANDARD LIGHT DETAIL
NO SCALE

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
PROPERTY LINE	Illuminance	Fc	0.06	0.34	0.00	N.A.	N.A.
SITE	Illuminance	Fc	1.00	4.5	0.1	10.0	45.0
SPILL LIGHT	Illuminance	Fc	0.01	0.1	0.0	N.A.	N.A.

Luminaire Schedule								
Symbol	Qty	Label	Arrangement	LLF	Luminaire Lumens	Lum. Watts	Total Watts	Description
	4	F1	Single	0.912	3347	33	132	GALN-SA1A-740-U-T4W-HSS
	6	F2	Single	0.912	4853	33	198	GALN-SA1A-740-U-5MQ
	7	WP1	Single	0.900	1397	12.2	85.4	XTOR1B-W

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PRELIMINARY PLANS
CLUB CAR WASH
GOODLETTSVILLE, TENNESSEE

REVISIONS	DATE:	DRN. BY:	APPD. BY:

PHOTOMETRIC PLAN
DRN. BY: KAF
APPD. BY: KJD
DATE: JUNE 2026
SCALE: 1:20
PROJ. NO: M25-9311A
DWG. NO: 16 OF 16

Tennessee 811

DWG NAME: J:\2025\M25-9311 - CCW, 155 Long Hollow Pike, Goodlettsville TN\M25-9311A\ENGINEERING\AUTOCAD DRAWINGS\02_ Preliminary\M25-9311A_16_PHOTOMETRIC PLAN.dwg LAYOUT TAB: PHOTOMETRIC PLAN PLOTTED ON: Jun 24, 2026 - 1:21pm PLOTTED BY: KFarrell

Stormwater Management Facilities Report

PRELIMINARY PLANS CLUB CARWASH 155 LONG HOLLOW PIKE, GOODLETTSVILLE, TENNESSEE



Kurtis J. Daniels, P.E.
P.E. 127527
State of Tennessee
Registered Professional Engineer for Cochran

June 24, 2026

Cochran Project No. M25-9311A

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Drainage Calculations
Club Carwash
Gallatin, Tennessee

Storm Water Calculations **Section**

Drainage Calculations Summary 1

Rational Method Hydrology 2
- Existing 5-Year, 5-Minute Design Storm
- Proposed 5-Year, 5-Minute Design Storm

Drainage Area Maps and Details 3
- Existing Drainage Area Map
- Proposed Drainage Area Map
- Existing Tributary Drainage Area Map
- Proposed Tributary Drainage Area Map

Storm Sewer Hydraulics 4
- Storm Sewer Calculations
- Ditch Calculations
- Riprap Apron Calculation

Unit Hydrographs 5
- 1-Year, 24-Hour Unit Hydrograph
- 2-Year, 24-Hour Unit Hydrograph
- 5-Year, 24-Hour Unit Hydrograph
- 10-Year, 24-Hour Unit Hydrograph
- 25-Year, 24-Hour Unit Hydrograph
- 50-Year, 24-Hour Unit Hydrograph
- 100-Year, 24-Hour Unit Hydrograph

Water Quality Calculations 6
- 1-Year, 24-Hour Unit Hydrograph (2.50” Precipitation)
- Underground Gravel Detention System Volume Calculation

Appendix – Supporting Documents
- A – NRCS Hydrologic Soils Group Map
- B – ADS Technical Documents

Section 1

Drainage Calculations Summary

DRAINAGE CALCULATIONS SUMMARY
CLUB CARWASH
GOODLETTSVILLE, TENNESSEE
PROJECT NO. M25-9311A

The following drainage calculations have been performed for Club Carwash, at 155 Long Hollow Pike, Goodlettsville, Tennessee. Said calculations were performed in accordance with the city of Goodlettsville's Standards. All hydraulic calculations were performed with the aid of AutoCAD Civil 3D Software using the Rational Method. Existing and proposed hydrology for the 5-year storm is attached.

The project consists of on-site and off-site tributary areas. The work will be done on the 1.48-acre site along the Southern portion of Long Hollow Pike, West of South Cartwright St. and East of 2 Mile Pike. The site is currently demolished for what was previously a carwash and will be used for a proposed carwash. Underground detention chambers will be used to treat increased runoff generated on the site from the proposed improvements. The increase runoff will be captured on site and conveyed to proposed storm sewers which are then conveyed to the underground detention chambers.

CALCULATIONS SUMMARY:
Existing and proposed flows were calculated using drainage area flows with current cover conditions utilizing the rational method. The existing condition flow on-site using the 5-year storm event is 4.37 cfs. The proposed condition flow on-site using the 5-year storm event is 6.11 cfs. The difference between the existing and proposed conditions is an increase of 1.75 cfs.

Underground detention chambers are proposed to reduce peak flows for proposed conditions to be equal to or less than existing conditions to the points of impact identified on the site. Two points of impact have been identified being the West Point of Impact and East Point of Impact. Each point has been analyzed for existing and proposed conditions for the 1-year, 2-year, 5-year, 10-year, 25-year, 50-year, and 100-year, 24-hour design storms to ensure that there are no increases in peak flow to the points of impact. Off-site tributary areas coming on-site have been included in these evaluations to ensure that off-site water is being accounted for and treated properly before reaching a point of impact. Summary tables, Table 1: West Runoff Summary and Table 2: East Runoff Summary, can be seen below for the peak runoff tributary to each impact point and to show the effectiveness of the stormwater management device. Supporting calculations are shown in Section 5 – Unit Hydrographs.

Table 1: West Runoff Summary

	Existing Runoff to W POI [A]	Proposed Un-detained Runoff to W POI [B]	Runoff Difference [C] = [B-A]	Proposed Runoff to Detention Facility [D]	Allowable Release Rate [E] = [D-C]	Detention Facility Release Rate [F]	Proposed Runoff to W POI with Detention [G]
1-Year	2.43	3.40	0.97	2.39	1.42	0.28	1.29
2-Year	3.55	4.98	1.43	3.40	1.97	0.50	2.08
5-Year	4.95	6.97	2.02	4.65	2.63	0.84	3.14
10-Year	5.88	8.28	2.40	5.47	3.07	1.12	3.85
25-Year	7.05	9.93	2.88	6.51	3.63	1.58	4.89
50-Year	7.92	11.15	3.23	7.28	4.05	2.01	5.72
100-Year	8.78	12.36	3.58	8.03	4.45	2.56	6.58

Table 2: East Runoff Summary

	Existing Runoff to E POI [A]	Proposed Runoff to E POI [B]	Runoff Difference [C] = [B-A]
1-Year	11.28	10.42	-0.86
2-Year	18.50	17.07	-1.43
5-Year	27.86	25.72	-2.14
10-Year	34.10	31.48	-2.62
25-Year	42.08	38.85	-3.23
50-Year	47.99	44.32	-3.67
100-Year	53.81	49.70	-4.11

The water quality requirements will be met on the site by providing gravel filtration for the runoff generated from the first 2.50 inches of the design storm which is the 1-Year, 24-Hour storm. A gravel filtration area is proposed to be placed underneath of the underground detention chambers to a depth of 21". The 21" of gravel across the footprint of the underground detention area was calculated to provide enough volume to capture and provide treatment to the volume produced in 2.50" of precipitation. The underground detention chambers have been designed to safely pass larger design storms or back-to-back storm events in the event that the gravel filtration is full from previous storm events. Supporting calculations for the sizing and volume of the design storm and gravel area are provided in Section 6 – Water Quality Calculations.

Section 2

Rational Method Hydrology

Existing Rational Method 5yr Design Storm								
Drainage Area #	Open Area (ac.)	Graded Area (ac.)	Impervious Area (ac.)	A	Tc	I	C	Q
1	0.07	-	0.33	0.40	7.50	6.25	0.80	2.00
2	-	-	0.17	0.17	5.00	6.25	0.90	0.96
3	0.90	-	0.01	0.91	10.50	4.99	0.31	1.41
4	0.34	-	0.03	0.37	8.90	4.99	0.35	0.65
5	6.93	-	0.39	7.32	18.00	4.20	0.33	10.15

Q = CIA

A = total drainage area (acres)

C = runoff factor based on runoff from pervious and impervious surfaces

I = average intensity of rainfall for a given period and a given frequency (inches/hour). Intensity acquired from NOAA Atlas 14, Volume 2, Version 3

Proposed Rational Method 5yr, 5min								
Drainage Area #	Open Area (ac.)	Graded Area (ac.)	Impervious Area (ac.)	A	Tc	I	C	Q
1	0.25	-	0.01	0.26	7.40	6.25	0.32	0.52
2	0.03	-	0.09	0.12	5.00	6.25	0.75	0.56
3	-	-	0.07	0.07	5.00	6.25	0.90	0.39
4	0.01	-	0.07	0.08	5.00	6.25	0.83	0.42
5	0.04	-	0.06	0.10	5.00	6.25	0.66	0.41
6	0.03	-	0.05	0.08	5.00	6.25	0.68	0.34
7	0.02	-	0.20	0.22	5.00	6.25	0.85	1.17
8	0.03	-	0.06	0.09	5.00	6.25	0.70	0.39
9	0.03	-	0.20	0.23	5.00	6.25	0.82	1.18
10	-	-	0.08	0.08	5.00	6.25	0.90	0.45
11	0.15	-	-	0.15	5.00	6.25	0.30	0.28
12	0.12	-	0.01	0.13	8.90	4.99	0.35	0.23
13	0.08	-	0.01	0.09	9.80	4.99	0.37	0.17
14	0.99	-	0.08	1.07	10.10	4.99	0.34	1.82
15	5.94	-	0.31	6.25	18.00	4.20	0.33	8.66

Q = CIA

A = total drainage area (acres)

C = runoff factor based on runoff from pervious and impervious surfaces

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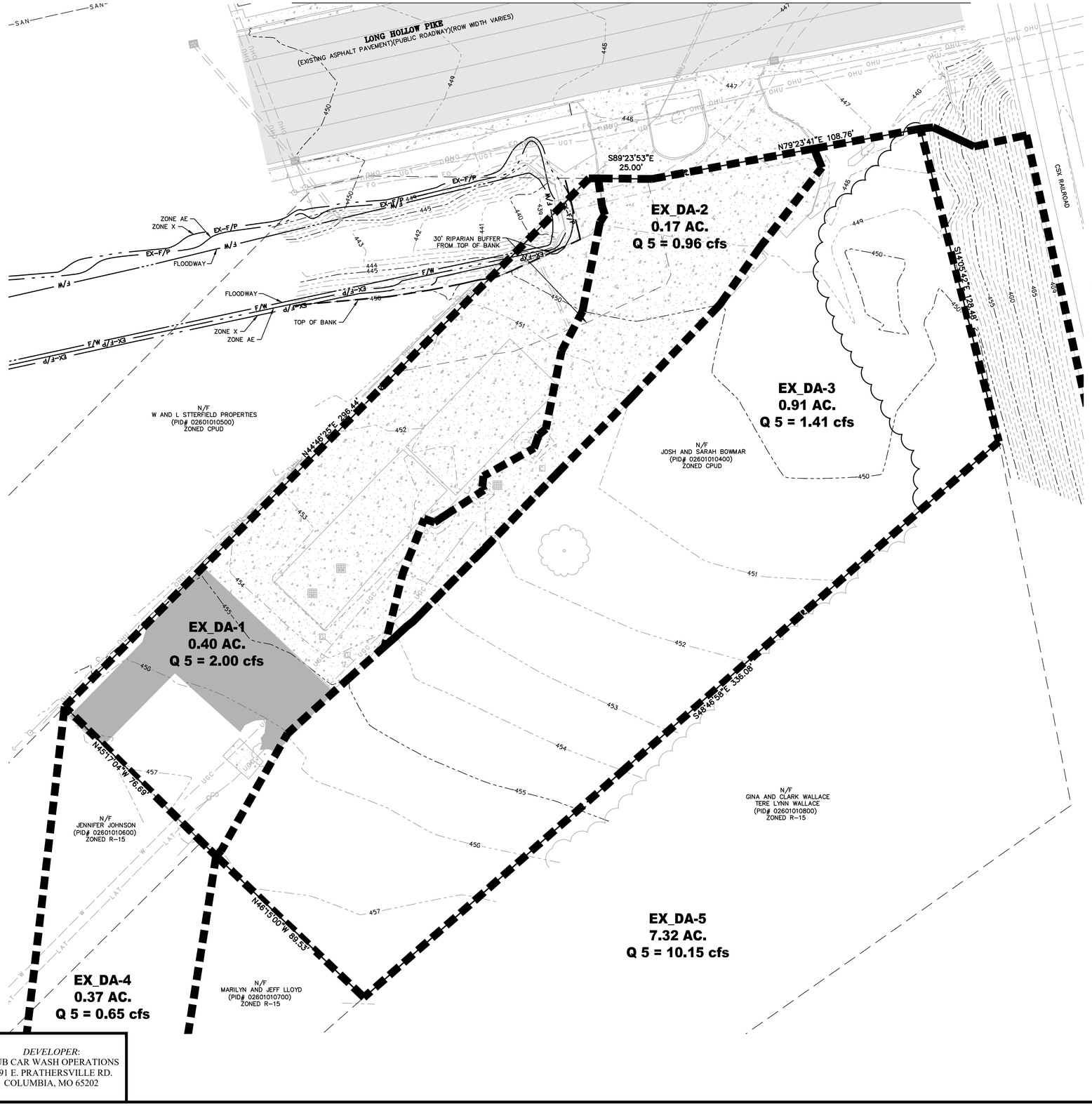
Section 3

Drainage Area Maps and Details

EXISTING DRAINAGE AREA MAP



20 0 10 20 40

SCALE: 1"=20'
JUNE 2026

EXISTING RATIONAL METHOD CALCULATIONS								
	PERVIOUS	GRAVEL	IMPERVIOUS	TOTAL AREA	COMPOSITE C	Tc	INTENSITY	5 YR. FLOW
1	0.07	0.00	0.33	0.40	0.80	7.50	6.25	2.00
2	0.00	0.00	0.17	0.17	0.90	5.00	6.25	0.96
3	0.90	0.00	0.01	0.91	0.31	10.50	4.99	1.41
4	0.34	0.00	0.03	0.37	0.35	8.90	4.99	0.65
5	6.93	0.00	0.39	7.32	0.33	18.00	4.20	10.15

ONSITE RATIONAL METHOD FLOW DIFFERENTIAL	
EXISTING 5 YR.	4.37
PROPOSED 5 YR.	6.11
DIFFERENCE	+1.74

RUNOFF COEFFICIENT	
EXISTING	0.51
PROPOSED	0.66

OWNER:	*DEVELOPER:*
JOSH AND SARAH BOWMAR 8940 NE 29TH STREET ANKENY, IA 50021	CLUB CAR WASH OPERATIONS 1591 E. PRATHERSVILLE RD. COLUMBIA, MO 65202

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PRELIMINARY PLANS
CLUB CAR WASH
GOODLETTSVILLE, TENNESSEE

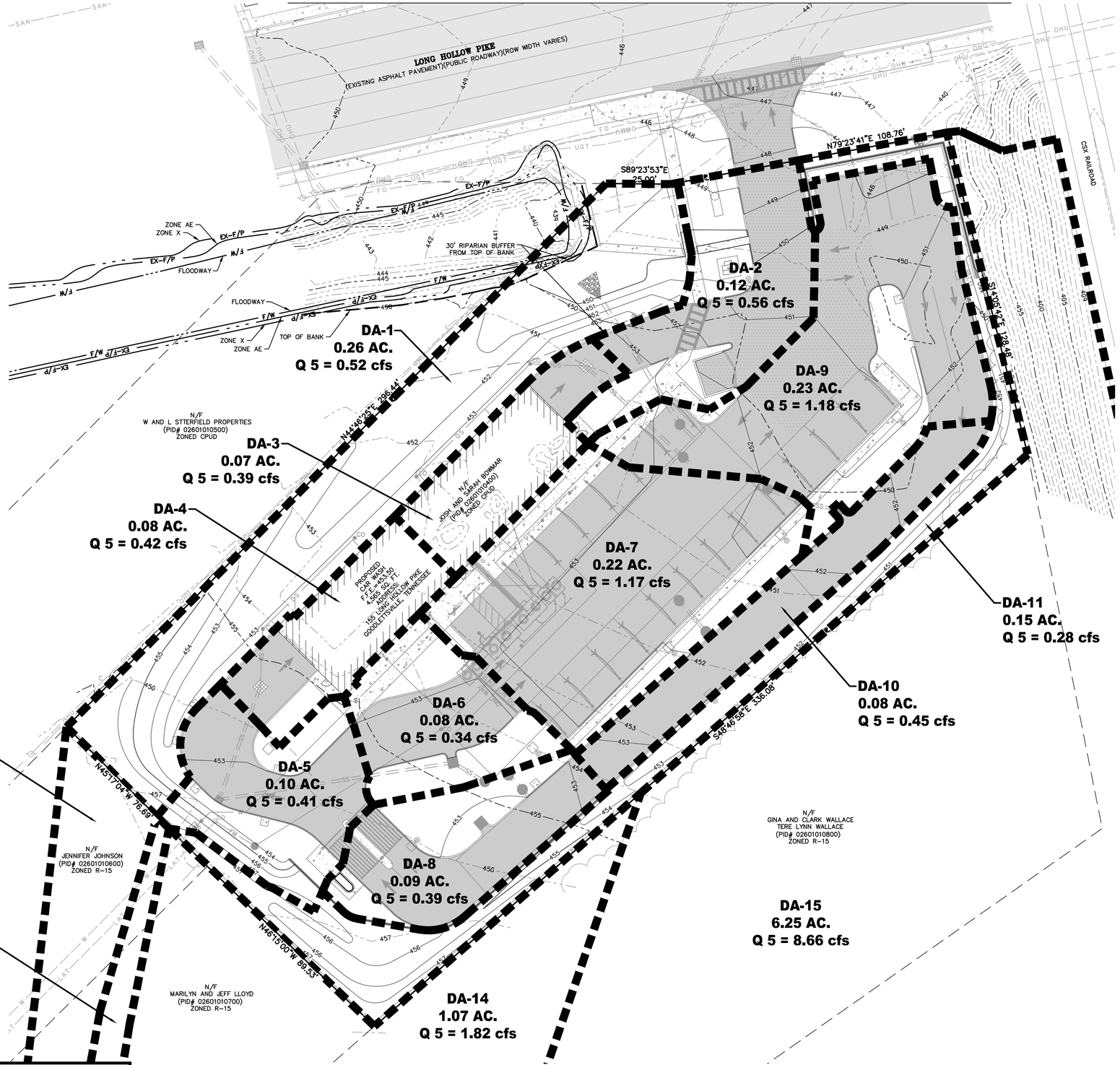
EXISTING DRAINAGE AREA MAP

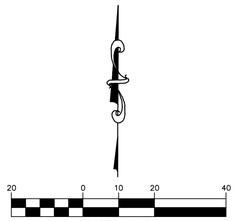
DRWN. BY:	APPD. BY:
KAF	KJD

DATE: JUNE 2026
SCALE: 1: 20
PROJ. NO: M25-9311A
DWG. NO: *9 OF 16*

DWG NAME: J:\2025\M25-9311 - CCW, 155 Long Hollow Pike, Goodlettsville TN\M25-9311A\ENGINEERING\AUTOCAD DRAWINGS\02_ Preliminary\M25-9311A_9_EXISTING DRAINAGE AREA MAP.dwg LAYOUT TAB: EXISTING DRAINAGE AREA MAP PLOTTED ON: Jun 24, 2026 - 1:20pm PLOTTED BY: KFarrell

PROPOSED DRAINAGE AREA MAP





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7	0.02	0.00	0.20	0.22	0.85	5.00	6.25	1.17
8	0.03	0.00	0.06	0.09	0.70	5.00	6.25	0.39
9	0.03	0.00	0.20	0.23	0.82	5.00	6.25	1.18
10	0.00	0.00	0.08	0.08	0.90	5.00	6.25	0.45
11	0.15	0.00	0.00	0.15	0.30	5.00	6.25	0.28
12	0.12	0.00	0.01	0.13	0.35	8.90	4.99	0.23
13	0.08	0.00	0.01	0.09	0.37	9.80	4.99	0.17
14	0.99	0.00	0.08	1.07	0.34	10.10	4.99	1.82
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PRELIMINARY PLANS
CLUB CAR WASH
GOODLETTSVILLE, TENNESSEE

PROPOSED DRAINAGE AREA MAP

DRWN. BY:	APPD. BY:
KAF	KJD

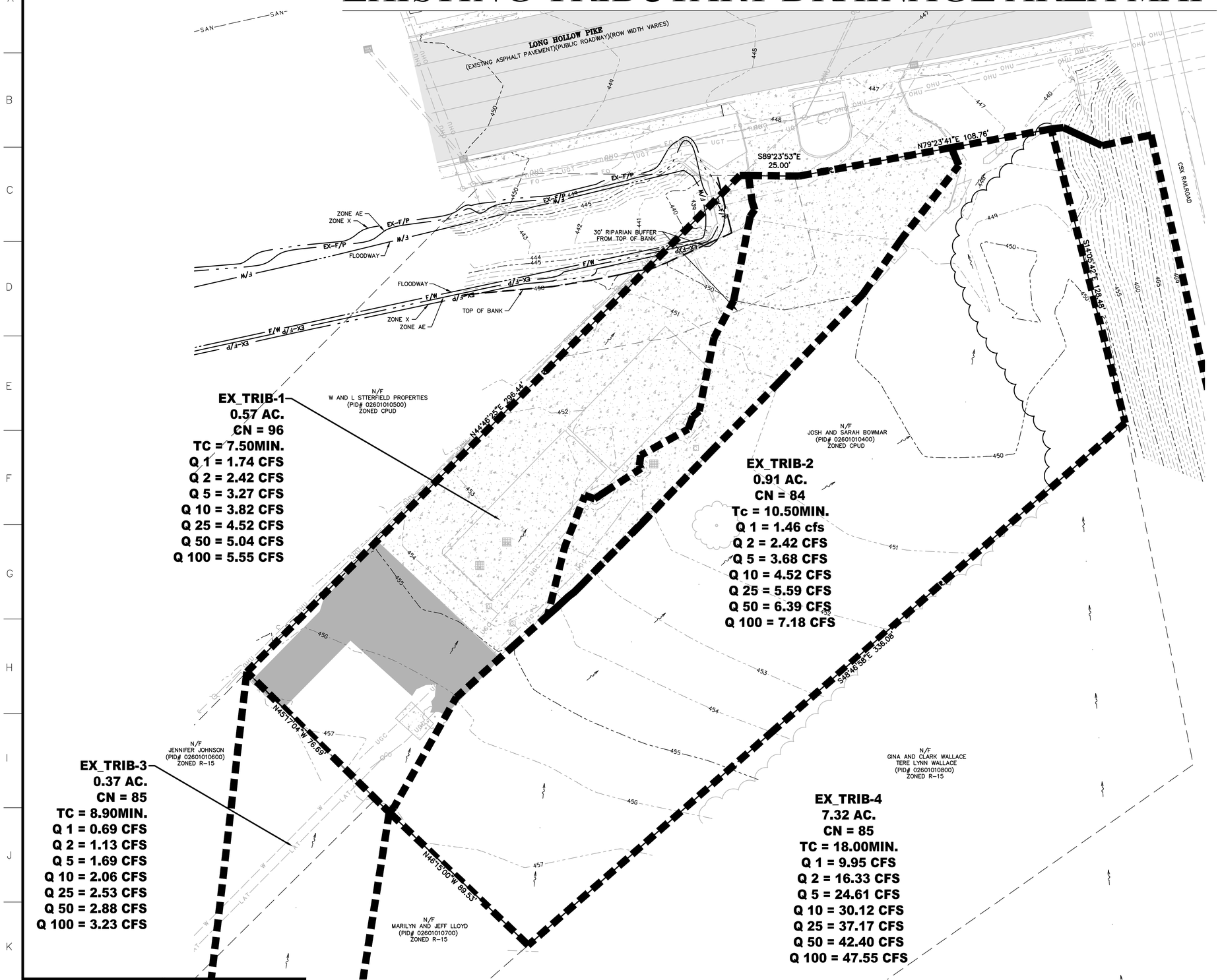
DATE: JUNE 2026
SCALE: 1:20
PROJ. NO.: M25-9311A
DWG. NO.:

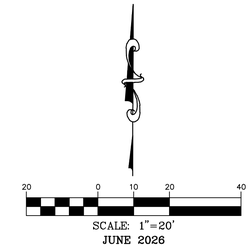
10 OF 16

DRAINAGE AREA MAP.dwg LAYOUT TAB: PROPOSED DRAINAGE AREA MAP PLOTTED ON: Jun 24, 2026 - 1:21pm PLOTTED BY: KFarrell

DWG NAME: J:\2025\M25-9311 - CCW, 155 Long Hollow Pike, Goodlettsville TN\M25-9311A\ENGINEERING\AUTOCAD DRAWINGS\02_ Preliminary\M25-9311A_10_PROPOSED DRAINAGE AREA MAP.dwg

EXISTING TRIBUTARY DRAINAGE AREA MAP





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KURTIS J. DANIELS
REGISTERED ENGINEER
XVI
AGRICULTURE
COMMERCE
No. 127527
STATE OF TENNESSEE
KURTIS J. DANIELS
127527
6/24/26

PRELIMINARY PLANS
CLUB CAR WASH
GOODLETTSVILLE, TENNESSEE

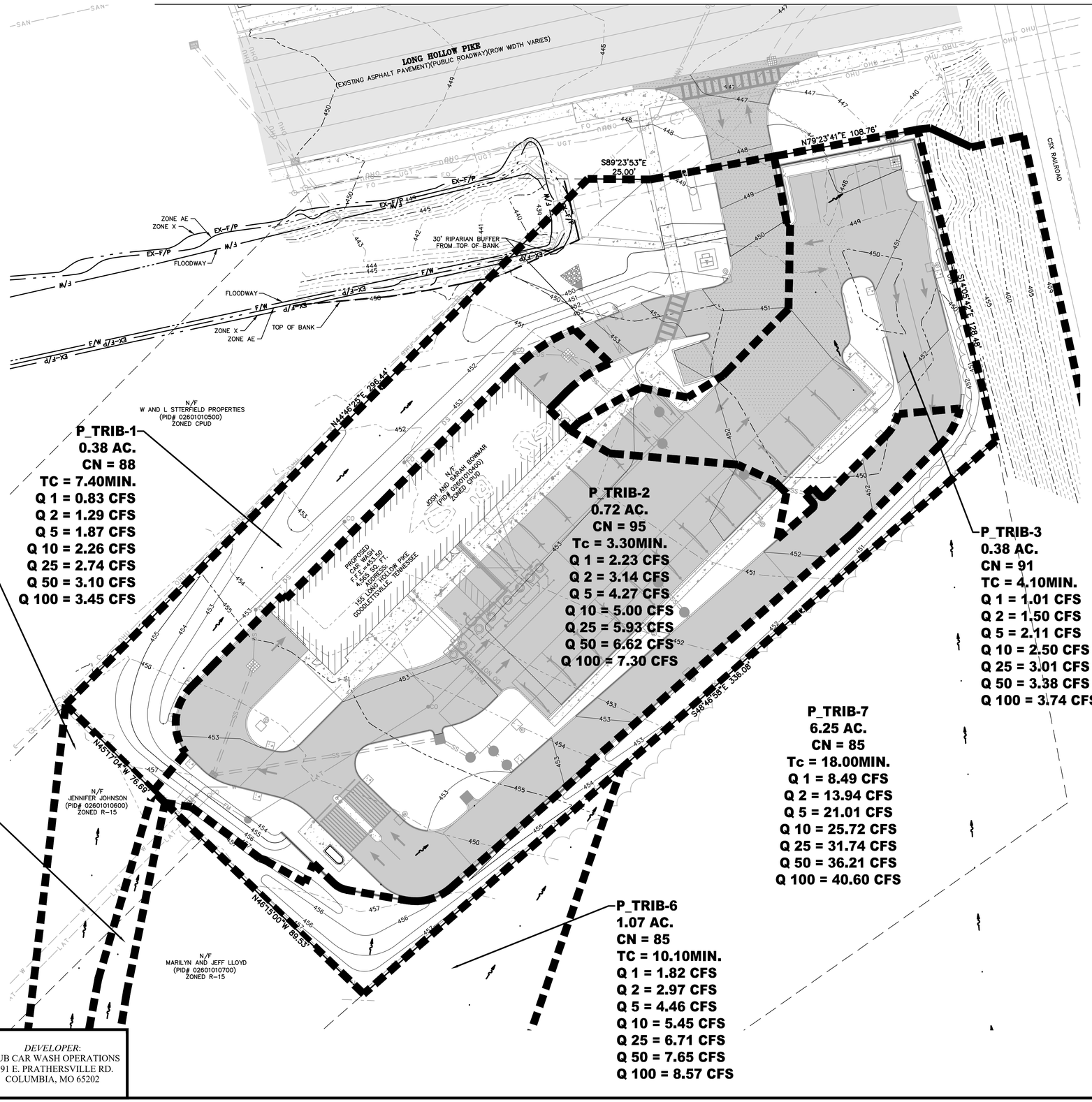
EXISTING TRIBUTARY DRAINAGE AREA MAP

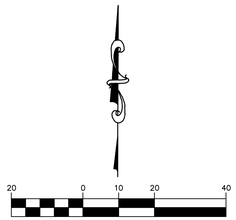
DATE:	REVISION:	DWN. BY:	APP'D. BY:

DWN. BY: KAF
APP'D. BY: KJD
DATE: JUNE 2026
SCALE: 1:20
PROJ. NO: M25-9311A
DWG. NO: 11 OF 16

DWG NAME: J:\2025\M25-9311 - CCW, 155 Long Hollow Pike, Goodlettsville TN\M25-9311A\ENGINEERING\AUTOCAD DRAWINGS\02_ Preliminary\M25-9311A_11_EXISTING TRIBUTARY DRAINAGE AREA MAP.dwg LAYOUT TAB: EXISTING TRIBUTARY DRAINAGE AREA MAP PLOTTED ON: Jun 24, 2026 - 1:21pm PLOTTED BY: KFarrell

PROPOSED TRIBUTARY DRAINAGE AREA MAP





OWNER:	*DEVELOPER*:
JOSH AND SARAH BOWMAR 8940 NE 29TH STREET ANKENY, IA 50021	CLUB CAR WASH OPERATIONS 1591 E. PRATHERSVILLE RD. COLUMBIA, MO 65202

North Office
60 East Main Street
Wentzville, Missouri 63385
636-332-4574 (tel.)
636-327-0760 (fax)
wentmail@cochranengineering.com
• Civil Engineering
• Land Surveying
• Architecture
• Site Development
• General Consulting
• Master Planning
TENNESSEE State Certificate of Authority Numbers: 11201

Two working days prior to the start of any excavation on this site, contractor shall notify all affected owners of utility location information.

All OSHA rules & regulations established for the type of construction involved shall be strictly followed (ie. Trenching, Blasting, etc.)

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PRELIMINARY PLANS
CLUB CAR WASH
GOODLETTSVILLE, TENNESSEE

PROPOSED TRIBUTARY DRAINAGE AREA MAP

DATE:	REVISION:	DRN. BY:	APP'D. BY:

DRN. BY:	APP'D. BY:
KAF	KJD

DATE: JUNE 2026
SCALE: 1:20
PROJ. NO.: M25-9311A
DWG. NO.:

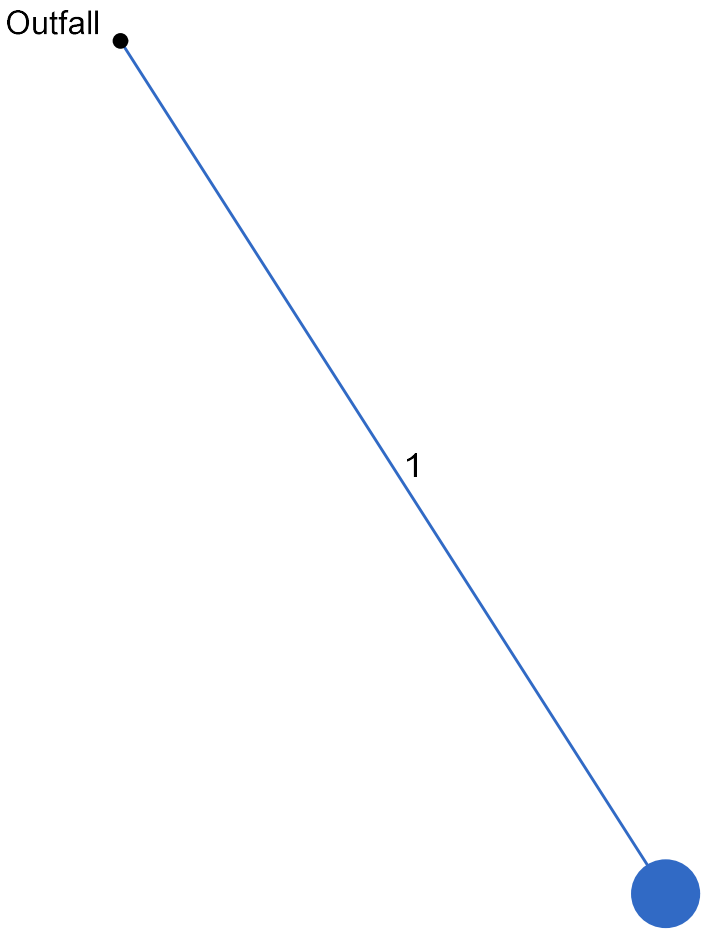
12 OF 16

DWG NAME: J:\2025\M25-9311 - CCW, 155 Long Hollow Pike, Goodlettsville TN\M25-9311A\ENGINEERING\AUTOCAD DRAWINGS\02_ Preliminary\M25-9311A_12_PROPOSED TRIBUTARY DRAINAGE AREA MAP.dwg LAYOUT TAB: PROPOSED TRIBUTARY DRAINAGE AREA MAP PLOTTED ON: Jun 24, 2026 - 1:21pm PLOTTED BY: KFarrell

Section 4

Storm Sewer Hydraulics

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: 2026-06-19 Outfall Pipe 1yr-24hr.stm	Number of lines: 1	Date: 6/19/2026

HGL Calc

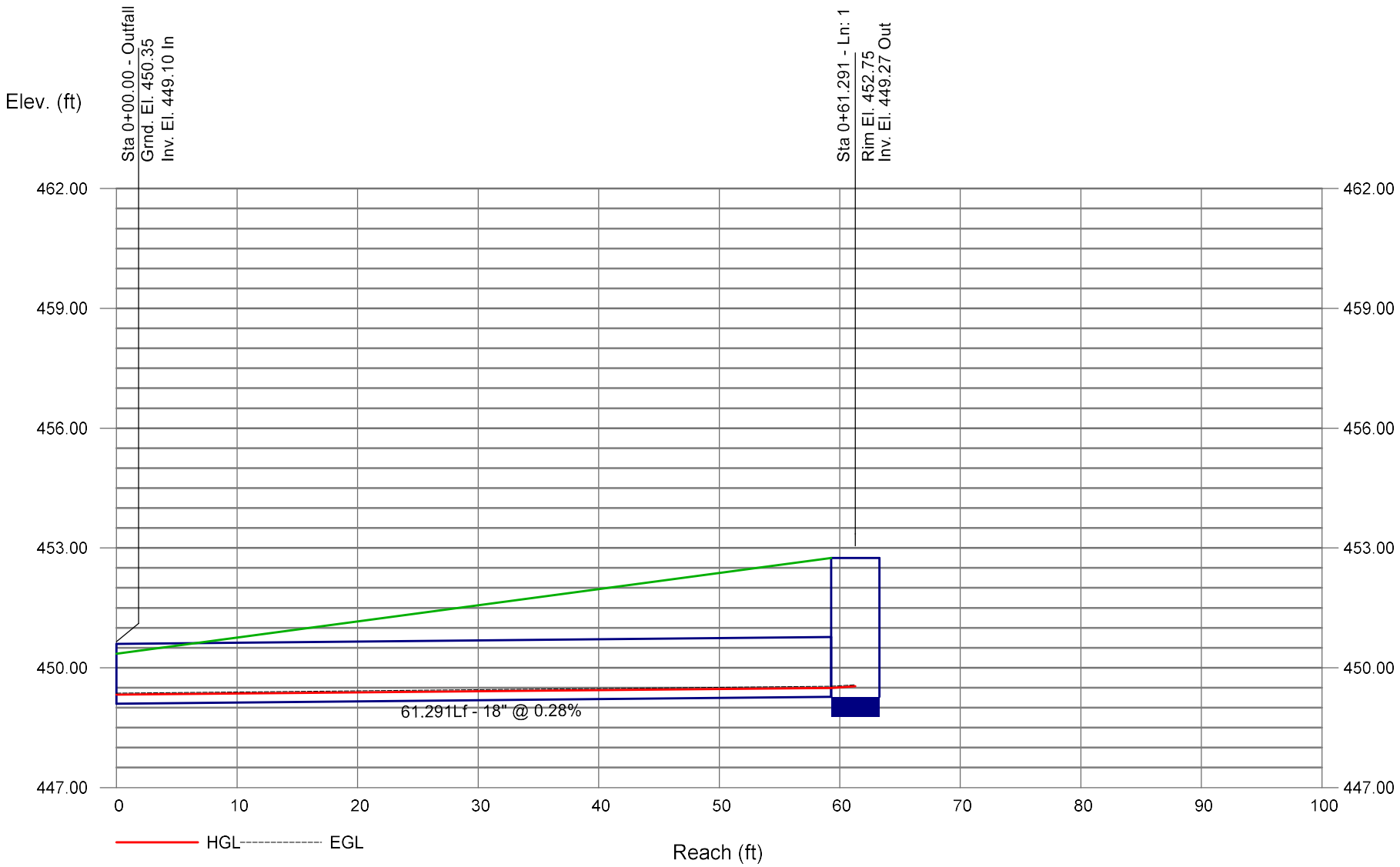
Line No.	Line ID	DnStm Ln No	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Slope (%)	Line Size (in)	Capac Full (cfs)	Known Q (cfs)	Flow Rate (cfs)	HGL Dn (ft)	HGL Up (ft)	Vel Ave (ft/s)	Rim-Hw (ft)	
1	FES 1 - OS 2	Outfall	449.10	449.27	61.291	0.28	18	5.53	0.27	0.27	449.33	449.50	1.62	3.21	

Project File: 2026-06-19 Outfall Pipe 1yr-24hr.stm | Number of lines: 1 | Date: 6/19/2026

NOTES: ** Critical depth

Storm Sewer Profile

Proj. file: 2026-06-19 Outfall Pipe 1yr-24hr.stm



StormSewers

HGL Calc

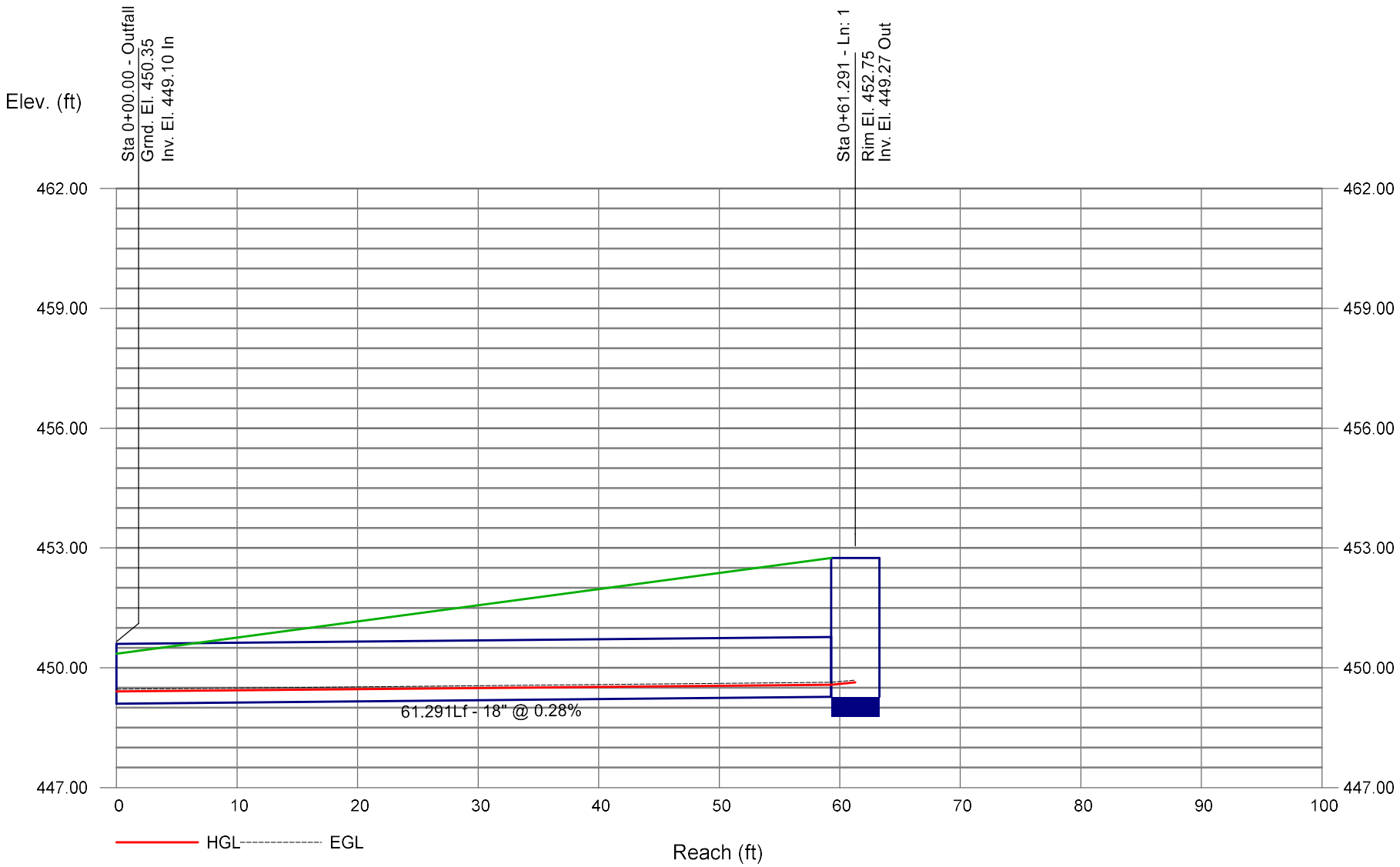
Line No.	Line ID	DnStm Ln No	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Slope (%)	Line Size (in)	Capac Full (cfs)	Known Q (cfs)	Flow Rate (cfs)	HGL Dn (ft)	HGL Up (ft)	Vel Ave (ft/s)	Rim-Hw (ft)	
1	FES 1 - OS 2	Outfall	449.10	449.27	61.291	0.28	18	5.53	0.50	0.50	449.41	449.58	1.94	3.12	

Project File: 2026-06-19 Outfall Pipe 2yr-24hr.stm | Number of lines: 1 | Date: 6/19/2026

NOTES: ** Critical depth

Storm Sewer Profile

Proj. file: 2026-06-19 Outfall Pipe 2yr-24hr.stm



Storm Sewers

HGL Calc

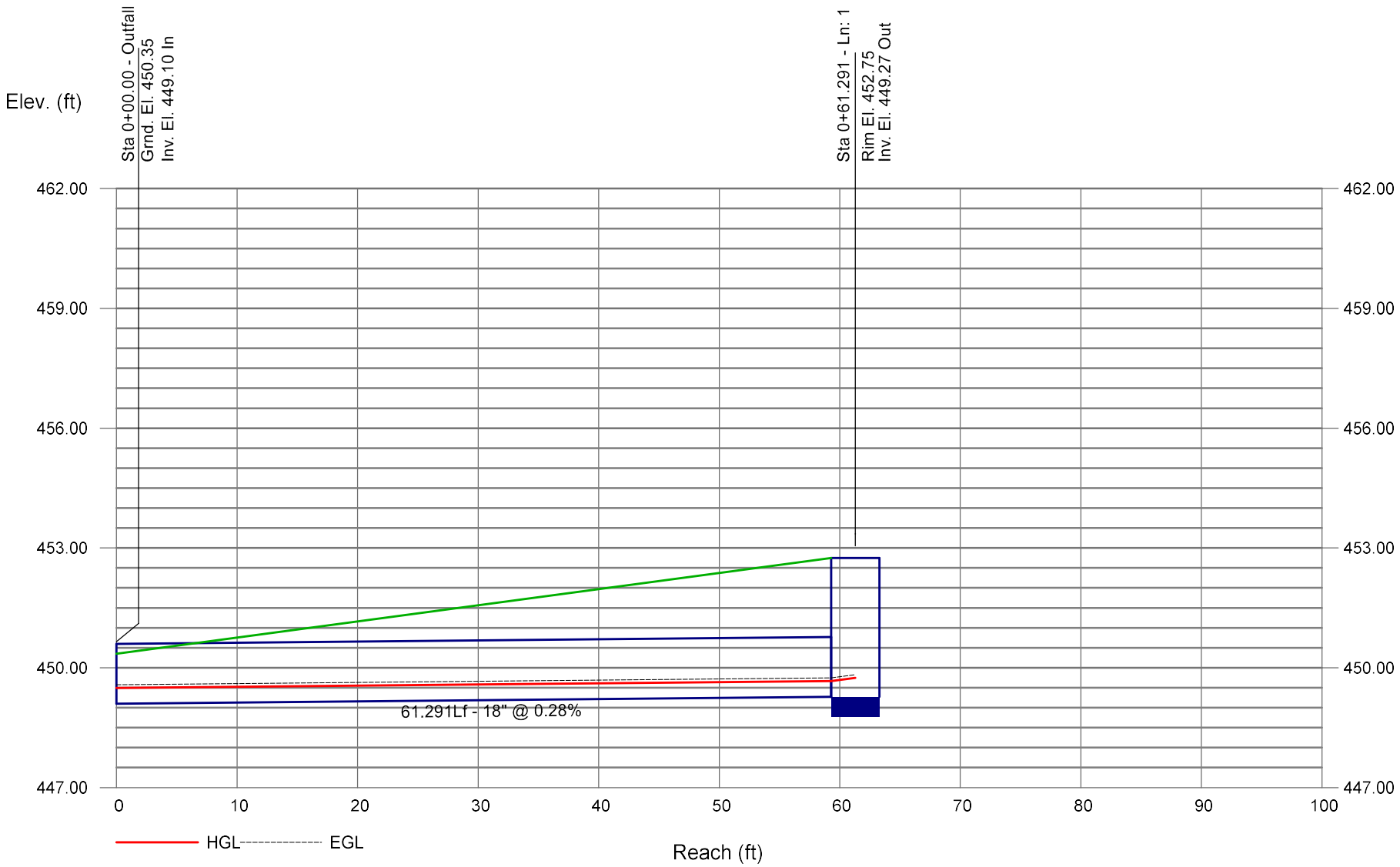
Line No.	Line ID	DnStm Ln No	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Slope (%)	Line Size (in)	Capac Full (cfs)	Known Q (cfs)	Flow Rate (cfs)	HGL Dn (ft)	HGL Up (ft)	Vel Ave (ft/s)	Rim-Hw (ft)	
1	FES 1 - OS 2	Outfall	449.10	449.27	61.291	0.28	18	5.53	0.84	0.84	449.50	449.67	2.26	3.01	

Project File: 2026-06-19 Outfall Pipe 5yr-24hr.stm | Number of lines: 1 | Date: 6/19/2026

NOTES: ** Critical depth

Storm Sewer Profile

Proj. file: 2026-06-19 Outfall Pipe 5yr-24hr.stm



Storm Sewers

HGL Calc

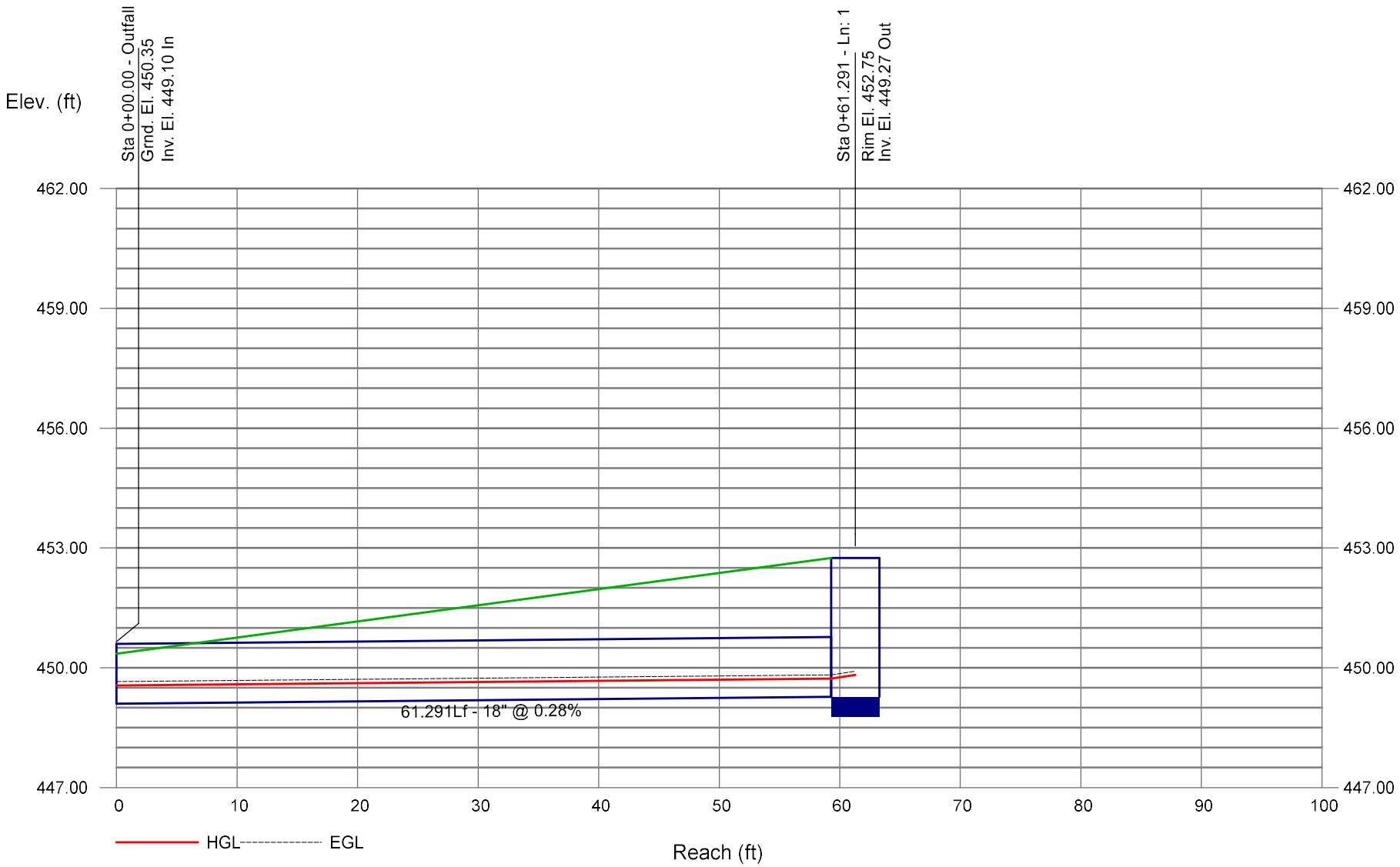
Line No.	Line ID	DnStm Ln No	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Slope (%)	Line Size (in)	Capac Full (cfs)	Known Q (cfs)	Flow Rate (cfs)	HGL Dn (ft)	HGL Up (ft)	Vel Ave (ft/s)	Rim-Hw (ft)	
1	FES 1 - OS 2	Outfall	449.10	449.27	61.291	0.28	18	5.53	1.12	1.12	449.56	449.73	2.45	2.93	

Project File: 2026-06-19 Outfall Pipe 10yr-24hr.stm | Number of lines: 1 | Date: 6/19/2026

NOTES: ** Critical depth

Storm Sewer Profile

Proj. file: 2026-06-19 Outfall Pipe 10yr-24hr.stm



StormSewers

HGL Calc

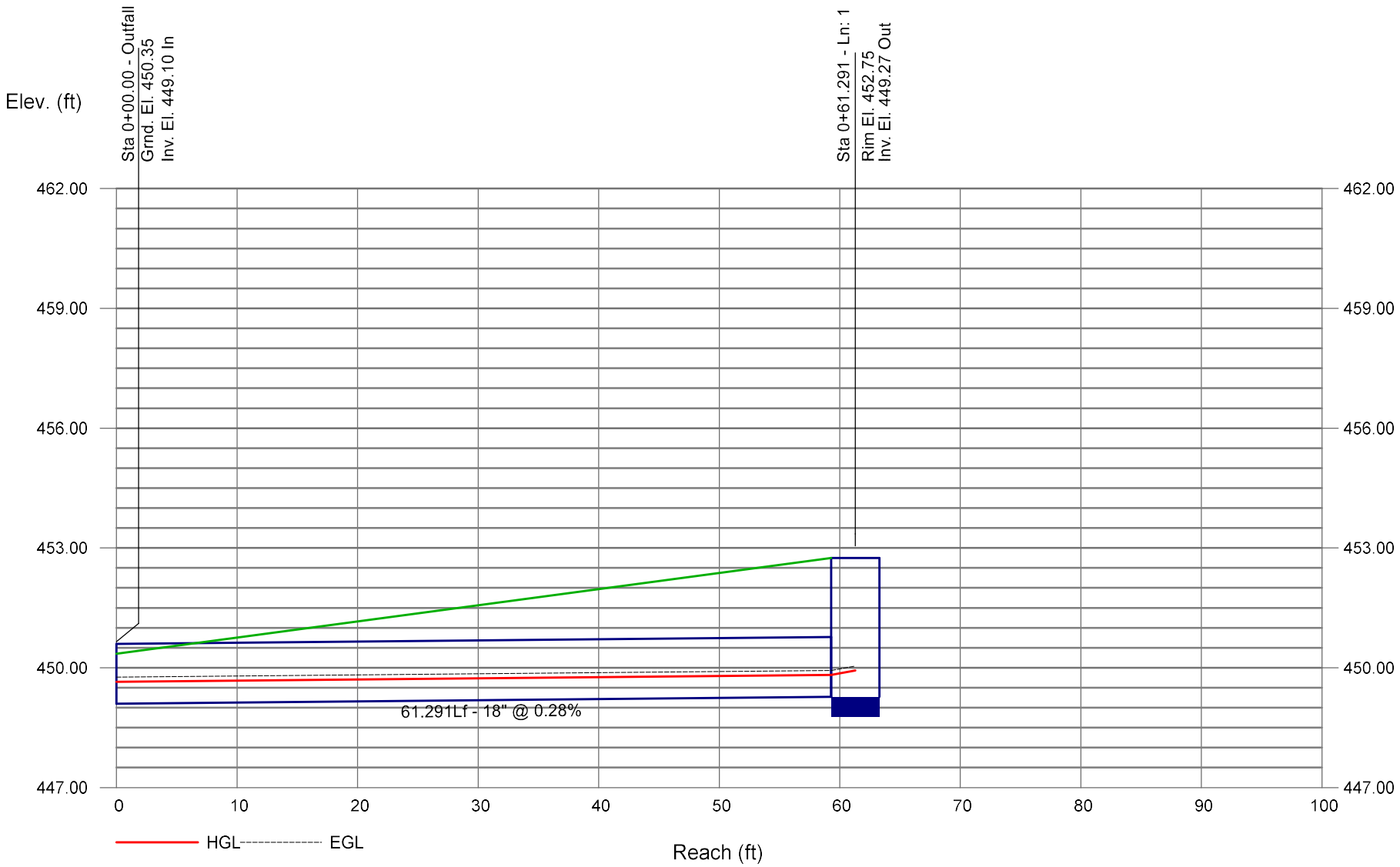
Line No.	Line ID	DnStm Ln No	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Slope (%)	Line Size (in)	Capac Full (cfs)	Known Q (cfs)	Flow Rate (cfs)	HGL Dn (ft)	HGL Up (ft)	Vel Ave (ft/s)	Rim-Hw (ft)	
1	FES 1 - OS 2	Outfall	449.10	449.27	61.291	0.28	18	5.53	1.58	1.58	449.65	449.82	2.70	2.82	

Project File: 2026-06-19 Outfall Pipe 25yr-24hr.stm | Number of lines: 1 | Date: 6/22/2026

NOTES: ** Critical depth

Storm Sewer Profile

Proj. file: 2026-06-19 Outfall Pipe 25yr-24hr.stm



StormCAD Bentley

HGL Calc

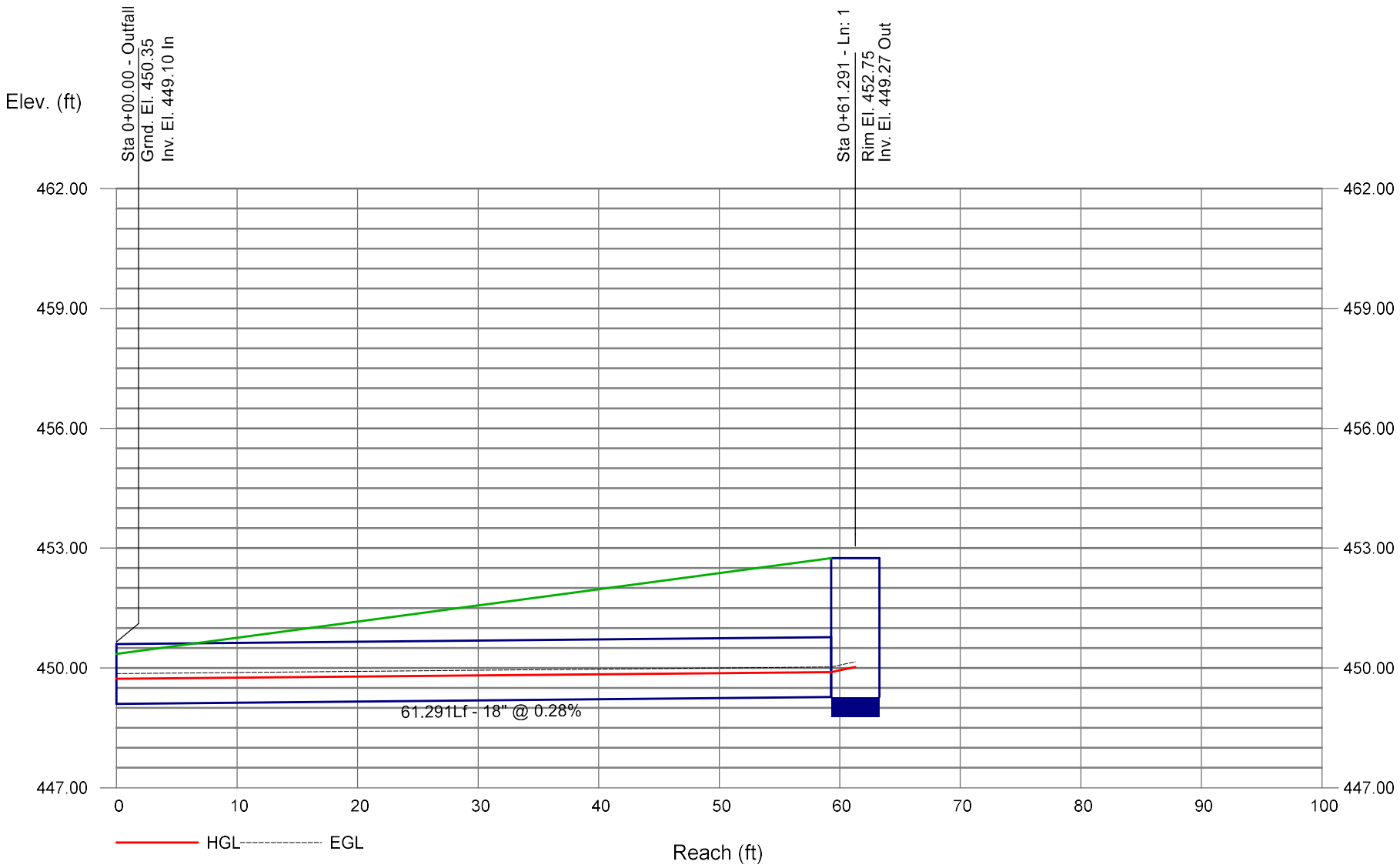
Line No.	Line ID	DnStm Ln No	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Slope (%)	Line Size (in)	Capac Full (cfs)	Known Q (cfs)	Flow Rate (cfs)	HGL Dn (ft)	HGL Up (ft)	Vel Ave (ft/s)	Rim-Hw (ft)	
1	FES 1 - OS 2	Outfall	449.10	449.27	61.291	0.28	18	5.53	2.01	2.01	449.73	449.90	2.88	2.73	

Project File: 2026-06-19 Outfall Pipe 50yr-24hr.stm | Number of lines: 1 | Date: 6/22/2026

NOTES: ** Critical depth

Storm Sewer Profile

Proj. file: 2026-06-19 Outfall Pipe 50yr-24hr.stm



Storm Sewers

HGL Calc

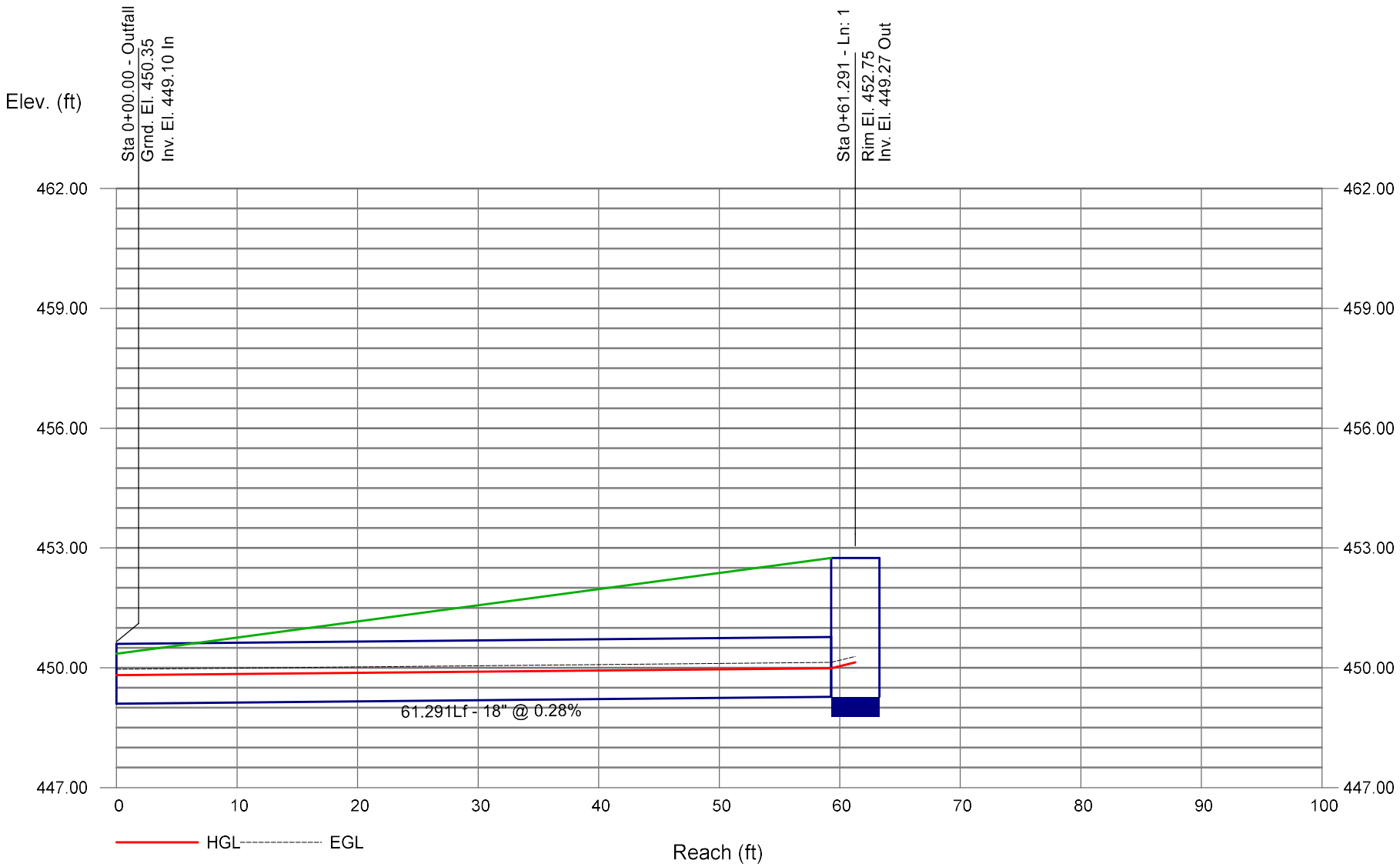
Line No.	Line ID	DnStm Ln No	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Slope (%)	Line Size (in)	Capac Full (cfs)	Known Q (cfs)	Flow Rate (cfs)	HGL Dn (ft)	HGL Up (ft)	Vel Ave (ft/s)	Rim-Hw (ft)	
1	FES 1 - OS 2	Outfall	449.10	449.27	61.291	0.28	18	5.53	2.56	2.56	449.82	449.99	3.07	2.62	

Project File: 2026-06-19 Outfall Pipe 100yr-24hr.stm | Number of lines: 1 | Date: 6/22/2026

NOTES: ** Critical depth

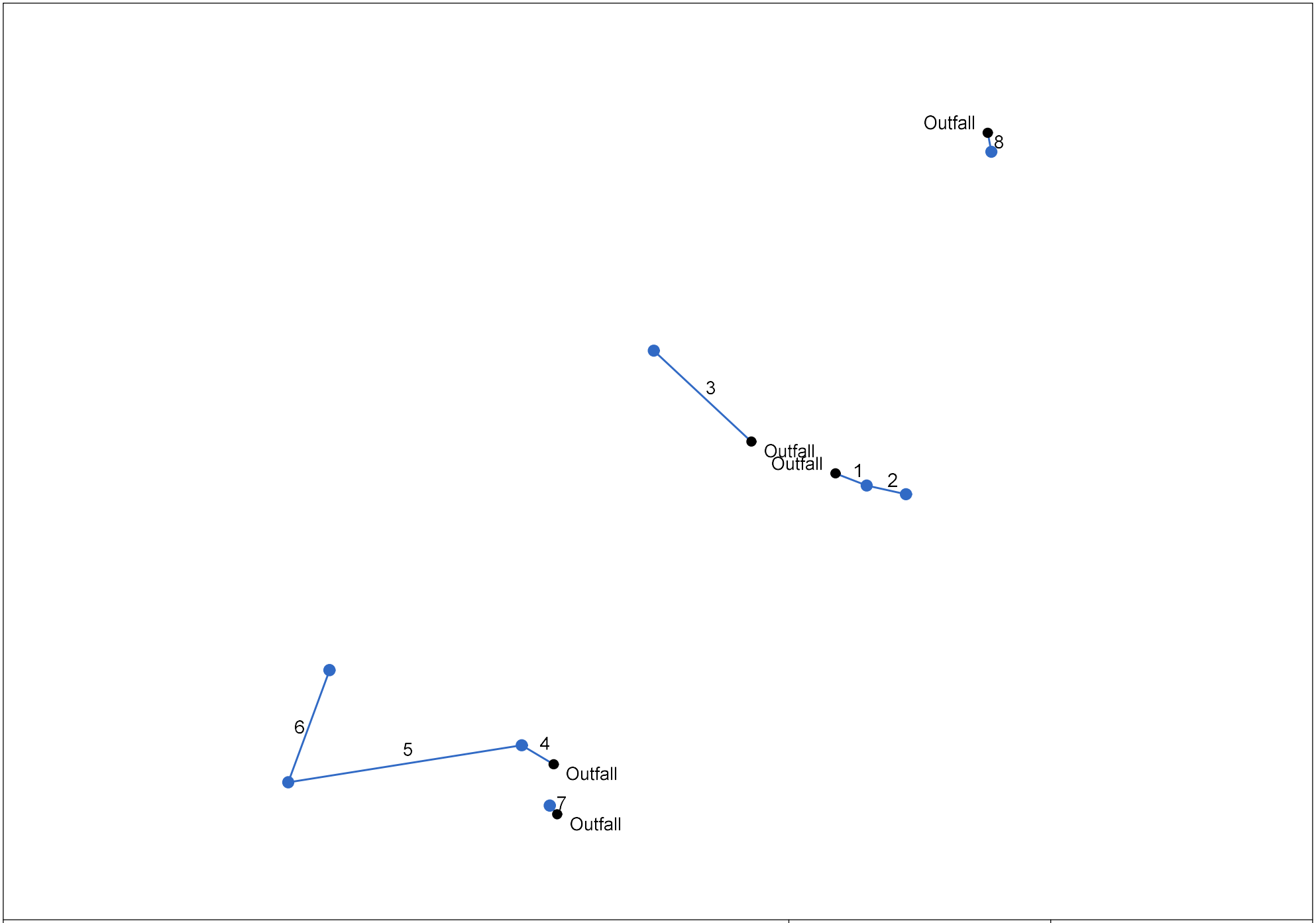
Storm Sewer Profile

Proj. file: 2026-06-19 Outfall Pipe 100yr-24hr.stm



Storm Sewers

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: 2026-06-19 Storm.stm	Number of lines: 8	Date: 6/23/2026

HGL Calc

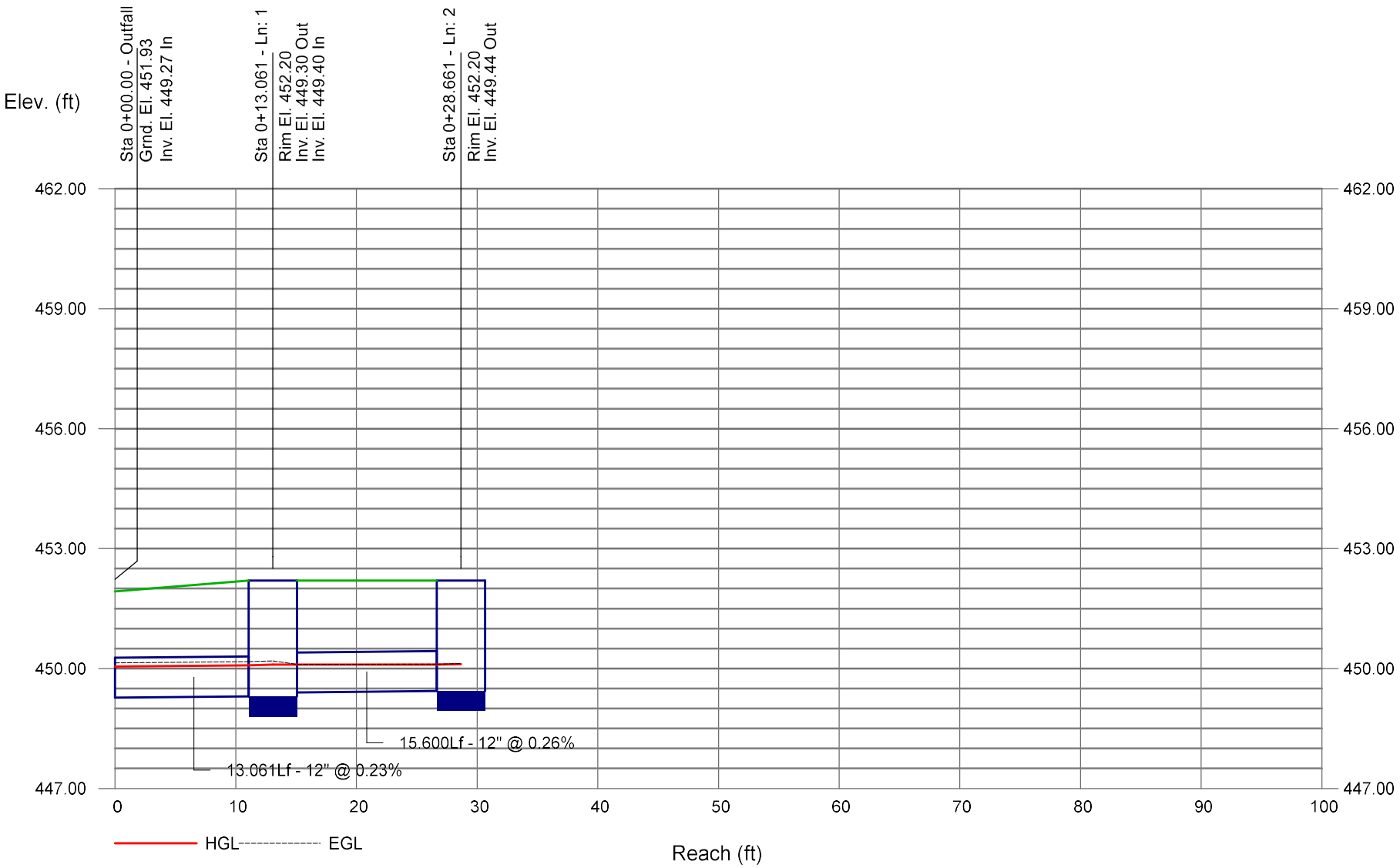
Line No.	Line ID	DnStm Ln No	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Slope (%)	Line Size (in)	Capac Full (cfs)	Known Q (cfs)	Flow Rate (cfs)	HGL Dn (ft)	HGL Up (ft)	Vel Ave (ft/s)	Rim-Hw (ft)	
1	MH 3 - GCI 4	Outfall	449.27	449.30	13.061	0.23	12	1.71	1.17	1.62	450.05	450.08	2.47	2.10	
2	GCI 4 - CI 5	1	449.40	449.44	15.600	0.26	12	1.80	0.45	0.45	450.10	450.10	0.80	2.09	
3	MH 6 - GI 7	Outfall	449.37	449.48	51.759	0.21	12	1.64	0.39	0.39	449.70	449.81	1.71	3.39	
4	MH 8 - CI 9	Outfall	449.37	449.40	14.419	0.21	12	1.62	0.34	1.34	450.06	450.09	2.31	2.89	
5	CI 9 - GCI 10	4	449.50	449.68	91.670	0.20	12	1.58	0.58	1.00	450.15	450.28	1.94	2.62	
6	GCI 10 - GI 11	5	449.78	449.88	46.467	0.22	12	1.65	0.42	0.42	450.35	450.36	1.02	2.87	
7	UDC - CI 12	Outfall	449.27	449.41	4.500	3.11	12	6.28	0.39	0.39	449.44	449.67	3.44	2.85	
8	EOP 17 - GI 18	Outfall	447.50	447.54	7.500	0.53	12	2.60	1.18	1.18	447.97	448.01	3.23	1.54	

Project File: 2026-06-19 Storm.stm | Number of lines: 8 | Date: 6/23/2026

NOTES: ** Critical depth

Storm Sewer Profile

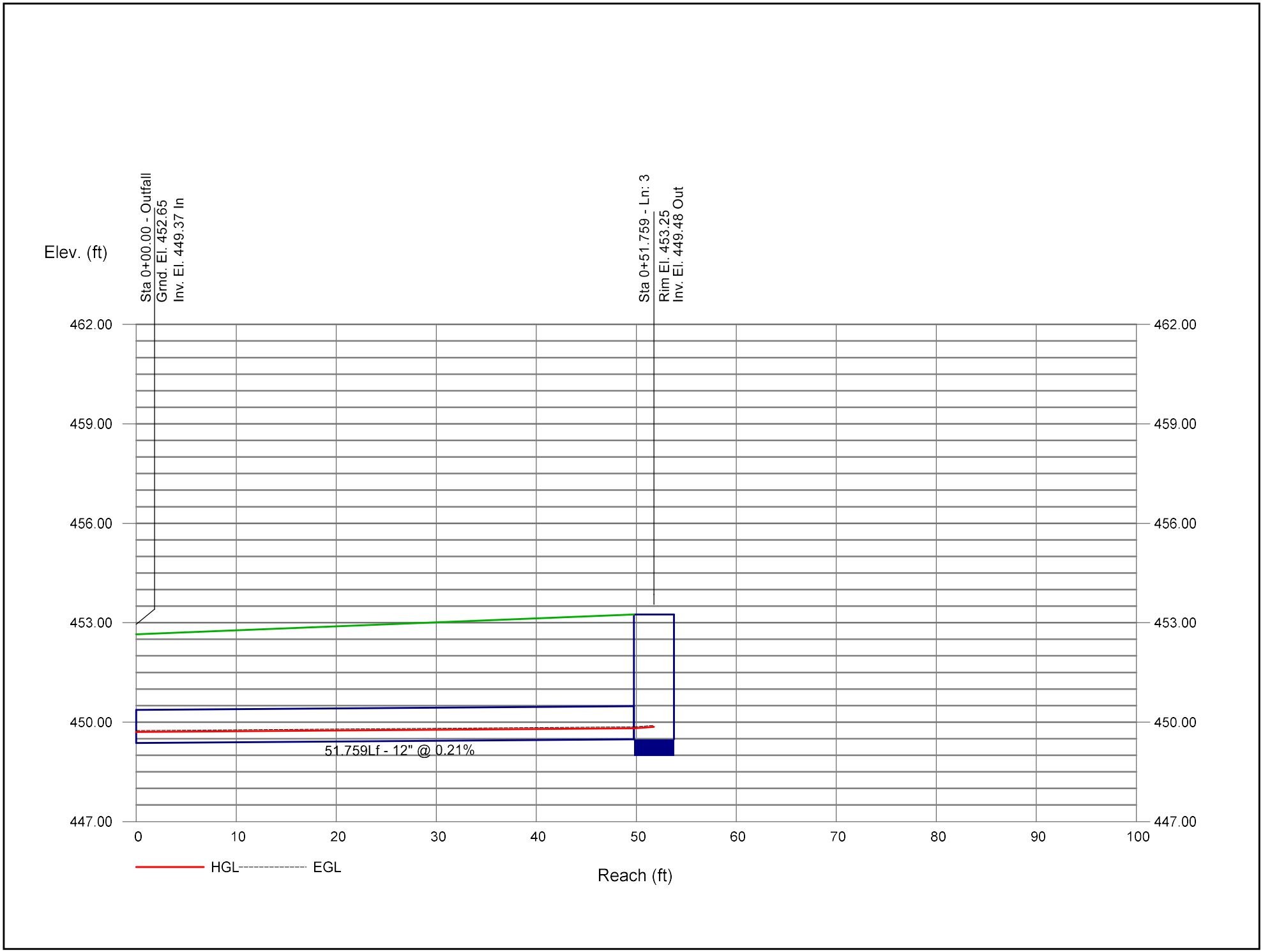
Proj. file: 2026-06-19 Storm.stm



Storm Sewers

Storm Sewer Profile

Proj. file: 2026-06-19 Storm.stm



Storm Sewers

Storm Sewer Profile

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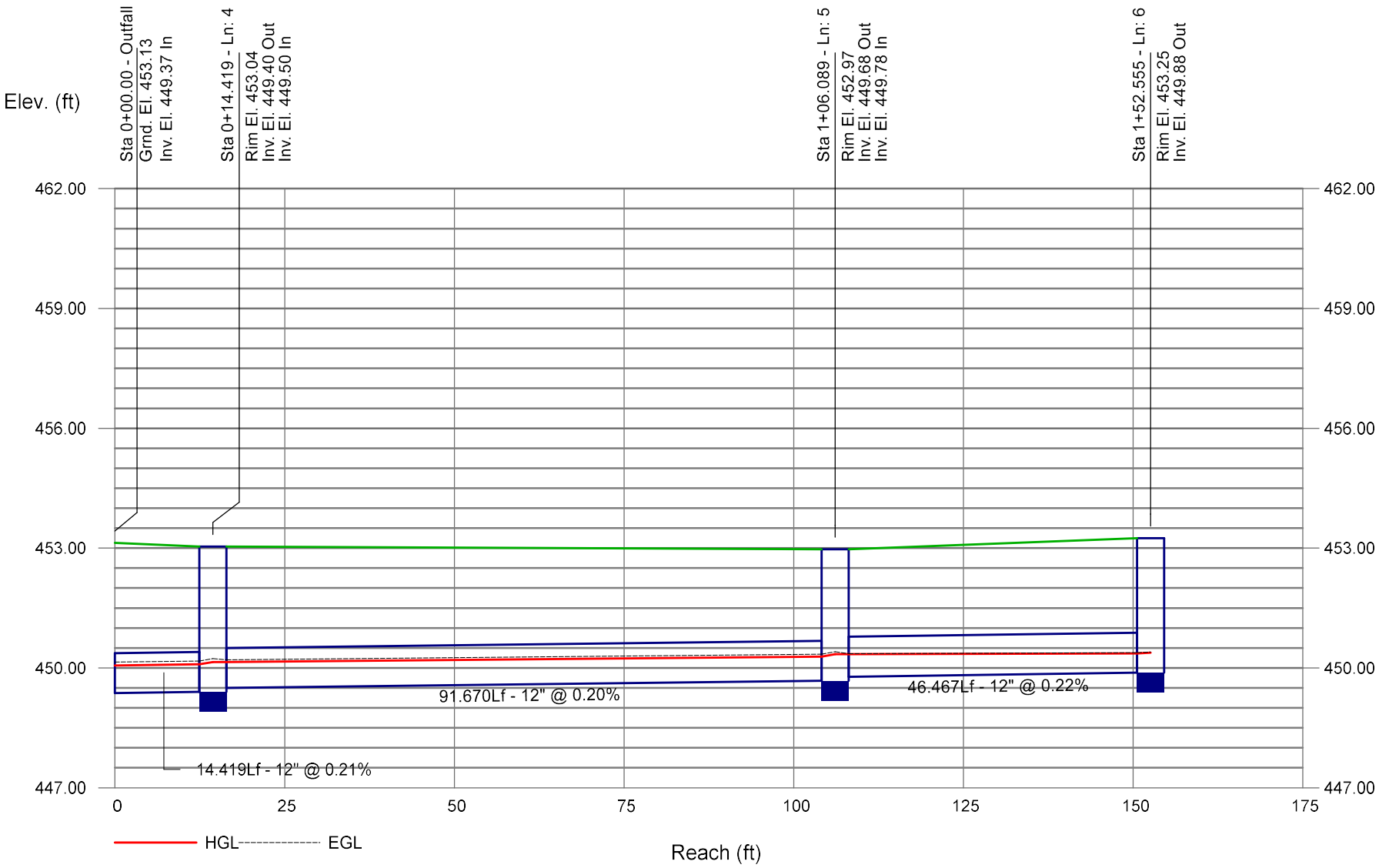
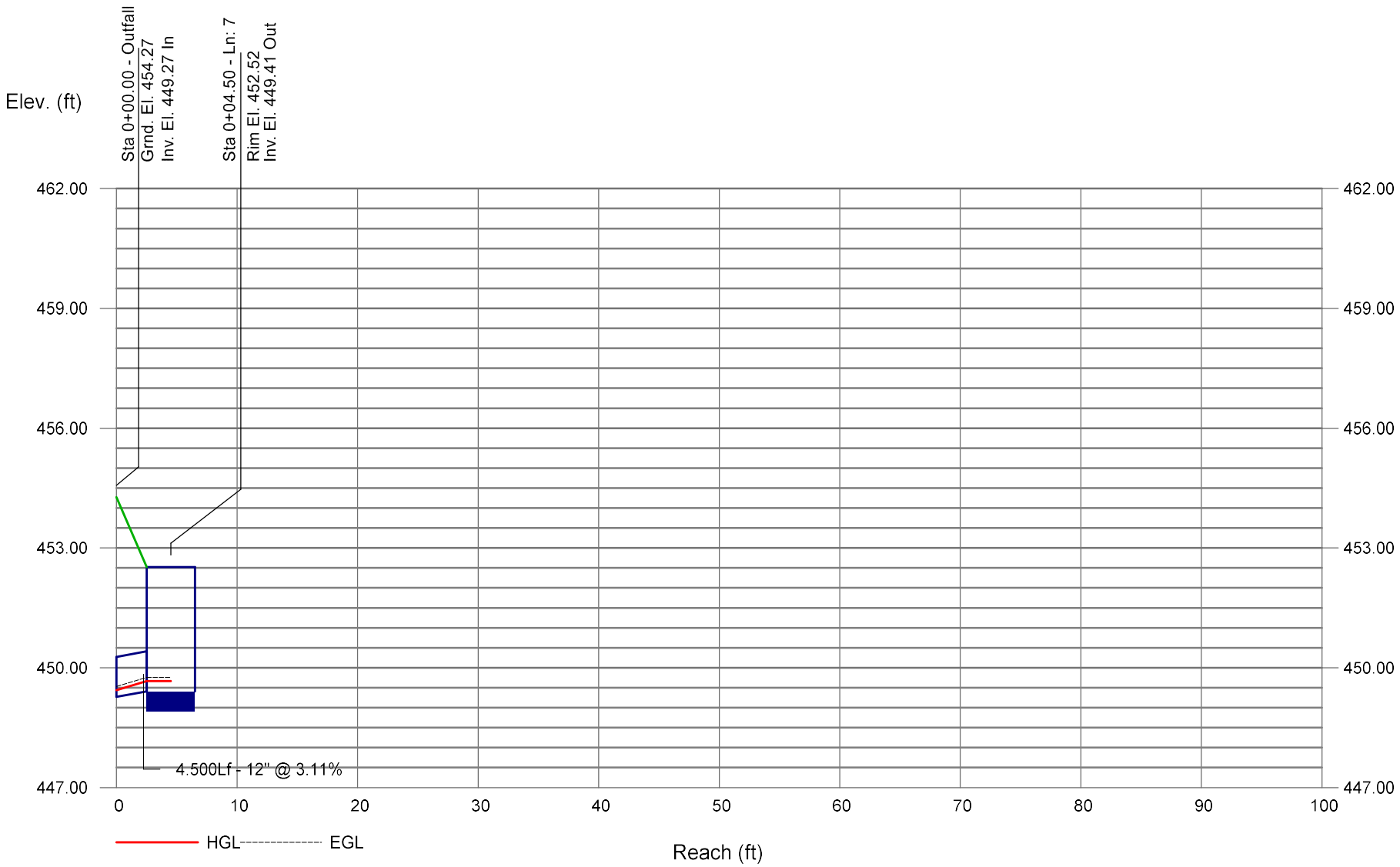


Storm Sewer Profile

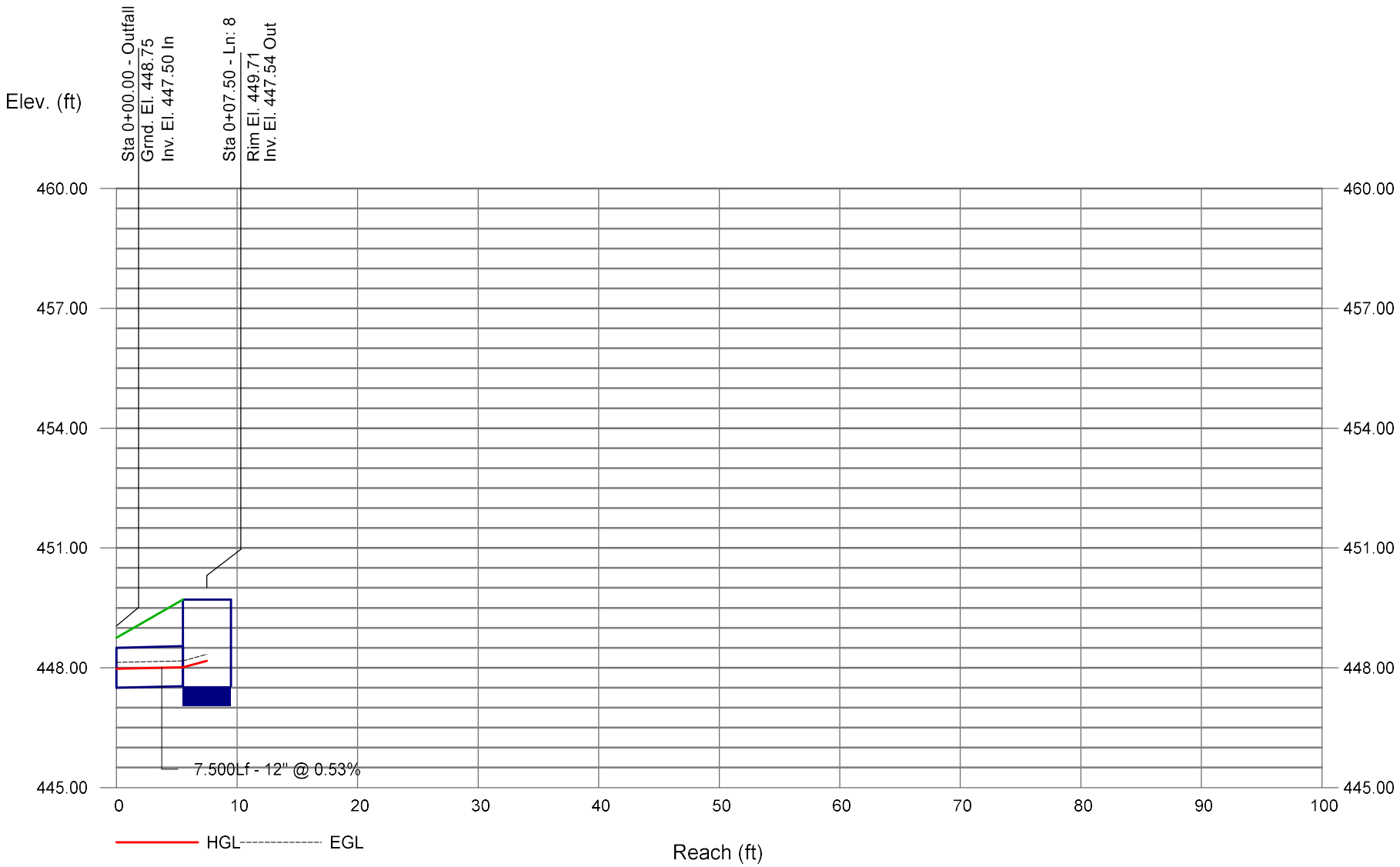
Proj. file: 2026-06-19 Storm.stm



StormCAD Bentley

Storm Sewer Profile

Proj. file: 2026-06-19 Storm.stm



StormSewers

Channel Report

East Channel Capacity 5yr-24hr

Triangular

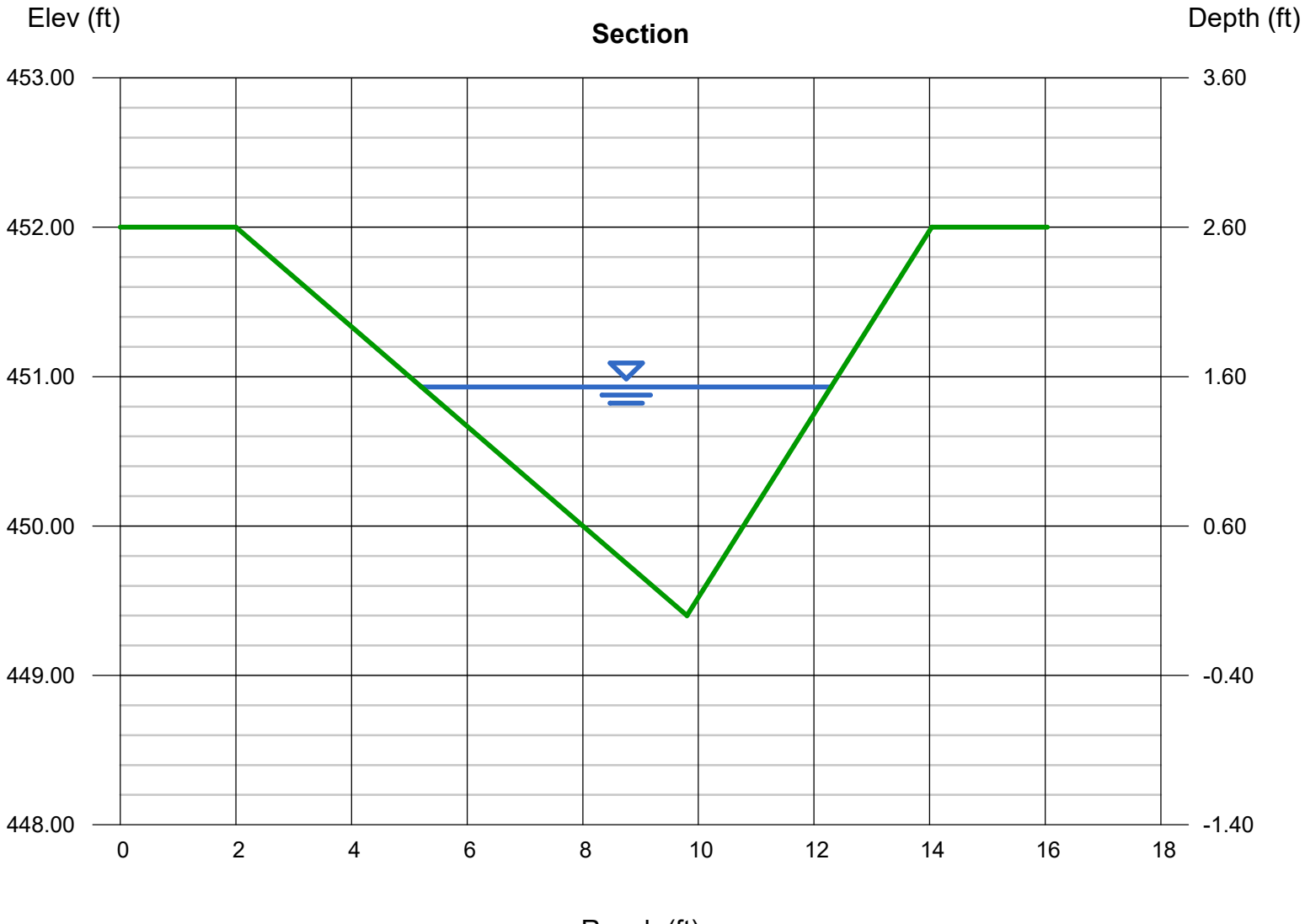
Side Slopes (z:1)	= 3.00, 1.63
Total Depth (ft)	= 2.60
Invert Elev (ft)	= 449.40
Slope (%)	= 1.00
N-Value	= 0.027

Calculations

Compute by:	Known Q
Known Q (cfs)	= 23.12

Highlighted

Depth (ft)	= 1.53
Q (cfs)	= 23.12
Area (sqft)	= 5.42
Velocity (ft/s)	= 4.27
Wetted Perim (ft)	= 7.76
Crit Depth, Yc (ft)	= 1.45
Top Width (ft)	= 7.08
EGL (ft)	= 1.81



Channel Report

North West Channel Capacity 5yr-24hr

Trapezoidal

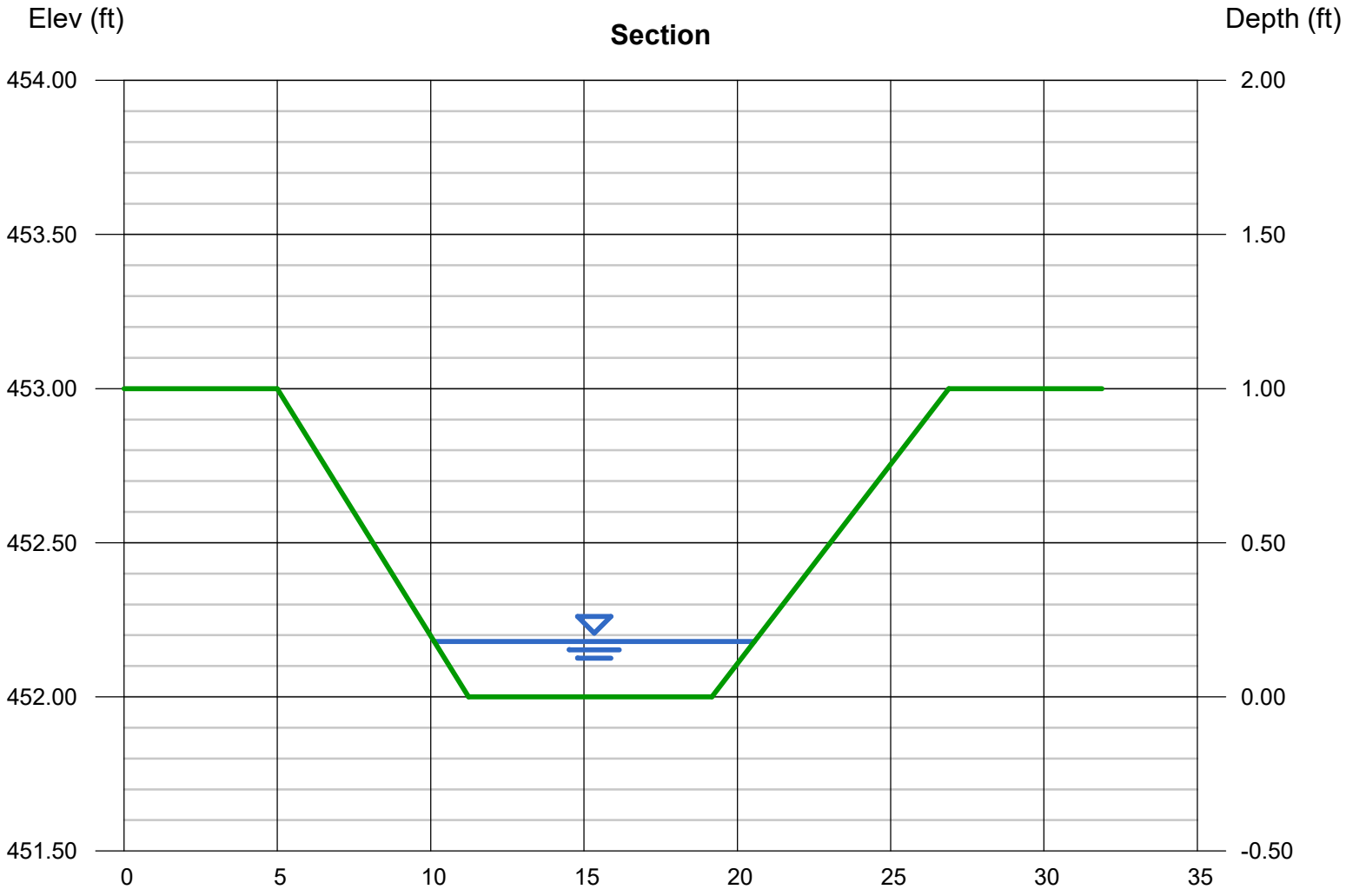
Bottom Width (ft)	= 7.94
Side Slopes (z:1)	= 6.23, 7.72
Total Depth (ft)	= 1.00
Invert Elev (ft)	= 452.00
Slope (%)	= 1.00
N-Value	= 0.027

Calculations

Compute by:	Known Q
Known Q (cfs)	= 2.46

Highlighted

Depth (ft)	= 0.18
Q (cfs)	= 2.460
Area (sqft)	= 1.66
Velocity (ft/s)	= 1.49
Wetted Perim (ft)	= 10.48
Crit Depth, Yc (ft)	= 0.14
Top Width (ft)	= 10.45
EGL (ft)	= 0.21



Channel Report

South West Channel Capacity 5yr-24hr

Triangular

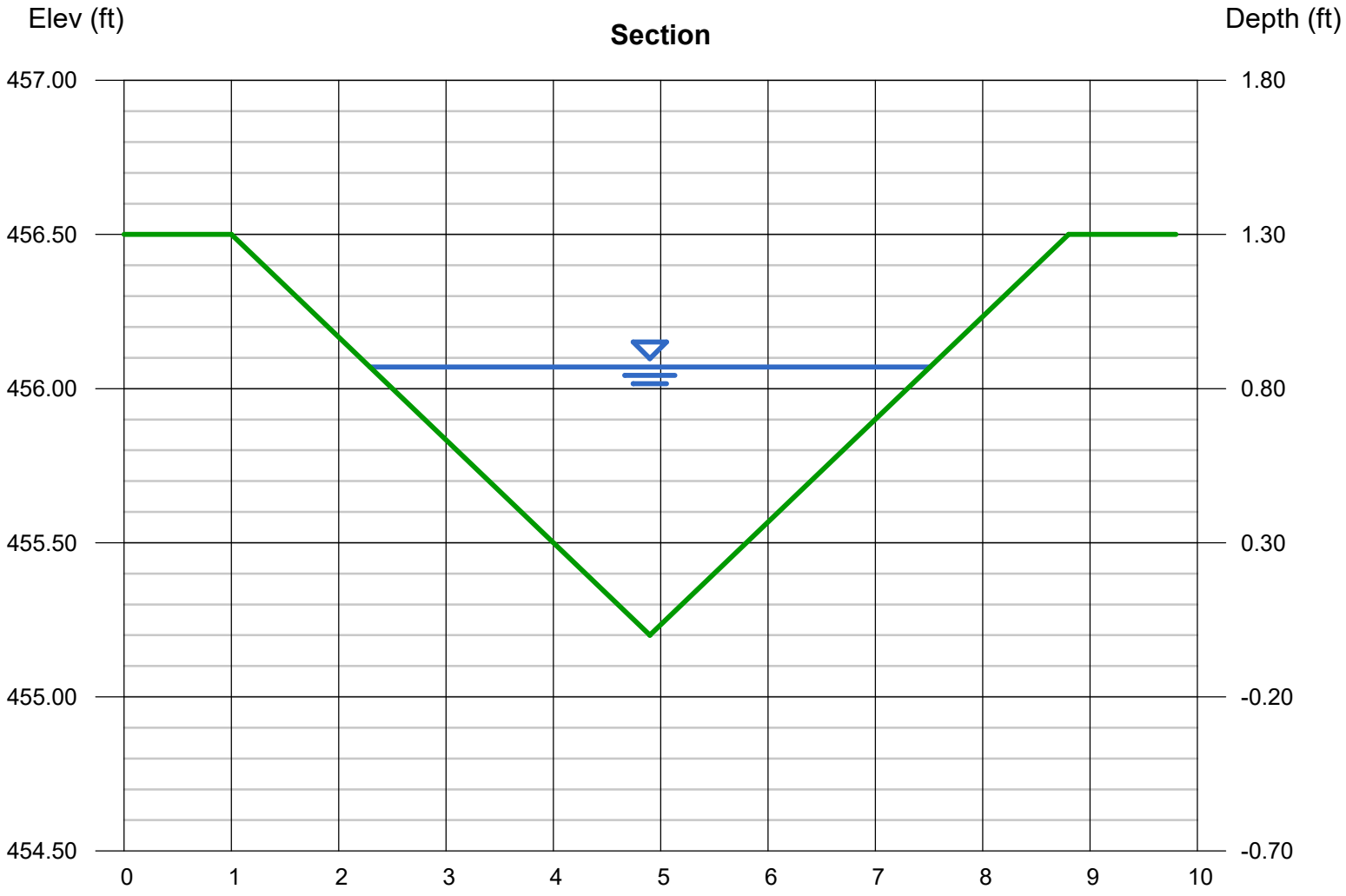
Side Slopes (z:1)	= 3.00, 3.00
Total Depth (ft)	= 1.30
Invert Elev (ft)	= 455.20
Slope (%)	= 1.01
N-Value	= 0.027

Calculations

Compute by:	Known Q
Known Q (cfs)	= 6.94

Highlighted

Depth (ft)	= 0.87
Q (cfs)	= 6.940
Area (sqft)	= 2.27
Velocity (ft/s)	= 3.06
Wetted Perim (ft)	= 5.50
Crit Depth, Yc (ft)	= 0.81
Top Width (ft)	= 5.22
EGL (ft)	= 1.02



Riprap Calculations - FES 1

$$D_{50} = 0.2D\left(\frac{Q}{\sqrt{g}D^{2.5}}\right)^{\frac{4}{3}}\left(\frac{D}{TW}\right) = 0.02 \text{ ft., } 0.2 \text{ in.}$$

Q = 0.84 ft^3/s

D = 1.5 ft

TW = 0.4 ft

g = 32.2 ft

Thickness (H) = 3.5D50 = (3.5)(0.02) = 0.06 ft. = 0.7 in. Use minimum depth of 18".

Minimum Length = 4D = (4)(1.5) = 6 ft.

Width (at apron end) = 3D + (2/3)L = (3)(1.5) + (2/3)(6) = 8.5 ft.

Conclusion: Use Machined Riprap (Class A-1)

The median stone size (D50) for this class of riprap is approximately 9 inches and it is placed to a minimum depth of 18 inches.

Riprap Calculations - EOP 17

$$D_{50} = 0.2D\left(\frac{Q}{\sqrt{g}D^{2.5}}\right)^{\frac{4}{3}}\left(\frac{D}{TW}\right) =$$ 0.05 ft., 0.6 in.

Q = 1.18 ft^3/s

D = 1 ft

TW = 0.47 ft

g = 32.2 ft

Thickness (H) = 3.5D50 = (3.5)(0.05) = 0.18 ft. = 2.1 in. Use minimum depth of 18".

Minimum Length = 4D = (4)(1) = 4 ft.

Width (at apron end) = 3D + (2/3)L = (3)(1) + (2/3)(4) = 5.7 ft.

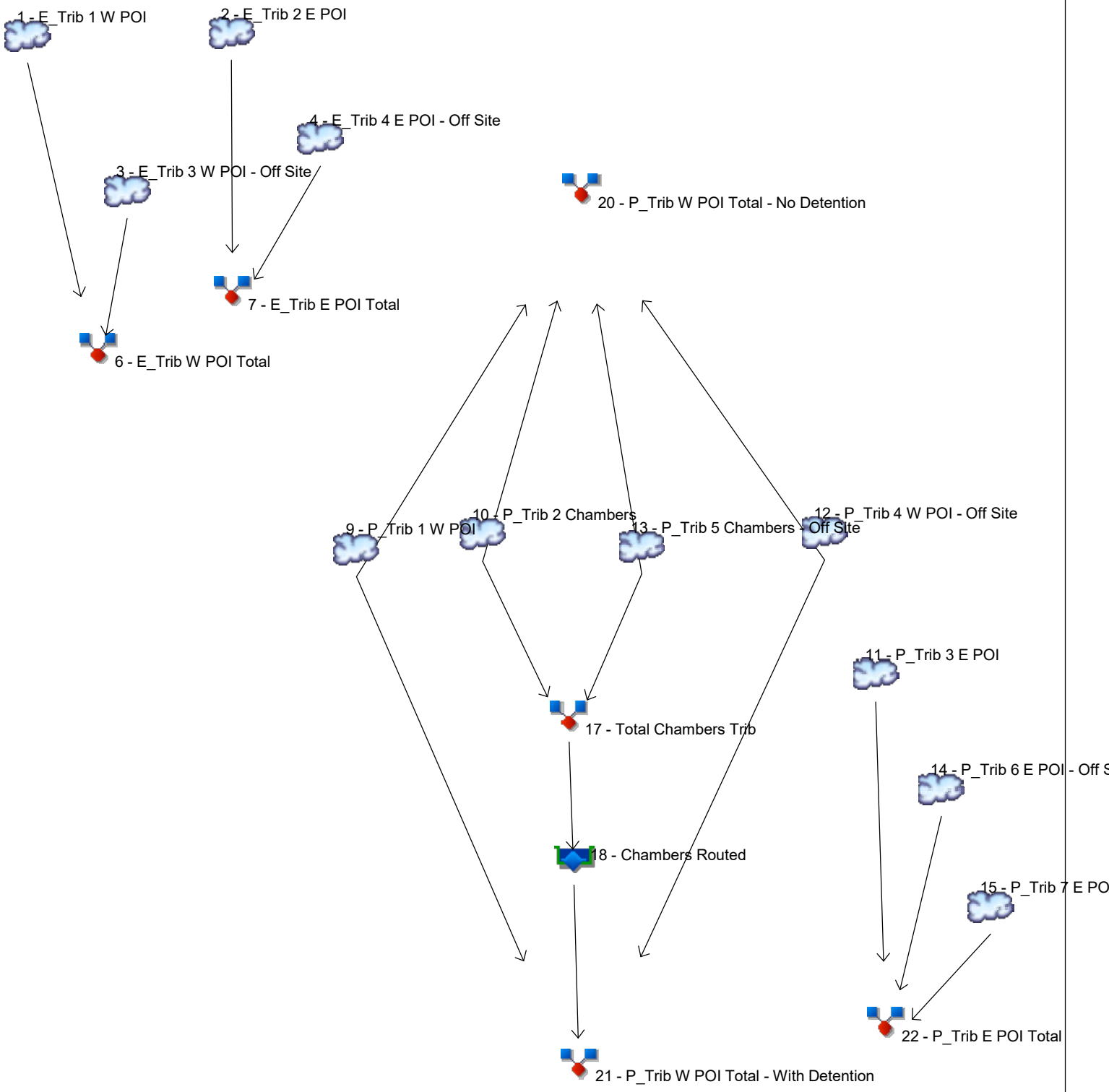
Conclusion: Use Machined Riprap (Class A-1)

The median stone size (D50) for this class of riprap is approximately 9 inches and it is placed to a minimum depth of 18 inches.

Section 5

Unit Hydrographs

Watershed Model Schematic



Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	1.736	2.421	-------	3.266	3.818	4.520	5.039	5.549	E_Trib 1 W POI
2	SCS Runoff	------	1.457	2.421	-------	3.679	4.519	5.594	6.392	7.178	E_Trib 2 E POI
3	SCS Runoff	------	0.691	1.125	-------	1.685	2.057	2.532	2.883	3.229	E_Trib 3 W POI - Off Site
4	SCS Runoff	------	9.948	16.33	-------	24.61	30.12	37.17	42.40	47.55	E_Trib 4 E POI - Off Site
6	Combine	1, 3,	2.428	3.545	-------	4.950	5.875	7.051	7.922	8.779	E_Trib W POI Total
7	Combine	2, 4,	11.28	18.50	-------	27.86	34.10	42.08	47.99	53.81	E_Trib E POI Total
9	SCS Runoff	------	0.832	1.292	-------	1.873	2.255	2.741	3.100	3.452	P_Trib 1 W POI
10	SCS Runoff	------	2.233	3.144	-------	4.268	5.003	5.934	6.623	7.300	P_Trib 2 Chambers
11	SCS Runoff	------	1.012	1.500	-------	2.107	2.503	3.005	3.376	3.740	P_Trib 3 E POI
12	SCS Runoff	------	0.243	0.395	-------	0.592	0.723	0.890	1.013	1.135	P_Trib 4 W POI - Off Site
13	SCS Runoff	------	0.178	0.284	-------	0.421	0.512	0.627	0.713	0.797	P_Trib 5 Chambers - Off Site
14	SCS Runoff	------	1.815	2.966	-------	4.455	5.445	6.710	7.648	8.570	P_Trib 6 E POI - Off Site
15	SCS Runoff	------	8.494	13.94	-------	21.01	25.72	31.74	36.21	40.60	P_Trib 7 E POI - Off Site
17	Combine	10, 13,	2.390	3.400	-------	4.651	5.469	6.508	7.276	8.032	Total Chambers Trib
18	Reservoir	17	0.276	0.498	-------	0.844	1.125	1.583	2.005	2.559	Chambers Routed
20	Combine	9, 10, 12, 13,	3.403	4.989	-------	6.973	8.275	9.930	11.15	12.36	P_Trib W POI Total - No Detention
21	Combine	9, 12, 18,	1.291	2.082	-------	3.137	3.852	4.887	5.717	6.581	P_Trib W POI Total - With Detention
22	Combine	11, 14, 15,	10.42	17.07	-------	25.72	31.48	38.85	44.32	49.70	P_Trib E POI Total

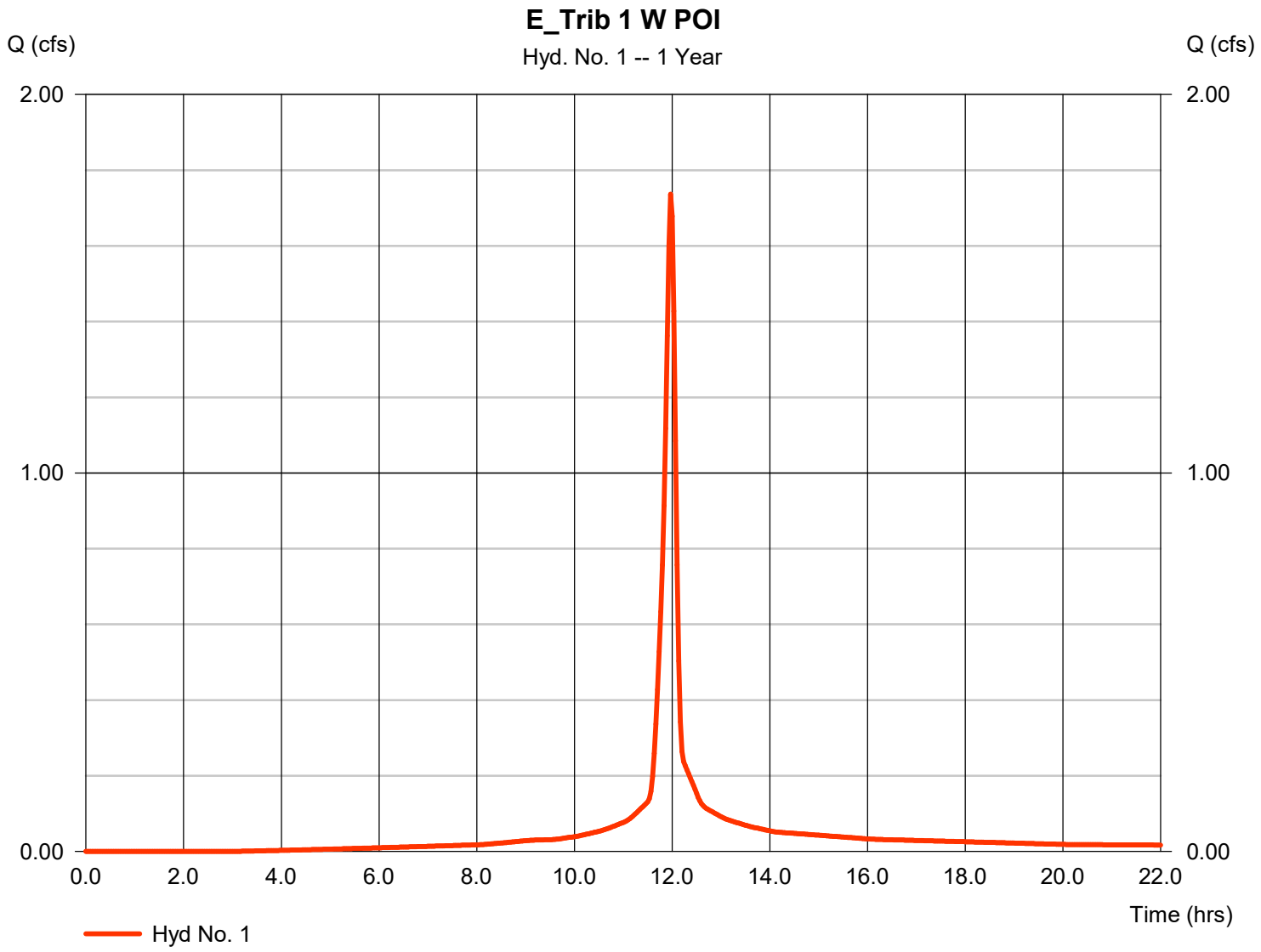
Hydrograph Report

Hyd. No. 1

E_Trib 1 W POI

Hydrograph type	= SCS Runoff	Peak discharge	= 1.736 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 4,265 cuft
Drainage area	= 0.570 ac	Curve number	= 96*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 7.50 min
Total precip.	= 2.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.070 x 84) + (0.500 x 98)] / 0.570



TR55 Tc Worksheet

Hyd. No. 1

E_Trib 1 W POI

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 57.1		42.9		0.0		
Two-year 24-hr precip. (in)	= 3.39		3.39		0.00		
Land slope (%)	= 1.66		7.10		0.00		
Travel Time (min)	**= 6.55**	**+**	**0.36**	**+**	**0.00**	**=**	**6.91**
Shallow Concentrated Flow							
Flow length (ft)	= 196.17		0.00		0.00		
Watercourse slope (%)	= 7.14		0.00		0.00		
Surface description	= Paved		Paved		Paved		
Average velocity (ft/s)	=5.43		0.00		0.00		
Travel Time (min)	**= 0.60**	**+**	**0.00**	**+**	**0.00**	**=**	**0.60**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 7.50 min

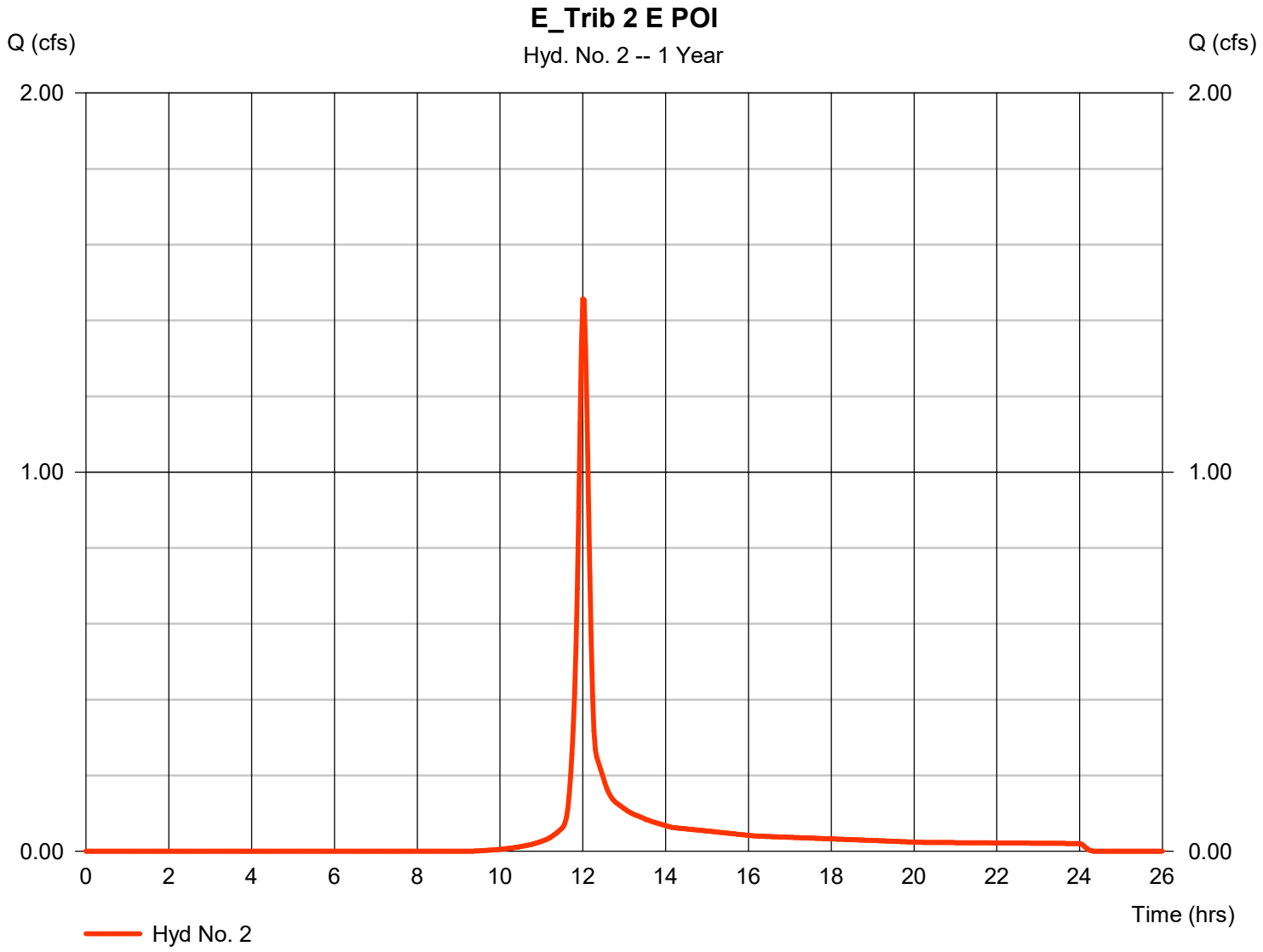
Hydrograph Report

Hyd. No. 2

E_Trib 2 E POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.457 cfs
Storm frequency	=	1 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	3,802 cuft
Drainage area	=	0.910 ac	Curve number	=	84*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	10.50 min
Total precip.	=	2.50 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.900 x 84) + (0.010 x 98)] / 0.910



TR55 Tc Worksheet

Hyd. No. 2

E_Trib 2 E POI

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.39		0.00		0.00		
Land slope (%)	= 2.90		0.00		0.00		
Travel Time (min)	**= 8.20**	**+**	**0.00**	**+**	**0.00**	**=**	**8.20**
Shallow Concentrated Flow							
Flow length (ft)	= 344.53		0.00		0.00		
Watercourse slope (%)	= 2.50		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=2.55		0.00		0.00		
Travel Time (min)	**= 2.25**	**+**	**0.00**	**+**	**0.00**	**=**	**2.25**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 10.50 min

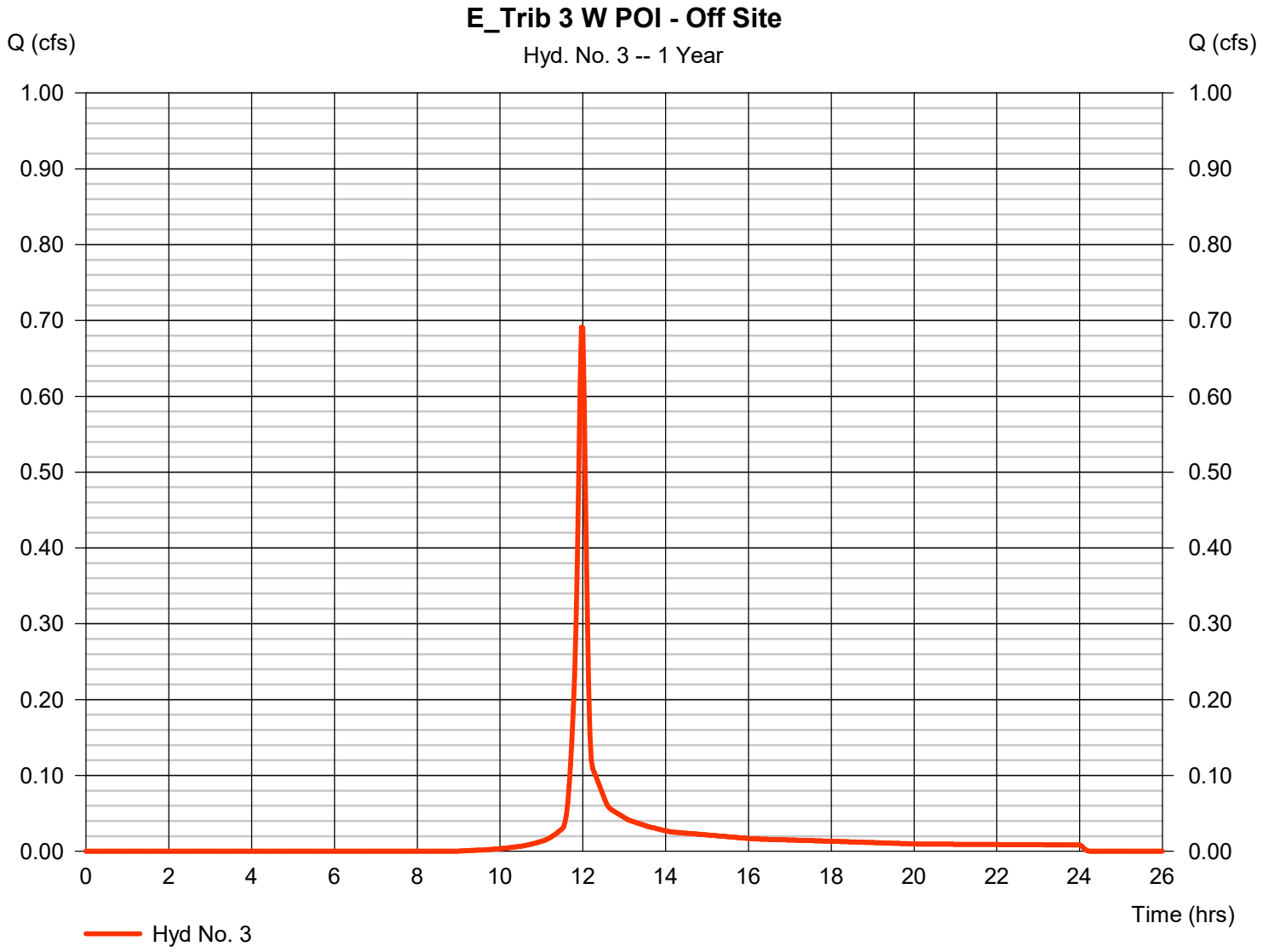
Hydrograph Report

Hyd. No. 3

E_Trib 3 W POI - Off Site

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.691 cfs
Storm frequency	=	1 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	1,583 cuft
Drainage area	=	0.370 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	8.90 min
Total precip.	=	2.50 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.340 x 84) + (0.030 x 98)] / 0.370



TR55 Tc Worksheet

Hyd. No. 3

E_Trib 3 W POI - Off Site

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.39		0.00		0.00		
Land slope (%)	= 3.00		0.00		0.00		
Travel Time (min)	**= 8.09**	**+**	**0.00**	**+**	**0.00**	**=**	**8.09**
Shallow Concentrated Flow							
Flow length (ft)	= 140.69		0.00		0.00		
Watercourse slope (%)	= 3.55		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=3.04		0.00		0.00		
Travel Time (min)	**= 0.77**	**+**	**0.00**	**+**	**0.00**	**=**	**0.77**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 8.90 min

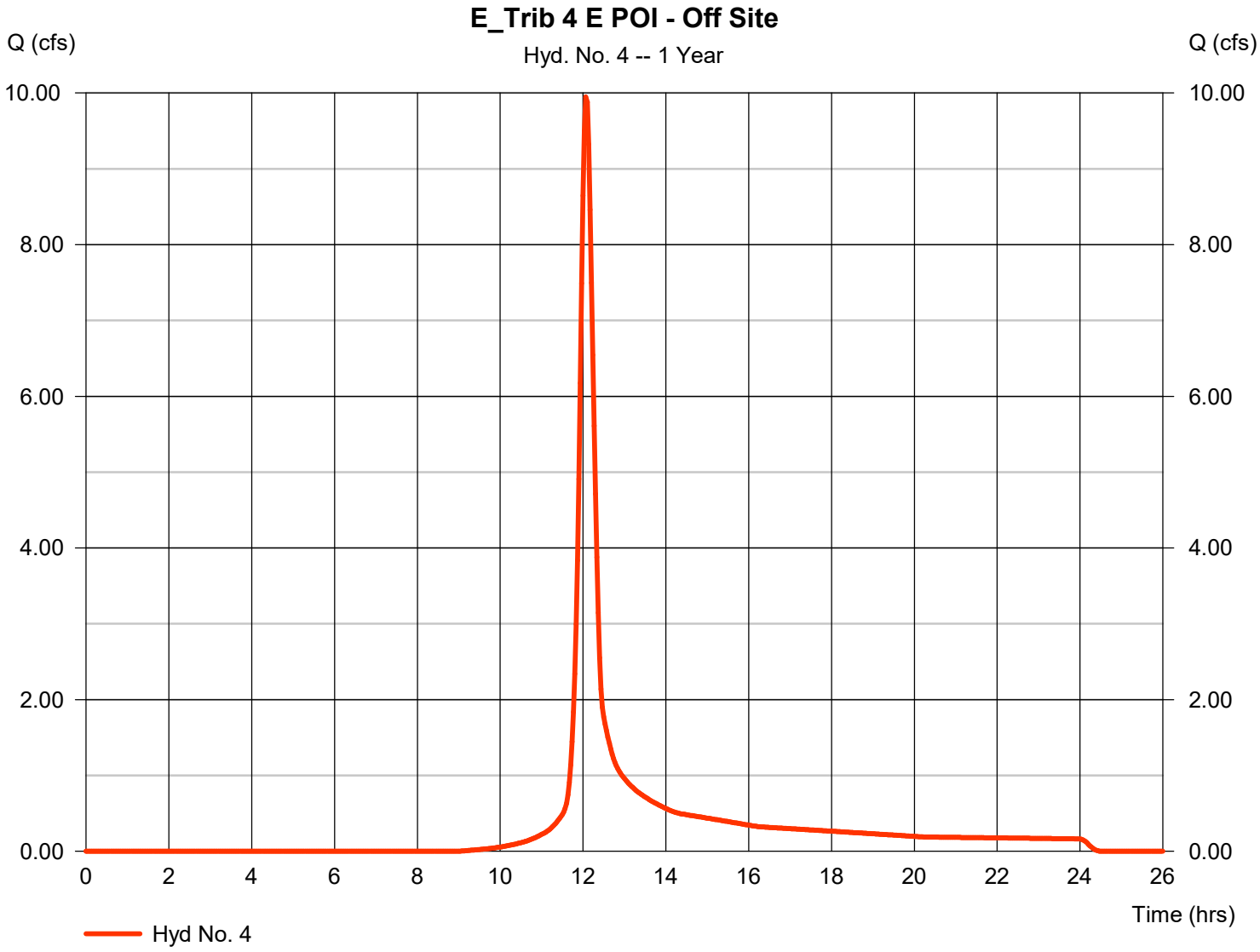
Hydrograph Report

Hyd. No. 4

E_Trib 4 E POI - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 9.948 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 31,314 cuft
Drainage area	= 7.320 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.00 min
Total precip.	= 2.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(6.930 x 84) + (0.390 x 98)] / 7.320



TR55 Tc Worksheet

Hyd. No. 4

E_Trib 4 E POI - Off Site

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.39		0.00		0.00		
Land slope (%)	= 2.00		0.00		0.00		
Travel Time (min)	**= 9.52**	**+**	**0.00**	**+**	**0.00**	**=**	**9.52**
Shallow Concentrated Flow							
Flow length (ft)	= 831.49		0.00		0.00		
Watercourse slope (%)	= 1.02		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=1.63		0.00		0.00		
Travel Time (min)	**= 8.50**	**+**	**0.00**	**+**	**0.00**	**=**	**8.50**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

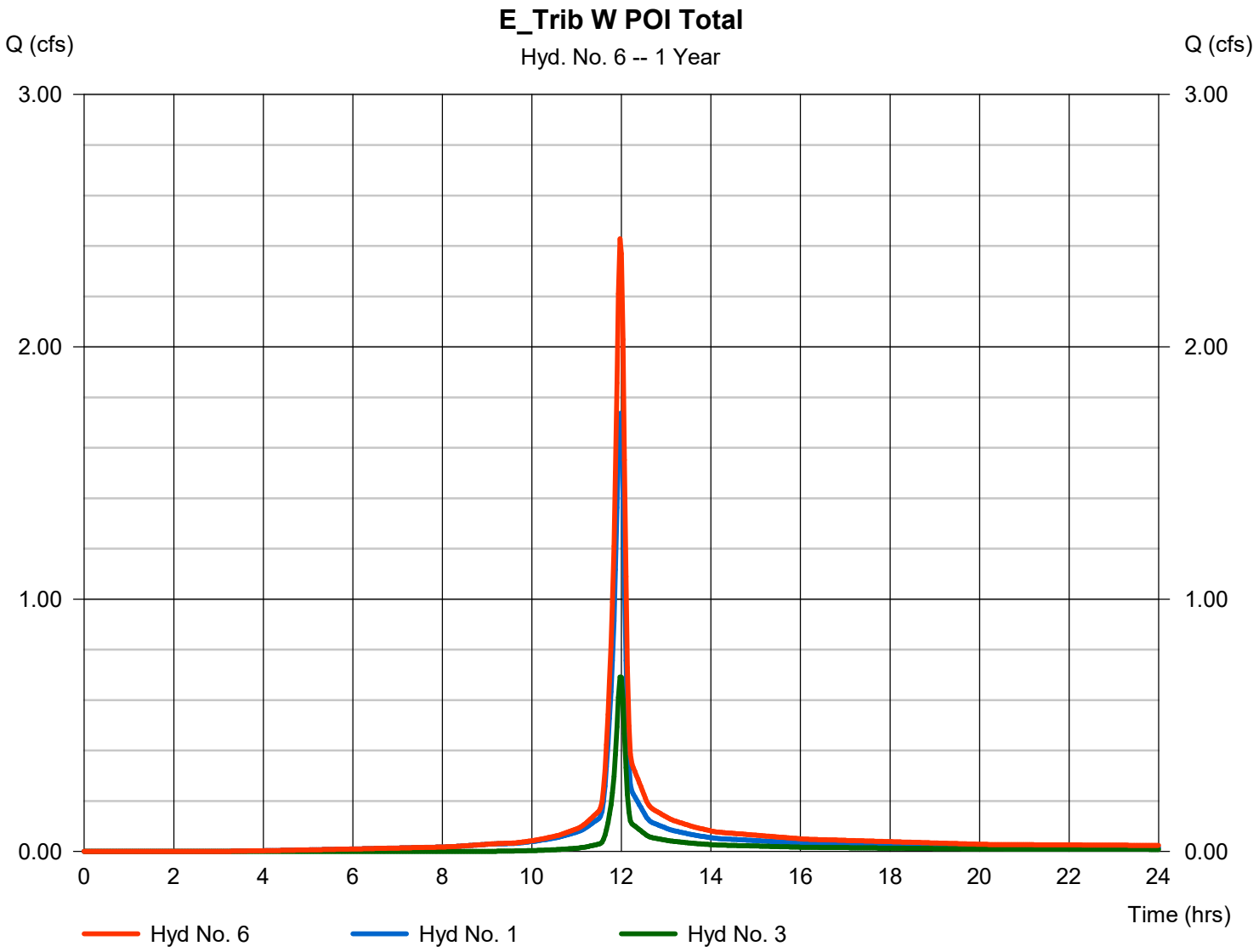
Total Travel Time, Tc ..... 18.00 min

Hydrograph Report

Hyd. No. 6

E_Trib W POI Total

Hydrograph type	=	Combine	Peak discharge	=	2.428 cfs
Storm frequency	=	1 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	5,848 cuft
Inflow hyds.	=	1, 3	Contrib. drain. area	=	0.940 ac

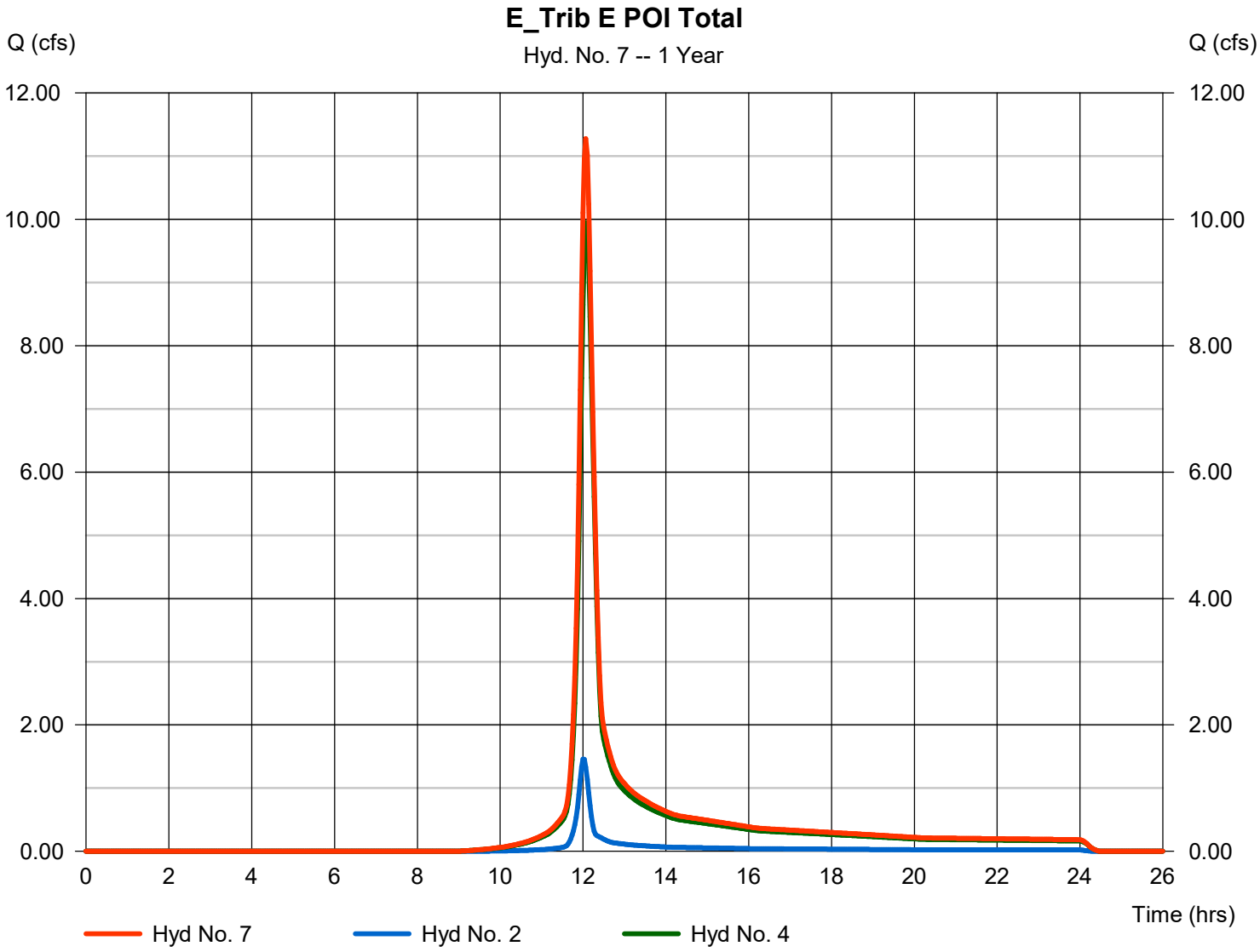


Hydrograph Report

Hyd. No. 7

E_Trib E POI Total

Hydrograph type	=	Combine	Peak discharge	=	11.28 cfs
Storm frequency	=	1 yrs	Time to peak	=	12.07 hrs
Time interval	=	2 min	Hyd. volume	=	35,115 cuft
Inflow hyds.	=	2, 4	Contrib. drain. area	=	8.230 ac



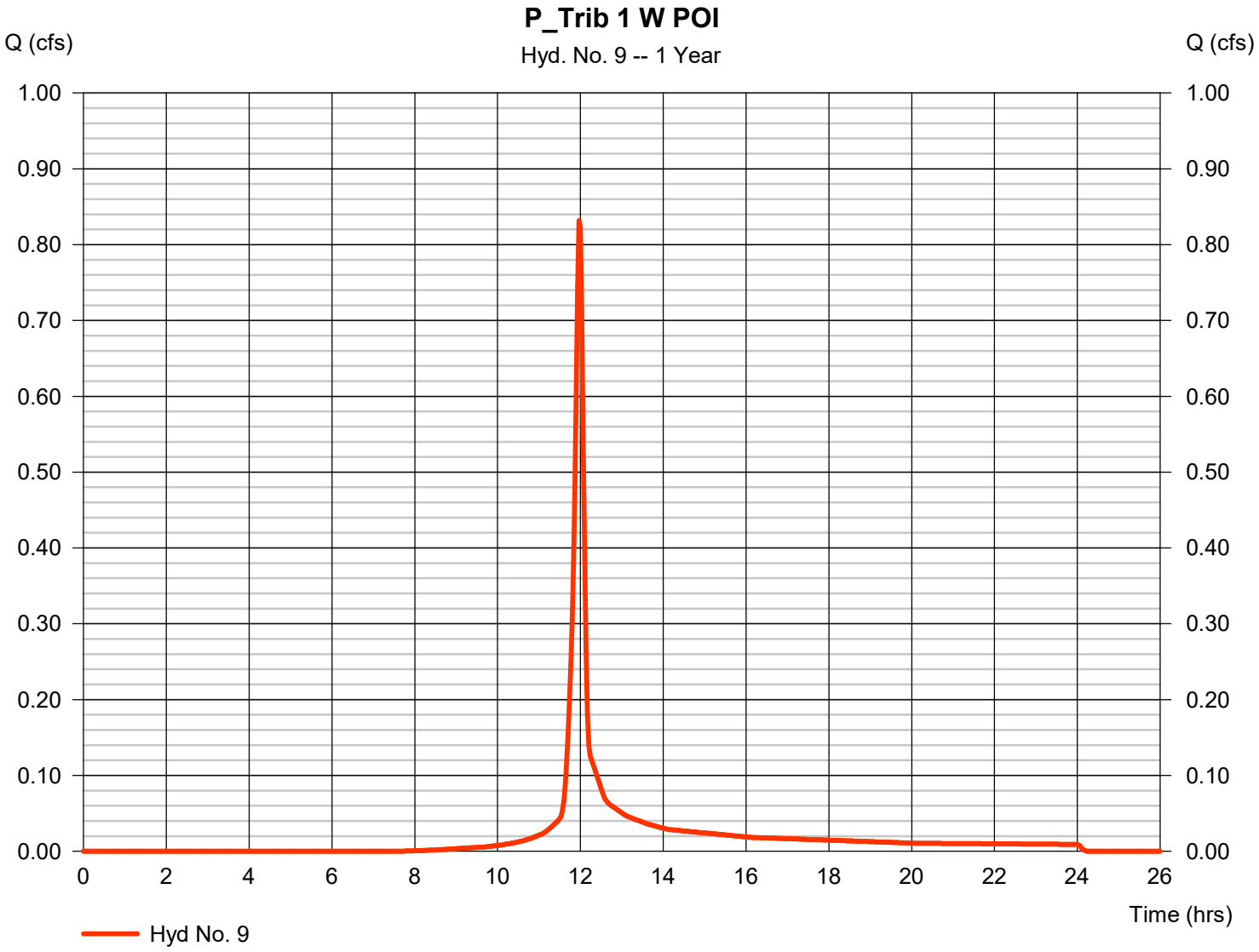
Hydrograph Report

Hyd. No. 9

P_Trib 1 W POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.832 cfs
Storm frequency	=	1 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	1,906 cuft
Drainage area	=	0.380 ac	Curve number	=	88*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	7.40 min
Total precip.	=	2.50 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.280 x 84) + (0.100 x 98)] / 0.380



TR55 Tc Worksheet

Hyd. No. 9

P_Trib 1 W POI

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.39		0.00		0.00		
Land slope (%)	= 4.80		0.00		0.00		
Travel Time (min)	**= 6.71**	**+**	**0.00**	**+**	**0.00**	**=**	**6.71**
Shallow Concentrated Flow							
Flow length (ft)	= 180.61		0.00		0.00		
Watercourse slope (%)	= 7.31		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=4.36		0.00		0.00		
Travel Time (min)	**= 0.69**	**+**	**0.00**	**+**	**0.00**	**=**	**0.69**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 7.40 min

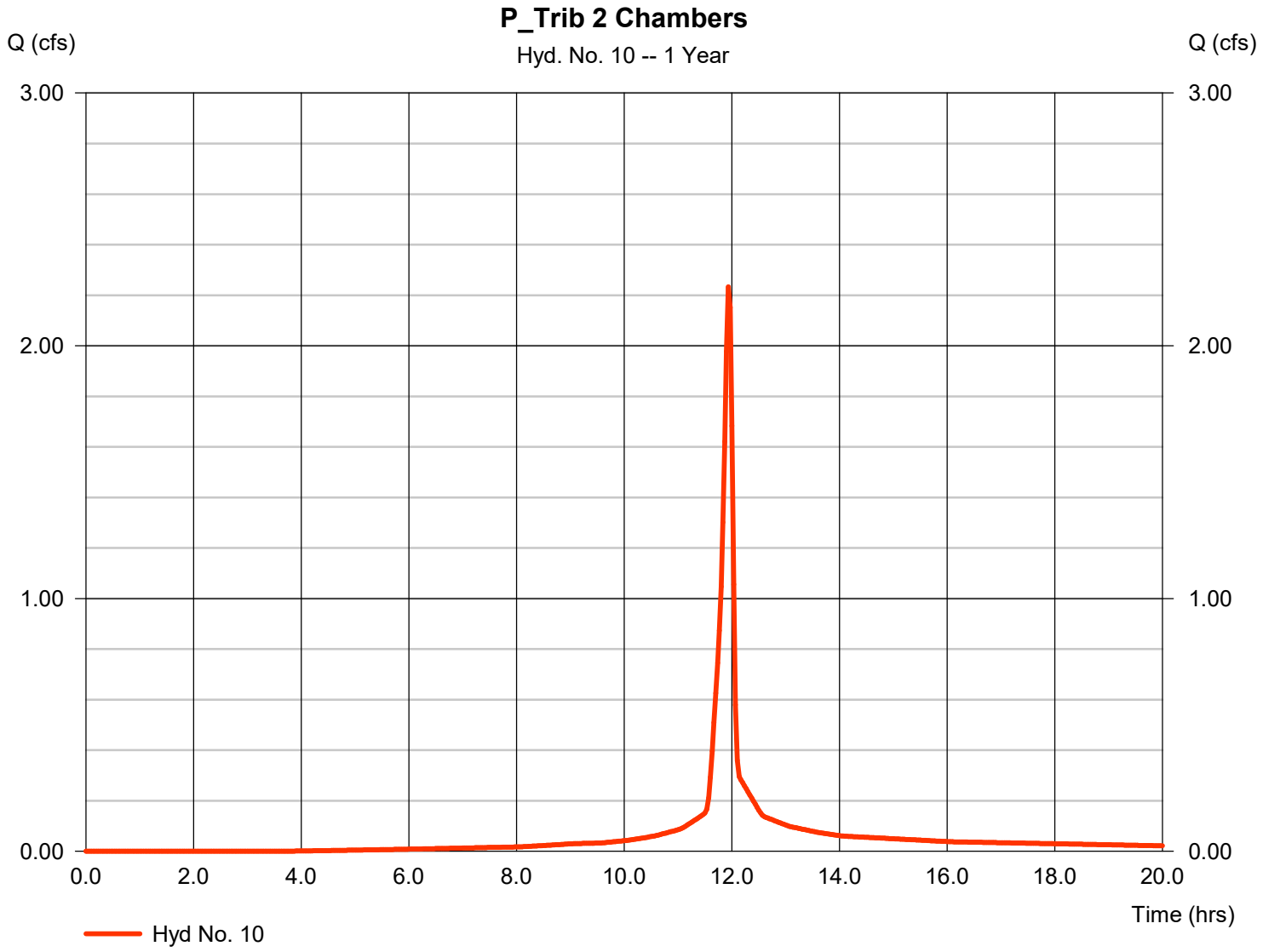
Hydrograph Report

Hyd. No. 10

P_Trib 2 Chambers

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.233 cfs
Storm frequency	=	1 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	4,810 cuft
Drainage area	=	0.720 ac	Curve number	=	95*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	3.30 min
Total precip.	=	2.50 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.130 x 84) + (0.590 x 98)] / 0.720



TR55 Tc Worksheet

Hyd. No. 10

P_Trib 2 Chambers

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 44.3		49.0		0.0		
Two-year 24-hr precip. (in)	= 3.39		3.39		0.00		
Land slope (%)	= 10.67		1.53		0.00		
Travel Time (min)	**= 2.54**	**+**	**0.74**	**+**	**0.00**	**=**	**3.28**
Shallow Concentrated Flow							
Flow length (ft)	= 0.00		0.00		0.00		
Watercourse slope (%)	= 0.00		0.00		0.00		
Surface description	= Paved		Paved		Paved		
Average velocity (ft/s)	=0.00		0.00		0.00		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 3.30 min

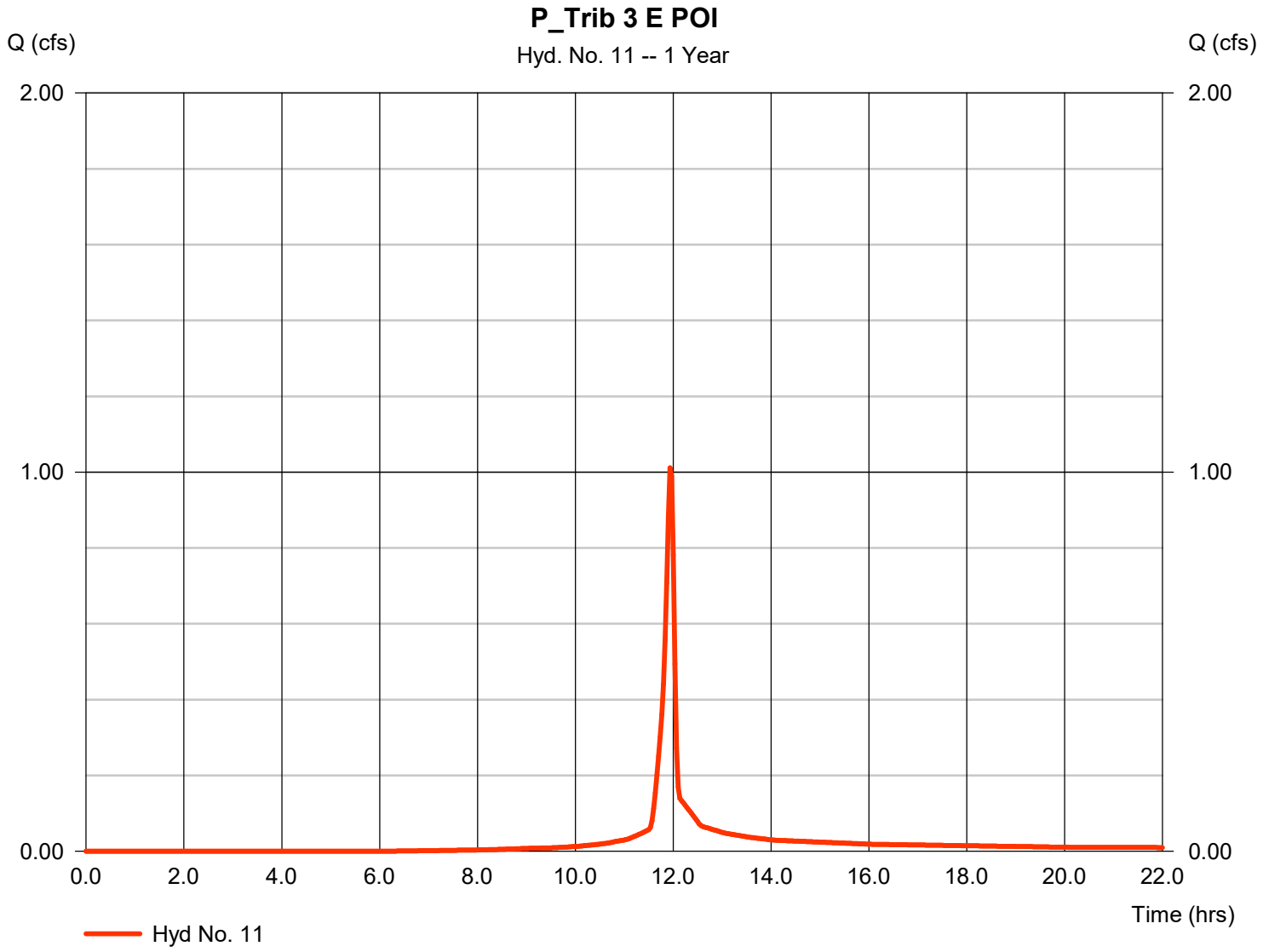
Hydrograph Report

Hyd. No. 11

P_Trib 3 E POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.012 cfs
Storm frequency	=	1 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	2,083 cuft
Drainage area	=	0.380 ac	Curve number	=	91*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	4.10 min
Total precip.	=	2.50 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.180 x 84) + (0.200 x 98)] / 0.380



TR55 Tc Worksheet

Hyd. No. 11

P_Trib 3 E POI

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 16.0		84.0		0.0		
Two-year 24-hr precip. (in)	= 3.39		3.39		0.00		
Land slope (%)	= 1.00		1.95		0.00		
Travel Time (min)	**= 2.90**	**+**	**1.03**	**+**	**0.00**	**=**	**3.94**
Shallow Concentrated Flow							
Flow length (ft)	= 41.60		0.00		0.00		
Watercourse slope (%)	= 4.59		0.00		0.00		
Surface description	= Paved		Paved		Paved		
Average velocity (ft/s)	=4.36		0.00		0.00		
Travel Time (min)	**= 0.16**	**+**	**0.00**	**+**	**0.00**	**=**	**0.16**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 4.10 min

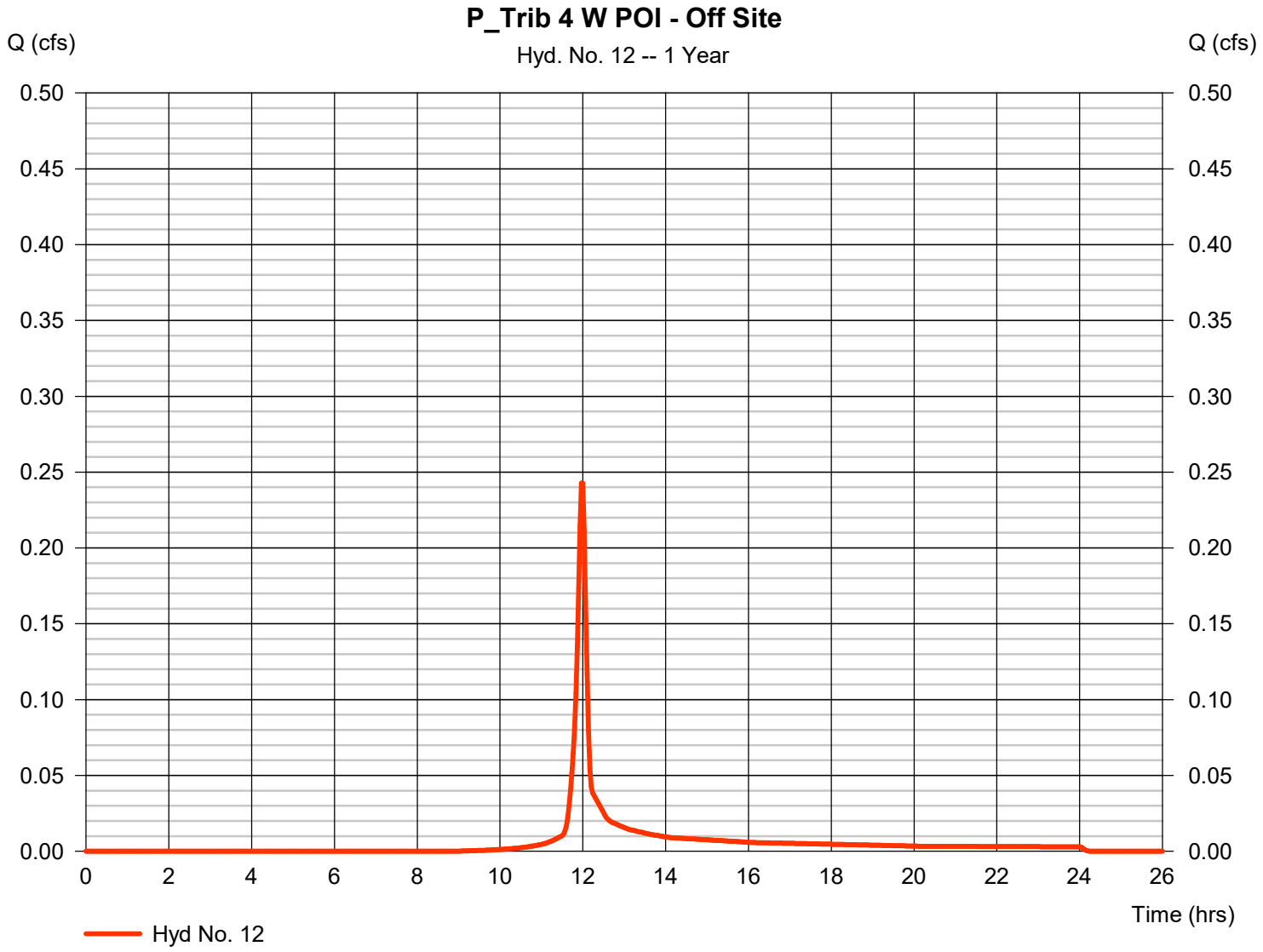
Hydrograph Report

Hyd. No. 12

P_Trib 4 W POI - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 0.243 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 556 cuft
Drainage area	= 0.130 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 8.90 min
Total precip.	= 2.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.120 x 84) + (0.010 x 98)] / 0.130



TR55 Tc Worksheet

Hyd. No. 12

P_Trib 4 W POI - Off Site

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.39		0.00		0.00		
Land slope (%)	= 3.00		0.00		0.00		
Travel Time (min)	**= 8.09**	**+**	**0.00**	**+**	**0.00**	**=**	**8.09**
Shallow Concentrated Flow							
Flow length (ft)	= 140.69		0.00		0.00		
Watercourse slope (%)	= 3.55		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=3.04		0.00		0.00		
Travel Time (min)	**= 0.77**	**+**	**0.00**	**+**	**0.00**	**=**	**0.77**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 8.90 min

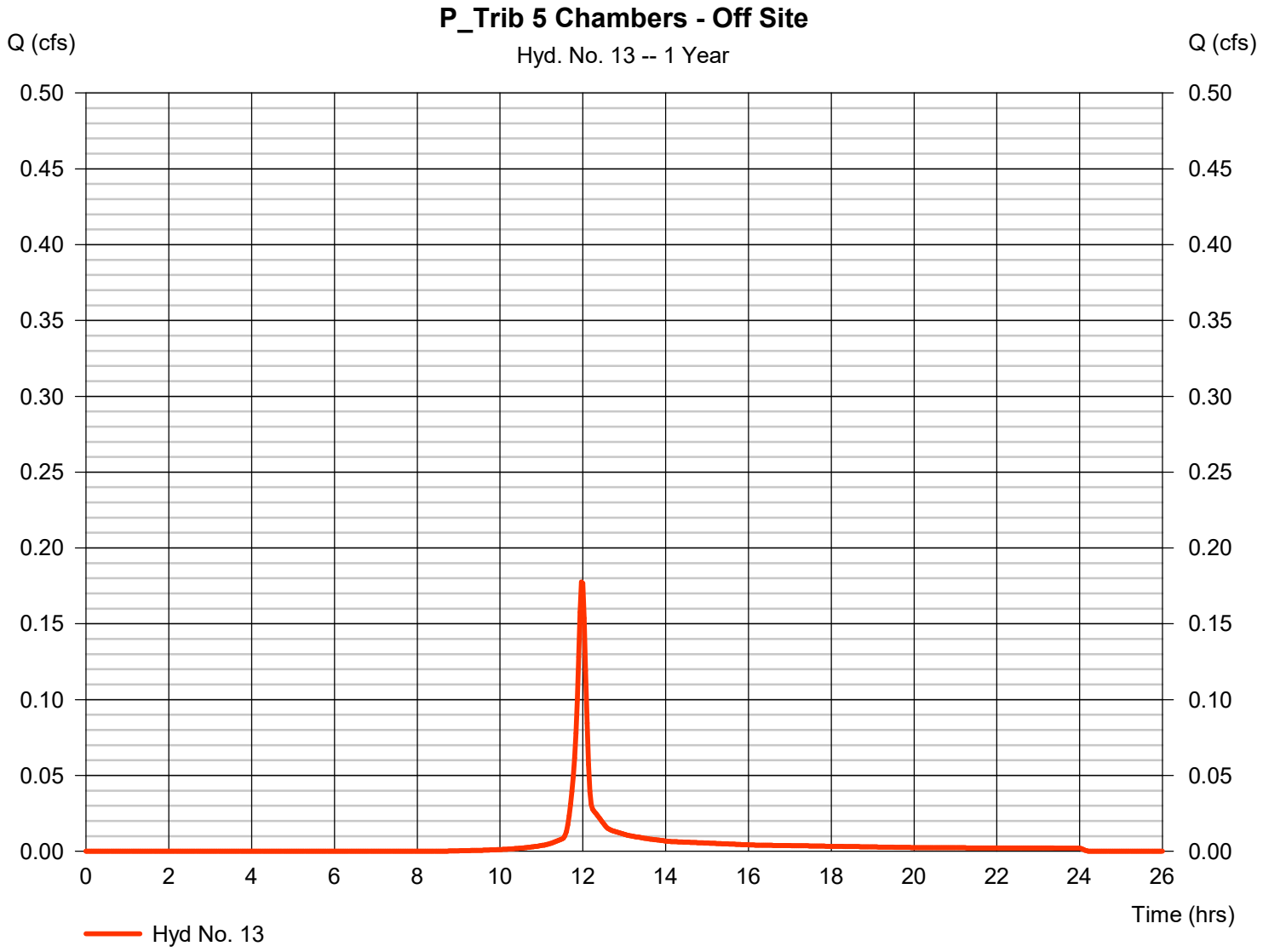
Hydrograph Report

Hyd. No. 13

P_Trib 5 Chambers - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 0.178 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 406 cuft
Drainage area	= 0.090 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 9.80 min
Total precip.	= 2.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.080 x 84) + (0.010 x 98)] / 0.090



TR55 Tc Worksheet

Hyd. No. 13

P_Trib 5 Chambers - Off Site

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.39		0.00		0.00		
Land slope (%)	= 3.25		0.00		0.00		
Travel Time (min)	**= 7.84**	**+**	**0.00**	**+**	**0.00**	**=**	**7.84**
Shallow Concentrated Flow							
Flow length (ft)	= 347.57		0.00		0.00		
Watercourse slope (%)	= 3.52		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=3.03		0.00		0.00		
Travel Time (min)	**= 1.91**	**+**	**0.00**	**+**	**0.00**	**=**	**1.91**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**
Total Travel Time, Tc							**9.80 min**

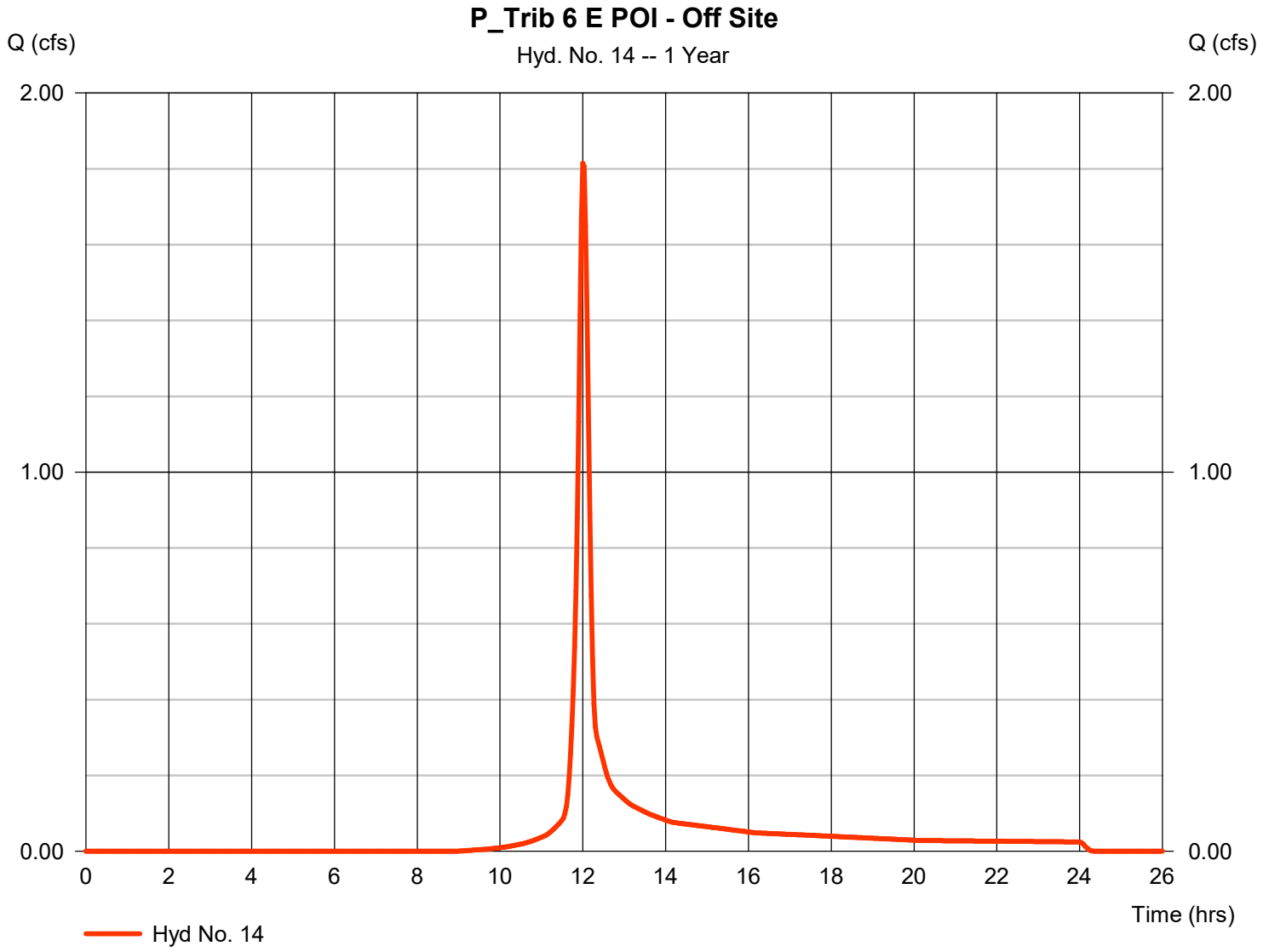
Hydrograph Report

Hyd. No. 14

P_Trib 6 E POI - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 1.815 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 4,720 cuft
Drainage area	= 1.070 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 10.10 min
Total precip.	= 2.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.990 x 84) + (0.080 x 98)] / 1.070



TR55 Tc Worksheet

Hyd. No. 14

P_Trib 6 E POI - Off Site

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.39		0.00		0.00		
Land slope (%)	= 2.50		0.00		0.00		
Travel Time (min)	**= 8.71**	**+**	**0.00**	**+**	**0.00**	**=**	**8.71**
Shallow Concentrated Flow							
Flow length (ft)	= 347.57		0.00		0.00		
Watercourse slope (%)	= 6.19		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=4.01		0.00		0.00		
Travel Time (min)	**= 1.44**	**+**	**0.00**	**+**	**0.00**	**=**	**1.44**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**
Total Travel Time, Tc							**10.10 min**

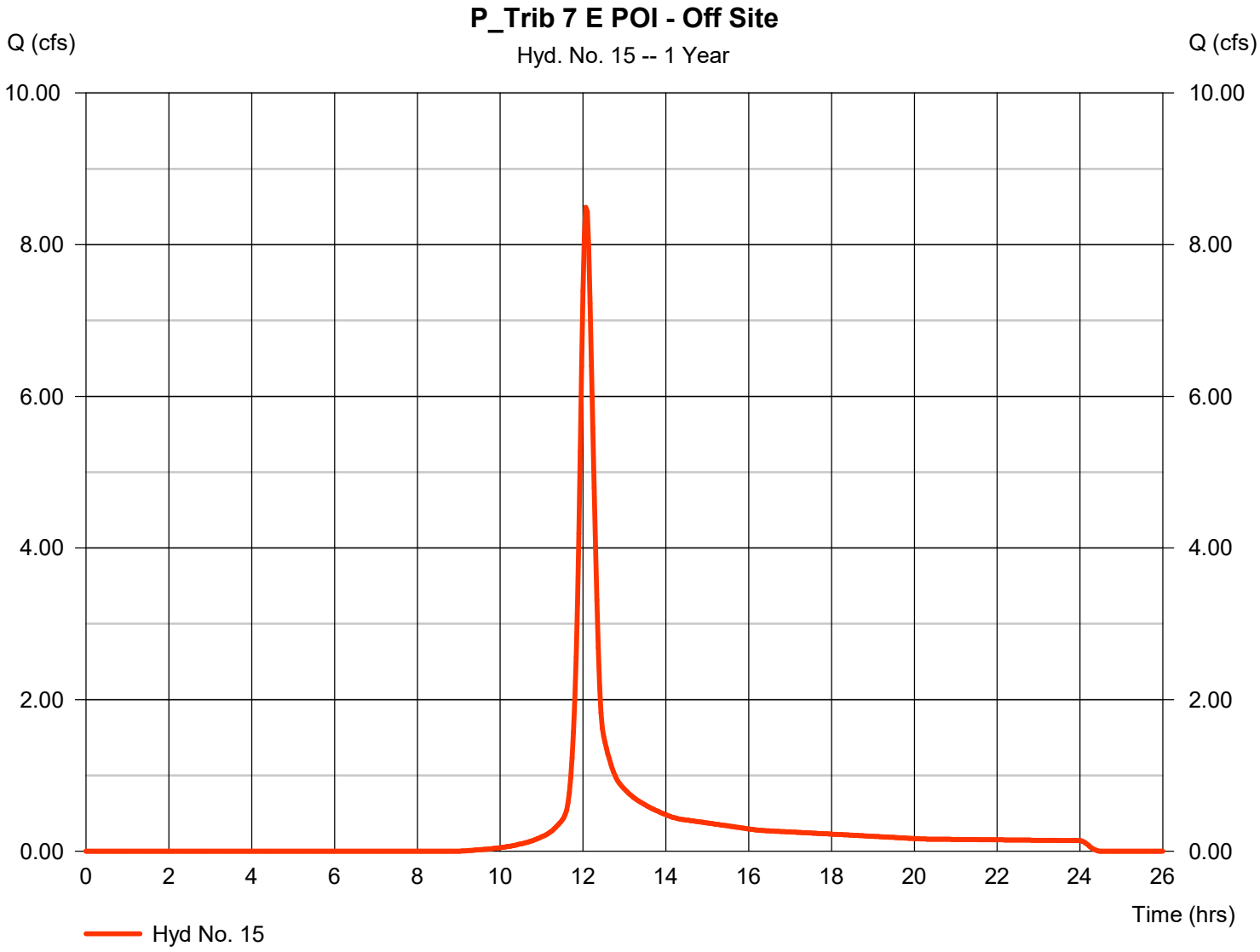
Hydrograph Report

Hyd. No. 15

P_Trib 7 E POI - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 8.494 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 26,736 cuft
Drainage area	= 6.250 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.00 min
Total precip.	= 2.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(5.940 x 84) + (0.310 x 98)] / 6.250



TR55 Tc Worksheet

Hyd. No. 15

P_Trib 7 E POI - Off Site

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.39		0.00		0.00		
Land slope (%)	= 2.00		0.00		0.00		
Travel Time (min)	**= 9.52**	**+**	**0.00**	**+**	**0.00**	**=**	**9.52**
Shallow Concentrated Flow							
Flow length (ft)	= 831.49		0.00		0.00		
Watercourse slope (%)	= 1.02		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=1.63		0.00		0.00		
Travel Time (min)	**= 8.50**	**+**	**0.00**	**+**	**0.00**	**=**	**8.50**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

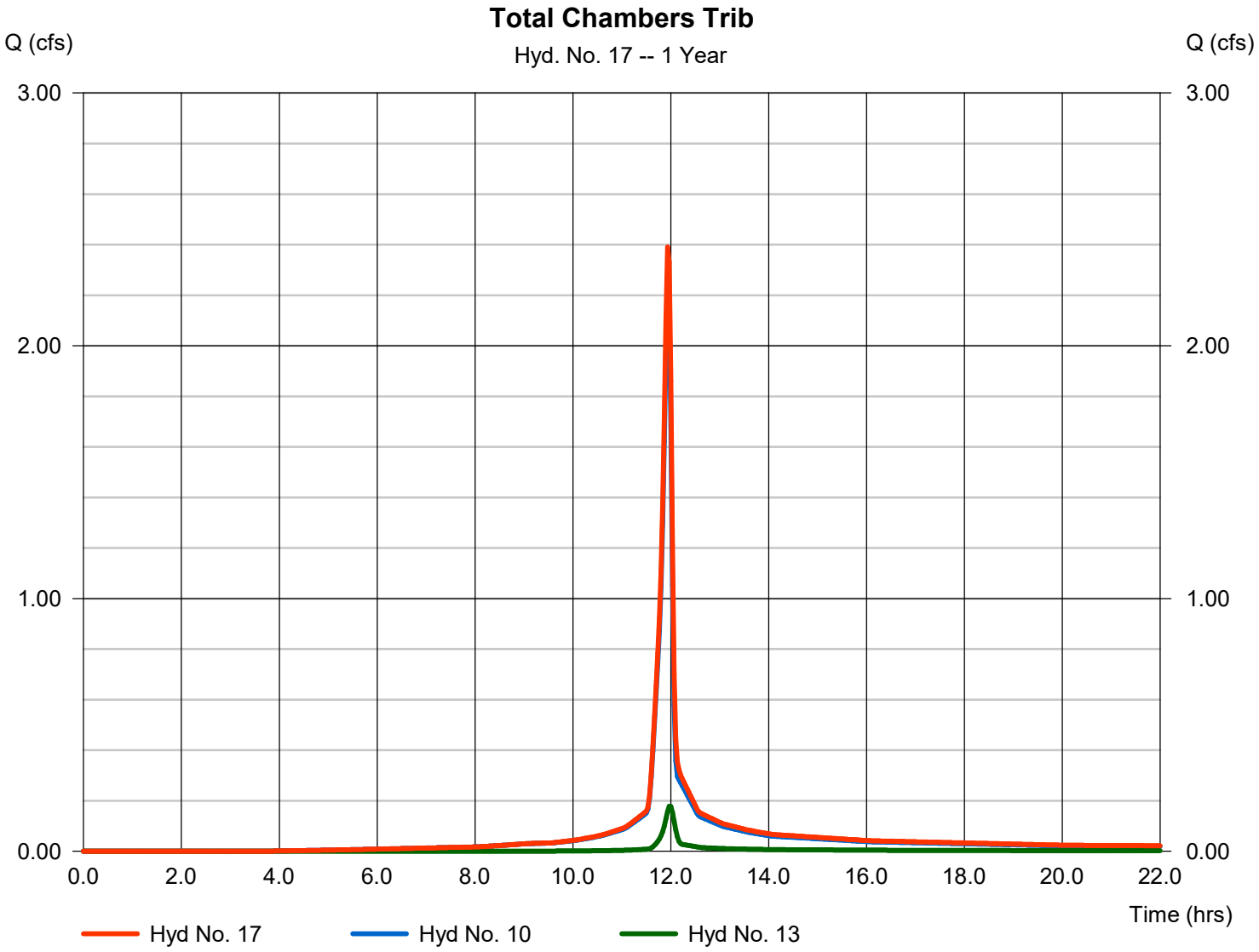
Total Travel Time, Tc ..... 18.00 min

Hydrograph Report

Hyd. No. 17

Total Chambers Trib

Hydrograph type	= Combine	Peak discharge	= 2.390 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 5,217 cuft
Inflow hyds.	= 10, 13	Contrib. drain. area	= 0.810 ac



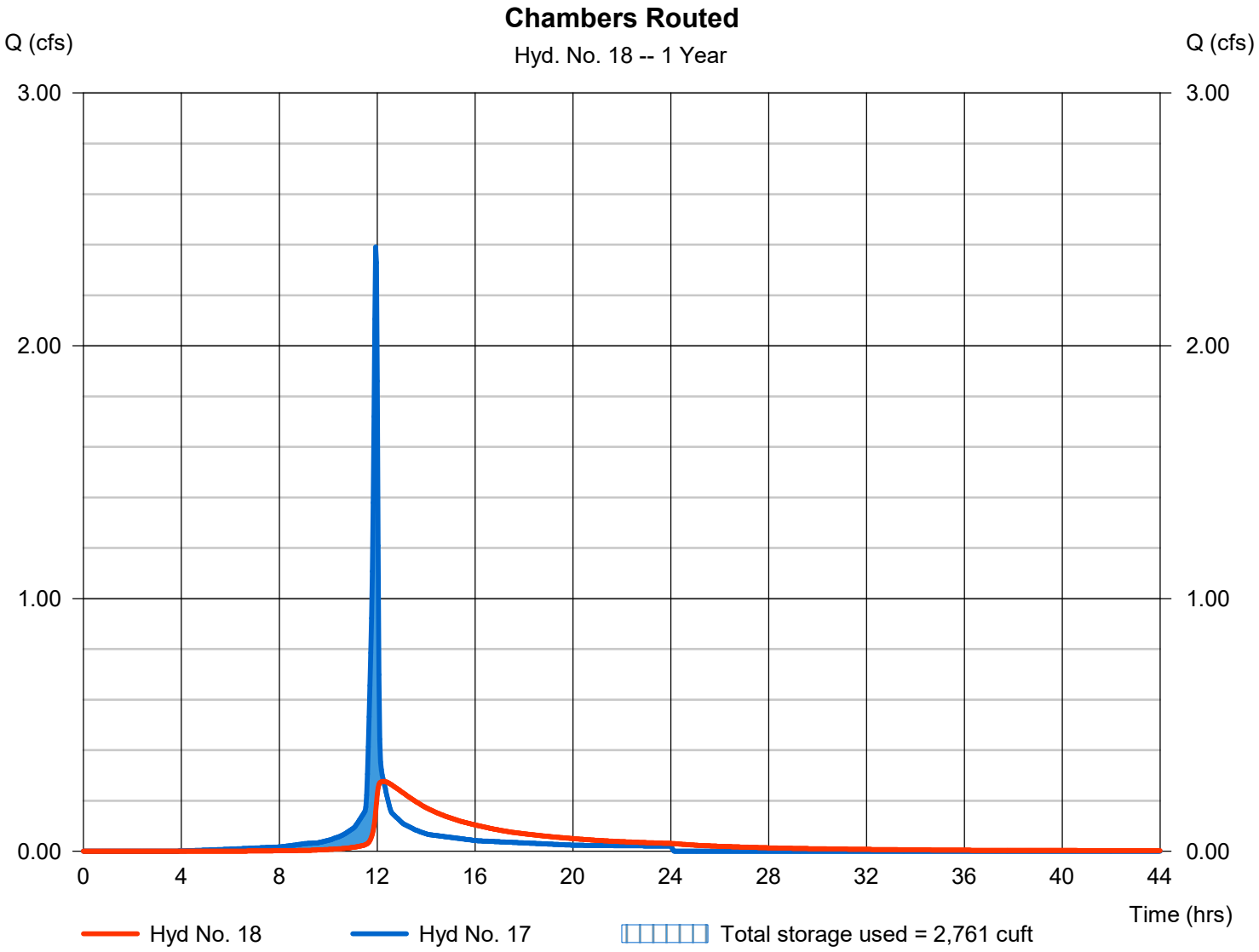
Hydrograph Report

Hyd. No. 18

Chambers Routed

Hydrograph type	=	Reservoir	Peak discharge	=	0.276 cfs
Storm frequency	=	1 yrs	Time to peak	=	12.27 hrs
Time interval	=	2 min	Hyd. volume	=	5,158 cuft
Inflow hyd. No.	=	17 - Total Chambers Trib	Max. Elevation	=	449.71 ft
Reservoir name	=	SC-310 Chambers	Max. Storage	=	2,761 cuft

Storage Indication method used.



Pond No. 1 - SC-310 Chambers

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	449.27	n/a	0	0
0.33	449.60	n/a	2,129	2,129
0.67	449.94	n/a	1,967	4,096
1.00	450.27	n/a	1,707	5,803
1.33	450.60	n/a	1,208	7,011
1.83	451.10	n/a	1,496	8,507

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	21.00	0.00	0.00
Span (in)	= 18.00	3.50	0.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 449.27	449.27	0.00	0.00
Length (ft)	= 83.32	0.00	0.00	0.00
Slope (%)	= 0.28	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 4.00	0.00	0.00	0.00
Crest El. (ft)	= 451.02	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	449.27	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.03	213	449.30	0.00 oc	0.00 ic	---	---	0.00	---	---	---	---	---	0.004
0.07	426	449.34	0.01 oc	0.01 ic	---	---	0.00	---	---	---	---	---	0.012
0.10	639	449.37	0.02 oc	0.02 ic	---	---	0.00	---	---	---	---	---	0.023
0.13	852	449.40	0.04 oc	0.04 ic	---	---	0.00	---	---	---	---	---	0.039
0.17	1,065	449.43	0.06 oc	0.06 ic	---	---	0.00	---	---	---	---	---	0.057
0.20	1,277	449.47	0.08 oc	0.08 ic	---	---	0.00	---	---	---	---	---	0.076
0.23	1,490	449.50	0.10 oc	0.10 ic	---	---	0.00	---	---	---	---	---	0.099
0.26	1,703	449.53	0.13 oc	0.12 ic	---	---	0.00	---	---	---	---	---	0.121
0.30	1,916	449.57	0.16 oc	0.15 ic	---	---	0.00	---	---	---	---	---	0.147
0.33	2,129	449.60	0.18 oc	0.17 ic	---	---	0.00	---	---	---	---	---	0.175
0.36	2,326	449.63	0.21 oc	0.20 ic	---	---	0.00	---	---	---	---	---	0.205
0.40	2,522	449.67	0.25 oc	0.24 ic	---	---	0.00	---	---	---	---	---	0.236
0.43	2,719	449.70	0.29 oc	0.27 ic	---	---	0.00	---	---	---	---	---	0.268
0.47	2,916	449.74	0.30 oc	0.30 ic	---	---	0.00	---	---	---	---	---	0.305
0.50	3,113	449.77	0.35 oc	0.34 ic	---	---	0.00	---	---	---	---	---	0.342
0.53	3,309	449.80	0.39 oc	0.38 ic	---	---	0.00	---	---	---	---	---	0.377
0.57	3,506	449.84	0.42 oc	0.42 ic	---	---	0.00	---	---	---	---	---	0.416
0.60	3,703	449.87	0.47 oc	0.46 ic	---	---	0.00	---	---	---	---	---	0.458
0.64	3,899	449.91	0.52 oc	0.50 ic	---	---	0.00	---	---	---	---	---	0.495
0.67	4,096	449.94	0.55 oc	0.54 ic	---	---	0.00	---	---	---	---	---	0.542
0.70	4,267	449.97	0.61 oc	0.58 ic	---	---	0.00	---	---	---	---	---	0.580
0.74	4,437	450.01	0.64 oc	0.63 ic	---	---	0.00	---	---	---	---	---	0.627
0.77	4,608	450.04	0.67 oc	0.67 ic	---	---	0.00	---	---	---	---	---	0.669
0.80	4,779	450.07	0.73 oc	0.71 ic	---	---	0.00	---	---	---	---	---	0.713
0.84	4,950	450.10	0.77 oc	0.76 ic	---	---	0.00	---	---	---	---	---	0.758
0.87	5,120	450.14	0.84 oc	0.80 ic	---	---	0.00	---	---	---	---	---	0.803
0.90	5,291	450.17	0.87 oc	0.85 ic	---	---	0.00	---	---	---	---	---	0.849
0.93	5,462	450.20	0.91 oc	0.90 ic	---	---	0.00	---	---	---	---	---	0.896
0.97	5,632	450.24	0.95 oc	0.94 ic	---	---	0.00	---	---	---	---	---	0.944
1.00	5,803	450.27	1.02 oc	0.99 ic	---	---	0.00	---	---	---	---	---	0.993
1.03	5,924	450.30	1.06 oc	1.04 ic	---	---	0.00	---	---	---	---	---	1.043
1.07	6,045	450.34	1.10 oc	1.09 ic	---	---	0.00	---	---	---	---	---	1.093
1.10	6,165	450.37	1.18 oc	1.14 ic	---	---	0.00	---	---	---	---	---	1.144
1.13	6,286	450.40	1.22 oc	1.20 ic	---	---	0.00	---	---	---	---	---	1.196
1.17	6,407	450.43	1.26 oc	1.25 ic	---	---	0.00	---	---	---	---	---	1.249
1.20	6,528	450.47	1.30 oc	1.30 ic	---	---	0.00	---	---	---	---	---	1.302
1.23	6,649	450.50	1.39 oc	1.36 ic	---	---	0.00	---	---	---	---	---	1.356

Continues on next page...

SC-310 Chambers

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
1.26	6,769	450.53	1.43 oc	1.41 ic	---	---	0.00	---	---	---	---	---	1.411
1.30	6,890	450.57	1.48 oc	1.47 ic	---	---	0.00	---	---	---	---	---	1.467
1.33	7,011	450.60	1.57 oc	1.52 ic	---	---	0.00	---	---	---	---	---	1.523
1.38	7,161	450.65	1.61 oc	1.61 ic	---	---	0.00	---	---	---	---	---	1.610
1.43	7,310	450.70	1.70 oc	1.70 ic	---	---	0.00	---	---	---	---	---	1.698
1.48	7,460	450.75	1.79 oc	1.79 ic	---	---	0.00	---	---	---	---	---	1.788
1.53	7,609	450.80	1.88 oc	1.88 ic	---	---	0.00	---	---	---	---	---	1.879
1.58	7,759	450.85	1.98 oc	1.97 ic	---	---	0.00	---	---	---	---	---	1.972
1.63	7,909	450.90	2.07 oc	2.07 ic	---	---	0.00	---	---	---	---	---	2.066
1.68	8,058	450.95	2.21 oc	2.16 ic	---	---	0.00	---	---	---	---	---	2.162
1.73	8,208	451.00	2.30 oc	2.26 ic	---	---	0.00	---	---	---	---	---	2.259
1.78	8,357	451.05	2.43 oc	2.34 ic	---	---	0.07	---	---	---	---	---	2.407
1.83	8,507	451.10	2.66 oc	2.35 ic	---	---	0.30	---	---	---	---	---	2.654

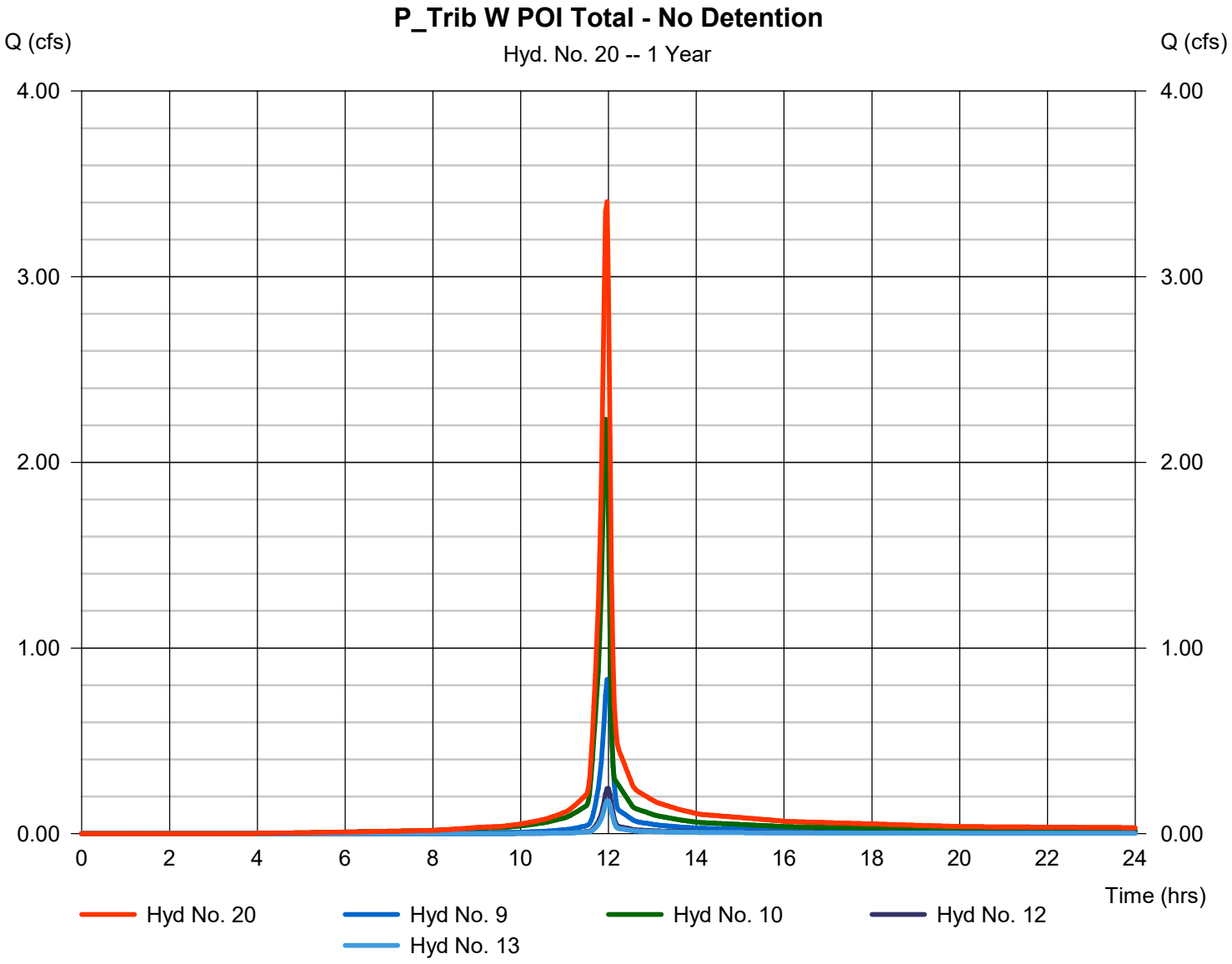
...End

Hydrograph Report

Hyd. No. 20

P_Trib W POI Total - No Detention

Hydrograph type	= Combine	Peak discharge	= 3.403 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 7,678 cuft
Inflow hyds.	= 9, 10, 12, 13	Contrib. drain. area	= 1.320 ac

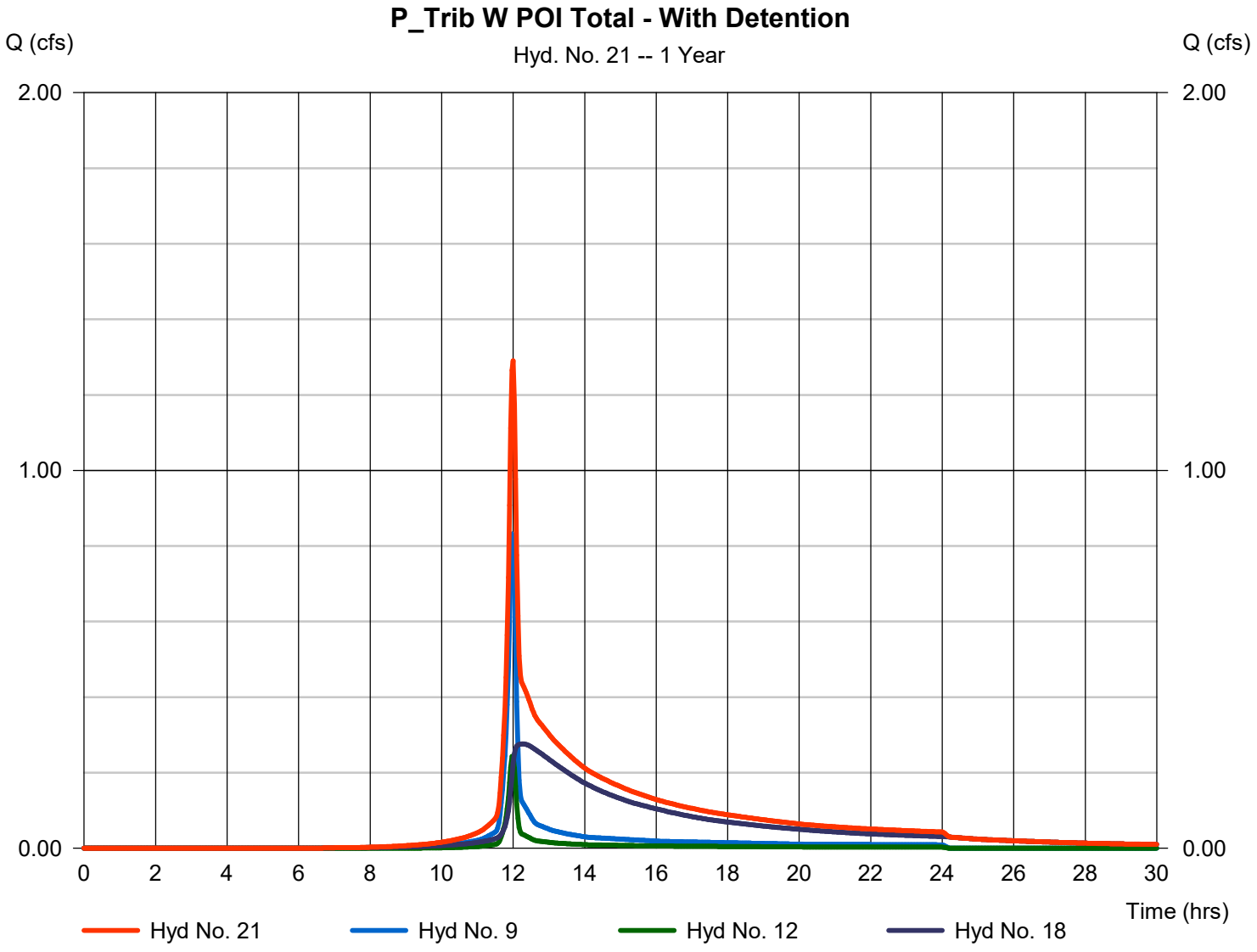


Hydrograph Report

Hyd. No. 21

P_Trib W POI Total - With Detention

Hydrograph type	= Combine	Peak discharge	= 1.291 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 7,620 cuft
Inflow hyds.	= 9, 12, 18	Contrib. drain. area	= 0.510 ac

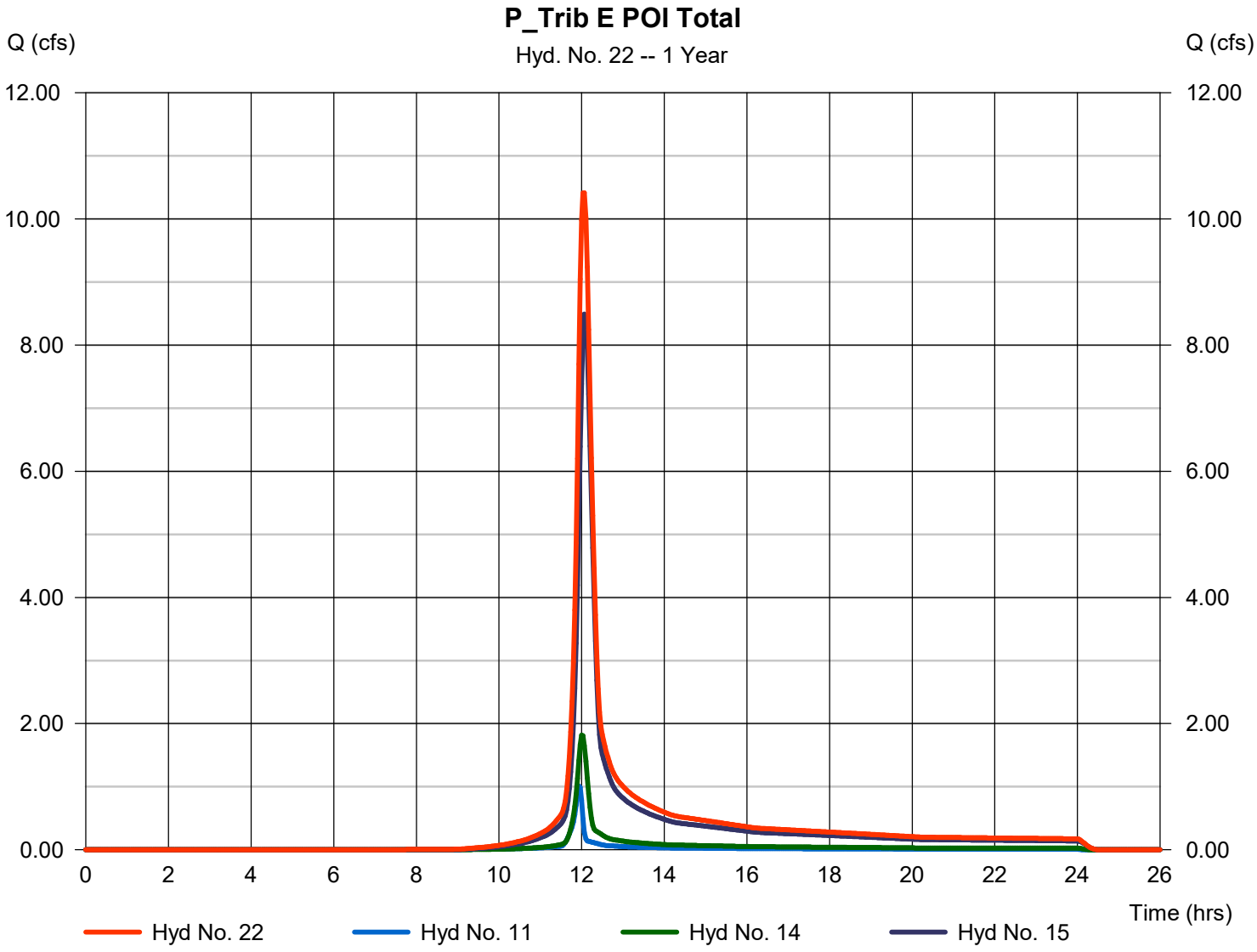


Hydrograph Report

Hyd. No. 22

P_Trib E POI Total

Hydrograph type	= Combine	Peak discharge	= 10.42 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 33,539 cuft
Inflow hyds.	= 11, 14, 15	Contrib. drain. area	= 7.700 ac



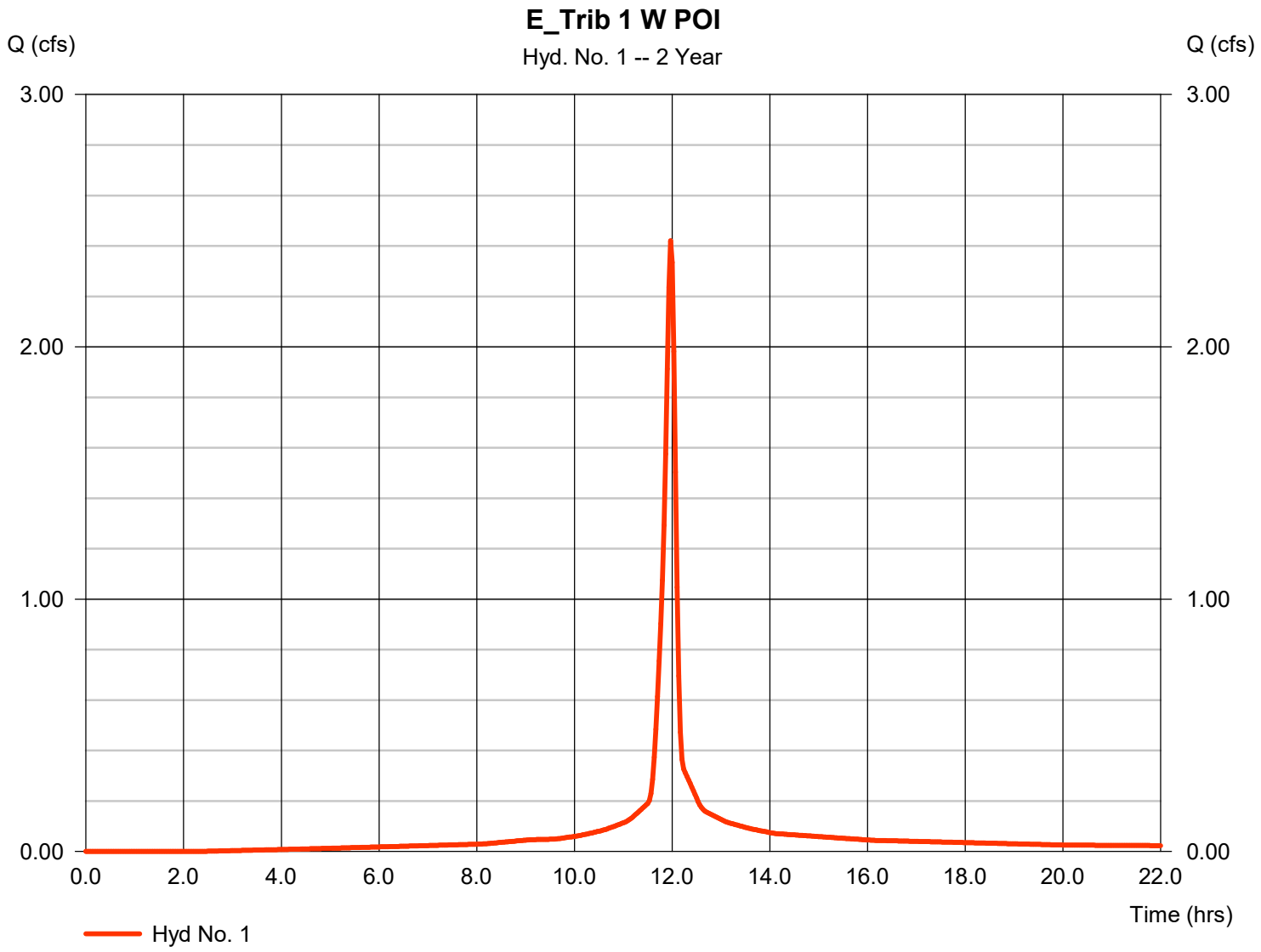
Hydrograph Report

Hyd. No. 1

E_Trib 1 W POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.421 cfs
Storm frequency	=	2 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	6,076 cuft
Drainage area	=	0.570 ac	Curve number	=	96*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	7.50 min
Total precip.	=	3.39 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.070 x 84) + (0.500 x 98)] / 0.570



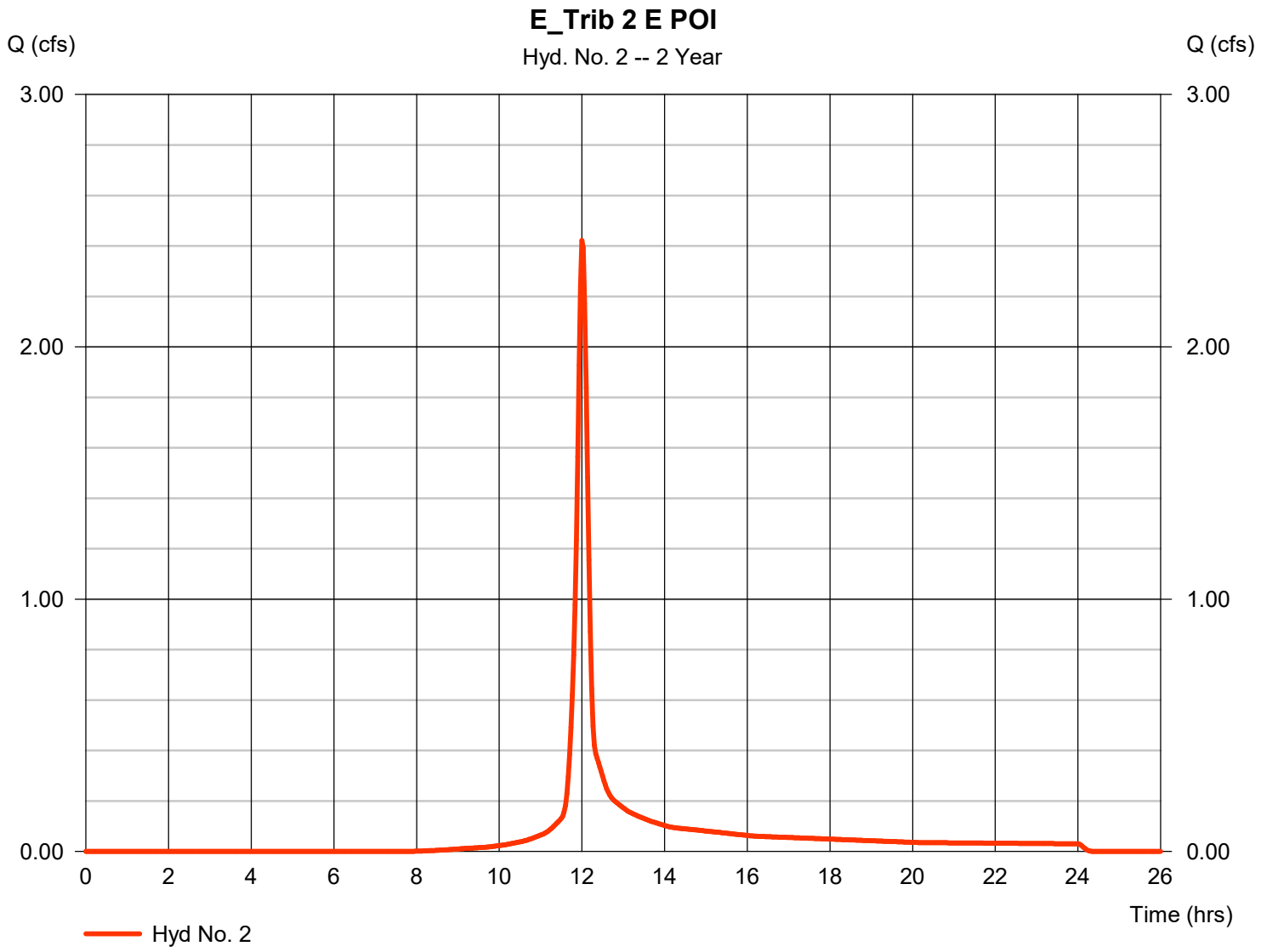
Hydrograph Report

Hyd. No. 2

E_Trib 2 E POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.421 cfs
Storm frequency	=	2 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	6,277 cuft
Drainage area	=	0.910 ac	Curve number	=	84*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	10.50 min
Total precip.	=	3.39 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.900 x 84) + (0.010 x 98)] / 0.910



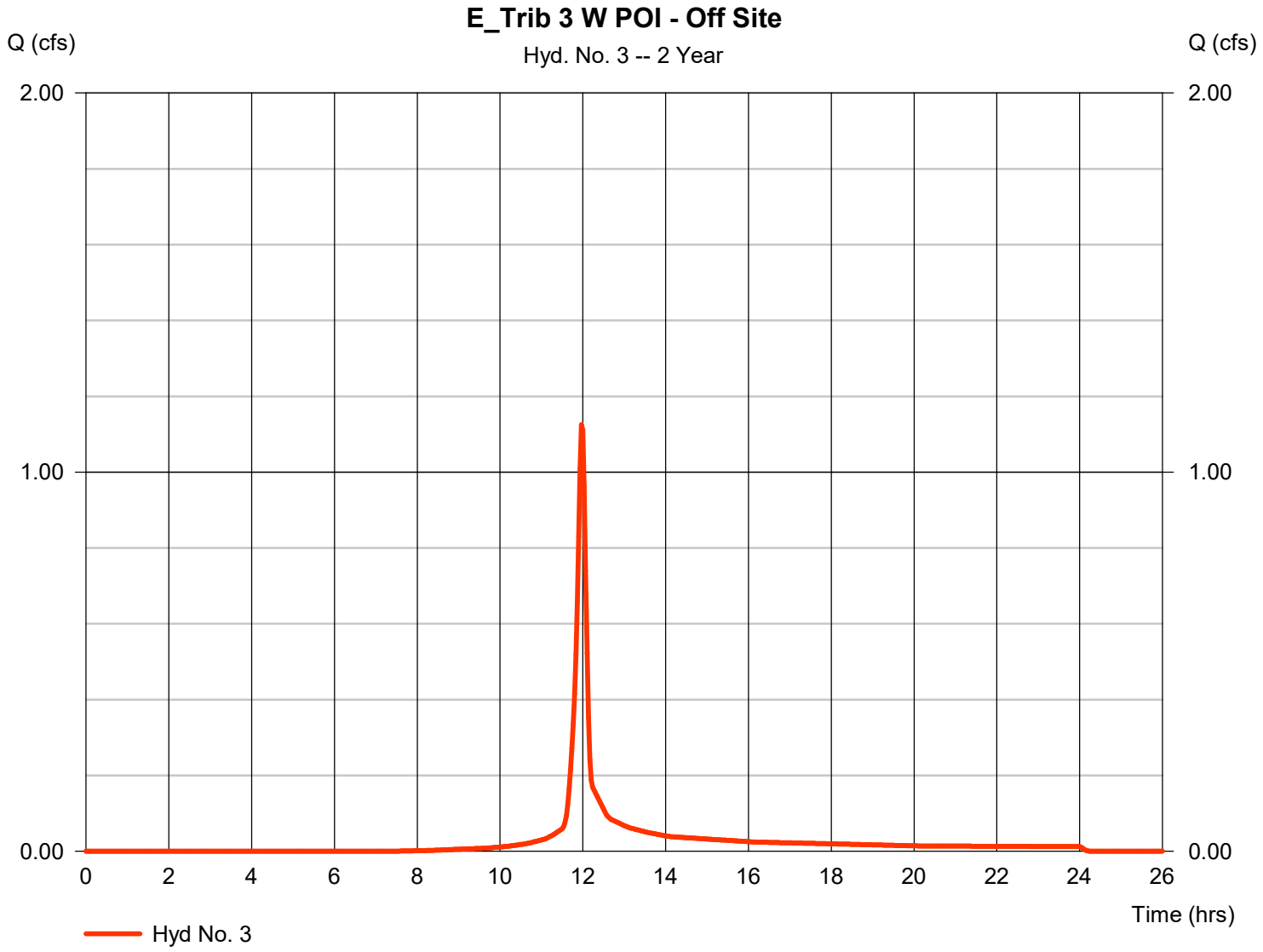
Hydrograph Report

Hyd. No. 3

E_Trib 3 W POI - Off Site

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.125 cfs
Storm frequency	=	2 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	2,580 cuft
Drainage area	=	0.370 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	8.90 min
Total precip.	=	3.39 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.340 x 84) + (0.030 x 98)] / 0.370



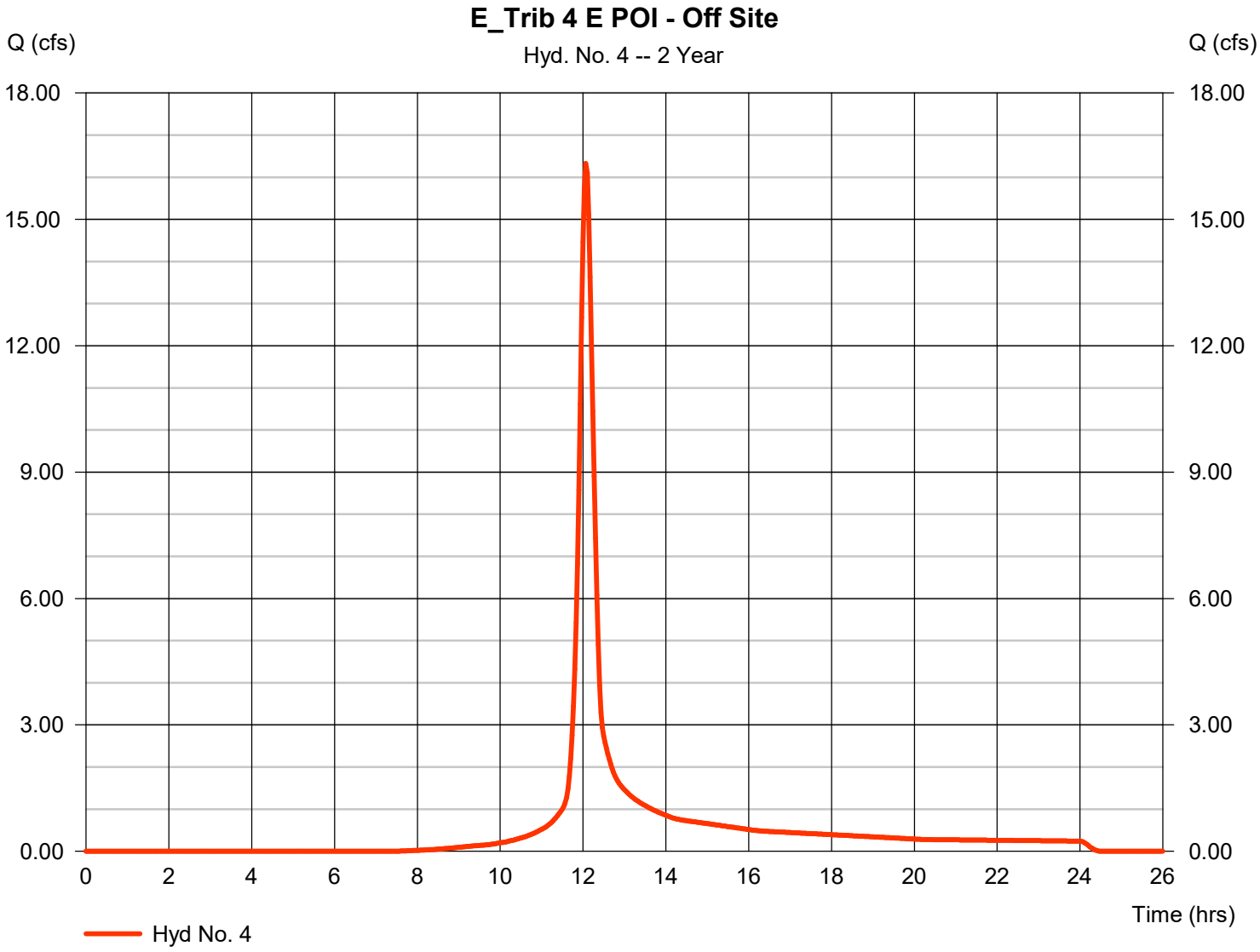
Hydrograph Report

Hyd. No. 4

E_Trib 4 E POI - Off Site

Hydrograph type	=	SCS Runoff	Peak discharge	=	16.33 cfs
Storm frequency	=	2 yrs	Time to peak	=	12.07 hrs
Time interval	=	2 min	Hyd. volume	=	51,041 cuft
Drainage area	=	7.320 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	18.00 min
Total precip.	=	3.39 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(6.930 x 84) + (0.390 x 98)] / 7.320

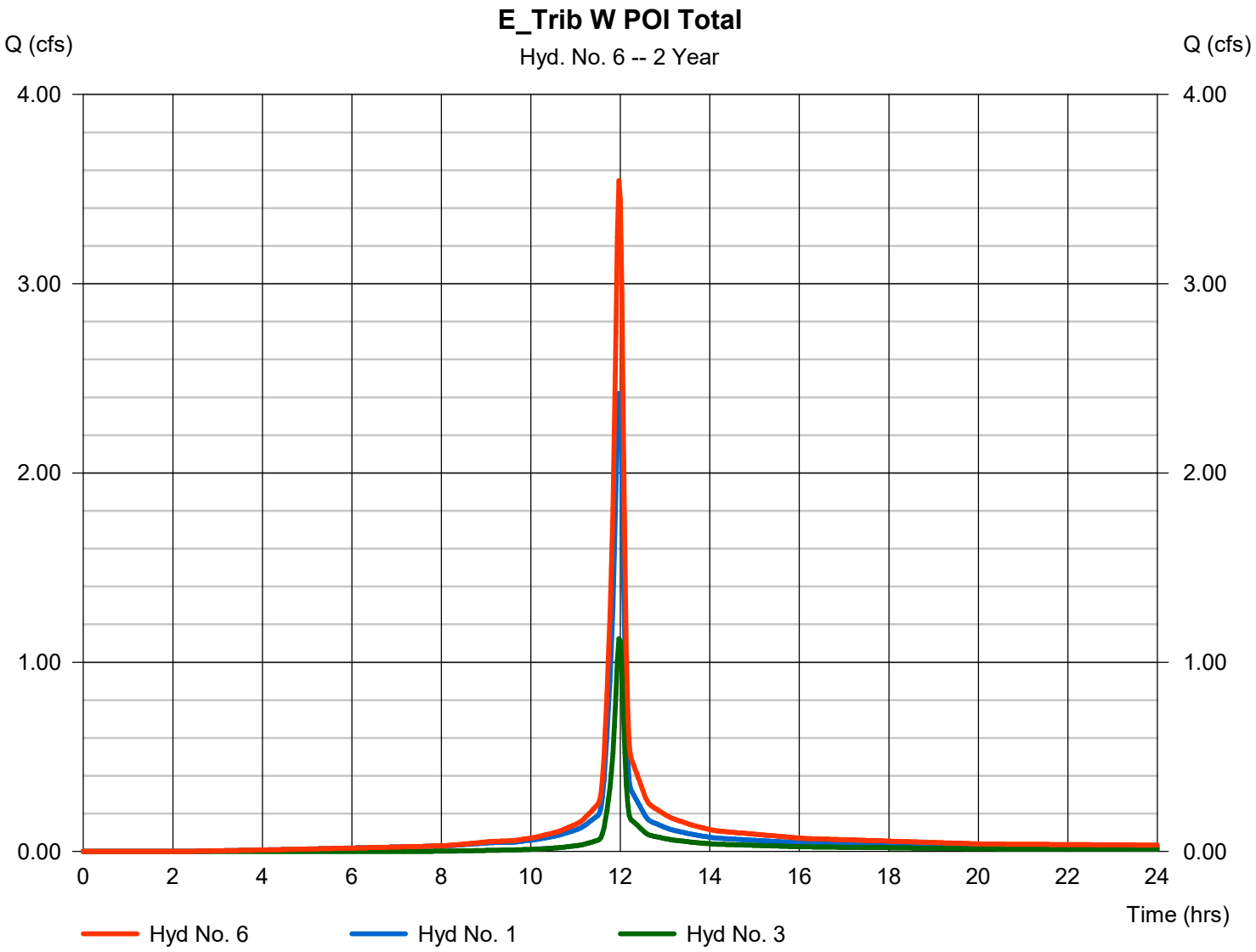


Hydrograph Report

Hyd. No. 6

E_Trib W POI Total

Hydrograph type	=	Combine	Peak discharge	=	3.545 cfs
Storm frequency	=	2 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	8,656 cuft
Inflow hyds.	=	1, 3	Contrib. drain. area	=	0.940 ac

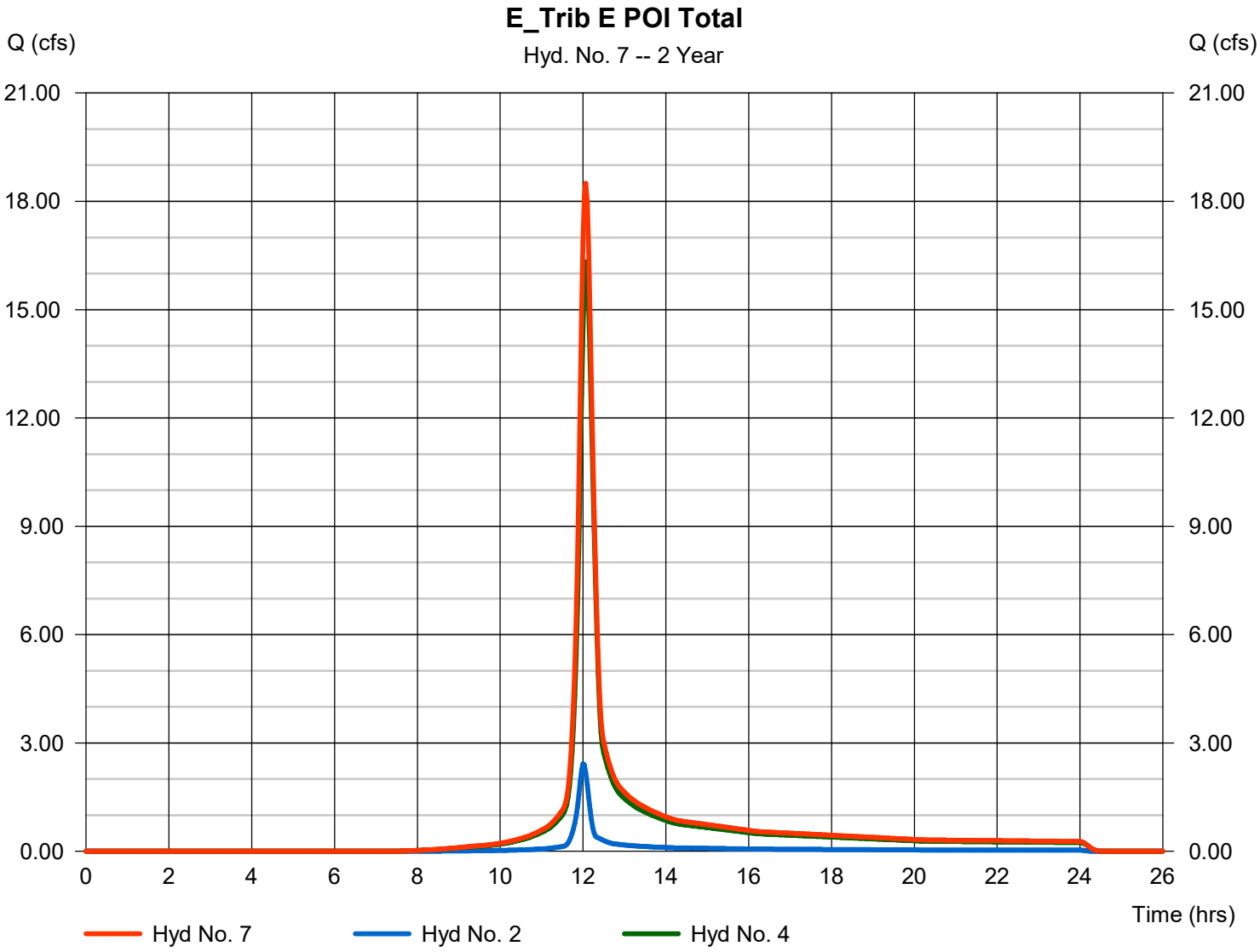


Hydrograph Report

Hyd. No. 7

E_Trib E POI Total

Hydrograph type	= Combine	Peak discharge	= 18.50 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 57,318 cuft
Inflow hyds.	= 2, 4	Contrib. drain. area	= 8.230 ac



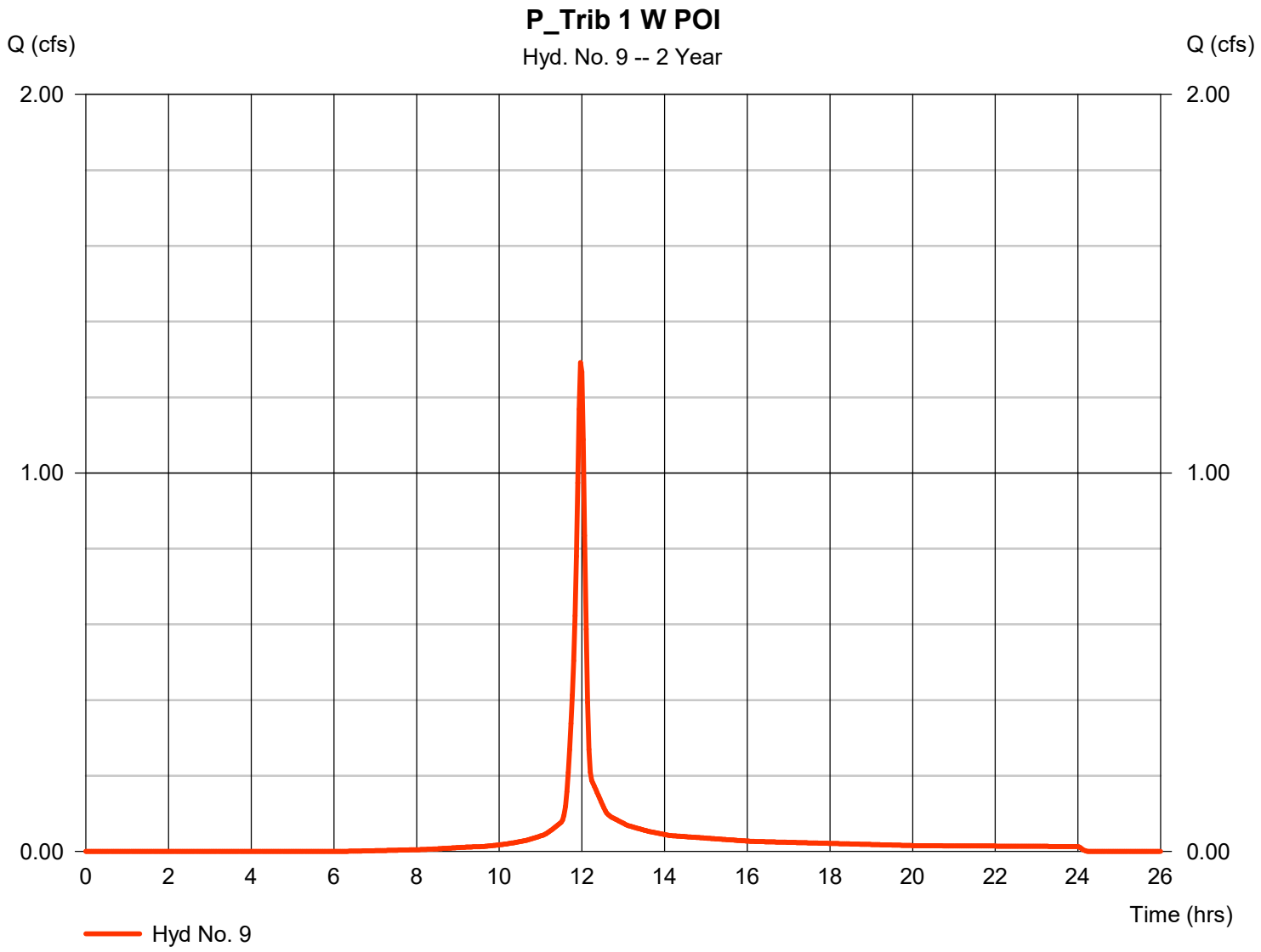
Hydrograph Report

Hyd. No. 9

P_Trib 1 W POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.292 cfs
Storm frequency	=	2 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	2,991 cuft
Drainage area	=	0.380 ac	Curve number	=	88*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	7.40 min
Total precip.	=	3.39 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.280 x 84) + (0.100 x 98)] / 0.380



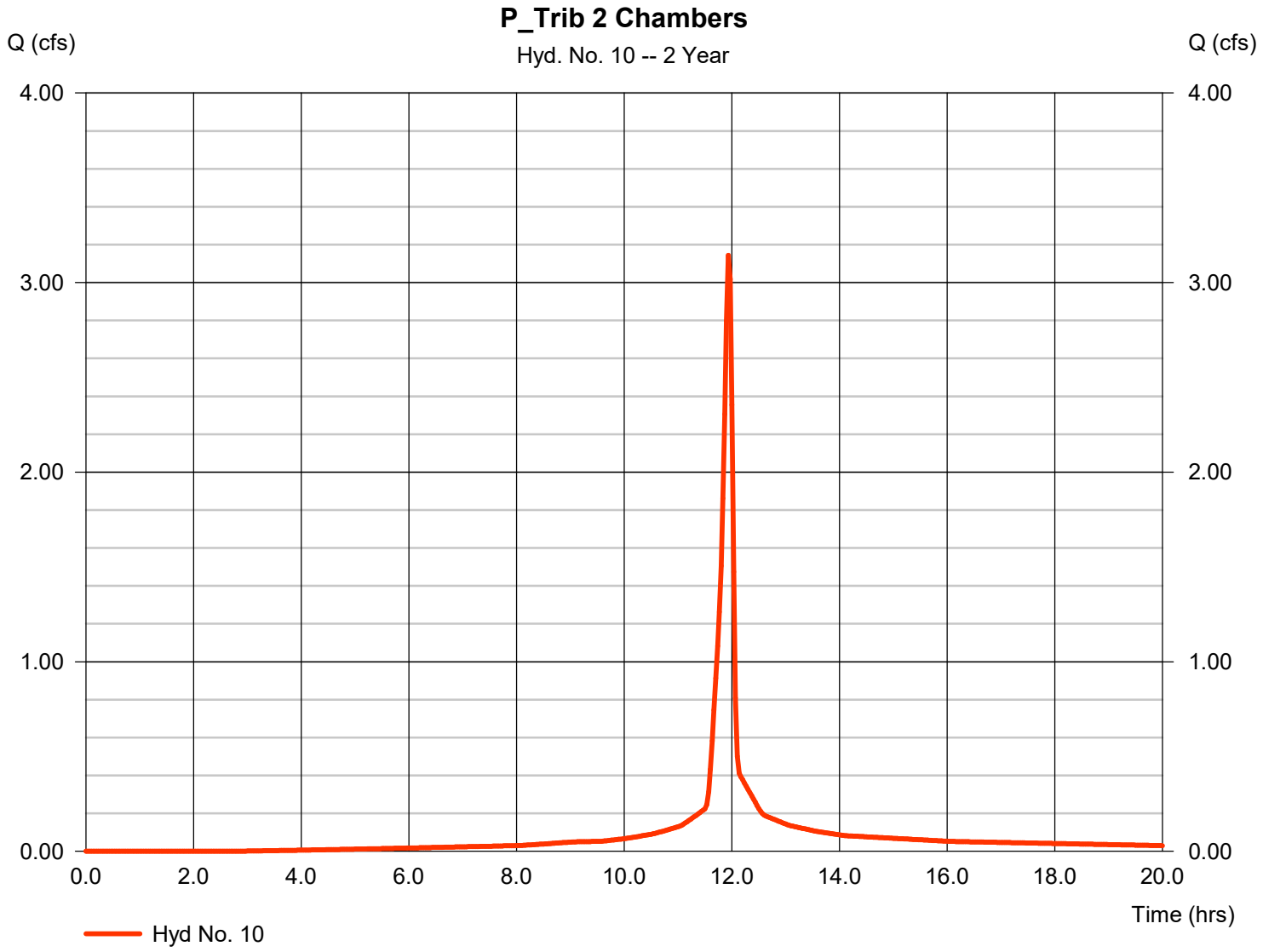
Hydrograph Report

Hyd. No. 10

P_Trib 2 Chambers

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.144 cfs
Storm frequency	=	2 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	6,937 cuft
Drainage area	=	0.720 ac	Curve number	=	95*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	3.30 min
Total precip.	=	3.39 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.130 x 84) + (0.590 x 98)] / 0.720



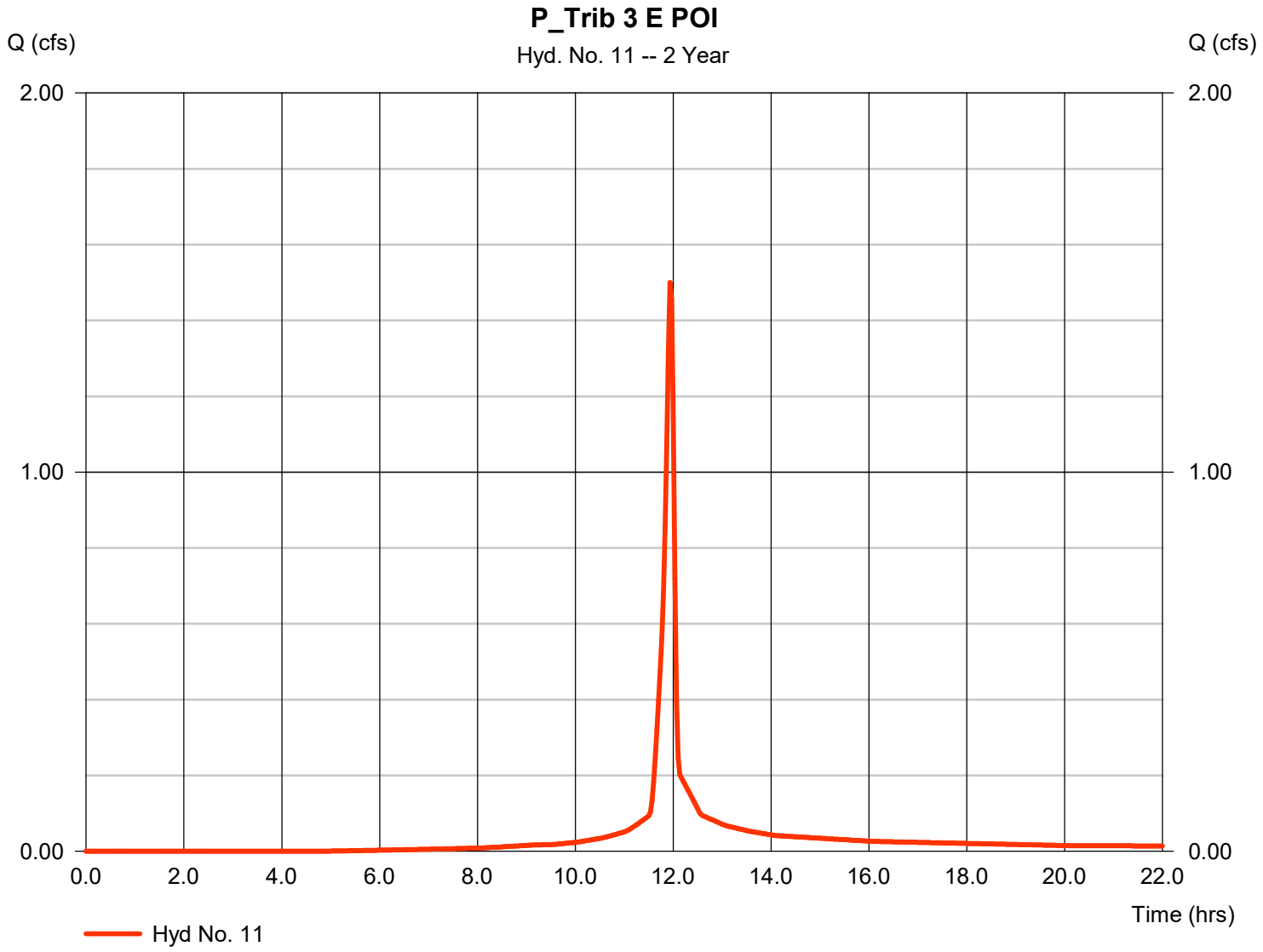
Hydrograph Report

Hyd. No. 11

P_Trib 3 E POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.500 cfs
Storm frequency	=	2 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	3,152 cuft
Drainage area	=	0.380 ac	Curve number	=	91*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	4.10 min
Total precip.	=	3.39 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.180 x 84) + (0.200 x 98)] / 0.380



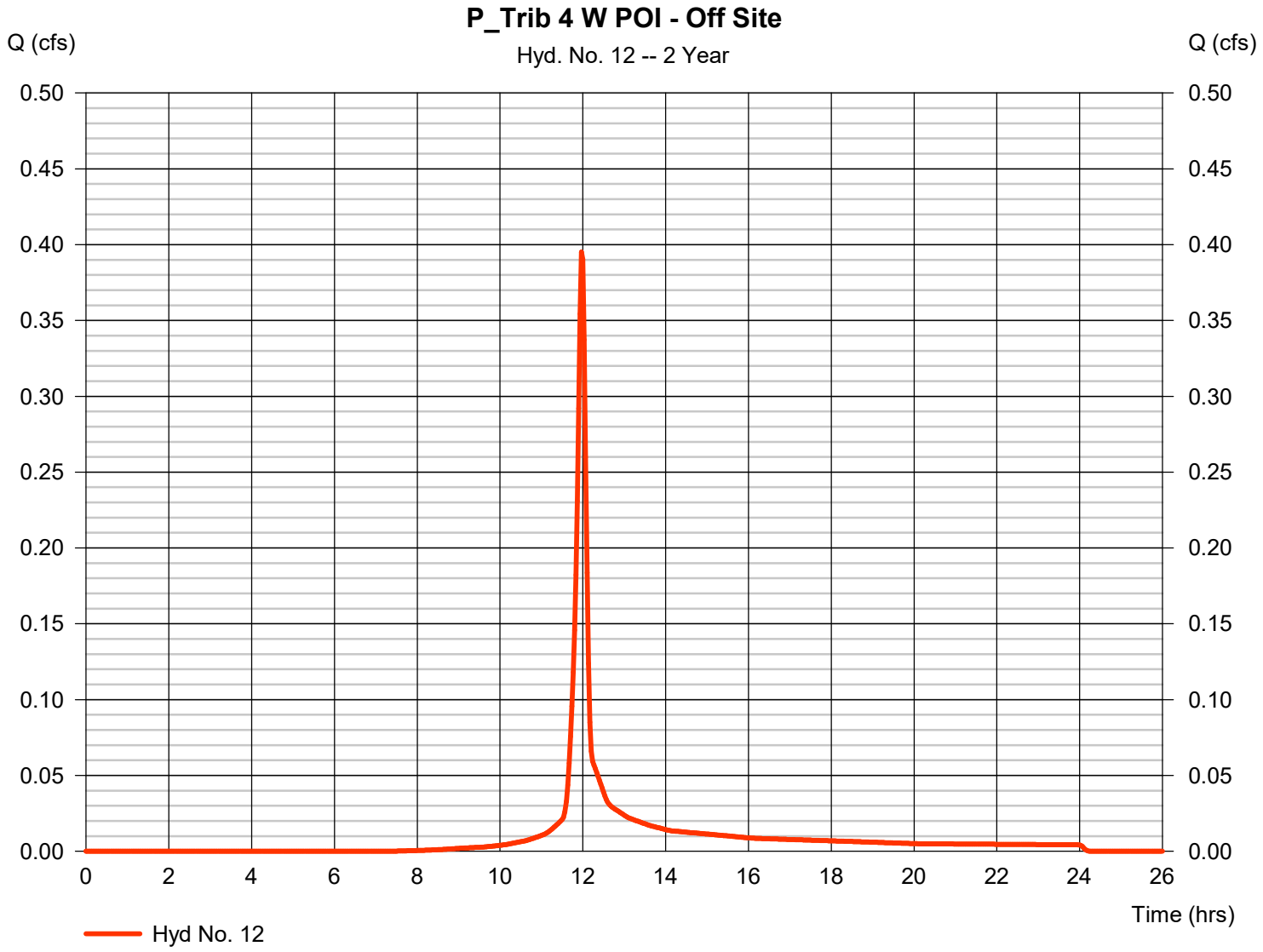
Hydrograph Report

Hyd. No. 12

P_Trib 4 W POI - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 0.395 cfs
Storm frequency	= 2 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 906 cuft
Drainage area	= 0.130 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 8.90 min
Total precip.	= 3.39 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.120 x 84) + (0.010 x 98)] / 0.130



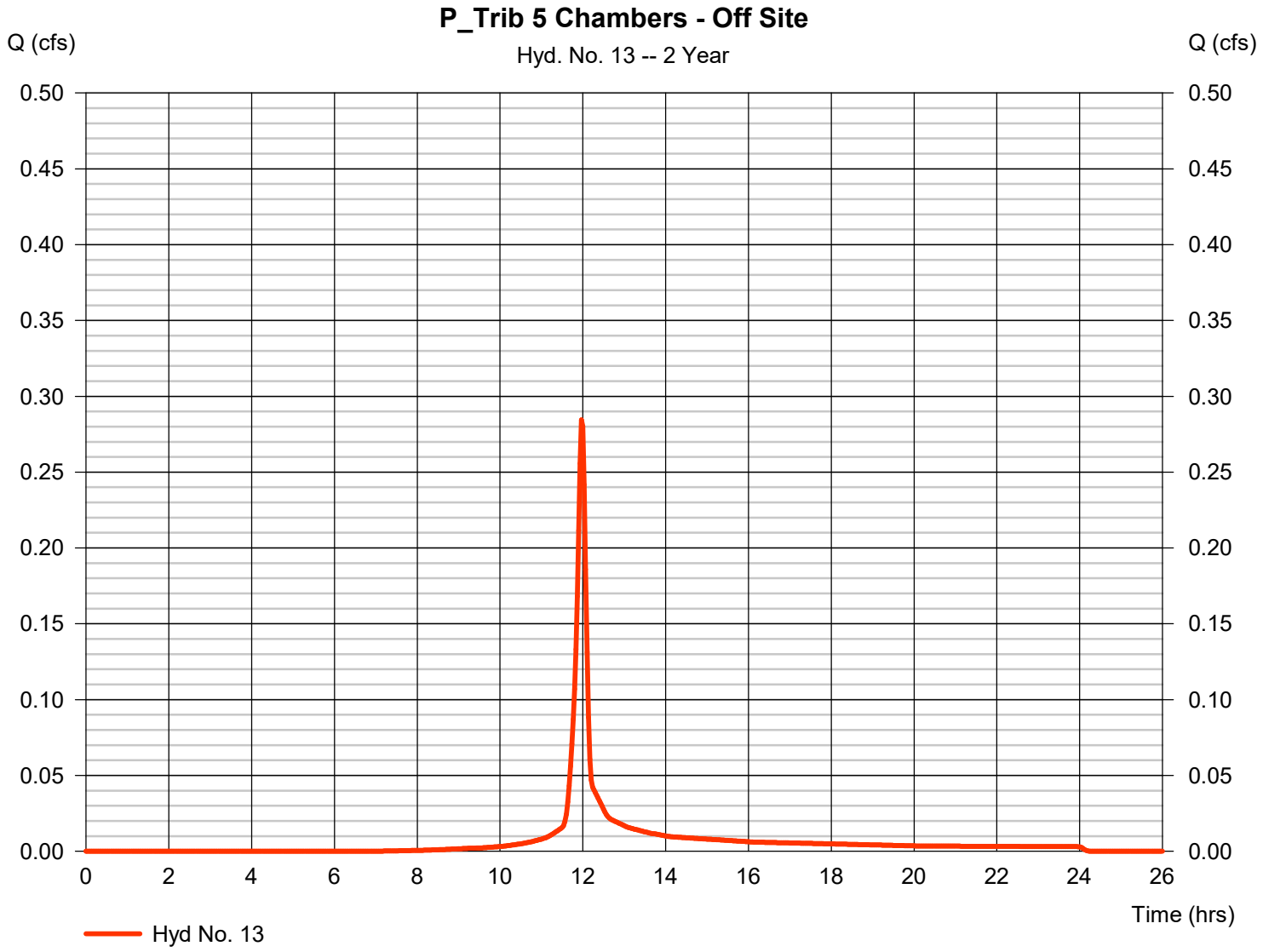
Hydrograph Report

Hyd. No. 13

P_Trib 5 Chambers - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 0.284 cfs
Storm frequency	= 2 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 654 cuft
Drainage area	= 0.090 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 9.80 min
Total precip.	= 3.39 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.080 x 84) + (0.010 x 98)] / 0.090



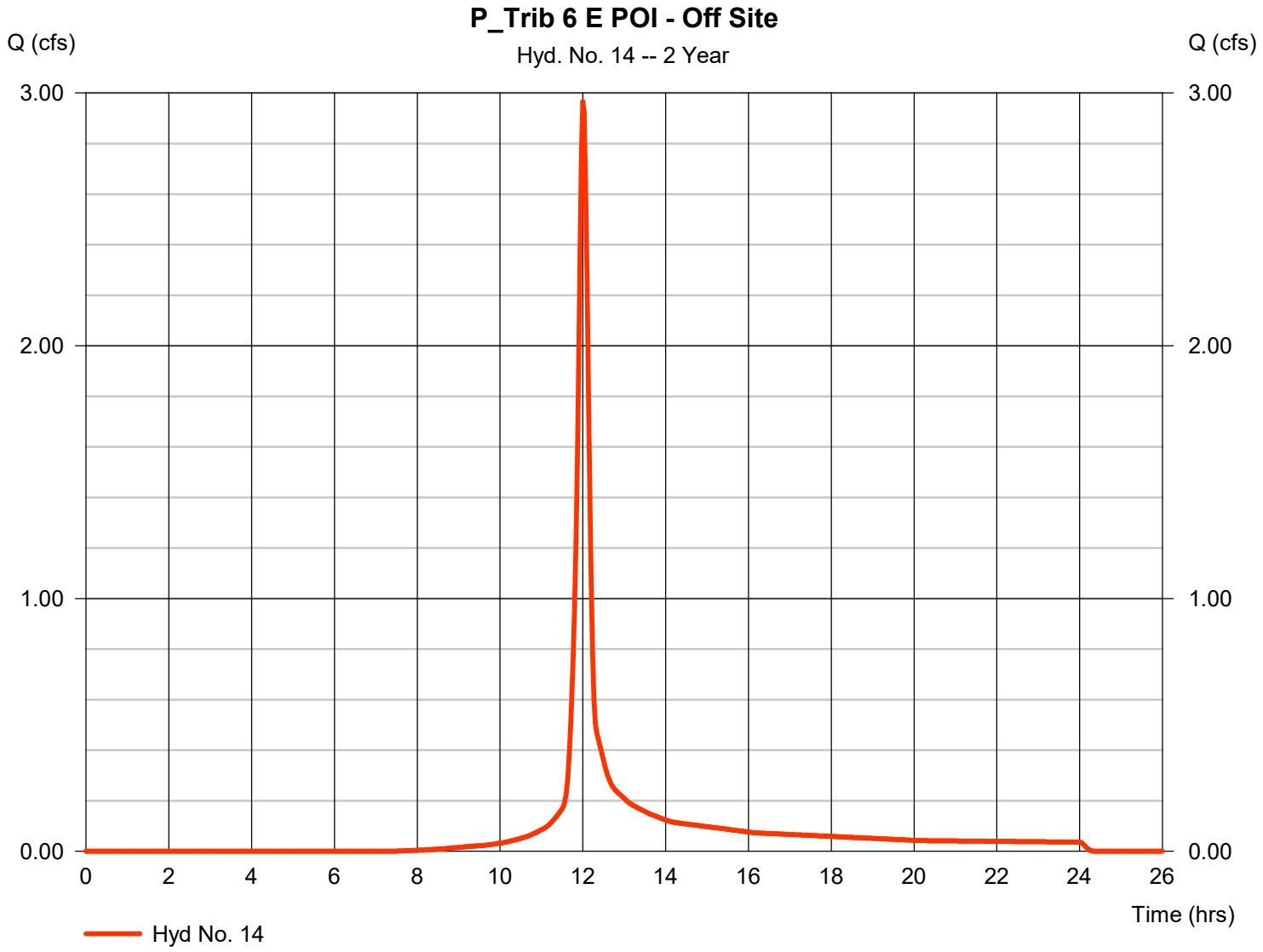
Hydrograph Report

Hyd. No. 14

P_Trib 6 E POI - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 2.966 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 7,694 cuft
Drainage area	= 1.070 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 10.10 min
Total precip.	= 3.39 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.990 x 84) + (0.080 x 98)] / 1.070



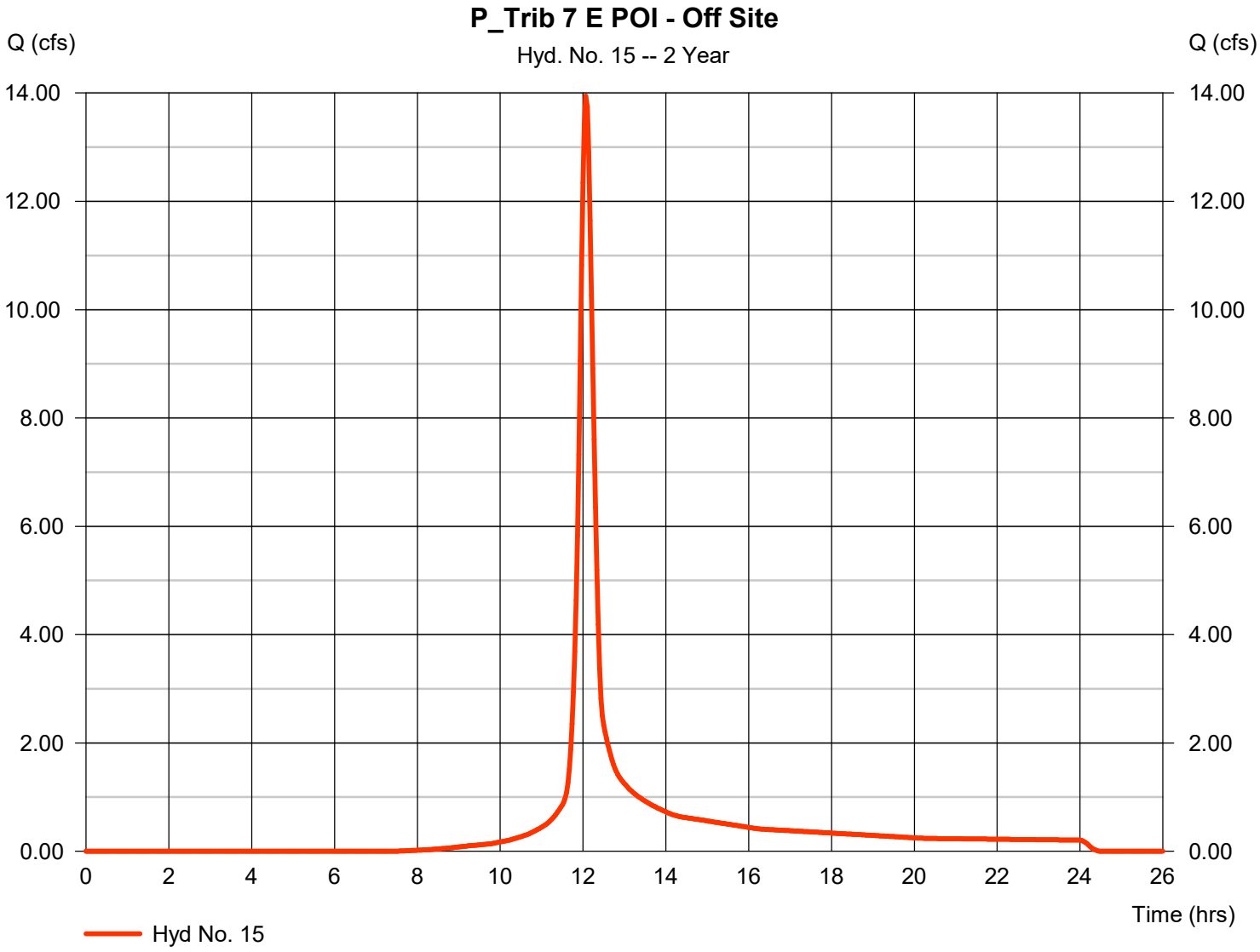
Hydrograph Report

Hyd. No. 15

P_Trib 7 E POI - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 13.94 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 43,580 cuft
Drainage area	= 6.250 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.00 min
Total precip.	= 3.39 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(5.940 x 84) + (0.310 x 98)] / 6.250

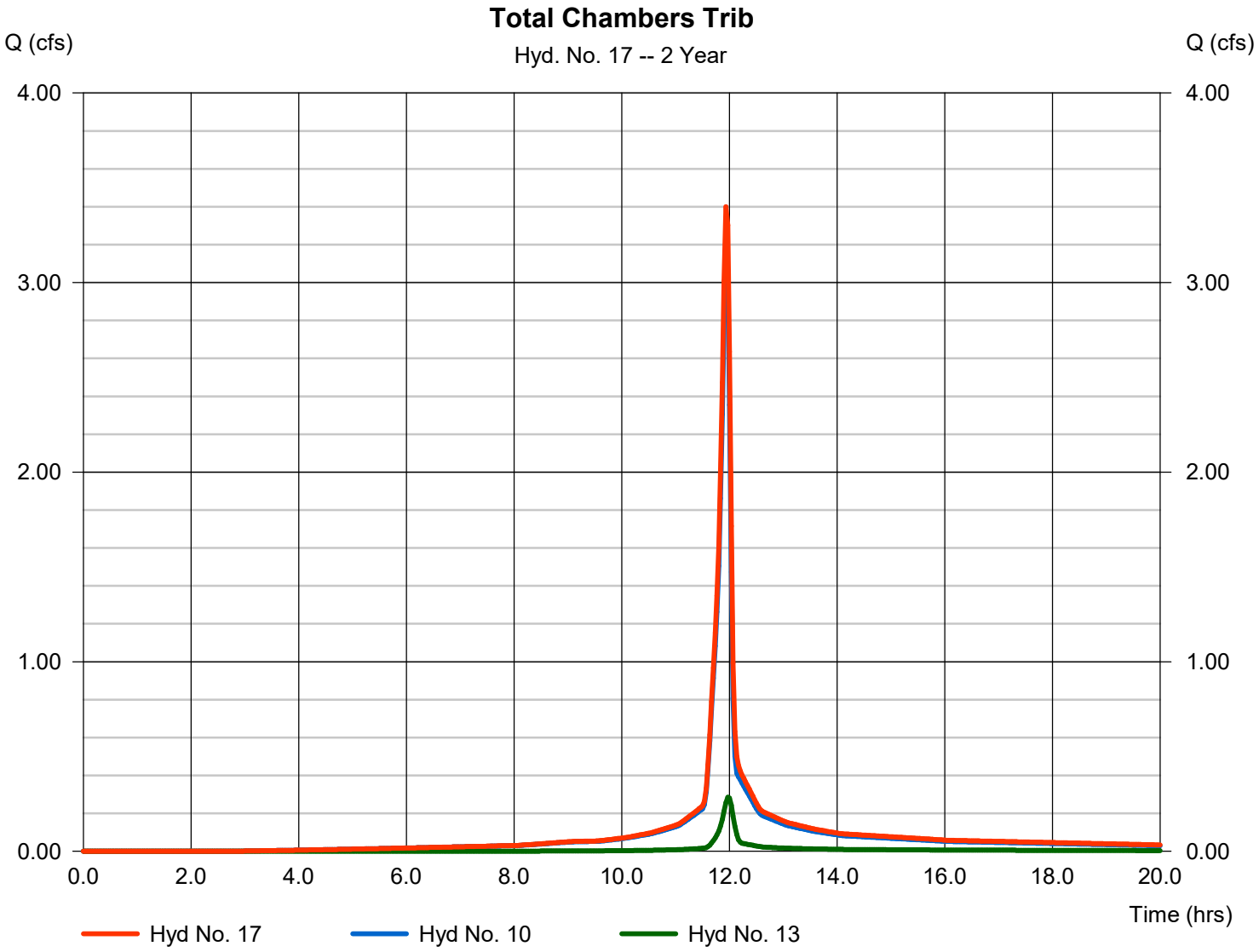


Hydrograph Report

Hyd. No. 17

Total Chambers Trib

Hydrograph type	=	Combine	Peak discharge	=	3.400 cfs
Storm frequency	=	2 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	7,591 cuft
Inflow hyds.	=	10, 13	Contrib. drain. area	=	0.810 ac



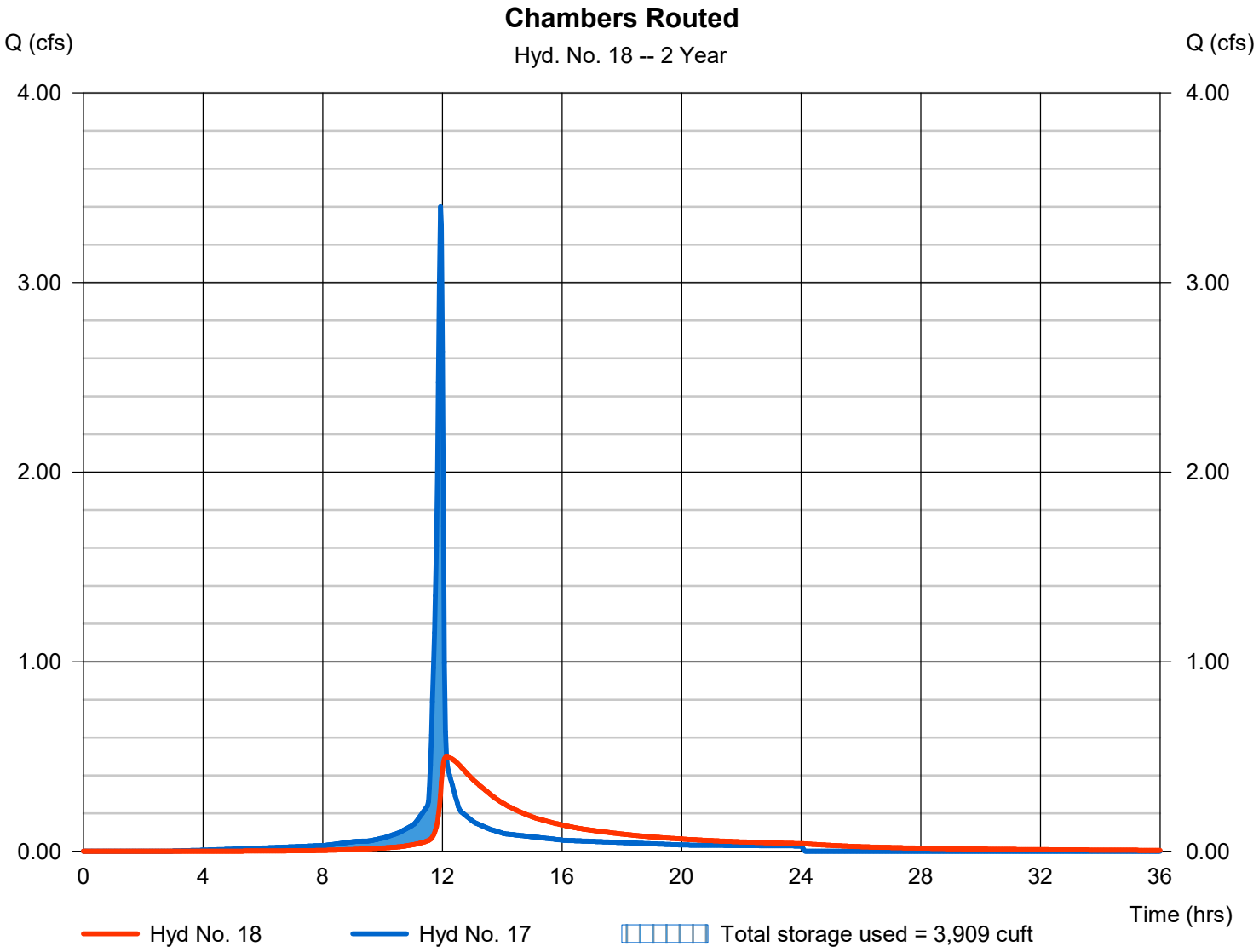
Hydrograph Report

Hyd. No. 18

Chambers Routed

Hydrograph type	=	Reservoir	Peak discharge	=	0.498 cfs
Storm frequency	=	2 yrs	Time to peak	=	12.13 hrs
Time interval	=	2 min	Hyd. volume	=	7,533 cuft
Inflow hyd. No.	=	17 - Total Chambers Trib	Max. Elevation	=	449.91 ft
Reservoir name	=	SC-310 Chambers	Max. Storage	=	3,909 cuft

Storage Indication method used.

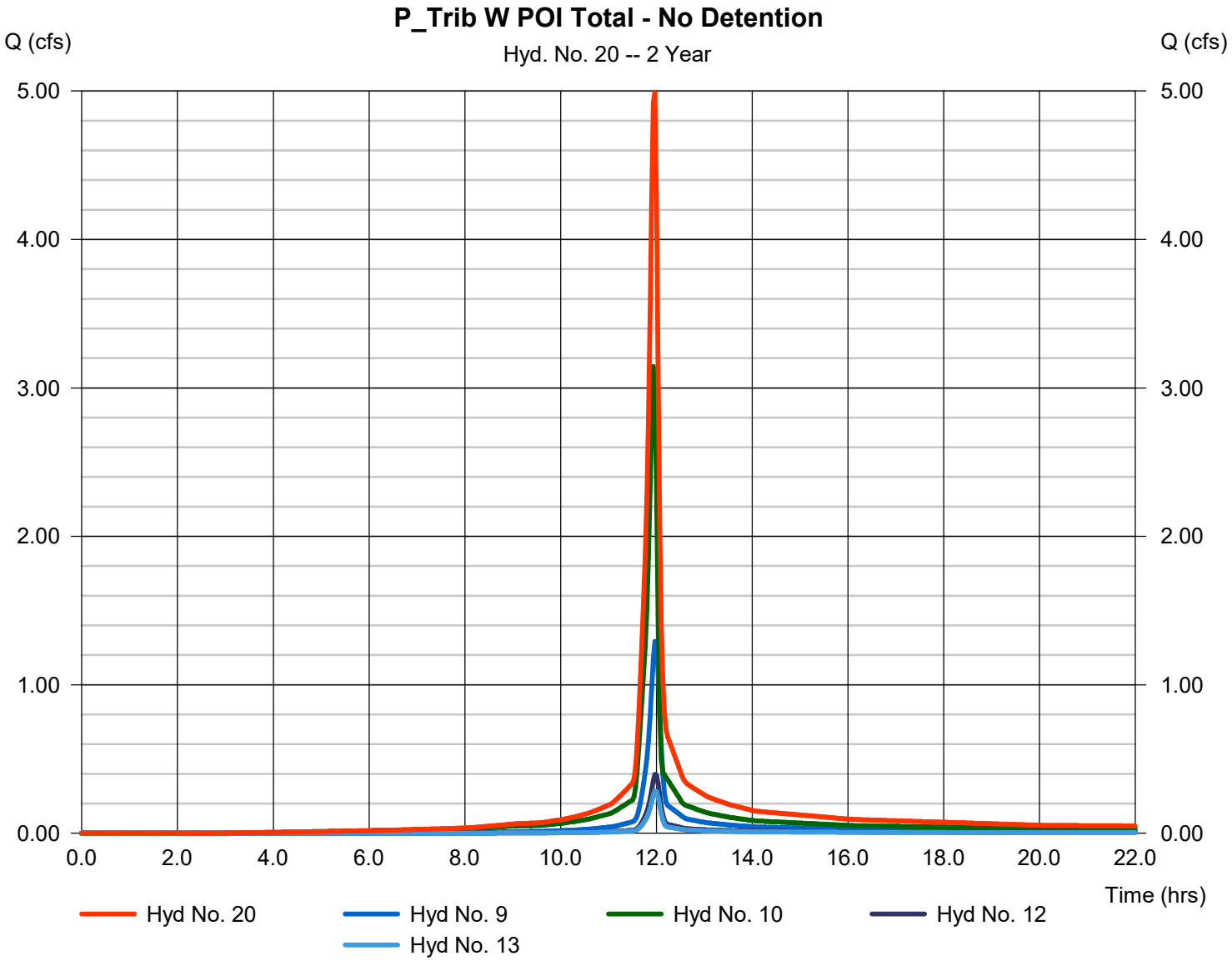


Hydrograph Report

Hyd. No. 20

P_Trib W POI Total - No Detention

Hydrograph type	= Combine	Peak discharge	= 4.989 cfs
Storm frequency	= 2 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 11,489 cuft
Inflow hyds.	= 9, 10, 12, 13	Contrib. drain. area	= 1.320 ac

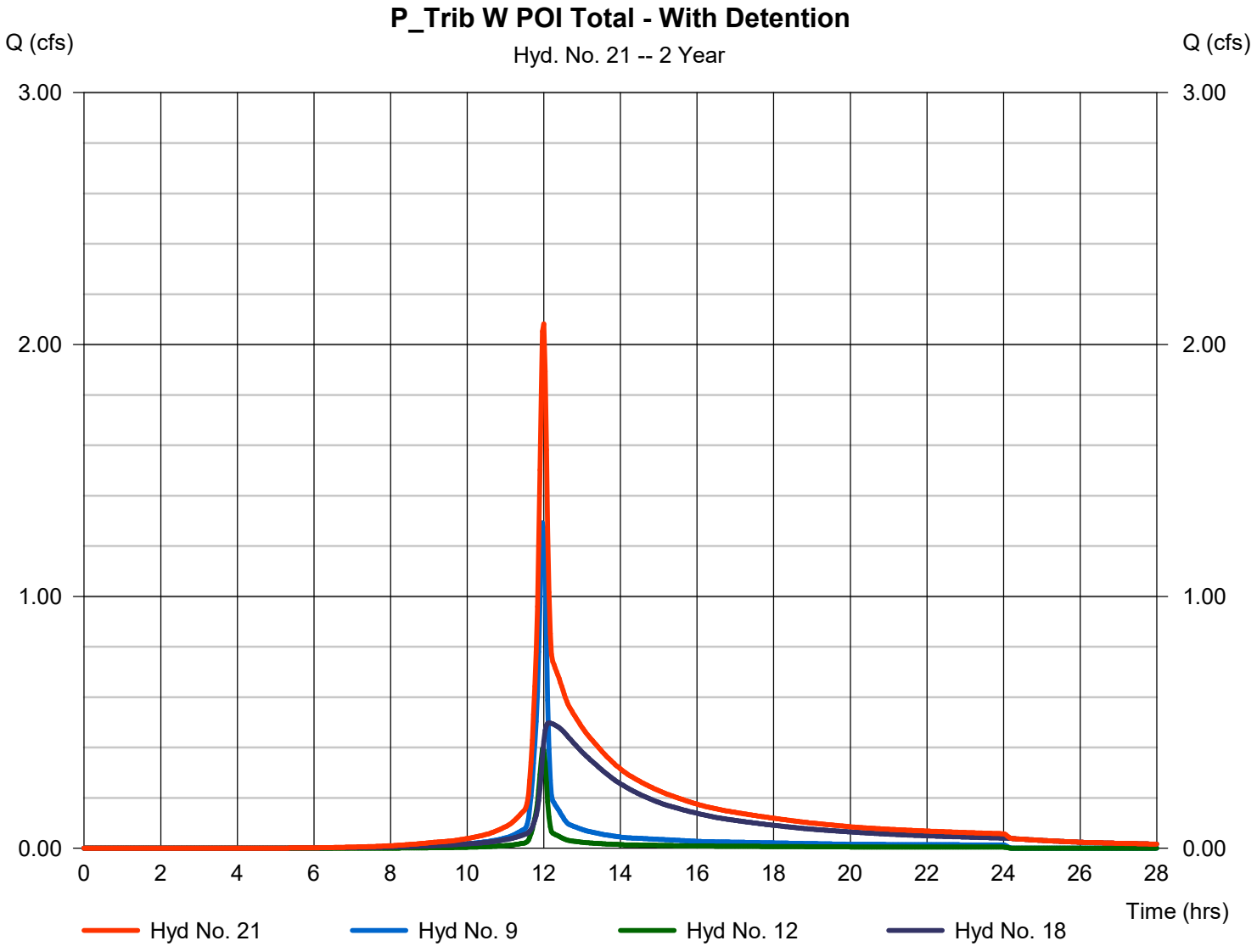


Hydrograph Report

Hyd. No. 21

P_Trib W POI Total - With Detention

Hydrograph type	= Combine	Peak discharge	= 2.082 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 11,430 cuft
Inflow hyds.	= 9, 12, 18	Contrib. drain. area	= 0.510 ac

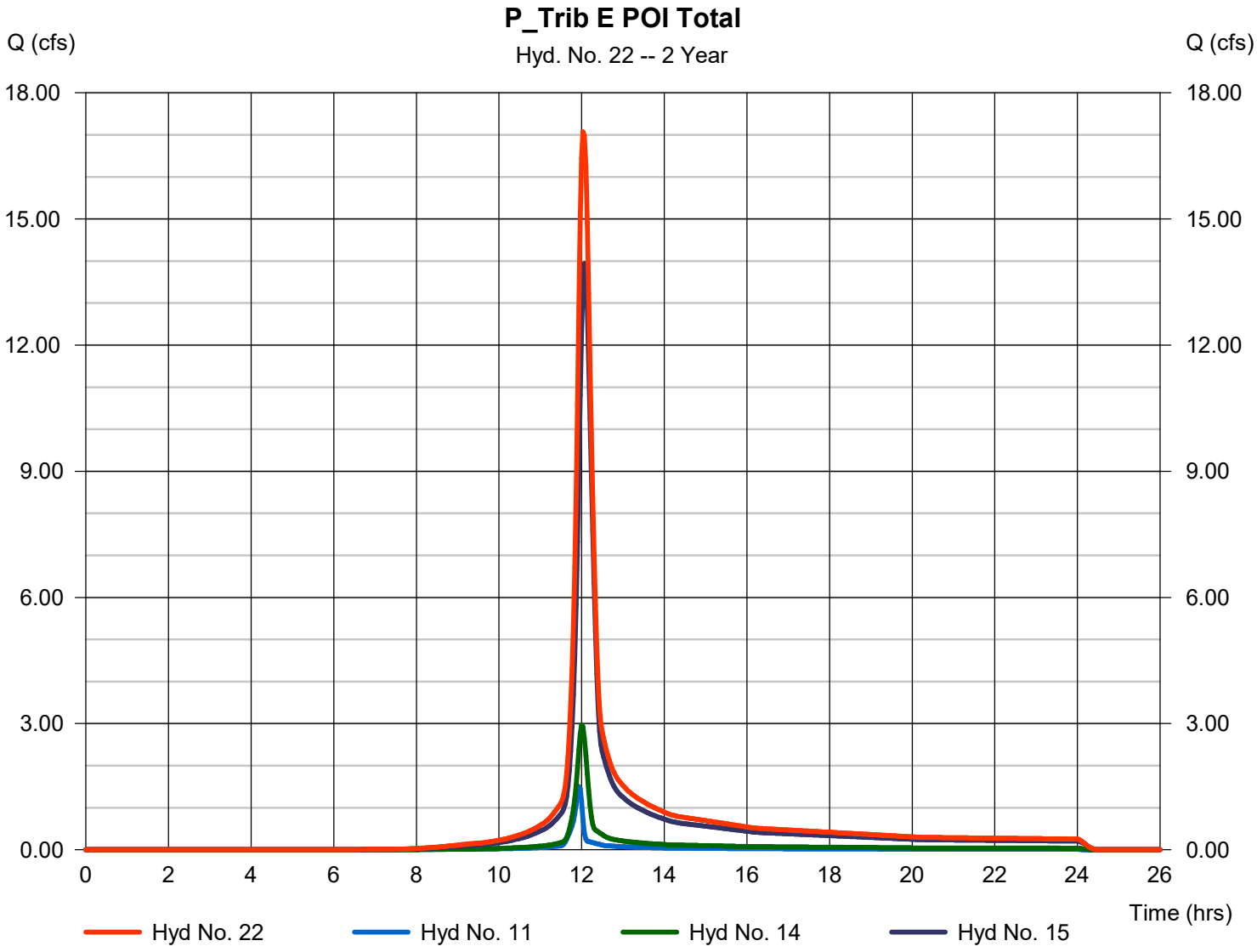


Hydrograph Report

Hyd. No. 22

P_Trib E POI Total

Hydrograph type	= Combine	Peak discharge	= 17.07 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.03 hrs
Time interval	= 2 min	Hyd. volume	= 54,426 cuft
Inflow hyds.	= 11, 14, 15	Contrib. drain. area	= 7.700 ac



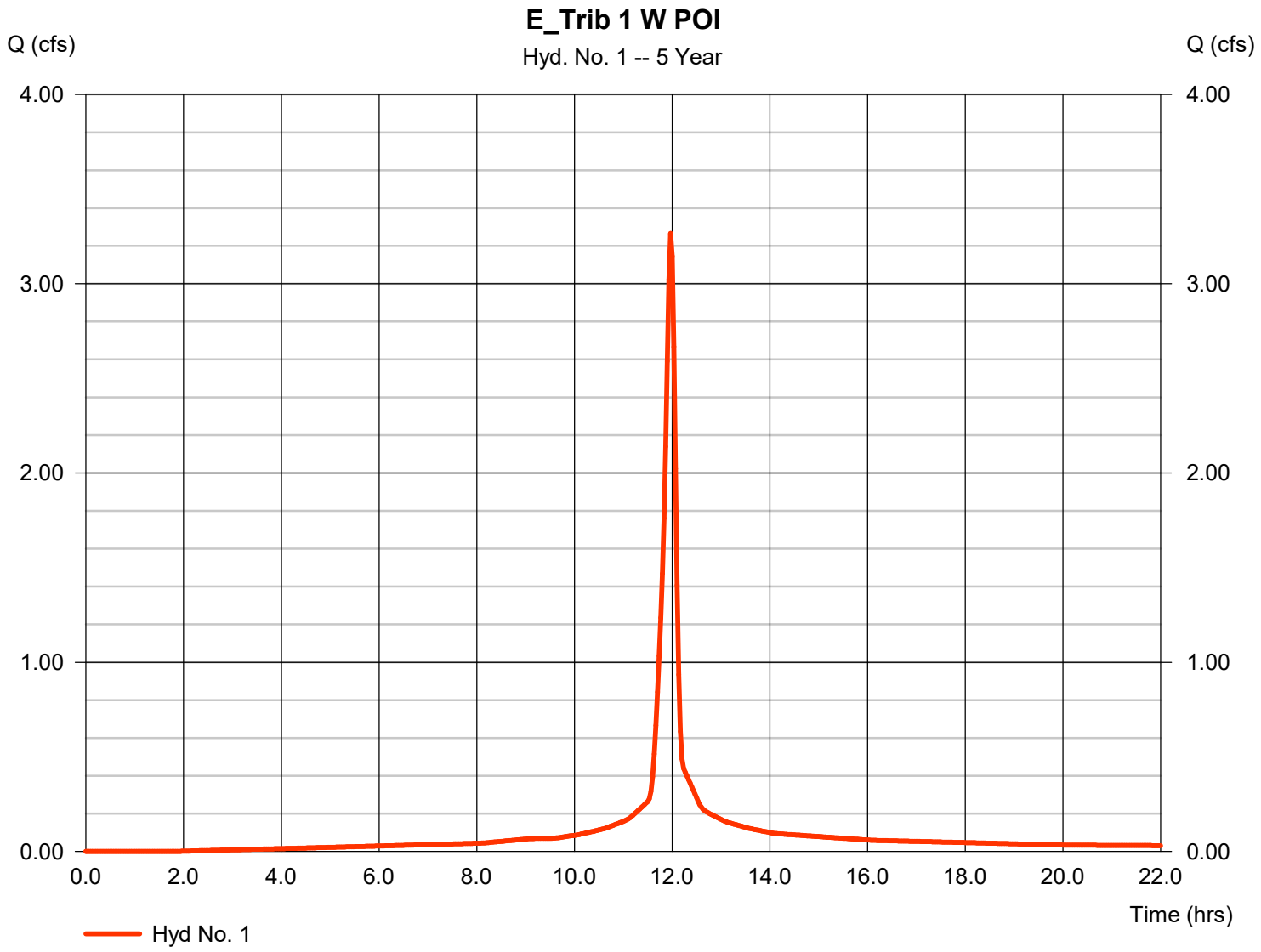
Hydrograph Report

Hyd. No. 1

E_Trib 1 W POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.266 cfs
Storm frequency	=	5 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	8,351 cuft
Drainage area	=	0.570 ac	Curve number	=	96*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	7.50 min
Total precip.	=	4.50 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.070 x 84) + (0.500 x 98)] / 0.570



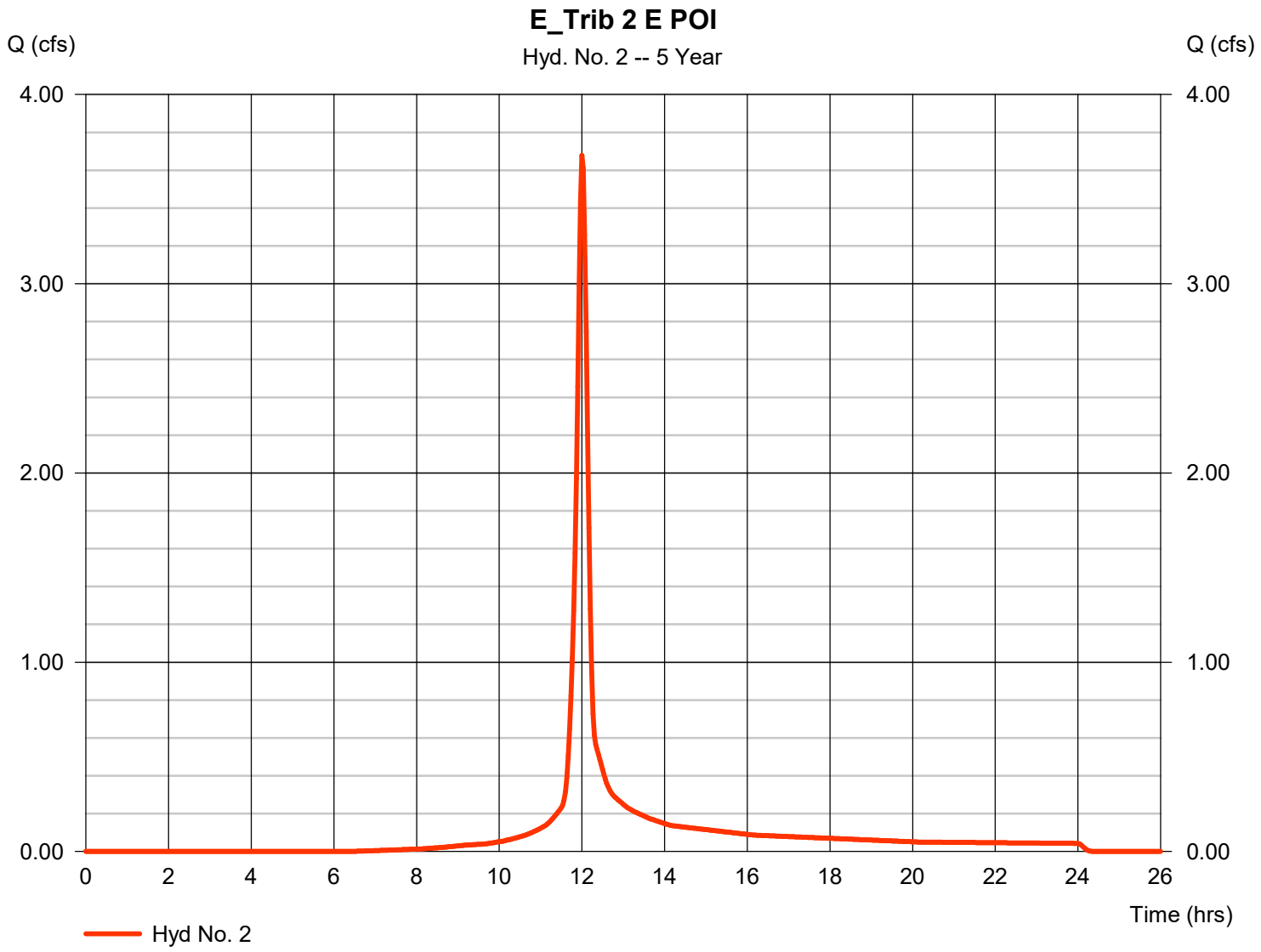
Hydrograph Report

Hyd. No. 2

E_Trib 2 E POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.679 cfs
Storm frequency	=	5 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	9,595 cuft
Drainage area	=	0.910 ac	Curve number	=	84*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	10.50 min
Total precip.	=	4.50 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.900 x 84) + (0.010 x 98)] / 0.910



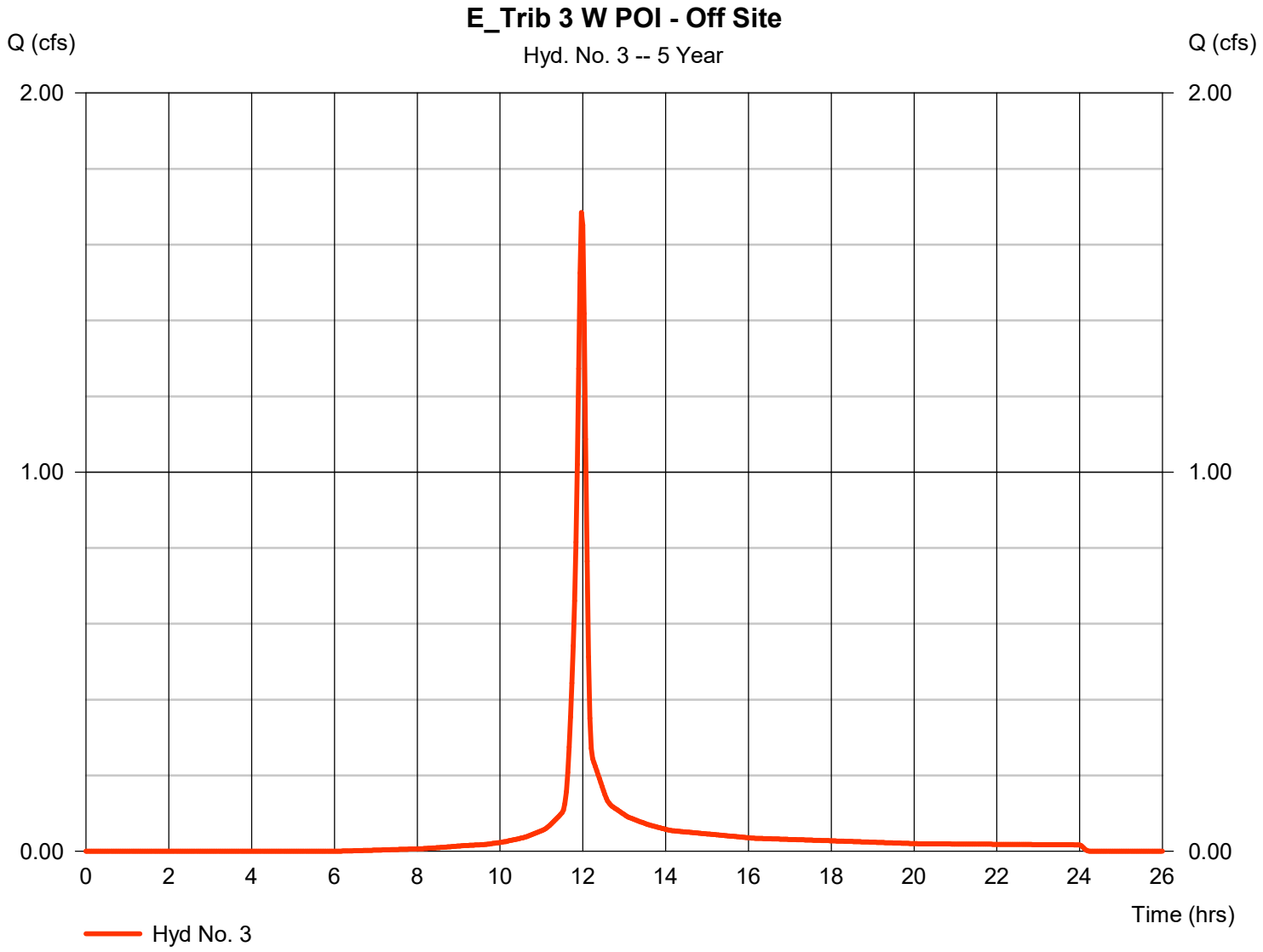
Hydrograph Report

Hyd. No. 3

E_Trib 3 W POI - Off Site

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.685 cfs
Storm frequency	=	5 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	3,907 cuft
Drainage area	=	0.370 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	8.90 min
Total precip.	=	4.50 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.340 x 84) + (0.030 x 98)] / 0.370



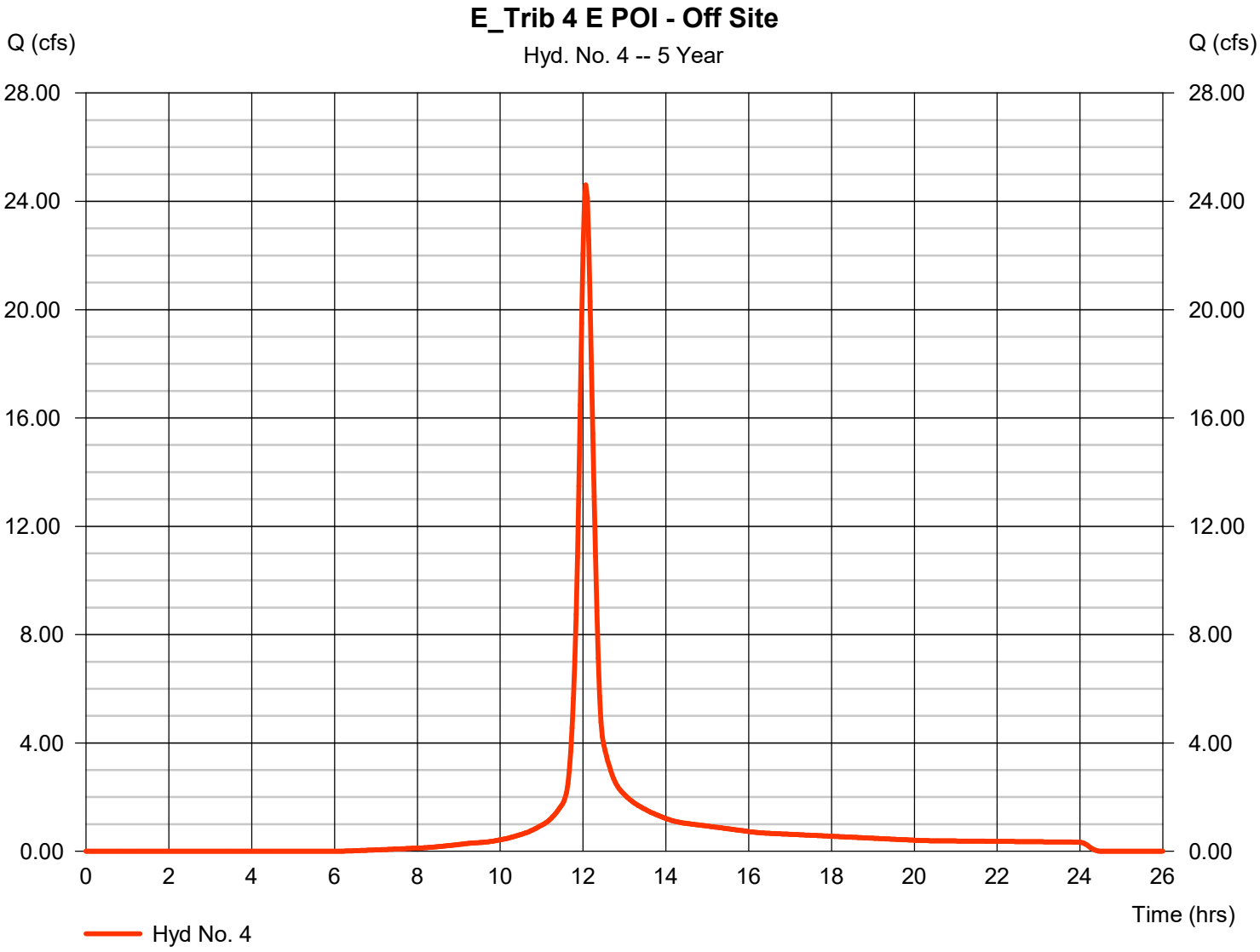
Hydrograph Report

Hyd. No. 4

E_Trib 4 E POI - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 24.61 cfs
Storm frequency	= 5 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 77,300 cuft
Drainage area	= 7.320 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.00 min
Total precip.	= 4.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(6.930 x 84) + (0.390 x 98)] / 7.320

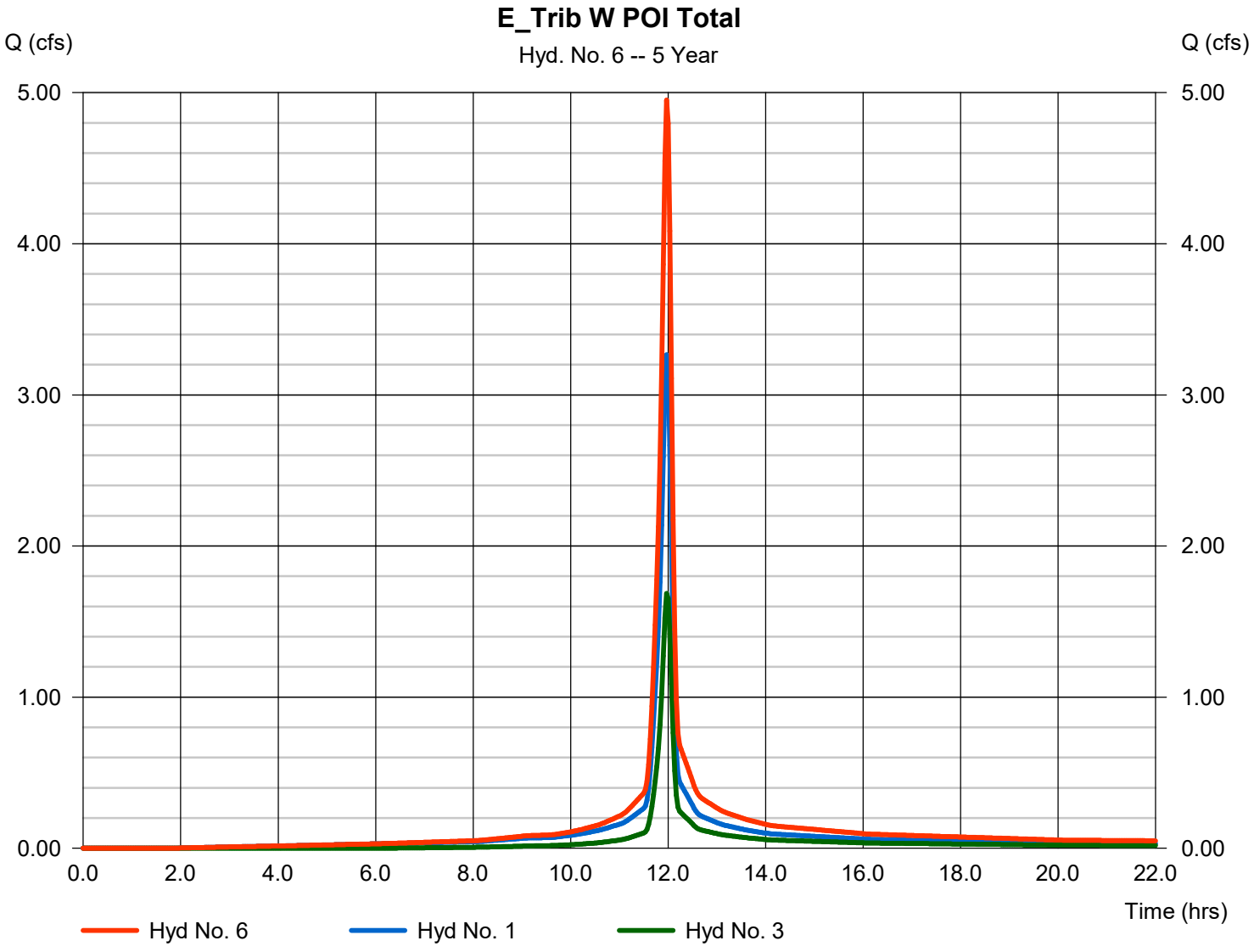


Hydrograph Report

Hyd. No. 6

E_Trib W POI Total

Hydrograph type	= Combine	Peak discharge	= 4.950 cfs
Storm frequency	= 5 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 12,258 cuft
Inflow hyds.	= 1, 3	Contrib. drain. area	= 0.940 ac

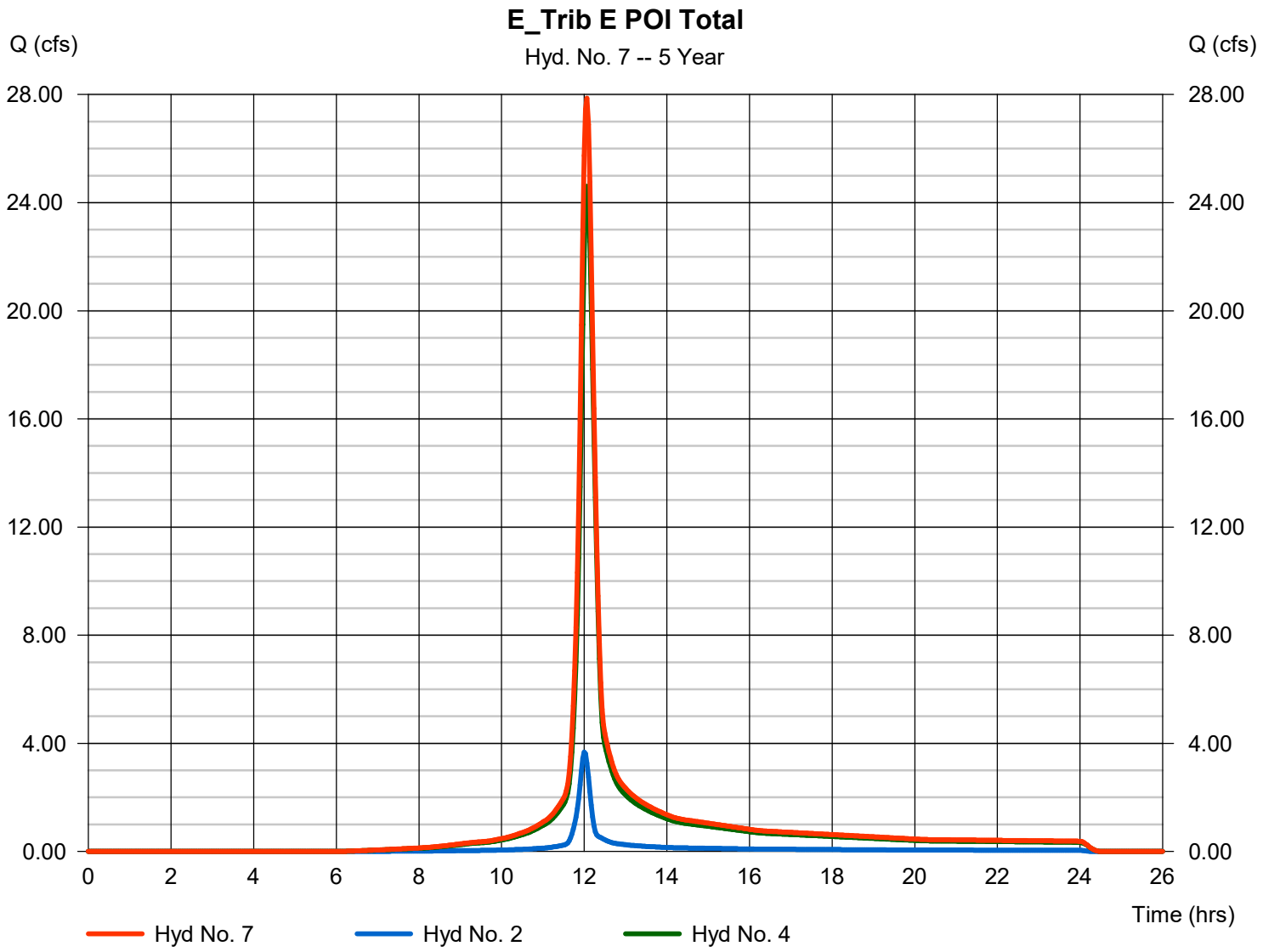


Hydrograph Report

Hyd. No. 7

E_Trib E POI Total

Hydrograph type	= Combine	Peak discharge	= 27.86 cfs
Storm frequency	= 5 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 86,895 cuft
Inflow hyds.	= 2, 4	Contrib. drain. area	= 8.230 ac



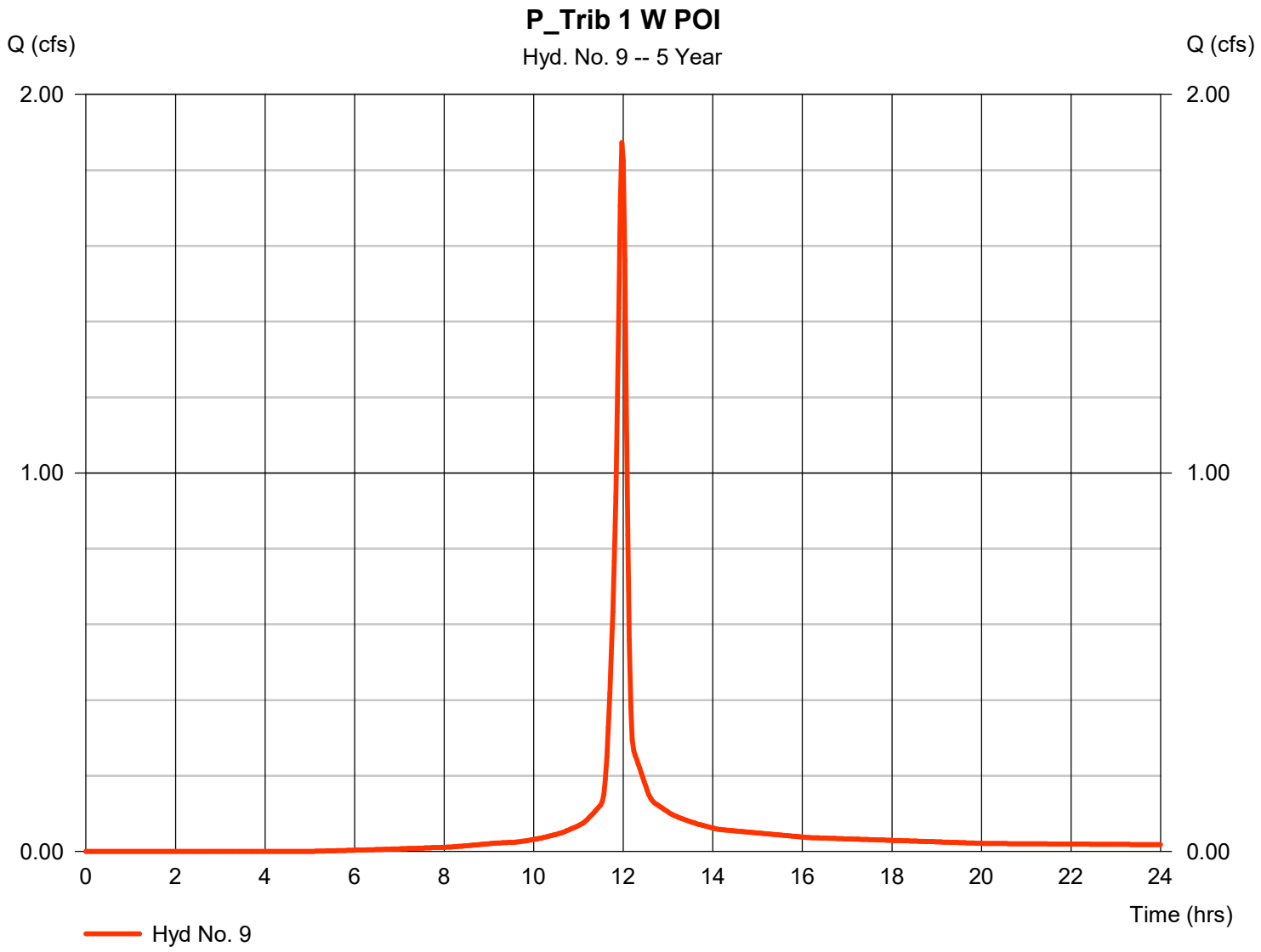
Hydrograph Report

Hyd. No. 9

P_Trib 1 W POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.873 cfs
Storm frequency	=	5 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	4,409 cuft
Drainage area	=	0.380 ac	Curve number	=	88*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	7.40 min
Total precip.	=	4.50 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.280 x 84) + (0.100 x 98)] / 0.380



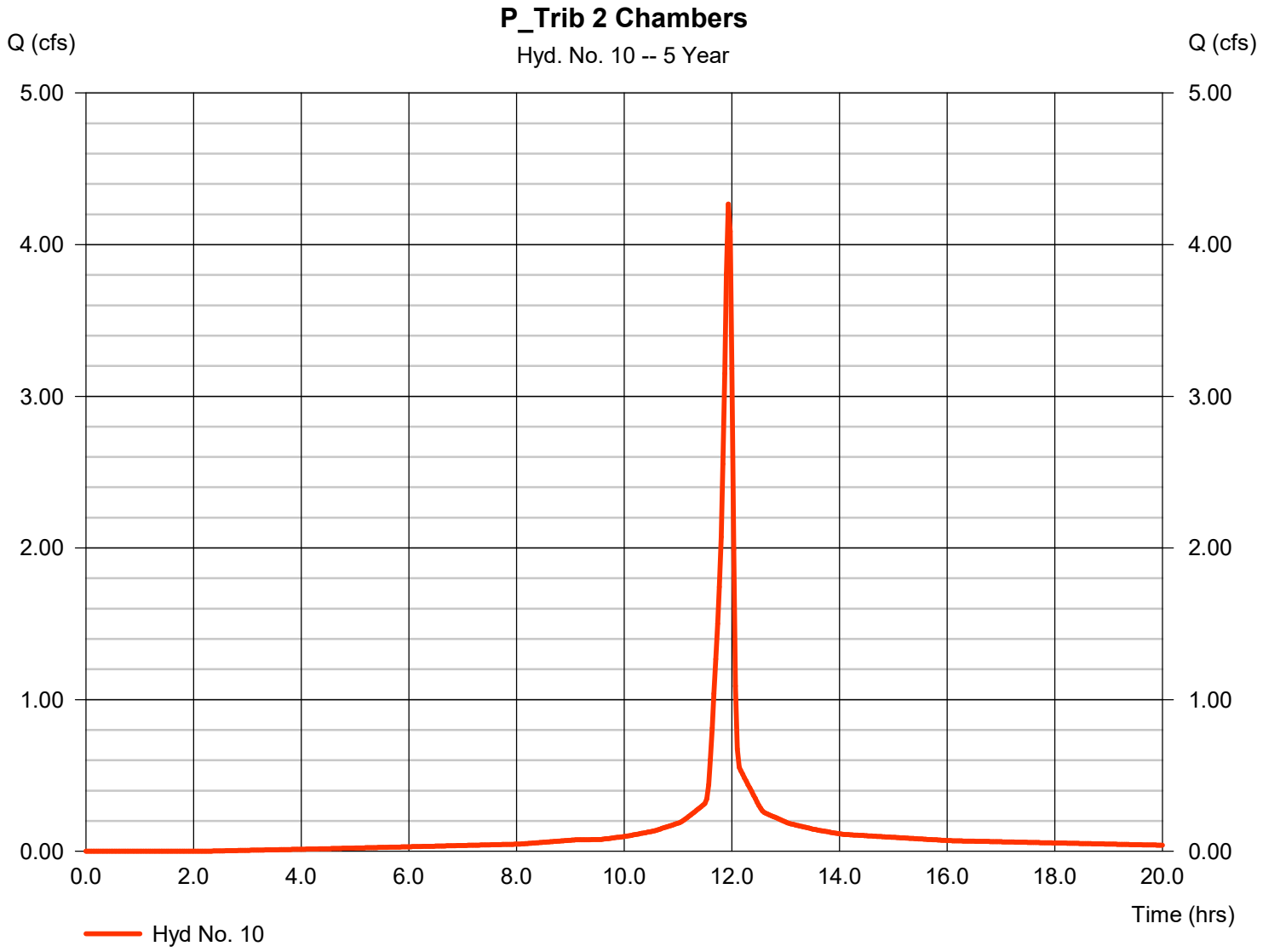
Hydrograph Report

Hyd. No. 10

P_Trib 2 Chambers

Hydrograph type	=	SCS Runoff	Peak discharge	=	4.268 cfs
Storm frequency	=	5 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	9,617 cuft
Drainage area	=	0.720 ac	Curve number	=	95*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	3.30 min
Total precip.	=	4.50 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.130 x 84) + (0.590 x 98)] / 0.720



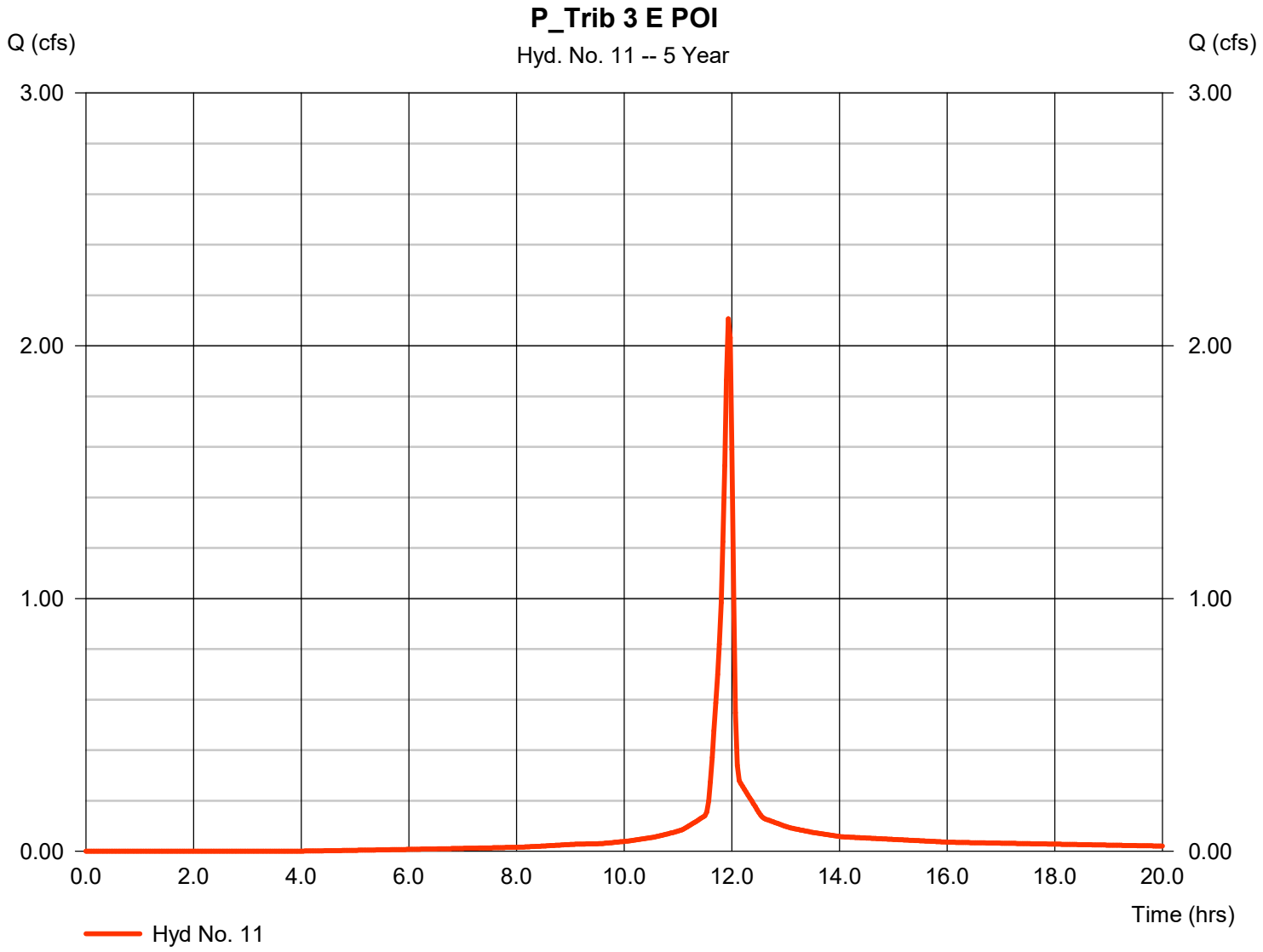
Hydrograph Report

Hyd. No. 11

P_Trib 3 E POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.107 cfs
Storm frequency	=	5 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	4,524 cuft
Drainage area	=	0.380 ac	Curve number	=	91*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	4.10 min
Total precip.	=	4.50 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.180 x 84) + (0.200 x 98)] / 0.380



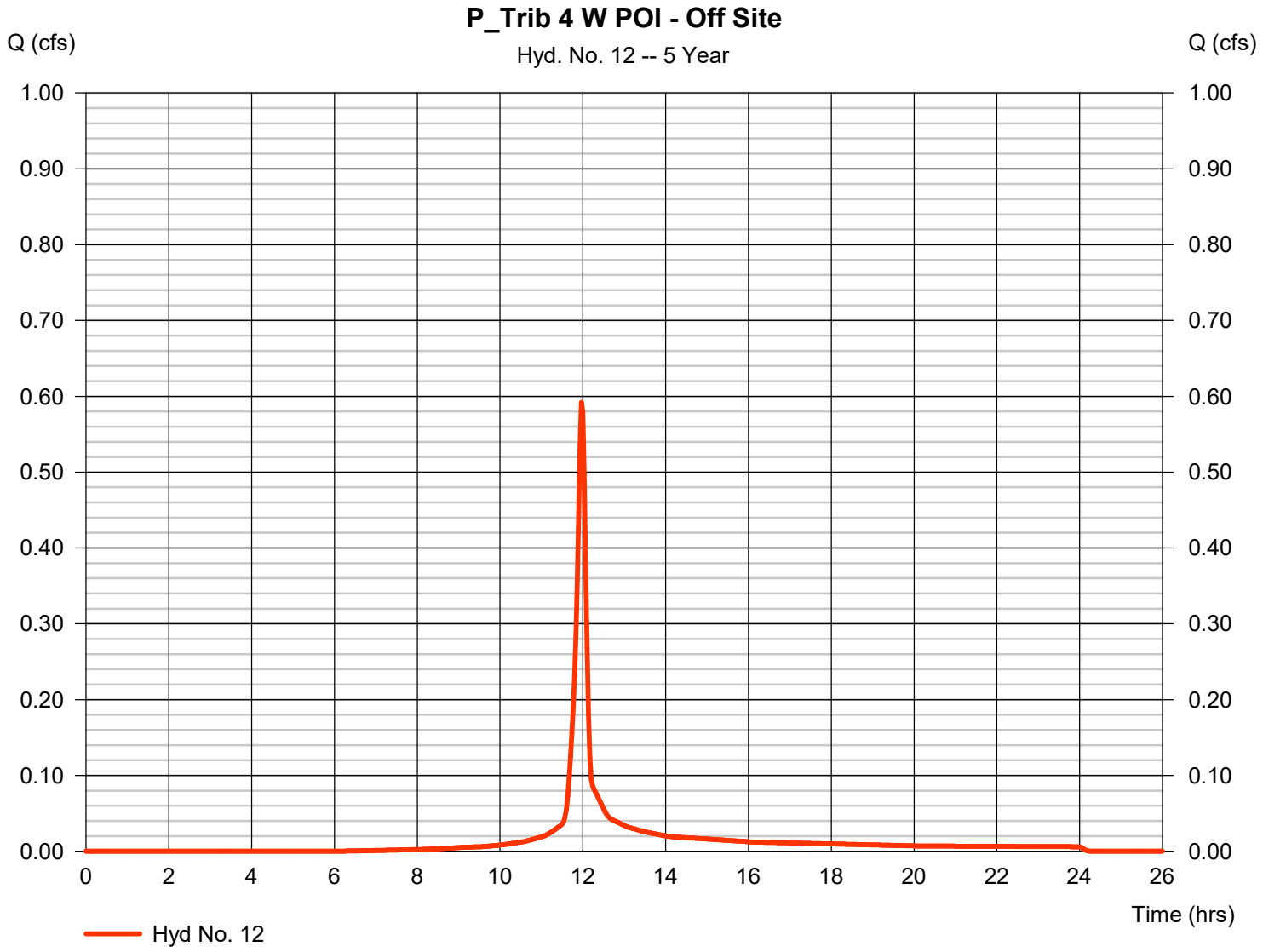
Hydrograph Report

Hyd. No. 12

P_Trib 4 W POI - Off Site

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.592 cfs
Storm frequency	=	5 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	1,373 cuft
Drainage area	=	0.130 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	8.90 min
Total precip.	=	4.50 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.120 x 84) + (0.010 x 98)] / 0.130



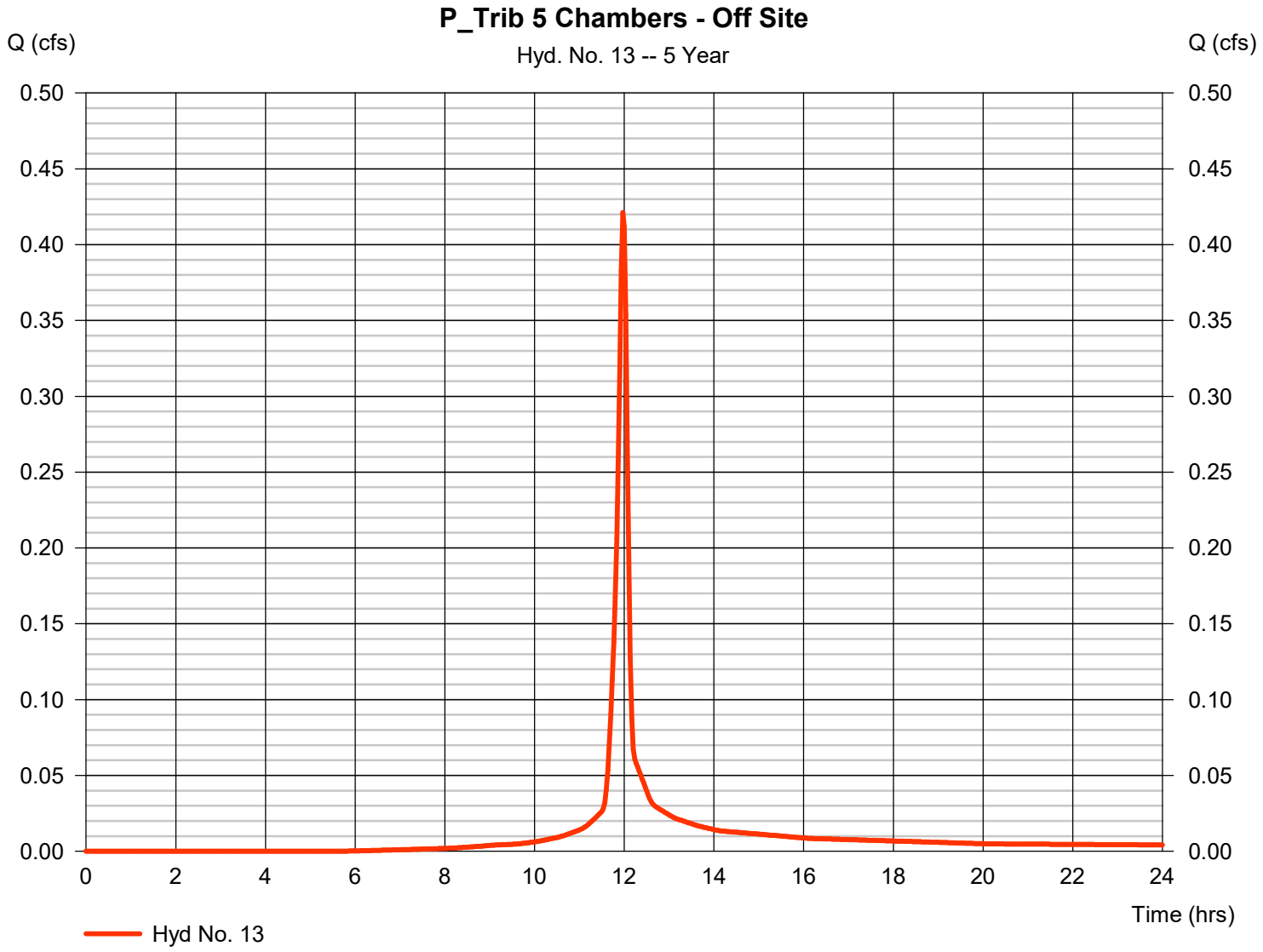
Hydrograph Report

Hyd. No. 13

P_Trib 5 Chambers - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 0.421 cfs
Storm frequency	= 5 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 981 cuft
Drainage area	= 0.090 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 9.80 min
Total precip.	= 4.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.080 x 84) + (0.010 x 98)] / 0.090



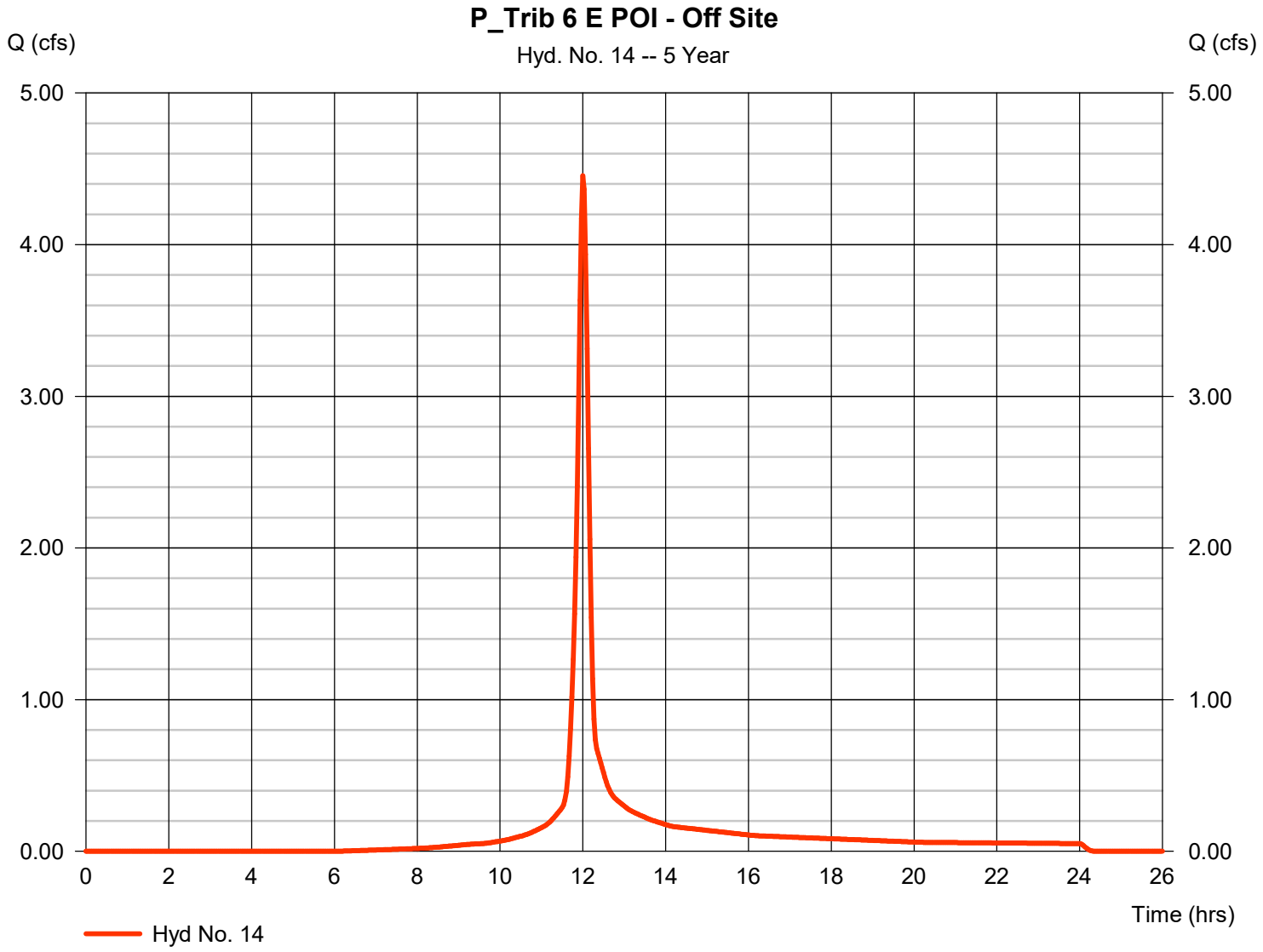
Hydrograph Report

Hyd. No. 14

P_Trib 6 E POI - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 4.455 cfs
Storm frequency	= 5 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 11,652 cuft
Drainage area	= 1.070 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 10.10 min
Total precip.	= 4.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.990 x 84) + (0.080 x 98)] / 1.070



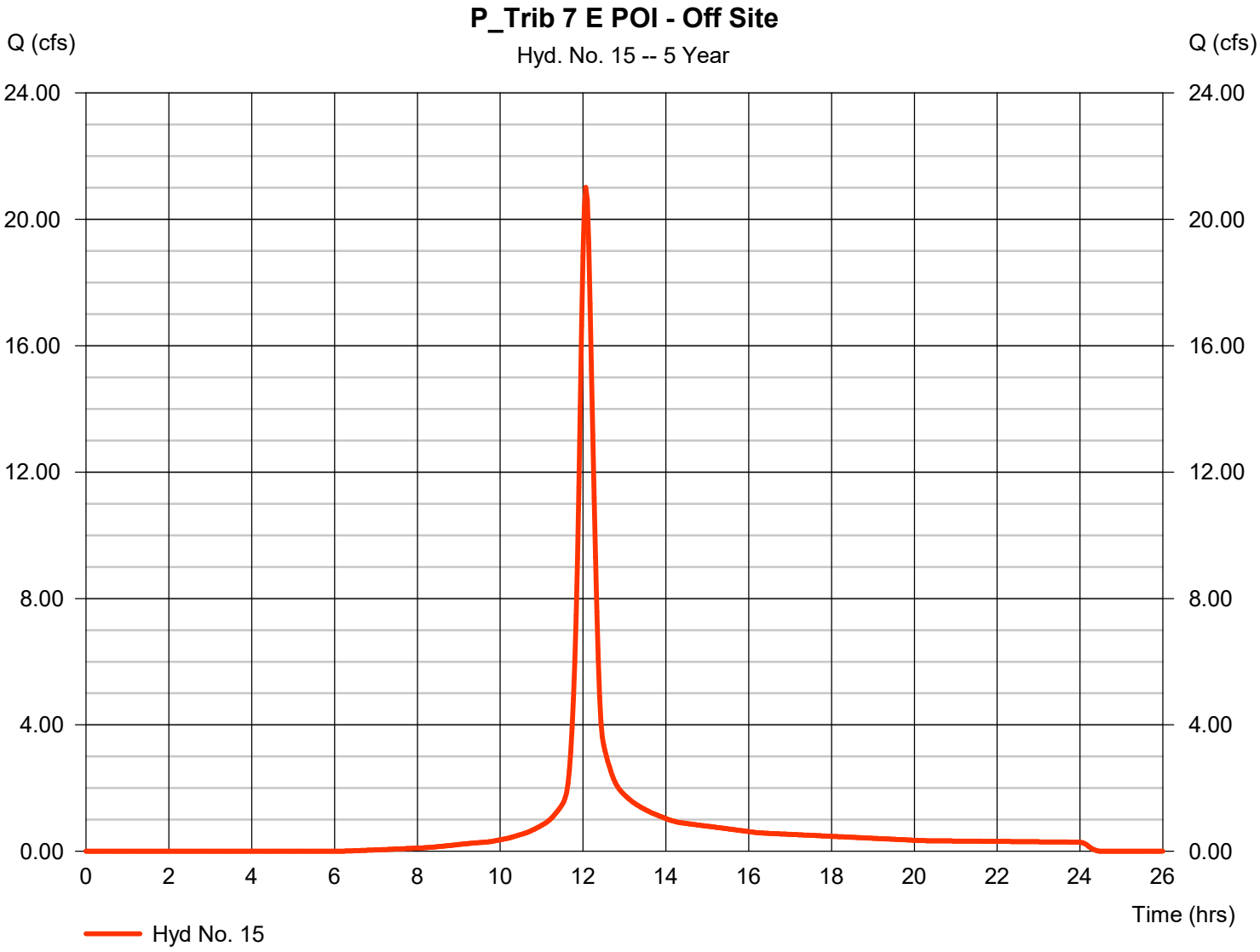
Hydrograph Report

Hyd. No. 15

P_Trib 7 E POI - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 21.01 cfs
Storm frequency	= 5 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 66,001 cuft
Drainage area	= 6.250 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.00 min
Total precip.	= 4.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(5.940 x 84) + (0.310 x 98)] / 6.250

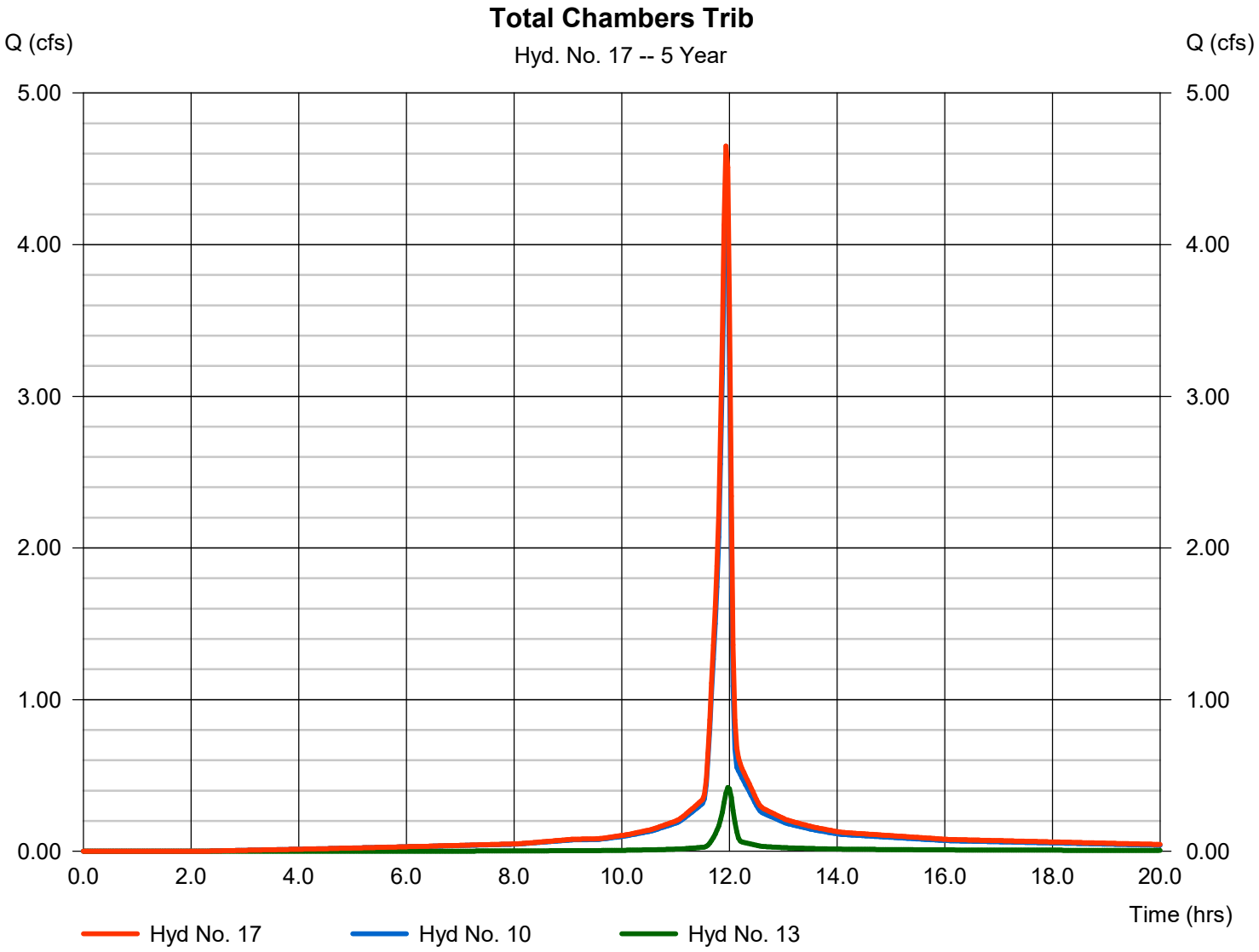


Hydrograph Report

Hyd. No. 17

Total Chambers Trib

Hydrograph type	= Combine	Peak discharge	= 4.651 cfs
Storm frequency	= 5 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 10,598 cuft
Inflow hyds.	= 10, 13	Contrib. drain. area	= 0.810 ac



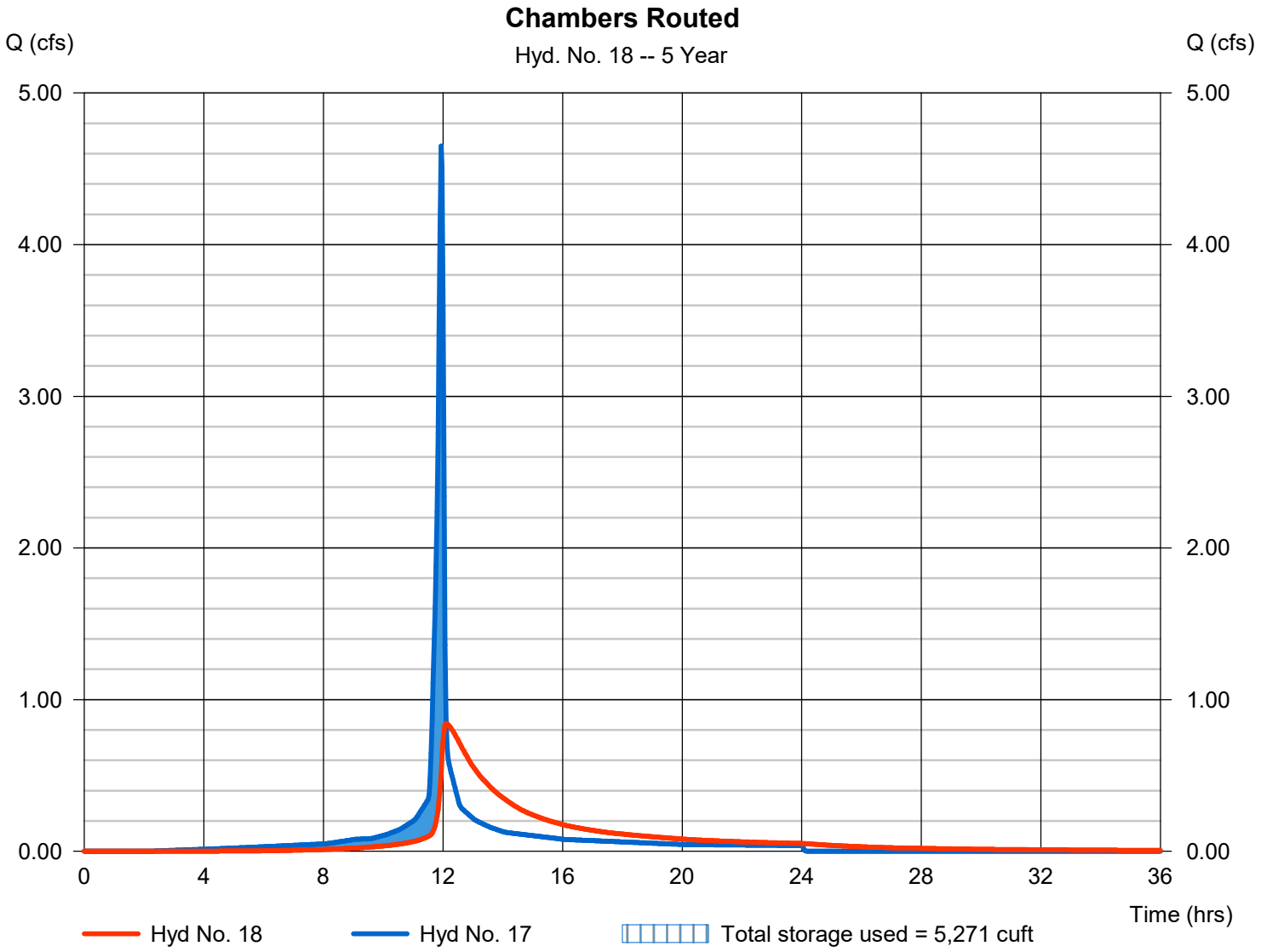
Hydrograph Report

Hyd. No. 18

Chambers Routed

Hydrograph type	=	Reservoir	Peak discharge	=	0.844 cfs
Storm frequency	=	5 yrs	Time to peak	=	12.10 hrs
Time interval	=	2 min	Hyd. volume	=	10,539 cuft
Inflow hyd. No.	=	17 - Total Chambers Trib	Max. Elevation	=	450.17 ft
Reservoir name	=	SC-310 Chambers	Max. Storage	=	5,271 cuft

Storage Indication method used.

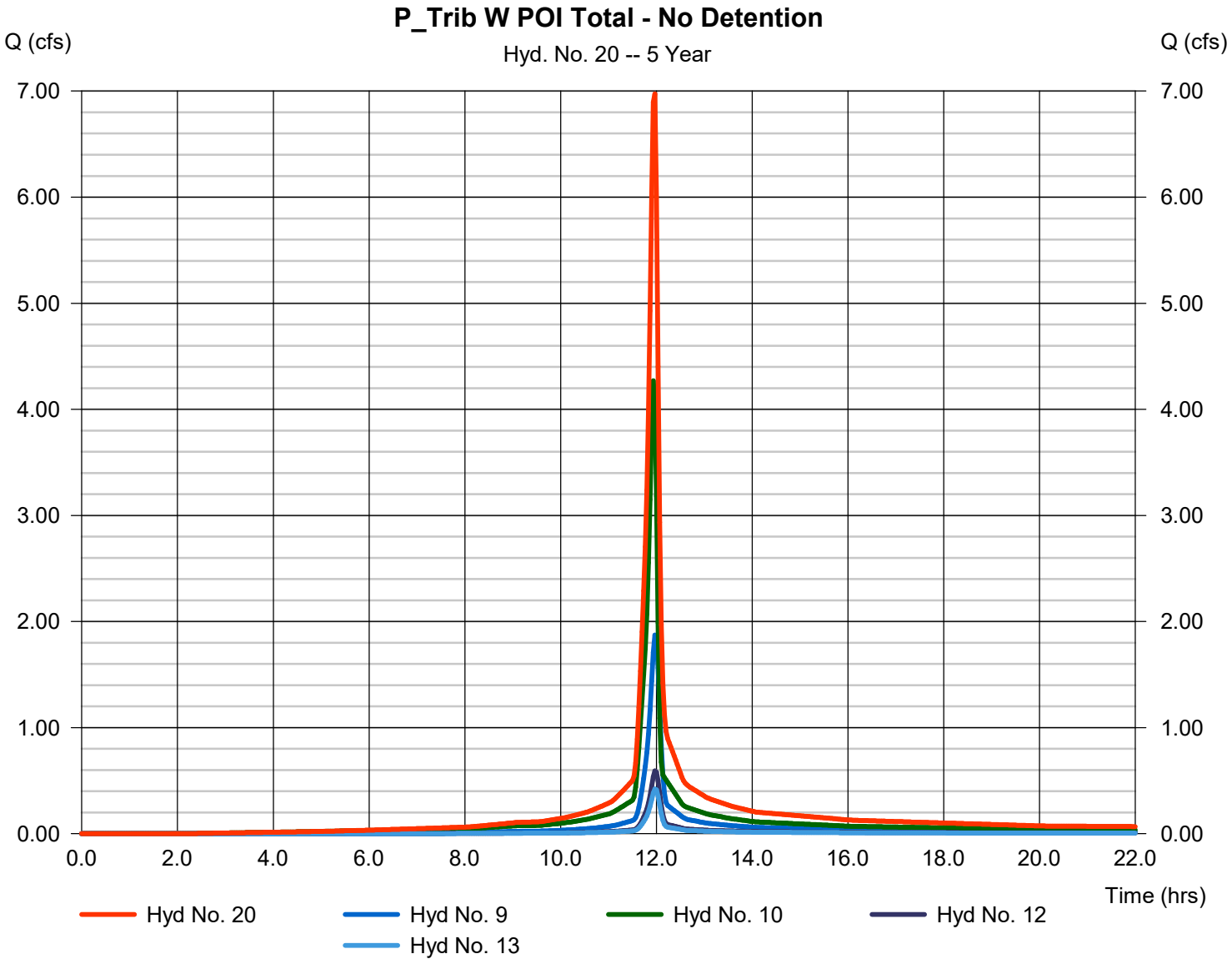


Hydrograph Report

Hyd. No. 20

P_Trib W POI Total - No Detention

Hydrograph type	= Combine	Peak discharge	= 6.973 cfs
Storm frequency	= 5 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 16,379 cuft
Inflow hyds.	= 9, 10, 12, 13	Contrib. drain. area	= 1.320 ac

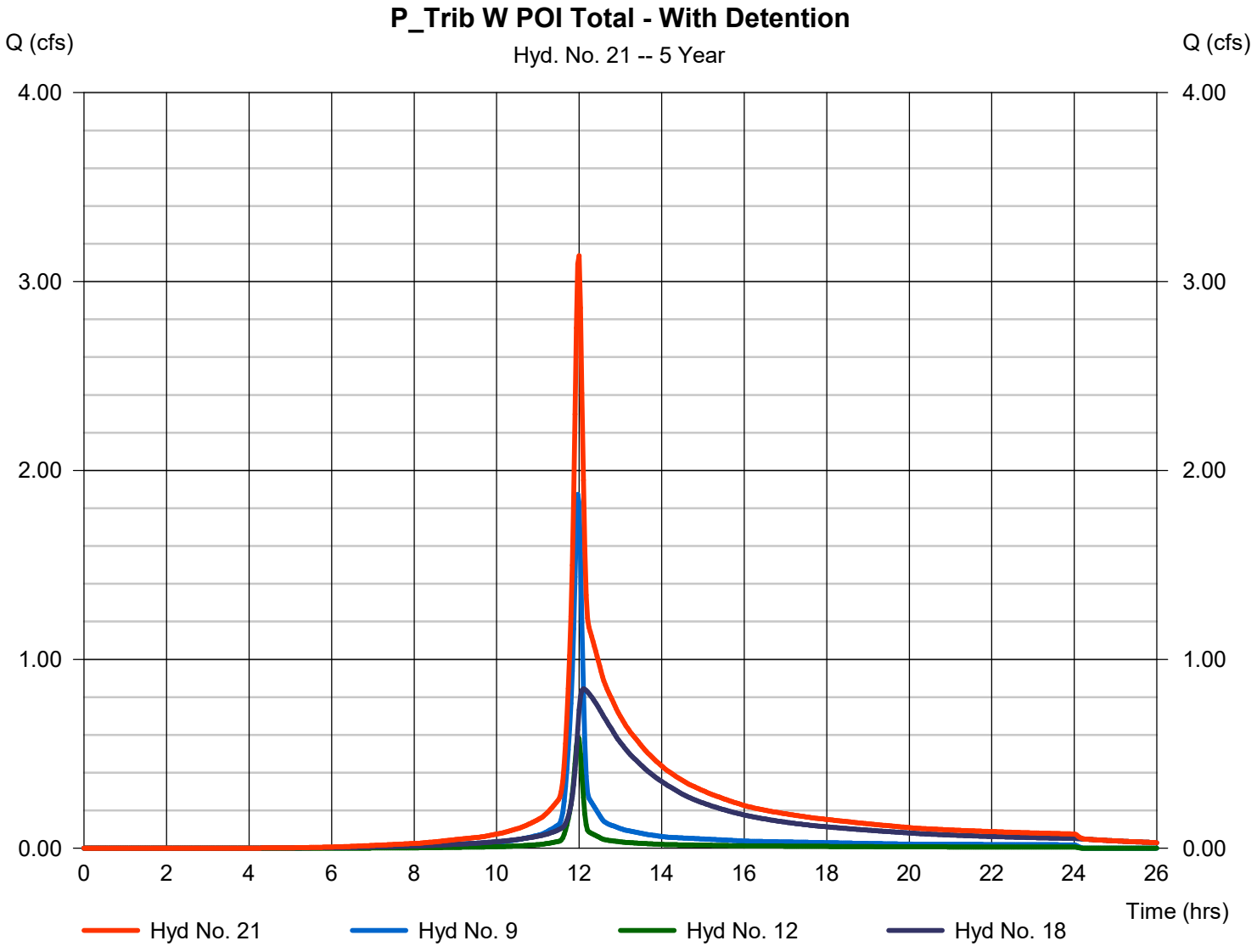


Hydrograph Report

Hyd. No. 21

P_Trib W POI Total - With Detention

Hydrograph type	= Combine	Peak discharge	= 3.137 cfs
Storm frequency	= 5 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 16,321 cuft
Inflow hyds.	= 9, 12, 18	Contrib. drain. area	= 0.510 ac

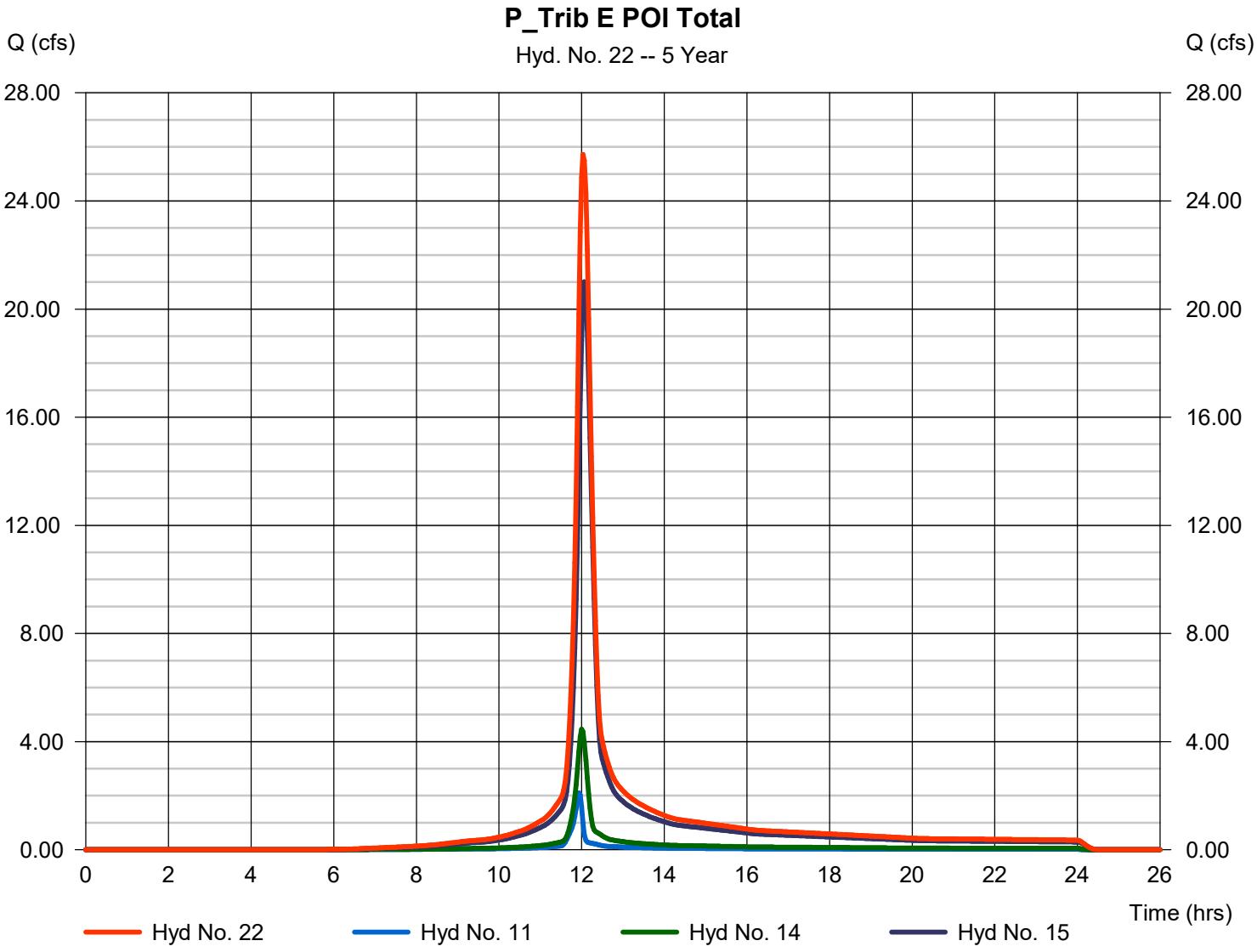


Hydrograph Report

Hyd. No. 22

P_Trib E POI Total

Hydrograph type	= Combine	Peak discharge	= 25.72 cfs
Storm frequency	= 5 yrs	Time to peak	= 12.03 hrs
Time interval	= 2 min	Hyd. volume	= 82,177 cuft
Inflow hyds.	= 11, 14, 15	Contrib. drain. area	= 7.700 ac



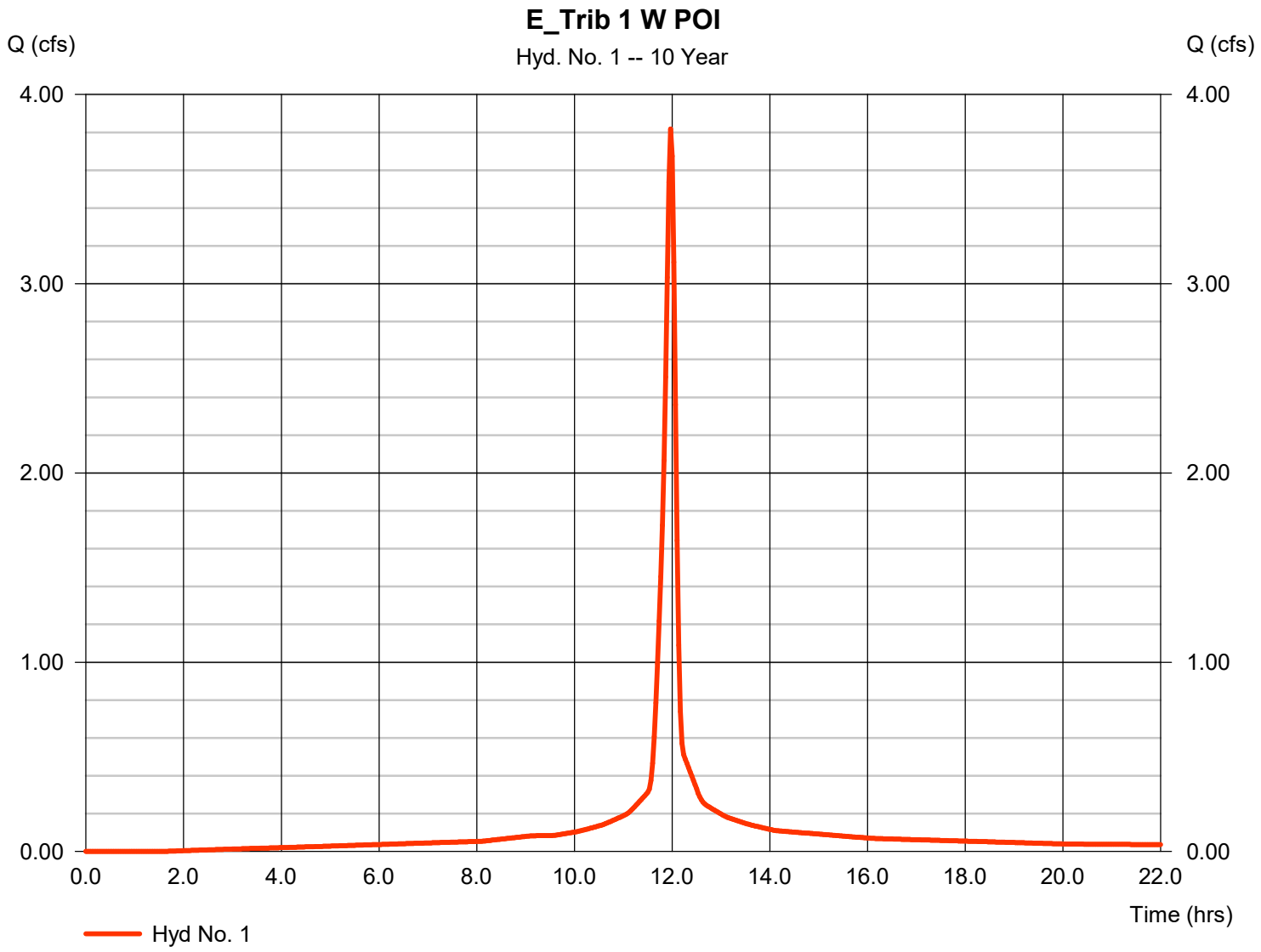
Hydrograph Report

Hyd. No. 1

E_Trib 1 W POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.818 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	9,851 cuft
Drainage area	=	0.570 ac	Curve number	=	96*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	7.50 min
Total precip.	=	5.23 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.070 x 84) + (0.500 x 98)] / 0.570



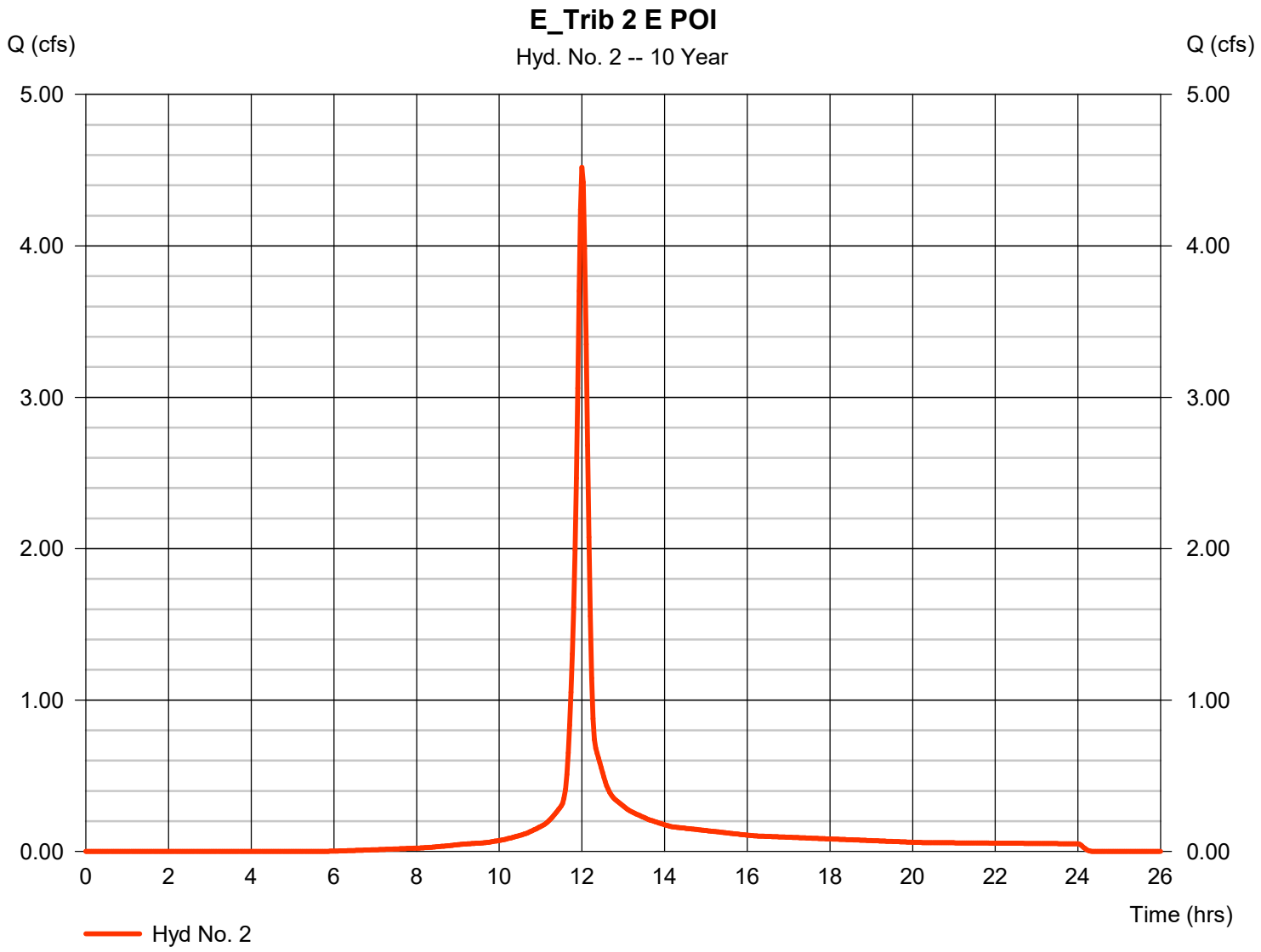
Hydrograph Report

Hyd. No. 2

E_Trib 2 E POI

Hydrograph type	= SCS Runoff	Peak discharge	= 4.519 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 11,860 cuft
Drainage area	= 0.910 ac	Curve number	= 84*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 10.50 min
Total precip.	= 5.23 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.900 x 84) + (0.010 x 98)] / 0.910



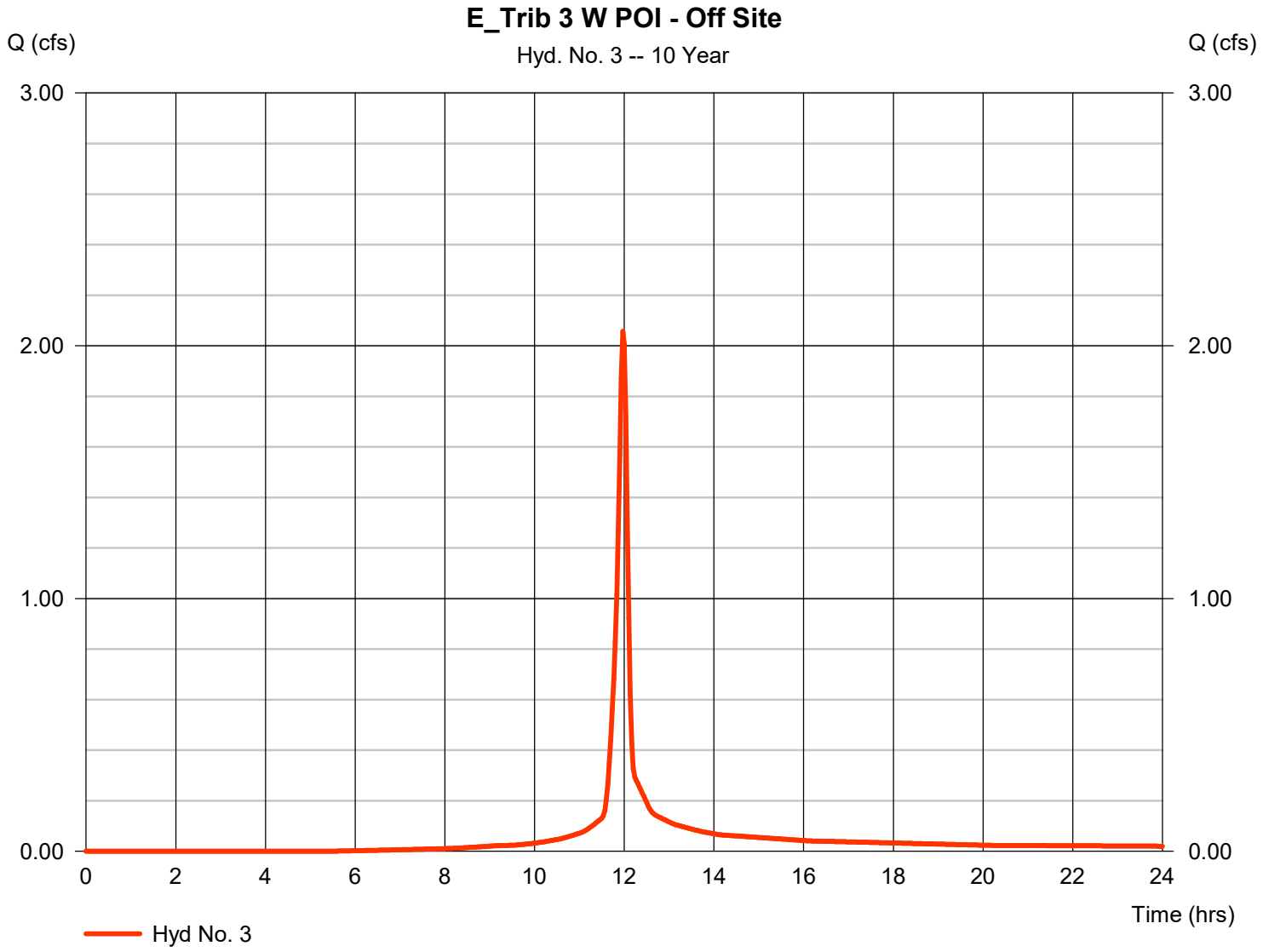
Hydrograph Report

Hyd. No. 3

E_Trib 3 W POI - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 2.057 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 4,810 cuft
Drainage area	= 0.370 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 8.90 min
Total precip.	= 5.23 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.340 x 84) + (0.030 x 98)] / 0.370



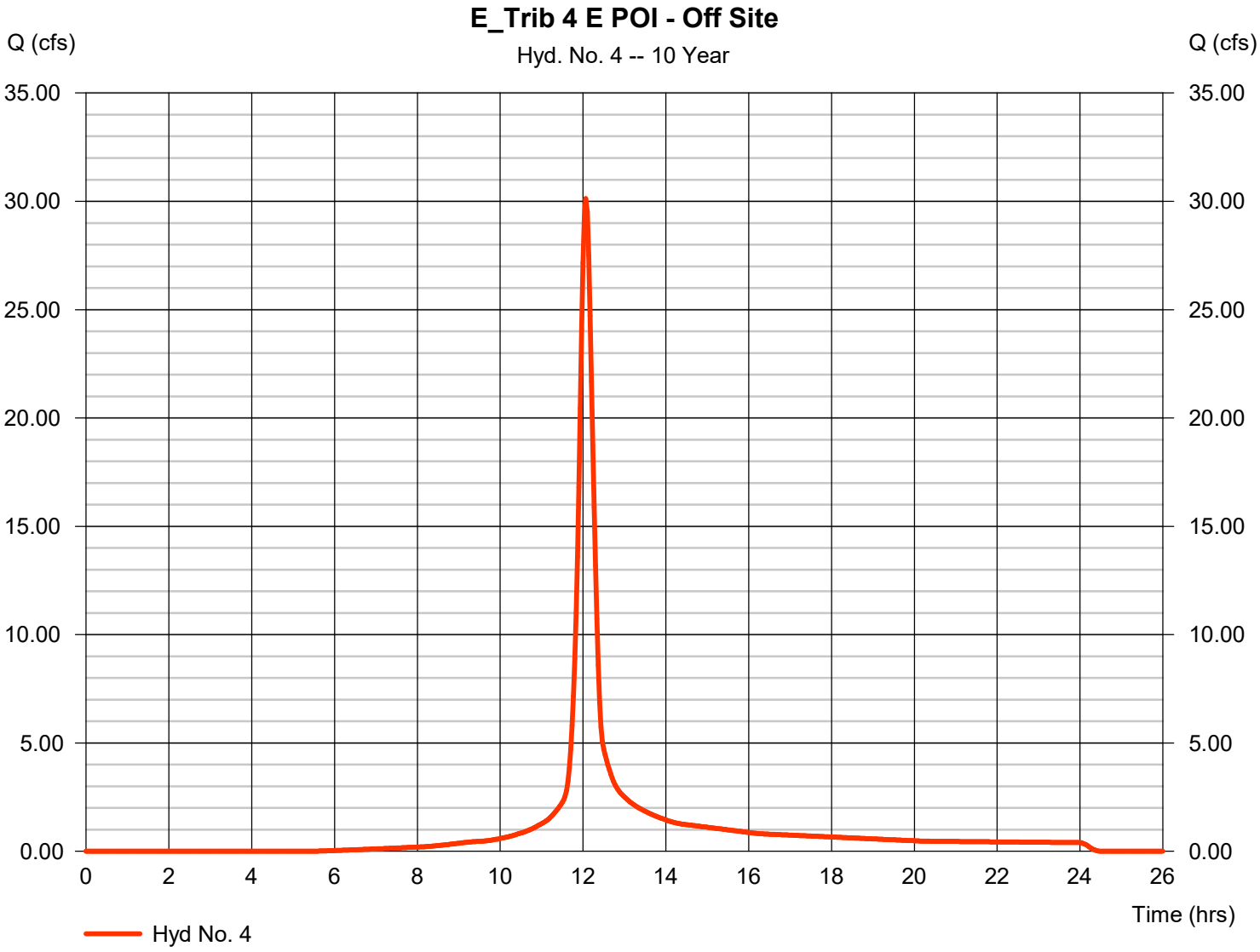
Hydrograph Report

Hyd. No. 4

E_Trib 4 E POI - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 30.12 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 95,159 cuft
Drainage area	= 7.320 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.00 min
Total precip.	= 5.23 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(6.930 x 84) + (0.390 x 98)] / 7.320

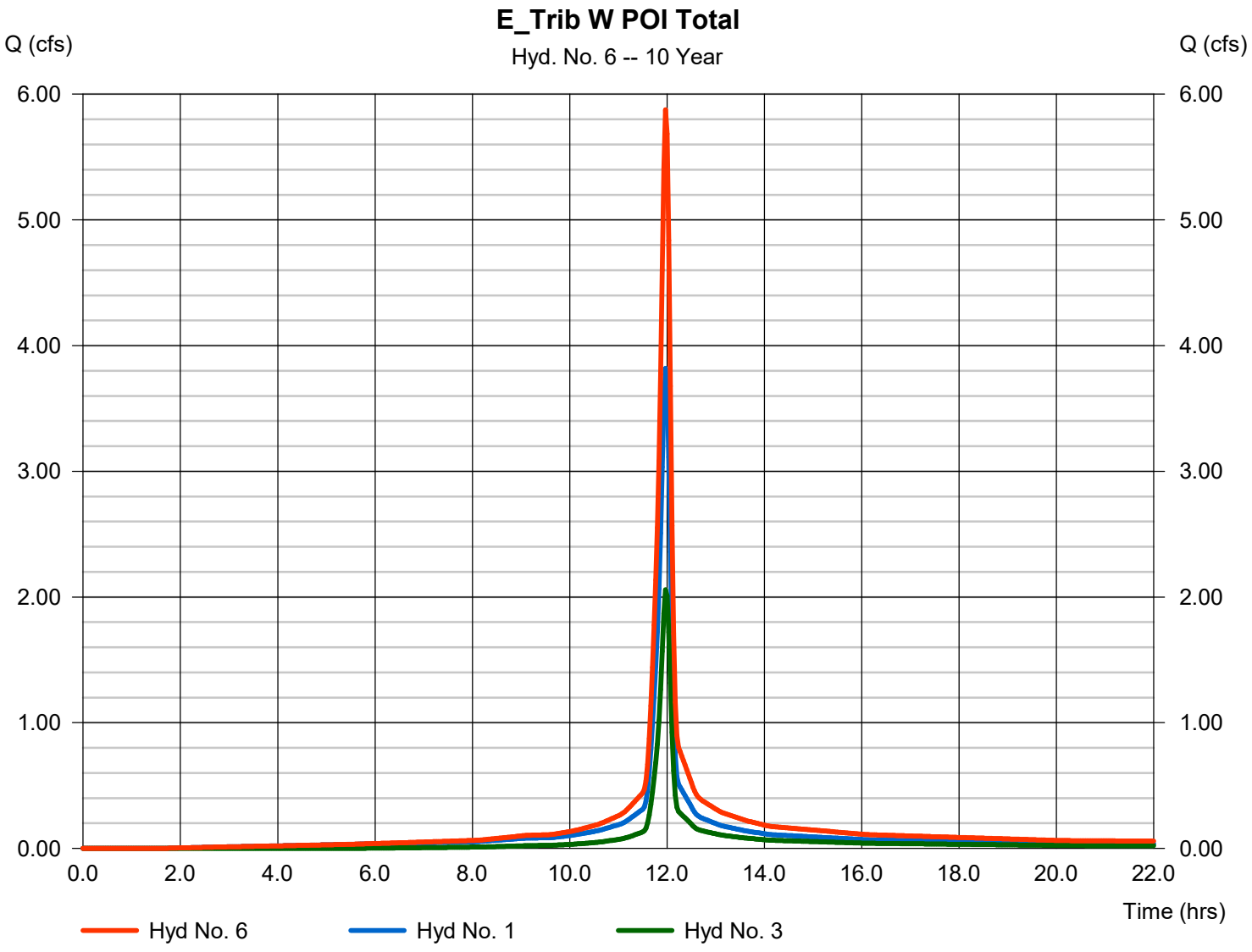


Hydrograph Report

Hyd. No. 6

E_Trib W POI Total

Hydrograph type	= Combine	Peak discharge	= 5.875 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 14,661 cuft
Inflow hyds.	= 1, 3	Contrib. drain. area	= 0.940 ac

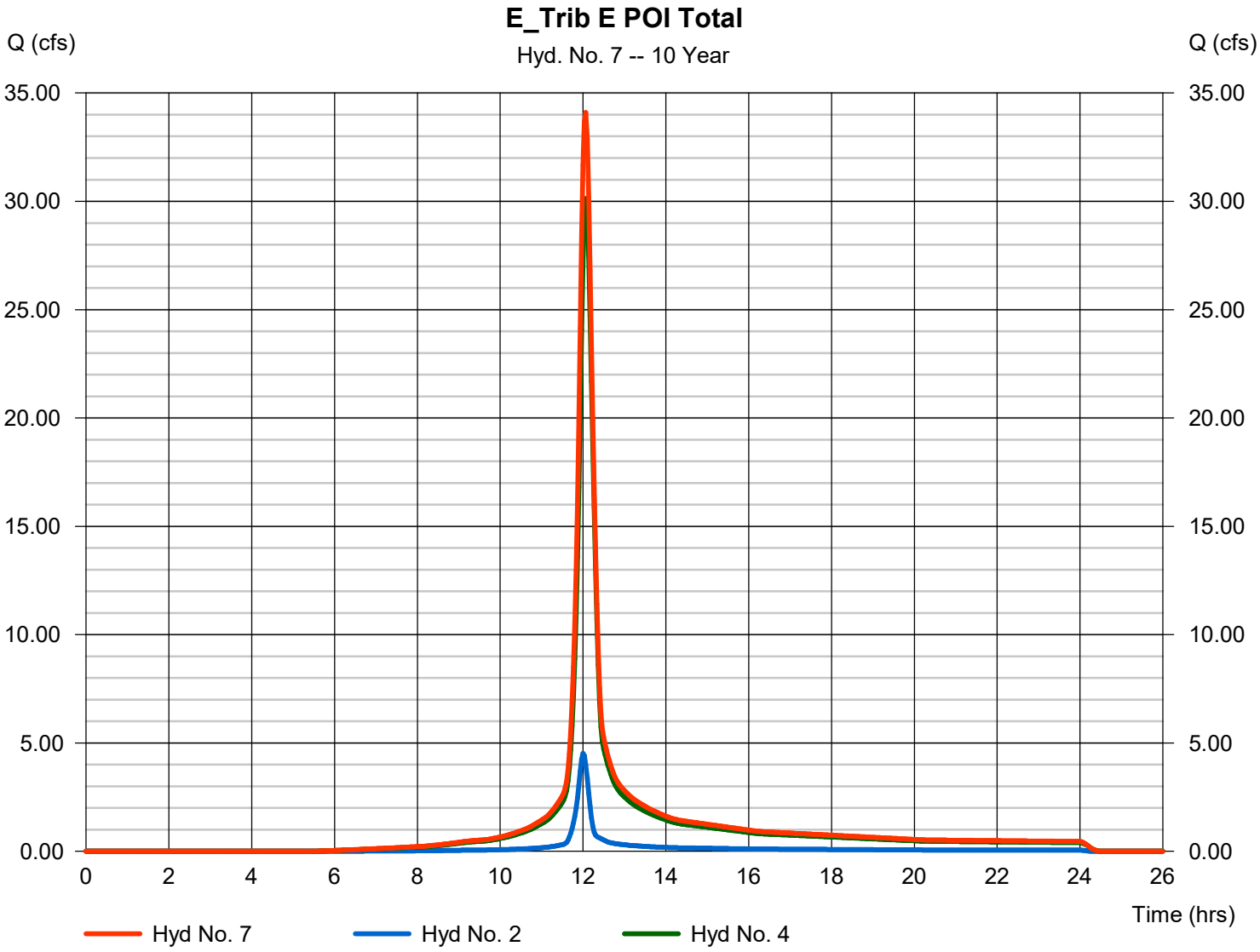


Hydrograph Report

Hyd. No. 7

E_Trib E POI Total

Hydrograph type	= Combine	Peak discharge	= 34.10 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 107,019 cuft
Inflow hyds.	= 2, 4	Contrib. drain. area	= 8.230 ac



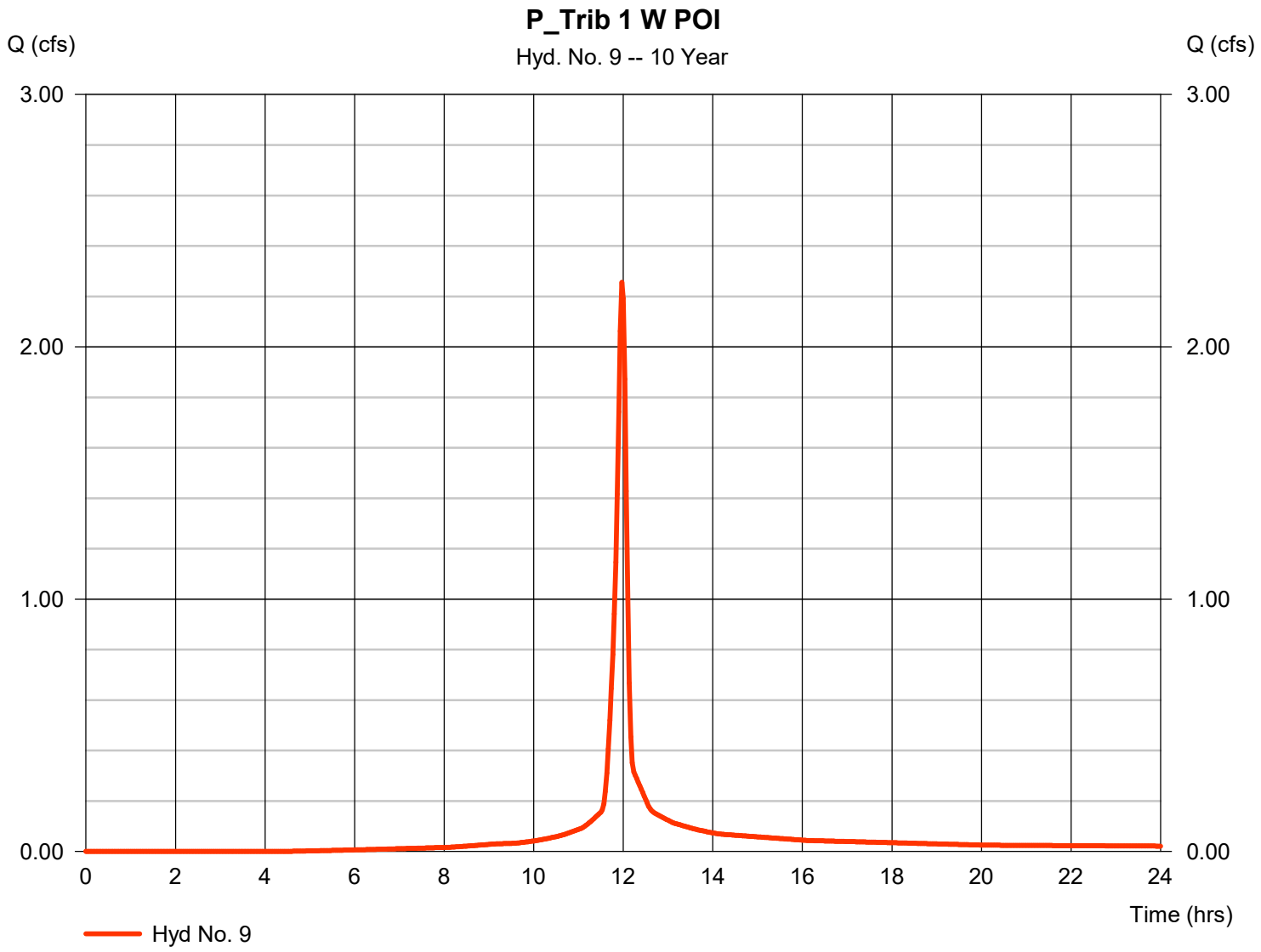
Hydrograph Report

Hyd. No. 9

P_Trib 1 W POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.255 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	5,363 cuft
Drainage area	=	0.380 ac	Curve number	=	88*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	7.40 min
Total precip.	=	5.23 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.280 x 84) + (0.100 x 98)] / 0.380



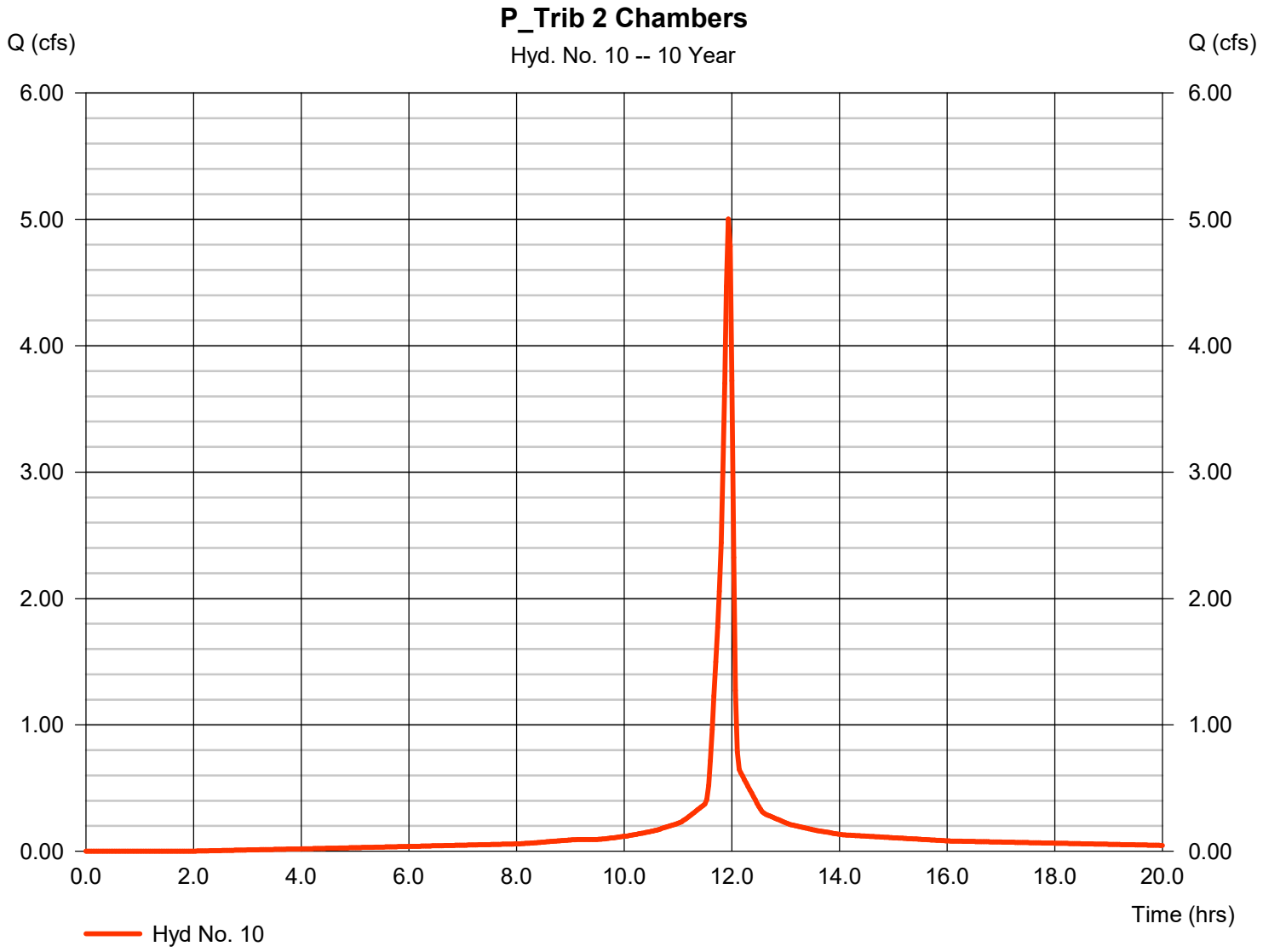
Hydrograph Report

Hyd. No. 10

P_Trib 2 Chambers

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.003 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	11,387 cuft
Drainage area	=	0.720 ac	Curve number	=	95*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	3.30 min
Total precip.	=	5.23 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.130 x 84) + (0.590 x 98)] / 0.720



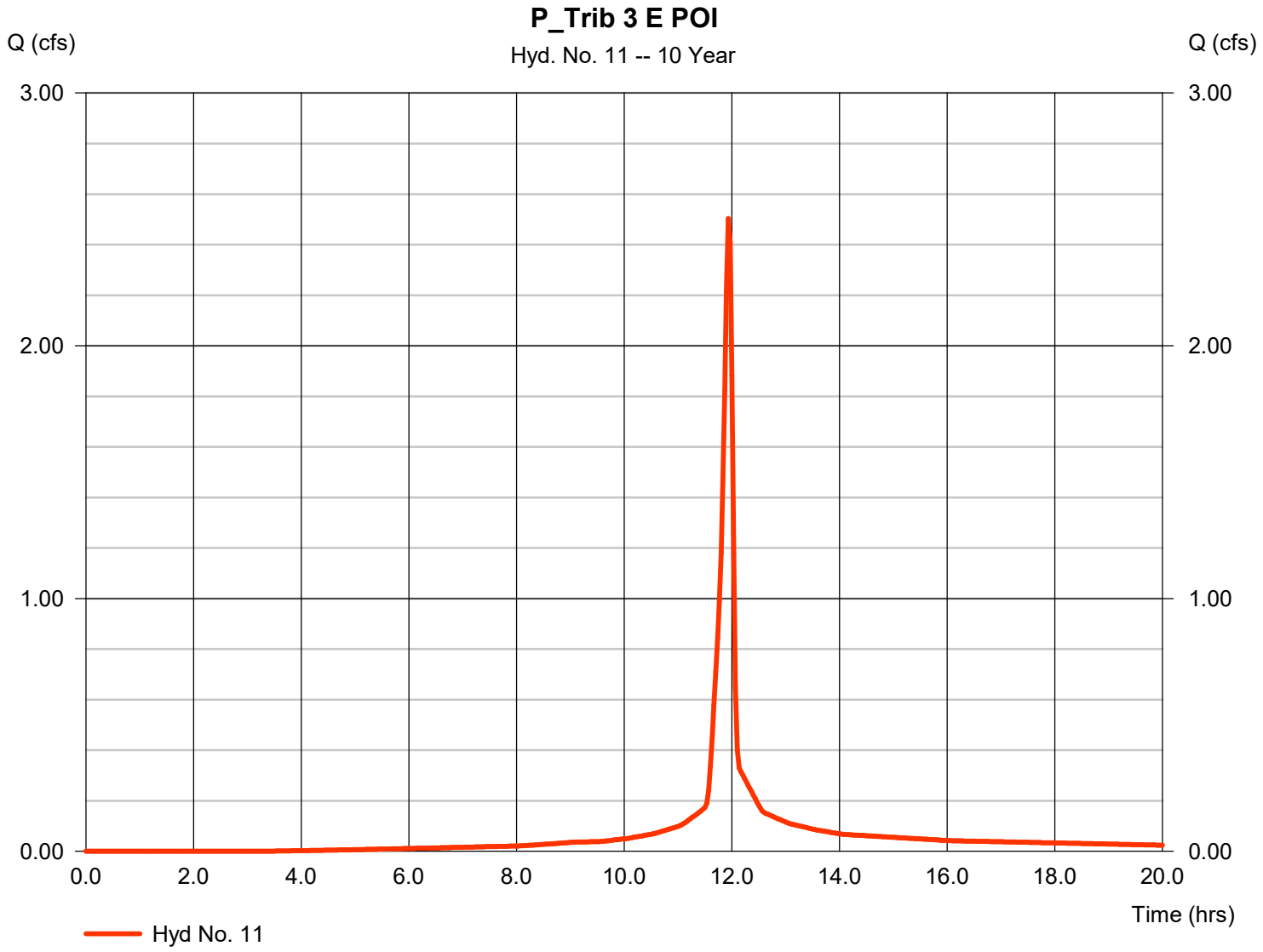
Hydrograph Report

Hyd. No. 11

P_Trib 3 E POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.503 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	5,439 cuft
Drainage area	=	0.380 ac	Curve number	=	91*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	4.10 min
Total precip.	=	5.23 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.180 x 84) + (0.200 x 98)] / 0.380



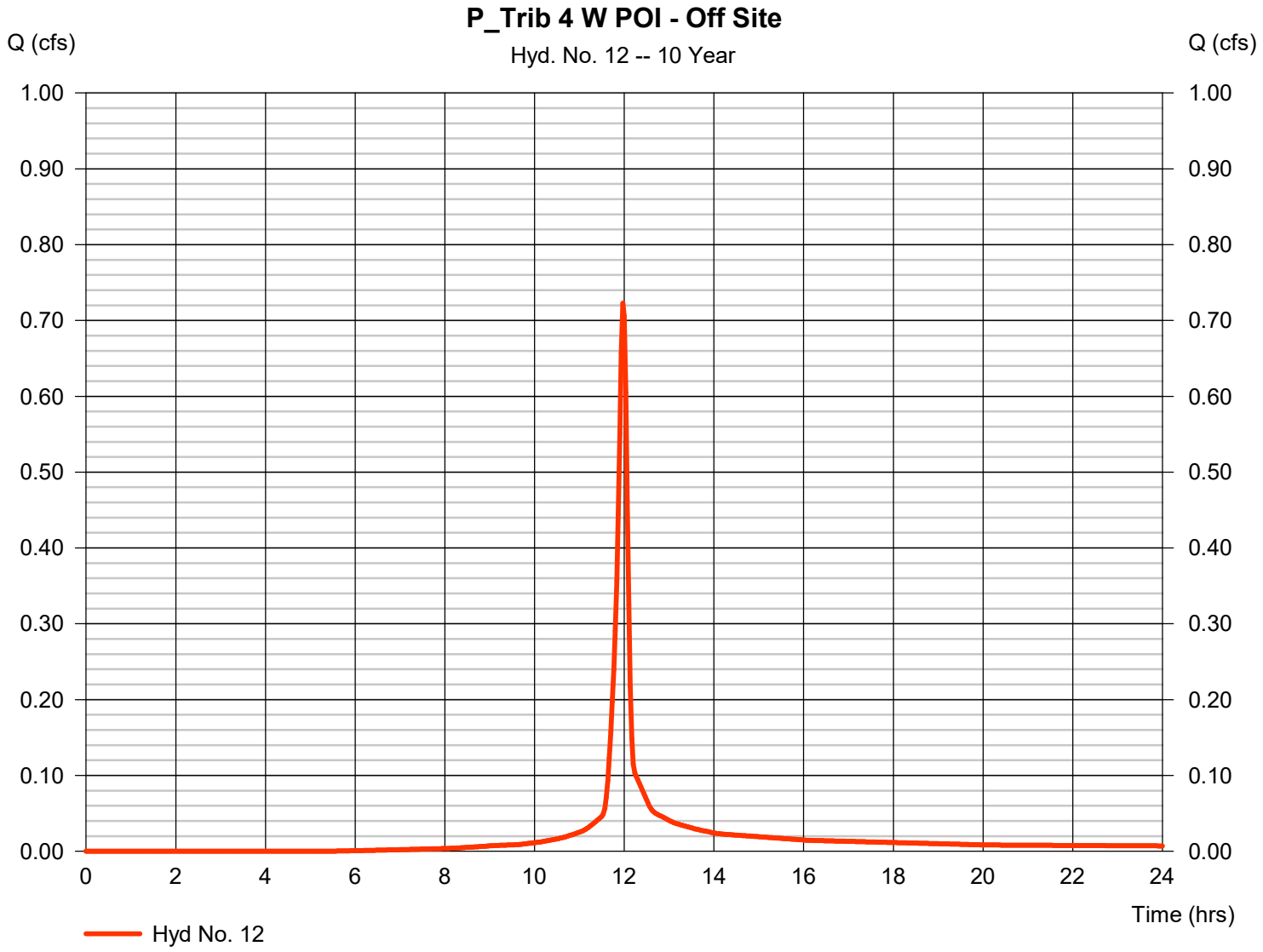
Hydrograph Report

Hyd. No. 12

P_Trib 4 W POI - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 0.723 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 1,690 cuft
Drainage area	= 0.130 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 8.90 min
Total precip.	= 5.23 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.120 x 84) + (0.010 x 98)] / 0.130



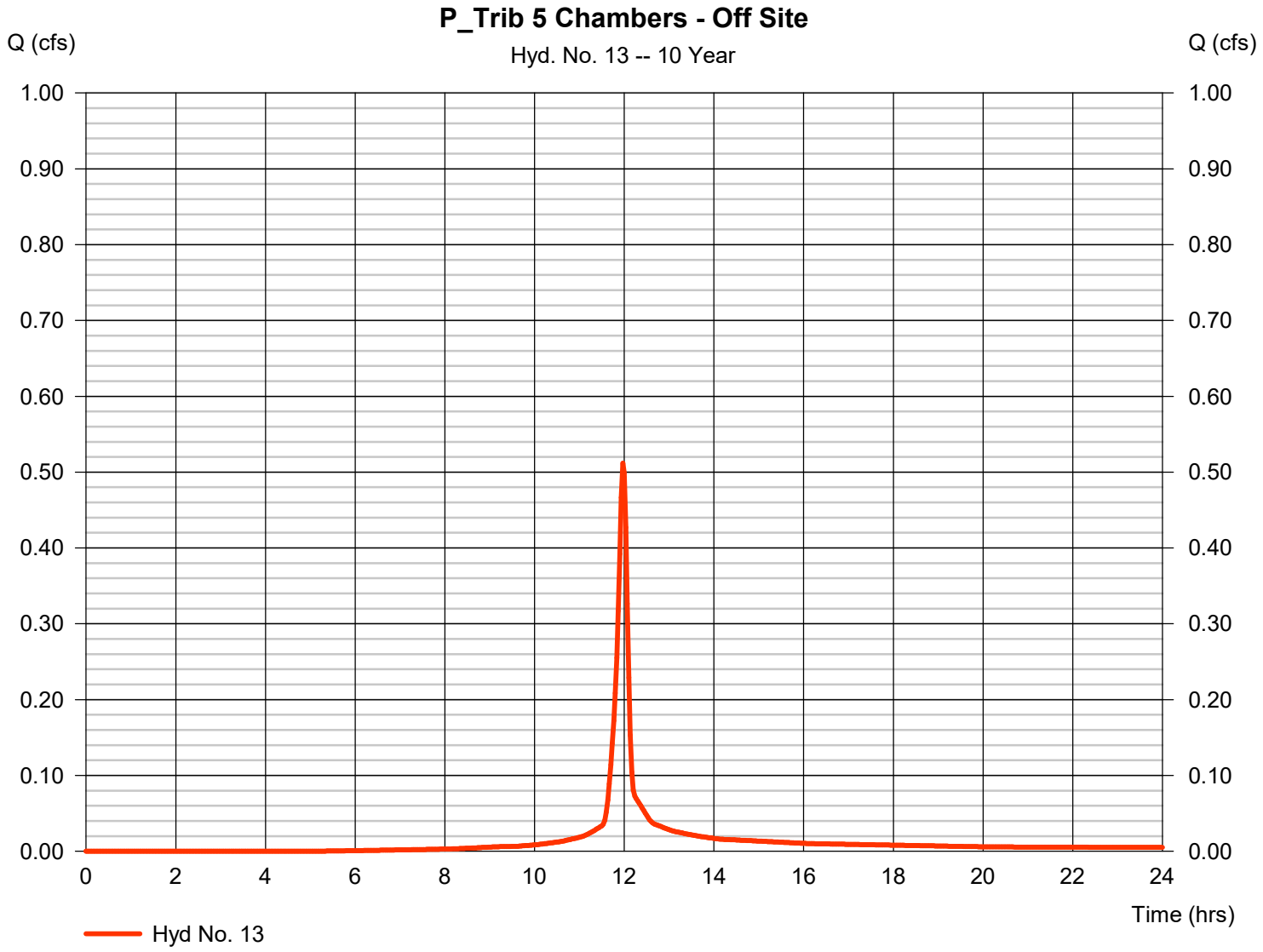
Hydrograph Report

Hyd. No. 13

P_Trib 5 Chambers - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 0.512 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 1,203 cuft
Drainage area	= 0.090 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 9.80 min
Total precip.	= 5.23 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.080 x 84) + (0.010 x 98)] / 0.090



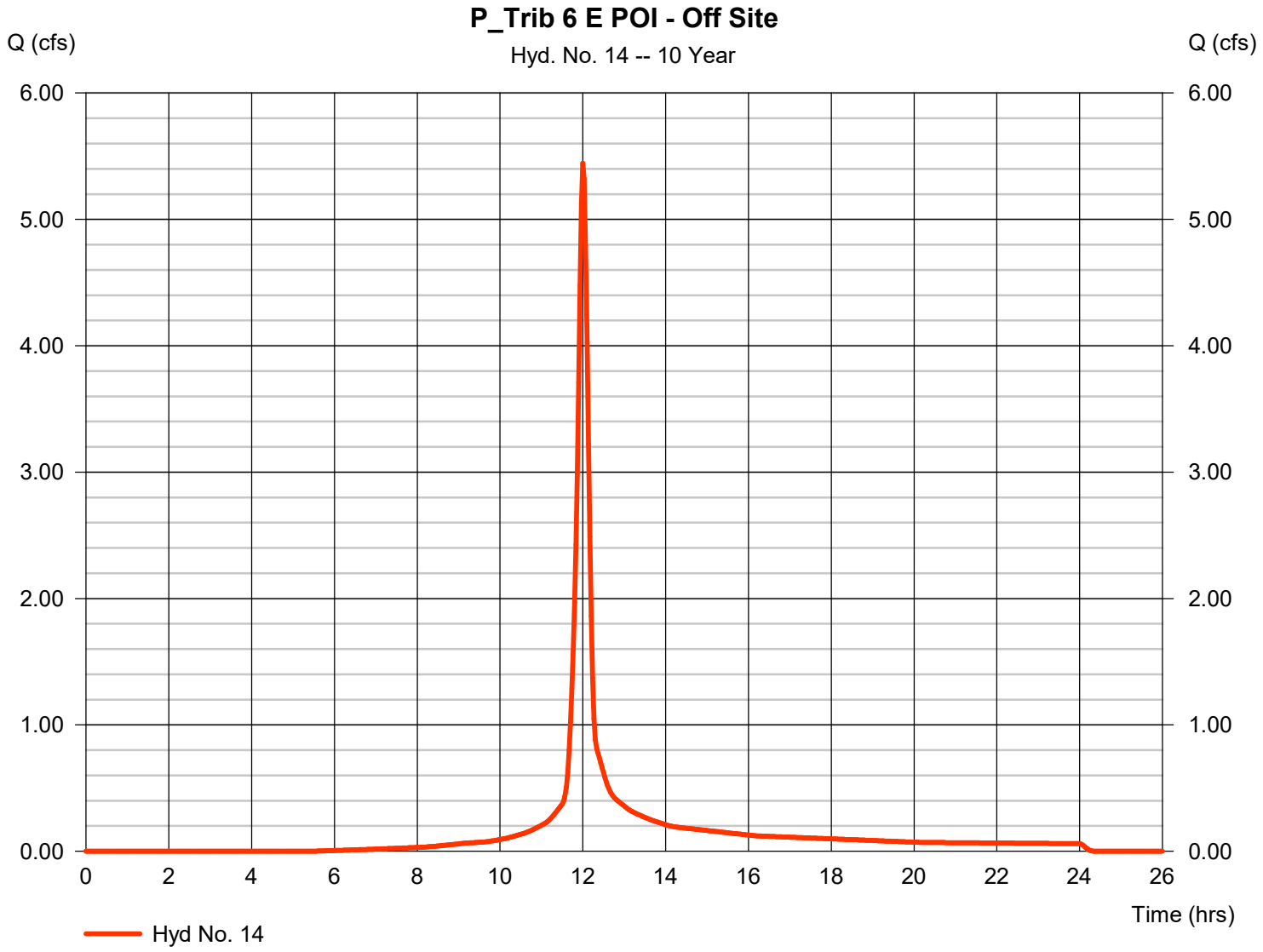
Hydrograph Report

Hyd. No. 14

P_Trib 6 E POI - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 5.445 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 14,345 cuft
Drainage area	= 1.070 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 10.10 min
Total precip.	= 5.23 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.990 x 84) + (0.080 x 98)] / 1.070



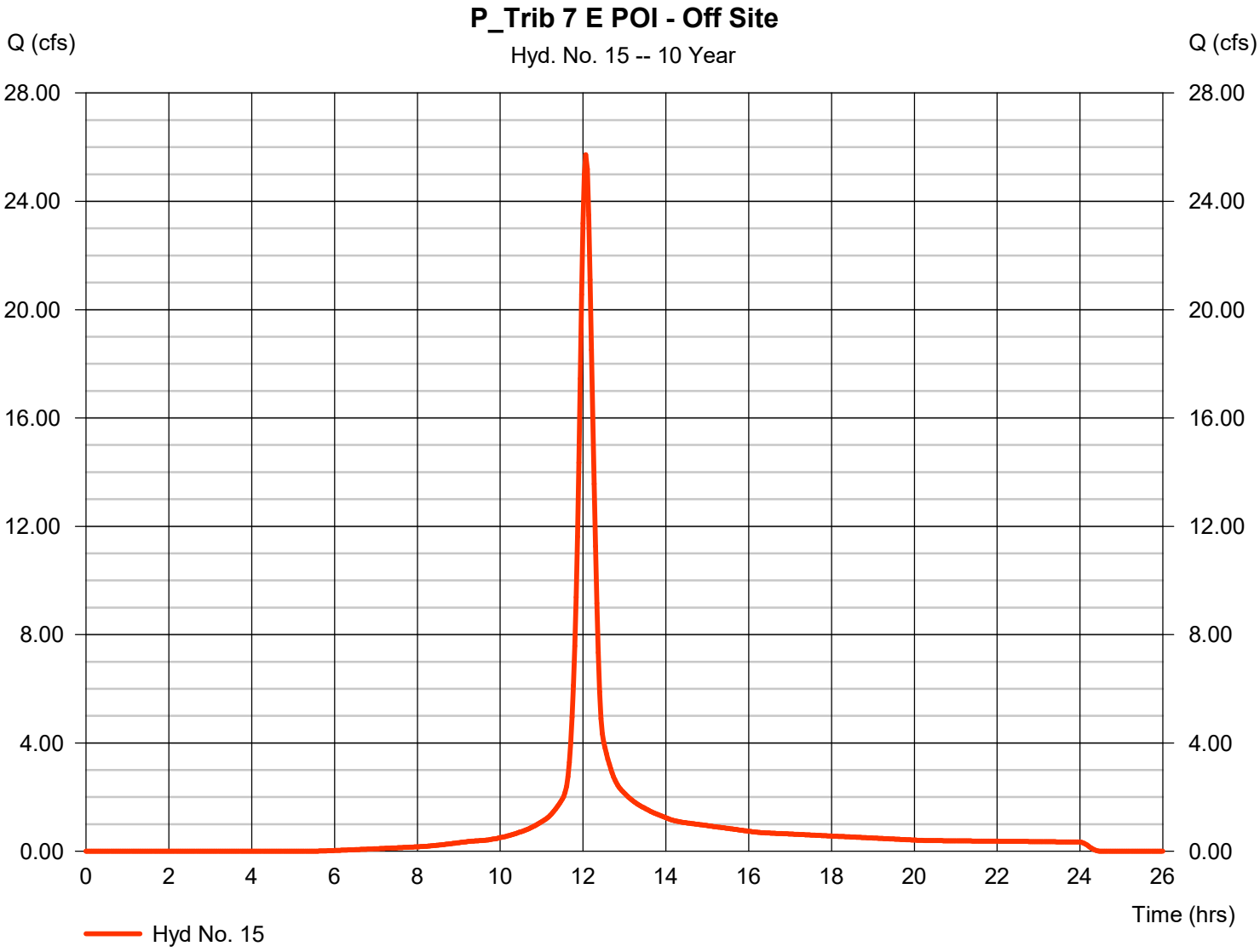
Hydrograph Report

Hyd. No. 15

P_Trib 7 E POI - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 25.72 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 81,249 cuft
Drainage area	= 6.250 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.00 min
Total precip.	= 5.23 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(5.940 x 84) + (0.310 x 98)] / 6.250

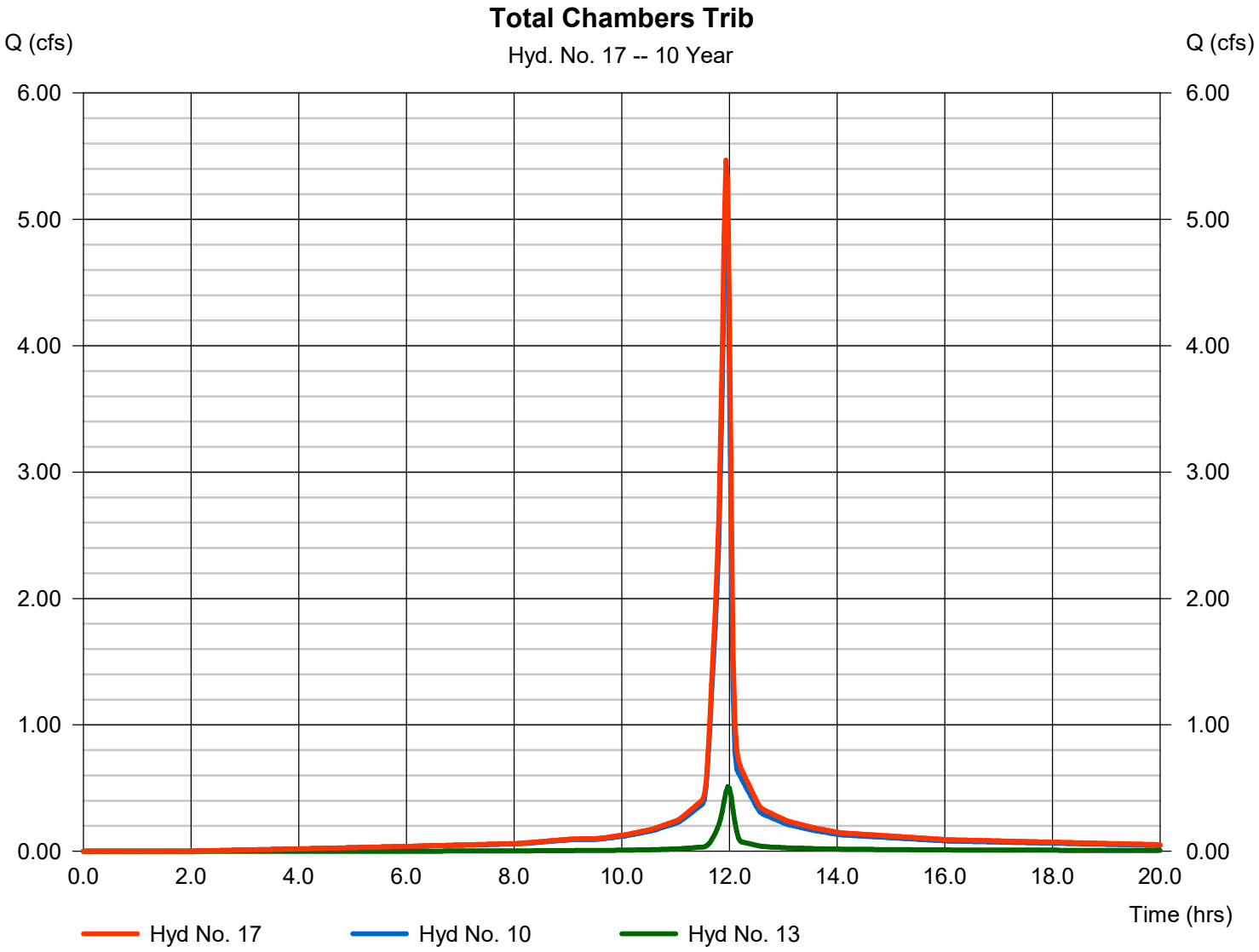


Hydrograph Report

Hyd. No. 17

Total Chambers Trib

Hydrograph type	= Combine	Peak discharge	= 5.469 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 12,590 cuft
Inflow hyds.	= 10, 13	Contrib. drain. area	= 0.810 ac



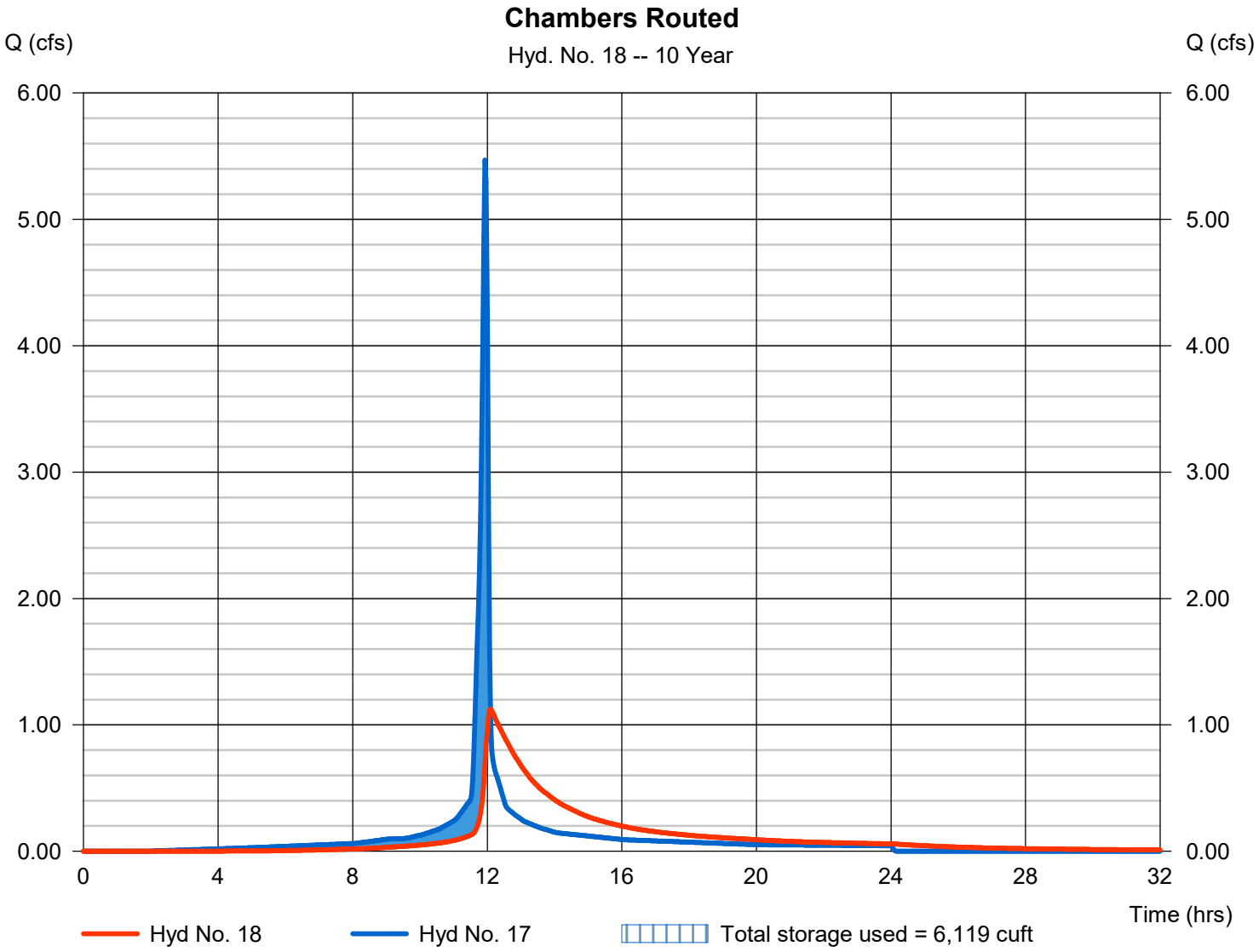
Hydrograph Report

Hyd. No. 18

Chambers Routed

Hydrograph type	=	Reservoir	Peak discharge	=	1.125 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.10 hrs
Time interval	=	2 min	Hyd. volume	=	12,532 cuft
Inflow hyd. No.	=	17 - Total Chambers Trib	Max. Elevation	=	450.36 ft
Reservoir name	=	SC-310 Chambers	Max. Storage	=	6,119 cuft

Storage Indication method used.

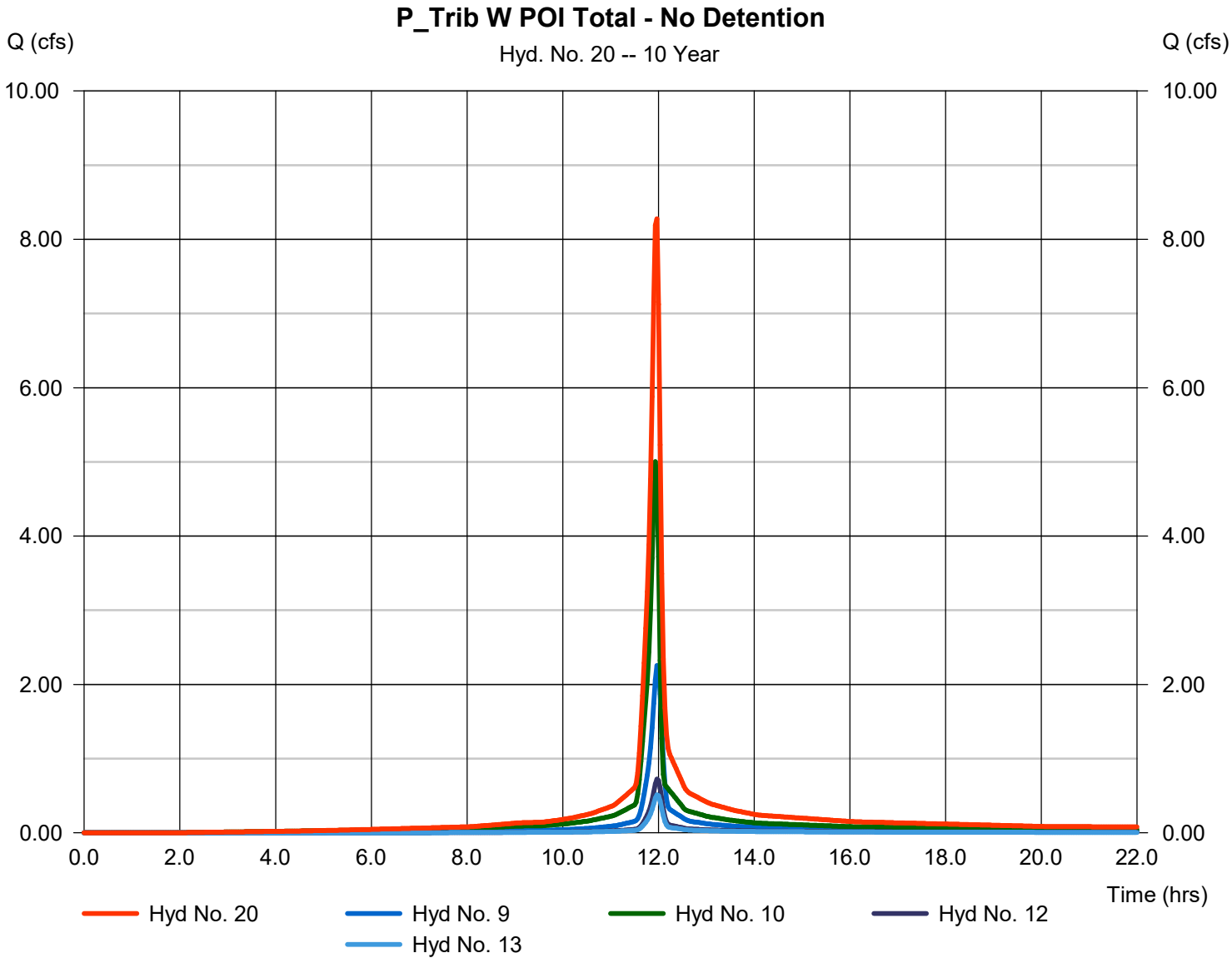


Hydrograph Report

Hyd. No. 20

P_Trib W POI Total - No Detention

Hydrograph type	= Combine	Peak discharge	= 8.275 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 19,643 cuft
Inflow hyds.	= 9, 10, 12, 13	Contrib. drain. area	= 1.320 ac

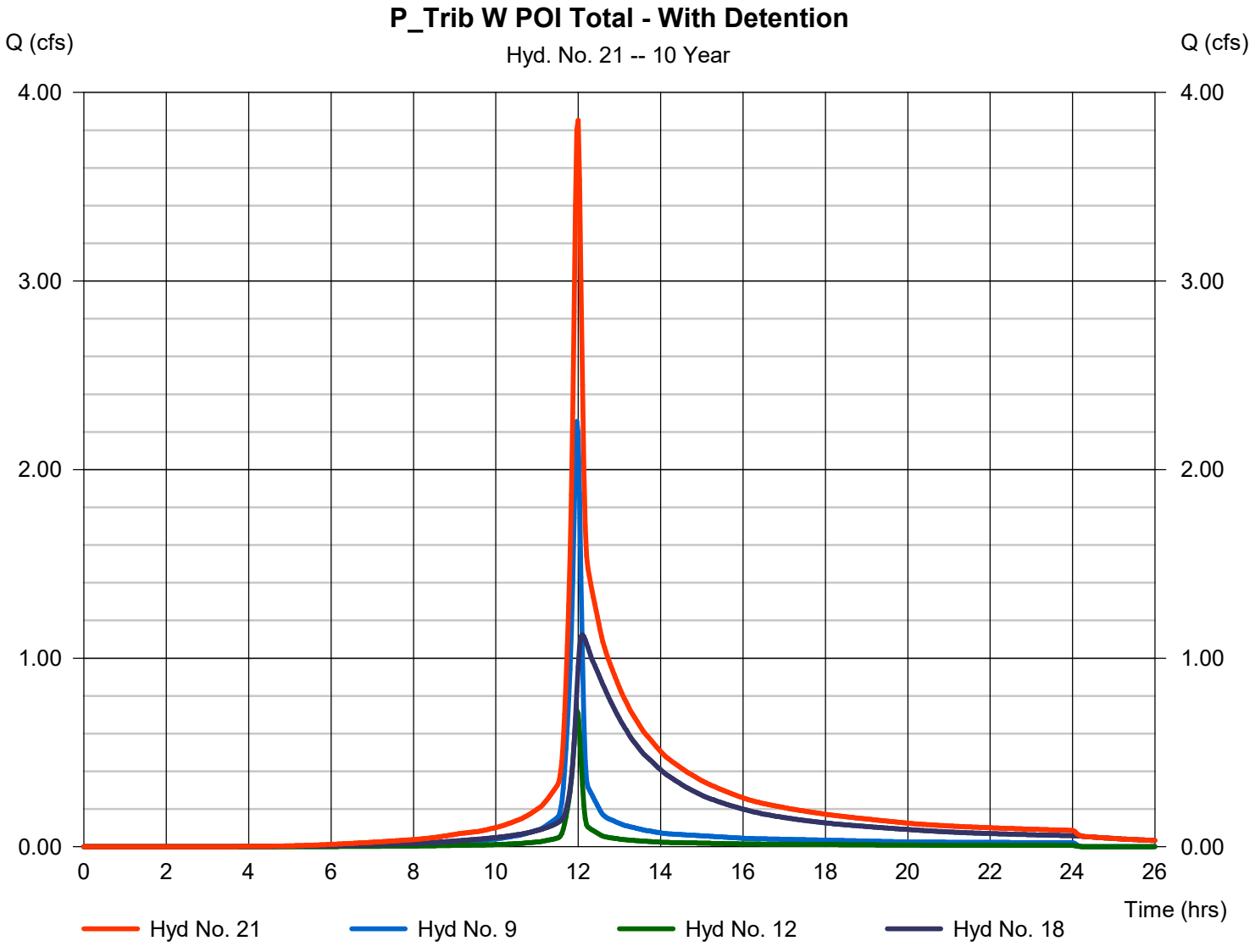


Hydrograph Report

Hyd. No. 21

P_Trib W POI Total - With Detention

Hydrograph type	= Combine	Peak discharge	= 3.852 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 19,585 cuft
Inflow hyds.	= 9, 12, 18	Contrib. drain. area	= 0.510 ac

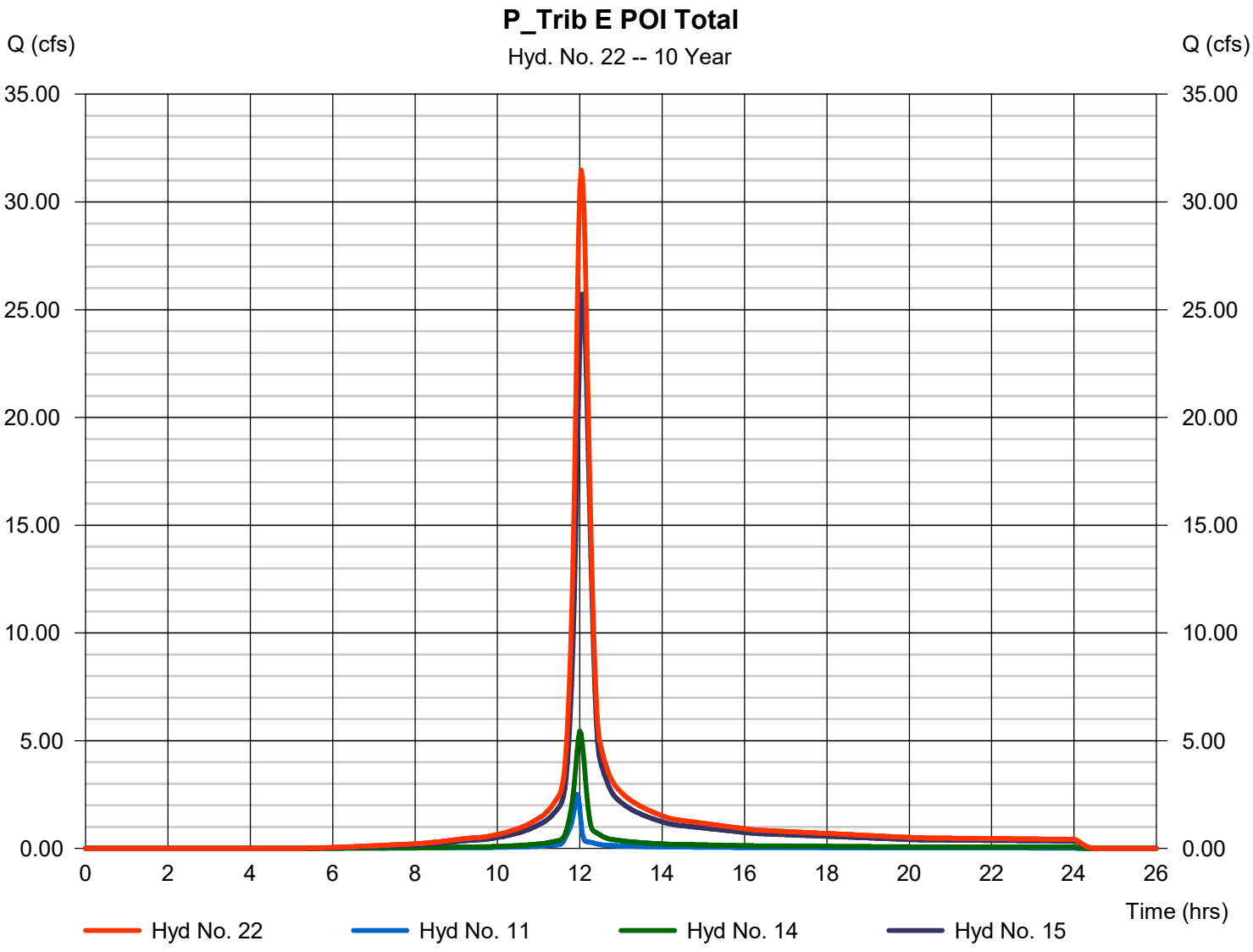


Hydrograph Report

Hyd. No. 22

P_Trib E POI Total

Hydrograph type	= Combine	Peak discharge	= 31.48 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.03 hrs
Time interval	= 2 min	Hyd. volume	= 101,032 cuft
Inflow hyds.	= 11, 14, 15	Contrib. drain. area	= 7.700 ac



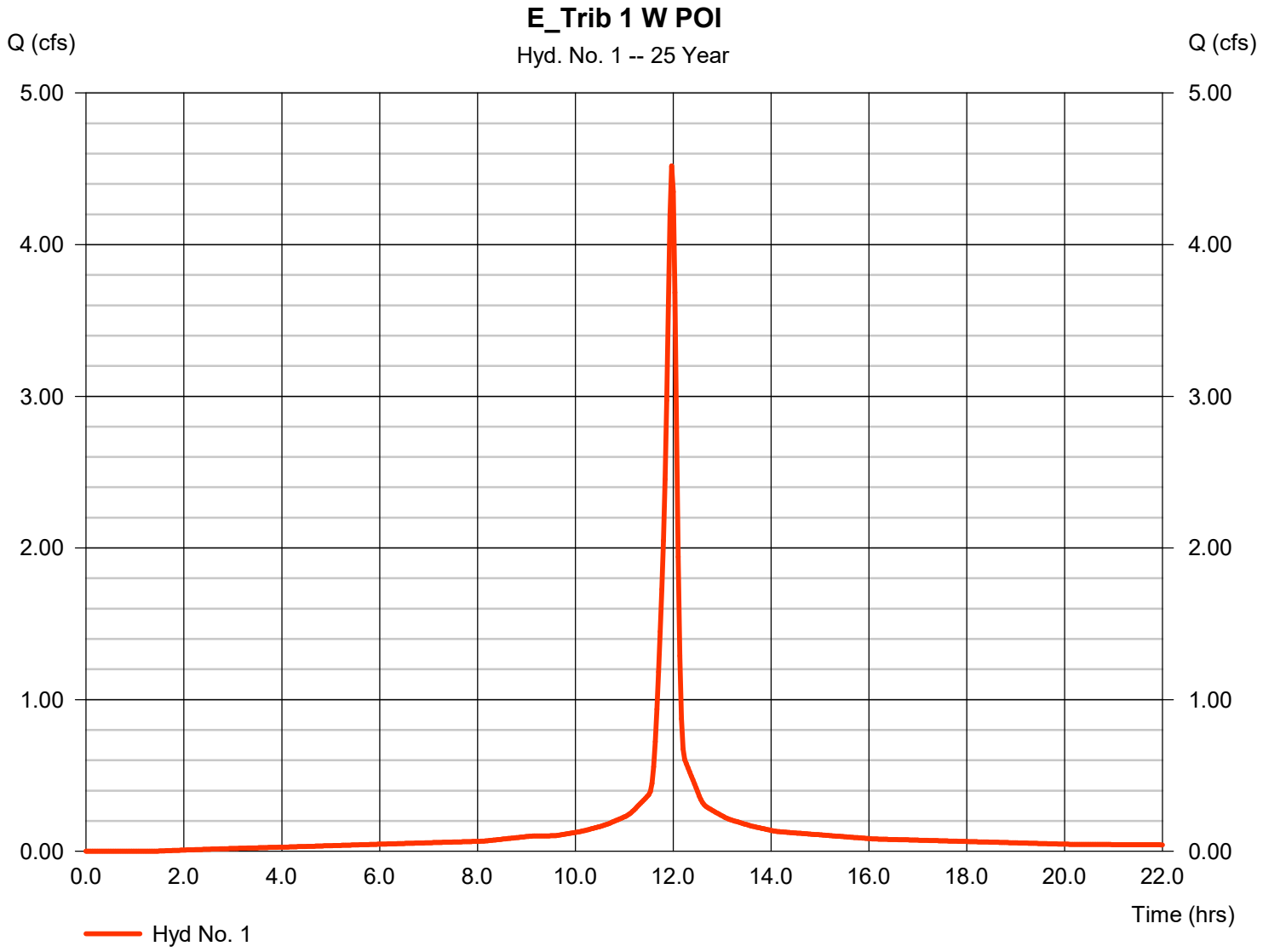
Hydrograph Report

Hyd. No. 1

E_Trib 1 W POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	4.520 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	11,766 cuft
Drainage area	=	0.570 ac	Curve number	=	96*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	7.50 min
Total precip.	=	6.16 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.070 x 84) + (0.500 x 98)] / 0.570



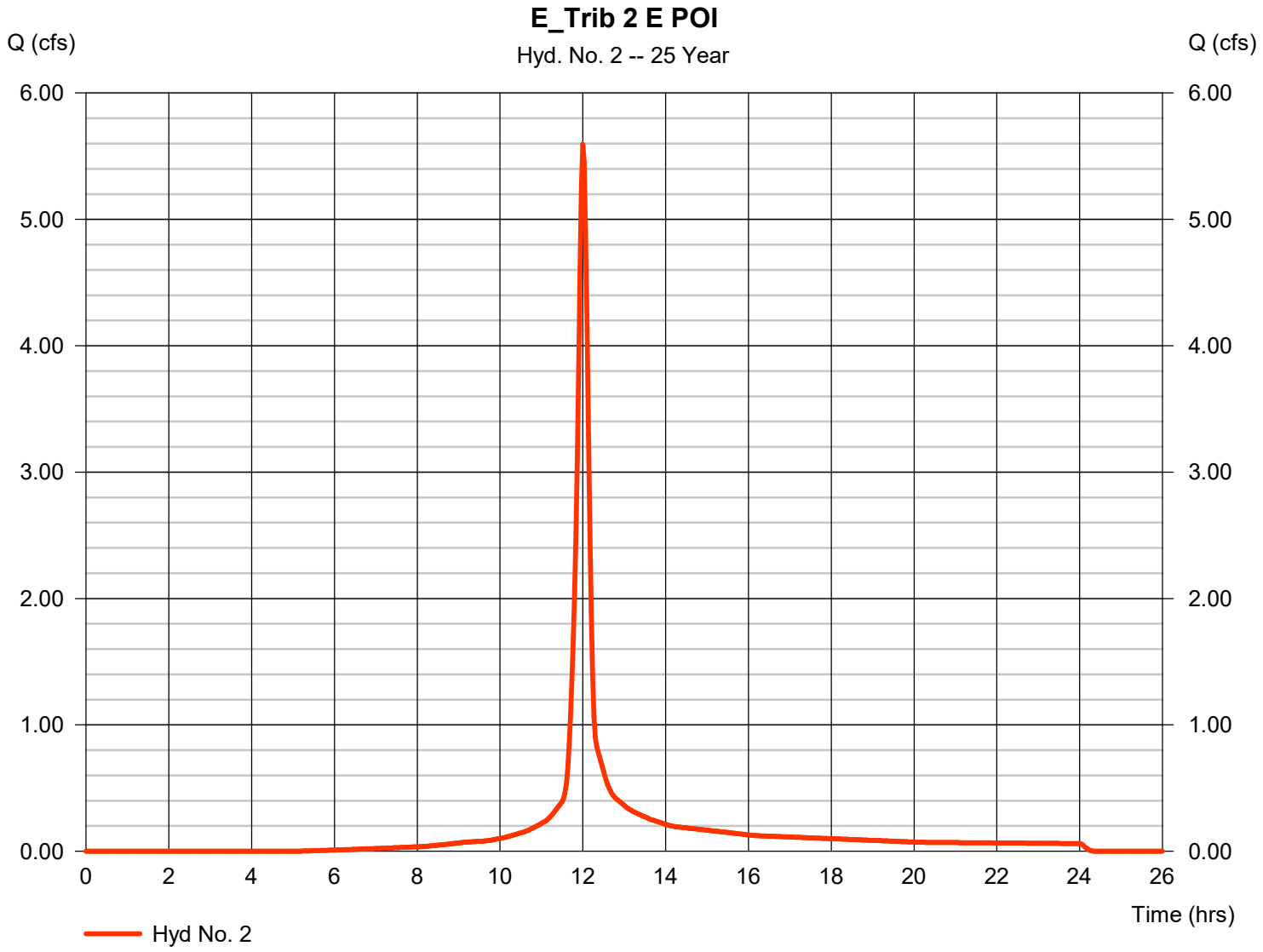
Hydrograph Report

Hyd. No. 2

E_Trib 2 E POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.594 cfs
Storm frequency	=	25 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	14,806 cuft
Drainage area	=	0.910 ac	Curve number	=	84*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	10.50 min
Total precip.	=	6.16 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.900 x 84) + (0.010 x 98)] / 0.910



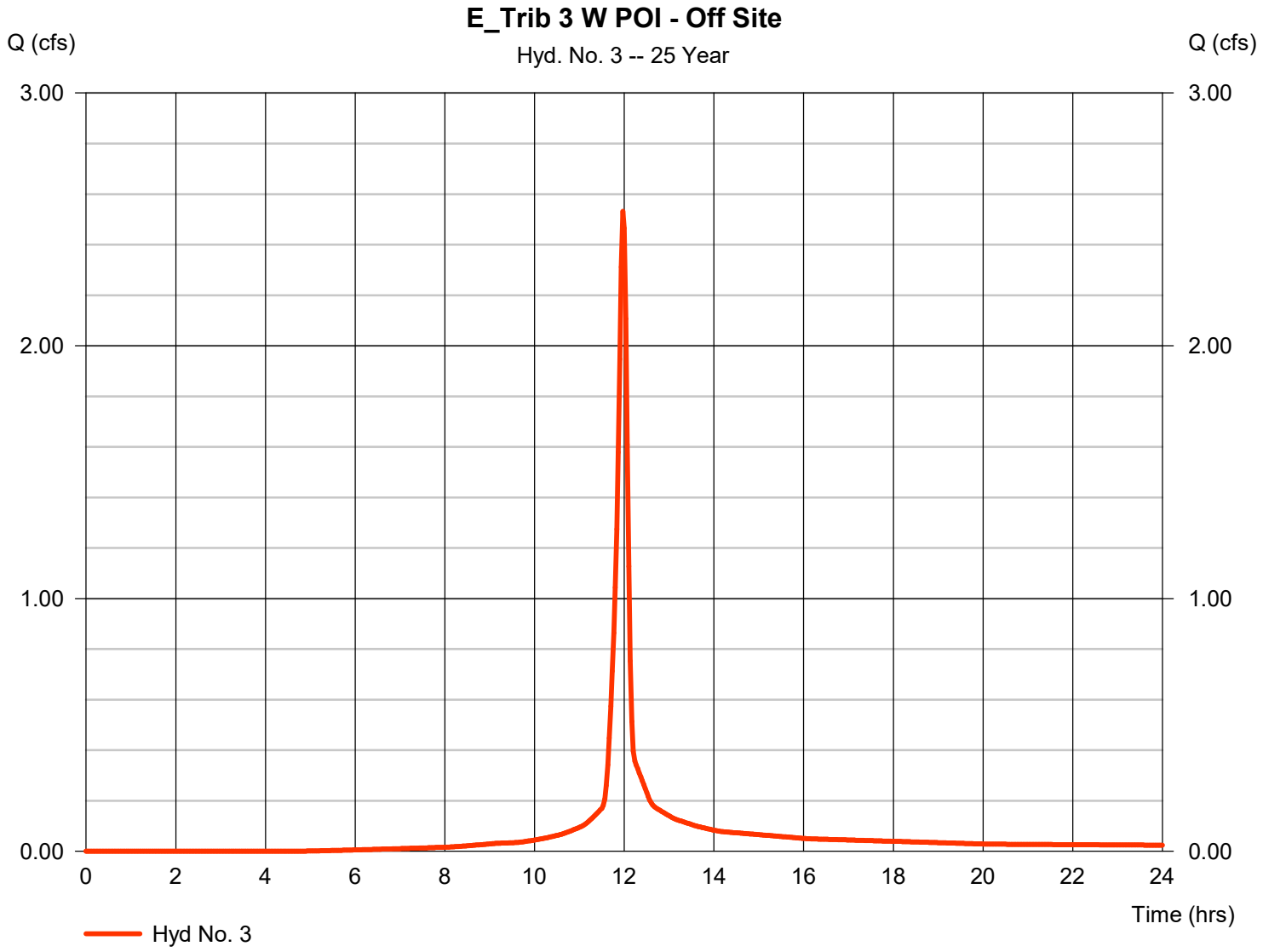
Hydrograph Report

Hyd. No. 3

E_Trib 3 W POI - Off Site

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.532 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	5,982 cuft
Drainage area	=	0.370 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	8.90 min
Total precip.	=	6.16 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.340 x 84) + (0.030 x 98)] / 0.370



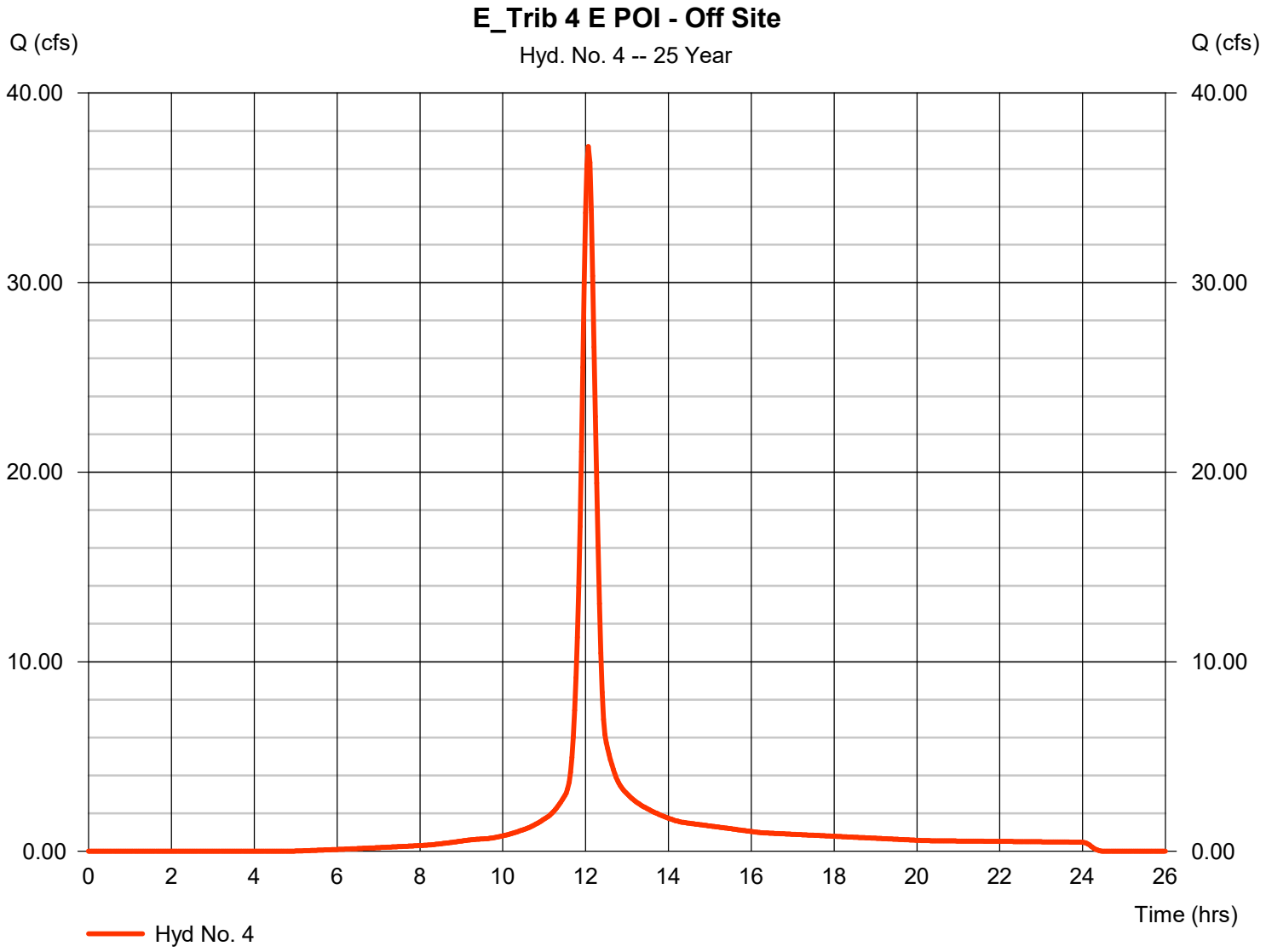
Hydrograph Report

Hyd. No. 4

E_Trib 4 E POI - Off Site

Hydrograph type	=	SCS Runoff	Peak discharge	=	37.17 cfs
Storm frequency	=	25 yrs	Time to peak	=	12.07 hrs
Time interval	=	2 min	Hyd. volume	=	118,340 cuft
Drainage area	=	7.320 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	18.00 min
Total precip.	=	6.16 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(6.930 x 84) + (0.390 x 98)] / 7.320

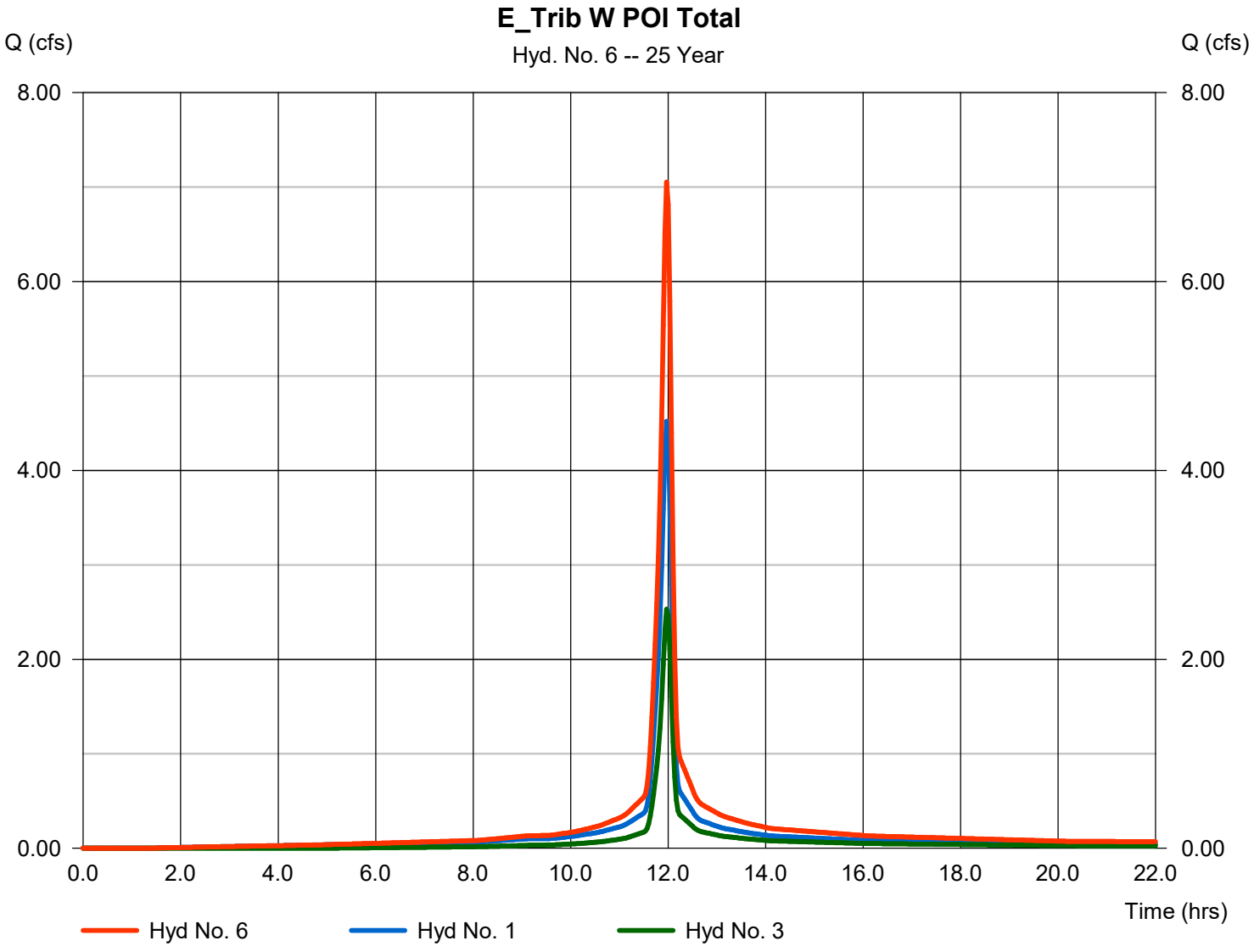


Hydrograph Report

Hyd. No. 6

E_Trib W POI Total

Hydrograph type	= Combine	Peak discharge	= 7.051 cfs
Storm frequency	= 25 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 17,748 cuft
Inflow hyds.	= 1, 3	Contrib. drain. area	= 0.940 ac

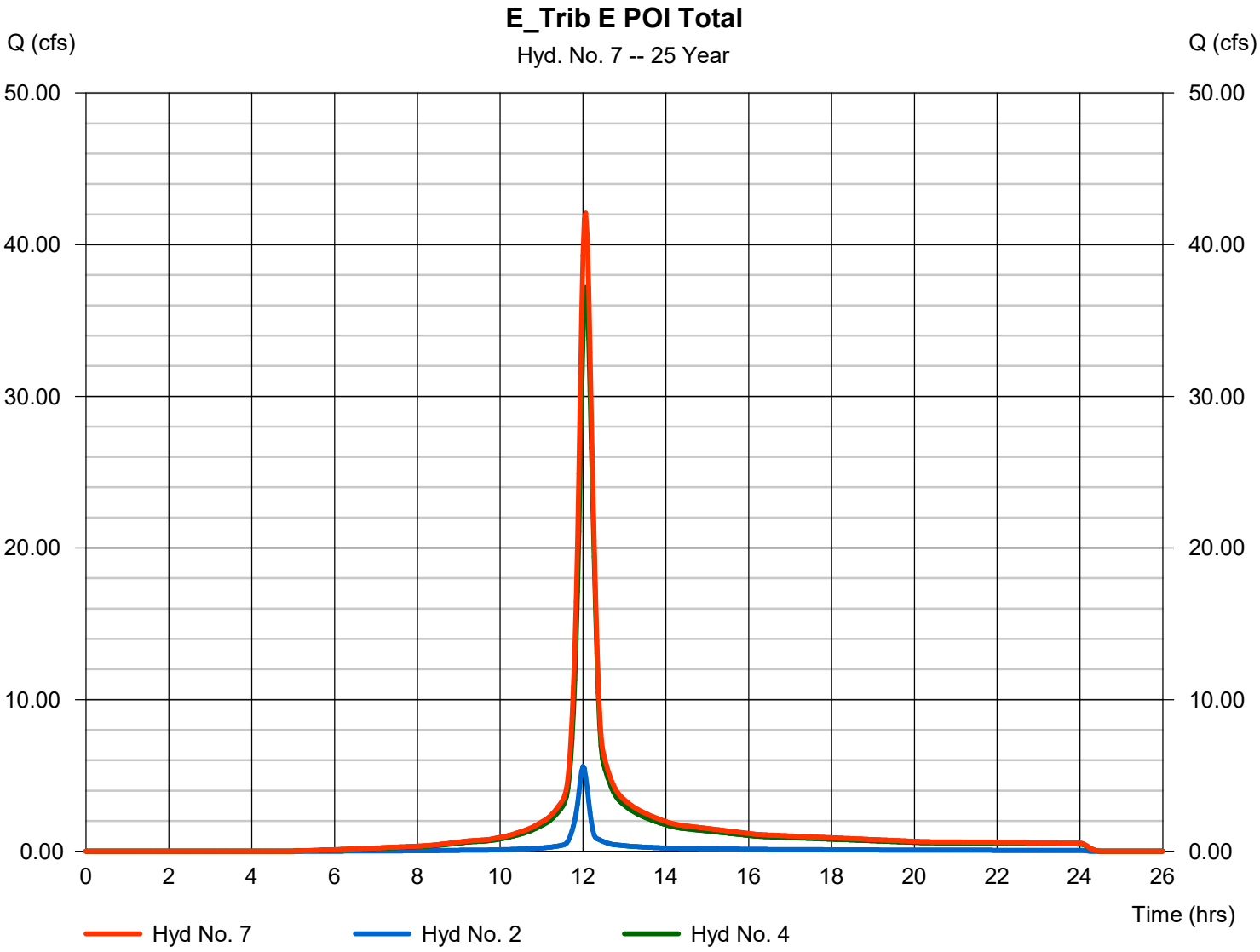


Hydrograph Report

Hyd. No. 7

E_Trib E POI Total

Hydrograph type	=	Combine	Peak discharge	=	42.08 cfs
Storm frequency	=	25 yrs	Time to peak	=	12.07 hrs
Time interval	=	2 min	Hyd. volume	=	133,147 cuft
Inflow hyds.	=	2, 4	Contrib. drain. area	=	8.230 ac



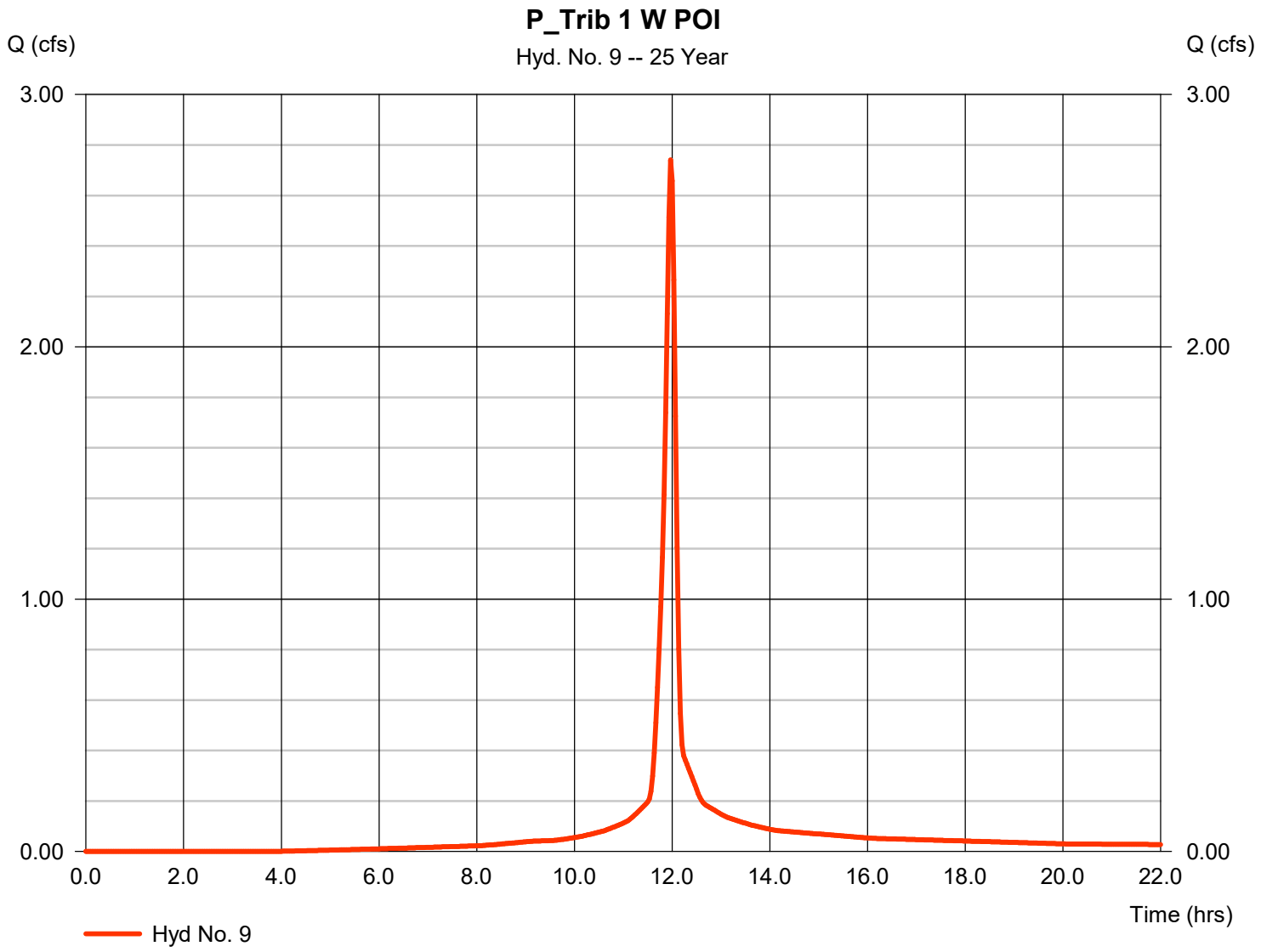
Hydrograph Report

Hyd. No. 9

P_Trib 1 W POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.741 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	6,594 cuft
Drainage area	=	0.380 ac	Curve number	=	88*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	7.40 min
Total precip.	=	6.16 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.280 x 84) + (0.100 x 98)] / 0.380



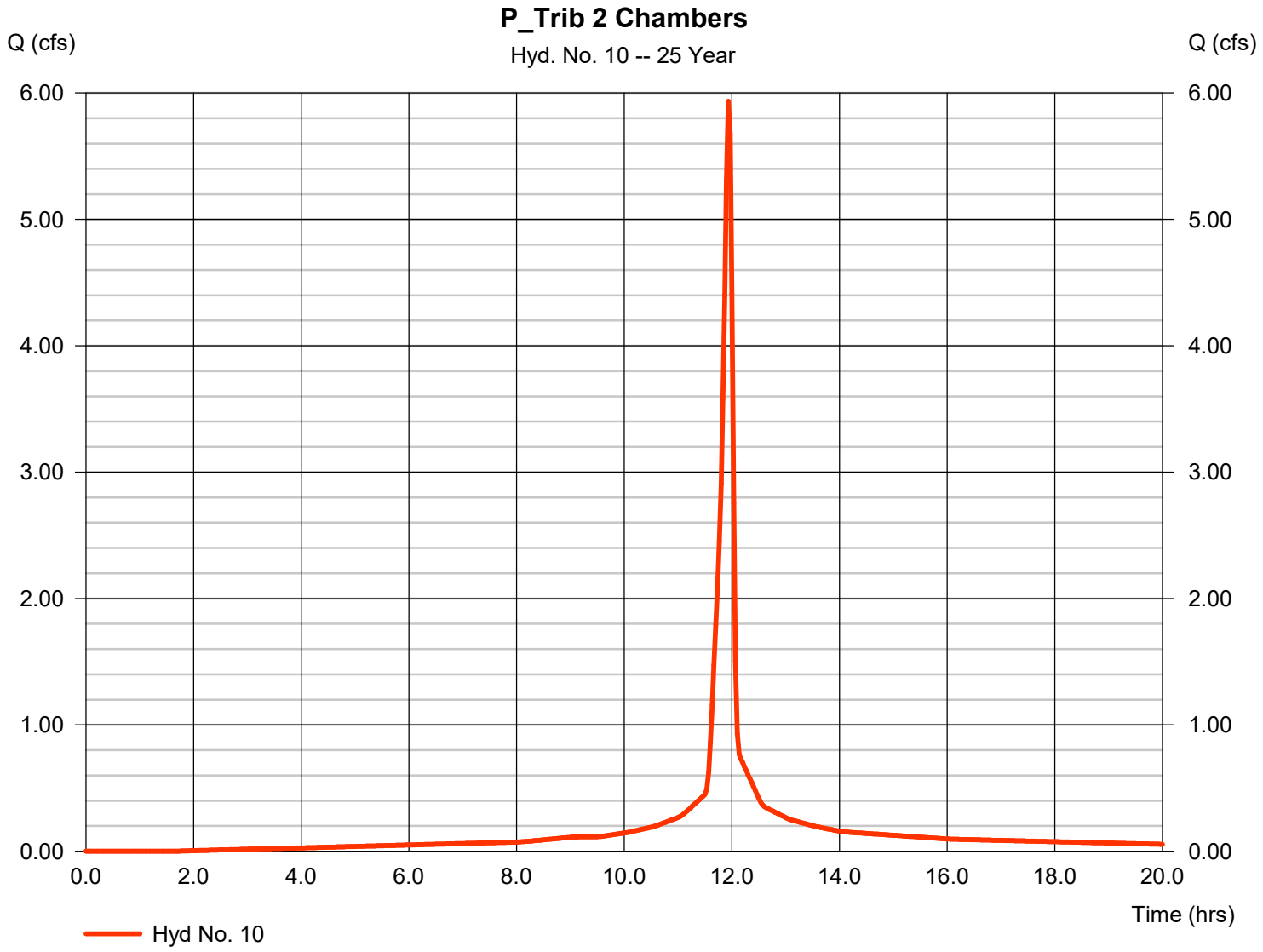
Hydrograph Report

Hyd. No. 10

P_Trib 2 Chambers

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.934 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	13,649 cuft
Drainage area	=	0.720 ac	Curve number	=	95*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	3.30 min
Total precip.	=	6.16 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.130 x 84) + (0.590 x 98)] / 0.720



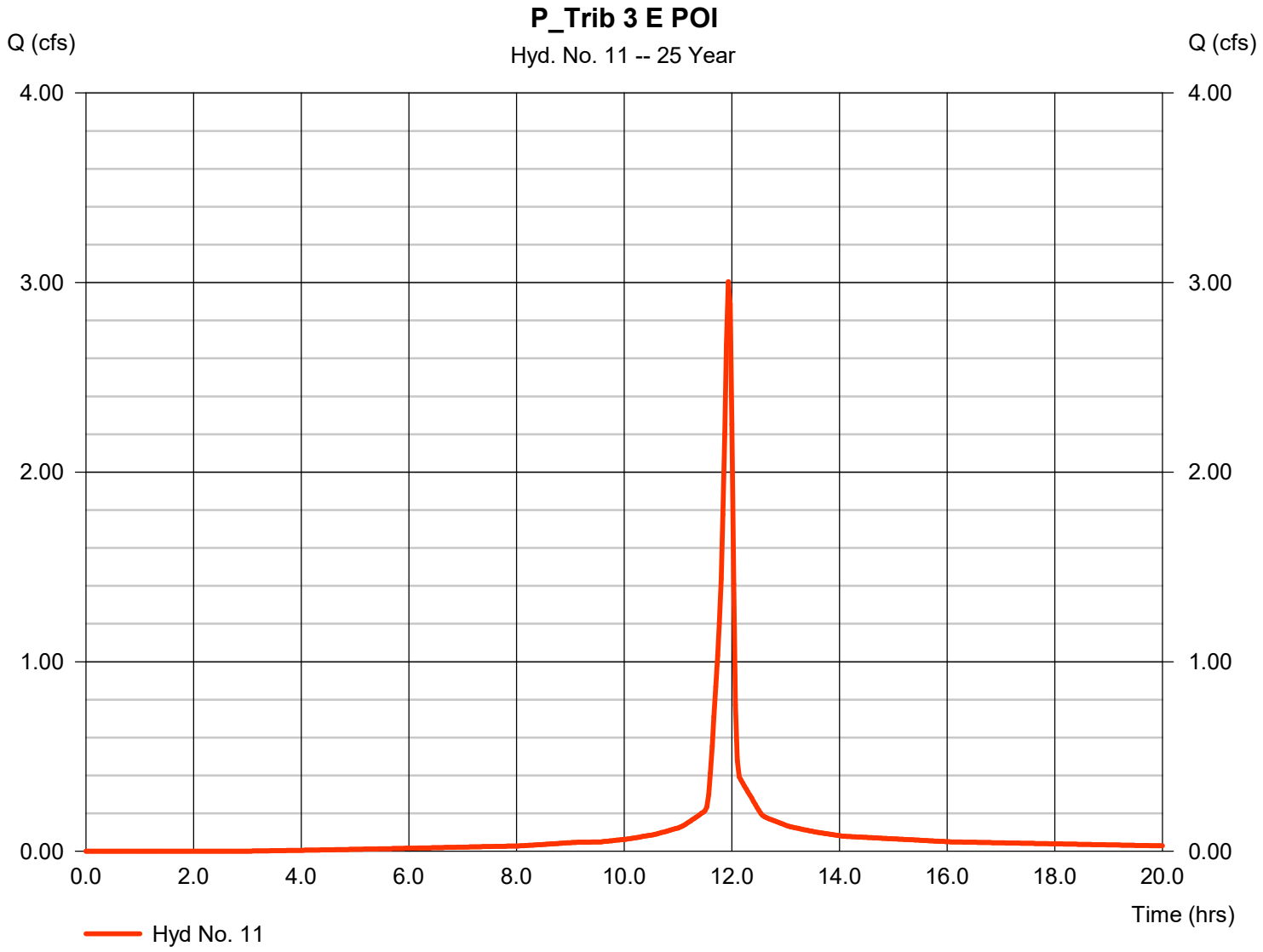
Hydrograph Report

Hyd. No. 11

P_Trib 3 E POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.005 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	6,613 cuft
Drainage area	=	0.380 ac	Curve number	=	91*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	4.10 min
Total precip.	=	6.16 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.180 x 84) + (0.200 x 98)] / 0.380



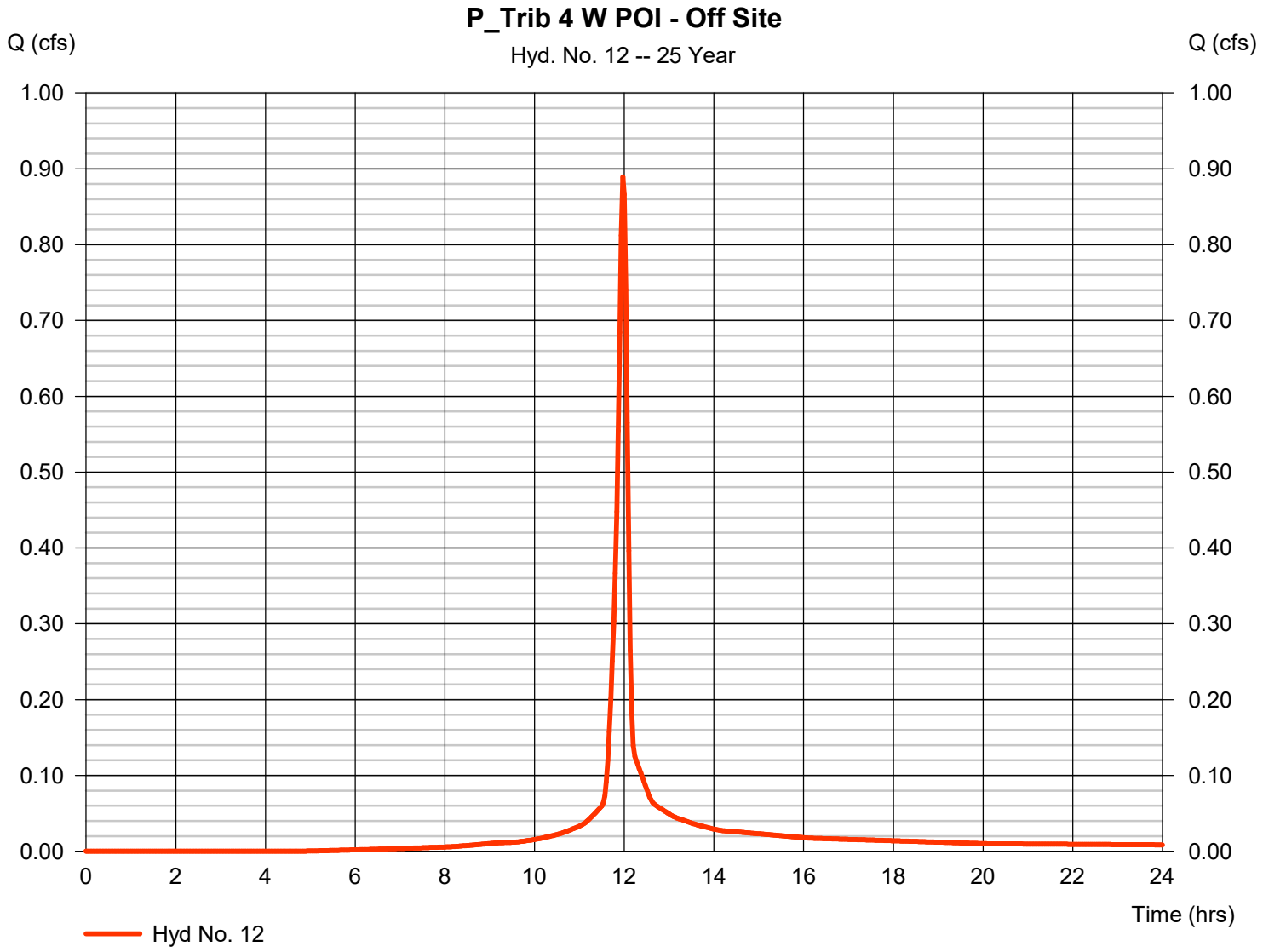
Hydrograph Report

Hyd. No. 12

P_Trib 4 W POI - Off Site

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.890 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	2,102 cuft
Drainage area	=	0.130 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	8.90 min
Total precip.	=	6.16 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.120 x 84) + (0.010 x 98)] / 0.130



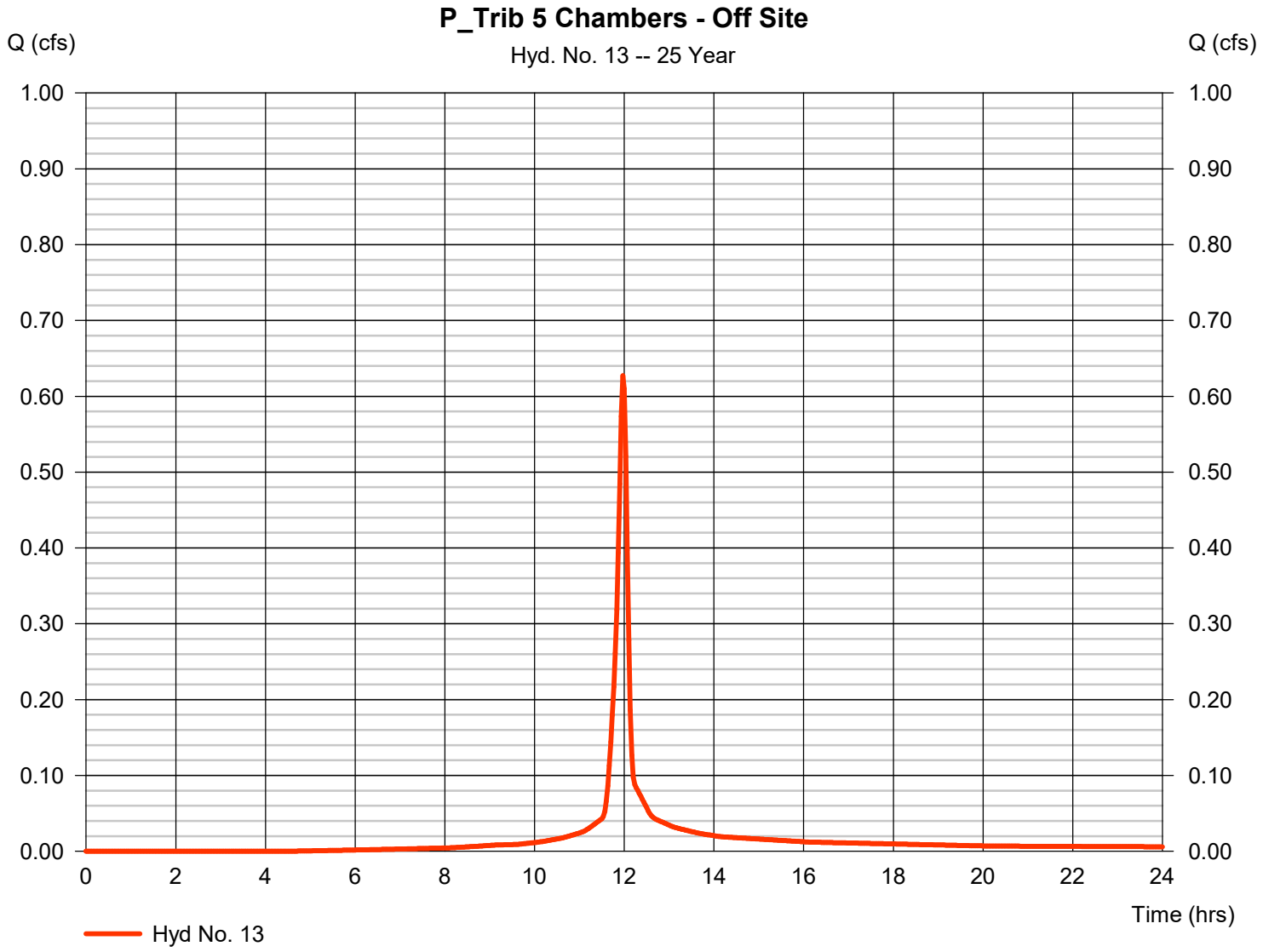
Hydrograph Report

Hyd. No. 13

P_Trib 5 Chambers - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 0.627 cfs
Storm frequency	= 25 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 1,490 cuft
Drainage area	= 0.090 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 9.80 min
Total precip.	= 6.16 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.080 x 84) + (0.010 x 98)] / 0.090



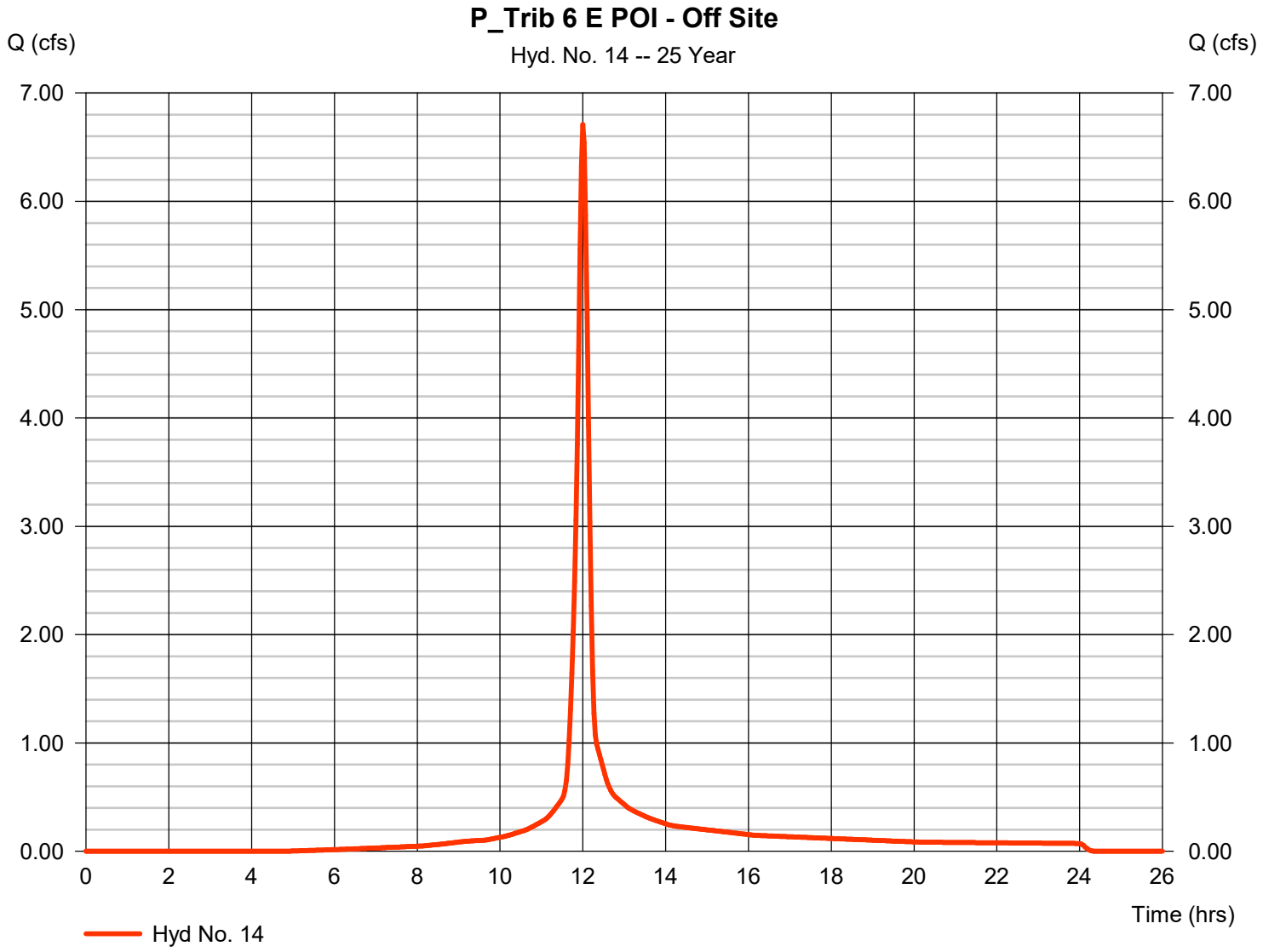
Hydrograph Report

Hyd. No. 14

P_Trib 6 E POI - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 6.710 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 17,839 cuft
Drainage area	= 1.070 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 10.10 min
Total precip.	= 6.16 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.990 x 84) + (0.080 x 98)] / 1.070



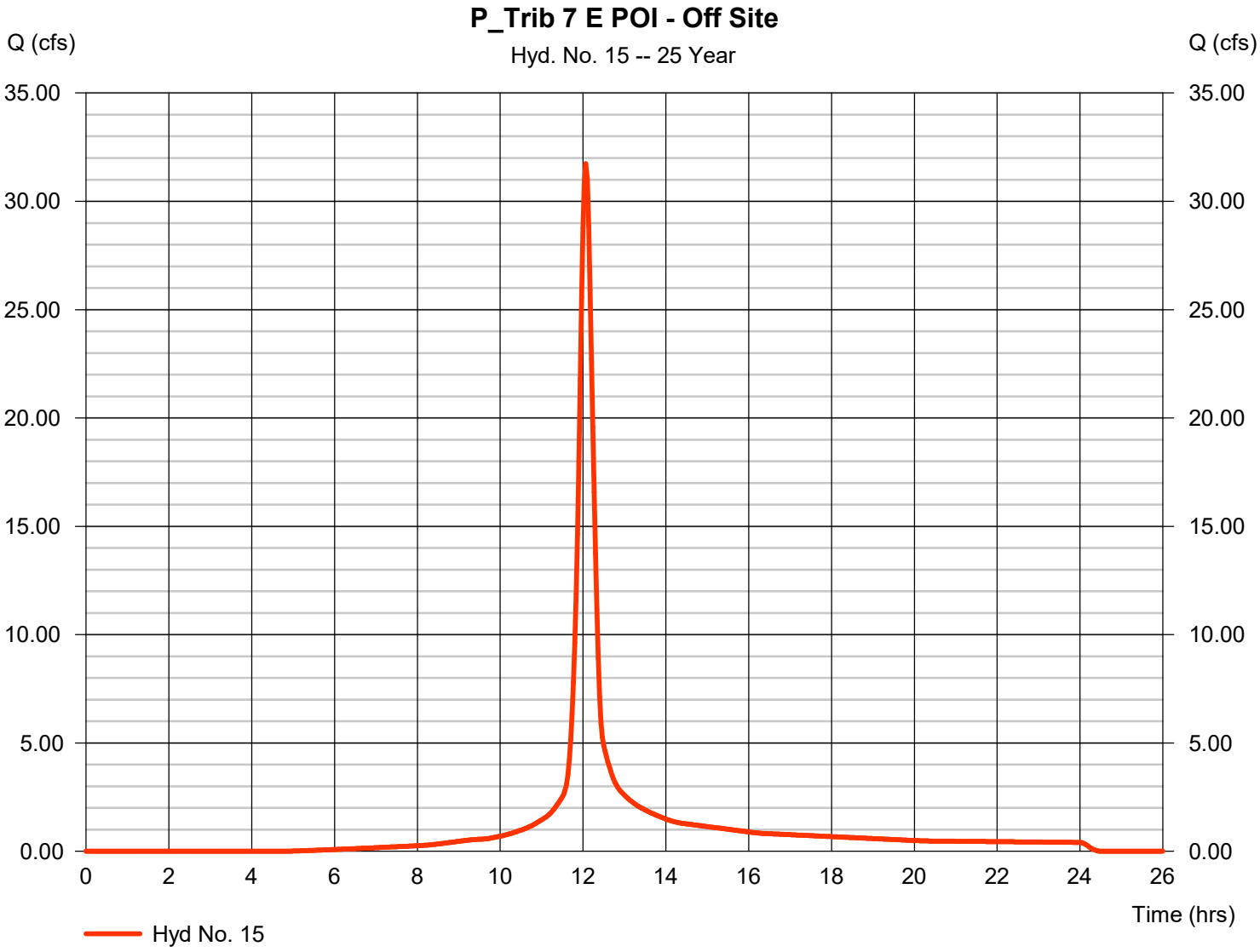
Hydrograph Report

Hyd. No. 15

P_Trib 7 E POI - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 31.74 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 101,042 cuft
Drainage area	= 6.250 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.00 min
Total precip.	= 6.16 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(5.940 x 84) + (0.310 x 98)] / 6.250

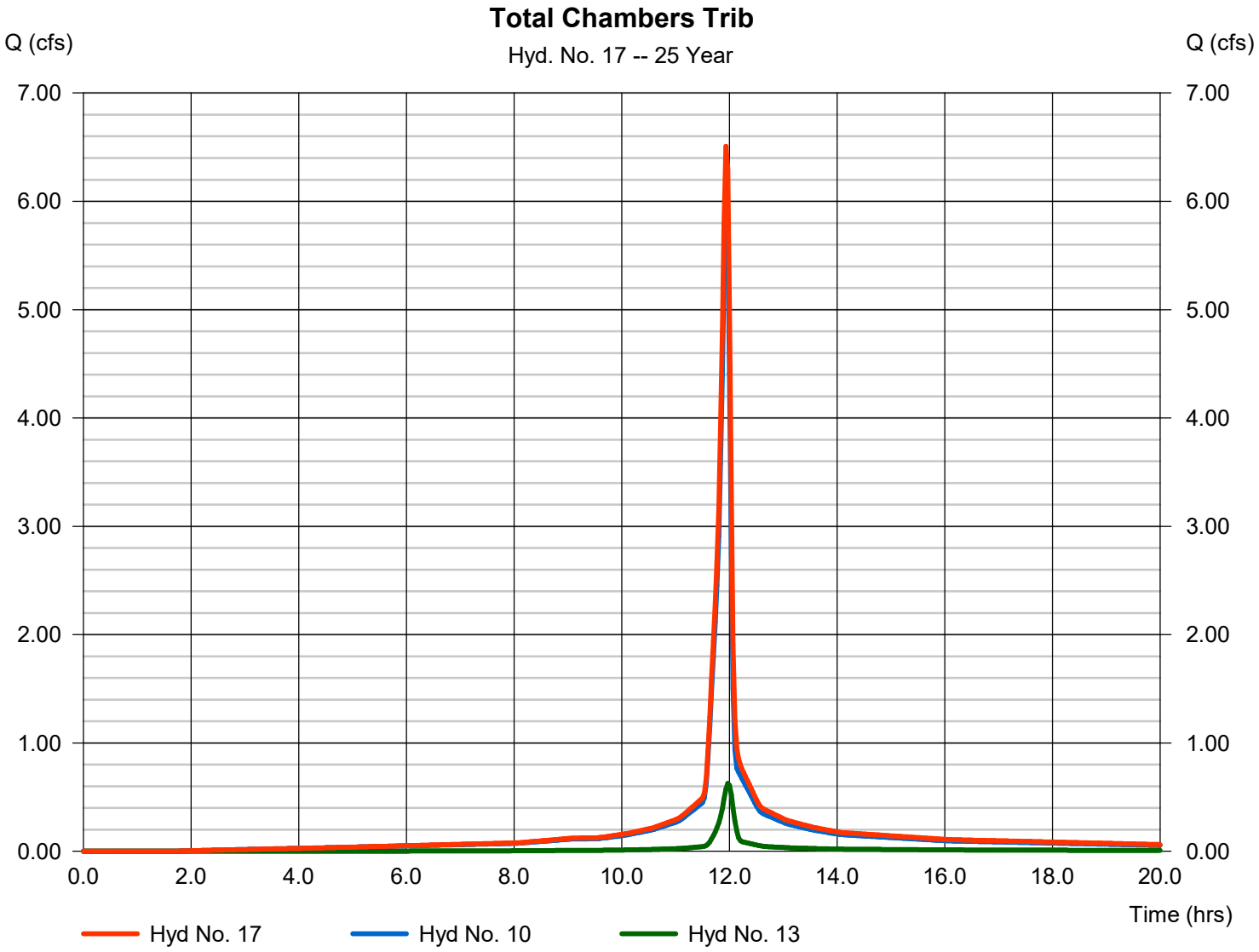


Hydrograph Report

Hyd. No. 17

Total Chambers Trib

Hydrograph type	= Combine	Peak discharge	= 6.508 cfs
Storm frequency	= 25 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 15,139 cuft
Inflow hyds.	= 10, 13	Contrib. drain. area	= 0.810 ac



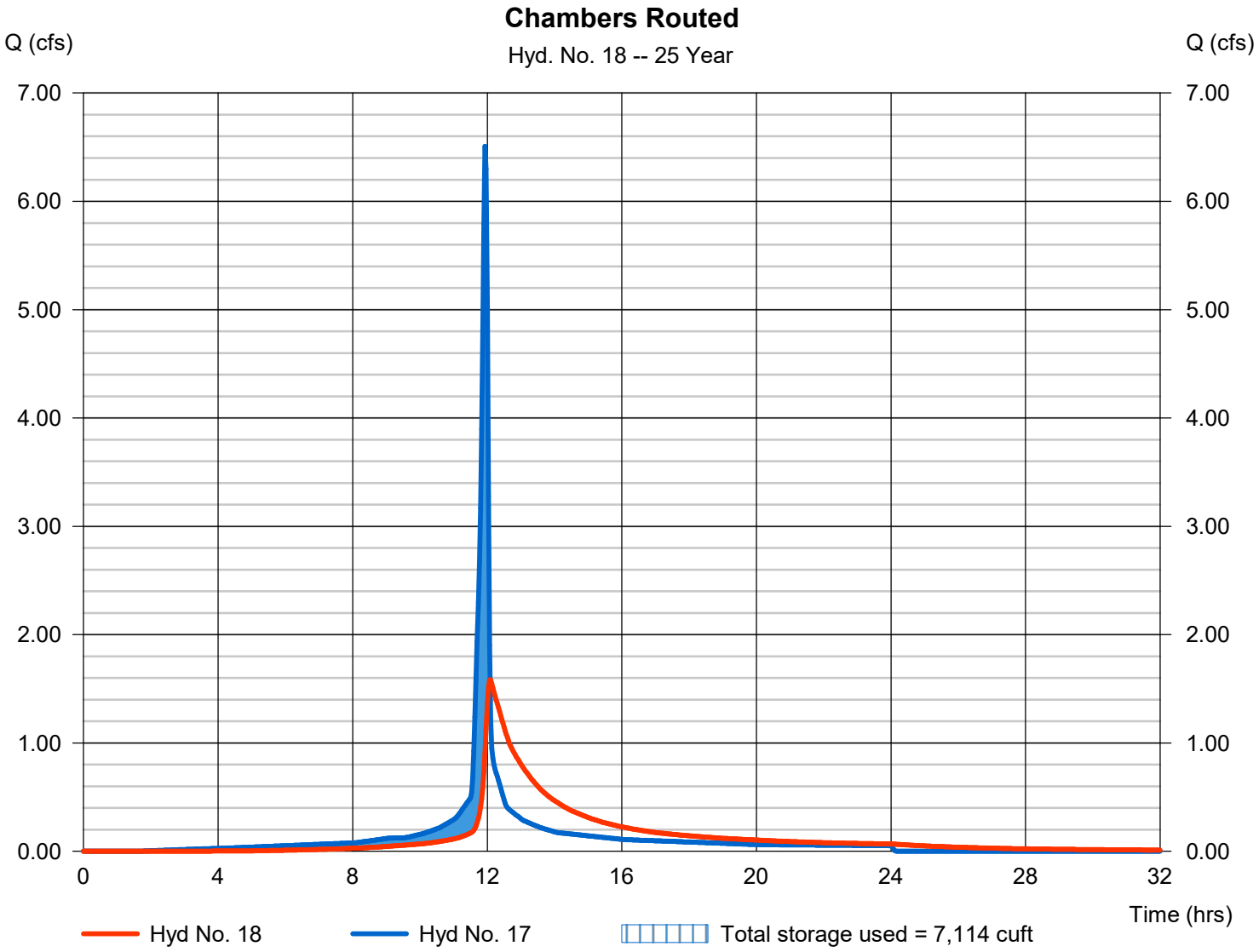
Hydrograph Report

Hyd. No. 18

Chambers Routed

Hydrograph type	=	Reservoir	Peak discharge	=	1.583 cfs
Storm frequency	=	25 yrs	Time to peak	=	12.07 hrs
Time interval	=	2 min	Hyd. volume	=	15,081 cuft
Inflow hyd. No.	=	17 - Total Chambers Trib	Max. Elevation	=	450.63 ft
Reservoir name	=	SC-310 Chambers	Max. Storage	=	7,114 cuft

Storage Indication method used.

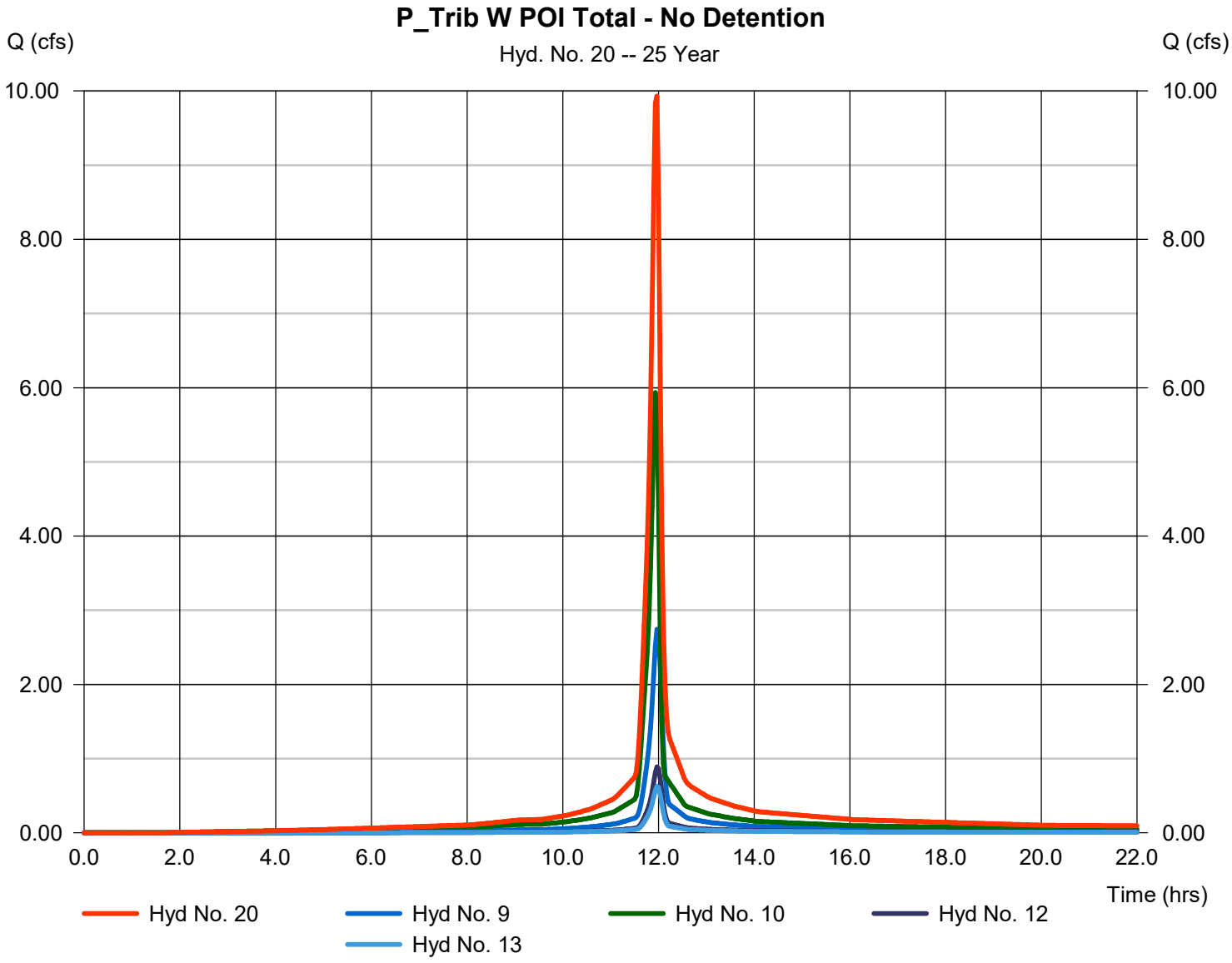


Hydrograph Report

Hyd. No. 20

P_Trib W POI Total - No Detention

Hydrograph type	= Combine	Peak discharge	= 9.930 cfs
Storm frequency	= 25 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 23,835 cuft
Inflow hyds.	= 9, 10, 12, 13	Contrib. drain. area	= 1.320 ac

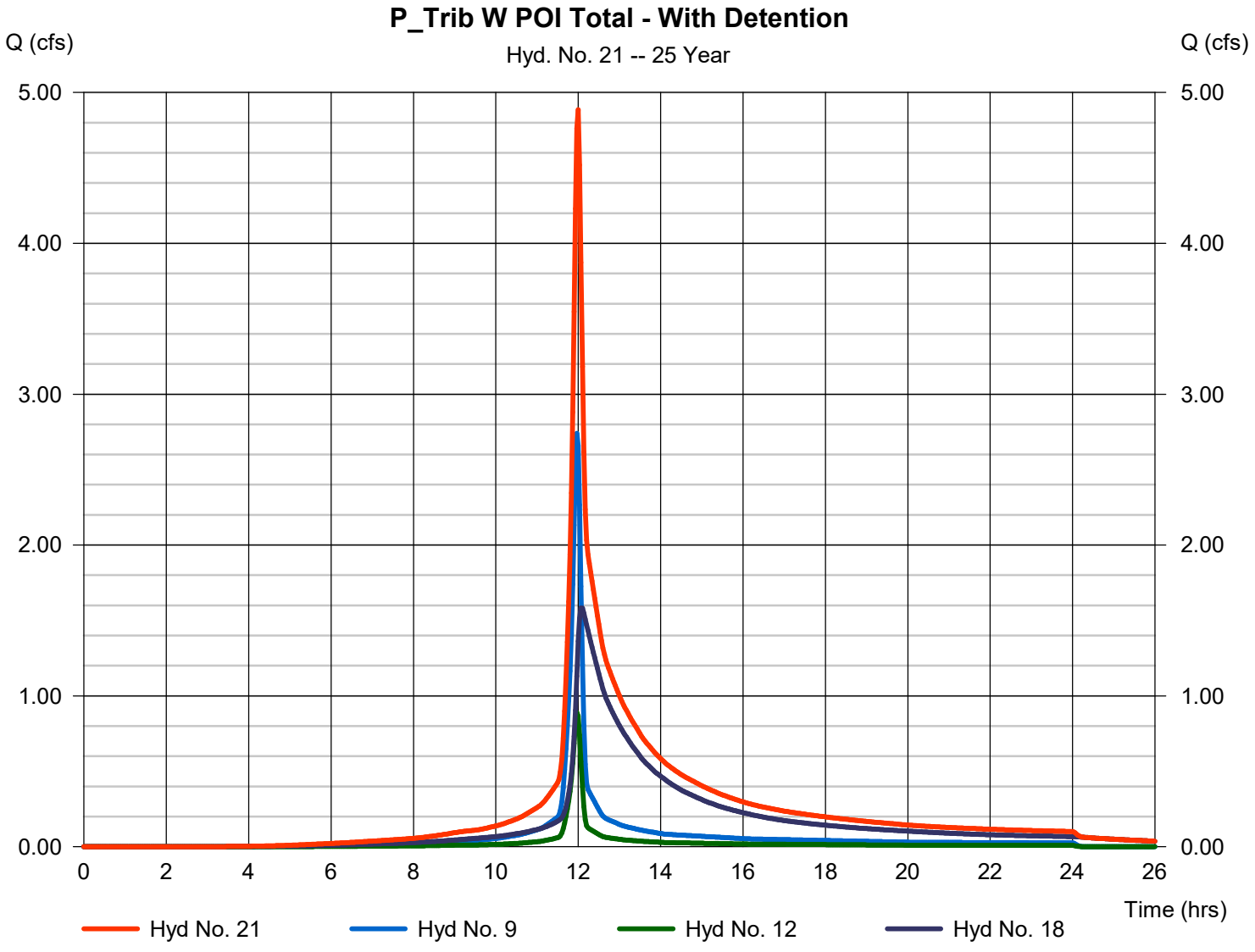


Hydrograph Report

Hyd. No. 21

P_Trib W POI Total - With Detention

Hydrograph type	= Combine	Peak discharge	= 4.887 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 23,777 cuft
Inflow hyds.	= 9, 12, 18	Contrib. drain. area	= 0.510 ac

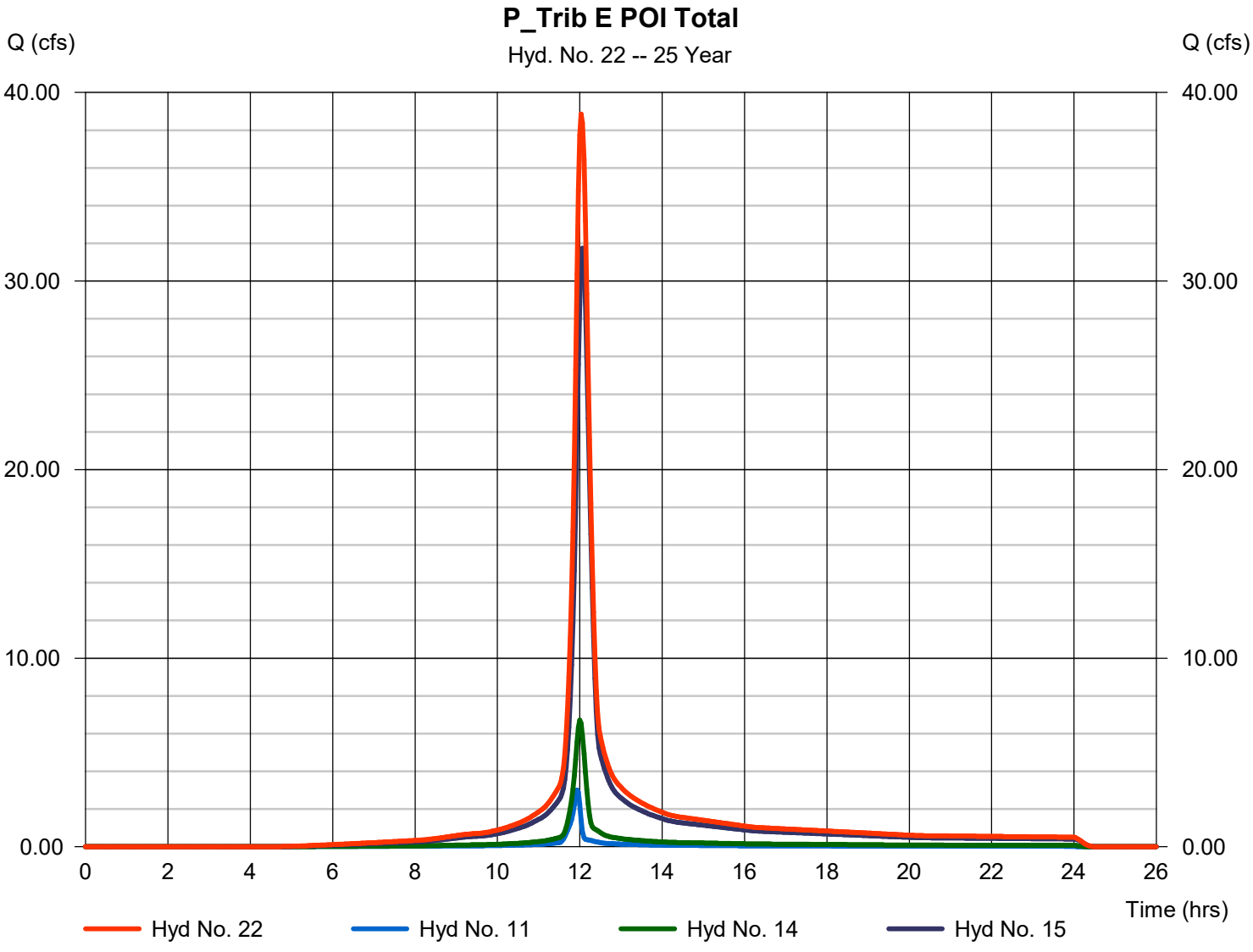


Hydrograph Report

Hyd. No. 22

P_Trib E POI Total

Hydrograph type	= Combine	Peak discharge	= 38.85 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.03 hrs
Time interval	= 2 min	Hyd. volume	= 125,494 cuft
Inflow hyds.	= 11, 14, 15	Contrib. drain. area	= 7.700 ac



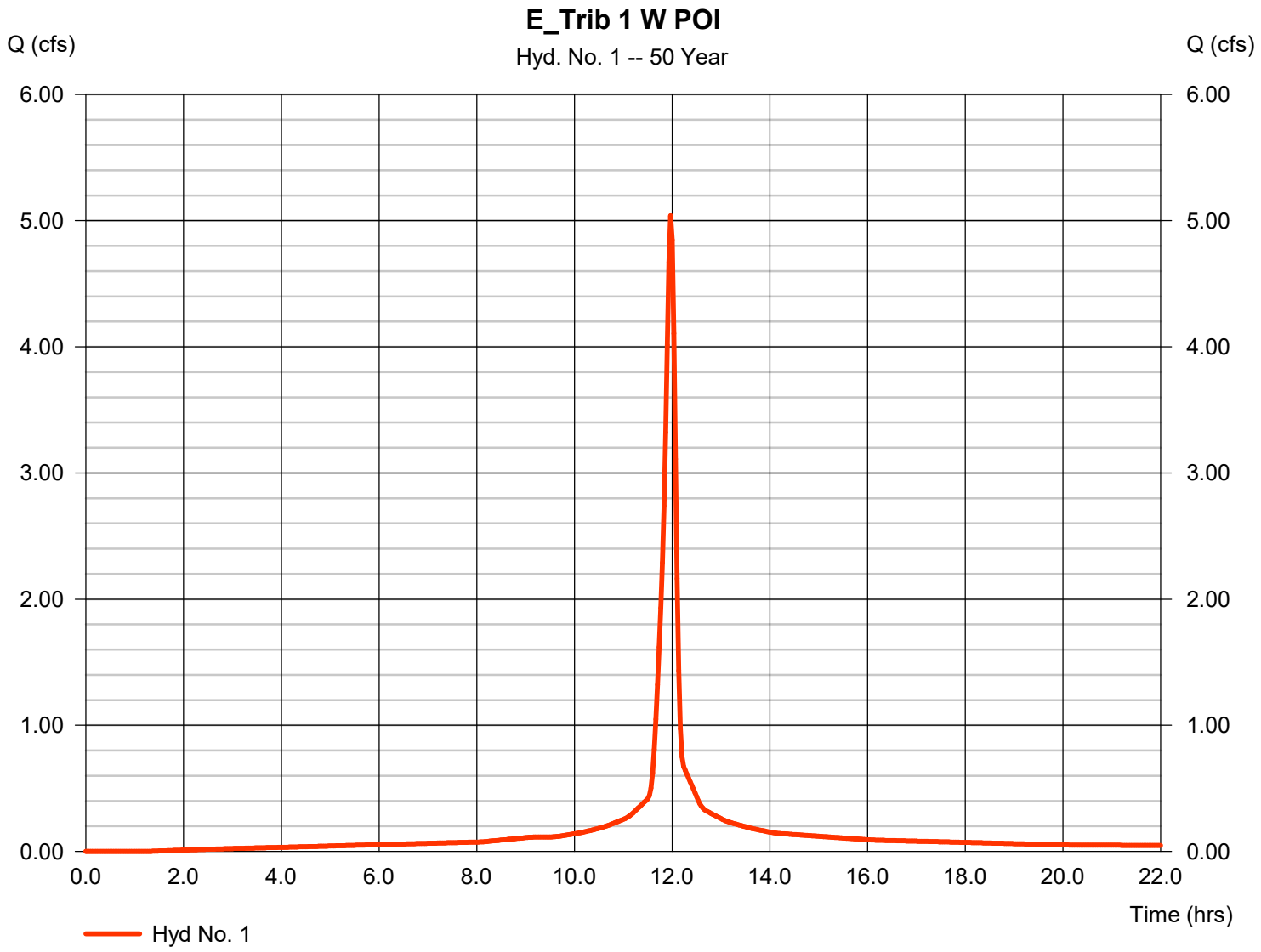
Hydrograph Report

Hyd. No. 1

E_Trib 1 W POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.039 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	13,189 cuft
Drainage area	=	0.570 ac	Curve number	=	96*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	7.50 min
Total precip.	=	6.85 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.070 x 84) + (0.500 x 98)] / 0.570



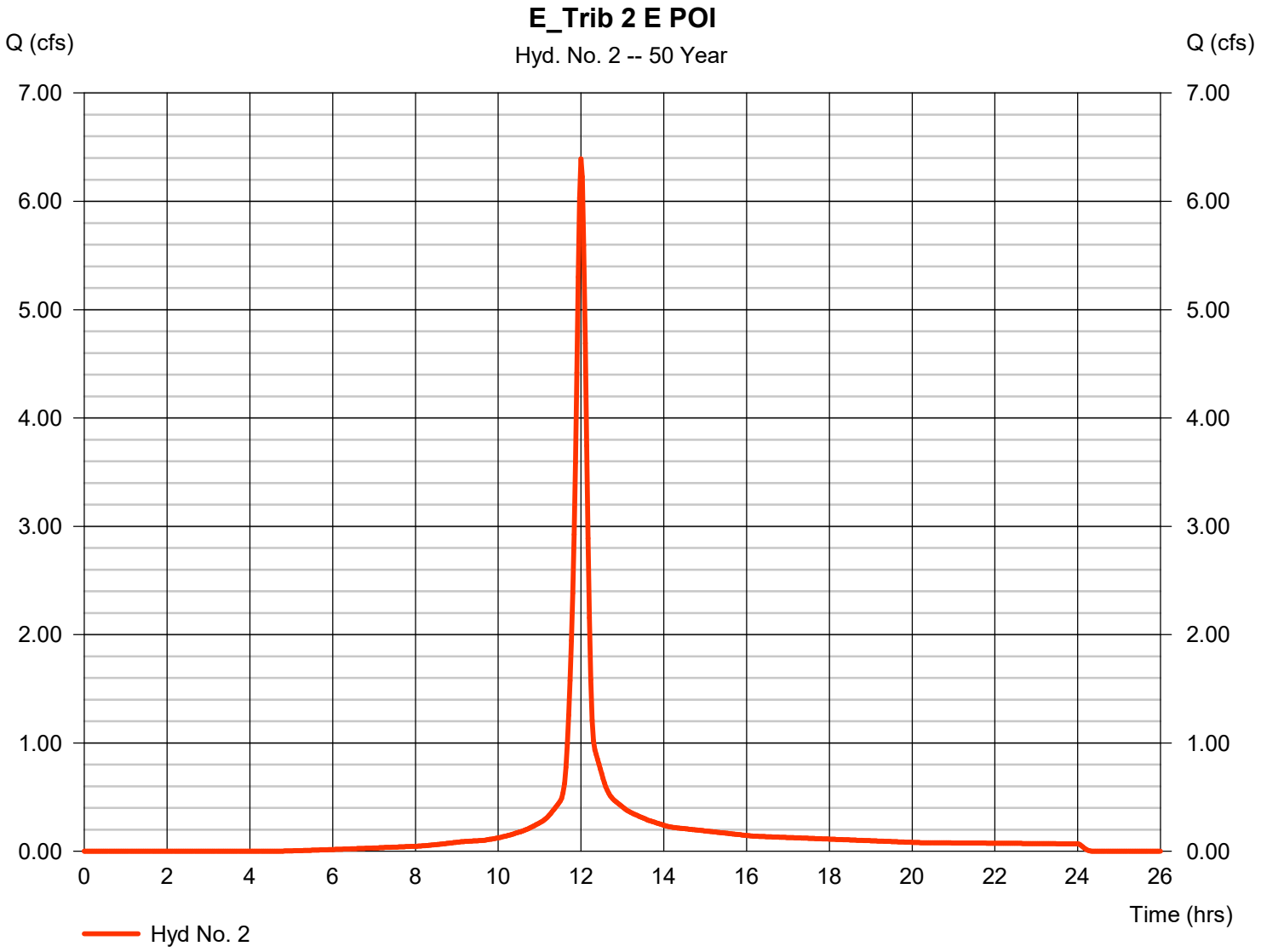
Hydrograph Report

Hyd. No. 2

E_Trib 2 E POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	6.392 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	17,024 cuft
Drainage area	=	0.910 ac	Curve number	=	84*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	10.50 min
Total precip.	=	6.85 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.900 x 84) + (0.010 x 98)] / 0.910



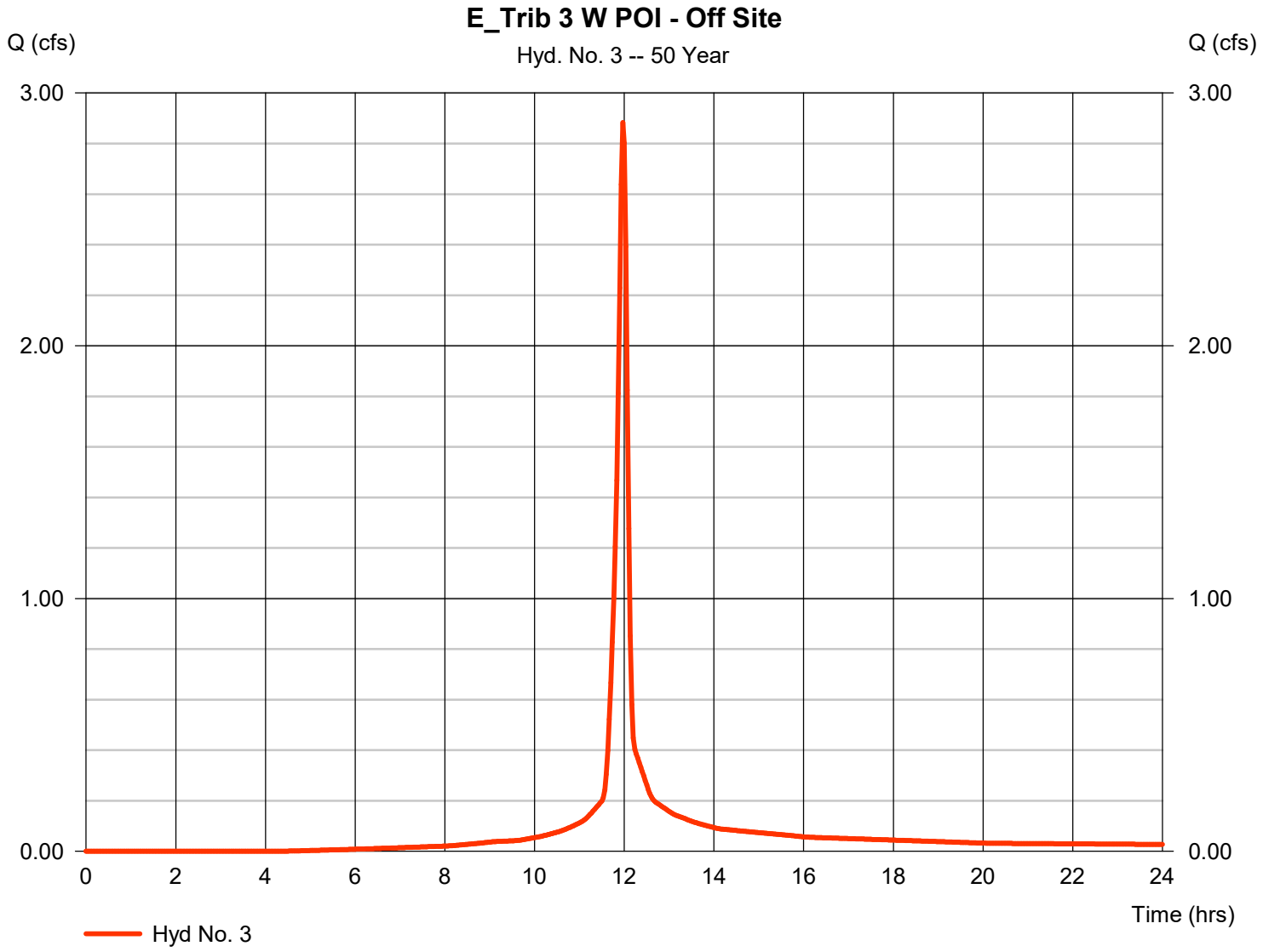
Hydrograph Report

Hyd. No. 3

E_Trib 3 W POI - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 2.883 cfs
Storm frequency	= 50 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 6,862 cuft
Drainage area	= 0.370 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 8.90 min
Total precip.	= 6.85 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.340 x 84) + (0.030 x 98)] / 0.370



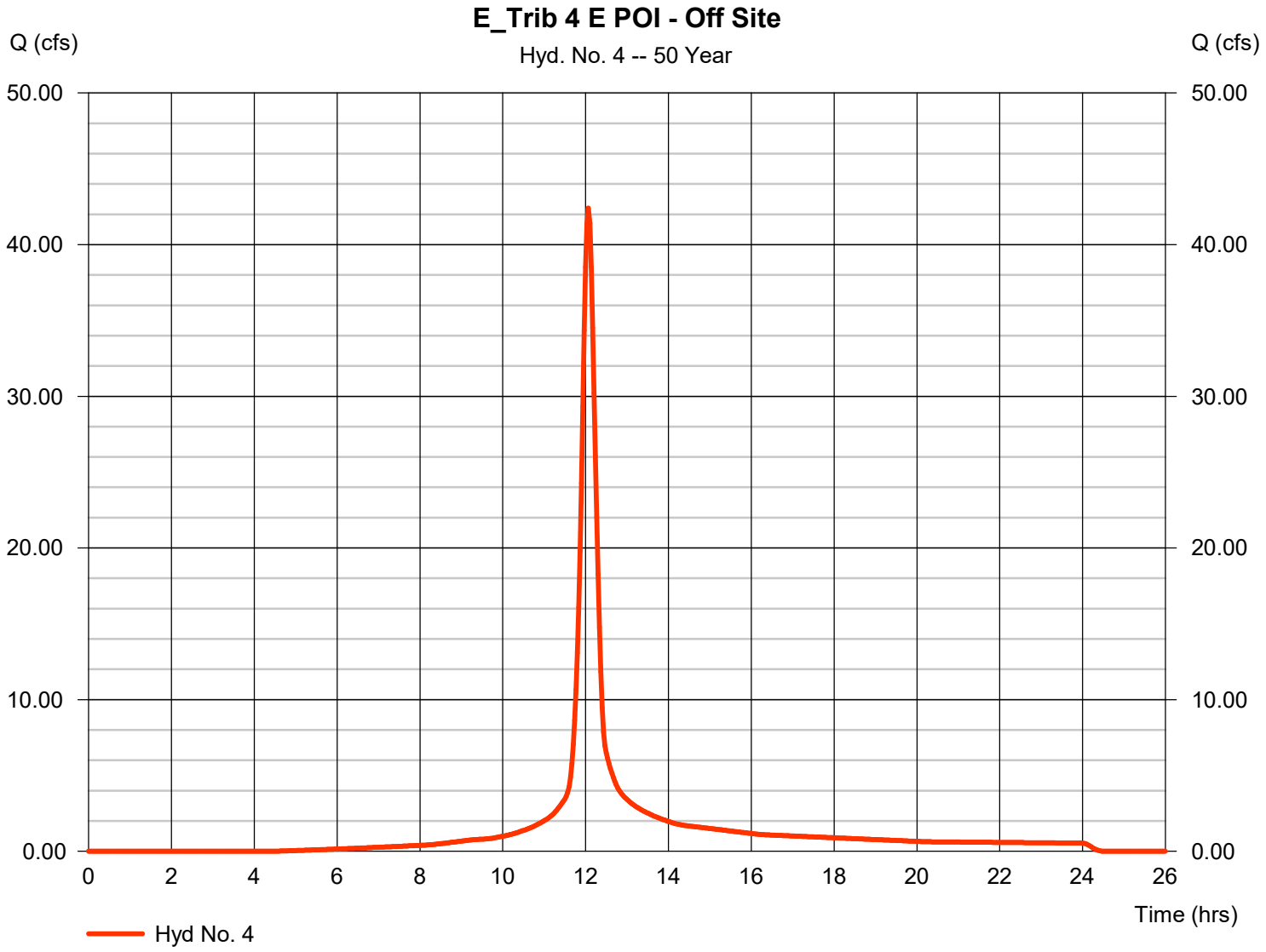
Hydrograph Report

Hyd. No. 4

E_Trib 4 E POI - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 42.40 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 135,762 cuft
Drainage area	= 7.320 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.00 min
Total precip.	= 6.85 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(6.930 x 84) + (0.390 x 98)] / 7.320

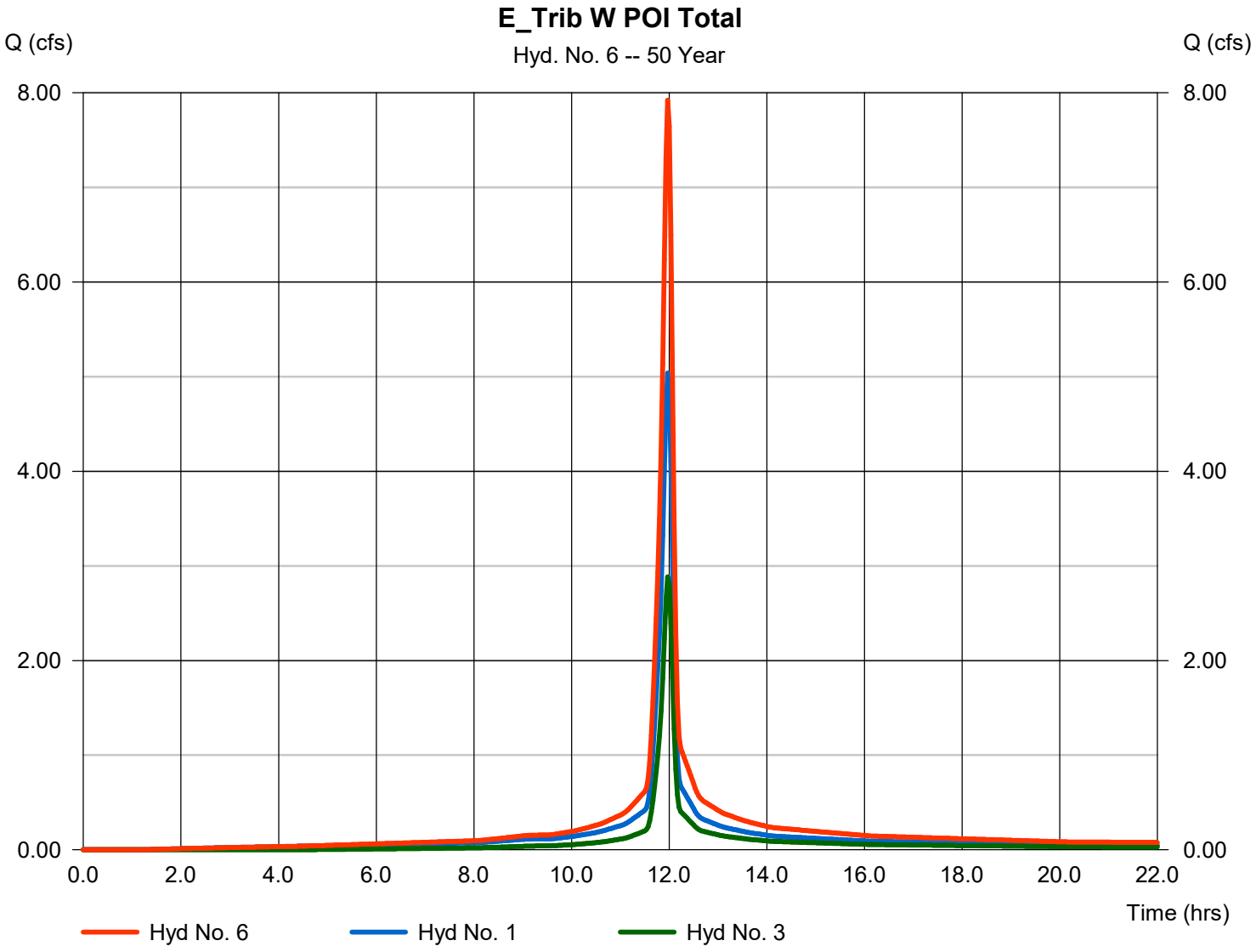


Hydrograph Report

Hyd. No. 6

E_Trib W POI Total

Hydrograph type	= Combine	Peak discharge	= 7.922 cfs
Storm frequency	= 50 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 20,051 cuft
Inflow hyds.	= 1, 3	Contrib. drain. area	= 0.940 ac

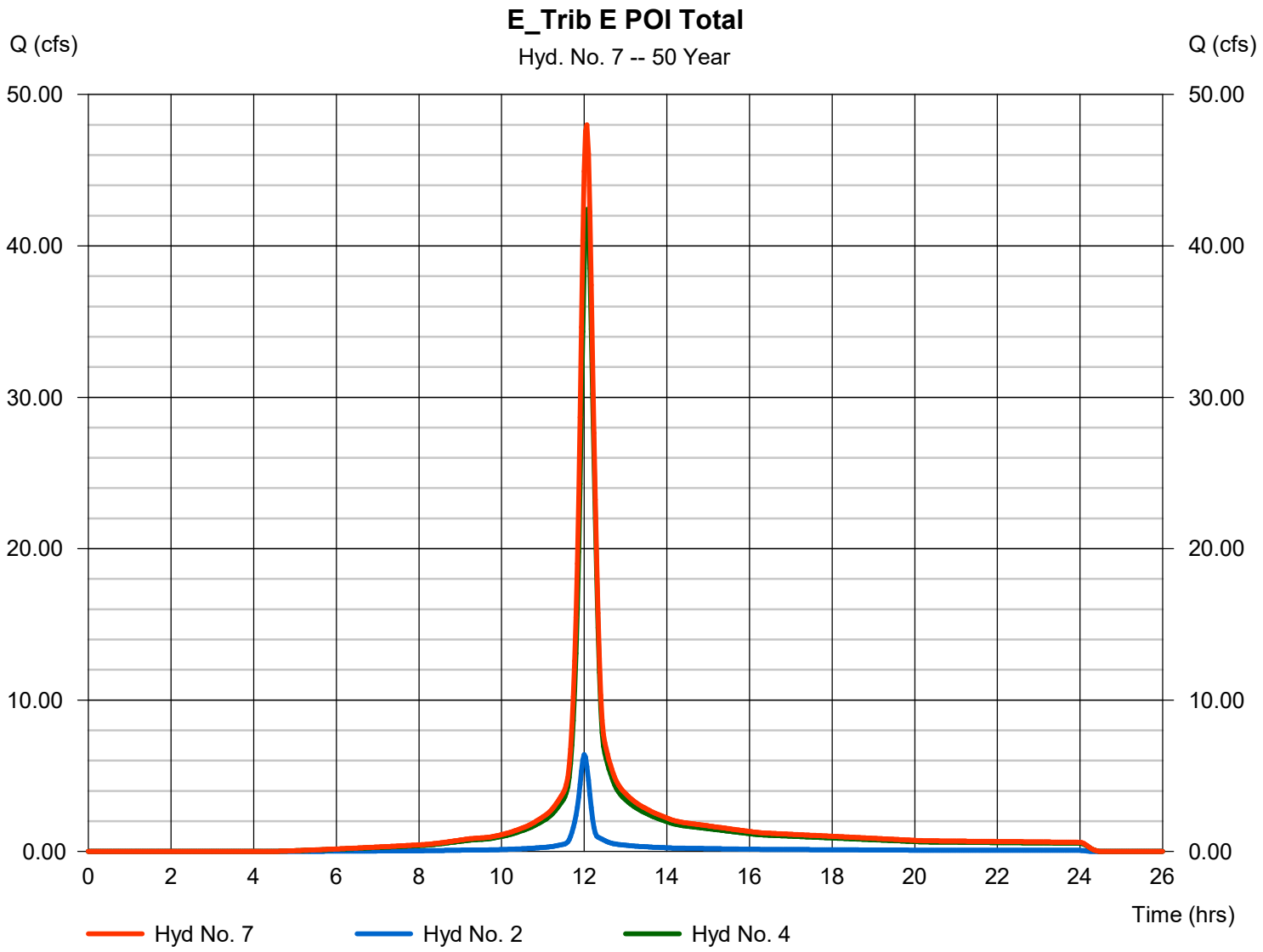


Hydrograph Report

Hyd. No. 7

E_Trib E POI Total

Hydrograph type	= Combine	Peak discharge	= 47.99 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 152,786 cuft
Inflow hyds.	= 2, 4	Contrib. drain. area	= 8.230 ac



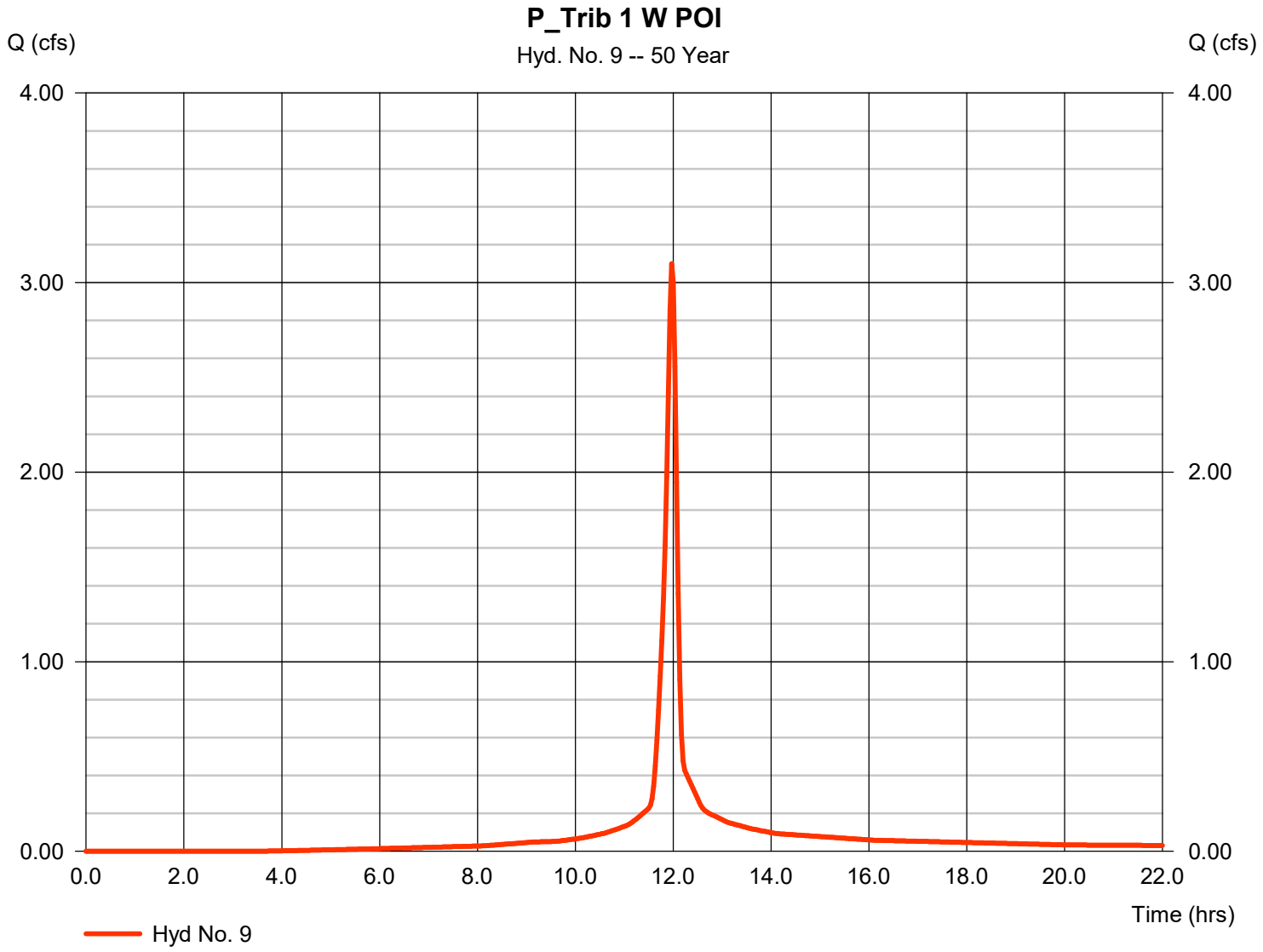
Hydrograph Report

Hyd. No. 9

P_Trib 1 W POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.100 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	7,515 cuft
Drainage area	=	0.380 ac	Curve number	=	88*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	7.40 min
Total precip.	=	6.85 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.280 x 84) + (0.100 x 98)] / 0.380



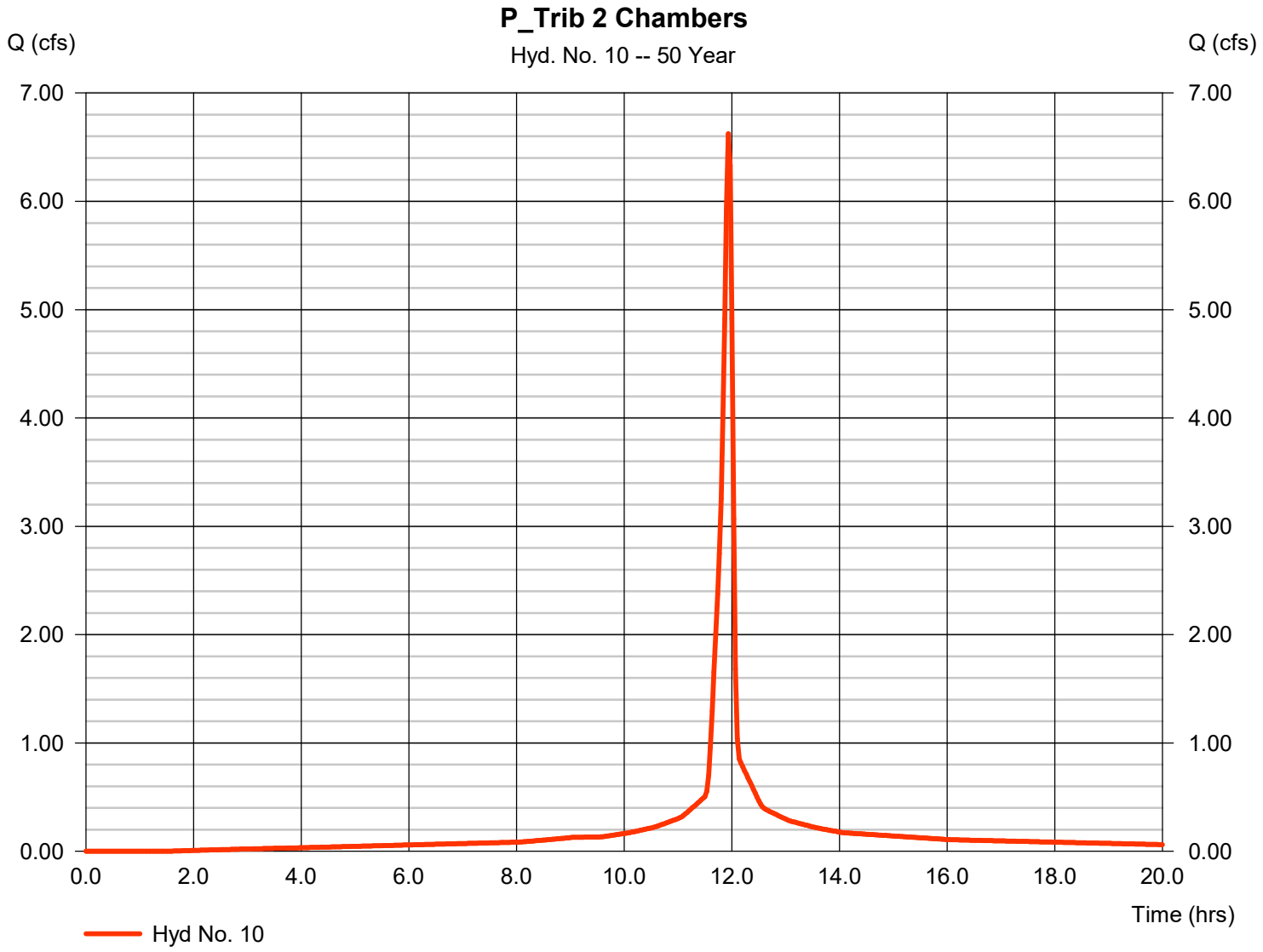
Hydrograph Report

Hyd. No. 10

P_Trib 2 Chambers

Hydrograph type	=	SCS Runoff	Peak discharge	=	6.623 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	15,330 cuft
Drainage area	=	0.720 ac	Curve number	=	95*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	3.30 min
Total precip.	=	6.85 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.130 x 84) + (0.590 x 98)] / 0.720



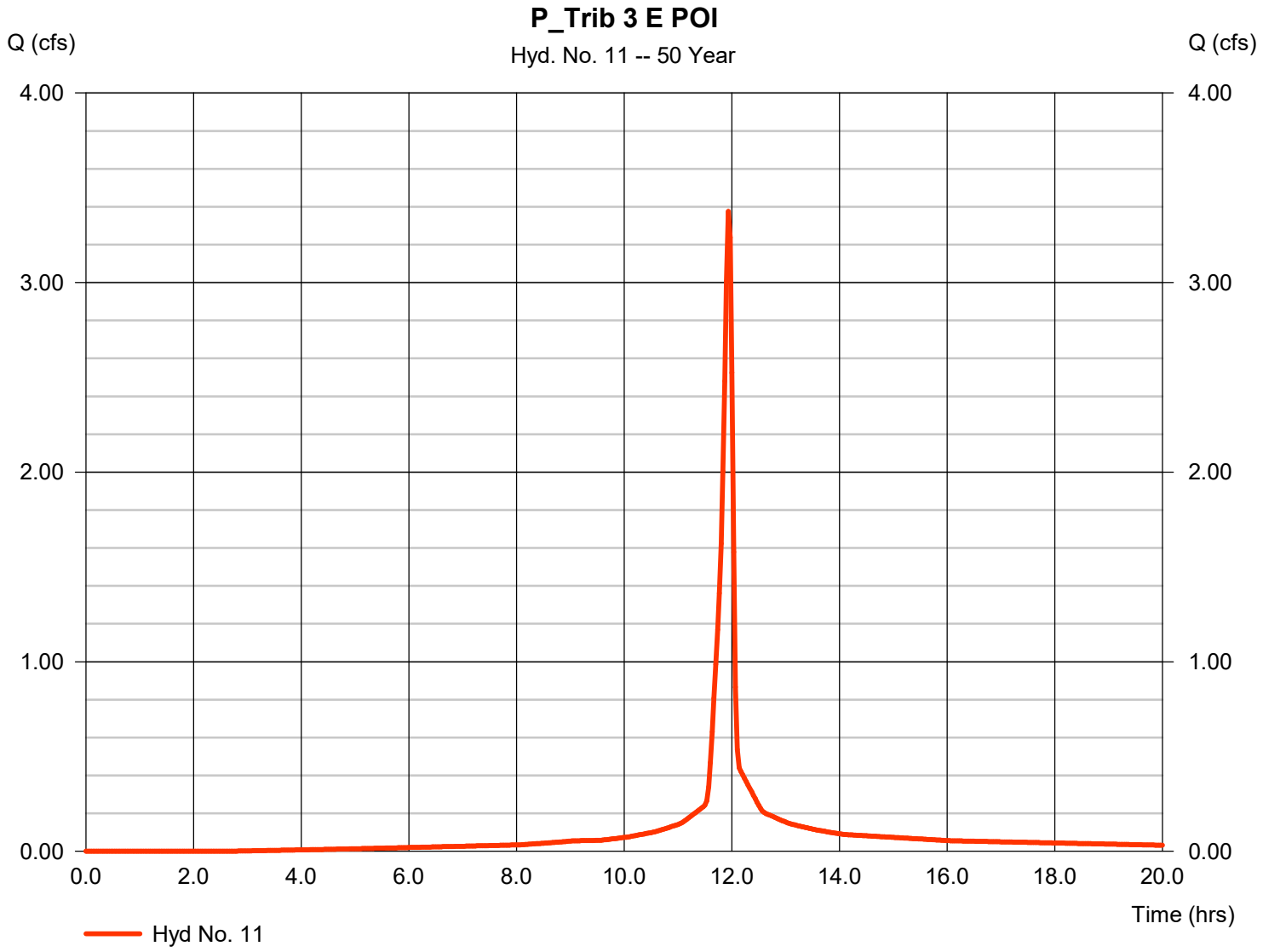
Hydrograph Report

Hyd. No. 11

P_Trib 3 E POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.376 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	7,489 cuft
Drainage area	=	0.380 ac	Curve number	=	91*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	4.10 min
Total precip.	=	6.85 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.180 x 84) + (0.200 x 98)] / 0.380



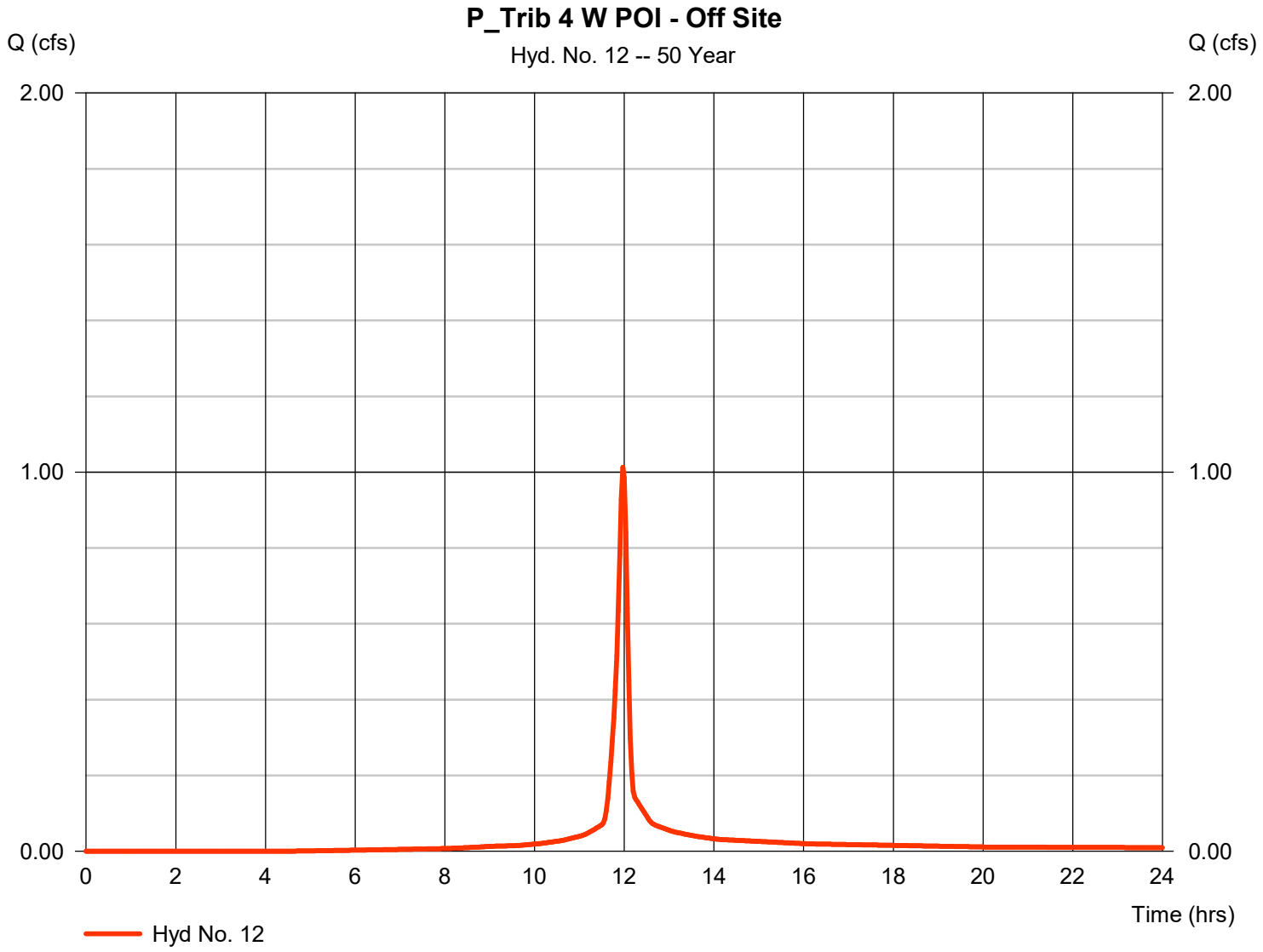
Hydrograph Report

Hyd. No. 12

P_Trib 4 W POI - Off Site

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.013 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	2,411 cuft
Drainage area	=	0.130 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	8.90 min
Total precip.	=	6.85 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.120 x 84) + (0.010 x 98)] / 0.130



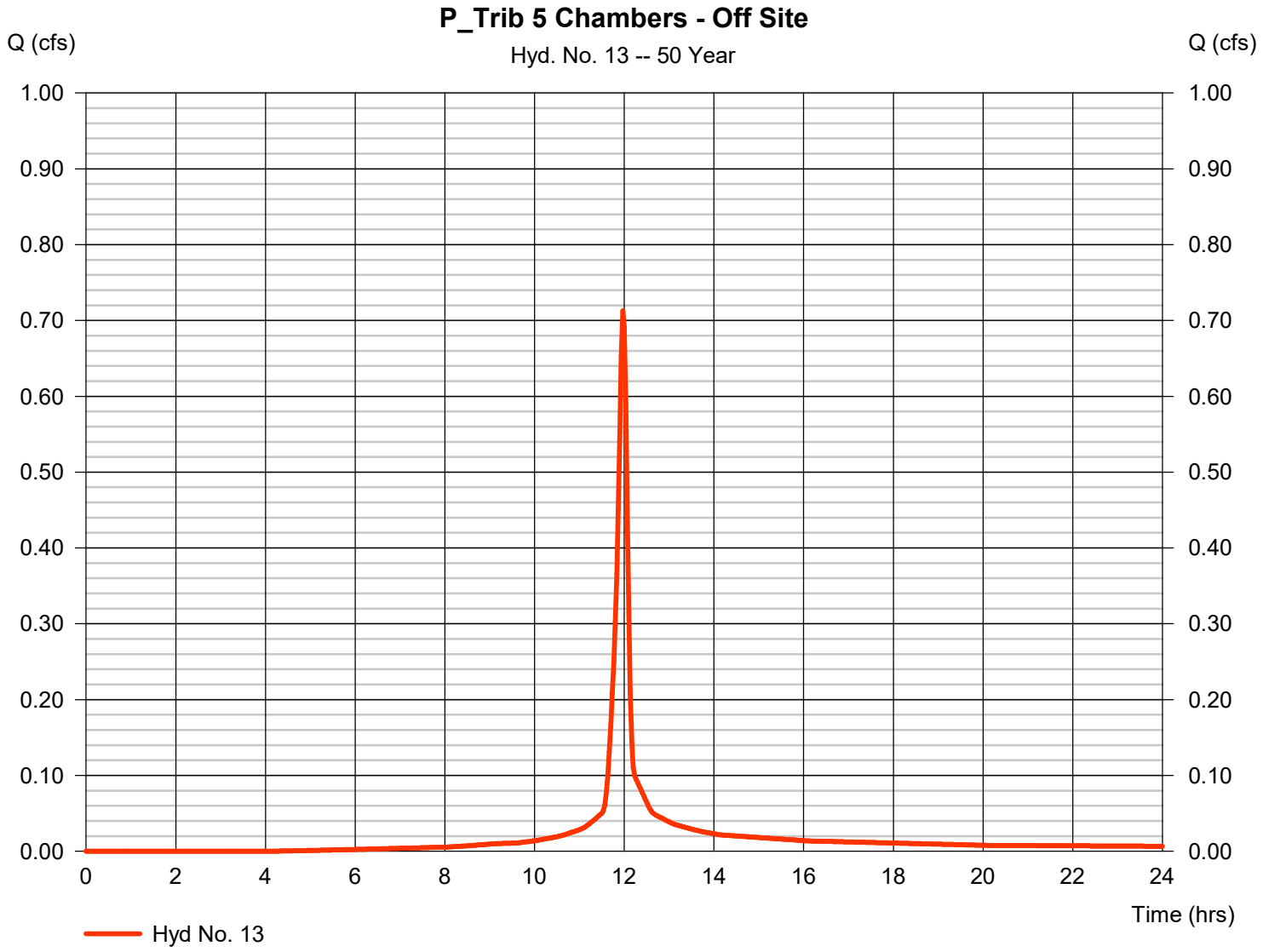
Hydrograph Report

Hyd. No. 13

P_Trib 5 Chambers - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 0.713 cfs
Storm frequency	= 50 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 1,706 cuft
Drainage area	= 0.090 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 9.80 min
Total precip.	= 6.85 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.080 x 84) + (0.010 x 98)] / 0.090



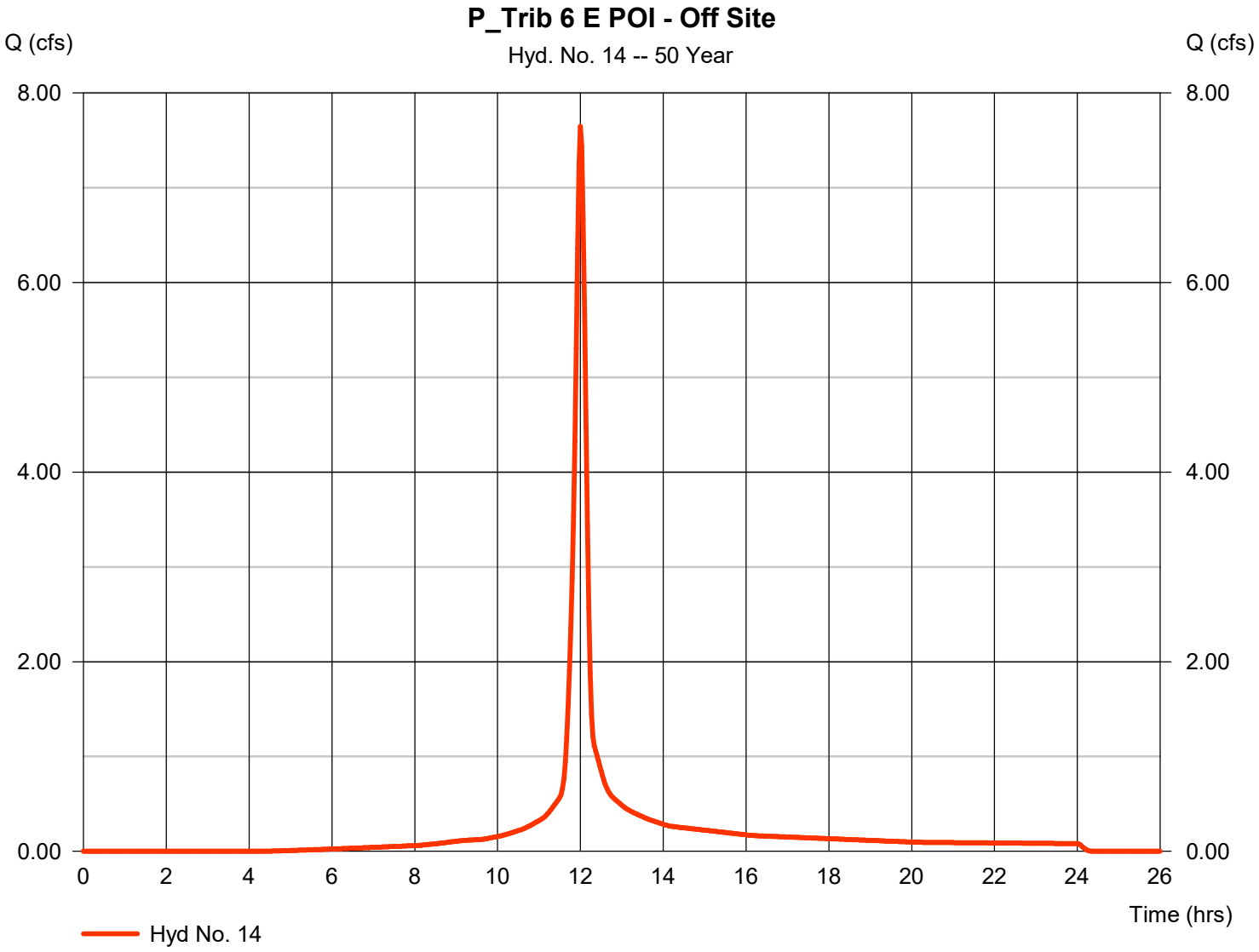
Hydrograph Report

Hyd. No. 14

P_Trib 6 E POI - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 7.648 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 20,465 cuft
Drainage area	= 1.070 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 10.10 min
Total precip.	= 6.85 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.990 x 84) + (0.080 x 98)] / 1.070



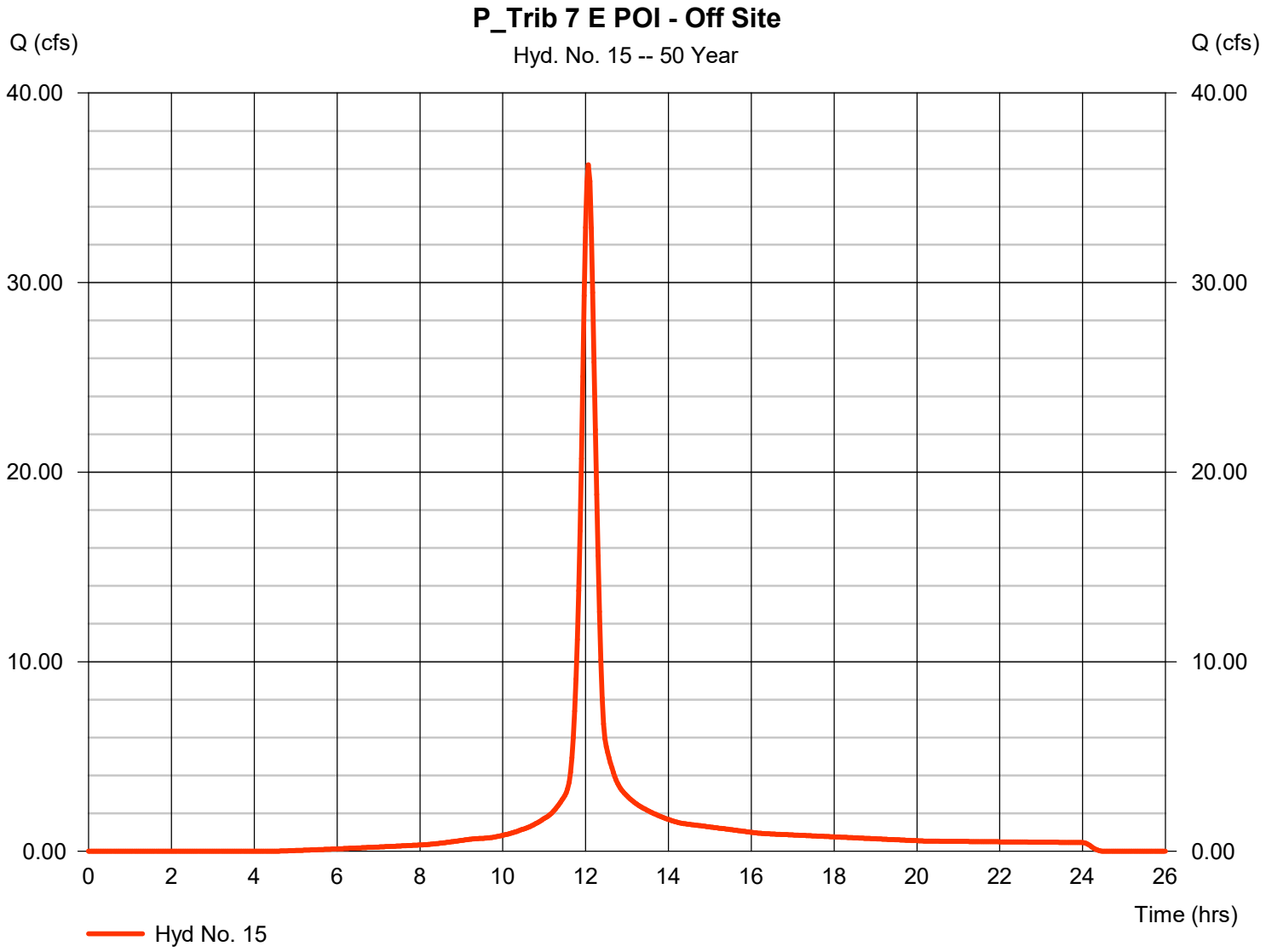
Hydrograph Report

Hyd. No. 15

P_Trib 7 E POI - Off Site

Hydrograph type	=	SCS Runoff	Peak discharge	=	36.21 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.07 hrs
Time interval	=	2 min	Hyd. volume	=	115,917 cuft
Drainage area	=	6.250 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	18.00 min
Total precip.	=	6.85 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(5.940 x 84) + (0.310 x 98)] / 6.250

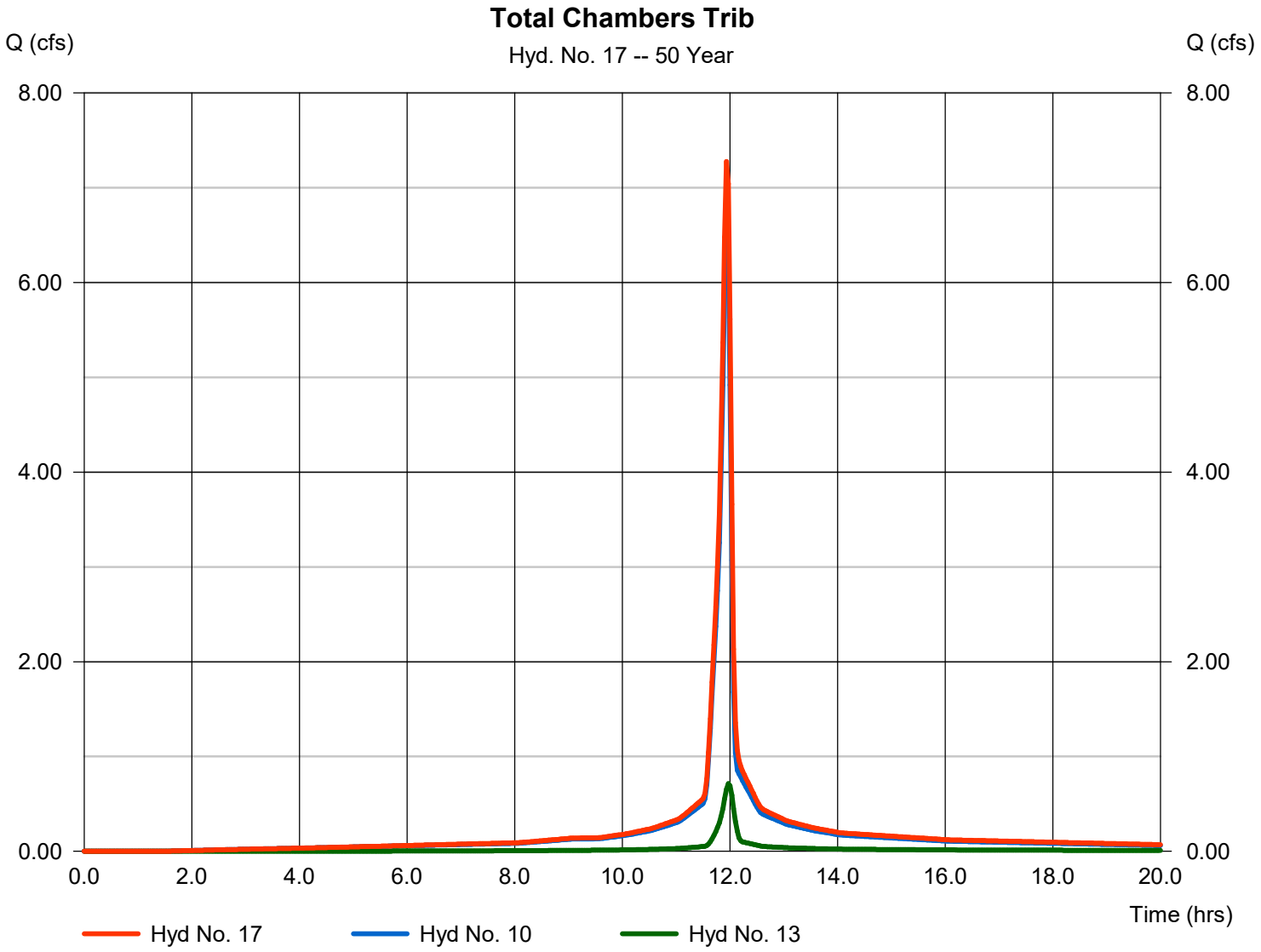


Hydrograph Report

Hyd. No. 17

Total Chambers Trib

Hydrograph type	=	Combine	Peak discharge	=	7.276 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	17,036 cuft
Inflow hyds.	=	10, 13	Contrib. drain. area	=	0.810 ac



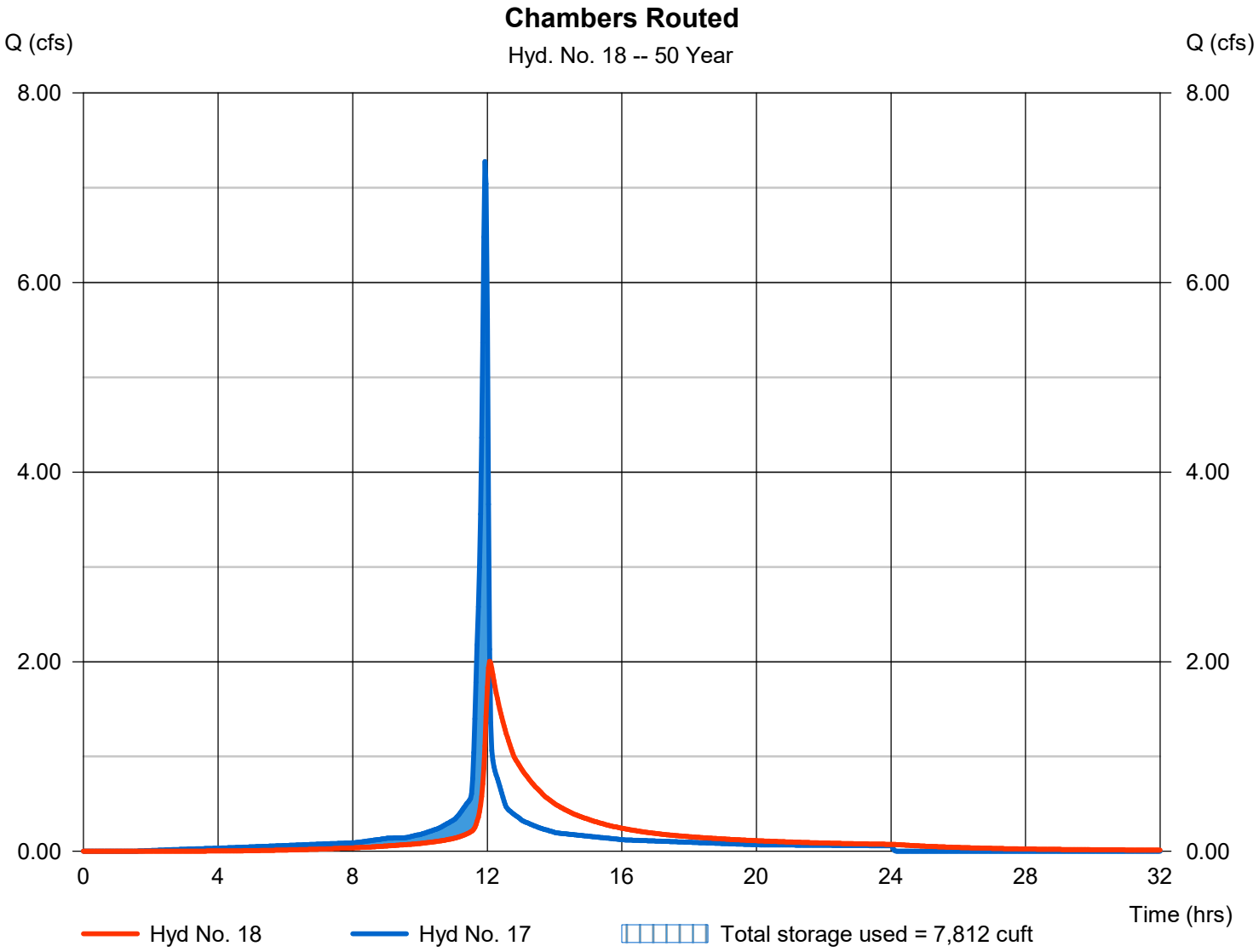
Hydrograph Report

Hyd. No. 18

Chambers Routed

Hydrograph type	=	Reservoir	Peak discharge	=	2.005 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.07 hrs
Time interval	=	2 min	Hyd. volume	=	16,978 cuft
Inflow hyd. No.	=	17 - Total Chambers Trib	Max. Elevation	=	450.87 ft
Reservoir name	=	SC-310 Chambers	Max. Storage	=	7,812 cuft

Storage Indication method used.

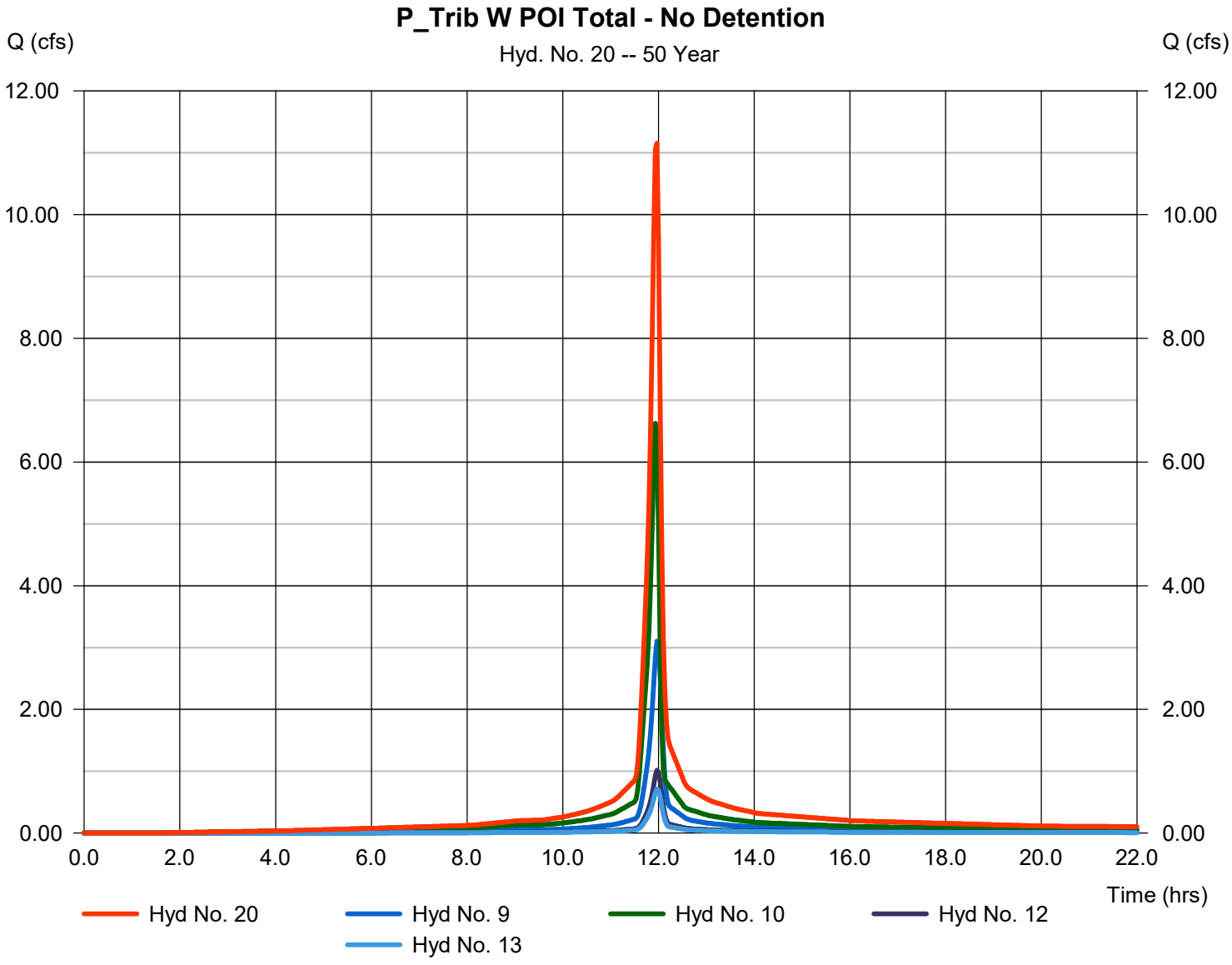


Hydrograph Report

Hyd. No. 20

P_Trib W POI Total - No Detention

Hydrograph type	= Combine	Peak discharge	= 11.15 cfs
Storm frequency	= 50 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 26,962 cuft
Inflow hyds.	= 9, 10, 12, 13	Contrib. drain. area	= 1.320 ac

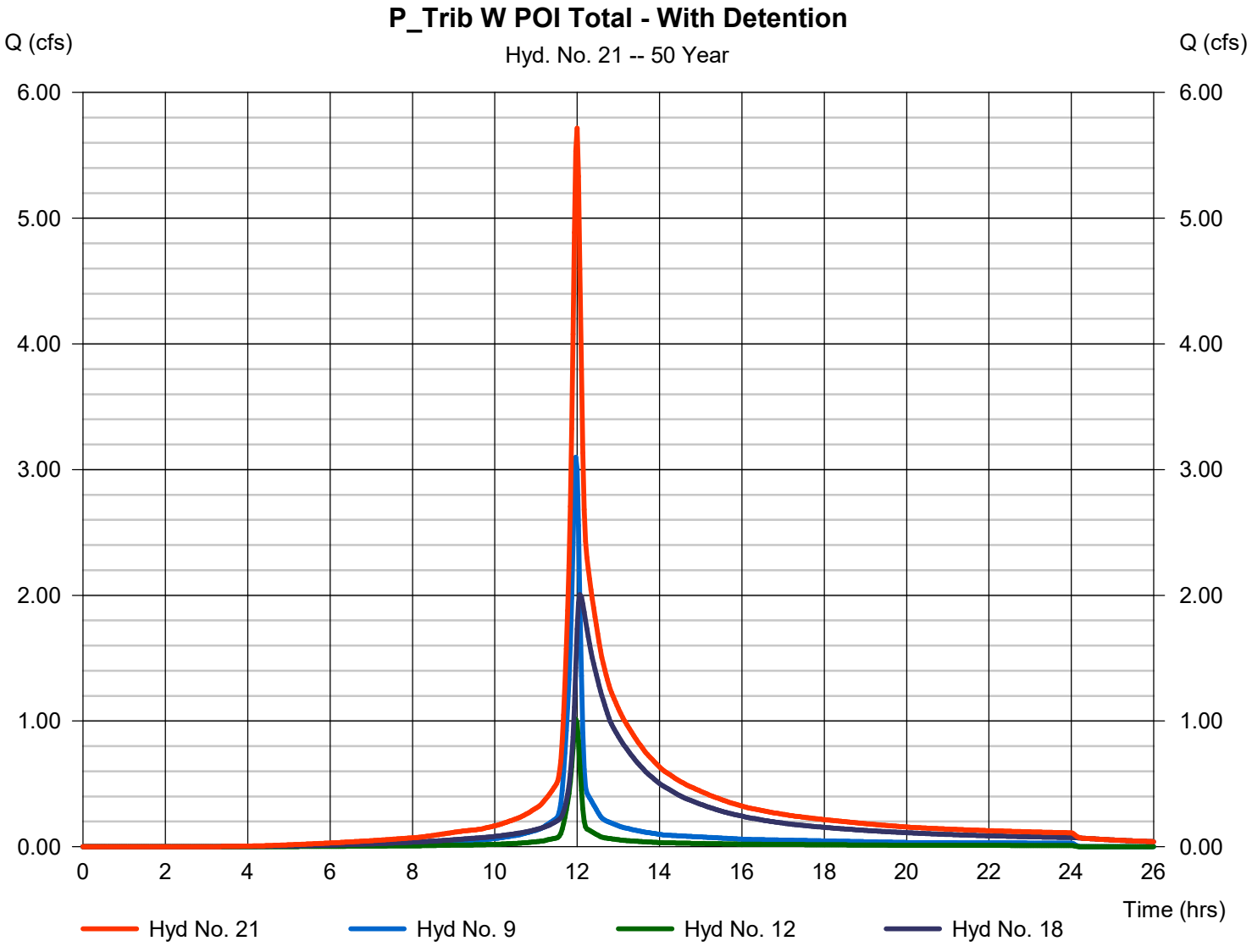


Hydrograph Report

Hyd. No. 21

P_Trib W POI Total - With Detention

Hydrograph type	= Combine	Peak discharge	= 5.717 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 26,904 cuft
Inflow hyds.	= 9, 12, 18	Contrib. drain. area	= 0.510 ac

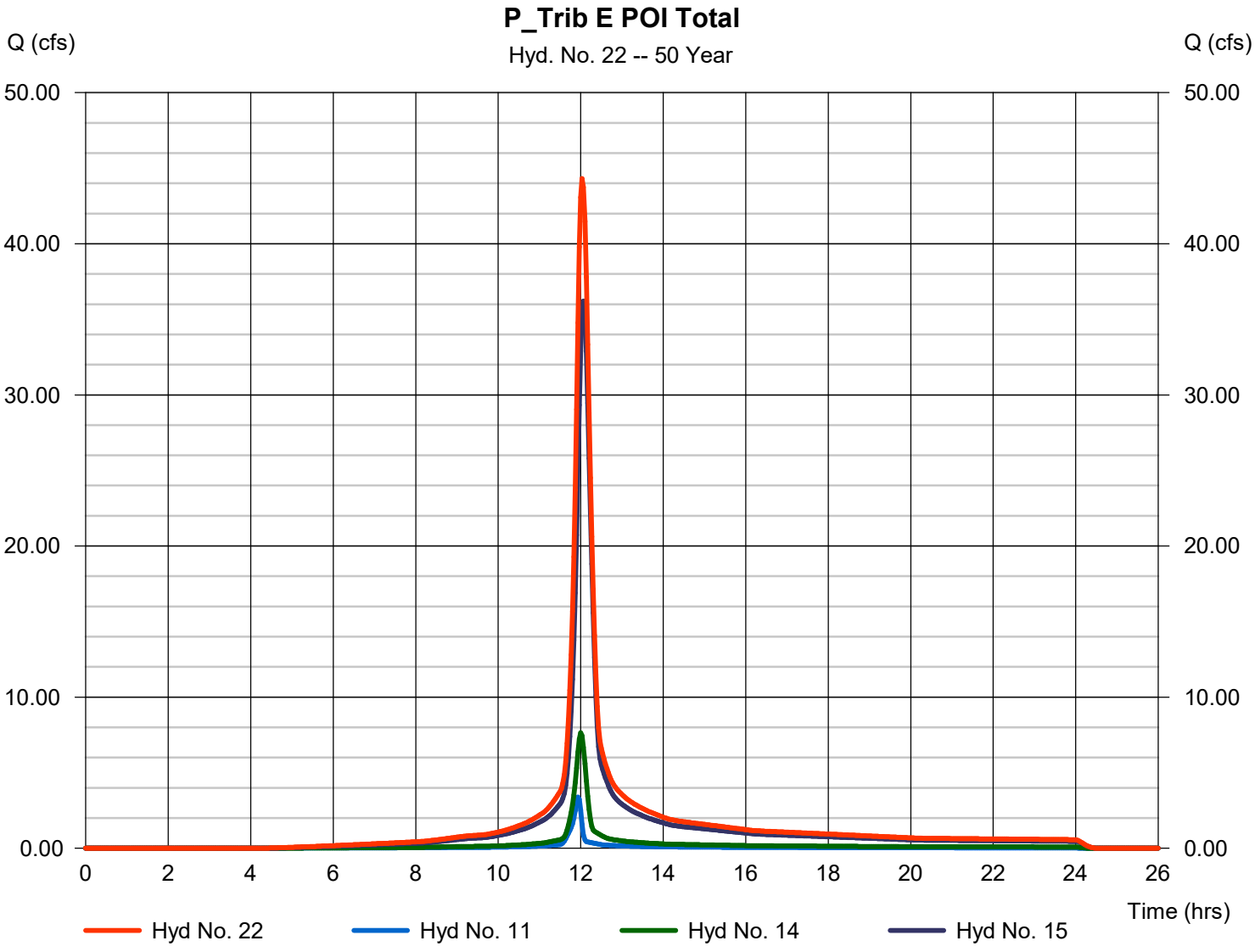


Hydrograph Report

Hyd. No. 22

P_Trib E POI Total

Hydrograph type	=	Combine	Peak discharge	=	44.32 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	143,871 cuft
Inflow hyds.	=	11, 14, 15	Contrib. drain. area	=	7.700 ac



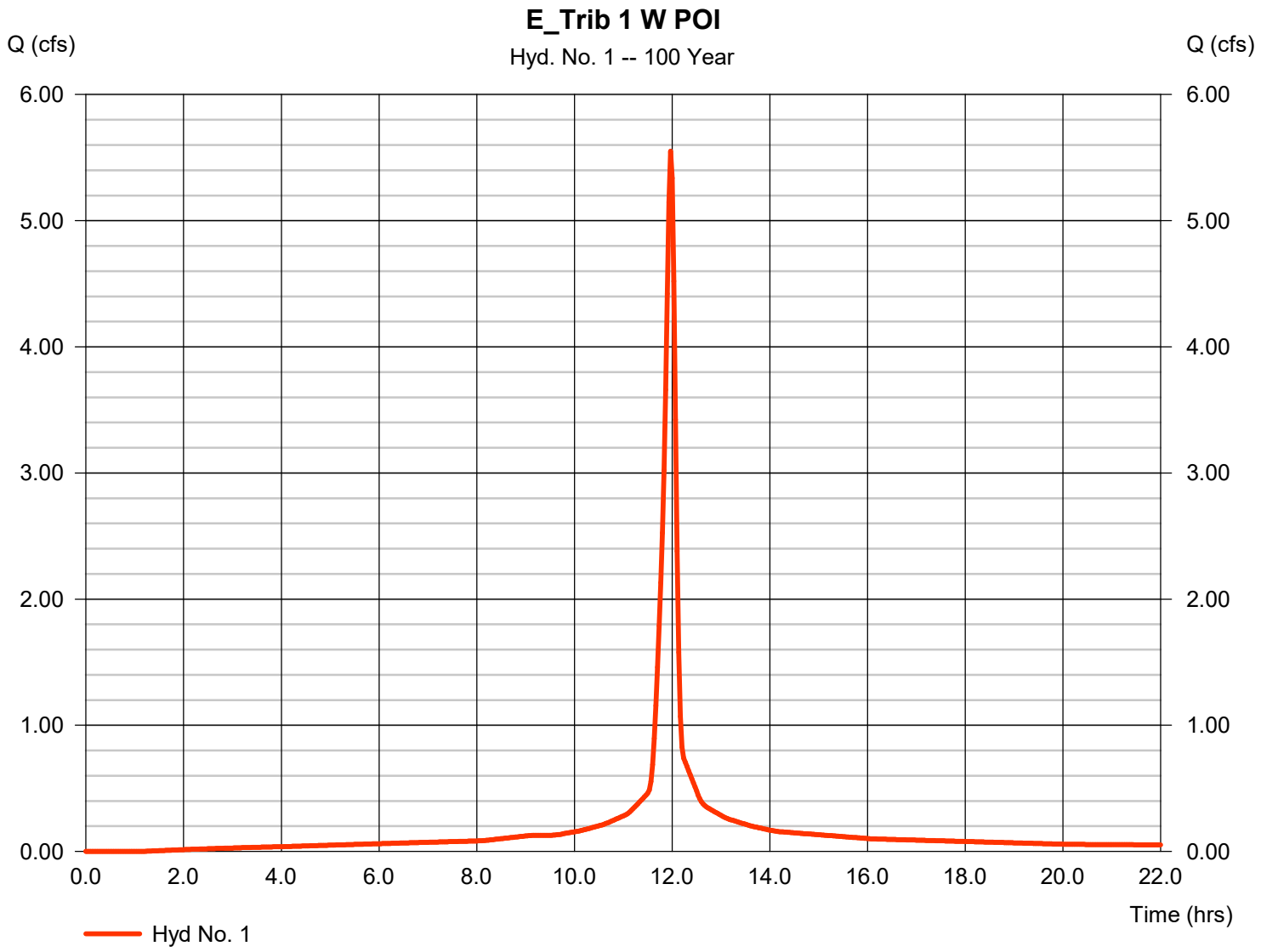
Hydrograph Report

Hyd. No. 1

E_Trib 1 W POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.549 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	14,591 cuft
Drainage area	=	0.570 ac	Curve number	=	96*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	7.50 min
Total precip.	=	7.53 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.070 x 84) + (0.500 x 98)] / 0.570



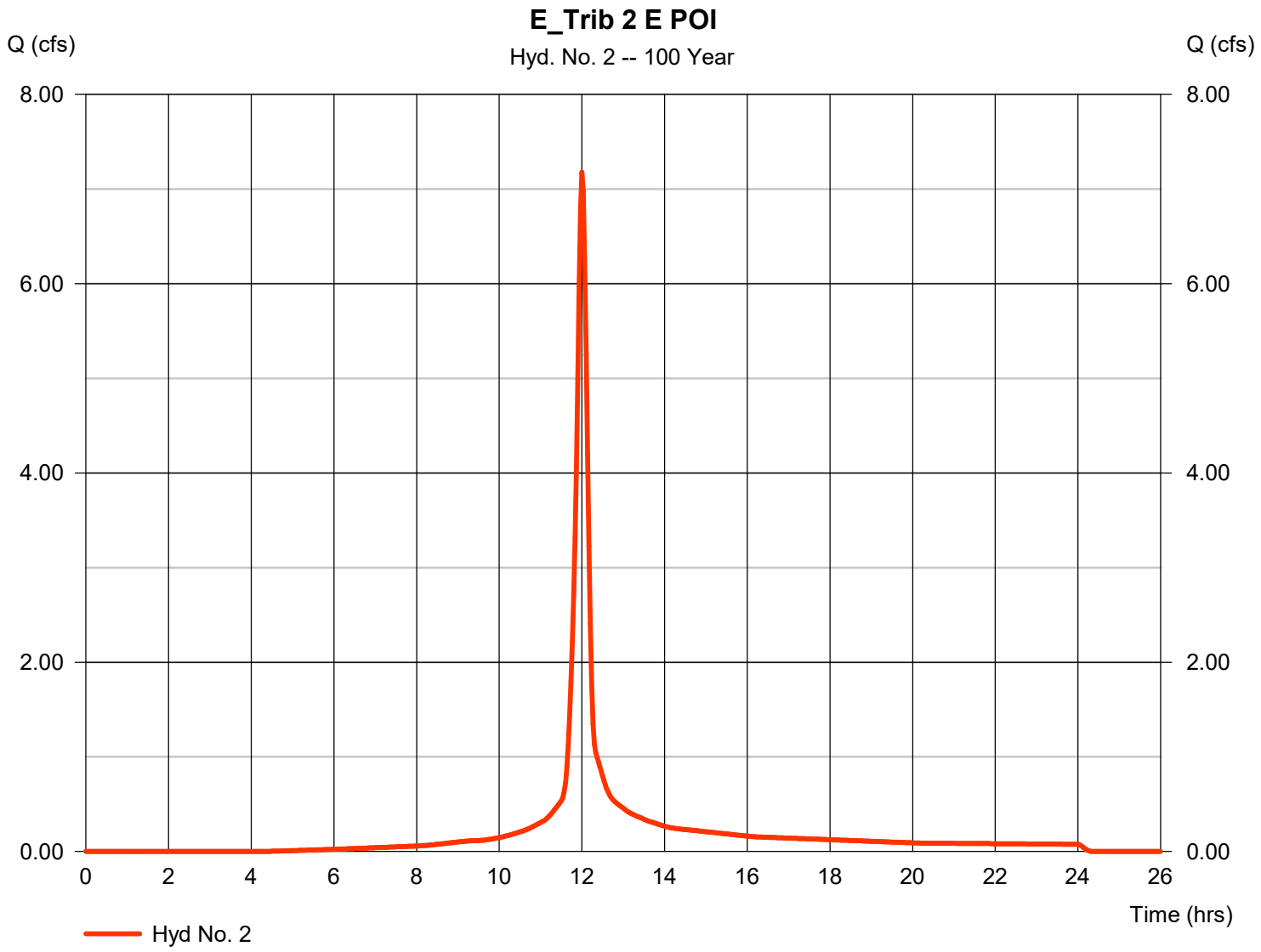
Hydrograph Report

Hyd. No. 2

E_Trib 2 E POI

Hydrograph type	= SCS Runoff	Peak discharge	= 7.178 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 19,230 cuft
Drainage area	= 0.910 ac	Curve number	= 84*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 10.50 min
Total precip.	= 7.53 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.900 x 84) + (0.010 x 98)] / 0.910



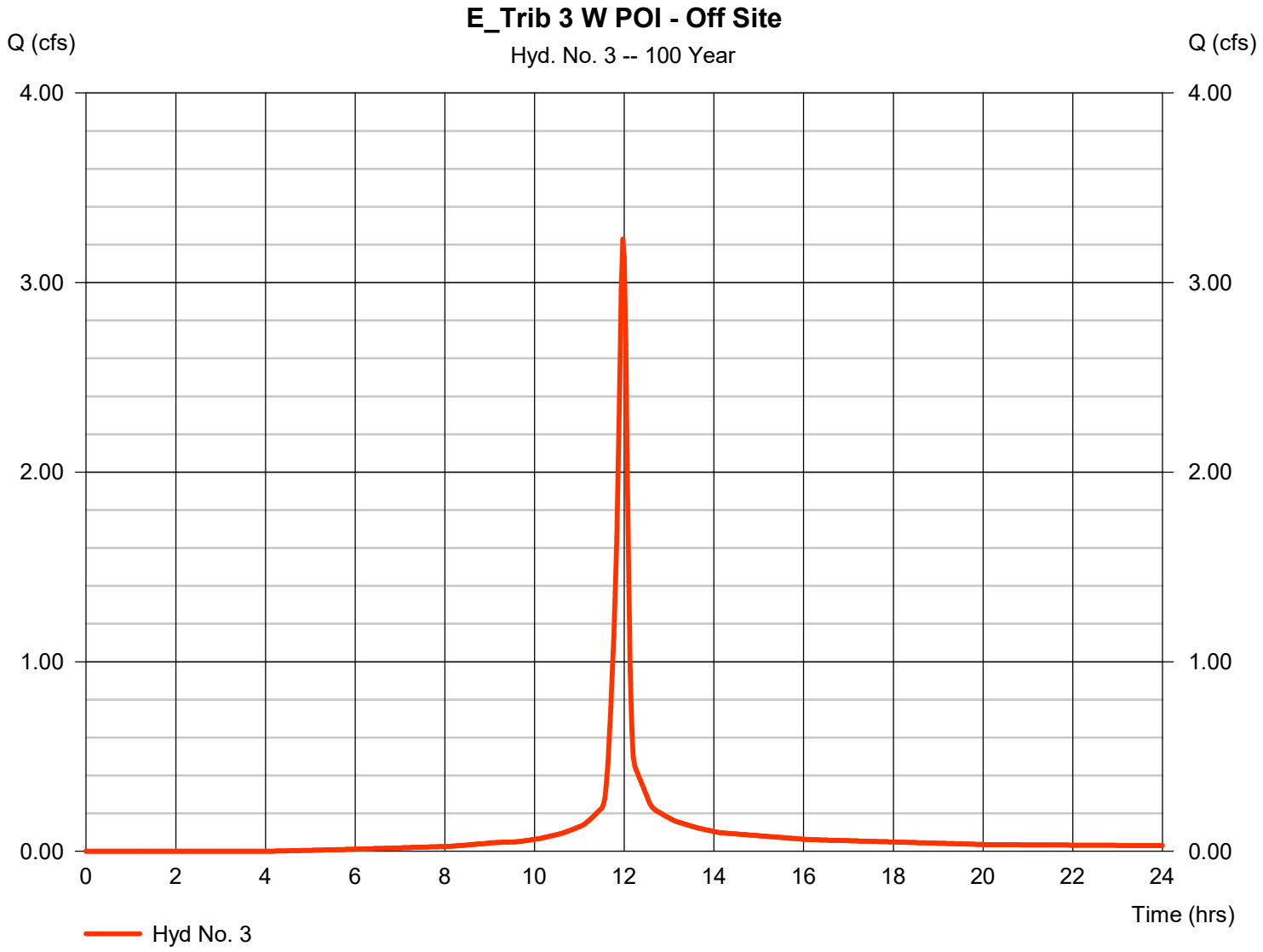
Hydrograph Report

Hyd. No. 3

E_Trib 3 W POI - Off Site

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.229 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	7,737 cuft
Drainage area	=	0.370 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	8.90 min
Total precip.	=	7.53 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.340 x 84) + (0.030 x 98)] / 0.370



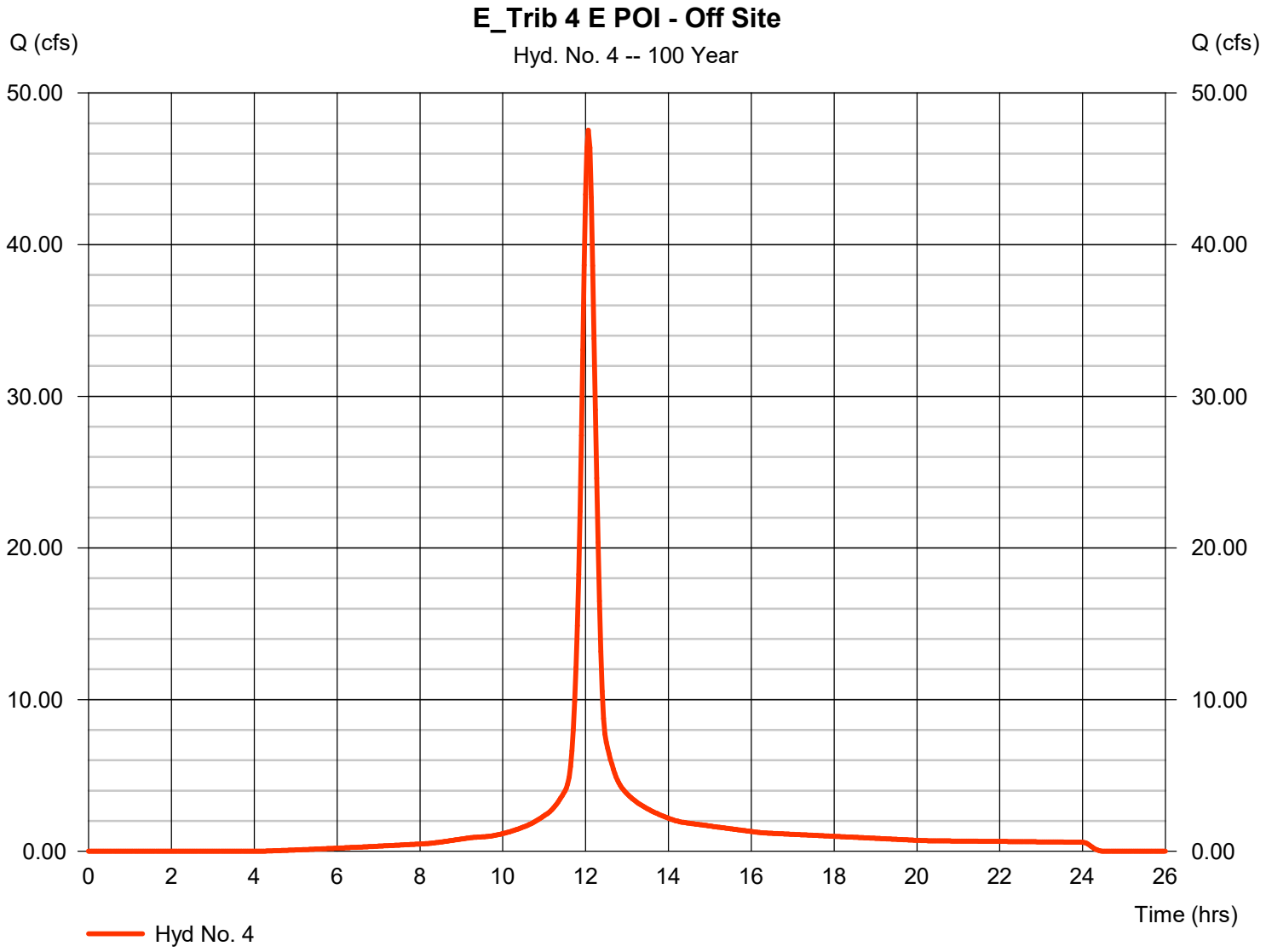
Hydrograph Report

Hyd. No. 4

E_Trib 4 E POI - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 47.55 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 153,069 cuft
Drainage area	= 7.320 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.00 min
Total precip.	= 7.53 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(6.930 x 84) + (0.390 x 98)] / 7.320

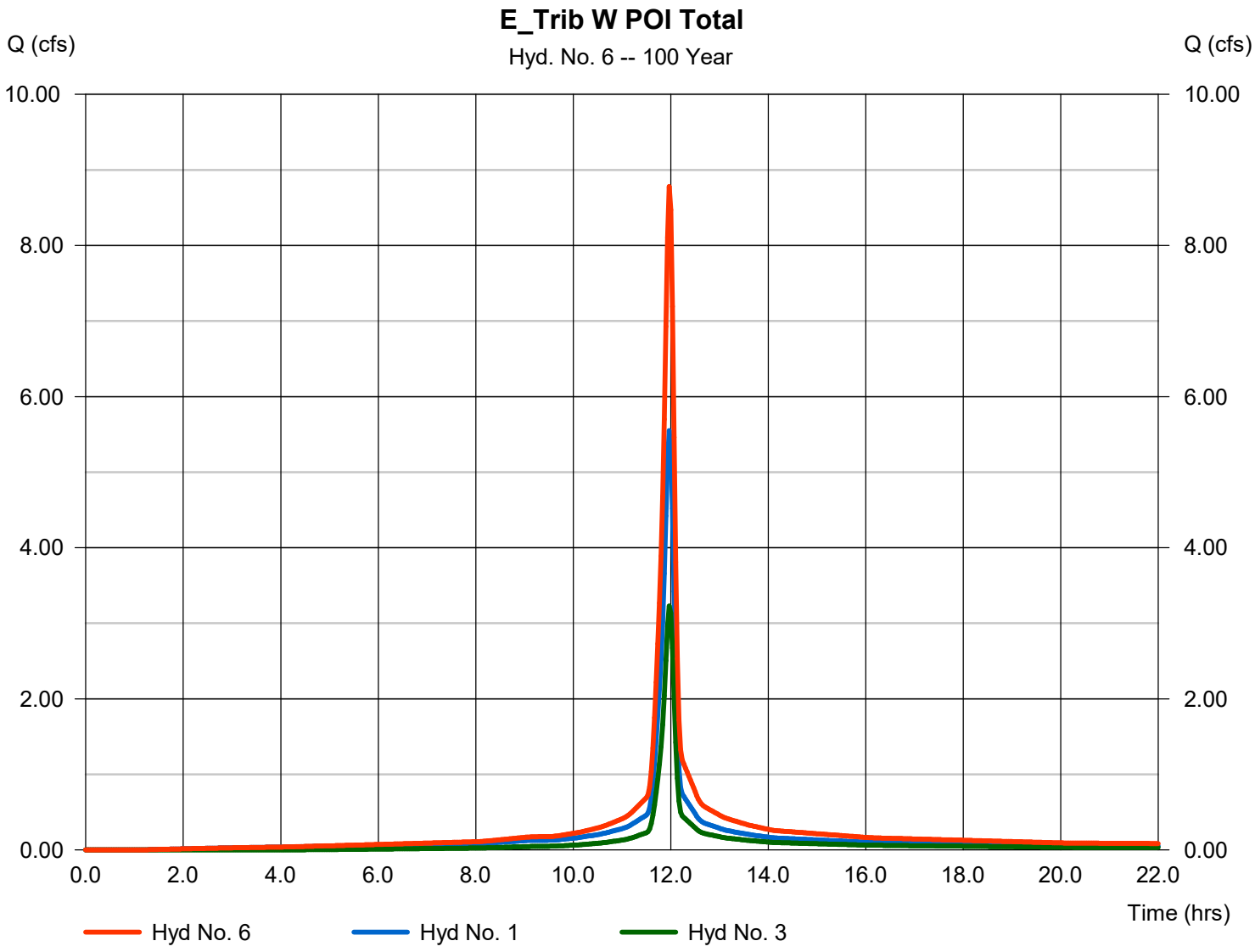


Hydrograph Report

Hyd. No. 6

E_Trib W POI Total

Hydrograph type	= Combine	Peak discharge	= 8.779 cfs
Storm frequency	= 100 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 22,329 cuft
Inflow hyds.	= 1, 3	Contrib. drain. area	= 0.940 ac

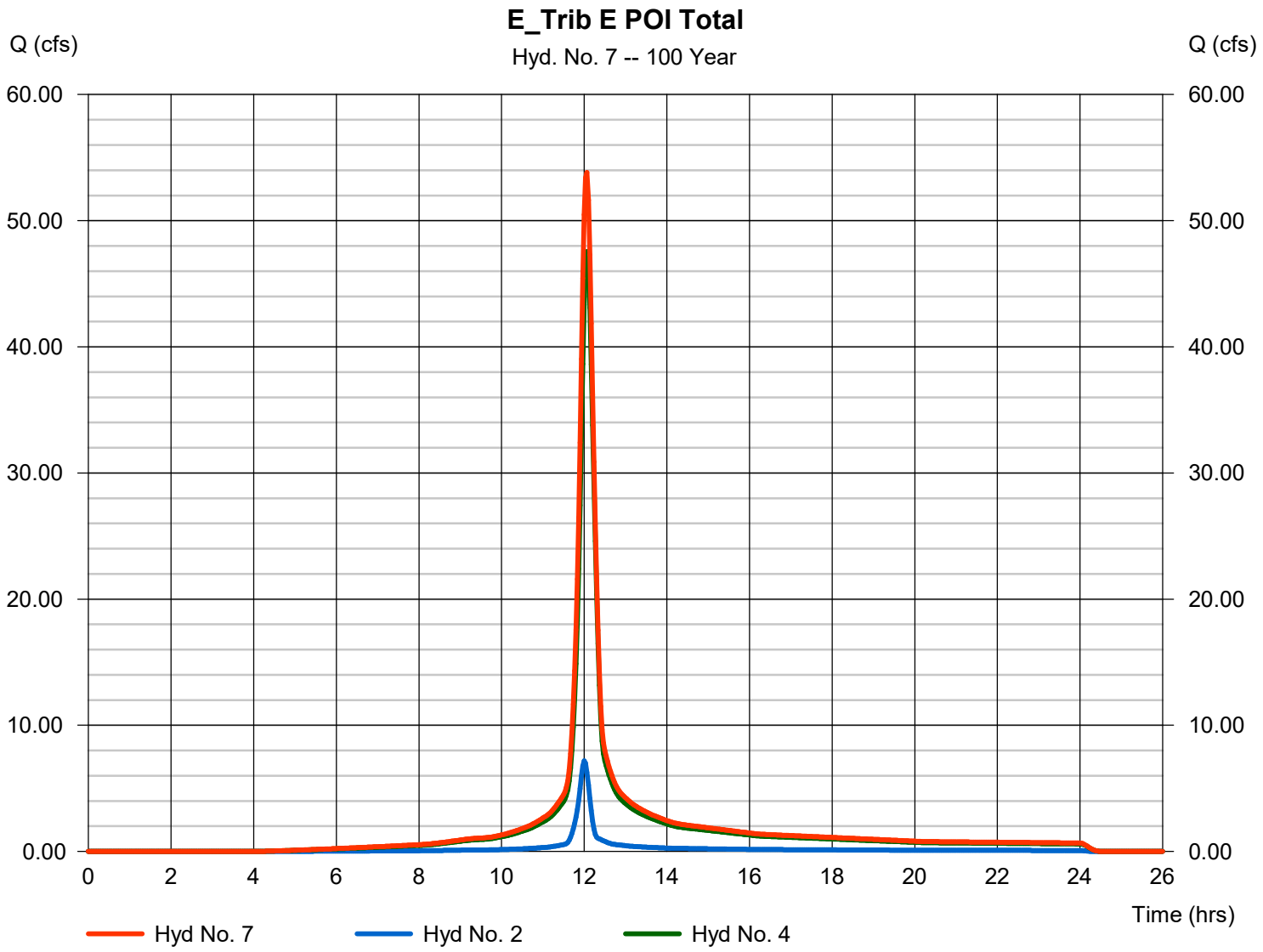


Hydrograph Report

Hyd. No. 7

E_Trib E POI Total

Hydrograph type	= Combine	Peak discharge	= 53.81 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 172,299 cuft
Inflow hyds.	= 2, 4	Contrib. drain. area	= 8.230 ac



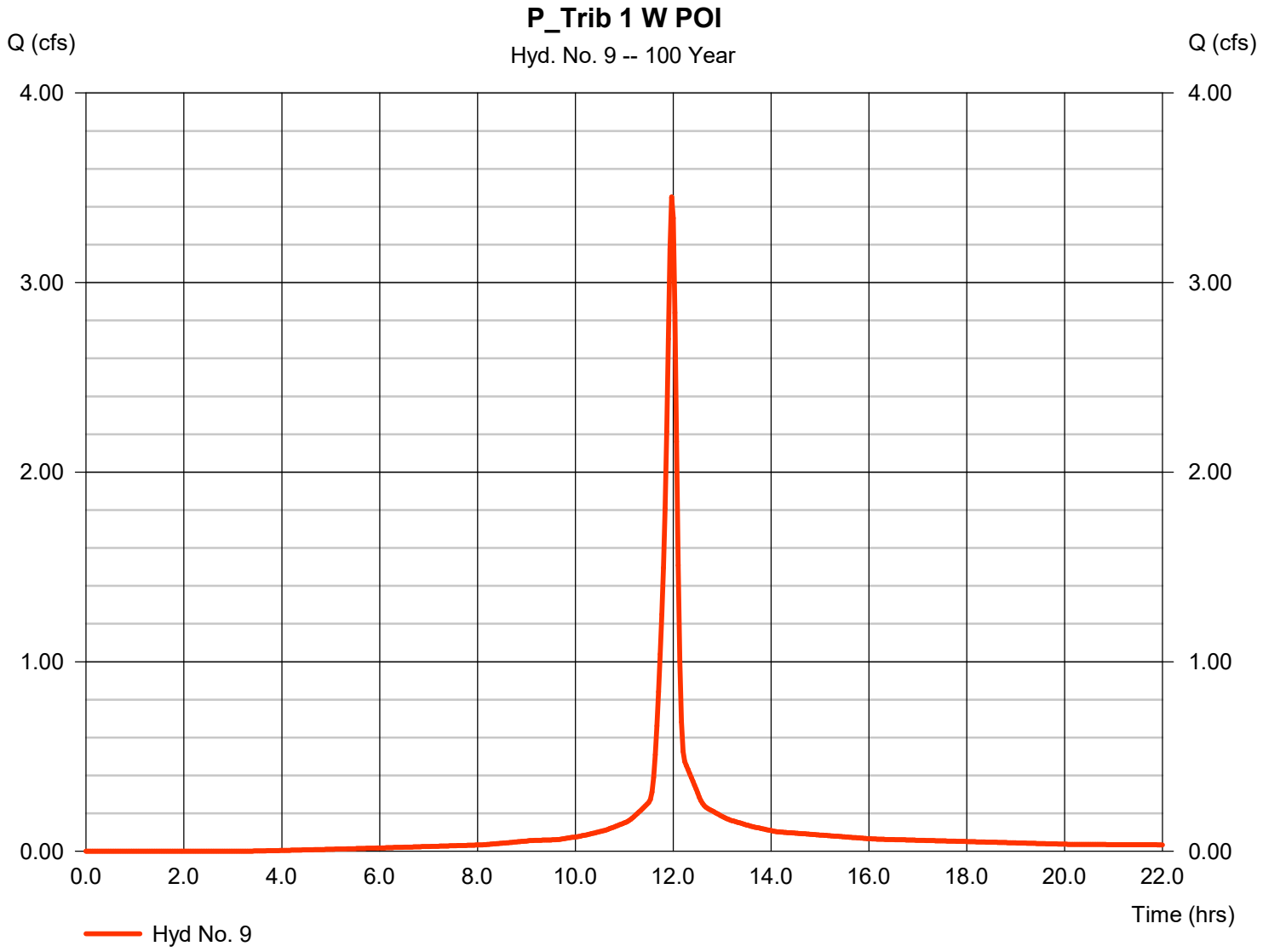
Hydrograph Report

Hyd. No. 9

P_Trib 1 W POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.452 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	8,427 cuft
Drainage area	=	0.380 ac	Curve number	=	88*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	7.40 min
Total precip.	=	7.53 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.280 x 84) + (0.100 x 98)] / 0.380



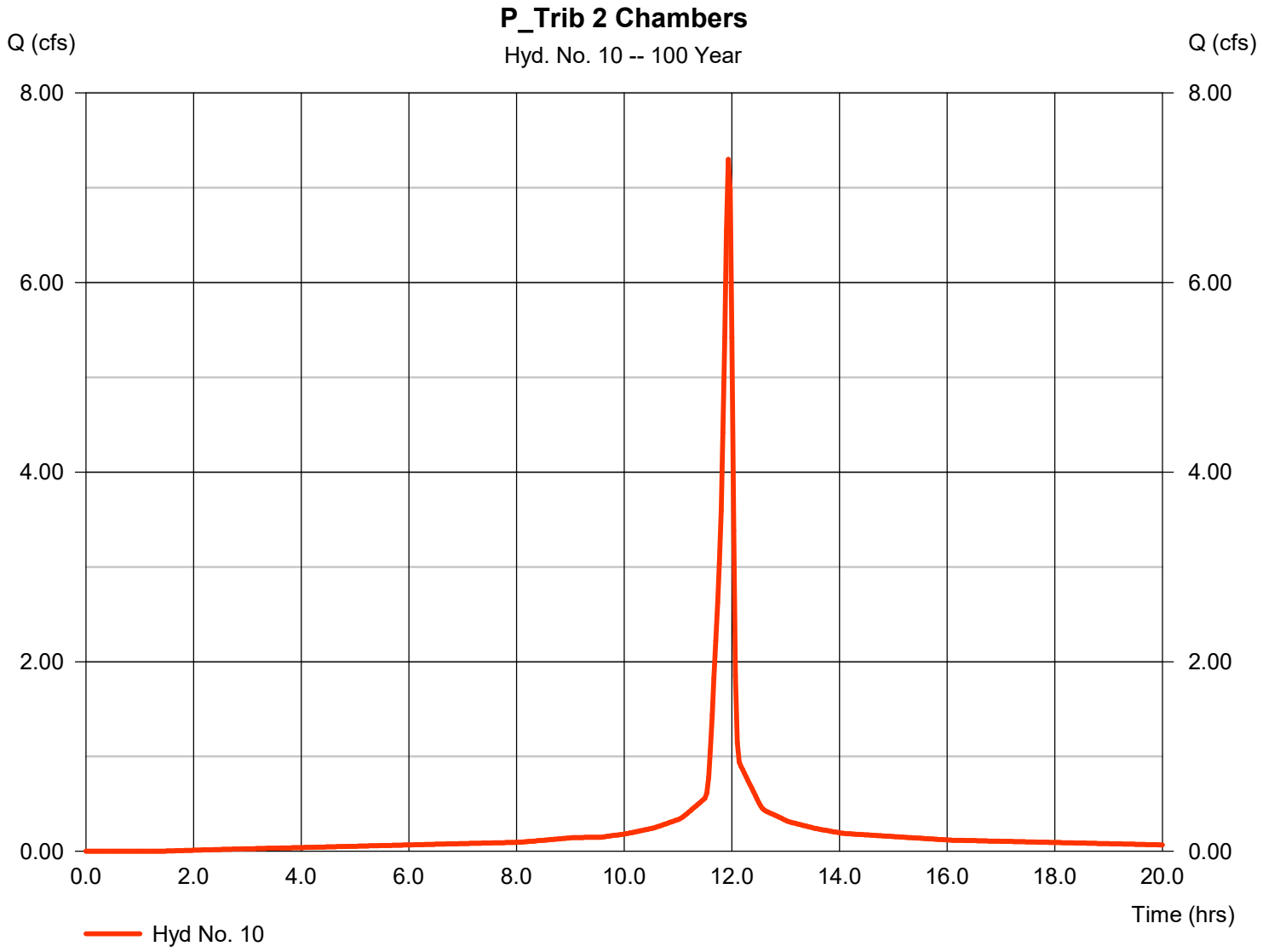
Hydrograph Report

Hyd. No. 10

P_Trib 2 Chambers

Hydrograph type	=	SCS Runoff	Peak discharge	=	7.300 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	16,988 cuft
Drainage area	=	0.720 ac	Curve number	=	95*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	3.30 min
Total precip.	=	7.53 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.130 x 84) + (0.590 x 98)] / 0.720



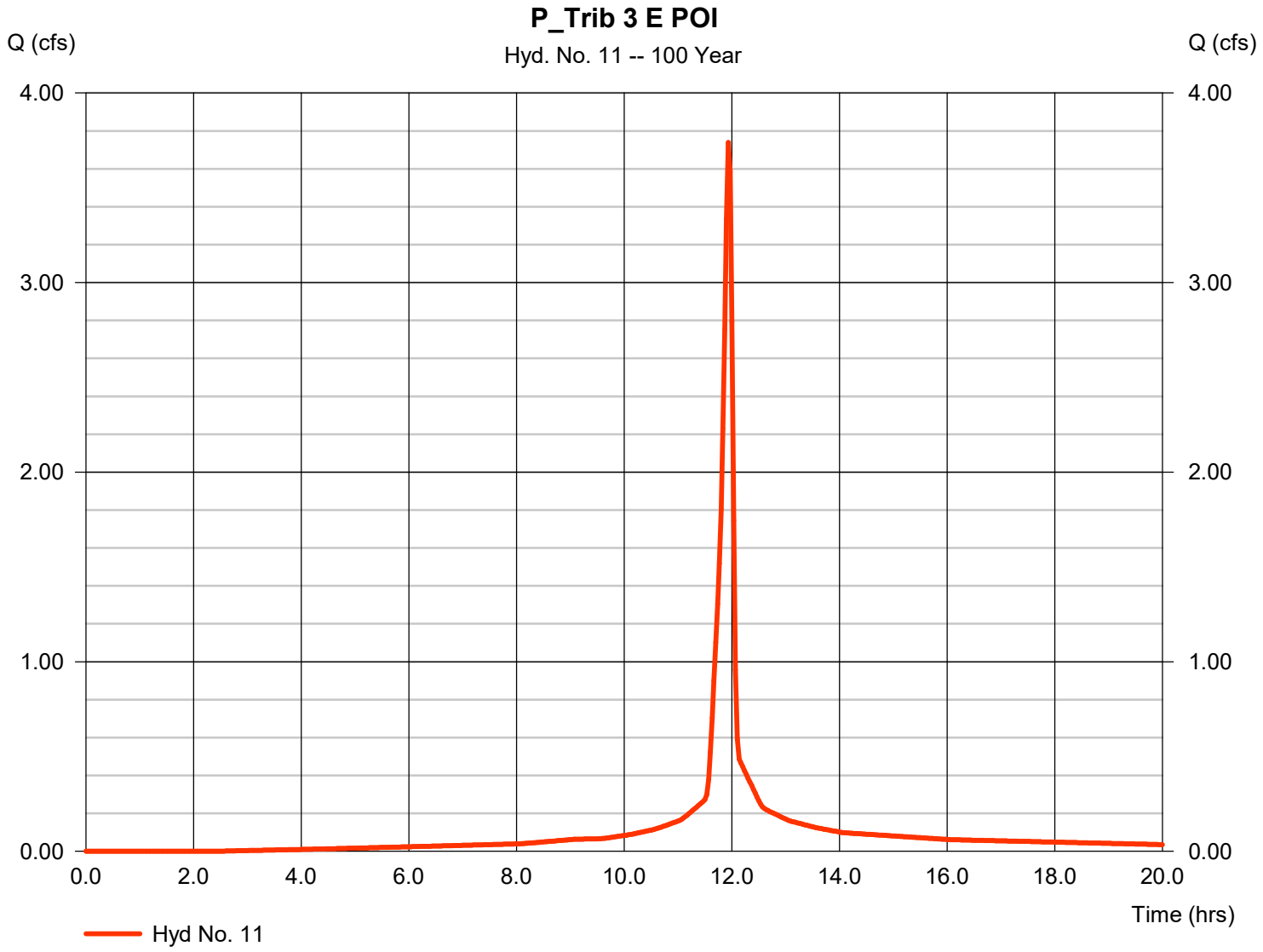
Hydrograph Report

Hyd. No. 11

P_Trib 3 E POI

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.740 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	8,355 cuft
Drainage area	=	0.380 ac	Curve number	=	91*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	4.10 min
Total precip.	=	7.53 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.180 x 84) + (0.200 x 98)] / 0.380



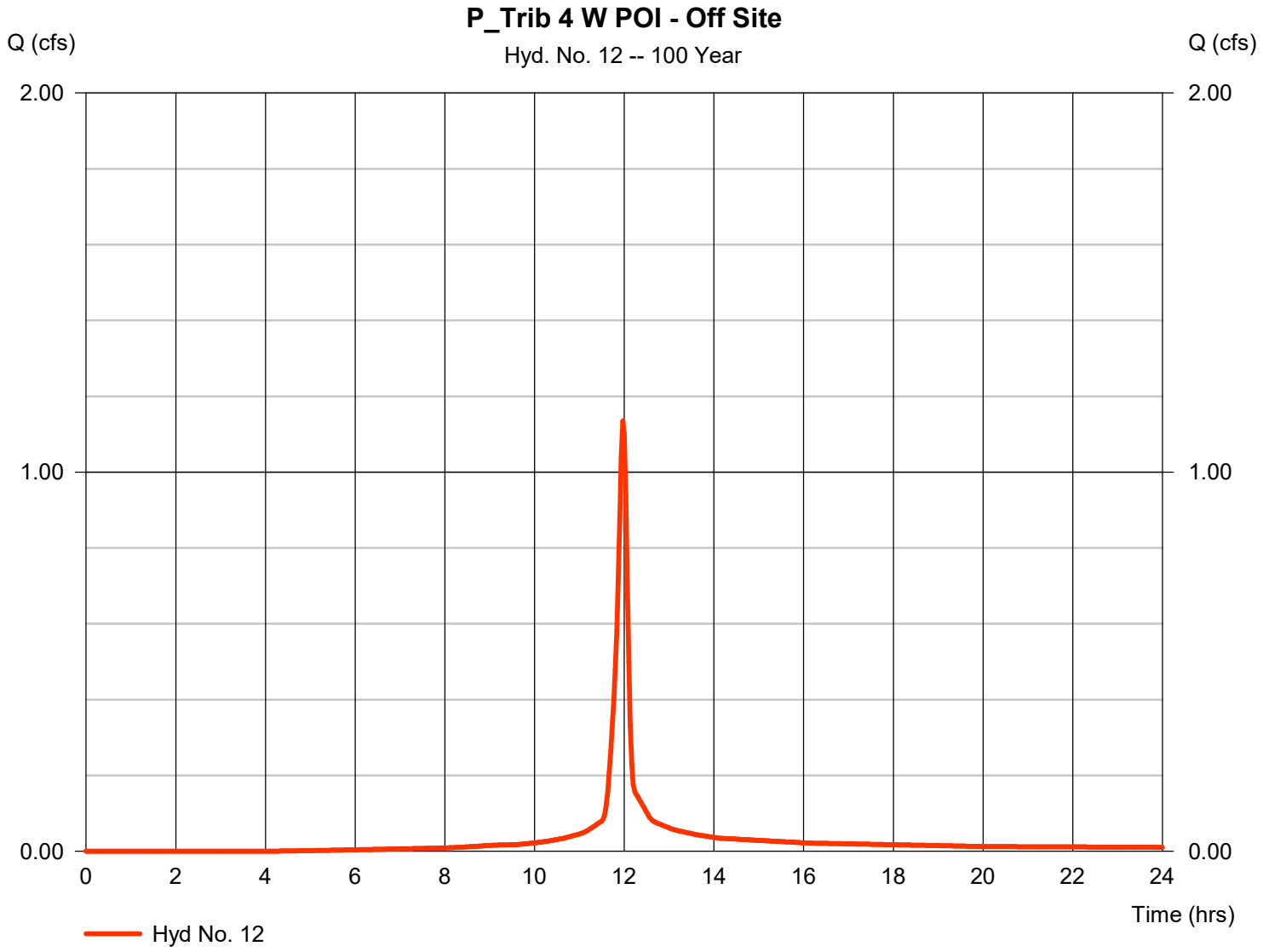
Hydrograph Report

Hyd. No. 12

P_Trib 4 W POI - Off Site

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.135 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	2,718 cuft
Drainage area	=	0.130 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	8.90 min
Total precip.	=	7.53 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.120 x 84) + (0.010 x 98)] / 0.130



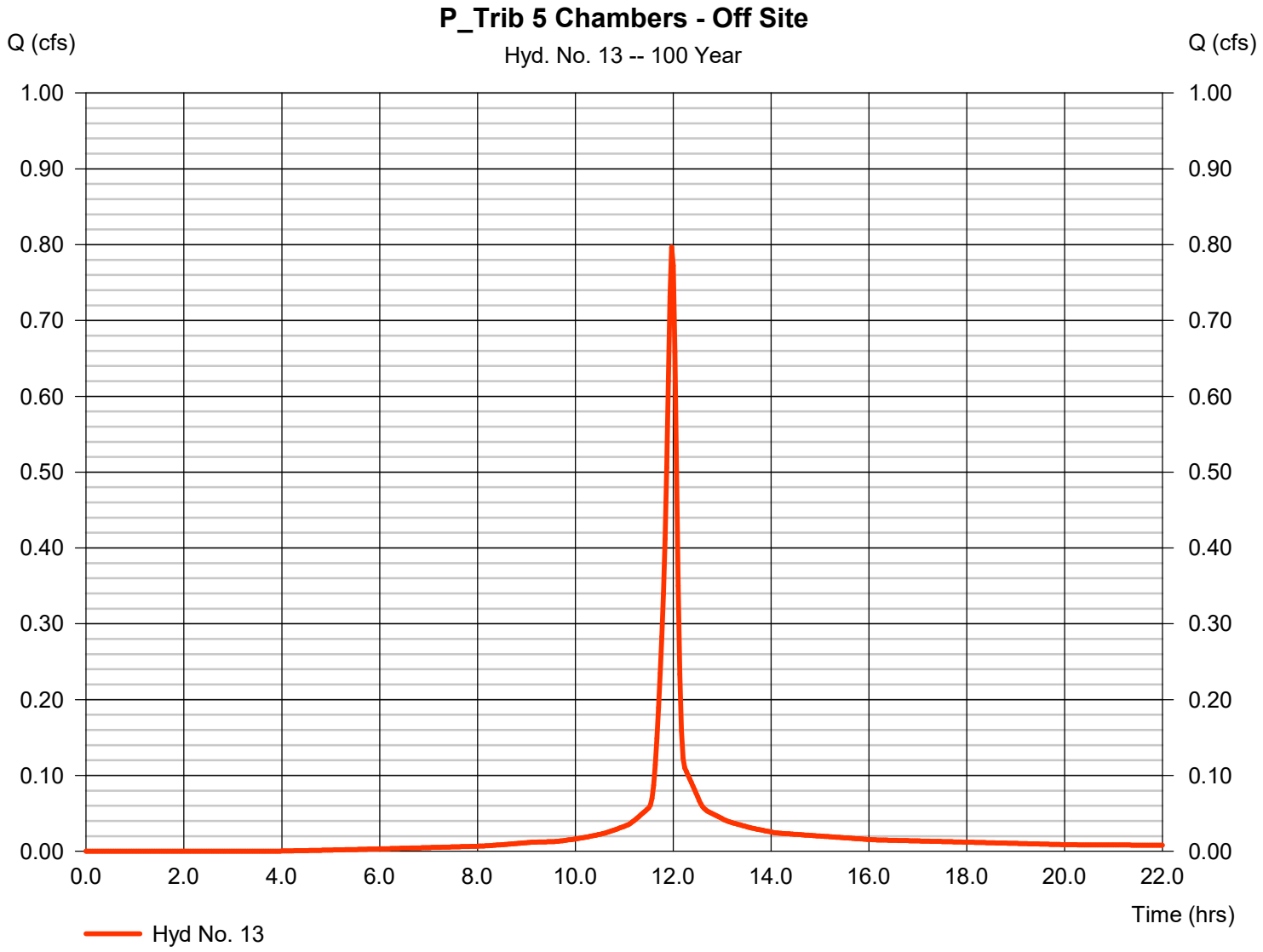
Hydrograph Report

Hyd. No. 13

P_Trib 5 Chambers - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 0.797 cfs
Storm frequency	= 100 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 1,920 cuft
Drainage area	= 0.090 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 9.80 min
Total precip.	= 7.53 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.080 x 84) + (0.010 x 98)] / 0.090



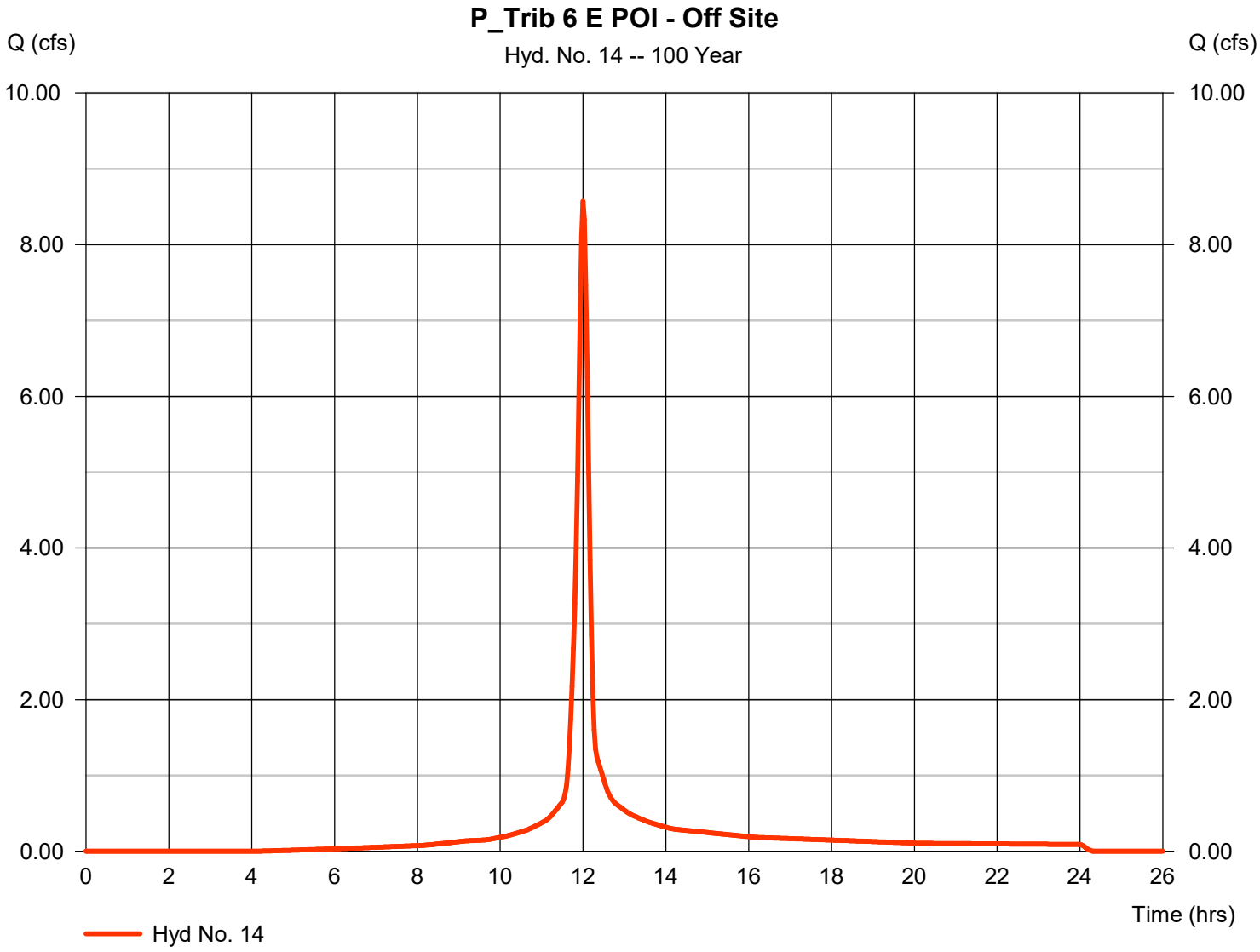
Hydrograph Report

Hyd. No. 14

P_Trib 6 E POI - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 8.570 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 23,074 cuft
Drainage area	= 1.070 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 10.10 min
Total precip.	= 7.53 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.990 x 84) + (0.080 x 98)] / 1.070



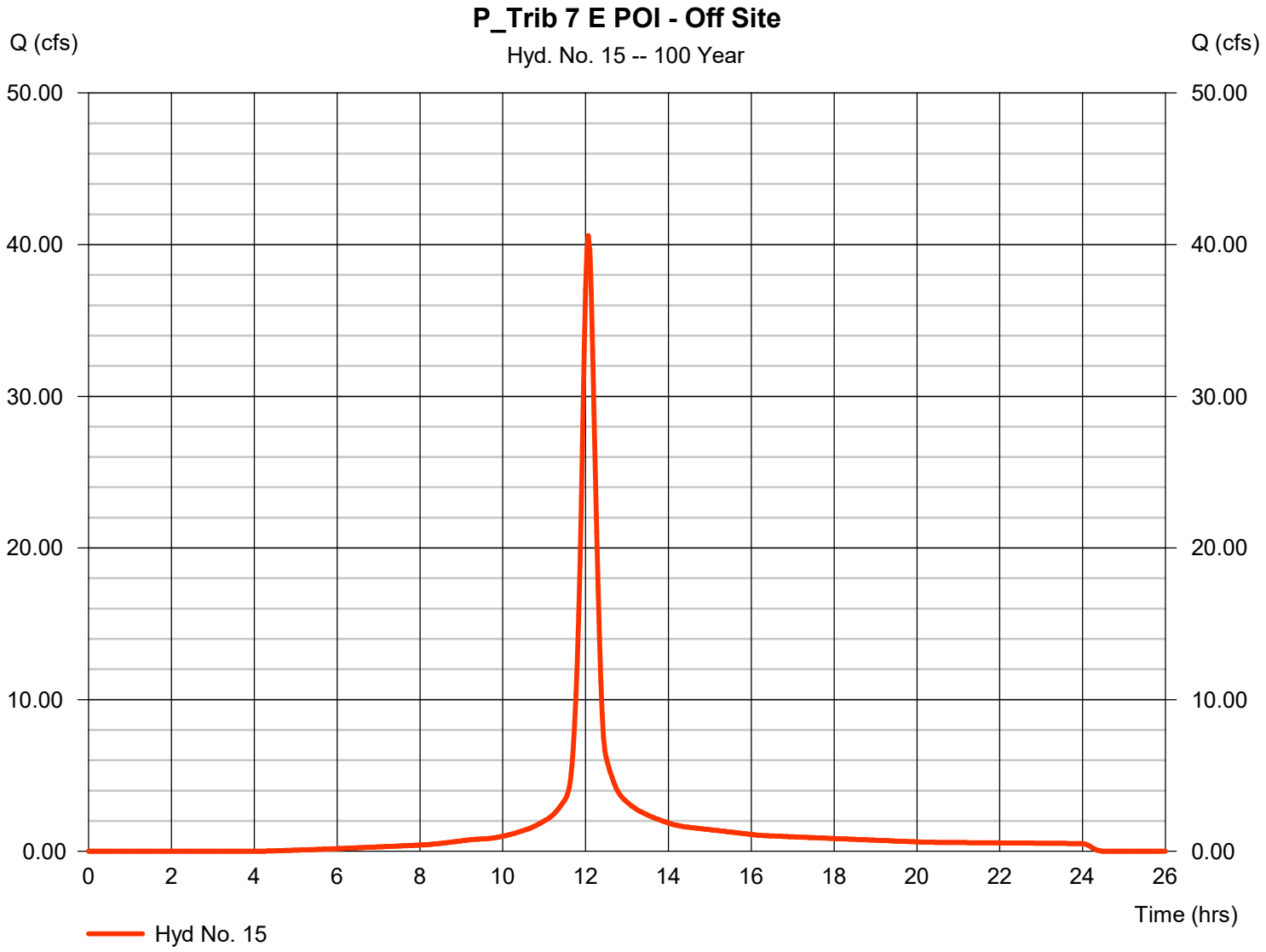
Hydrograph Report

Hyd. No. 15

P_Trib 7 E POI - Off Site

Hydrograph type	= SCS Runoff	Peak discharge	= 40.60 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 130,694 cuft
Drainage area	= 6.250 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.00 min
Total precip.	= 7.53 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(5.940 x 84) + (0.310 x 98)] / 6.250

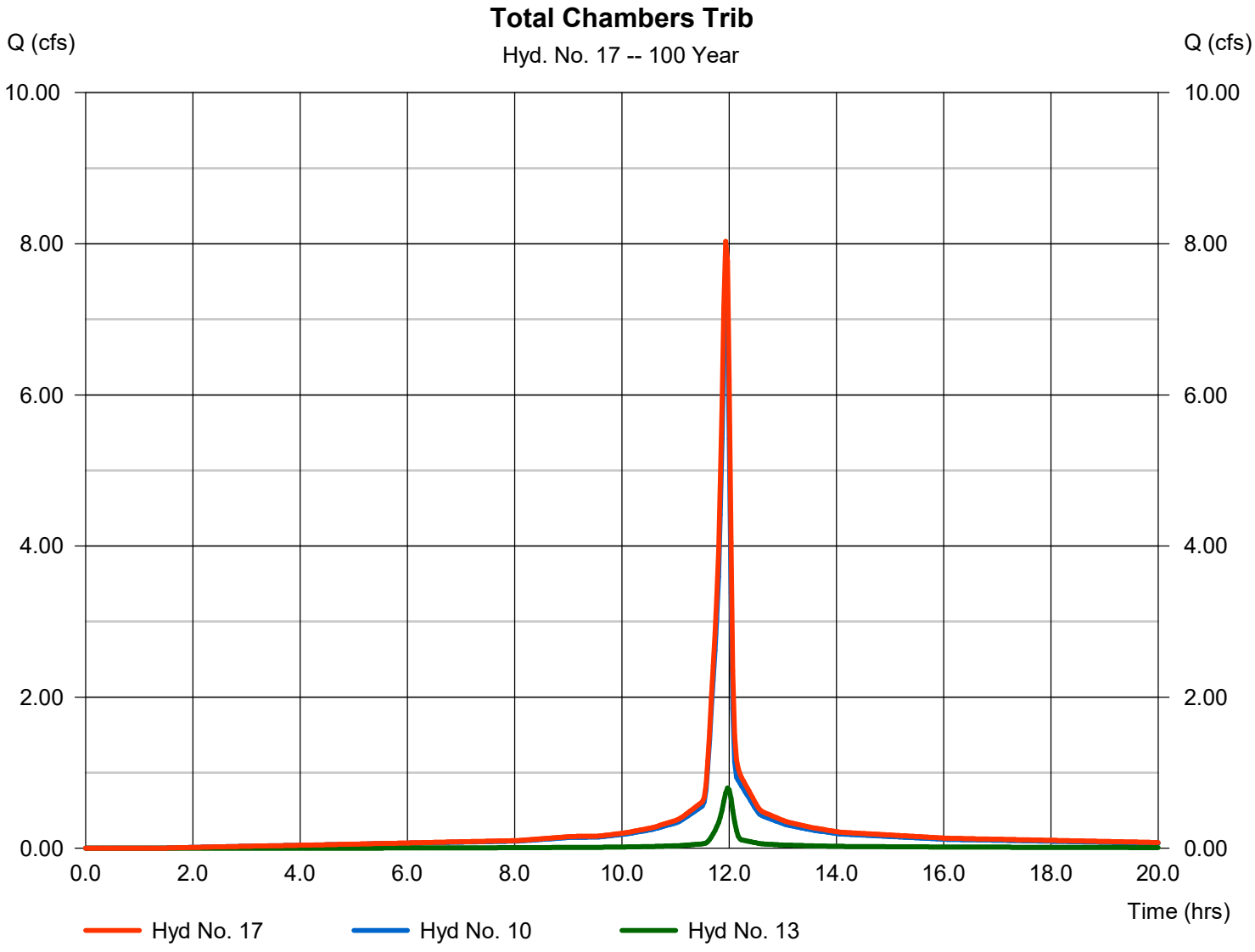


Hydrograph Report

Hyd. No. 17

Total Chambers Trib

Hydrograph type	= Combine	Peak discharge	= 8.032 cfs
Storm frequency	= 100 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 18,908 cuft
Inflow hyds.	= 10, 13	Contrib. drain. area	= 0.810 ac



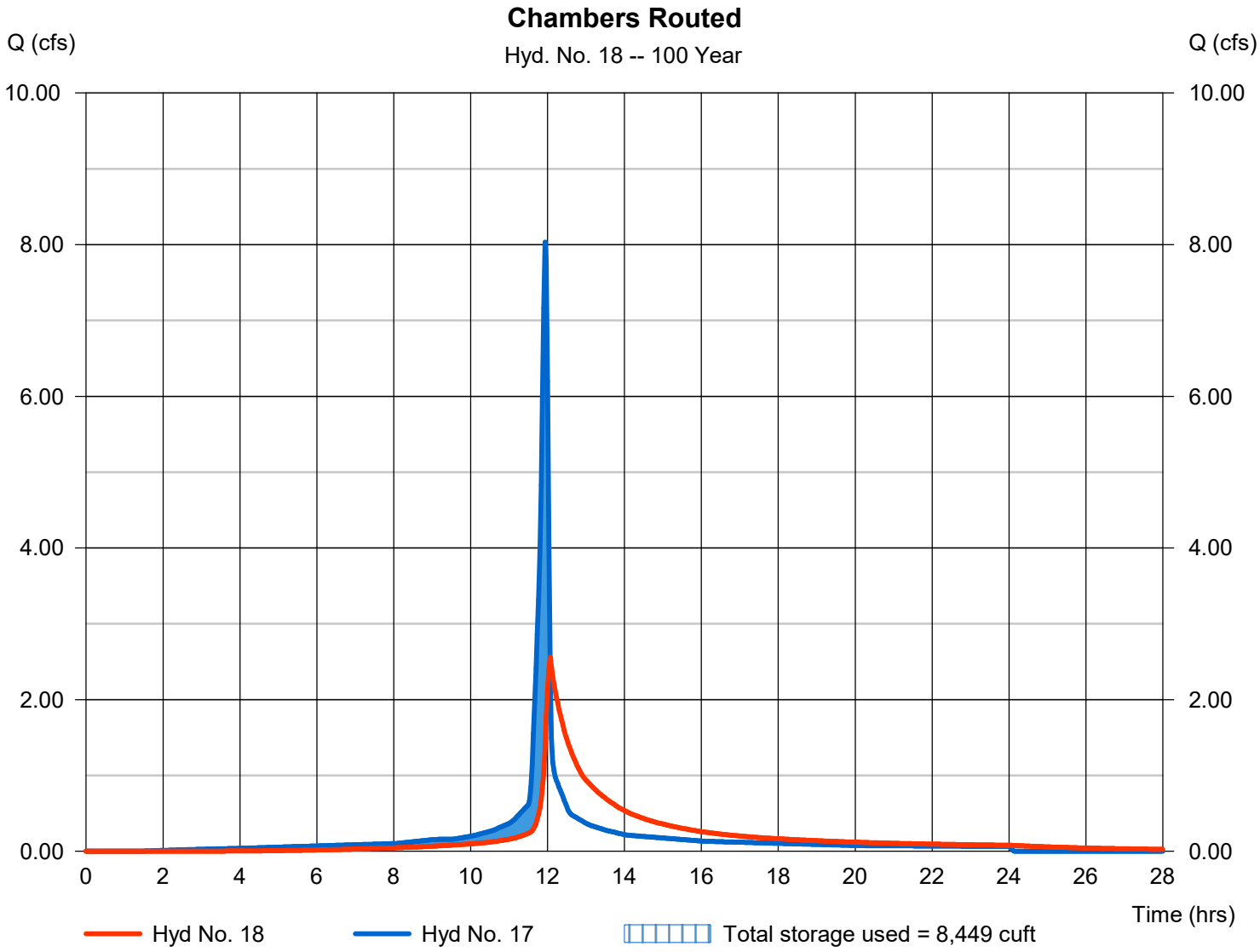
Hydrograph Report

Hyd. No. 18

Chambers Routed

Hydrograph type	=	Reservoir	Peak discharge	=	2.559 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.07 hrs
Time interval	=	2 min	Hyd. volume	=	18,850 cuft
Inflow hyd. No.	=	17 - Total Chambers Trib	Max. Elevation	=	451.08 ft
Reservoir name	=	SC-310 Chambers	Max. Storage	=	8,449 cuft

Storage Indication method used.

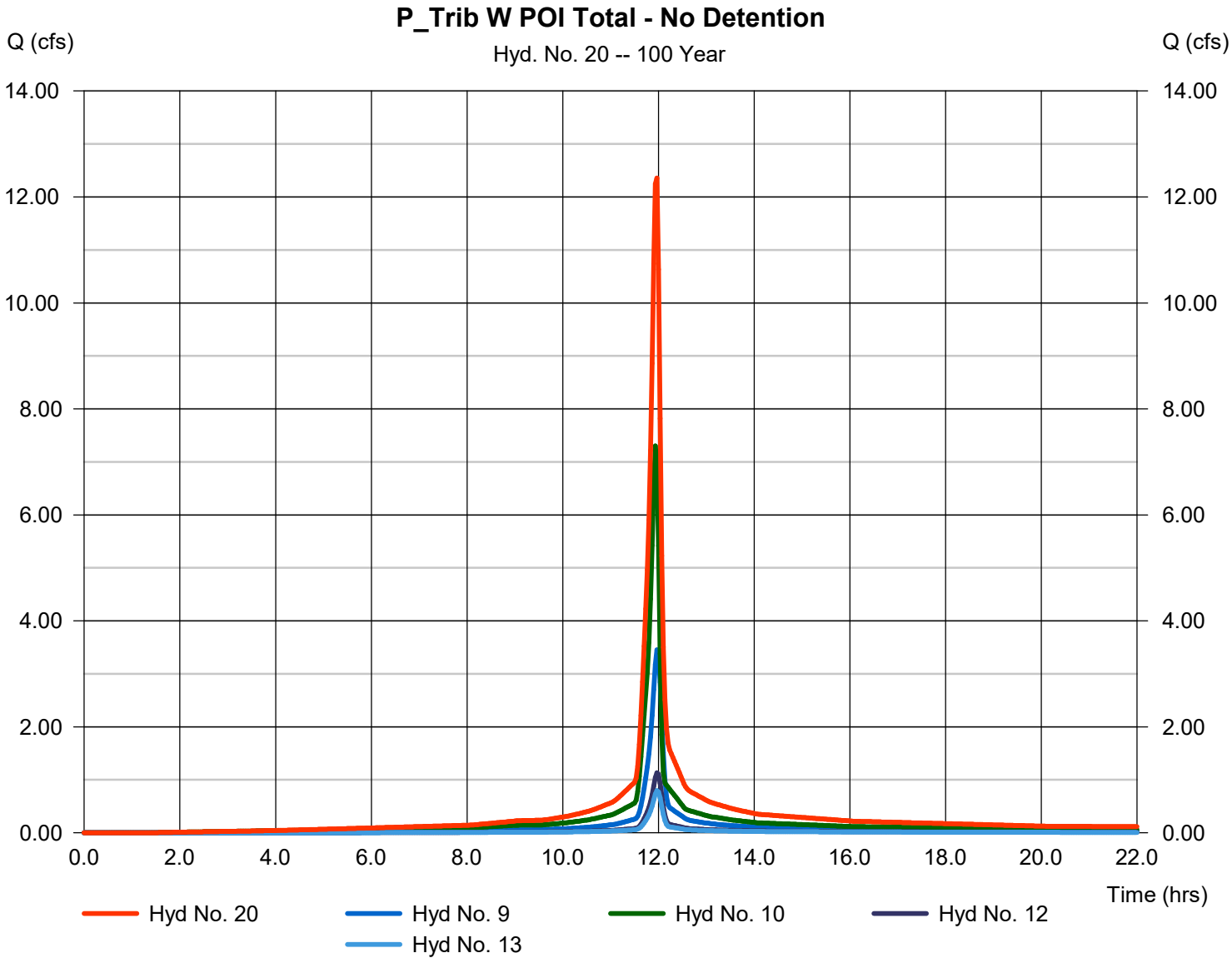


Hydrograph Report

Hyd. No. 20

P_Trib W POI Total - No Detention

Hydrograph type	= Combine	Peak discharge	= 12.36 cfs
Storm frequency	= 100 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 30,054 cuft
Inflow hyds.	= 9, 10, 12, 13	Contrib. drain. area	= 1.320 ac

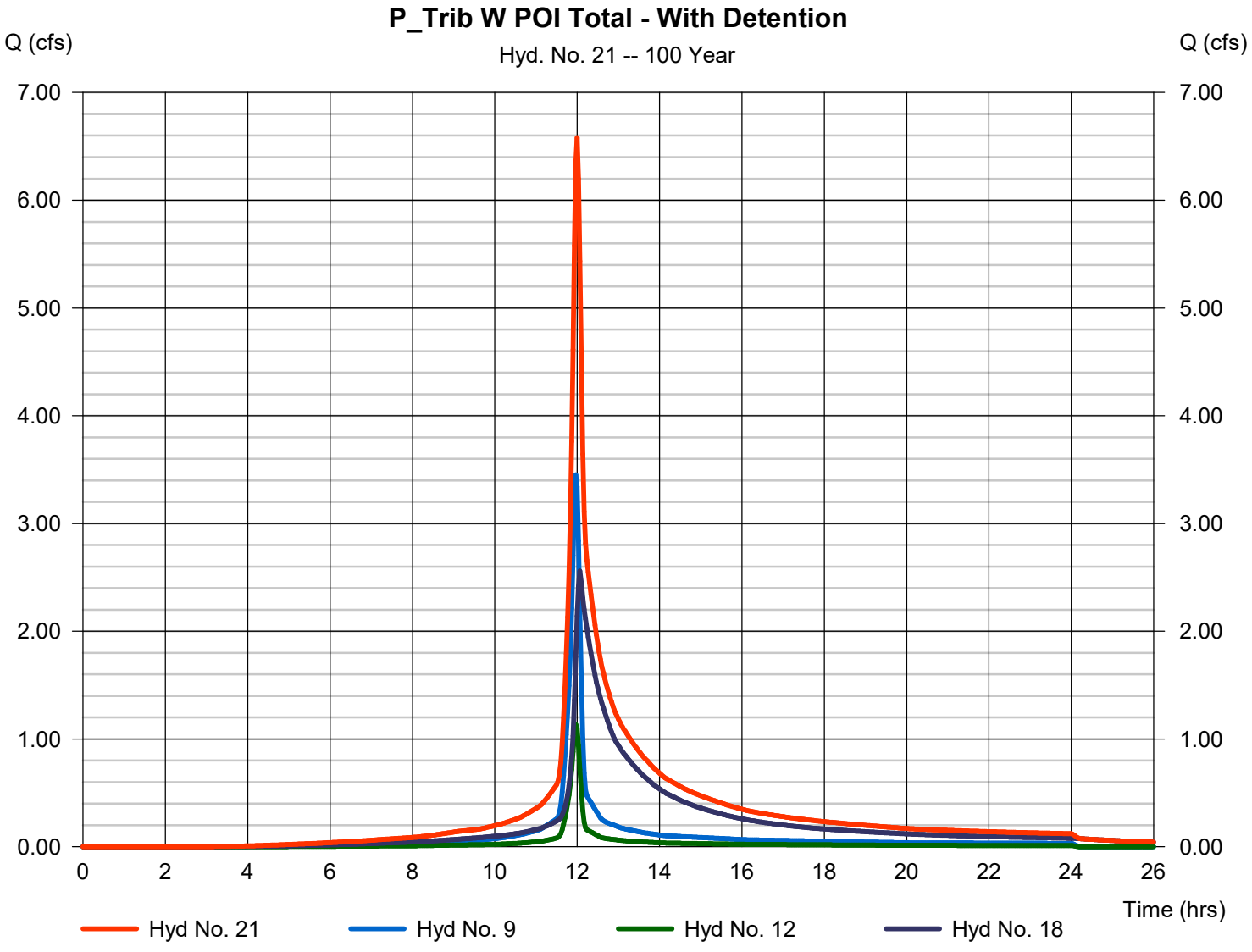


Hydrograph Report

Hyd. No. 21

P_Trib W POI Total - With Detention

Hydrograph type	= Combine	Peak discharge	= 6.581 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 29,996 cuft
Inflow hyds.	= 9, 12, 18	Contrib. drain. area	= 0.510 ac

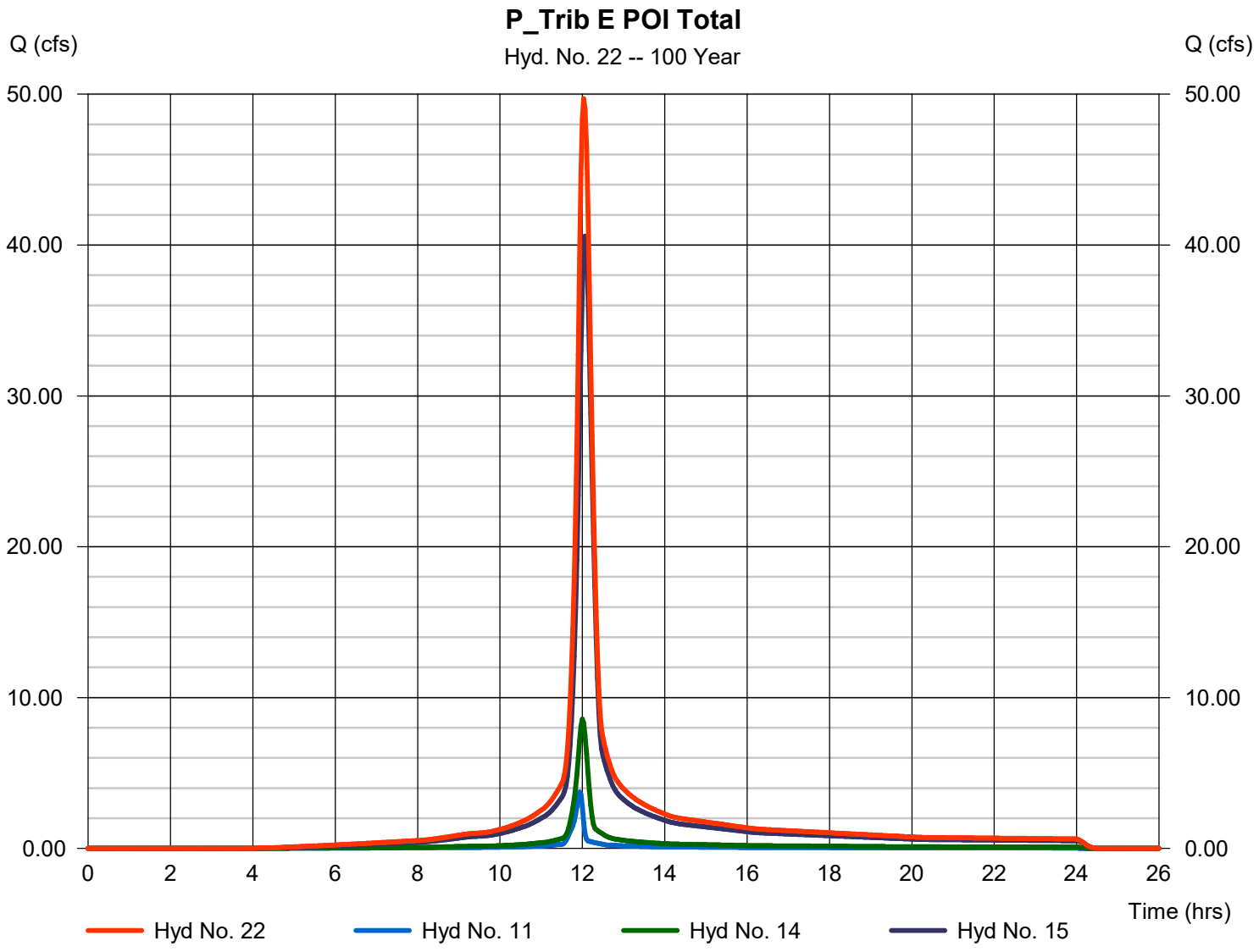


Hydrograph Report

Hyd. No. 22

P_Trib E POI Total

Hydrograph type	= Combine	Peak discharge	= 49.70 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.03 hrs
Time interval	= 2 min	Hyd. volume	= 162,123 cuft
Inflow hyds.	= 11, 14, 15	Contrib. drain. area	= 7.700 ac



Section 6

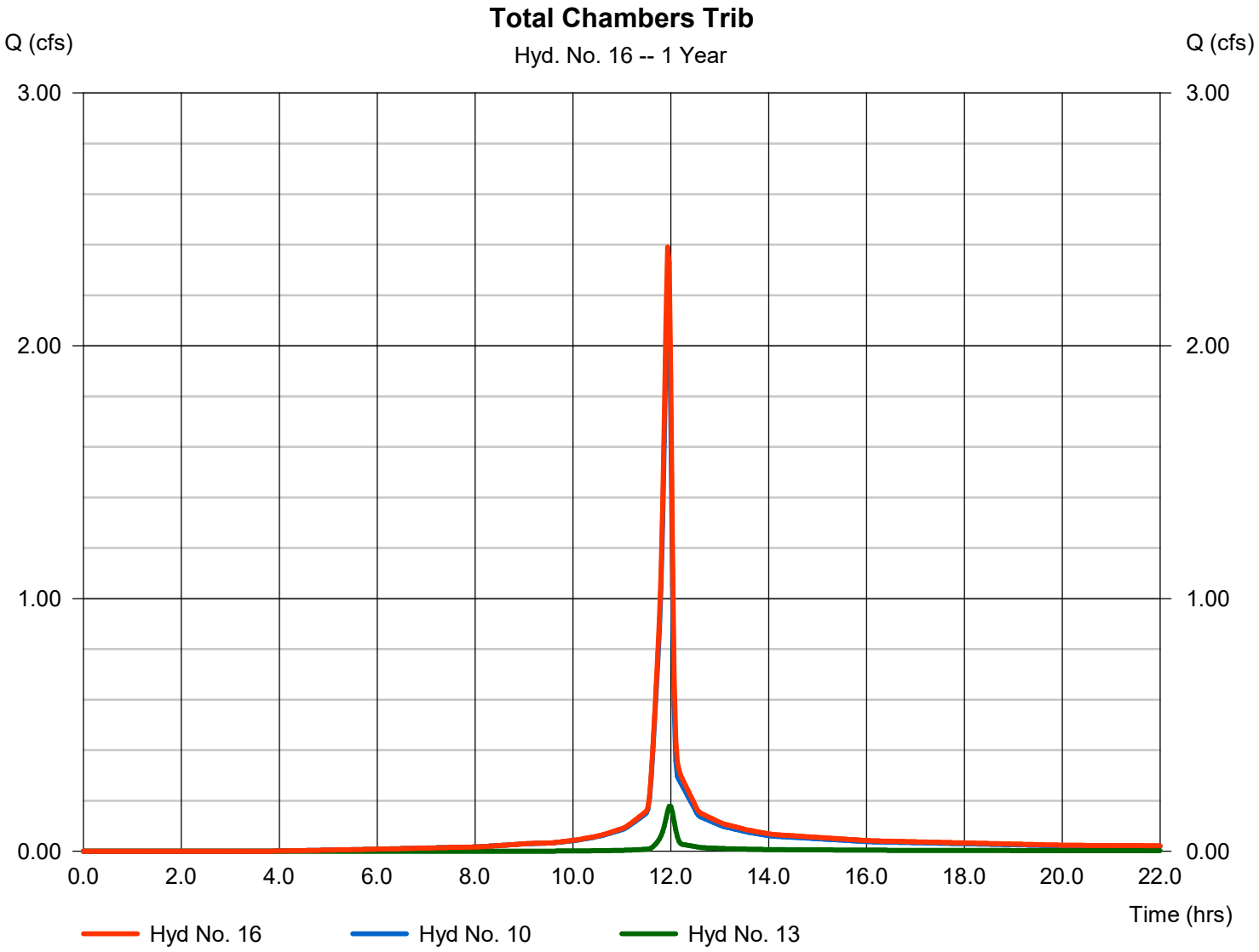
Water Quality Calculations

Hydrograph Report

Hyd. No. 16

Total Chambers Trib

Hydrograph type	= Combine	Peak discharge	= 2.390 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 5,217 cuft
Inflow hyds.	= 10, 13	Contrib. drain. area	= 0.810 ac



	System Height (inches)	Incremental Chamber Storage (cubic feet)	Incremental Stone Storage (cubic feet)	Incremental Chamber & Stone Storage (cubic feet)	Cumulative Total (cubic feet)	Elevation (feet)
Top Stone Layer	28	0.00	249.42	249.42	10003.66	451.10
	27	0.00	249.42	249.42	9754.24	451.02
	26	0.00	249.42	249.42	9504.82	450.94
	25	0.00	249.42	249.42	9255.40	450.85
	24	0.00	249.42	249.42	9005.99	450.77
	23	0.00	249.42	249.42	8756.57	450.69
Chamber	22	20.05	241.40	261.45	8507.15	450.60
	21	52.76	228.32	281.07	8245.70	450.52
	20	90.66	213.16	303.81	7964.62	450.44
	19	185.77	175.11	360.88	7660.81	450.35
	18	240.08	153.39	393.47	7299.92	450.27
	17	281.16	136.95	418.12	6906.46	450.19
	16	315.27	123.31	438.58	6488.34	450.10
	15	346.11	110.97	457.09	6049.76	450.02
	14	373.24	100.12	473.36	5592.67	449.94
	13	393.61	91.98	485.59	5119.30	449.85
	12	414.29	83.70	498.00	4633.72	449.77
	11	434.73	75.53	510.26	4135.72	449.69
	10	451.68	68.75	520.43	3625.46	449.60
	9	465.46	63.24	528.70	3105.04	449.52
	8	479.10	57.78	536.88	2576.34	449.44
	7	489.20	53.74	542.94	2039.46	449.35
Bottom Stone Layer	6	0.00	249.42	249.42	1496.52	449.27
	5	0.00	249.42	249.42	1247.10	449.19
	4	0.00	249.42	249.42	997.68	449.10
	3	0.00	249.42	249.42	748.26	449.02
	2	0.00	249.42	249.42	498.84	448.94
	1	0.00	249.42	249.42	249.42	448.85
	0	Bottom of Stone - Bottom Layer				

Volume provided in 6 inch Stone Layer = 1496.52 ft^3

Calculated WQv to be treated from 2.50" of precipitation tributary to BMP = 5,216 ft^3

Required Depth = ((5,217 * 0.5 [6" Layer]) / (1,496.52) = 1.743' = 20.91".

21" of gravel depth has been provided

Appendix – Supporting Documents

Appendix – A

NRCS Hydrologic Soils Group Map



Map Scale: 1:1,260 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 15 30 60 90

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Davidson County, Tennessee
Survey Area Data: Version 23, Aug 28, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 5, 2024—Dec 6, 2024

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ld	Lindell silt loam, 0 to 2 percent slopes, occasionally flooded	B/D	0.3	4.1%
MsD	Mimosa-Urban land complex, 2 to 15 percent slopes	C	7.5	95.9%
Totals for Area of Interest			**7.8**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

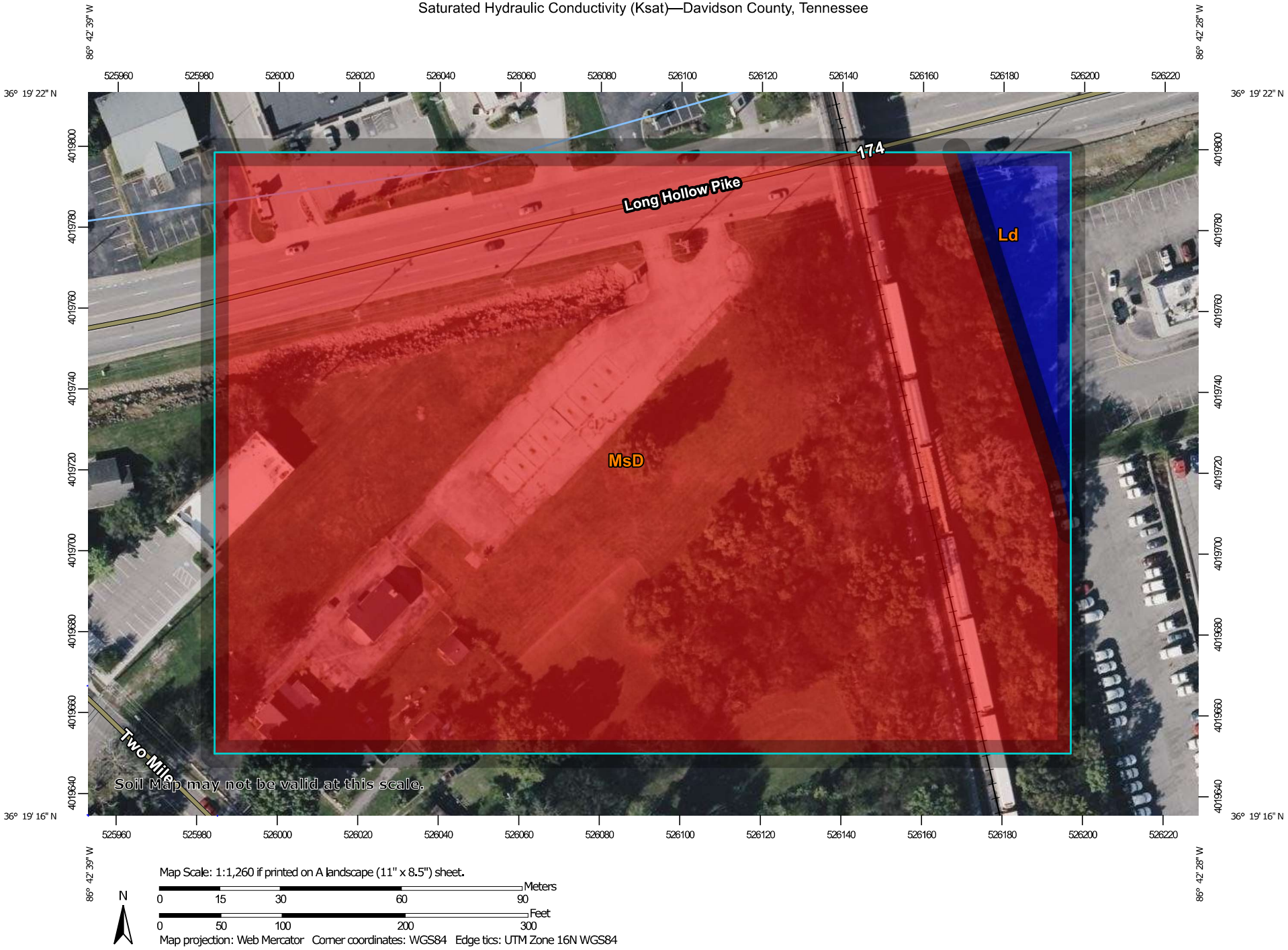
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



Map Scale: 1:1,260 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 15 30 60 90

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

<= 1.6509

> 1.6509 and <= 9.1700

Not rated or not available

Soil Rating Lines

<= 1.6509

> 1.6509 and <= 9.1700

Not rated or not available

Soil Rating Points

<= 1.6509

> 1.6509 and <= 9.1700

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Davidson County, Tennessee
Survey Area Data: Version 23, Aug 28, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 5, 2024—Dec 6, 2024

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Saturated Hydraulic Conductivity (Ksat)

Map unit symbol	Map unit name	Rating (micrometers per second)	Acres in AOI	Percent of AOI
Ld	Lindell silt loam, 0 to 2 percent slopes, occasionally flooded	9.1700	0.3	4.1%
MsD	Mimosa-Urban land complex, 2 to 15 percent slopes	1.6509	7.5	95.9%
Totals for Area of Interest			**7.8**	**100.0%**

Description

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity is considered in the design of soil drainage systems and septic tank absorption fields.

For each soil layer, this attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

The numeric Ksat values have been grouped according to standard Ksat class limits.

Rating Options

Units of Measure: micrometers per second

Aggregation Method: Dominant Component

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Component" returns the attribute value associated with the component with the highest percent composition in the map unit. If more than one component shares the highest percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher attribute value should be returned in the case of a percent composition tie. The result returned by this aggregation method may or may not represent the dominant condition throughout the map unit.

Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Fastest

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

Interpret Nulls as Zero: No

This option indicates if a null value for a component should be converted to zero before aggregation occurs. This will be done only if a map unit has at least one component where this value is not null.

Layer Options (Horizon Aggregation Method): Depth Range (Weighted Average)

For an attribute of a soil horizon, a depth qualification must be specified. In most cases it is probably most appropriate to specify a fixed depth range, either in centimeters or inches. The Bottom Depth must be greater than the Top Depth, and the Top Depth can be greater than zero. The choice of "inches" or "centimeters" only applies to the depth of soil to be evaluated. It has no influence on the units of measure the data are presented in.

When "Surface Layer" is specified as the depth qualifier, only the surface layer or horizon is considered when deriving a value for a component, but keep in mind that the thickness of the surface layer varies from component to component.

When "All Layers" is specified as the depth qualifier, all layers recorded for a component are considered when deriving the value for that component.

Whenever more than one layer or horizon is considered when deriving a value for a component, and the attribute being aggregated is a numeric attribute, a weighted average value is returned, where the weighting factor is the layer or horizon thickness.

Top Depth: 0

Bottom Depth: 60

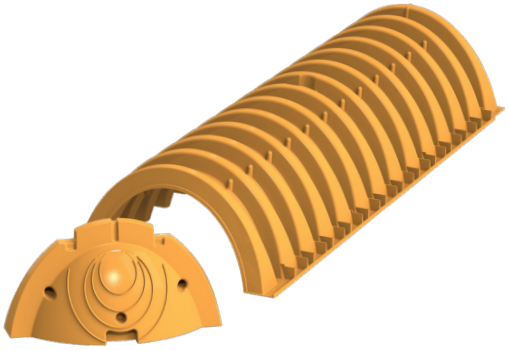
Units of Measure: Inches

Appendix – B

ADS Technical Documents

StormTech® SC-310 Chamber

Designed to meet the most stringent industry performance standards for superior structural integrity while providing designers with a cost-effective method to save valuable land and protect water resources. The StormTech system is designed primarily to be used under parking lots, thus maximizing land usage for private (commercial) and public applications. StormTech chambers can also be used in conjunction with Green Infrastructure, thus enhancing the performance and extending the service life of these practices.



Nominal Chamber Specifications
(not to scale)

Size (L x W x H)
85.4" x 34" x 16"
2170 mm x 864 mm x 406 mm

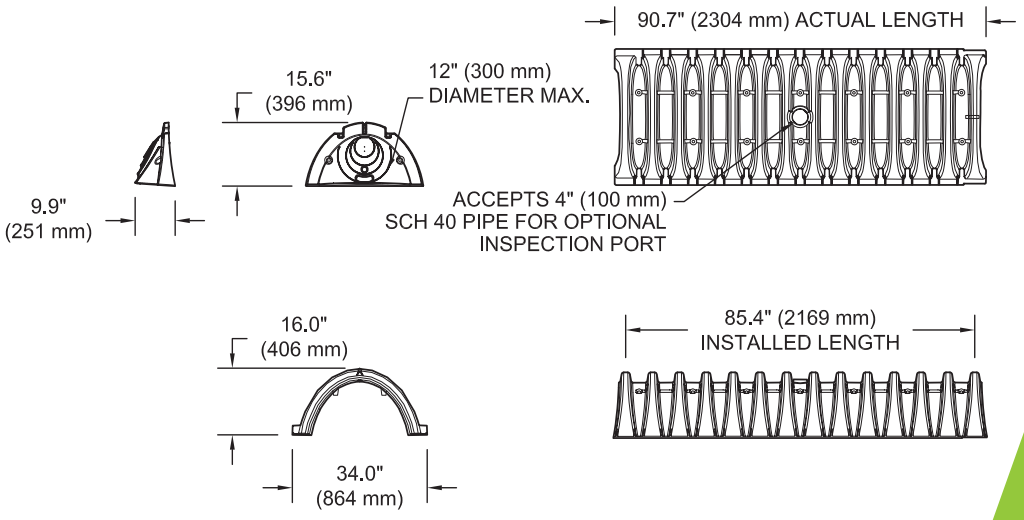
Chamber Storage
14.7 ft³ (0.42 m³)

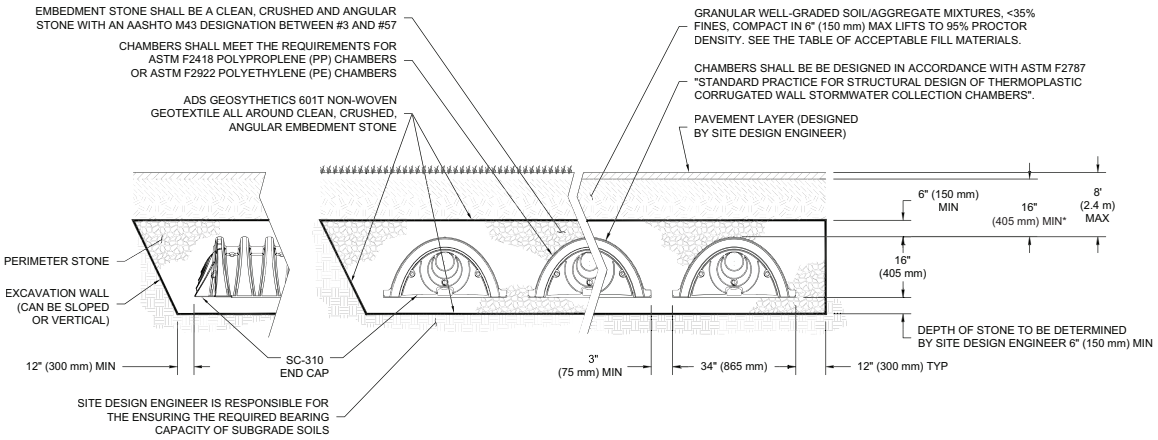
Min. Installed Storage*
29.3 ft³ (0.83 m³)

Weight
37.0 lbs (16.8 kg)

Shipping
55 chambers/pallet
108 end caps/pallet
18 pallets/truck

*Assumes 6" (150 mm) stone above and below chambers and 40% stone porosity.





ADS StormTech™

StormTech SC-310 Specifications

Cumulative Storage Volumes Per Chamber

Assumes 40% Stone Porosity. Calculations are Based Upon a 6" (150 mm) Stone Base Under Chambers.

Depth of Water in System Inches (mm)	Cumulative Chamber Storage ft³ (m³)	Total System Cumulative Storage ft³ (m³)
28 (711)	14.70 (0.416)	29.34 (0.831)
27 (686)	14.70 (0.416)	28.60 (0.810)
26 (660)	Stone Cover 14.70 (0.416)	27.87 (0.789)
25 (635)	14.70 (0.416)	27.14 (0.769)
24 (610)	14.70 (0.416)	26.41 (0.748)
23 (584)	14.70 (0.416)	25.68 (0.727)
22 (559)	14.70 (0.416)	24.95 (0.707)
21 (533)	14.64 (0.415)	24.18 (0.685)
20 (508)	14.49 (0.410)	23.36 (0.661)
19 (483)	14.22 (0.403)	22.47 (0.636)
18 (457)	13.68 (0.387)	21.41 (0.606)
17 (432)	12.99 (0.368)	20.25 (0.573)
16 (406)	12.17 (0.345)	19.03 (0.539)
15 (381)	11.25 (0.319)	17.74 (0.502)
14 (356)	10.23 (0.290)	16.40 (0.464)
13 (330)	9.15 (0.260)	15.01 (0.425)
12 (305)	7.99 (0.227)	13.59 (0.385)
11 (279)	6.78 (0.192)	12.13 (0.343)
10 (254)	5.51 (0.156)	10.63 (0.301)
9 (229)	4.19 (0.119)	9.11 (0.258)
8 (203)	2.83 (0.081)	7.56 (0.214)
7 (178)	1.43 (0.041)	5.98 (0.169)
6 (152)	0	4.39 (0.124)
5 (127)	0	3.66 (0.104)
4 (102)	Stone Foundation 0	2.93 (0.083)
3 (76)	0	2.19 (0.062)
2 (51)	0	1.46 (0.041)
1 (25)	0	0.73 (0.021)

Note: Add 0.73 ft³ (0.021 m³) of storage for each additional inch (25 mm) of stone foundation.

Storage Volume Per Chamber ft³ (m³)

	Bare Chamber Storage ft³ (m³)	Chamber and Stone Foundation Depth in. (mm)		
		6 (150)	12 (300)	18 (450)
SC-310 Chamber	14.7 (0.42)	29.30 (0.83)	33.7 (0.95)	38.1 (1.08)

Note: Assumes 6" (150 mm) stone above chambers, 3" (76 mm) row spacing and 40% stone porosity.

Amount of Stone Per Chamber

English Tons (yds³)	Stone Foundation Depth		
	6"	12"	18"
SC-310	1.9 (1.4)	2.5 (1.8)	3.1 (2.2)
Metric Kilograms (m³)	**150 mm**	**300 mm**	**450 mm**
SC-310	1724 (1.0)	2268 (1.3)	2812 (1.7)

Note: Assumes 6" (150 mm) of stone above and 3" (76 mm) between chambers.

Volume Excavation Per Chamber yd³ (m³)

	Stone Foundation Depth		
	6 (150)	12 (300)	18 (450)
SC-310	2.6 (2.0)	3.0 (2.3)	3.4 (2.6)

Note: Assumes 3" (76 mm) of row separation and 6" (150 mm) of stone above the chambers and 16" (400 mm) of cover. The volume of excavation will vary as depth of cover increases.

ADS StormTech products, manufactured in accordance with ASTM F2418 or ASTMF2922, comply with all requirements in the Build America, Buy America (BABA) Act.

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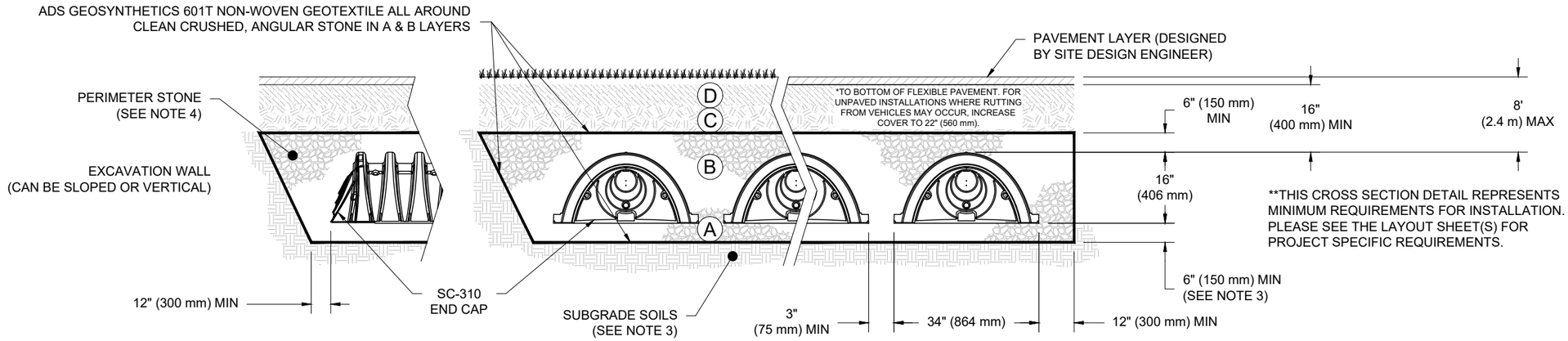
adspipe.com
800-821-6710

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	3.25	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 16" (400 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 325 LBS/FT/%. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

STANDARD CROSS SECTION
SC-310 CHAMBER
STORMTECH

DATE: 02/17/2025 | DRAWN: SMW | CHECKED: JLM
DRAWING #: 721-320

DATE	DRWN	CHKD	DESCRIPTION

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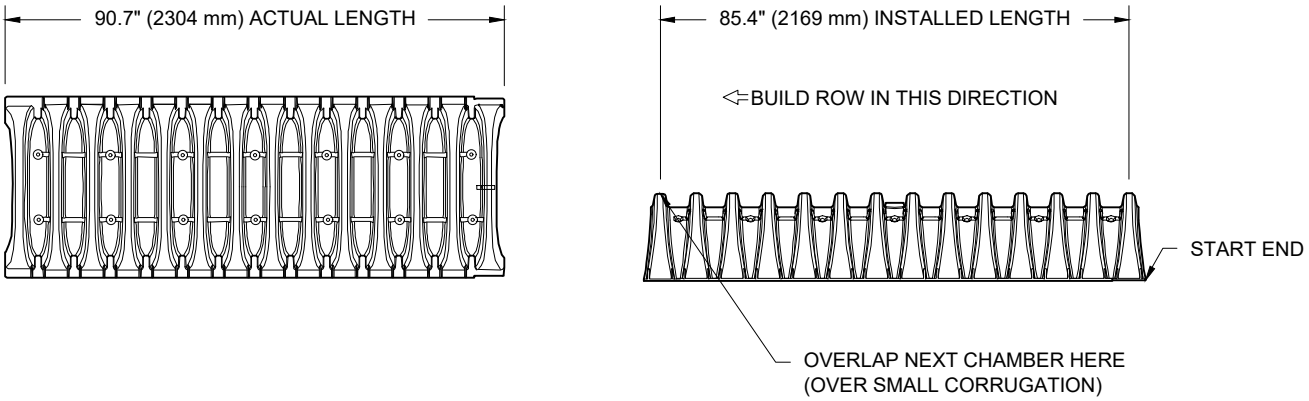
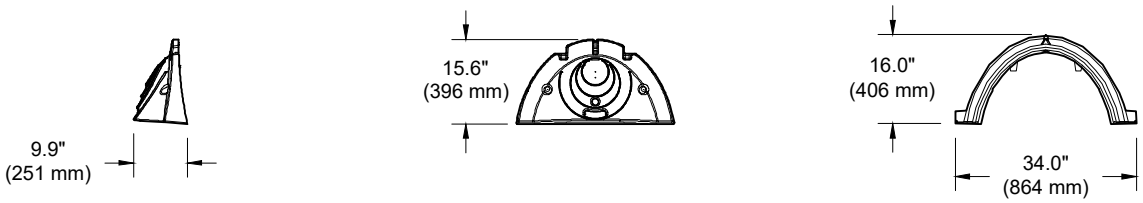
SHEET 1 OF 1

SC-310 TECHNICAL SPECIFICATION

NTS



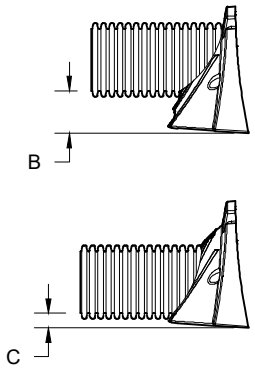


NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	34.0" X 16.0" X 85.4"	(864 mm X 406 mm X 2169 mm)
CHAMBER STORAGE	14.7 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	29.34 CUBIC FEET	(0.83 m³)
WEIGHT	35.0 lbs.	(16.8 kg)

*ASSUMES 6" (150 mm) ABOVE AND BELOW CHAMBER; 3" (75 mm) BETWEEN CHAMBERS

PART #	STUB	B	C
SC310EPE06TPC	6" (150 mm)	5.8" (147 mm)	---
SC310EPE06BPC		---	0.5" (13 mm)
SC310EPE08TPC	8" (200 mm)	3.5" (89 mm)	---
SC310EPE08BPC		---	0.6" (15 mm)
SC310EPE10TPC	10" (250 mm)	1.4" (36 mm)	---
SC310EPE10BPC		---	0.7" (18 mm)
SC310ECEZ*	12" (300 mm)	---	0.9" (23 mm)



ALL STUBS, EXCEPT FOR THE SC310ECEZ ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC310ECEZ THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" (6 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL; PRE-CORED END CAPS END WITH "PC"

TECHNICAL SPECIFICATIONS
SC-310 CHAMBER

DRAWN: SMW
CHECKED: JLM
DATE: 01/15/25
DRAWING #: 721-310

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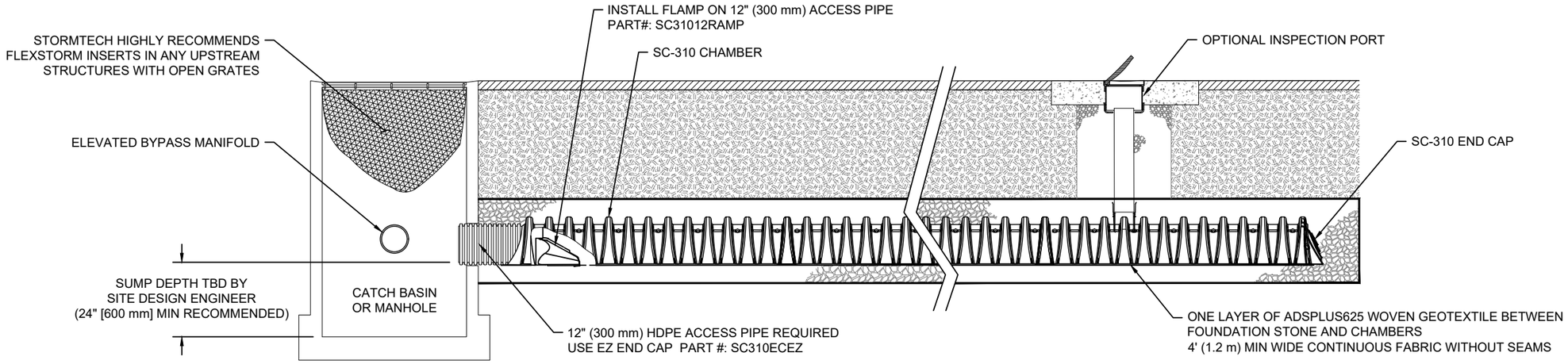


SC-310 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

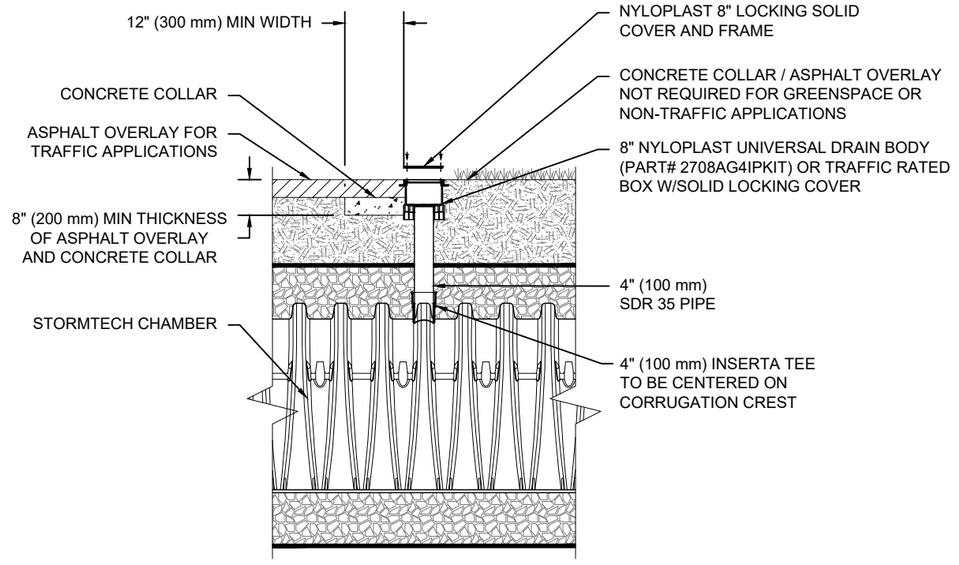
STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.

2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

4" PVC INSPECTION PORT DETAIL
(SC SERIES CHAMBER)
NTS

SC-310
ISOLATOR ROW PLUS DETAILS
DATE: 10/29/20 DRAWN: ALI
PROJECT #: CHECKED: ALI

DATE	DRWN	CHKD	DESCRIPTION
12/15/23	AYT		

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SHEET 1 OF 1

Isolator® Row Plus
O&M Manual



The Isolator® Row Plus

Introduction

An important component of any Stormwater Pollution Prevention Plan is inspection and maintenance. The StormTech Isolator Row Plus is a technique to inexpensively enhance Total Suspended Solids (TSS), Total Phosphorus (TP), Total Petroluem Hydrocarbons (TPH) and Total Nitrogen (TN) removal with easy access for inspection and maintenance.

The Isolator Row Plus

The Isolator Row Plus is a row of StormTech chambers, either SC-160, SC-310, DC-780, SC-800, MC-3500, MC-4500 or MC-7200 models, are lined with filter fabric and connected to a closely located manhole for easy access. The fabric lined chambers provide for sediment settling and filtration as stormwater rises in the Isolator Row Plus and passes through the filter fabric. The open bottom chambers allow stormwater to flow vertically out of the chambers. Sediments are captured in the Isolator Row Plus protecting the adjacent stone and chambers storage areas from sediment accumulation.

ADS Isolator Row and Plus fabric are placed between the stone and the Isolator Row Plus chambers. The woven geotextile provides a media for stormwater filtration, a durable surface for maintenance, prevents scour of the underlying stone and remains intact during high pressure jetting.

The Isolator Row Plus is designed to capture the “first flush” runoff and offers the versatility to be sized on a volume basis or a flow-rate basis. An upstream manhole provides access to the Isolator Row Plus and includes a high/low concept such that stormwater flow rates or volumes that exceed the capacity of the Isolator Row Plus bypass through a manifold to the other chambers. This is achieved with an elevated bypass manifold or a high-flow weir. This creates a differential between the Isolator Row Plus row of chambers and the manifold to the rest of the system, thus allowing for settlement time in the Isolator Row Plus. After Stormwater flows through the Isolator Row Plus and into the rest of the chamber system it is either exfiltrated into the soils below or passed at a controlled rate through an outlet manifold and outlet control structure.

The Isolator Row Plus Flamp™ is a flared end ramp apparatus attached to the inlet pipe on the inside of the chamber end cap. The FLAMP provides a smooth transition from pipe invert to fabric bottom. It is configured to improve chamber function performance by enhancing outflow of solid debris that would otherwise collect at the chamber's end, or more difficult to remove and require confined space entry into the chamber area. It also serves to improve the fluid and solid flow into the access pipe during maintenance and cleaning and to guide cleaning and inspection equipment back into the inlet pipe when complete.

The Isolator Row Plus may be part of a treatment train system. The treatment train design and pretreatment device selection by the design engineer is often driven by regulatory requirements. Whether pretreatment is used or not, StormTech recommend using the Isolator Row Plus to minimize maintenance requirements and maintenance costs.

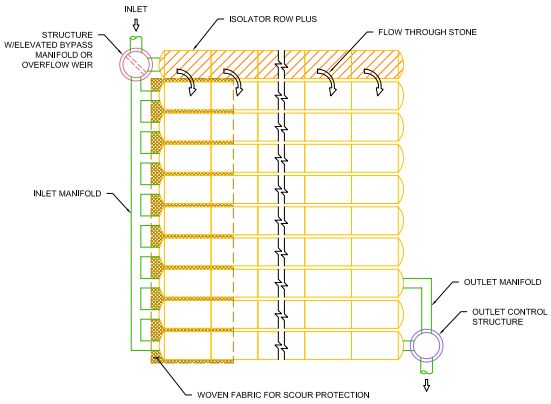
Note: *See the StormTech Design Manual for detailed information on designing inlets for a StormTech system, including the Isolator Row Plus.*



Looking down the Isolator Row Plus from the manhole opening, ADS Plus Fabric is shown between the chamber and stone base.



StormTech Isolator Row Plus with Overflow Structure (not to scale)



Isolator Row Plus Inspection/Maintenance

Inspection

The frequency of inspection and maintenance varies by location. A routine inspection schedule needs to be established for each individual location based upon site specific variables. The type of land use (i.e. industrial, commercial, residential), anticipated pollutant load, percent imperviousness, climate, etc. all play a critical role in determining the actual frequency of inspection and maintenance practices.

At a minimum, StormTech recommends annual inspections. Initially, the Isolator Row Plus should be inspected every 6 months for the first year of operation. For subsequent years, the inspection should be adjusted based upon previous observation of sediment deposition.

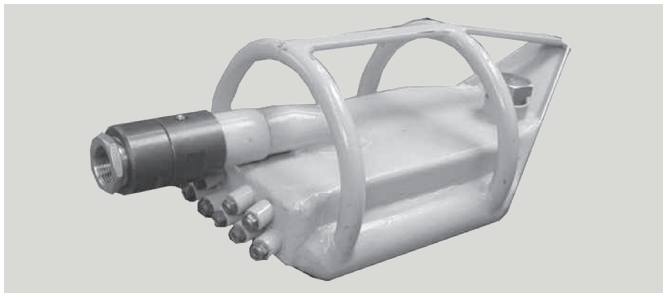
The Isolator Row Plus incorporates a combination of standard manhole(s) and strategically located inspection ports (as needed). The inspection ports allow for easy access to the system from the surface, eliminating the need to perform a confined space entry for inspection purposes.

If upon visual inspection it is found that sediment has accumulated, a stadia rod should be inserted to determine the depth of sediment. When the average depth of sediment exceeds 3" (75 mm) throughout the length of the Isolator Row Plus, clean-out should be performed.

Maintenance

The Isolator Row Plus was designed to reduce the cost of periodic maintenance. By “isolating” sediments to just one row, costs are dramatically reduced by eliminating the need to clean out each row of the entire storage bed. If inspection indicates the potential need for maintenance, access is provided via a manhole(s) located on the end(s) of the row for cleanout. If entry into the manhole is required, please follow local and OSHA rules for a confined space entry.

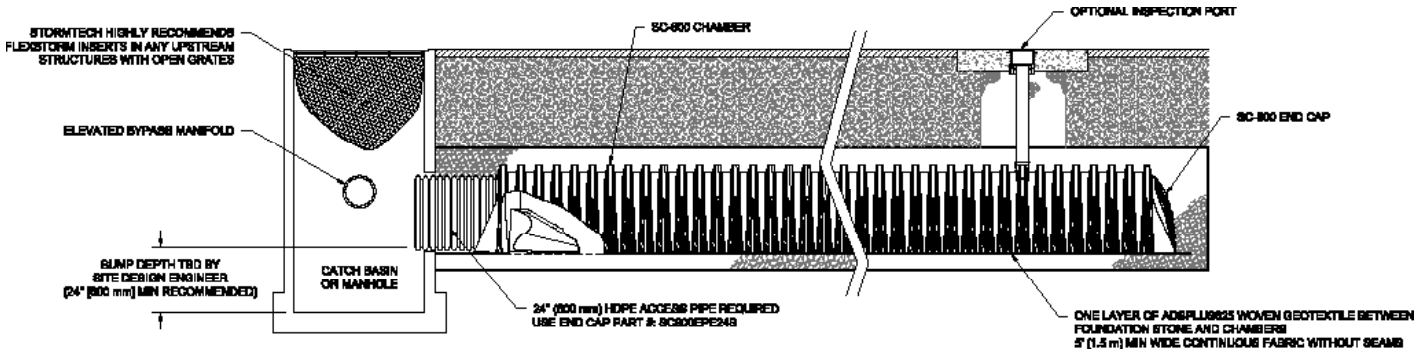
Maintenance is accomplished with the JetVac process. The JetVac process utilizes a high pressure water nozzle to propel itself down the Isolator Row Plus while scouring and suspending sediments. As the nozzle is retrieved, the captured pollutants are flushed back into the manhole for vacuuming. Most sewer and pipe maintenance companies have vacuum/JetVac combination vehicles. Selection of an appropriate JetVac nozzle will improve maintenance efficiency. Fixed nozzles designed for culverts or large diameter pipe cleaning are preferable. Rear facing jets with an effective spread of at least 45” are best. StormTech recommends a maximum nozzle pressure of 2000 psi be utilized during cleaning. JetVac reels can vary in length. For ease of maintenance, ADS recommends Isolator Row Plus lengths up to 200' (61 m). **The JetVac process shall only be performed on StormTech Isolator Row Plus that have ADS Plus Fabric (as specified by StormTech) over their angular base stone.**







StormTech Isolator Row Plus (*not to scale*)



Isolator Row Plus Step By Step Maintenance Procedures

Step 1

Inspect Isolator Row Plus for sediment.

A) Inspection ports (if present)
   i. Remove lid from floor box frame
   ii. Remove cap from inspection riser
   iii. Using a flashlight and stadia rod,measure depth of sediment and record results on maintenance log.
   iv. If sediment is at or above 3 inch depth, proceed to Step 2. If not, proceed to Step 3.

B) All Isolator Row Plus
   i. Remove cover from manhole at upstream end of Isolator Row Plus
   ii. Using a flashlight, inspect down Isolator Row Plus through outlet pipe
      1. Mirrors on poles or cameras may be used to avoid a confined space entry
      2. Follow OSHA regulations for confined space entry if entering manhole
   iii. If sediment is at or above the lower row of sidewall holes (approximately 3 inches), proceed to Step 2.
   If not, proceed to Step 3.

Step 2

Clean out Isolator Row Plus using the JetVac process.

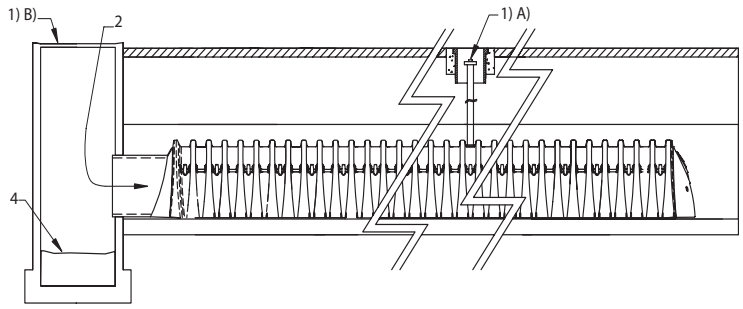
A) A fixed floor cleaning nozzle with rear facing nozzle spread of 45 inches or more is preferable
B) Apply multiple passes of JetVac until backflush water is clean
C) Vacuum manhole sump as required

Step 3

Replace all caps, lids and covers, record observations and actions.

Step 4

Inspect & clean catch basins and manholes upstream of the StormTech system.



Sample Maintenance Log

Date	Stadia Rod Readings		Sedi-ment Depth (1)–(2)	Observations/Actions	Inspector
	Fixed point to chamber bottom (1)	Fixed point to top of sediment (2)			
3/15/11	6.3 ft	none		New installation. Fixed point is CI frame at grade	DJM
9/24/11		6.2	0.1 ft	Some grit felt	SM
6/20/13		5.8	0.5 ft	Mucky feel, debris visible in manhole and in Isolator Row Plus, maintenance due	NV
7/7/13	6.3 ft		0	System jetted and vacuumed	DJM

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StormTech® Installation Guide
SC-310/DC-780/SC-800

StormTech Installation Video

Required Materials and Equipment List

- Acceptable fill materials per Table 1
- ADS Plus and non-woven geotextile fabrics
- StormTech solid end caps and pre-cored end caps
- StormTech chambers
- StormTech manifolds and fittings

Important Notes:

A. This installation guide provides the minimum requirements for proper installation of chambers. Non-adherence to this guide may result in damage to chambers during installation. Replacement of damaged chambers during or after backfilling is costly and very time consuming. It is recommended that all installers are familiar with this guide, and that the contractor inspects the chambers for distortion, damage and joint integrity as work progresses.

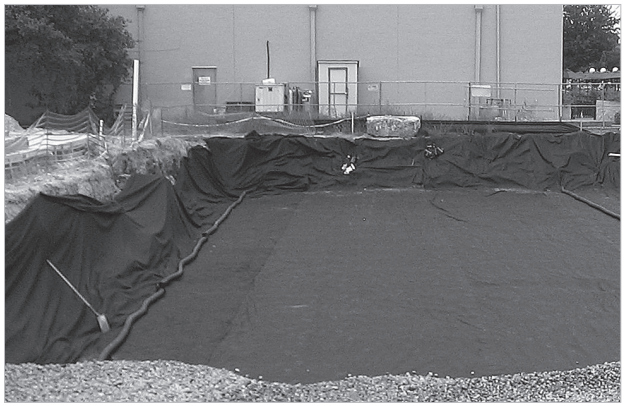
B. Use of a dozer to push embedment stone between the rows of chambers may cause damage to chambers and is not an acceptable backfill method. Any chambers damaged by using the "dump and push" method are not covered under the StormTech standard warranty.

C. Care should be taken in the handling of chambers and end caps. Avoid dropping, prying or excessive force on chambers during removal from pallet and initial placement.

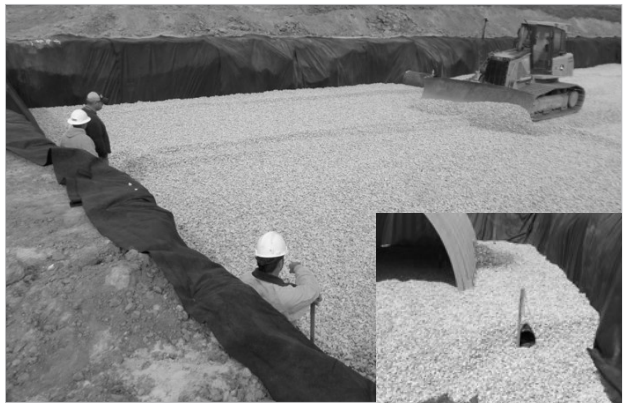
Requirements for System Installation



Excavate bed and prepare subgrade per engineer's plans.



Place non-woven geotextile over prepared soils and up excavation walls. Install underdrains if required.

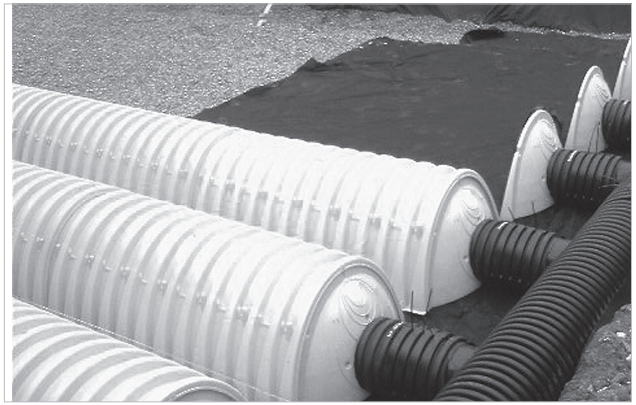


Place clean, crushed, angular stone foundation 6" (150 mm) min. Compact to achieve a flat surface.

Manifold, Scour Fabric and Chamber Assembly



Install manifolds and lay out ADS Plus Fabric at inlet rows. Place ADS Plus Fabric at each inlet end cap parallel to the row (min. 12.5 ft (3.8 m)). Place a continuous piece entire length of Isolator® Plus Row(s).



Align the first chamber and end cap of each row with inlet pipes. Contractor may choose to postpone stone placement around end chambers and leave ends of rows open for easy inspection of chambers during the backfill process.



Continue installing chambers by overlapping chamber end corrugations. Chamber joints are labeled "Lower Joint – Overlap Here" and "Build this direction – Upper Joint" Be sure that the chamber placement does not exceed the reach of the construction equipment used to place the stone. Maintain minimum 3" (75 mm) spacing between rows for SC-310 and SC-800, and 6" (150 mm) spacing for DC-780.

Attaching the End Caps



Lift the end of the chamber a few inches off the ground. With the curved face of the end cap facing outward, place the end cap into the chamber's end corrugation.

Prefabricated End Caps



24" (600 mm) inlets are the maximum size that can fit into a DC-780 or SC-800 end cap and must be prefabricated with a 24" (600 mm) pipe stub. SC-310 chambers with a 12" (300 mm) inlet pipe must use a prefabricated end cap with a 12" (300 mm) pipe stub. When used on an Isolator Row Plus, these end caps will contain a welded FLAMP (flared end ramp) that will lay on top of the ADS Plus fabric (shown above)

Isolator Row Plus



Place a continuous layer of ADS Plus fabric between the foundation stone and the Isolator Row Plus chambers, making sure the fabric lays flat and extends the entire width of the chamber feet.

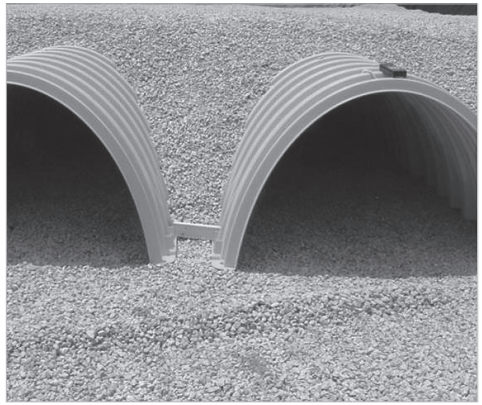
Initial Anchoring of Chambers – Embedment Stone





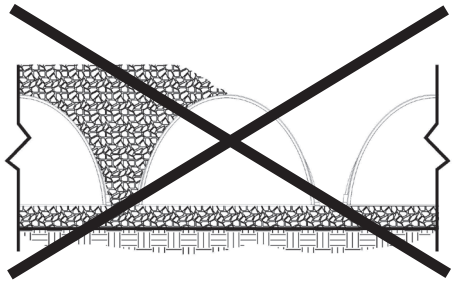
Initial embedment shall be spotted along the center line of the chamber evenly anchoring the lower portion of the chamber. This is best accomplished with a stone conveyor or excavator reaching along the row.



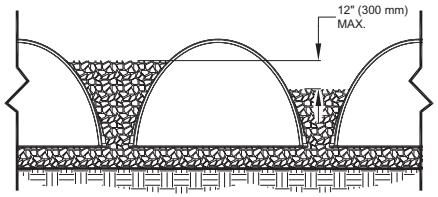


No equipment shall be operated on the bed at this stage of the installation. Excavators must be located off the bed. Dump trucks shall not dump stone directly on to the bed. Dozers or loaders are not allowed on the bed at this time.

Backfill of Chambers – Embedment Stone

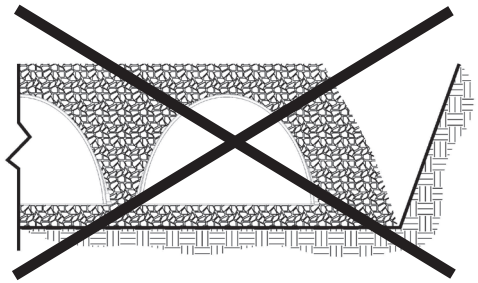


Uneven Backfill

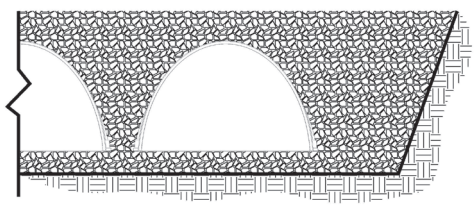


Even Backfill

Backfill chambers evenly. Stone column height should never differ by more than 12” (300 mm) between adjacent chamber rows or between chamber rows and perimeter.



Perimeter Not Backfilled



Perimeter Fully Backfilled

Perimeter stone must be brought up evenly with chamber rows. Perimeter must be fully backfilled, with stone extended horizontally to the excavation wall.

Backfill - Embedment Stone & Cover Stone





Continue evenly backfilling between rows and around perimeter until embedment stone reaches tops of chambers. Perimeter stone must extend horizontally to the excavation wall for both straight or sloped sidewalls. **Only after chambers have been backfilled to top of chamber and with a minimum 6" (150 mm) of cover stone on top of chambers can small dozers be used over the chambers for backfilling remaining cover stone.**

Small dozers and skid loaders may be used to finish grading stone backfill in accordance with ground pressure limits in Table 2. They must push material parallel to rows only. Never push perpendicular to rows. StormTech recommends that the contractor inspect chambers before placing final backfill. Any chambers damaged by construction shall be removed and replaced.

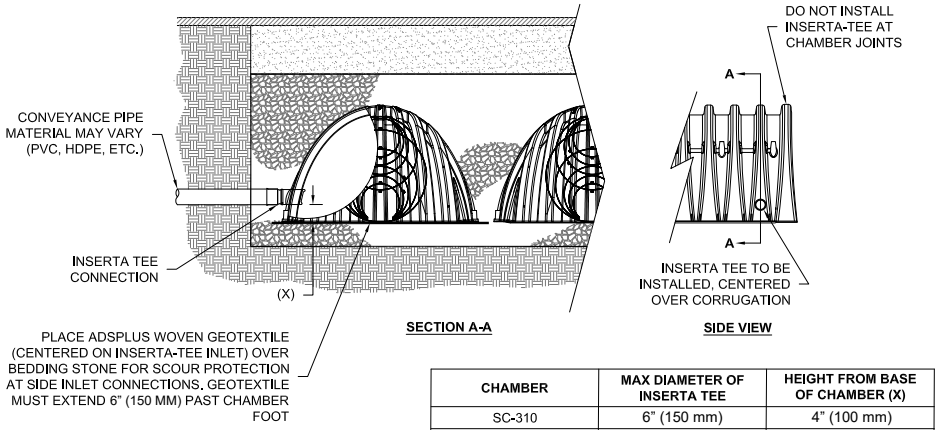
Final Backfill of Chambers – Fill Material





Install non-woven geotextile over stone. Geotextile must overlap 24" (600 mm) min. where edges meet. Compact each lift of backfill as specified in the site design engineer's drawings. Roller travel parallel with rows.

Inserta Tee Detail



CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-800	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

NOTES:

- PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.
- CONTACT ADS ENGINEERING SERVICES IF INSERTA TEE INLET MUST BE RAISED AS NOT ALL INVERTS ARE POSSIBLE.

StormTech Isolator Row Plus Detail

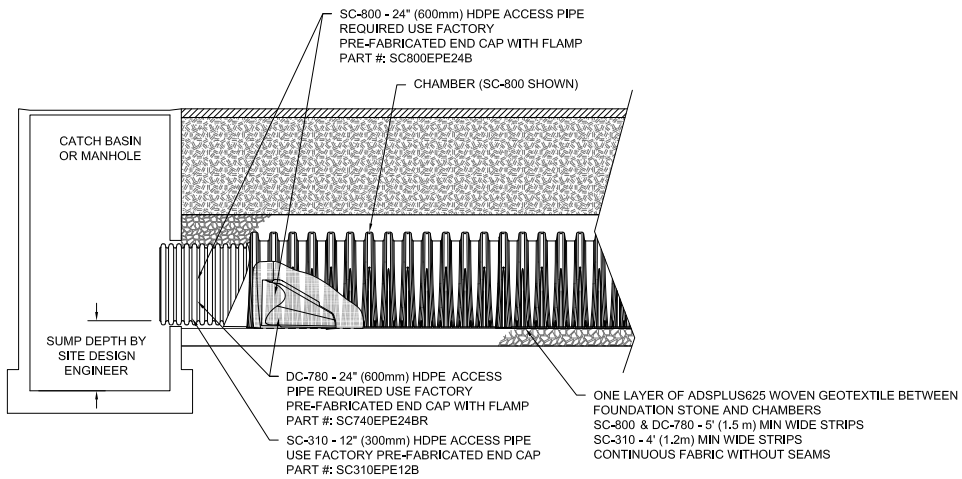


Table 1- Acceptable Fill Materials

Material Location	Description	AASHTO M43 Designation[1]	Compaction/Density Requirement
(D) **Final Fill:** Fill Material for layer 'D' starts from the top of the 'C' layer to the bottom of flexible pavement or unpaved finished grade above. Note that the pavement subbase may be part of the 'D' layer.	Any soil/rock materials, native soils or per engineer's plans. Check plans for pavement subgrade requirements.	N/A	Prepare per site design engineer's plans. Paved installations may have stringent material and preparation requirements.
(C) **Initial Fill:** Fill Material for layer 'C' starts from the top of the embedment stone ('B' layer) to 18" (450 mm) above the top of the chamber. Note that pavement subbase may be part of the 'C' layer.	Granular well-graded soil/aggregate mixtures, <35% fines or processed aggregate. Most pavement subbase materials can be used in lieu of this layer.	AASHTO M45 A-1, A-2-4, A-3 or AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	Begin compaction after min. 12" (300 mm) of material over the chambers is reached. Compact additional layers in 6" (150 mm) max. lifts to a min. 95% Proctor density for well-graded material and 95% relative density for processed aggregate materials. Roller gross vehicle weight not to exceed 12,000 lbs (53 kN). Dynamic force not to exceed 20,000 lbs (89 kN)
(B) **Embedment Stone:** Embedment Stone surrounding chambers from the foundation stone to the 'C' layer above.	Clean, crushed, angular stone or Recycled Concrete[4]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	No compaction required.
(A) **Foundation Stone:** Foundation Stone below the chambers from the subgrade up to the foot (bottom) of the chamber.	Clean, crushed, angular stone or Recycled Concrete[4]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	Place and compact in 6" (6") lifts using two full coverages with a vibratory compactor. [2,3]

Please Note:

1. The listed AASHTO designations are for gradations only. The stone must also be clean, crushed, angular. For example, a specification for #4 stone would state: "clean, crushed, angular no. 4 (AASHTO M43) stone".
2. StormTech compaction requirements are met for 'A' location materials when placed and compacted in 6" (150 mm) (max) lifts using two full coverages with a vibratory compactor.
3. Where infiltration surfaces may be comprised by compaction, for standard installations and standard design load conditions, a flat surface may be achieved by raking or dragging without compaction equipment. For special load designs, contact StormTech for compaction requirements.
4. Where recycled concrete aggregate is used in layers 'A' or 'B' the material should also meet the acceptable criteria outlined in ADS Technical Note 6.20 "Recycled Concrete Structural Backfill".

Figure 1- Inspection Port Detail

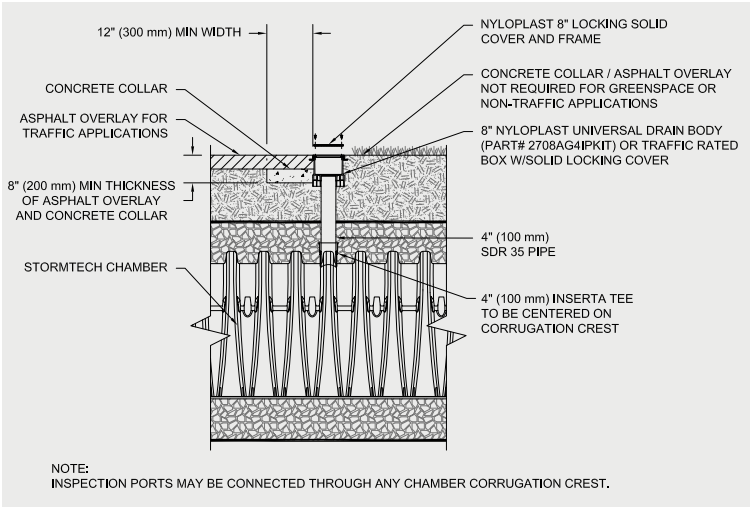
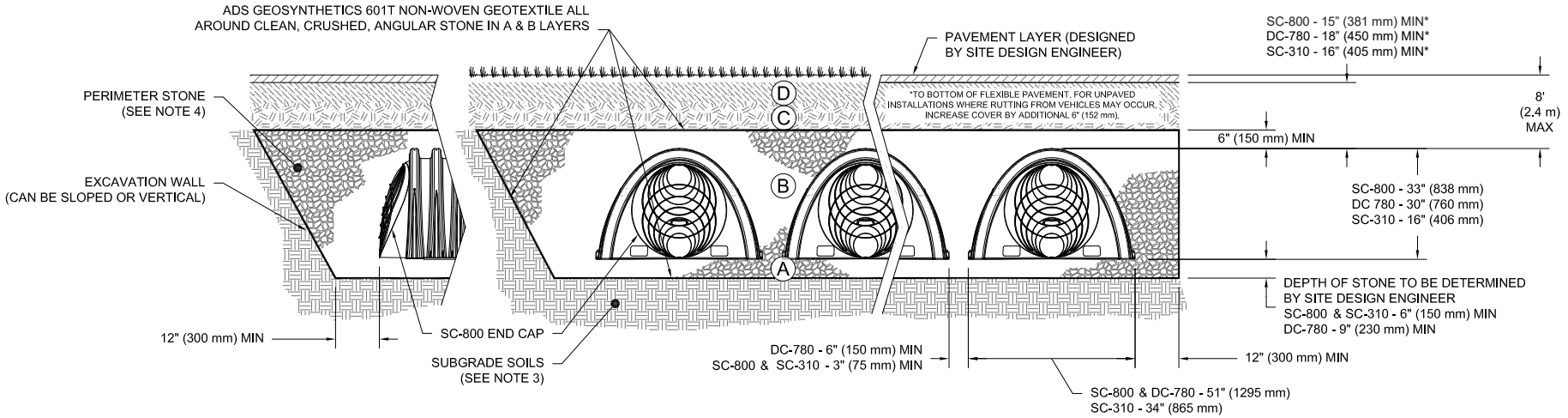


Figure 2 - Fill Material Locations



Notes:

1. 36” (900 mm) of stabilized cover materials over the chambers is recommended during the construction phase if general construction activities, such as full dump truck travel and dumping, are to occur over the bed.
2. During paving operations, dump truck axle loads on 18” (450 mm) of cover may be necessary. Precautions should be taken to avoid rutting of the road base layer, to ensure that compaction requirements have been met, and that a minimum of 18” (450 mm) of cover exists over the chambers. Contact StormTech for additional guidance on allowable axle loads during paving.
3. Ground pressure for track dozers is the vehicle operating weight divided by total ground contact area for both tracks. Excavators will exert higher ground pressures based on loaded bucket weight and boom extension.
4. Mini-excavators (< 8,000lbs/3,628 kg) can be used with at least 12” (300 mm) of stone over the chambers and are limited by the maximum ground pressures in Table 2 based on a full bucket at maximum boom extension.
5. Storage of materials such as construction materials, equipment, spoils, etc. should not be located over the StormTech system. The use of equipment over the StormTech system not covered in Table 2 (ex. soil mixing equipment, cranes, etc) is limited. Please contact StormTech for more information.
6. Allowable track loads based on vehicle travel only. Excavators shall not operate on chamber beds until the total backfill reaches 3 feet (900 mm) over the entire bed.

Table 2 - Maximum Allowable Construction Vehicle Loads[6]

Material Location	Fill Depth over Chambers in. (mm)	Maximum Allowable Wheel Loads		Maximum Allowable Track Loads[6]		Maximum Allowable Roller Loads
		Max Axle Load for Trucks lbs (kN)	Max Wheel Load for Loaders lbs (kN)	Track Width in. (mm)	Max Ground Pressure psf (kPa)	Max Drum Weight or Dynamic Force lbs (kN)
Ⓓ Final Fill Material	36” (900) Compacted	32,000 (142)	16,000 (71)	12 (305) 18 (457) 24 (610) 30 (762) 36 (914)	3880 (186) 2640 (126) 2040 (97) 1690 (81) 1470 (70)	38,000 (169)
Ⓒ Initial Fill Material	24” (600) Compacted	32,000 (142)	16,000 (71)	12 (305) 18 (457) 24 (610) 30 (762) 36 (914)	2690 (128) 1880 (90) 1490 (71) 1280 (61) 1150 (55)	20,000 (89)
	24” (600) Loose/Dumped	32,000 (142)	16,000 (71)	12 (305) 18 (457) 24 (610) 30 (762) 36 (914)	2390 (114) 1700 (81) 1370 (65) 1190 (57) 1080 (51)	20,000 (89) Roller gross vehicle weight not toexceed 12,000 lbs. (53 kN)
	Min. Finished Cover SC-800: 15 (375) SC-310: 16 (400) DC-780: 18 (450)	32,000 (142)	16,000 (71)	12 (305) 18 (457) 24 (610) 30 (762) 36 (914)	2110 (101) 1510 (72) 1250 (59) 1100 (52) 1020 (48)	20,000 (89) Roller gross vehicle weight not to exceed 12,000 lbs. (53 kN)
Ⓑ Embedment Stone	12” (300)	16,000 (71)	NOT ALLOWED	12” (305) 18” (457) 24” (610) 30” (762) 36” (914)	1540 (74) 1190 (57) 1010 (48) 910 (43) 840 (40)	20,000 (89) Roller gross vehicle weight not to exceed 12,000 lbs. (53 kN)
	6” (150)	8,000 (35)	NOT ALLOWED	12” (305) 18” (457) 24” (610) 30” (762) 36” (914)	1070 (51) 900 (43) 800 (38) 760 (36) 720 (34)	NOT ALLOWED

Table 3 - Placement Methods and Descriptions

Material Location	Placement Methods/ Restrictions	Wheel Load Restrictions	Track Load Restrictions	Roller Load Restrictions
		See Table 2 for Maximum Construction Loads		
Ⓓ Final Fill Material	A variety of placement methods may be used. All construction loads must not exceed the maximum limits in Table 2.	36” (900 mm) minimum cover required for dump trucks to dump over chambers.	Dozers to push parallel to rows until 36” (900mm) compacted cover is reached.[4]	Roller travel parallel to rows only until 36” (900 mm) compacted cover is reached.
Ⓒ Initial Fill Material	Excavator positioned off bed recommended. Small excavator allowed over chambers. Small dozer allowed.	Asphalt can be dumped into paver when compacted pavement subbase reaches 18” (450 mm) above top of chambers.	Small LGP track dozers & skid loaders allowed to grade cover stone with at least 6” (150 mm) stone under tracks at all times. Equipment must push parallel to rows at all times.	Use dynamic force of roller only after compacted fill depth reaches 12” (300 mm) over chambers. Roller travel parallel to chamber rows only.
Ⓑ Embedment Stone	No equipment allowed on bare chambers. Use excavator or stone conveyor positioned off bed or on foundation stone to evenly fill around all chambers to at least the top of chambers.	No wheel loads allowed. Material must be placed outside the limits of the chamber bed.	No tracked equipment is allowed on chambers until a min. 6” (150 mm) cover stone is in place.	No rollers allowed.
Ⓐ Foundation Stone	No StormTech restrictions. Contractor responsible for any conditions or requirements by others relative to subgrade bearing capacity, dewatering or protection of subgrade.			

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StormTech® Standard Limited Warranty

STANDARD LIMITED WARRANTY OF STORMTECH LLC ("STORMTECH"): PRODUCTS

(A) This Limited Warranty applies solely to the StormTech chambers and end plates manufactured by StormTech and sold to the original purchaser (the "Purchaser"). The chambers and end plates are collectively referred to as the "Products."

(B) The structural integrity of the Products, when installed strictly in accordance with StormTech's written installation instructions at the time of installation, are warranted to the Purchaser against defective materials and workmanship for one (1) year from the date of purchase. Should a defect appear in the Limited Warranty period, the Purchaser shall provide StormTech with written notice of the alleged defect at StormTech's corporate headquarters within ten (10) days of the discovery of the defect. The notice shall describe the alleged defect in reasonable detail. StormTech agrees to supply replacements for those Products determined by StormTech to be defective and covered by this Limited Warranty. The supply of replacement products is the sole remedy of the Purchaser for breaches of this Limited Warranty. StormTech's liability specifically excludes the cost of removal and/or installation of the Products.

(C) THIS LIMITED WARRANTY IS EXCLUSIVE. THERE ARE NO OTHER WARRANTIES WITH RESPECT TO THE PRODUCTS, INCLUDING NO IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE.

(D) This Limited Warranty only applies to the Products when the Products are installed in a single layer. UNDER NO CIRCUMSTANCES, SHALL THE PRODUCTS BE INSTALLED IN A MULTI-LAYER CONFIGURATION.

(E) No representative of StormTech has the authority to change this Limited Warranty in any manner or to extend this Limited Warranty. This Limited Warranty does not apply to any person other than to the Purchaser.

(F) Under no circumstances shall StormTech be liable to the Purchaser or to any third party for product liability claims; claims arising from the design, shipment, or installation of the Products, or the cost of other goods or services related to the purchase and installation of the Products. For this Limited Warranty to apply, the Products must be installed in accordance with all site conditions required by state and local codes; all other applicable laws; and StormTech's written installation instructions.

(G) THE LIMITED WARRANTY DOES NOT EXTEND TO INCIDENTAL, CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES. STORMTECH SHALL NOT BE LIABLE FOR PENALTIES OR LIQUIDATED DAMAGES, INCLUDING LOSS OF PRODUCTION AND PROFITS; LABOR AND MATERIALS; OVERHEAD COSTS; OR OTHER LOSS OR EXPENSE INCURRED BY THE PURCHASER OR ANY THIRD PARTY. SPECIFICALLY EXCLUDED FROM LIMITED WARRANTY COVERAGE ARE DAMAGE TO THE PRODUCTS ARISING FROM ORDINARY WEAR AND TEAR; ALTERATION, ACCIDENT, MISUSE, ABUSE OR NEGLECT; THE PRODUCTS BEING SUBJECTED TO VEHICLE TRAFFIC OR OTHER CONDITIONS WHICH ARE NOT PERMITTED BY STORMTECH'S WRITTEN SPECIFICATIONS OR INSTALLATION INSTRUCTIONS; FAILURE TO MAINTAIN THE MINIMUM GROUND COVERS SET FORTH IN THE INSTALLATION INSTRUCTIONS; THE PLACEMENT OF IMPROPER MATERIALS INTO THE PRODUCTS; FAILURE OF THE PRODUCTS DUE TO IMPROPER SITING OR IMPROPER SIZING; OR ANY OTHER EVENT NOT CAUSED BY STORMTECH. A PRODUCT ALSO IS EXCLUDED FROM LIMITED WARRANTY COVERAGE IF SUCH PRODUCT IS USED IN A PROJECT OR SYSTEM IN WHICH ANY GEOTEXTILE PRODUCTS OTHER THAN THOSE PROVIDED BY ADVANCED DRAINAGE SYSTEMS ARE USED. THIS LIMITED WARRANTY REPRESENTS STORMTECH'S SOLE LIABILITY TO THE PURCHASER FOR CLAIMS RELATED TO THE PRODUCTS, WHETHER THE CLAIM IS BASED UPON CONTRACT, TORT, OR OTHER LEGAL THEORY.

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ADS PLUS WOVEN GEOTEXTILE SPECIFICATION

For use with StormTech® Isolator® Row Plus

Scope

This specification describes ADS Plus woven geotextile.

ADS Plus woven geotextile fabrics are woven polypropylene materials offering optimum performance when used in stabilization applications. Produced from first quality raw materials, they provide the perfect balance of strength and separation in styles capable of functioning exceptionally well in a wide range of performance requirements.

Filter Fabric Properties

Property[1]	Test Method	Unit	M.A.R.V. (Minimum Average Roll Value)[2]
Weight	ASTM D5261	oz/yd^2 (g/m^2)	8.0 (271.25)
Grab Tensile Strength	ASTM D4632	lbs (kN)	325 (1.45)
Grab Elongation	ASTM D4632	%	15
Trapezoidal Tear Strength	ASTM D4533	lbs (kN)	125 (0.89)
CBR Puncture Resistance	ASTM D6241	lbs (kN)	1,124 (5.0)

1. The property values listed above are subject to change without notice.
2. Minimum Average Roll Values (MARV) is calculated as the average minus two standard deviations. Statistically, it yields approximately 97.5% degree of confidence that any samples taken from quality assurance testing will meet or exceed the values described above.

Dimensions

ADS Plus shall be delivered to the jobsite in roll form with each roll individually identified and nominally measuring 12.5’ (3.8 m) width x 360’ (110 m) length for Plus125 and 6.25’ (1.9 m) width x 360’ (110 m) length for Plus625.

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ADS 0601T NONWOVEN GEOTEXTILE SPECIFICATION

Scope

This specification describes ADS 0601T (6.0 oz) nonwoven geotextile.

Filter Fabric Requirements

ADS 0601T (6.0 oz) is a needle-punched nonwoven geotextile made of 100% polypropylene staple fibers, which are formed into a random network for dimensional stability. ADS 0601T (6.0 oz) resists ultraviolet deterioration, rotting, biological degradation, naturally encountered basics and acids. Polypropylene is stable within a pH range of 2 to 13. ADS 0601T (6.0 oz) conforms to the physical property values listed below:

Filter Fabric Properties

Property	Test Method	Unit	M.A.R.V. (Minimum Average Roll Value)
Grab Tensile	ASTM D4632	lbs (kN)	160 (0.711)
Grab Elongation	ASTM D4632	%	50
Trapezoid Tear Strength	ASTM D4533	lbs (kN)	60 (0.267)
CBR Puncture Resistance	ASTM D6241	lbs (kN)	410 (1.82)
Permittivity*	ASTM D4491	sec^{-1}	1.5
Water Flow*	ASTM D4491	gpm/ft^2 ($l/min/m^2$)	110 (4480)
AOS*	ASTM D4751	US Sieve (mm)	70 (0.212)
Melting Point	ASTM D276	Fahrenheit (Celsius)	320 (160)
UV Resistance	ASTM D4355	%/hrs	70/500

Packaging

Roll Dimensions (W x L) - ft. (m)	3.0/5.0/6.25/7.5/9.0/12.5 x 360 -15 x 300 (0.9/1.5/1.9/2.3/2.7/3.8 x 110 - 4.5 x 91)
Roll Square Yards (Square Meters)	120/200/250/300/360/500 - 500 (100/167/209/251/301/418 - 418)
Estimated Roll Weight - lbs (kg)	44/65/97.5/102/141/195 - 195 (20/29/44/46/64/88 - 88)

* At the time of manufacturing. Handling may change these properties.

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SiteAssist®
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SC-310 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-310.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE OR POLYETHYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 325 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2922 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
10. MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
11. ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTEXTILE PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310 SYSTEM

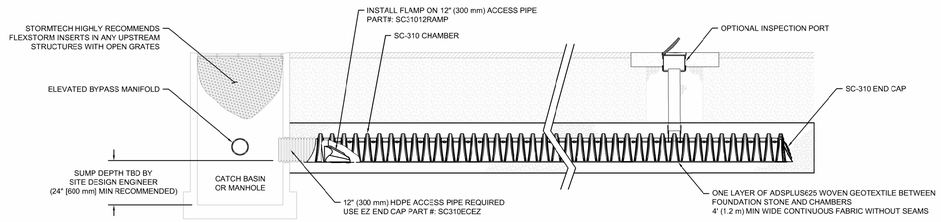
1. STORMTECH SC-310 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE SC-310/DC-780/SC-600".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON TOP OF THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 3" (75 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE; AASHTO M43 #3, #357, #4, #457, #5, #56, OR #57.
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE SC-310/DC-780/SC-600".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE SC-310/DC-780/SC-600".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH INSTALLATION GUIDE SC-310/DC-780/SC-600".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

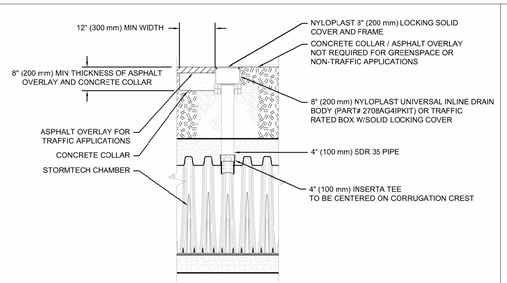
USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-800-821-6710 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



SC-310 ISOLATOR ROW PLUS DETAIL
NTS

3 SC-310 ISOLATOR ROW PLUS DETAIL



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)
NTS

4 4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

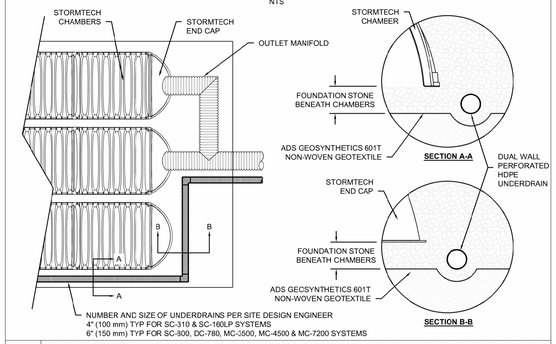
STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND ,IDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

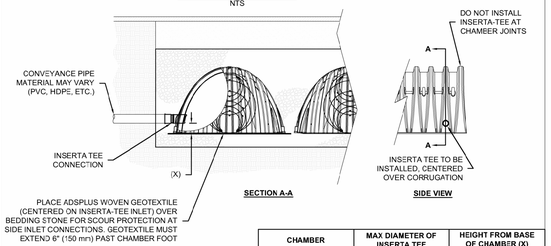
1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

UNDERDRAIN DETAIL
NTS



5 UNDERDRAIN DETAIL

INSERTA TEE DETAIL
NTS

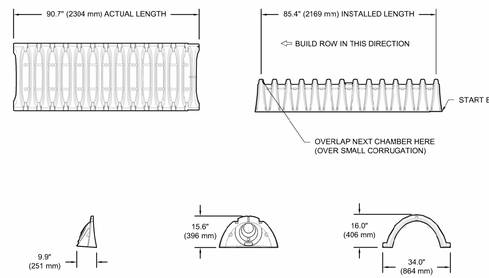


CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	5" (150 mm)	4" (100 mm)
SC-800	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
MC-7200	12" (300 mm)	8" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

NOTES:
- PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.
- CONTACT ADS ENGINEERING SERVICES IF INSERTA TEE INLET MUST BE RAISED AS NOT ALL INVERTS ARE POSSIBLE.

6 INSERTA-TEE SIDE INLET DETAIL

SC-310 TECHNICAL SPECIFICATION
NTS

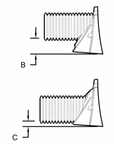


NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	34.0" X 16.0" X 85.4"	(864 mm X 406 mm X 2169 mm)
CHAMBER STORAGE	14.7 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	29.34 CUBIC FEET	(0.83 m³)
WEIGHT	35.0 lbs.	(16.8 kg)

*ASSUMES 6" (150 mm) ABOVE AND BELOW CHAMBER; 3" (75 mm) BETWEEN CHAMBERS

PART #	STUB	B	C
SC310EPE06TPC	6" (150 mm)	5.8" (147 mm)	---
SC310EPE06BPC		---	0.5" (13 mm)
SC310EPE08TPC	8" (200 mm)	3.5" (89 mm)	---
SC310EPE08BPC		---	0.6" (15 mm)
SC310EPE10TPC	10" (250 mm)	1.4" (36 mm)	---
SC310EPE10BPC		---	0.7" (18 mm)
SC310ECEZ*	12" (300 mm)	---	0.9" (23 mm)



ALL STUBS, EXCEPT FOR THE SC310ECEZ ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC310ECEZ THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" (6 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

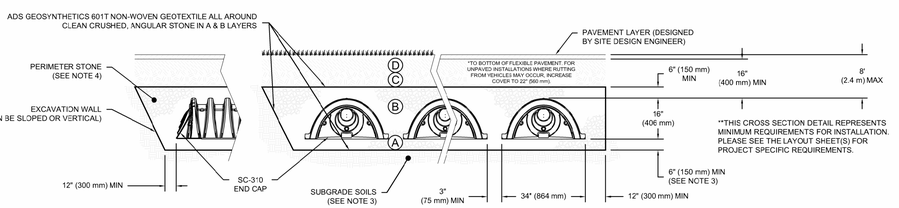
NOTE: ALL DIMENSIONS ARE NOMINAL; PRE-CORED END CAPS END WITH "PC"

2 SC-310 TECHNICAL SPECIFICATIONS

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	3.25	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 16" (400 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2" (50 mm).
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 325 LBS/FT/%. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

1 SC-310 CROSS SECTION DETAIL

DRAWN: SMW | DATE: 08/05/2025
REVIEWED: JLM | PROJECT NO: 721-390
REV: | NOT TO SCALE

SC-310 STANDARD DETAILS

StormTech® Chamber System

4640 TRUEMAN BLVD
HILLIARD, OH 43026

Advanced Drainage Systems, Inc.

SHEET 1

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON REFERENCED STANDARDS. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT. NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. UNLESS THE PLANS ARE SIGNED AND SEALED BY THE SITE DESIGN ENGINEER. THE SITE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION AND SEALING THE DOCUMENT. IT IS THE SITE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

StormTech® Isolator® Row Plus: Summary of Testing

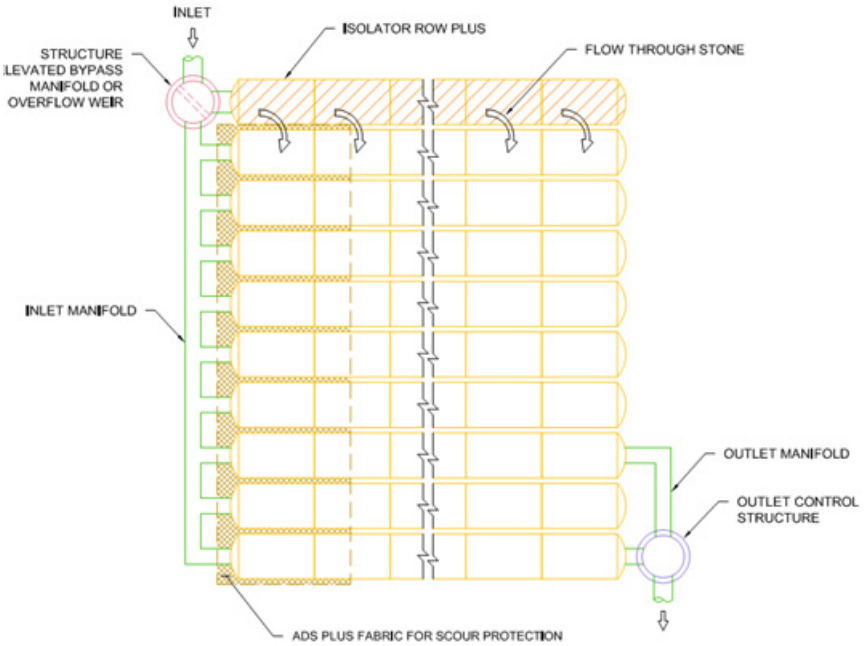
The following information is intended to provide a general overview of the pollutant removal capability of the StormTech Isolato Row Plus, which is a patented filtration type BMP manufactured by StormTech, LLC. The StormTech Isolator Row Plus is covered under several US and International patents.

Description

The StormTech Isolator Row Plus is a row or rows of thermoplastic chambers that sit on a layer of ADS Plus fabric and are connected to a closely located structure for easy access. The chambers provide for settling and filtration of sediment and other contaminants as stormwater rises in the Isolator Row Plus and ultimately passes through the fabric. The open-bottom chambers allow stormwater to flow out of the chambers. Sediment is captured in the Isolator Row Plus, protecting the storage areas of the adjacent stone and chambers from sediment accumulation.

The StormTech Isolator Row Plus is designed to capture the “first flush” and offers the versatility to be sized on a volume basis or a flow-rate basis. An upstream manhole not only provides access to the Isolator Row but includes a high low/concept such that stormwater flow rates or volumes that exceed the capacity of the Isolator Row bypass through a manifold to the other chambers. This is achieved with either a high-flow weir or an elevated manifold. This creates a differential between the Isolator Row Plus and the manifold, thus allowing for settlement time in the Isolator Row Plus.

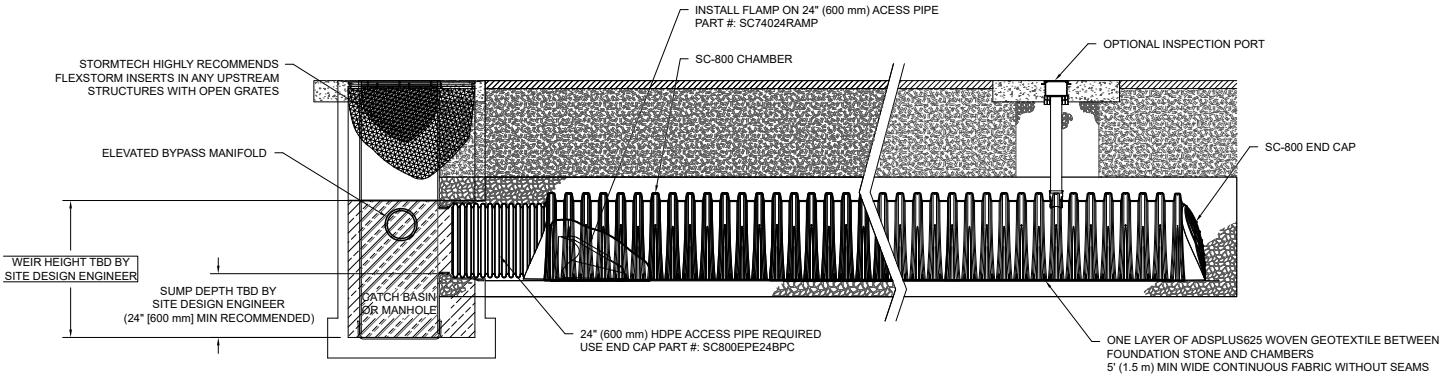
Schematic of the StormTech Isolator Row Plus System



Some of the unique features of the Isolator Row that contribute to its effectiveness and practicality include:

- Vast filtration surface area.
- Large sediment storage volume.
- Easily maintainable by most pipe and sewer maintenance companies.
- Large network of ADS personnel that can help with designs and provide onsite guidance.
- A state-of-the-art structural design that meets ASTM standards and incorporates AASHTO safety factors for both live loads and permanent dead loads.

Isolator Row Plus Cross Section Detail



SC-800 ISOLATOR ROW PLUS DETAIL
NTS

Applicable Sites

The Isolator Row Plus can be effectively used for essentially all developed sites. The most common applications are highly impervious sites such as paved parking areas, roads as well as developed sites that include grassy or other landscaped areas. It is not intended to be used for construction sediments.

StormTech System and Isolator Row Testing

October 2006 – Tennessee Tech University's Civil and Environmental Department prepared the "Performance Evaluation of Sediment Removal Efficiency – StormTech Isolator Row". Testing on a full-scale Isolator Row in a laboratory was done to determine the sediment removal efficiency with two different silica-water slurries in accordance with NJCAT protocols. In August of 2007, the technology was verified by NJCAT. Results are shown in Table 1.

September 2010 – The University of New Hampshire Stormwater Center released the "Final Report on Field Verification Testing of the StormTech Isolator Row Treatment Unit". Testing consisted of determining the water quality performance for multiple stormwater pollutants in accordance with TARP Tier II protocol. Testing was done for a system only consisting of the StormTech Isolator Row. Data was recorded for 23 storm events. Results are shown in Table 1.

January 2020 – BaySaver Technologies prepared the "NJCAT Technology Verification of Isolator Row PLUS". Testing on a full-scale Isolator Row PLUS in a laboratory was done to determine the sediment removal efficiency with a silica-water slurry in accordance with the updated NJCAT protocols. In July of 2020, the technology was verified by NJCAT. Results are shown in Table 1.

June 2020 – North Carolina State University Department of Biological and Agricultural Engineering prepared the technical report "An Evaluation of the StormTech Isolator Row and Subsurface Stormwater Management System at Capital Oaks Retirement Resort, Raleigh, North Carolina". 14 months of monitoring and over 73 precipitation events were completed to study the hydrologic and water quality performance of a StormTech MC-4500 system in Raleigh, NC. Results are shown in Table 1.

Table 1: StormTech Isolator Row 3rd Party Pollutant Removal Efficiency Data

Pollutant	University of New Hampshire (Isolator Row Only) Median	Raleigh, North Carolina (StormTech System with Isolator Row)	Tennessee Tech University (Isolator Row Only)	NJCAT Verification (Isolator Row Plus only)
Total Suspended Solids	83%*	91%*	84%*	81%**
Total Phosphorus	33%	68%	Not Tested	Not Tested
Total Nitrogen		35%	Not Tested	Not Tested
Total Zinc	81%***	Not Tested	Not Tested	Not Tested
Total Petroleum Hydrocarbons	91%	Not Tested	Not Tested	Not Tested

* Based on a flow rate of 2.5 gpm/sf (Isolator Row)
** Based on a flow rate of 4.1 gpm/sf (Isolator Row Plus)
*** For year 2 only

Product Performance and Design

Minimum 80% TSS removal is achieved by sizing the Isolator Row Plus to treat the water quality at a specific flow rate per chamber floor area using a single layer of ADS Plus fabric. The design flow rates for each chamber size are listed below.

Model	Specific Flow Rate	Bottom Area	Flow Per Model
StormTech SC-160LP	4.1 gpm/sf	11.45 sf	0.11 cfs
StormTech SC-310	4.1 gpm/sf	17.7 sf	0.16 cfs
StormTech SC-800	4.1 gpm/sf	27.8 sf	0.256 cfs
StormTech MC-3500	4.1 gpm/sf	42.9 sf	0.40 cfs
StormTech MC-4500	4.1 gpm/sf	30.1 sf	0.28 cfs
StormTech DC-780	4.1 gpm/sf	27.8 sf	0.256 cfs
StormTech MC-7200	4.1 gpm/sf	50.2 sf	0.46 cfs

StormTech Isolator Row Approvals

The StormTech Isolator Row and Isolator Row Plus have been approved on a project by project basis for tens of thousands of projects around the world. Following are some examples:

- The Isolator Row Plus is a verified filtration manufactured treatment device by the New Jersey Corporation for Advanced Testing (NJCAT) in accordance with NJDEP Filter Protocols.
- In Ohio, the Isolator Row is approved per the Ohio EPA as a pretreatment to underground storage and can be used for both storage volume and pretreatment as the water quality volume all passes through the Isolator Row.
- The Metropolitan St. Louis Sewer District (MSD) has approved the StormTech Isolator Row as a standalone post-construction stormwater Best Management Practice.
- In Massachusetts, approvals for the State DEP requirement of 80% TSS removal on an annual load basis are issued at the Conservation Commission level, and the Isolator Row is commonly used to meet these criteria.

- In Oregon, the Rogue Valley Storm Water Advisory Team (SWAT) has incorporated the StormTech Isolator Row into their Stormwater Design Manual as a pre-approved proprietary device for stormwater quality treatment.
- The Kansas City Metro Chapter of the American Public Works have included the StormTech Isolator Row with a value rating of 3.0 in their Manual of Best Management Practices for Stormwater Quality.
- Maine DEP has approved the Isolator Row pollutant removal efficiency based on laboratory testing of 110 micron (US Silica OK-110) particle size
- In Texas, the City of Houston PWE as well as Harris county, has recognized the Isolator Row as an official water quality device.
- Under the New Environmental Technology Evaluation program, the Ontario (Canada) Ministry of the Environment has evaluated the Isolator row and issued a Certificate of Technology Assessment
- The Isolator Row PLUS has been evaluated and approved for Canadian Environment Technology Verification (ETV) by VerifiGlobal

Isolator Row Maintenance

The frequency of Inspection and Maintenance varies by location. A routine inspection schedule needs to be established for each individual location, based upon site-specific variables. The type of land use (i.e. industrial, commercial, public, residential), anticipated pollutant load, percent imperviousness, climate, rainfall data, etc., all play a critical role in determining the actual frequency of inspection and maintenance practices.

At a minimum, StormTech recommends annual inspections. Initially, the Isolator Row should be inspected every 6 months for the first year of operation. For subsequent years, the inspection schedule should be adjusted based upon previous observation of sediment deposition.

The Isolator Row incorporates a combination of standard manhole(s) and strategically located inspection ports (as needed). The inspection ports allow for easy access to the system from the surface, eliminating the need to perform a confined space entry for inspection purposes.

If, upon visual inspection, it is found that sediment has accumulated, a stadia rod should be inserted to determine the depth of sediment. When the average depth of sediment exceeds 3” (75 mm) throughout the length of the Isolator Row, clean-out should be performed.

The Isolator Row was designed to reduce the cost of periodic maintenance. By “isolating” sediment to just one row, costs are dramatically reduced by eliminating the need to clean out each row of the entire storage bed. If inspection indicates the potential need for maintenance, access is provided via a manhole(s) located on the end(s) of the row for cleanout.

Maintenance is accomplished with the jetvac process. The jetvac process utilizes a high-pressure water nozzle to propel itself down the Isolator Row while scouring and suspending sediment. As the nozzle is retrieved, the captured pollutants are flushed back into the manhole for vacuuming. Most sewer and pipe maintenance companies have vacuum/jetvac combination vehicles. Selection of an appropriate jetvac nozzle will improve maintenance efficiency.

Fixed nozzles designed for culverts or large diameter pipe cleaning are preferable. Rear-facing jets with an effective spread of at least 45” (1125 mm) are best. Most jetvac reels have 200’ (60 m) of hose, allowing maintenance of an Isolator Row up to 50 chambers long. The jetvac process shall only be performed on StormTech Isolator Rows that have fabric specified by StormTech over their angular base stone.

Complete details of the design, operation, and maintenance of the Isolator Row Plus can be found in the StormTech Isolator Row and Isolator Row Plus O&M Manuals.

ADS “Terms and Conditions of Sale” are available on the ADS website, www.adspipe.com
The ADS logo, StormTech®, Isolator® Row and the Green Stripe are registered trademarks of Advanced Drainage Systems, Inc.
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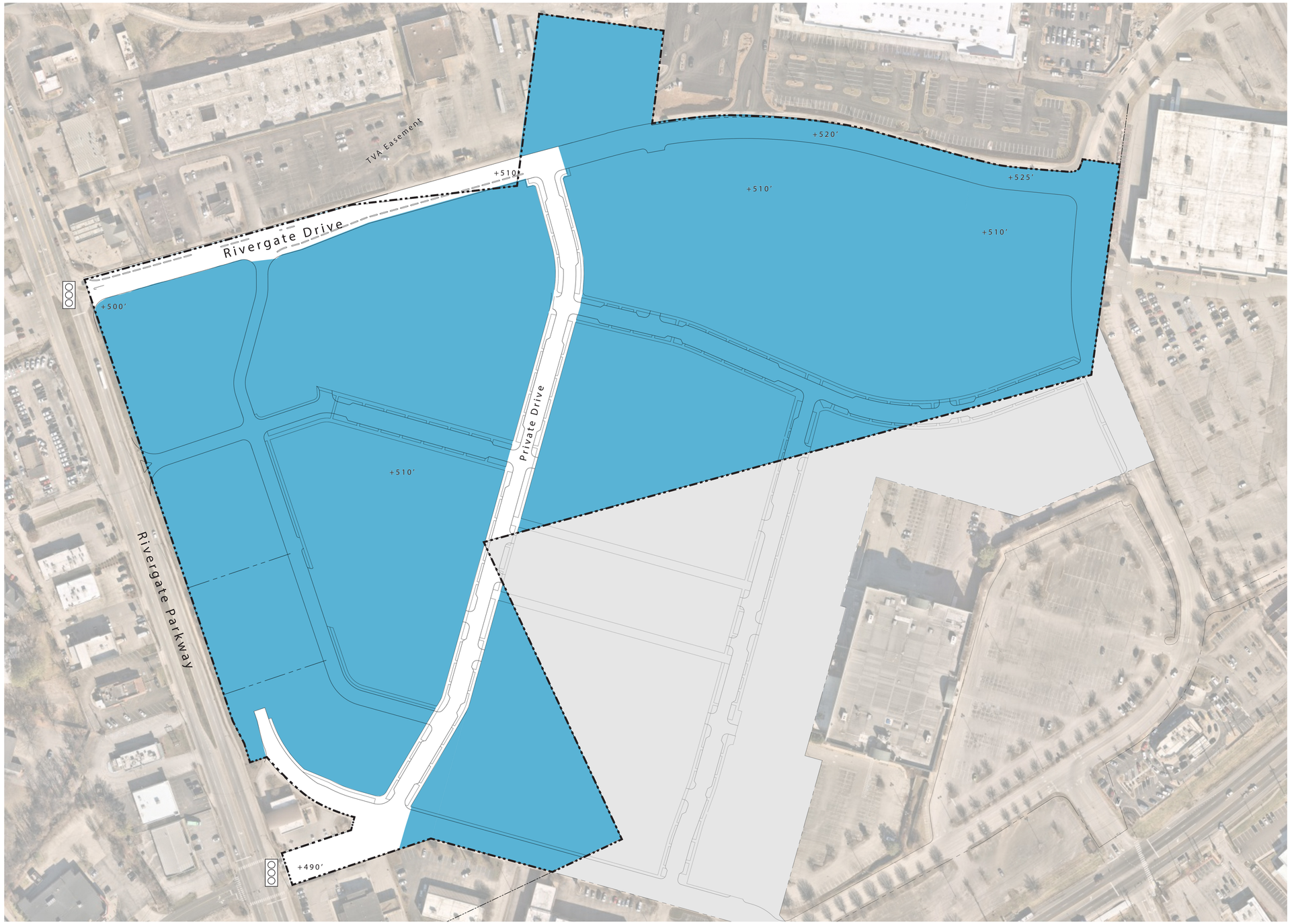


Amended Concept Plan				
Use	SF/Units	Parking Ratio	Minimum Required	Spaces Available
Commercial	57,680 SF	x1sp/250 sf	231 sp	
Hospitality	120 Keys	1sp/key plus employee	125 sp	
Townhomes	135 Units	2sp/unit	270 sp	
Multifamily	714 Units	x1.5sp/Unit	1,071 sp	
TOTAL Parking			1,697 sp +/-	1,854 sp +/-

Approved Concept Plan			
Use	SF/Units	Parking Ratio	Approved Spaces
Commercial	47,500	x1sp/250 sf	190 sp
Hospitality	120 key	1sp/key plus employee	125 sp
Townhomes	105 Units	2sp/unit	210 sp
Multifamily	664 Units	x1.5sp/Unit	910 sp

The Concept Site Plan provided within this application is intended to represent one scenario of general compliance with the regulatory standards and standard notes herein. Adjustments may be required to provide flexibility during design development and will be brought forward to the Planning Commission as amendments for consideration.

0' 100' 200'

RIVERGATE MASTERPLAN - PMP Submittal

JUNE 01, 2026

Concept Site Plan

MERUS FULMER LUCAS SMITH GEE STUDIO ARCHITECTURE URBAN DESIGN INTERIORS

ROBERT HUNTER GEE REGISTERED ARCHITECT AGRICULTURE No. 00101087 STATE OF TENNESSEE Jan. 27, 2025

JOHN ALBERT HUNTER REGISTERED ENGINEER AGRICULTURE No. 11608 STATE OF TENNESSEE 01/27/2025

1

SITE PLANS FOR:

RIVERGATE INFRASTRUCTURE PLANS

1000 RIVERGATE PARKWAY

GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DEVELOPER
MERUS
1222 DEMONBREUN STREET - SUITE 1200
NASHVILLE, TENNESSEE 37203

CONTACT: KATE JAROSH
615-224-8920

CIVIL ENGINEER
FULMER LUCAS ENGINEERING, LLC
2002 RICHARD JONES ROAD - SUITE B200
NASHVILLE, TENNESSEE 37215

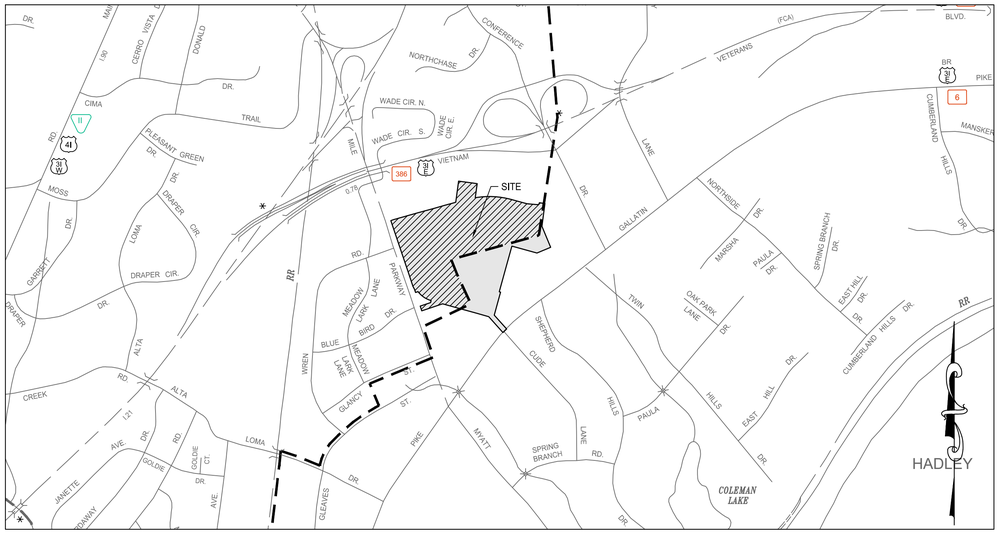
CONTACT: MICHELLE DOVE
601-988-3254

LAND SURVEYOR
CESO, INC.
216 CENTERVIEW DRIVE - SUITE 150
NASHVILLE, TENNESSEE 37027

CONTACT: TRAVIS CALDWELL
615-928-5120

LANDSCAPE ARCHITECT
IRONWOOD DESIGN GROUP
1030 16TH AVENUE SOUTH - 2ND FLOOR
NASHVILLE, TENNESSEE 37212

CONTACT: PRATISHA SHAKYA
678-870-6158



VICINITY MAP

SCALE: 1"=1000'

TENNESSEE CONSTRUCTION GENERAL PERMIT NOTICE OF COVERAGE (NOC) CERTIFICATION:

2. I HEREBY CERTIFY THAT THIS PROJECT WILL REQUIRE COVERAGE UNDER TENNESSEE CONSTRUCTION GENERAL PERMIT NO. TNR248669. THE TOTAL DISTURBED AREA IS: ±53.14 AC.

CHECK ALL THAT APPLY: THIS SITE DISCHARGES INTO WATERS IDENTIFIED BY TDEC AS:

☐ IMPAIRED FOR SILTATION ☐ IMPAIRED FOR HABITAT ALTERATION ☐ EXCEPTIONAL

SIGNATURE: MichelleDove DATE: 06/01/2026

CIRCLE ONE: DEVELOPER (PROJECT ENGINEER) OTHER _____

DEVELOPMENT SUMMARY

ADDRESS:	1000 RIVERGATE PARKWAY GOODLETTSVILLE, TENNESSEE 37072
PARCELS:	02614006200, 02614006300, 02614006100, 03402007700, 02614005400, 02614003400
OWNERS:	RIVERGATE MP HOLDINGS DILLARD TN. OPERATING LTD PARTNERSHIP 756 PLAZA PARTNERS GP JUST TRUCKS, LLC
FEMA MAP:	47037C0137K (06/20/2024) ZONE X
SP AREA:	14.74 AC
METRO INFRASTRUCTURE AREA:	4.19 AC
GOODLETTSVILLE AREA:	41.95 AC
GOODLETTSVILLE INFRASTRUCTURE AREA:	9.26 AC
TOTAL SITE AREA:	56.69 AC
CURRENT ZONING:	PLANNED UNIT DEVELOPMENT REGIONAL CENTER 1 (RC1)

SHEET SET	
Sheet Number	Sheet Title
C0.0	COVER SHEET
V1.0	ALTA LAND TITLE SURVEY (1 OF 6)
V1.1	ALTA LAND TITLE SURVEY (2 OF 6)
V1.2	ALTA LAND TITLE SURVEY (3 OF 6)
V1.3	ALTA LAND TITLE SURVEY (4 OF 6)
V1.4	ALTA LAND TITLE SURVEY (5 OF 6)
V1.5	ALTA LAND TITLE SURVEY (6 OF 6)
C0.1	ENLARGED SITE DEMOLITION PLAN
C0.2	ENLARGED SITE DEMOLITION PLAN
C0.3	ENLARGED SITE DEMOLITION PLAN
C0.4	ENLARGED SITE DEMOLITION PLAN
C1.0	OVERALL SITE LAYOUT PLAN
C1.1	OVERALL EASEMENT PLAN
C1.2	ROAD B PLAN & PROFILE
C1.3	ROAD B PLAN & PROFILE
C1.4	ROAD C PLAN & PROFILE
C1.5	ROAD D PLAN & PROFILE
C1.6	CUDE LANE & ROAD E PLAN
C1.7	EXISTING RIVERGATE DRIVE-1 PLAN
C1.8	EXISTING RIVERGATE DRIVE-2 PLAN
C1.9	ENLARGED STRIPING & SIGNAGE PLAN
C1.10	ENLARGED STRIPING & SIGNAGE PLAN
C1.11	ENLARGED STRIPING & SIGNAGE PLAN
C1.12	ENLARGED STRIPING & SIGNAGE PLAN
C2.0	OVERALL GRADING & DRAINAGE PLAN
C2.1	ENLARGED GRADING & DRAINAGE PLAN
C2.2	ENLARGED GRADING & DRAINAGE PLAN
C2.3	ENLARGED GRADING & DRAINAGE PLAN
C2.4	ENLARGED GRADING & DRAINAGE PLAN
C2.5	STORM STRUCTURE & PIPE DATA TABLES
C2.6	STORM STRUCTURE & PIPE DATA TABLES
C2.7	STORM LINE A PLAN & PROFILES
C2.8	STORM LINE B PLAN & PROFILES
C2.9	STORM LINE B PLAN & PROFILES
C2.10	STORM LINE B PLAN & PROFILES
C2.11	STORM LINE B PLAN & PROFILES
C2.12	STORM LINE C PLAN & PROFILES
C2.13	STORM LINE C PLAN & PROFILES
C2.14	STORM LINE C PLAN & PROFILES
C2.15	STORM LINE C PLAN & PROFILES
C2.16	STORM LINE C PLAN & PROFILES
C2.17	STORM LINE D PLAN & PROFILES
C2.18	STORM LINE E PLAN & PROFILES
C3.0	OVERALL SITE UTILITY PLAN
C3.1	ENLARGED SITE UTILITY PLAN
C3.2	ENLARGED SITE UTILITY PLAN
C3.3	ENLARGED SITE UTILITY PLAN
C3.4	ENLARGED SITE UTILITY PLAN
C3.5	ENLARGED FIRE HYDRANT PLAN
C3.6	SANITARY SEWER MAIN 'A' PLAN & PROFILE
C3.7	SANITARY SEWER MAIN 'A' PLAN & PROFILE
C3.8	SANITARY SEWER MAIN 'A' PLAN & PROFILE
C3.9	SANITARY SEWER MAIN 'B' PLAN & PROFILE
C3.10	SANITARY SEWER MAIN 'B' PLAN & PROFILE
C3.11	SANITARY SEWER MAIN 'B.1' AND 'C' PLAN & PROFILE
C3.12	SANITARY SEWER MAIN 'D' AND 'E' PLAN & PROFILE
C4.1	ENLARGED INITIAL EPSC PLAN
C4.2	ENLARGED INITIAL EPSC PLAN
C4.3	ENLARGED INITIAL EPSC PLAN
C4.4	ENLARGED INITIAL EPSC PLAN
C4.5	ENLARGED INTERMEDIATE EPSC PLAN
C4.6	ENLARGED INTERMEDIATE EPSC PLAN
C4.7	ENLARGED INTERMEDIATE EPSC PLAN
C4.8	ENLARGED INTERMEDIATE EPSC PLAN
C4.9	ENLARGED FINAL EPSC PLAN
C4.10	ENLARGED FINAL EPSC PLAN
C4.11	ENLARGED FINAL EPSC PLAN
C4.12	ENLARGED FINAL EPSC PLAN
C5.0	SITE DETAILS
C5.1	SITE DETAILS
C5.2	SITE DETAILS
C5.3	SITE DETAILS
C5.4	SITE DETAILS
C5.5	SITE DETAILS
C5.6	SITE DETAILS
L7.0	GENERAL PLANTING NOTES
L7.1	OVERALL PLANTING SCHEDULE
L8.0	OVERALL SITE PLAN
L8.1	PARTIAL PLANTING PLAN
L8.2	PARTIAL PLANTING PLAN
L8.3	PARTIAL PLANTING PLAN
L8.4	PARTIAL PLANTING PLAN
L9.0	PLANTING DETAILS
L9.1	PLANTING DETAILS

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

MICHELLE D. DOVE — 2223 — REGISTERED — AGRICULTURE — CIVIL — No. 109853 — STATE OF TENNESSEE — 06/01/2026

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/14/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	03/06/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

COVER SHEET

C0.0

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Monday, June 1, 2026
K:\1411 Rivergate Infrastr\1411-01 - Infrastructure and Mass Grading\02 - Civil Sheets\1411-01_C00_Cover Sheet GVILLE.dwg

Title Commitment No: NCS-1279266A-NAS
Effective Date: November 26, 2025 at 7:30 AM (Tracts A&B)
and November 28 2025 7:30 AM (Tract C)

SCHEDUBLE B - SECTION II

Items 1-9, & 55 Are not survey-related matters.

The Following Matters Affects Parcel 3 of Tract A, Tract B and Tract C:

10. Easement contained in Deed of recorded in Book 653, Page 56, in the Register's Office of Davidson County, Tennessee.
-PLOTTED AND SHOWN HEREON.

11. Easement(s) granted United States of America upon the relation and for the use of the Tennessee Valley Authority, by Declaration of Taking of record in Book 2485, Page 253, in the Register's Office of Davidson County, Tennessee.
-PLOTTED AND SHOWN HEREON.

12. Easement(s) granted United States of America upon the relation and for the use of the Tennessee Valley Authority, by Declaration of Taking of record in Book 2485, Page 257, in the Register's Office of Davidson County, Tennessee. The Following Matters Affects Tract A:
-PLOTTED AND SHOWN HEREON.

13. All matters shown on plat(s) of record in Book 6900, Page 334; Book 6900, Page 349; and Instrument No. 201911260122177, in the Register's Office of Davidson County, Tennessee.
-PLOTTED AND SHOWN HEREON.

The Following Matters Affects Tract A:

14. All matters shown on plat(s) of record in Instrument No. 202308090061735 and Instrument No. 202402270013104, in the Register's Office of Davidson County, Tennessee.
(Affects Parcel 8)
-PLOTTED AND SHOWN HEREON.

15. Terms and provisions of Deed of Declaration, by Rivergate Associates, a Joint Venture composed of Rivergate Mall, Inc., a Tennessee corporation, and Tennessee JV Corporation, a Tennessee corporation, of record in Book 4386, Page 523; as affected by Amendment of Deed of Declaration and First Amendment of Operating Agreement in Book 4523, Page 322; Term Agreement in Book 4626, Page 605; Second Amendment to Deed of Declaration in Book 5254, Page 146; Third Amendment to Deed of Declaration in Book 5254, Page 164; Fourth Amendment to Deed of Declaration in Book 7185, Page 44, re-recorded in Book 7297, Page 12; Fifth Amendment to Deed of Declaration in Instrument No. 200309150135252; Assignment and Assumption of REA Agreements in Instrument No. 201309050093856; and Notice of Termination of Operating Agreement in Instrument
No. 202304260030543, in the Register's Office of Davidson County, Tennessee.
-PLOTTED AND SHOWN HEREON.

16. Easement contained in Deed of recorded in Book 4560, Page 515, in the Register's Office of Davidson County, Tennessee.
(Affects Parcel 3)
-NO PORTION OF THE SURVEYED PROPERTY IS WITHIN RIGHT-OF-WAY.
-BLANKET-TYPE EASEMENT.
-NO PLOTTABLE ITEMS.
-(PROPERTY DESCRIBED IS IDENTIFIED HEREON).

17. Terms and provisions of Agreement, by and between Rivergate Associates, a joint venture composed of Rivergate Mall, Inc. and Tennessee JV Corp. and Madison Suburban Utility District of Davidson County, Tennessee, of record in Book 5305, Page 800; as affected by Assignment and Assumption of Water Line Agreement in Book 6321, Page 178, in the Register's Office of Davidson County, Tennessee.
17a. NOT A SURVEY MATTER.
17b. JOINT ACCESS EASEMENT PLOTTED AND SHOWN HEREON.

18. Terms and provisions of Easement Agreement, by and between Rivergate Associates, a joint venture composed of Rivergate Mall, Inc., a Tenn. corporation, and Tennessee J V Corporation, a Tennessee corporation and Dayton-Hudson Corporation, a Minnesota corporation, of record in Book 5581, Page 1, in the Register's Office of Davidson County, Tennessee.
(Affects Parcel 3)
-PLOTTED AND SHOWN HEREON.

19. Terms and provisions of Reciprocal Easement Agreement, by and between Dayton-Hudson Corporation d/b/a Target Stores, a Minnesota corporation and Rivergate Associates, a Joint Venture composed of Rivergate Mall, Inc., a Tenn. corporation, and Tennessee J.V. Corporation, a Tennessee corporation, of record in Book 5581, Page 20; as affected by First Amendment to Reciprocal Easement Agreement in Book 7185, Page 125, re-recorded in Book 7297, Page 105; Second Amendment to Reciprocal Easement Agreement in Instrument No. 201210090092585; Third Amendment to Reciprocal Easement Agreement in Instrument No. 201210090092586; Assignment and Assumption of REA Agreements in Instrument No. 201309050093839, in the Register's Office of Davidson County, Tennessee.
-BLANKET IN NATURE OVER THE SURVEYED PROPERTY.

20. Terms and provisions of unrecorded lease, as evidenced by Memorandum of Lease by and between Nashland Associates, a Tennessee general partnership and Sears; Roebuck and Co., a New York corporation, of record in Book 7185, Page 153, as re-recorded in Book 7297, Page 133; as affected by Notice of Assignment and Assumption of Leases in Instrument No. 201309050093855; Subordination, Attornment and Non-Disturbance Agreement in Instrument No. 201404220033903, in the Register's Office of Davidson County, Tennessee.
(Affects Parcel 1)
-SURVEYED PROPERTY IS CITED IN RECORD DOCUMENTS. NO ITEMS TO PLOT.

21. Terms and provisions of Easement Agreement, by and between Rivergate Plaza Joint Venture and Nashland Associates, a Tennessee general partnership, of record in Book 8514, Page 164; as affected by Assignment and Assumption of REA Agreements in Instrument No. 201309050093856, in the Register's Office of Davidson County, Tennessee.
-PLOTTED AND SHOWN HEREON.

22. Terms and provisions of Easement Agreement, by and between Village at Rivergate Limited Partnership and Powertel/Memphis, of record in Book 11162, Page 564, in the Register's Office of Davidson County, Tennessee.
(Affects Parcel 3)
-IS NOT ON THE SURVEYED PROPERTY.

23. Terms and provisions of Agreement for Dedication of Easement for Sanitary Sewers, Storm Drainage, Water Mains, Force Mains and Appurtenances, by and between Rivergate Mall Limited Partnership and Metropolitan Government of Nashville and Davidson County, Tennessee, its successors and assigns forever, of record in Instrument No. 200106150063734, in the Register's Office of Davidson County, Tennessee.
(Affects Parcel 3)
-IS NOT ON THE SURVEYED PROPERTY.

24. Terms and provisions of Stormwater Detention Agreement, by and between Rivergate Mall Ltd Partnership Property and The Metropolitan Government of Nashville and Davidson County, of record in Instrument No. 200202110017926, in the Register's Office of Davidson County, Tennessee.
(Affects Parcel 3)
-NO PLOTTABLE ITEMS.
-(PROPERTY DESCRIBED IS IDENTIFIED HEREON).

25. Terms and provisions of Joint Driveway and Drainage Easement Agreement, by and between Rivergate Mall Limited Partnership, a Delaware limited partnership; Chick-Fil-A, Inc., a Georgia corporation and Horizon Restaurant Group, Inc., a Kentucky corporation, of record in Instrument No. 200203260036666, in the Register's Office of Davidson County, Tennessee.
(Affects Parcel 3)
Joint Driveway Easement
-PLOTTED AND SHOWN HEREON (NOT ON SURVEYED PROPERTY).
Drainage Easement
-BLANKET IN NATURE (NOT ON SURVEYED PROPERTY).

26. Terms and provisions of unrecorded lease, as evidenced by Short Form Lease by and between Rivergate Mall Limited Partnership and Chick-Fil-A, Inc., a Georgia corporation, of record in Instrument No. 200203260036667; as affected by Notice of Assignment and Assumption of Leases in Instrument No. 201309050093855; First Amendment to Short Form Lease in Instrument No. 202004060036250, in the Register's Office of Davidson County, Tennessee.
(Affects Parcel 3)
26a) Additional Parking Area & Access Easement Area.
-PLOTTED AND SHOWN HEREON.
26b) NOT SURVEY RELATED.
26c) Access Easement Area, Offsite Parking Area Easement, & Additional Parking Area.
-PLOTTED AND SHOWN HEREON.

27. Terms and provisions of unrecorded lease, as evidenced by Memorandum of Lease by and between Rivergate Mall Limited Partnership, a Delaware limited partnership and Horizon Restaurant Group, Inc., a Kentucky corporation, of record in Instrument No. 200206050068336; as affected by Subordination, Attornment and Non-Disturbance Agreement in Instrument No. 201404160031991, in the Register's Office of Davidson County, Tennessee.
-SURVEYED PROPERTY IS CITED IN RECORD DOCUMENTS. NO ITEMS TO PLOT.

28. Terms and provisions of unrecorded lease, as evidenced by Memorandum of Lease by and between Rivergate Mall Limited Partnership, a Delaware limited partnership and The Cato Corporation, of record in Instrument No. 200208050093313; as affected by Subordination, Non-Disturbanceand Attornment Agreement in Instrument No. 201404220033902, in the Register's Office of Davidson County, Tennessee.
-SURVEYED PROPERTY IS CITED IN RECORD DOCUMENTS. NO ITEMS TO PLOT.

29. Terms and provisions of Ingress/Egress Easement Agreement, by and between Rivergate Mall Limited Partnership, a Delaware limited artnership and Regions Bank, an Alabama banking corporation, of record in Instrument No. 200601190007494, in the Register's Office of Davidson County, Tennessee.
(Affects Parcel 2)
-PLOTTED AND SHOWN HEREON.

30. Terms and provisions of unrecorded lease, as evidenced by Memorandum by and between Rivergate Mall Limited Partnership, a Delaware limited partnership and Eastwynn Theatres, Inc., an Alabama corporation, of record in Instrument No. 201006100045098; as affected by Notice of Assignment and Assumption of Leases in Instrument No. 201309050093855; Subordination, Attornment and Non-Disturbance Agreement in Instrument No. 201404220033901, in the Register's Office of Davidson County, Tennessee.
-SURVEYED PROPERTY IS CITED IN RECORD DOCUMENTS. NO ITEMS TO PLOT.

31. Terms and provisions of unrecorded lease, as evidenced by Memorandum of Lease by and between KDI Rivergate Mall, LLC, a Delaware limited liability company and Citi Trends, Inc., of record in Instrument No. 202001310011616, in the Register's Office of Davidson County, Tennessee.
-SURVEYED PROPERTY IS CITED IN RECORD DOCUMENTS. NO ITEMS TO PLOT.

32. Terms and provisions of Maintenance Agreement, by and between KDI Rivergate Mall, LLC, a Georgia limited liability company and Highway 23 LLC, a Louisiana limited liability company, of record in Instrument No. 202403210019544, in the Register's Office of Davidson County, Tennessee.
-NOT A SURVEY MATTER.

33. Terms and provisions of Monument Sign Easement Agreement, by and between KDI Rivergate Mall, LLC, a Georgia limited liability Company and Highway 23 LLC, a Louisiana limited liability company, of record in Instrument No. 202403210019545, in the Register's Office of Davidson County, Tennessee.
-IS NOT ON THE SURVEYED PROPERTY AND HAS NO DEFINED SIZE.
-SHOWN FOR GRAPHIC REPRESENTATION ONLY.

34. Terms and provisions of Monument Sign Easement Agreement, by and between KDI Rivergate Mall, LLC, a Georgia limited liability company and BJ's Wholesale Club, Inc., a Delaware corporation, of record in Instrument No. 202405070033424, in the Register's Office of Davidson County, Tennessee.
-IS NOT ON THE SURVEYED PROPERTY AND HAS NO DEFINED SIZE.
-SHOWN FOR GRAPHIC REPRESENTATION ONLY.

35. Terms and provisions of Declaration of Restrictive Covenants, by KDI Rivergate Mall, LLC, a Georgia limited liability company, of record in Instrument No. 202405070033425, in the Register's Office of Davidson County, Tennessee.
-BLANKET IN NATURE OVER THE SURVEYED PROPERTY.

The Following Matters Affects Tract B:

36. All matters shown on plat(s) of record in Book 4460, Page 31 as corrected in Book 5550, Page 678, in the Register's Office of Davidson County, Tennessee.
-PLOTTED AND SHOWN HEREON.

37. All matters shown on plat(s) of record in Book 6900, Page 279 as affected by Termination of Easement of record as Instrument No. 202305170036842 and as Instrument No. 202305170036843, in the Register's Office of Davidson County, Tennessee.
-PLOTTED AND SHOWN HEREON.

38. All matters shown on plat(s) of record in Book 6900, Page 349, in the Register's Office of Davidson County, Tennessee.
-PLOTTED AND SHOWN HEREON.

39. Terms and provisions of Deed of Declaration, by Rivergate Associates, a Joint Venture composed of Rivergate Mall, Inc., a Tennessee corporation, and Tennessee JV Corporation, a Tennessee corporation, of record in Book 4386, Page 523, as amended by Amendment of Deed of Declaration and First Amendment to Operation Agreement in Book 4523, Page 322; as affected by Term Agreement in Book 4626, Page 605; as amended by Second Amendment to Deed of Declaration in Book 5254, Page 146; as amended by Third Amendment to Deed of Declaration in Book 5254, Page 164; as amended by Fourth Amendment to Deed of Declaration in Book 7185, Page 44 as re-recorded in Book 7297, Page 12; as assigned by Assignment of Documents and Assumption Agreement as Instrument No. 200103190026225; as assigned by Assignment and Assumption of Operating Agreements as Instrument No. 200103190026227; as amended by Fifth Amendment to Deed of Declaration as Instrument No. 200309150135252; as assigned by Assignment and Assumption of REA Agreements as Instrument No. 201309050093856; and as assigned by Assignment and Assumption of Operating Agreements as Instrument No. 202008070088425, in the Register's Office of Davidson County, Tennessee.
The Following Matters Affects Tract C:
-PLOTTED AND SHOWN HEREON.

The Following Matters AFfects Tract C:

40. All matters shown on plat(s) of record in Plat Book 4460, Page 31; as corrected in Surveyor's Certificate of Correction of record in Book 5550, Page 678, Book 4595, Page 100, Plat Book 6900, Page 279, Plat Book 6900, Page 349 and Instrument No. 202301180003948, in the Register's Office of Davidson County, Tennessee.
-PLOTTED AND SHOWN HEREON.

41. Terms and provisions of Lease, by and between Rivergate Associates, a joint venture composed of Rivergate Mall, Inc., a Georgia corporation and Tennessee JV Corporation, a Tennessee corporation and Walgreen Co., an Illinois corporation, of record in Book 4522, Page 744; as affected by Agreement in Book 5254, Page 182, in the Register's Office of Davidson County, Tennessee.
-PLOTTED AND SHOWN HEREON.

42. Terms and provisions of Deed of Declaration, by Rivergate Associates, a joint venture composed of Rivergate Mall, Inc., a Tennessee corporation and Tennessee JV Corporation, a Tennessee corporation, of record in Book 4386, Page 523; as affected by mendment of Deed of Declaration and First Amendment of Operating Agreement in Book 4523, Page 322; Second Amendment to Deed of Declaration in Book 5254, Page 146; Third Amendment to Deed of Declaration in Book 5254, Page 164; Fourth Amendment to Deed of Declaration in Book 7185, Page 44, as re-recorded in Book 7297, Page 12; and Fifth Amendment to Deed of Declaration in Instrument No. 200309150135252, in the
Register's Office of Davidson County, Tennessee.
-PLOTTED AND SHOWN HEREON.

43. Terms and provisions of unrecorded lease, as evidenced by S. F. Lease by and between Rivergate Associates, a Tennessee corporation and Martin Theatres of Georgia, Inc., a Georgia corporation, of record in Book 4641, Page 984, in the Register's Office of Davidson County, Tennessee.
-SURVEYED PROPERTY IS CITED IN RECORD DOCUMENTS. NO ITEMS TO PLOT.

44. Terms and provisions of Grant of Utility Easement, by and between Cousins Properties of Tennessee, Inc. and The Metropolitan Government of Nashville and Davidson County, acting by and through the Electric Power Board of the said Metropolitan Government, of record in Book 4659, Page 966, in the Register's Office of Davidson County, Tennessee.
-NOT ON SURVEYED PROPERTY.

45. Terms and provisions of Easement Agreement, by and between Rivergate Plaza Joint Venture and Nashland Associates, a Tennessee general partnership, of record in Book 7185, Page 132, as re-recorded in Book 7297, Page 112; as affected by Assignment and Assumption of REA Agreements in Instrument No. 201309050093839, in the Register's Office of Davidson County, Tennessee.
-PLOTTED AND SHOWN HEREON.

46. Terms and provisions of Agreement for Exchange of Lands, by and between Nashland Associates, a Tennessee general partnership and J.C. Penney Company, Inc., a Delaware corporation qualified to do business in the State of Tennessee, of record in Book 7296, Page 855, in the Register's Office of Davidson County, Tennessee.
-SURVEYED PROPERTY IS CITED IN RECORD DOCUMENTS. NO ITEMS TO PLOT.

47. Terms and provisions of Reciprocal Easement Agreement, by and between Rivergate Plaza Joint Venture and J. C. Penney Company, Inc., a Delaware corporation qualified to do business in the State of Tennessee, of record in Book 8450, Page 572, in the Register's Office of Davidson County, Tennessee.
-PLOTTED AND SHOWN HEREON.

48. Terms and provisions of Agreement of Covenants, Conditions and Restrictions, by and between J. C. Penney Corporation, Inc., a Delaware corporation and SMBC Leasing and Finance, Inc., a Delaware corporation, of record in Instrument No. 201312020122628, in the Register's Office of Davidson County, Tennessee.
-NOT A SURVEY MATTER.

49. Terms and conditions of Order Authorizing (A) Entry Into and Performance under the Asset Purchase Agreement and (B) Sale of the Opco Acquired Assets and the Propco Acquired Assets Free and Clear of Liens, Claims, Encumbrances and Interests and (C) Assumption and Assignment of Executory Contracts and Unexpired Leases and (II) Granting Related Relief of record in Instrument No. 202012230152940, in the Register's Office of Davidson County, Tennessee.
-NOT A SURVEY MATTER.

50. Sanitary Sewer Easement from Penney Property Sub Holdings, LLC, a Delaware limited liability company to BJ Rivergate, LLC, a Georgia limited liability company, of record in Instrument No. 202310190081998, in the Register's Office of Davidson County, Tennessee.
-PLOTTED AND SHOWN HEREON.

The Following Matters Affects Tract A & B:

51. That portion of the land embraced within the bounds of any public road or thoroughfare. The Following Matters Affects Tracts A and B:
-NO PORTION OF THE SURVEYED PROPERTY IS WITHIN THE RIGHT- OF-WAY.

52. Terms and provisions of Easement Agreement, by and between Rivergate Plaza Joint Venture and Nashland Associates, a Tennessee general partnership, of record in Book 7185, Page 132, re-recorded in Book 7297, Page 112; as affected by Assignment and Assumption of REA Agreements in Instrument No. 201309050093856, in the Register's Office of Davidson County, Tennessee. The Following Matters Affects All Tracts:
-PLOTTED AND SHOWN HEREON.

The Following Matters Affects All Tracts:

53. Clearance Permit of record in Book 986, Page 330, in the Register's Office of Davidson County, Tennessee.
-PLOTTED AND SHOWN HEREON.

54. Clearance Permit of record in Book 986, Page 336, in the Register's Office of Davidson County, Tennessee.
-PLOTTED AND SHOWN HEREON.

Exhibit A Legal Description

The Land referred to herein below in situated in the County of Davidson, State of Tennessee, and described as follows:

Tract A:

Parcel 1:

Land located in the Tenth Councilmanic District of Nashville, Davidson County, Tennessee, near Gallatin Pike and Rivergate Parkway, being Lot 5A on the final Plat of resubdivision Lot 5, RIVERGATE MALL Shopping Center of record in Book 7900, Page 237, R.O.D.C. and being more particularly described as follows:

Beginning at a Southeasterly corner of Lot 4 and a Northeasterly corner of Lot 2 on the Final Plat of Resubdivision of Tracts C-2, D-2 and D-3, RIVERGATE MALL Shopping Center of record in Book 6900, Page 279, R.O.D.C.; thence N15°30'00"E, 141.63 feet; thence S74°30'00"E, 262.00 feet; thence S15°30'00"W, 78.00 feet; thence S74°30'00"E, 73.00 feet; thence S15°30'00"W, 145.00 feet; thence N74°30'00"W, 73.00 feet; thence S15°30'00"W, 91.00 feet; thence N74°30'00"W, 262.00 feet; thence N15°30'00"E, 172.37 feet to the beginning.

Parcel 2:

Land located in the Tenth Councilmanic District of Nashville, Davidson County, Tennessee, near Gallatin Pike and Rivergate Parkway, being Tract D-1 on the final plat of resubdivision of Tracts A-1, C-1, and D-1, RIVERGATE MALL Shopping Center of record in Book 6900, Page 349, R.O.D.C. and being more particularly described as follows:

Beginning in the Northerly right-of-way of Gallatin Pike at a Northeasterly corner of Modernage, Inc. property of record in Deed Book 8231, Page 84, R.O.D.C.; thence N41°55'00"W, 298.00 feet; thence N74°30'00"W, 672.00 feet; thence S71°25'00"W, 304.92 feet to the Easterly right-of-way of Two Mile Parkway; thence with said right-of-way N18°35'00"W, 70.00 feet to a Southwesterly corner of 890 Rivergate, LLC property of record as Instrument No. 200601190007495, R.O.D.C.; thence with the boundary of said 890 Rivergate property as follows:

N71°25'00"E, 152.50 feet;
N15°39'00"E, 27.44 feet;
Northwesterly with a curve to the right 226.09 feet, said curve having a radius of 343.00 feet, a central angle of 37°46'00" and a chord of 222.02 feet at N57°37'00"W; S71°25'00"W, 34.15 feet to the Easterly right-of-way of Rivergate Parkway; thence with said Easterly right-of-way as follows:
N18°35'00"W, 43.00 feet;
N20°31'06"W, 54.55 feet;
N18°35'00"W, 174.97 feet; thence S74°30'00"E, 415.95 feet; thence N15°30'00"E, 618.96 feet; thence S74°30'00"E, 333.50 feet; thence S15°30'00"W, 229.00 feet; thence S74°30'00"E, 218.00 feet; thence N15°30'00"E, 80.73 feet; thence S74°30'00"E, 5.42 feet; thence N15°30'00"E, 22.77 feet; thence S74°30'00"E, 328.08 feet; thence S15°30'00"W, 723.27 feet; thence S41°55'00"E, 258.47 feet to the Northerly right-of-way of Gallatin Pike; thence with said right-of-way Southwesterly with a curve to the left 70.86 feet to the beginning, said curve having a radius of 985.00 feet, a central angle of 04°17'19" and a chord of 70.85 feet at S45°16'55"W.

Parcel 3:

Land located in the Tenth Councilmanic District of Nashville, Davidson County, Tennessee, near Gallatin Pike and Rivergate Parkway, being Lot 5 on the resubdivision of Lot 4 and Lot 5, RIVERGATE MALL Shopping Center recorded November 26, 2019 as Plat Instrument No. 201911260122177, Register's Office for Davidson County, reference to which is hereby made for a more complete description.

Being part of the same property conveyed to KDI Rivergate Mall, LLC, a Georgia limited liability company, by Deed from Rivergate Mall Limited Partnership, a Delaware limited partnership, of record in Instrument No. 201309050093854, in the Register's Office of Davidson County, Tennessee.

Tract B:

Being a parcel of land in the Second Civil District, Goodlettsville, Davidson County, Tennessee, located on the Easterly side of Two Mile Parkway, and being more particularly described as follows: beginning at an iron pin set on the Easterly margin of Two Mile Parkway, said point being Northerly 2,664 feet, more or less, from the intersection of Two Mile Parkway and Gallatin Road, said point also being the Northwesterly corner of the herein described tract; thence, leaving the Easterly margin of Two Mile Parkway, with the Southerly line of Lot No. 1 on the plan of Resubdivision Tracts C-2, D-2 and D-3, RIVERGATE MALL SHOPPING CENTER, as of record in Book 6900, Page 279, register's office for Davidson County, Tennessee, N 74 deg. 30 min. E, 376.57 feet to an iron pin set; thence, S 74 deg. 30 min. E, 510.00 feet to an iron pin set: thence, with the Westerly lines of Lot 2 on the plan of Resubdivision Tracts C-2, D-2, D-3, RIVERGATE MALL SHOPPING CENTER and Tract D-1 on the Resubdivision Tracts A-1, B, C-1 and D-1, RIVERGATE MALL SHOPPING CENTER, S 15 deg. 30 min. W, 810.00 feet to an iron pin set; thence, N 74 deg. 30 min. W, 415.95 feet to an iron pin set on the Easterly margin of two Mile Parkway; Thence, Northerly with the Easterly margin of two mile parkway, N 18 deg. 35 min. W, 743.82 feet to the Point of Beginning.

Being the same property conveyed to MRH Rivergate, LLC, a Tennessee Limited Liability Company, by Special Warranty Deed from Macy's Retail Holdings, LLC, an Ohio Limited Liability Company, successor to The May Department Stores Company, a New York corporation, of record in Instrument No. 202008070088426, in the Register's Office of Davidson County, Tennessee.

Tract C:

Land in Davidson County, Tennessee, being known as Lots 1, 2, and 4 of the plan of Rivergate Mall Shopping Center, Resubdivision Tracts C-2, D-2, and D-3 of record in Plat Book 6900, Page 279, in the Register's Office for Davidson County, to which plat reference is hereby made for a more complete description:

Being the same property conveyed to Penney Property Sub Holdings, LLC, a Delaware limited liability company by Special Warranty Deed from J. C. Penney Corporation, Inc., a Delaware corporation of record in Instrument No. 202012230152941; and by Correction Special Warranty Deed of record in Instrument No. 202210250115666, in the Register's Office of Davidson County, Tennessee.

INCLUDED in the above described property but EXPRESSLY EXCLUDED is the following:

Lot 4B of the Resubdivision of Lot 4 Rivergate Mall Shopping Center, a subdivision in the City of Goodlettsville, TN, as per plat of record recorded January 18, 2023, in Davidson County, Tennessee, as Document No. 202301180003948.

Being the same property conveyed to BJ Rivergate, LLC, a Georgia limited liability company, by Special Warranty Deed from Penney Property Sub Holdings LLC, a Delaware limited liability company, of record in Instrument No. 202301200004788, in the Register's Office of Davidson County, Tennessee.

Tract D:

Parcel 1:

Easement(s) benefiting Tracts A-B as set forth in Deed of Declaration by Rivergate Associates, a Joint Venture of record in Book 4386, Page 523; as amended by Amendment of Deed of Declaration and First Amendment to Operation Agreement in Book 4523, Page 322; as affected by Term Agreement in Book 4626, Page 605; as amended by Second Amendment to Deed of Declaration of record in Book 5254, Page 146; as amended by Third Amendment to Deed of Declaration of record in Book 5254, Page 164; as amended by Fourth Amendment to Deed of Declaration of record in Book 7185, Page 44 as rerecorded in Book 7297, Page 12; as assigned by Assignment of Documents and Assumption Agreement as Instrument No. 200103190026225; as assigned by Assignment and Assumption of Operating Agreements as Instrument No. 200103190026227; as amended by Fifth Amendment to Deed of Declaration of record in Book 7185, Page 44 as rerecorded in Book 7297, Page 12; as assigned by Assignment of Documents and Assumption Agreement as Instrument No. 200103190026225; as assigned by Assignment and Assumption of Operating Agreements as Instrument No. 200103190026227; as amended by Fifth Amendment to Deed of Declaration as Instrument No. 200309150135252; as assigned by Assignment and Assumption of REA Agreements as Instrument No. 201309050093856; and as assigned by Assignment and Assumption of Operating Agreements as Instrument No. 202008070088425, in the Register's Office of Davidson County, Tennessee.

Parcel 2:

Easement(s) benefiting Tracts A-B contained in Easement Agreement in Book 7185, Page 132, re-recordedin Book 7297, Page 112; and Assignment and Assumption of REA Agreements in Instrument No. 201309050093856, in the Register's Office of Davidson County, Tennessee.

Parcel 3:

Easement(s) benefiting Tract A contained in Easement Agreement in Book 8514, Page 164; as affected by Assignment and Assumption of REA Agreements in Instrument No. 201309050093856, in the Register's Office of Davidson County, Tennessee.

Parcel 4:

Easement(s) benefiting Tract A contained in Monument Sign Easement Agreement in Instrument No. 202403210019545, in the Register's Office of Davidson County, Tennessee.

Parcel 5:

Easement(s) benefiting Tract A contained in Monument Sign Easement Agreement in Instrument No. 202405070033424, in the Register's Office of Davidson County, Tennessee.

SURVEYOR NOTES:

1. This survey does not constitute a title search by the surveyor. All information regarding record easements, and other documents that might affect the quality of title to the parcel shown hereon we obtained through a certified title commitment conducted by First American Title Insurance Company, Commitment Number NCS-1279266A-NAS, bearing an effective date of November 26, 2025 at 7:30 AM (Tracts A and B), Commitment Number NCS-1279266A-NAS, bearing an effective date of November 28, 2025 at 7:30 AM (Tract C).
2. Improved access to the subject parcel is available via Rivergate Parkway, Rivergate Drive, & Gallatin Pike North (US 31E).
3. No roadway improvement plans were disclosed to CESO during the survey.
4. The utilities shown are located from field survey information and/or existing drawings supplied by client. The surveyor makes no guarantee that the utilities located comprise all such utilities in the area, either in service or abandoned. The surveyor further does not warrant that the utilities located are in the exact location indicated although the surveyor does certify that they are located as accurately as possible from information available. For utility lines or service locations on private property CESO recommends contracting a private underground utility location service.
5. Parcel is located within Zone "X" (Area of Minimal Flood Hazard) as indicated by the Flood Insurance Rate Map (FIRM) Number 47037C0137K, effective date: 6/20/2024 published by the Federal Emergency Management Agency.
6. Observed address of the property is 1000 Rivergate Parkway, Goodlettesville, TN 37072.
7. No zoning report was provided to the surveyor.
8. No evidence of recent earth moving work, building construction, or building additions observed in the process of conducting the fieldwork.
9. No proposed changes in street right of way lines were made available to the surveyor by the controlling jurisdiction. No evidence of recent street or sidewalk construction or repairs observed in the process of conducting the fieldwork.
10. Parcels are contiguous with no gaps, gores, or overlaps.
11. No cemeteries were observed on the surveyed property in the process of conducting the fieldwork.
12. Building Footprint: 829,985 sq.ft.+/-
Property Footprint: 2,459,868 sq.ft.+/-

SURVEYOR'S CERTIFICATION:

TO: Rivergate MP Holdings LLC, an Ohio limited liability company, Pinnacle Bank, a Tennessee banking corporation, its successors and/or assigns, as Administrative Agent, Merus RE, LLC, AL. Neyer RE, LLC, an Ohio limited liability company; KDI Rivergate Mall, LLC, a Georgia limited liability company; MRH Rivergate, LLC, a Tennessee limited liability company; Penney Property Sub Holdings, LLC, a Delaware limited liability company; J.C. Penney Company, Inc., a Delaware corporation; First American Title Insurance Company National Commercial Services:

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1, 2, 3, 4, 5, 7(a), 7(b)(1), 7(c), 8, 11(a), 13, 15, 16, 17, & 18 of Table A thereof. The fieldwork was completed on May 1, 2025.

Date of Plat or Map: April 16, 2026.

April 16, 2026

Jeffrey K. Kimbro TN PLS No. 1756 — Date
Sr. Surveyor, CESO, INC.
jeff.kimbro@cesoinc.com

CESO
WWW.CESOINC.COM
216 Centerview Dr., Suite 150
Brentwood, TN 37027
Phone: 615.928.5120 Fax: 888.208.4826

JEFFREY K. KIMBRO — REGISTERED LAND SURVEYOR — TENNESSEE No. 1756 — 04/16/2026

Merus
Rivergate Mall Redevelopment

ALTA/NSPS Land Title Survey

1000 Rivergate Pkwy
Goodlettsville, TN 37072

Revisions / Submissions

ID	Description	Date
1	ADDRESSED COMMENTS	06/09/2025
2	ADDRESSED COMMENTS	08/05/2025
3	NEW COMBINED COMMITMENT	01/15/2026
4	NEW COMMITMENT.	01/27/2026
5	REVISED EXCEPTIONS 16 & 24.	01/28/2026
6	UPDATED SURFACE AND ADDRESSED COMMENTS.	04/16/2026

Project Number:	766283
Scale:	N/A
Drawn By:	TDC
Checked By:	JKK
Date:	April 16, 2026
Issue:	Final

Drawing Title:
ALTA / NSPS Land Title Survey

1 of 6

LINE TABLE		
Line #	Direction	Length
L3	S74° 52' 24"E	55.83'
L4	N74° 37' 36"W	42.00'
L5	S15° 22' 24"W	23.17'
L6	S74° 37' 36"E	13.33'
L7	S15° 22' 24"W	25.67'
L8	N74° 37' 36"W	13.33'
L9	S15° 22' 24"W	13.51'
L10	S74° 37' 36"E	21.00'
L11	S15° 22' 24"W	57.00'
L12	N74° 37' 36"W	15.58'
L13	S15° 12' 10"W	45.18'

LINE TABLE		
Line #	Direction	Length
L14	N75° 18' 37"W	5.56'
L15	S15° 22' 24"W	80.73'
L16	N26° 59' 34"W	102.82'
L17	S15° 40' 00"W	27.44'
L18	S74° 30' 41"E	73.00'
L19	S15° 29' 19"W	145.00'
L20	N74° 30' 41"W	72.68'
L21	S15° 29' 19"W	89.87'

CURVE TABLE					
Curve	Delta	Radius	Arc Length	Chord (Calc.)	Chord (Rec.)
C1	80° 39' 12"	30.00'	42.23'	S44° 33' 59"W, 38.83'	S44° 32' 55"W, 38.83'
C2	20° 32' 14"	90.00'	32.26'	N74° 37' 00"E, 32.09'	N74° 36' 07"E, 32.09'
C3	75° 49' 51"	100.00'	132.35'	N77° 44' 18"W, 122.90'	N77° 45' 04"W, 122.90'
C4	75° 49' 56"	125.00'	165.44'	S77° 44' 12"E, 153.63'	S77° 45' 02"E, 153.63'
C5	93° 36' 19"	5.00'	8.17'	S69° 04' 00"E, 7.29'	S67° 35' 59"E, 7.38'
C6	37° 45' 57"	343.00'	226.09'	S55° 34' 27"E, 222.01'	S57° 37'E, 222.02'
C10	25° 05' 25"	1149.70'	503.46'	N87° 18' 27"W, 499.45'	N87° 19' 56"W, 499.45'

JUST TRUCKS LLC
Parcel ID: 02614005400

756 PLAZA PARTNERS, GP
Parcel ID: 02614003400

TRI STAR ENERGY, LLC
Parcel ID: 02614003200

DELORES F. & TRACY L. PRIMROSE, et al
Parcel ID: 02614003300

COMMERCE UNION BANK
Parcel ID: 02614003500

TENNESSEE CREDIT UNION
Parcel ID: 03402006200

FIRST AMERICAN NATIONAL BANK
Parcel ID: 03402006300

NORMAN CLARK LIMITED PARTNERSHIP
Parcel ID: 03402006400

Bridgestone Retail Operations, LLC
Parcel ID: 03402007900

DURHAM ENTERPRISES, INC.
Parcel ID: 03402007100

FCPT HOLDINGS, LLC
Parcel ID: 03402007000

DILLARD TN. OPERATING LTD.PARTNERSHIP
Parcel ID: 03402007700

NASHVILLE CHICKEN, LLC
Parcel ID: 03402011000

IN-N-OUT BURGERS
Parcel ID: 03402011600

HIGHWAY 23, LLC
Parcel ID: 03402011100

DILLARD TN.OPERATING LTD. PARTNERSHIP
Parcel ID: 02614006100

BJ RIVERGATE, LLC
Parcel ID: 02614005800

DAYTON-HUDSON CORPORATION
Parcel ID: 02614004400

KHALIK INVESTMENTS 2, LLC
Parcel ID: 02614004500

1/2" Iron Pin Capped "SEA 1708" Fnd. & Usd.

1/2" Iron Pin Capped "W&A ENG" Fnd. & Usd.

5/8" Iron Pin Capped "BWSC NASHVILLE" Fnd. & Usd.

1/2" Iron Pin Fnd. & Usd.

1/2" Iron Pin Fnd. & Usd. for line

5/8" Iron Pin Fnd. & Usd.

Rivergate Parkway (Varying R/W) (public)

Gallatin Pike (U.S. Hwy 31-E) (150' R/W) (public)

S 82° 21' 30" E 262.57'

S 07° 37' 28" W 123.48'

S 07° 37' 28" W 76.34'

N 07° 31' 11" E 360.83' Msd. (362.00' Rec.)

S 84° 04' 53" E 47.65' Rec. & Msd.

N 07° 37' 02" E 166.67'

N 83° 09' 04" E 350.00' Rec. & Msd.

572.00' Rec. & Msd.

N 74° 31' 24" E

376.60' Rec. & Msd.

N 18° 33' 53" W 50.07' Rec. & Msd.

S 74° 28' 39" E 510.00'

S 15° 31' 51" W 283.35' Msd. (283.19' Rec.)

N 82° 28' 04" W 327.60'

N 74° 37' 36" W 262.00'

N 74° 45' 45" W 173.62'

S 07° 39' 56" W 157.05'

S 07° 39' 56" W 67.50'

L18 N 74° 37' 36" W 73.06'

S 15° 22' 24" W 72.37'

N 74° 52' 24" W 261.69'

S 28° 58' 31" E 160.51'

N 74° 36' 55" W 334.76'

S 15° 22' 24" W 365.28'

N 15° 20' 21" E 228.85'

N 74° 29' 34" W 326.31'

N 74° 36' 34" W 217.86'

N 16° 25' 34" W 602.06'

S 21° 59' 31" E 430.00'

N 07° 49' 29" E 423.61'

S 22° 30' 41" E 469.84'

S 22° 29' 51" E 148.72'

N 64° 20' 59" E 205.22'

S 64° 20' 47" W 143.77'

S 30° 49' 41" E 91.67'

N 39° 49' 14" W 95.36'

S 50° 10' 46" W 60.00'

S 84° 53' 07" W 0.33'

N 18° 42' 05" W 491.97' Rec. & Msd.

R=330.00', L=308.00', Ch=N 30° 58' 40" E, 296.94'

S 57° 42' 57" W 63.96' Rec. & Msd.

N 18° 33' 57" W 70.00'

S 71° 26' 03" W 152.50'

S 71° 26' 03" W 306.56'

192.48' Rec. & Calc.

S 74° 28' 04" E 477.02' Rec. & Msd.

N 15° 29' 27" E 723.15' Calc. (723.27' Rec.)

S 41° 55' 00" E 258.47' Rec. & Calc.

S 41° 55' 00" W 298.00' Rec. & Msd.

R=985.00', L=70.90', Δ=004° 07' 26" Chord=S 45° 19' 56" W, 70.88' (Chord (Rec.)=S 45d 16' 55" W, 70.85')

N 18° 33' 53" W

S 15° 31' 20" W 670.97' Calc. (671.00' Rec.)

N 74° 28' 20" W 415.95' Rec. & Msd.

S 18° 33' 53" E 174.97'

S 27° 38' 53" E 50.60'

N 71° 26' 07" E 34.88'

S 18° 33' 53" E 44.29'

743.82' Rec. & Msd.

OLD LOT LINE

C10

C1 C2 C3 C4 C5 C6

L1 L2 L3 L4 L5 L6 L7 L8 L9 L10 L11 L12 L13 L14 L15 L16 L17 L18 L19 L20 L21

20' Public Utility Easement

60' Ingress Egress Easement

26' N.E.S. Easement

10' waterline easement

20' Utility Easement/Abandonment

30' Joint Access Easement

50' Ingress Egress Easement PB.6900, Pg.334

60' Access Easement

18' Offsite Parking Easement

30' Utility Easement

15' NES

RW

SAN

SURVEY LEGEND

- ◉ - 5/8" Iron Pin Set w/cap CESO, Inc
- ◎ - Iron Pin Found as Described
- ⌭ - Railroad Spike Found
- ⌭ - PK Nail/Mag Nail Found
- ◉ - PK Nail/Mag Nail Set

Fnd. (F) - Found
Usd. (U) - Used
Obs. (O) - Observed
Rec. (R) - Deed
Calc. (C) - Calculated

BASIS OF BEARINGS
NAD 83 (2011), TENNESSEE STATE PLANE ZONE
Derived from GPS Observations

100 0 100 200
GRAPHIC SCALE (IN FEET)

CESO
WWW.CESOINC.COM
216 Centerview Dr., Suite 150
Brentwood, TN 37027
Phone: 615.928.5120 Fax: 888.208.4826

JEFFREY K. KIMBRO
REGISTERED LAND SURVEYOR
TENNESSEE No. 1756
04/16/2026

Merus
Rivergate Mall Redevelopment

ALTA/NSPS Land Title Survey

1000 Rivergate Parkway
Goodlettsville, Davidson County, Tennessee

Revisions / Submissions

ID	Description	Date
1	ADDRESSED COMMENTS	06/09/2025
2	ADDRESSED COMMENTS	08/05/2025
3	NEW COMBINED COMMITMENT	01/15/2026
4	NEW COMMITMENT.	01/27/2026
5	REVISED EXCEPTIONS 16 & 24.	01/28/2026
6	UPDATED SURFACE AND ADDRESSED COMMENTS.	04/16/2026

Project Number:	766283
Scale:	1" = 100'
Drawn By:	TDC
Checked By:	JKK
Date:	April 16, 2026
Issue:	Final

Drawing Title:
ALTA / NSPS Land Title Survey

2 of 6

SANITARY STRUCTURE SCHEDULE

8117 – SANITARY MANHOLE
RIM = 507.61
FL 8" PVC SE = 498.0
FL 6" PVC E = 503.0
FL 8" PVC NW = 498.0

8125 – SANITARY MANHOLE
RIM = 501.57
FL 18" CI W = 494.9
FL 18" CI E = 494.9

8158 – SANITARY MANHOLE
RIM = 507.97
FL 8" PVC NW = 500.1
FL 8" PVC SW = 496.7
FL 8" PVC NE = 496.7

8174 – SANITARY MANHOLE
RIM = 508.06
FL 8" PVC SW = 497.1
FL 8" PVC E = 497.1

8181 – SANITARY MANHOLE
RIM = 507.98
FL 8" PVC W = 497.8
FL 12" PVC N = 498.3
FL 8" PVC E = 499.9
FL 12" PVC NE = 499.8
FL 8" PVC NW = 500.0

8349 – SANITARY MANHOLE
RIM = 494.60
FL 8" CLAY SE = 485.8
FL 8" CLAY W = 485.7

8489 – SANITARY MANHOLE
RIM = 495.75
FL 8" CLAY NW = 487.0
FL 8" CLAY N = 486.9

8516 – SANITARY MANHOLE
RIM = 504.64
FL 6" METAL N = 501.0
FL 10" CLAY NW = 492.0
FL 10" CLAY S = 491.9
FL 10" CLAY SE = 492.0

8547 – SANITARY MANHOLE
RIM = 492.35
FL 8" PVC NE = 483.7
FL 8" PVC S = 483.7

8551 – SANITARY MANHOLE
RIM = 484.08
FL 12" CLAY SW = 473.8
FL 12" CLAY NE = 477.1

6001 – SANITARY MANHOLE
RIM = 488.98'
FL 8" PVC N = 475.3
FL 8" PVC SW = 473.54

STORM STRUCTURE SCHEDULE

8127 – CATCH BASIN SQUARE
RIM = 497.63
FL 18" RCP NE = 489.7
FL 30" RCP WSW = 488.4

8137 – CATCH BASIN SQUARE
RIM = 499.69
FL 18" RCP SW = 495.2
FL 18" RCP NE = 495.2

8139 – CATCH BASIN SQUARE
RIM = 502.20
FL 18" RCP SW = 497.9
FL 18" RCP NE = 497.9

8149 – CATCH BASIN SQUARE
RIM = 504.07
FL 18" RCP SW = 499.8

8157 – DRAINAGE MANHOLE
RIM = 508.31
FL 36" RCP E = 494.1
FL 36" RCP N = 494.7

8171 – CATCH BASIN SQUARE
RIM = 508.41

8176 – DRAINAGE MANHOLE
RIM = 507.61
FL 15" RCP E = 499.9
FL 24" RCP NW = 493.3
FL 72" RCP NE = 482.8
FL 72" RCP SW = 488.76

8182 – DRAINAGE MANHOLE
RIM = 507.94
FL 18" RCP NW = 502.8
FL 18" RCP SE = 502.9

8187 – CURB INLET
RIM = 509.02
FL 24" RCP E = 504.3
FL 24" RCP W = 503.7

8188 – CURB INLET
RIM = 517.96
FL 24" RCP W = 511.4
FL 24" RCP SE = 511.5

8342 – CURB INLET
RIM = 496.1
FL 15" RCP SW = 493.1

8345 – CURB INLET
RIM = 494.85
FL 15" RCP W = 491.7
FL 18" RCP S = 491.4

8347 – CURB INLET
RIM = 494.61
FL 18" RCP SE = 490.0
FL 18" RCP SW = 490.0

8350 – CURB INLET
RIM = 490.96
FL 18" RCP N = 487.6
FL 18" RCP S = 487.6

8351 – CURB INLET
RIM = 490.78
FL 18" RCP NW = 485.5
FL 24" RCP SW = 484.7
FL 18" RCP NE = 485.0

8354 – CURB INLET
RIM = 494.80
FL 18" RCP NW = 491.9

8359 – CURB INLET
RIM = 494.97
FL 12" RCP W = 490.3
FL 12" RCP S = 486.2

8360 – CURB INLET
RIM = 504.00
FL 24" RCP NW = 492.7
FL 24" RCP NE = 492.9

8477 – CURB INLET
RIM = 485.93
FL 8" RCP NE = 483.5
FL 18" RCP S = 484.1

8480 – CURB INLET
RIM = 485.59
FL 18" RCP N = 480.7
FL 24" RCP NE = 479.7
FL 24" RCP SW = 479.4

8486 – CATCH BASIN SQUARE
RIM = 488.99
FL 8" RCP SW = 485.2

8490 – CATCH BASIN ROUND
RIM = 494.84
FL 12" RCP NE = 491.8

8519 – DRAINAGE MANHOLE
RIM = 486.35
FL 56" RCP S = 477.9
FL 18" RCP W = 479.8

8520 – CURB INLET
RIM = 485.84
FL 18" RCP W = 483.1
FL 8" CMP S = 484.0
FL 8" CMP N = 484.0

8542 – DRAINAGE MANHOLE
RIM = 489.04
FL 72" RCP NE = 471.1
FL 72" RCP SW = 470.39

8543 – CURB INLET
RIM = 498.45
FL 15" PVC NE = 496.7
FL 15" PVC SW = 496.7

8550 – DRAINAGE MANHOLE
RIM = 484.49
FL 48" RCP N = 476.0
FL 48" RCP S = 475.5

TOPOGRAPHIC LEGEND

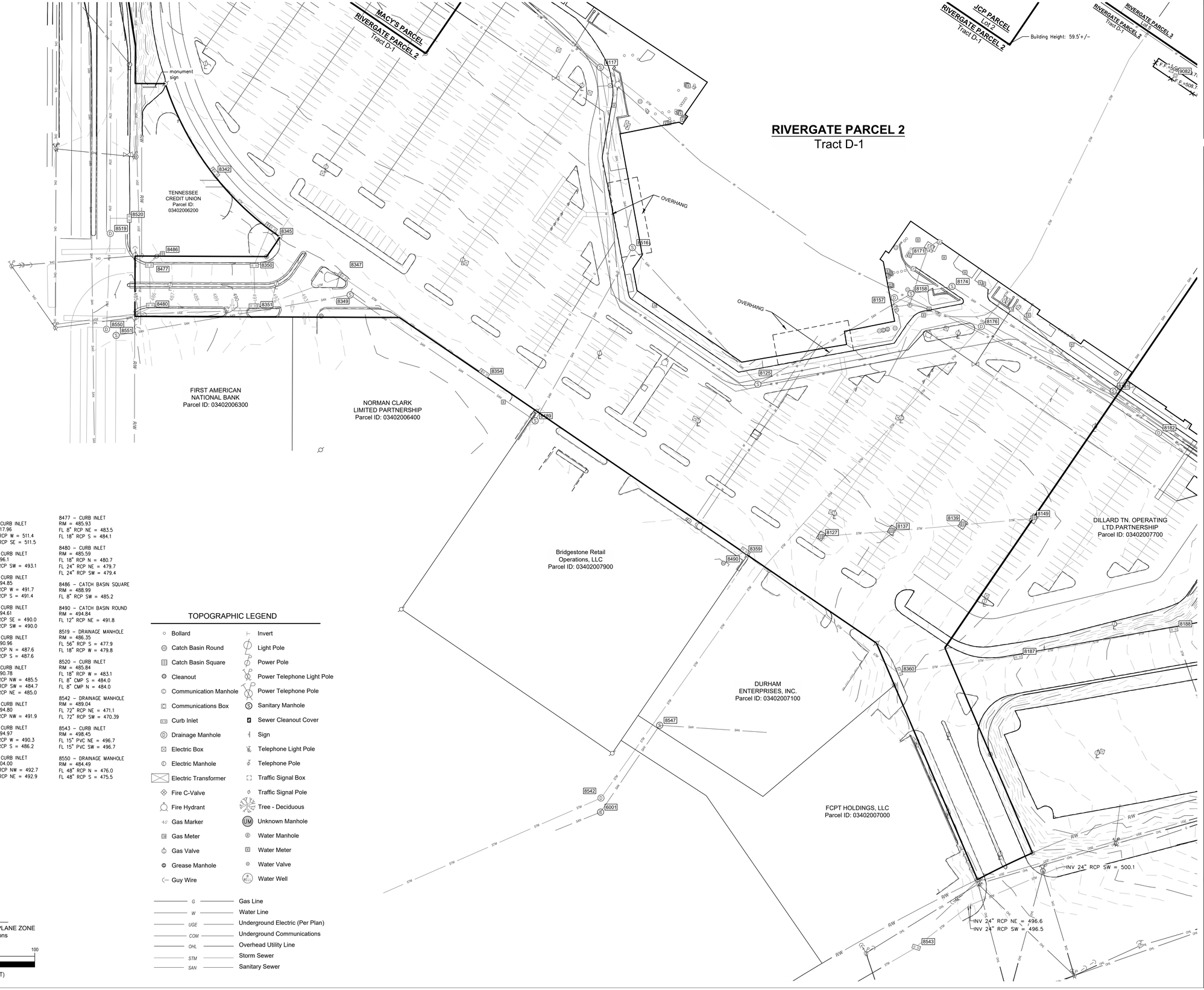
- Bollard
- Catch Basin Round
- Catch Basin Square
- Cleanout
- Communication Manhole
- Communications Box
- Curb Inlet
- Drainage Manhole
- Electric Box
- Electric Manhole
- Electric Transformer
- Fire C-Valve
- Fire Hydrant
- Gas Marker
- Gas Meter
- Gas Valve
- Grease Manhole
- Guy Wire
- Invert
- Light Pole
- Power Pole
- Power Telephone Light Pole
- Power Telephone Pole
- Sanitary Manhole
- Sewer Cleanout Cover
- Sign
- Telephone Light Pole
- Telephone Pole
- Traffic Signal Box
- Traffic Signal Pole
- Tree - Deciduous
- Unknown Manhole
- Water Manhole
- Water Meter
- Water Valve
- Water Well

- G — Gas Line
- W — Water Line
- UGE — Underground Electric (Per Plan)
- COM — Underground Communications
- OHL — Overhead Utility Line
- STM — Storm Sewer
- SAN — Sanitary Sewer

BASIS OF BEARINGS

NAD 83 (2011), TENNESSEE STATE PLANE ZONE
Derived from GPS Observations

50 0 50 100
GRAPHIC SCALE (IN FEET)



RIVERGATE PARCEL 2
Tract D-1

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JEFFREY K. KIMBRO
REGISTERED LAND SURVEYOR
TENNESSEE No. 1755
04/16/2026

Merus
Rivergate Mall Redevelopment
1000 Rivergate Pkwy
Goodlettsville, TN 37072

ALTA/NSPS Land Title Survey

Revisions / Submissions

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3 of 6

BASIS OF BEARINGS

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GRAPHIC SCALE (IN FEET)

TOPOGRAPHIC LEGEND

- Bollard
- Catch Basin Round
- Catch Basin Square
- Cleanout
- Communication Manhole
- Communications Box
- Curb Inlet
- Drainage Manhole
- Electric Box
- Electric Manhole
- Electric Transformer
- Fire C-Valve
- Fire Hydrant
- Gas Marker
- Gas Meter
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- Grease Manhole
- Guy Wire
- Invert
- Light Pole
- Power Pole
- Power Telephone Light Pole
- Power Telephone Pole
- Sanitary Manhole
- Sewer Cleanout Cover
- Sign
- Telephone Light Pole
- Telephone Pole
- Traffic Signal Box
- Traffic Signal Pole
- Tree - Deciduous
- Unknown Manhole
- Water Manhole
- Water Meter
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- COM — Underground Communications
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- SAN — Sanitary Sewer

756 PLAZA PARTNERS, GP
Parcel ID: 02614003400

JCP PARCEL
Lot 1

JCP PARCEL
Lot 2

JCP PARCEL
Lot 4A

MACY'S PARCEL

RIVERGATE PARCEL 2
Tract D-1

monument sign

monument

Building Height: 62.0'+/-

STORM STRUCTURE SCHEDULE

8006 – CATCH BASIN SQUARE
RIM = 504.01
FL 36" RCP E = 492.4
FL 36" RCP W = 492.1

8007 – CATCH BASIN SQUARE
RIM = 504.36
FL 36" RCP E = 493.5
FL 36" RCP W = 493.5

8018 – CATCH BASIN SQUARE
RIM = 504.90
FL 36" RCP W = 495.4
FL 36" RCP SE = 496.0

8020 – DRAINAGE MANHOLE
RIM = 506.42
FL 36" RCP NW = 496.7
FL 8" DIP SW = 498.5
FL 18" RCP NE = 496.8
FL 36" RCP SE = 496.7

8044 – CATCH BASIN SQUARE
RIM = 505.98
FL 36" RCP NW = 499.6
FL 36" RCP SE = 499.6

8057 – CATCH BASIN SQUARE
RIM = 506.10
FL 36" RCP SE = 500.4
FL 36" RCP SW = 500.8

8059 – DRAINAGE MANHOLE
RIM = 507.96
FL 18" RCP SW = 502.9

8065 – CATCH BASIN SQUARE
RIM = 506.21
FL 36" RCP NE = 502.4

8067 – CATCH BASIN SQUARE
RIM = 507.70
FL 18" RCP NE = 506.3
FL 36" RCP S = 506.3

8072 – DRAINAGE MANHOLE
RIM = 508.27
FL 36" RCP NE = 500.8
FL 12" RCP SE = 503.9
FL 36" RCP NW = 500.8

8094 – DRAINAGE MANHOLE
RIM = 507.90
FL 24" RCP SE = 501.5
FL 12" RCP NW = 501.6

8304 – DRAINAGE MANHOLE
RIM = 513.92
FL 18" RCP W = 510.2
FL 18" RCP N = 509.2

8305 – CURB INLET
RIM = 513.73
FL 18" RCP NE = 509.8
FL 18" RCP S = 509.8

8317 – CURB INLET
RIM = 496.66
FL 12" CMP N = 495.3

8318 – CURB INLET
RIM = 495.8
FL 36" RCP NE = 485.6
FL 36" RCP SW = 485.6

8320 – DRAINAGE MANHOLE
RIM = 494.87
FL 36" RCP NE = 485.4
FL 36" RCP SW = 485.2

8323 – CURB INLET
RIM = 490.83
FL 8" CMP N = 489.3
FL 18" CMP SW = 489.3

8324 – DRAINAGE MANHOLE
RIM = 491.44
FL 8" CMP SW = 484.5
FL 18" RCP NE = 485.6
FL 36" CMP NE = 484.4
FL 36" CMP SW = 484.2

8325 – CURB INLET
RIM = 489.82
FL 24" RCP W = 485.7
FL 24" RCP W = 484.3
FL 8" CMP N = 487.8
FL 8" CMP S = 487.8

8326 – DRAINAGE MANHOLE
RIM = 490.44
NOT ABLE TO OPEN SEALED.

8328 – CURB INLET
RIM = 500.7
FL 24" RCP W = 494.3

8339 – CURB INLET
RIM = 500.18
FL 24" RCP W = 486.9

8340 – CURB INLET
RIM = 488.16
FL 18" RCP W = 483.1
FL 18" RCP W = 482.2
FL 8" CMP N = 486.2
FL 8" CMP S = 486.2

8341 – DRAINAGE MANHOLE
RIM = 488.64
FL 56" RCP N = 480.1
FL 56" RCP S = 480.0
FL 18" RCP W = 482.0

8391 – CURB INLET
RIM = 519.68
FL 18" RCP E = 515.8

8439 – CATCH BASIN SQUARE
RIM = 501.04
FL 52" RCP N = 494.0
FL 18" RCP E = 494.7

8441 – CURB INLET
RIM = 496.10
FL 12" RCP S = 491.5

8442 – CATCH BASIN SQUARE
RIM = 495.76
FL 48" RCP E = 489.8
FL 48" RCP SW = 489.7

8443 – CURB INLET
RIM = 496.75
FL 12" RCP N = 492.2
FL 12" CMP S = 495.0

8444 – CURB INLET
RIM = 501.19
FL 36" RCP NE = 489.4
FL 48" RCP SW = 489.4

8460 – CURB INLET
RIM = 514.71
FL 18" RCP SW = 510.5
FL 18" RCP NE = 510.5

8461 – CATCH BASIN SQUARE
RIM = 514.87
FL 18" RCP SW = 511.0

8464 – CATCH BASIN SQUARE
RIM = 503.23
FL 18" RCP W = 499.5
FL 18" RCP E = 499.7

8469 – CATCH BASIN SQUARE
RIM = 504.10
FL 18" RCP SE = 500.4'
FL 18" RCP NW = 500.3'

8523 – CURB INLET
RIM = 495.36
FL 18" RCP SW = 491.7'

8525 – CATCH BASIN SQUARE
RIM = 488.80
FL SILT BAGGED" SW/NE = 488.8

8526 – CATCH BASIN SQUARE
RIM = 490.36
FL 18" CMP E = 483.1
FL 18" CMP NW = 483.1

8527 – DRAINAGE MANHOLE
RIM = 490.55
FL 18" CMP SE = 483.3
FL 18" CMP NW = 483.3

8549 – DRAINAGE MANHOLE
RIM = 495.26
FL 48" RCP NE = 489.3
FL 48" RCP SW = 488.9
FL 36" RCP N = 489.4

SANITARY STRUCTURE SCHEDULE

8073 – SANITARY MANHOLE
RIM = 508.44
FL 8" CLAY W = 502.5
FL 8" CLAY E = 502.5

8079 – SANITARY MANHOLE
RIM = 507.84
FL 8" CLAY E = 501.5
FL 8" PVC SW = 503.0

8080 – SANITARY MANHOLE
RIM = 508.41
FL 8" CLAY E = 501.0
FL 8" CLAY W = 501.0

8083 – SANITARY MANHOLE
RIM = 508.11
FL 8" CLAY N/A = 508.1

8095 – SANITARY MANHOLE
RIM = 508.12
FL 8" PVC SE = 500.6
FL 8" PVC NW = 500.6
FL 6" PVC NE = 500.6

8524 – DRAINAGE MANHOLE
RIM = 491.38
FL 24" RCP N = 481.0
FL 24" RCP S = 481.0

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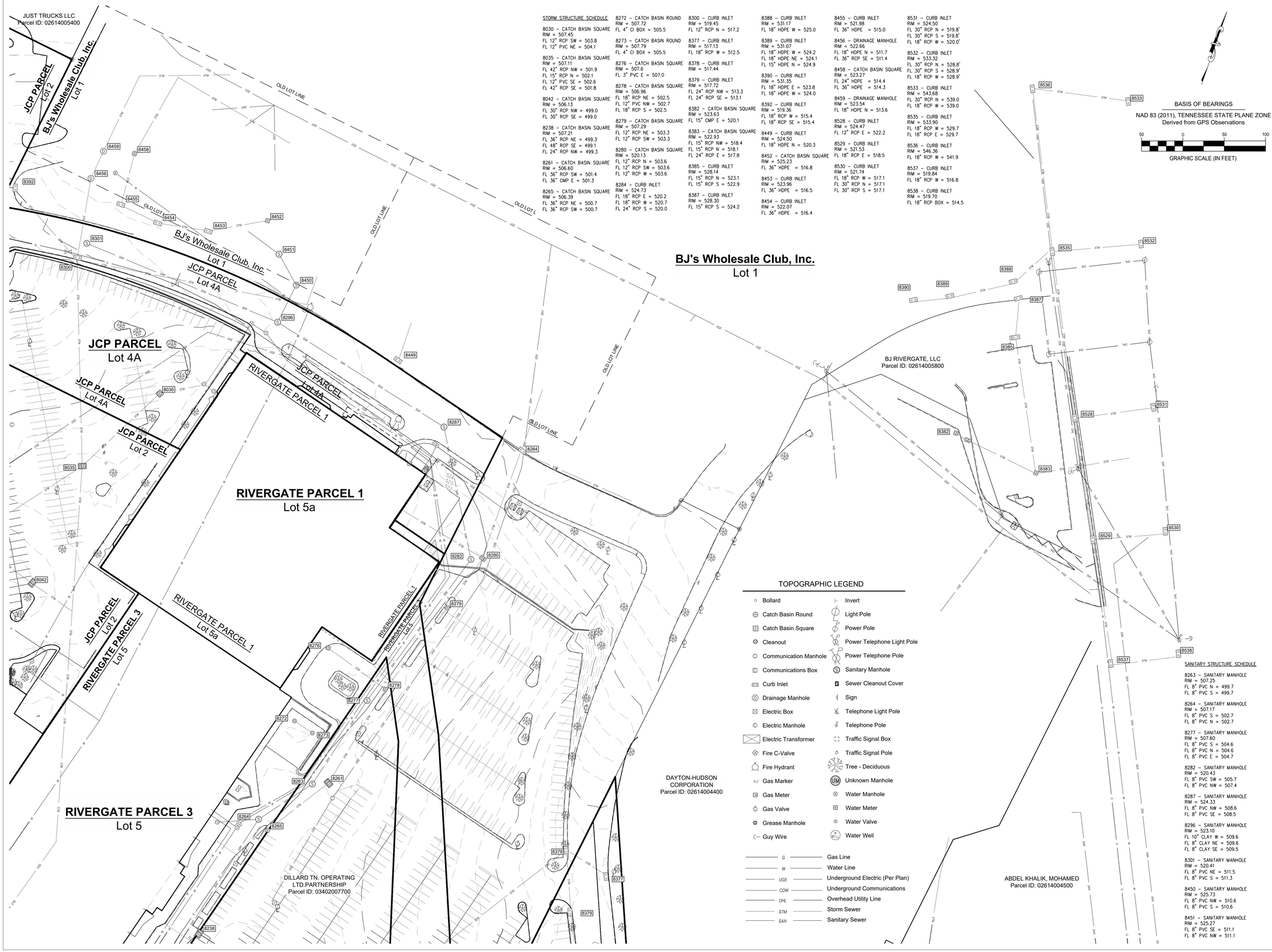

STORM STRUCTURE SCHEDULE

8030 – CATCH BASIN SQUARE
RIM = 507.45
FL 12" RCP SW = 503.8
FL 12" PVC NE = 504.1

8035 – CATCH BASIN SQUARE
RIM = 507.11
FL 42" RCP NW = 501.9
FL 15" RCP N = 502.1
FL 12" PVC SE = 502.6
FL 42" RCP SE = 501.8

8042 – CATCH BASIN SQUARE
RIM = 506.13
FL 30" RCP NW = 499.0
FL 30" RCP SE = 499.0

8238 – CATCH BASIN SQUARE
RIM = 507.21
FL 36" RCP NE = 499.3
FL 48" RCP SE = 499.1
FL 24" RCP NW = 499.3

8261 – CATCH BASIN SQUARE
RIM = 506.60
FL 36" RCP SW = 501.4
FL 36" CMP E = 501.3

8265 – CATCH BASIN SQUARE
RIM = 506.39
FL 36" RCP NE = 500.7
FL 36" RCP SW = 500.7

8272 – CATCH BASIN ROUND
RIM = 507.72
FL 4" CI BOX = 505.5

8273 – CATCH BASIN ROUND
RIM = 507.79
FL 4" CI BOX = 505.5

8276 – CATCH BASIN SQUARE
RIM = 507.6
FL 3" PVC E = 507.0

8278 – CATCH BASIN SQUARE
RIM = 506.96
FL 18" RCP NE = 502.5
FL 12" PVC NW = 502.7
FL 18" RCP S = 502.5

8279 – CATCH BASIN SQUARE
RIM = 507.29
FL 12" RCP NE = 503.3
FL 12" RCP SW = 503.3

8280 – CATCH BASIN SQUARE
RIM = 520.13
FL 12" RCP N = 503.6
FL 12" RCP SW = 503.6
FL 12" RCP W = 503.6

8284 – CURB INLET
RIM = 524.73
FL 18" RCP E = 520.2
FL 18" RCP W = 520.7
FL 24" RCP S = 520.0

8300 – CURB INLET
RIM = 519.45
FL 12" RCP N = 517.2

8377 – CURB INLET
RIM = 517.13
FL 18" RCP W = 512.5

8378 – CURB INLET
RIM = 517.44

8379 – CURB INLET
RIM = 517.72
FL 24" RCP NW = 513.3
FL 24" RCP SE = 513.1

8382 – CATCH BASIN SQUARE
RIM = 523.63
FL 15" CMP E = 520.1

8383 – CATCH BASIN SQUARE
RIM = 522.93
FL 15" RCP NW = 518.4
FL 15" RCP N = 518.1
FL 24" RCP E = 517.8

8385 – CURB INLET
RIM = 528.14
FL 15" RCP N = 523.1
FL 15" RCP S = 522.9

8387 – CURB INLET
RIM = 528.30
FL 15" RCP S = 524.2

8388 – CURB INLET
RIM = 531.17
FL 18" HDPE W = 525.0

8389 – CURB INLET
RIM = 531.07
FL 18" HDPE W = 524.2
FL 18" HDPE NE = 524.1
FL 15" HDPE N = 524.9

8390 – CURB INLET
RIM = 531.35
FL 18" HDPE E = 523.8
FL 18" HDPE W = 524.0

8392 – CURB INLET
RIM = 519.36
FL 18" RCP W = 515.4
FL 18" RCP SE = 515.4

8449 – CURB INLET
RIM = 524.50
FL 18" HDPE N = 520.3

8452 – CATCH BASIN SQUARE
RIM = 525.23
FL 36" HDPE = 516.8

8453 – CURB INLET
RIM = 523.96
FL 36" HDPE = 516.5

8454 – CURB INLET
RIM = 522.07
FL 36" HDPE = 516.4

8455 – CURB INLET
RIM = 521.98
FL 36" HDPE = 515.0

8456 – DRAINAGE MANHOLE
RIM = 522.66
FL 18" HDPE N = 511.7
FL 36" RCP SE = 511.4

8458 – CATCH BASIN SQUARE
RIM = 523.27
FL 24" HDPE = 514.4
FL 36" HDPE = 514.3

8459 – DRAINAGE MANHOLE
RIM = 523.54
FL 18" HDPE N = 513.6

8528 – CURB INLET
RIM = 524.47
FL 12" RCP E = 522.2

8529 – CURB INLET
RIM = 521.53
FL 18" RCP E = 518.5

8530 – CURB INLET
RIM = 521.74
FL 18" RCP W = 517.1
FL 30" RCP N = 517.1
FL 30" RCP S = 517.1

8531 – CURB INLET
RIM = 524.50
FL 30" RCP N = 519.8'
FL 30" RCP S = 519.8'
FL 18" RCP W = 520.0'

8532 – CURB INLET
RIM = 533.32
FL 30" RCP N = 528.8'
FL 30" RCP S = 528.9'
FL 18" RCP W = 528.9'

8533 – CURB INLET
RIM = 543.68
FL 30" RCP N = 539.0
FL 18" RCP W = 539.0

8535 – CURB INLET
RIM = 533.90
FL 18" RCP W = 529.7
FL 18" RCP E = 529.7

8536 – CURB INLET
RIM = 546.36
FL 18" RCP W = 541.9

8537 – CURB INLET
RIM = 519.84
FL 18" RCP W = 516.8

8538 – CURB INLET
RIM = 519.70
FL 18" RCP BOX = 514.5

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- G — Gas Line
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- UGE — Underground Electric (Per Plan)
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SANITARY STRUCTURE SCHEDULE

8263 – SANITARY MANHOLE
RIM = 507.25
FL 8" PVC N = 499.7
FL 8" PVC S = 499.7

8264 – SANITARY MANHOLE
RIM = 507.17
FL 8" PVC S = 502.7
FL 8" PVC N = 502.7

8277 – SANITARY MANHOLE
RIM = 507.60
FL 8" PVC S = 504.6
FL 8" PVC N = 504.6
FL 8" PVC E = 504.7

8282 – SANITARY MANHOLE
RIM = 520.43
FL 8" PVC SW = 505.7
FL 8" PVC NW = 507.4

8287 – SANITARY MANHOLE
RIM = 524.33
FL 8" PVC NW = 508.6
FL 8" PVC SE = 508.5

8296 – SANITARY MANHOLE
RIM = 523.10
FL 10" CLAY W = 509.6
FL 8" CLAY NE = 509.6
FL 8" CLAY SE = 509.5

8301 – SANITARY MANHOLE
RIM = 520.41
FL 8" PVC NE = 511.5
FL 8" PVC S = 511.3

8450 – SANITARY MANHOLE
RIM = 525.73
FL 8" PVC NW = 510.6
FL 8" PVC S = 510.6

8451 – SANITARY MANHOLE
RIM = 525.27
FL 8" PVC SE = 511.1
FL 8" PVC NW = 511.1

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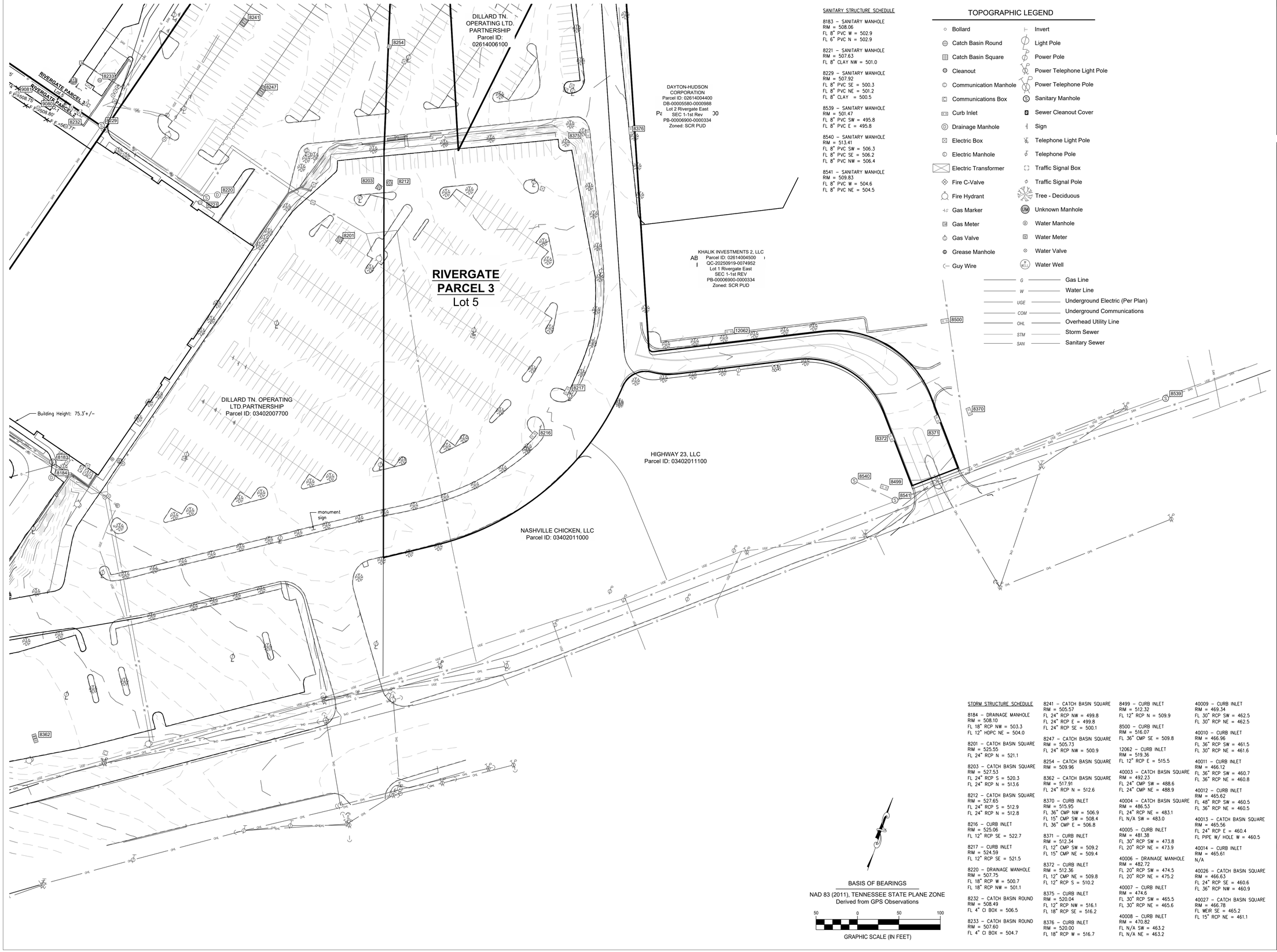

SANITARY STRUCTURE SCHEDULE

8183 – SANITARY MANHOLE
RIM = 508.06
FL 8" PVC W = 502.9
FL 6" PVC N = 502.9

8221 – SANITARY MANHOLE
RIM = 507.63
FL 8" CLAY NW = 501.0

8229 – SANITARY MANHOLE
RIM = 507.92
FL 8" PVC SE = 500.3
FL 8" PVC NE = 501.2
FL 8" CLAY = 500.5

8539 – SANITARY MANHOLE
RIM = 501.47
FL 8" PVC SW = 495.8
FL 8" PVC E = 495.8

8540 – SANITARY MANHOLE
RIM = 513.41
FL 8" PVC SW = 506.3
FL 8" PVC SE = 506.2
FL 8" PVC NW = 506.4

8541 – SANITARY MANHOLE
RIM = 509.83
FL 8" PVC W = 504.6
FL 8" PVC NE = 504.5

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STORM STRUCTURE SCHEDULE

8184 – DRAINAGE MANHOLE
RIM = 508.10
FL 18" RCP NW = 503.3
FL 12" HDPC NE = 504.0

8201 – CATCH BASIN SQUARE
RIM = 525.55
FL 24" RCP N = 521.1

8203 – CATCH BASIN SQUARE
RIM = 527.53
FL 24" RCP S = 520.3
FL 24" RCP N = 513.6

8212 – CATCH BASIN SQUARE
RIM = 527.65
FL 24" RCP S = 512.9
FL 24" RCP N = 512.8

8216 – CURB INLET
RIM = 525.06
FL 12" RCP SE = 522.7

8217 – CURB INLET
RIM = 524.59
FL 12" RCP SE = 521.5

8220 – DRAINAGE MANHOLE
RIM = 507.75
FL 18" RCP W = 500.7
FL 18" RCP NW = 501.1

8232 – CATCH BASIN ROUND
RIM = 508.49
FL 4" CI BOX = 506.5

8233 – CATCH BASIN ROUND
RIM = 507.60
FL 4" CI BOX = 504.7

8241 – CATCH BASIN SQUARE
RIM = 505.57
FL 24" RCP NW = 499.8
FL 24" RCP E = 499.8
FL 24" RCP SE = 500.1

8247 – CATCH BASIN SQUARE
RIM = 505.73
FL 24" RCP NW = 500.9

8254 – CATCH BASIN SQUARE
RIM = 509.96

8362 – CATCH BASIN SQUARE
RIM = 517.91
FL 24" RCP N = 512.6

8370 – CURB INLET
RIM = 515.95
FL 36" CMP NW = 506.9
FL 15" CMP SW = 508.4
FL 36" CMP E = 506.8

8371 – CURB INLET
RIM = 512.34
FL 12" CMP SW = 509.2
FL 15" CMP NE = 509.4

8372 – CURB INLET
RIM = 512.36
FL 12" CMP NE = 509.8
FL 12" RCP S = 510.2

8375 – CURB INLET
RIM = 520.04
FL 12" RCP NW = 516.1
FL 18" RCP SE = 516.2

8376 – CURB INLET
RIM = 520.00
FL 18" RCP W = 516.7

8499 – CURB INLET
RIM = 512.32
FL 12" RCP N = 509.9

8500 – CURB INLET
RIM = 516.07
FL 36" CMP SE = 509.8

12062 – CURB INLET
RIM = 519.36
FL 12" RCP E = 515.5

40003 – CATCH BASIN SQUARE
RIM = 492.23
FL 24" CMP SW = 488.6
FL 24" CMP NE = 488.9

40004 – CATCH BASIN SQUARE
RIM = 486.53
FL 24" RCP NE = 483.1
FL N/A SW = 483.0

40005 – CURB INLET
RIM = 481.38
FL 30" RCP SW = 473.8
FL 20" RCP NE = 473.9

40006 – DRAINAGE MANHOLE
RIM = 482.72
FL 20" RCP SW = 474.5
FL 20" RCP NE = 475.2

40007 – CURB INLET
RIM = 474.6
FL 30" RCP SW = 465.5
FL 30" RCP NE = 465.6

40008 – CURB INLET
RIM = 470.82
FL N/A SW = 463.2
FL N/A NE = 463.2

40009 – CURB INLET
RIM = 469.34
FL 30" RCP SW = 462.5
FL 30" RCP NE = 462.5

40010 – CURB INLET
RIM = 466.96
FL 36" RCP SW = 461.5
FL 30" RCP NE = 461.6

40011 – CURB INLET
RIM = 466.12
FL 36" RCP SW = 460.7
FL 36" RCP NE = 460.8

40012 – CURB INLET
RIM = 465.62
FL 48" RCP SW = 460.5
FL 36" RCP NE = 460.5

40013 – CATCH BASIN SQUARE
RIM = 465.56
FL 24" RCP E = 460.4
FL PIPE W/ HOLE W = 460.5

40014 – CURB INLET
RIM = 465.61
N/A

40026 – CATCH BASIN SQUARE
RIM = 466.63
FL 24" RCP SE = 460.6
FL 36" RCP NW = 460.9

40027 – CATCH BASIN SQUARE
RIM = 466.78
FL WEIR SE = 465.2
FL 15" RCP NE = 461.1

CESO
WWW.CESOINC.COM
216 Centerview Dr., Suite 150
Brentwood, TN 37027
Phone: 615.928.5120 Fax: 888.208.4826

JEFFREY K. KIMBRO
REGISTERED LAND SURVEYOR
TENNESSEE No. 1756
04/16/2026

Merus
Rivergate Mall Redevelopment
1000 Rivergate Pkwy
Goodlettsville, TN 37072

ALTA/NSPS Land Title Survey

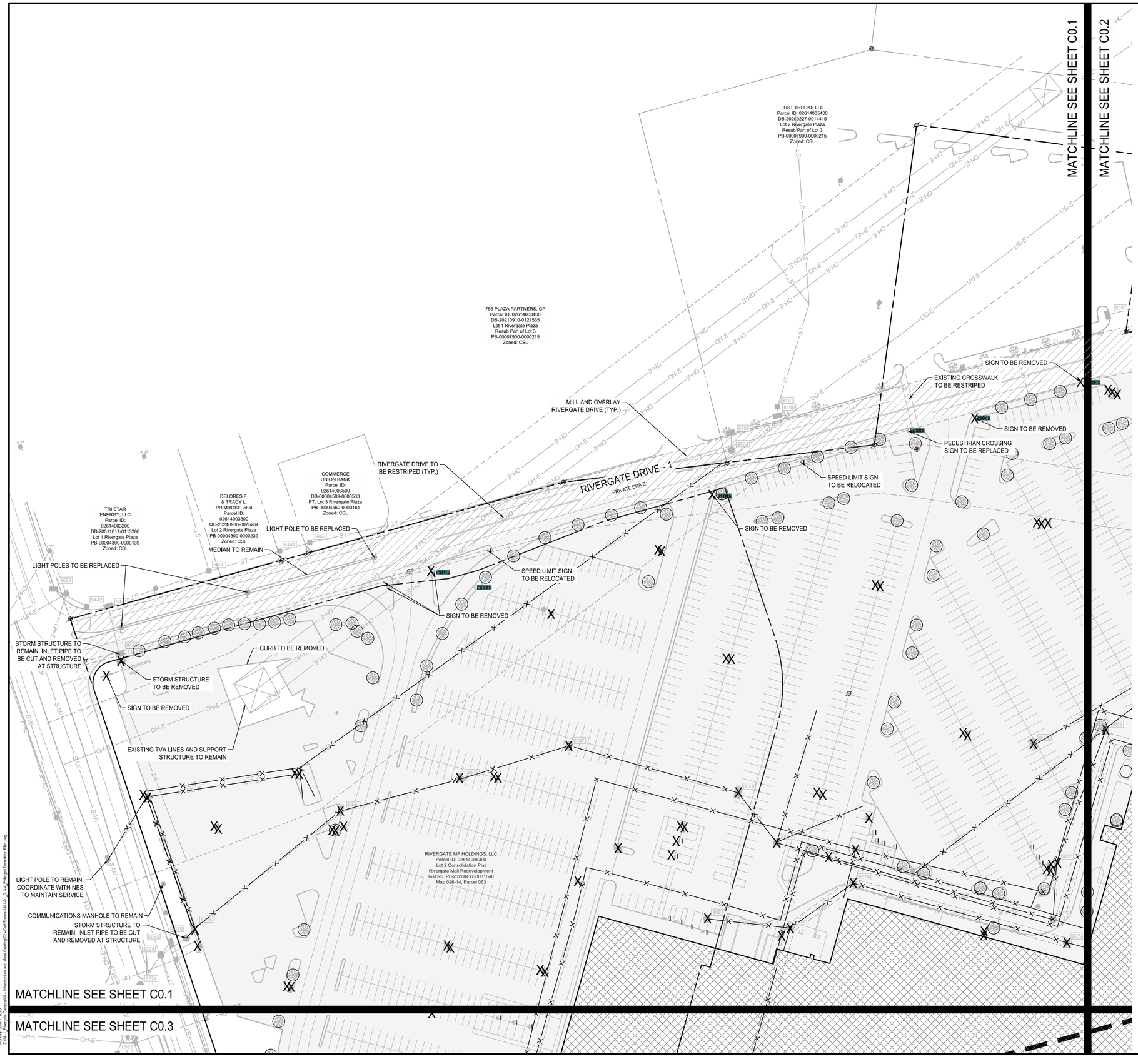
Revisions / Submissions

ID	Description	Date
1	ADDRESSED COMMENTS	06/09/2025
2	ADDRESSED COMMENTS	08/05/2025
3	NEW COMBINED COMMITMENT	01/15/2026
4	NEW COMMITMENT.	01/27/2026
5	REVISED EXCEPTIONS 16 & 24.	01/28/2026
6	UPDATED SURFACE AND ADDRESSED COMMENTS.	04/16/2026

Project Number:	766283
Scale:	1" = 50'
Drawn By:	TDC
Checked By:	JKK
Date:	April 16, 2026
Issue:	Final

Drawing Title:
ALTA / NSPS Land Title Survey

6 of 6



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- RETAINING WALL TO BE REMOVED
- UTILITY STRUCTURE TO BE REMOVED
- TREE TO BE REMOVED

LEGEND

- IRON ROD
- CATCH BASIN
- FIRE HYDRANT
- SEWER MANHOLE
- EXISTING TREE
- UTILITY VALVE, IDENTIFIED ON PLANS
- WATER METER
- UTILITY POLE

SCALE: 1" = 50'

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

RACHELLE M. CULLUM — 340 — REGISTERED AGRICULTURE ENGINEER — No. 129853 — STATE OF TENNESSEE — 06/01/2026

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	08/10/2025	PERMIT SET
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BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
CCH	06/01/2026	REVISION 1

ENLARGED SITE DEMOLITION PLAN

C0.1

1411-01 RIVERGATE INFRASTRUCTURE PLANS

MATCHLINE SEE SHEET C0.1

MATCHLINE SEE SHEET C0.2

CITY OF GOODLETTSVILLE
METRO NASHVILLE

RIVERGATE DRIVE - 1
PRIVATE DRIVE

BJ's Wholesale Club, Inc.
Parcel ID: 02614006000
DB-20240507-0033423
Lot 1 B J Rivergate
PB-20240227-0013104
Zoned: CSL

DAYTON-HUDSON CORPORATION
Parcel ID: 02614004400
DB-00005580-0000988
Lot 2 Rivergate East
SEC 1-1st Rev
PB-00006900-0000334
Zoned: SCR PUD

RIVERGATE DRIVE - 2
PRIVATE DRIVE

RIVERGATE DRIVE TO BE RESTRIPED (TYP.)
8" BJ'S SERVICE LINE TO BE RECONNECTED TO PROPOSED WATERLINE
PEDESTRIAN CROSSING SIGNS TO BE REMOVED
EXISTING CROSSWALK TO BE REMOVED
SIDEWALK TO BE REMOVED
FIRE HYDRANT TO BE REMOVED
WATER LINE TO BE REMOVED
EXISTING GAS LINE TO REMAIN
SIGN TO BE REMOVED
RETAINING WALL TO BE REMOVED
STORM STRUCTURE TO REMAIN, OUTLET PIPE TO BE CUT AND REMOVED AT STRUCTURE
GAS METER TO BE REMOVED
LIGHT POLE TO BE REPLACED
NES STRUCTURES TO REMAIN
LIGHT POLE TO BE REPLACED
STOP SIGN TO BE RELOCATED
STOP SIGN TO REMAIN
SANITARY MANHOLE TO REMAIN
STORM STRUCTURE TO REMAIN
RETAINING WALL TO BE REMOVED
SPEED LIMIT SIGN TO REMAIN
LIGHT POLE TO BE REPLACED
STORM STRUCTURE TO REMAIN
STORM STRUCTURE TO REMAIN
SANITARY MANHOLE TO REMAIN
RIVERGATE DRIVE TO BE RESTRIPED (TYP.)
SANITARY MANHOLE TO REMAIN
WATER LINE TO BE REMOVED
STORM STRUCTURE TO REMAIN
STORM STRUCTURES TO REMAIN
LIGHT POLE TO REMAIN
12" WATER LINE TO REMAIN
GAS LINE TO BE CUT AND CAPPED
SANITARY LINE TO BE CUT AND CAPPED
STORM LINE TO BE CUT AND CAPPED
LIGHT POLE TO BE REPLACED

20' Public Utility Easement
90' Ingress Egress Easement
25' N.E.S. Easement
10' waterline easement
30' Joint Access Easement
50' Ingress Egress Easement PB.6900, Pg.334
20.0' utility easement

MATCHLINE SEE SHEET C0.2

MATCHLINE SEE SHEET C0.4

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0 25 50 100 150
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INFO@FULMERLUCAS.COM - (615) 345-3770

MICHELLE M. LUCAS
REGISTERED
LANDSCAPE
ARCHITECT
No. 109853
STATE OF TENNESSEE
06/10/2025

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

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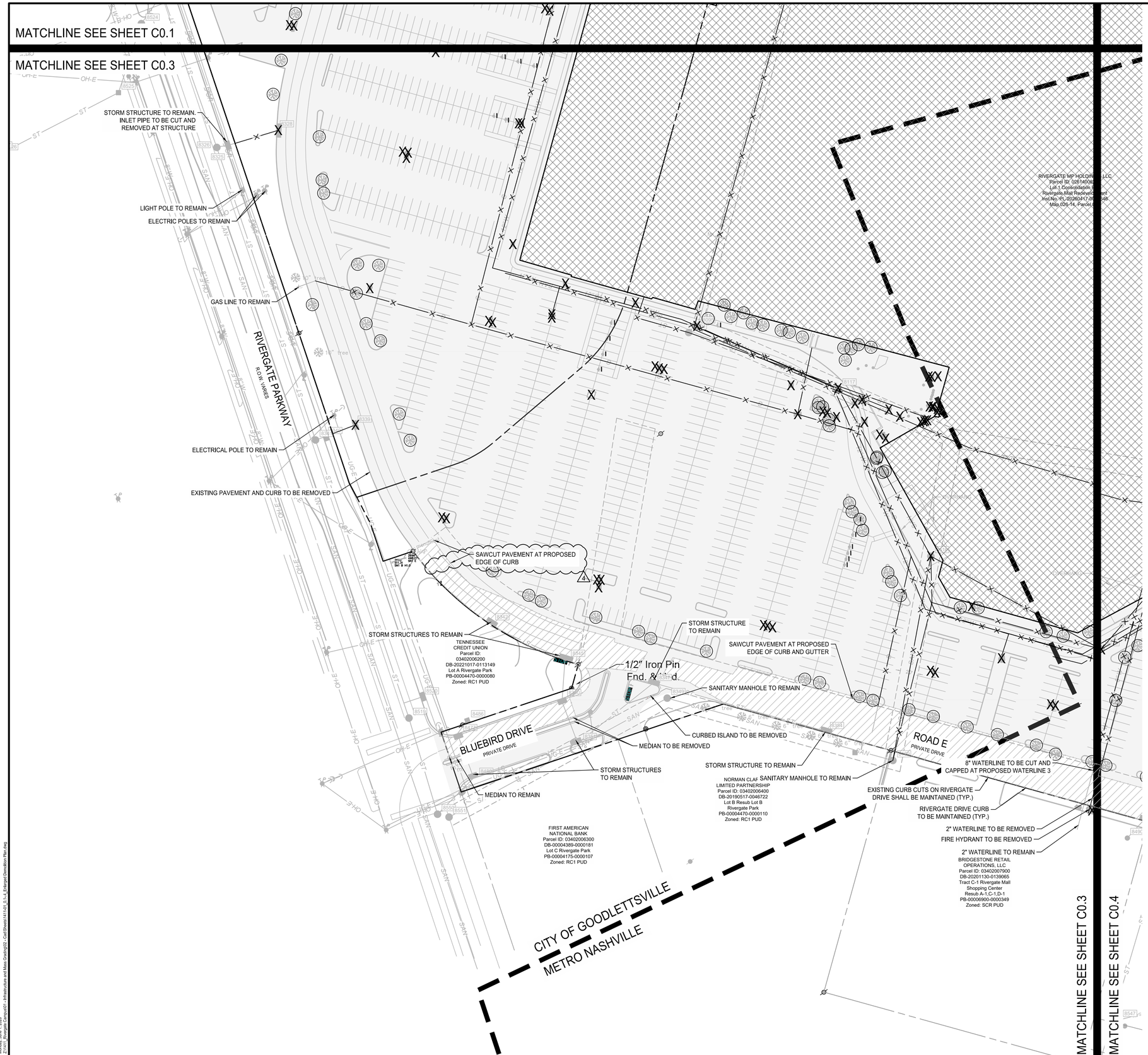
CCH	06/01/2026	REVISION 1

ENLARGED SITE DEMOLITION PLAN

C0.2

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Monday, June 1, 2026
Z:\Projects\1411-01 - Rivergate\01 - Infrastructure and Mass Grading\02 - Civil Sheets\1411-01-1-4_Enlarged Demolition Plan.dwg



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0 25 50 100 150

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WILLIAM MARK LUCAS
REGISTERED LANDSCAPE ARCHITECT
AGRICULTURE
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STATE OF TENNESSEE
06/04/2026

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CCH	06/01/2026	REVISION 1

ENLARGED SITE DEMOLITION PLAN

C0.3

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Monday, June 1, 2026
2:11:41 PM
Z:\1411 Rivergate Parkway\01 - Infrastructure and Mass Grading\02 - Civil Sheets\1411-01_0.1-1.4_Enlarged Demolition Plan.dwg

MATCHLINE SEE SHEET C0.2

MATCHLINE SEE SHEET C0.4

MATCHLINE SEE SHEET C0.3

MATCHLINE SEE SHEET C0.4

STORM STRUCTURES TO REMAIN

12" WATER LINE TO REMAIN

STORM PIPE TO REMAIN

STORM STRUCTURE TO REMAIN

ELECTRIC POLES TO REMAIN

STORM STRUCTURES TO REMAIN

6" WATER LINE TO BE CUT AND CAPPED

SAWCUT PAVEMENT AT PROPOSED PROPERTY LINE

SANITARY MANHOLE TO REMAIN

WALL TO BE REMOVED

STORM STRUCTURE TO REMAIN. DOWNSTREAM STORM PIPE UNDER BUILDING FOUNDATION TO BE REMOVED.

SANITARY LINE UNDER BUILDING TO BE CUT AND CAPPED AT UPSTREAM SANITARY MANHOLE. LINE TO BE ABANDONED IN PLACE.

DILLARD'S TO REMAIN

DILLARD TN. OPERATING LTD. PARTNERSHIP
Parcel ID: 03402007700
DB-00010750-000292
Lot 2 Rivergate Mall Shopping Center
Resub Tract A-1
PB-20250521-0040111
Zoned: SCR PUD & SP
Map 034-02, Parcel 117

TRANSFORMER SCREEN WALL TO REMAIN

GUITAR CENTER TO REMAIN

12" DIP WATER LINE TO BE MAINTAINED FOR PROPOSED SYSTEM CONNECTION.

SANITARY MANHOLE TO REMAIN

4" WATER LINE TO BE CUT AND CAPPED AT PROPERTY LINE

STORM LINE TO BE CUT AND CONNECTED TO PROPOSED STORM SYSTEM

LIGHT POLE TO REMAIN

2" GAS LINE TO BE CUT AND CAPPED AT PROPERTY LINE COORDINATE WITH SPIRE FOR GAS RELOCATION

STORM LINE TO BE REMOVED

STORM STRUCTURE TO REMAIN

SAWCUT PAVEMENT AT EDGE OF PARKING STALLS TO REMAIN

SAWCUT PAVEMENT AT PROPOSED EDGE OF GUTTER

LIGHT POLE TO REMAIN

STORM STRUCTURE TO REMAIN

RIVERGATE DRIVE CURB TO BE MAINTAINED (TYP.)

STORM LINE TO BE CUT AND CONNECTED TO PROPOSED STORM SYSTEM

STORM STRUCTURE TO REMAIN

CURBED ISLAND TO BE REMOVED

MEDIAN TO REMAIN

EXISTING CURB CUTS ON RIVERGATE DRIVE SHALL BE MAINTAINED (TYP.)

LIGHT POLES TO BE REPLACED

RIVERGATE DRIVE
PRIVATE DRIVE

CUDE LANE
PRIVATE DRIVE

GALLATIN PIKE
R.O.W. VARIES

Additional Parking Area Easement

16' Offsite Parking Easement

IN-N-OUT BURGERS
Parcel ID: 03402011600
DB-20250620-0048165
Lot 1 Rivergate Mall Shopping Center
Resub Tract A-1
PB-20250521-0040111
Zoned: SCR PUD

DURHAM ENTERPRISES, INC.
Parcel ID: 03402007100
DB-00004513-0000615
Lot H Rivergate Park Re-Sub
Zoned: SCR PUD

FCPT HOLDINGS, LLC
Parcel ID: 03402007000
Inst.No.20180814-0080137
Lot J-Resub. Lot J
Rivergate Park
Plat Book 4300, Page 142
Zoned: SCR PUD

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10. GC SHALL NOT DISTURB EXISTING CONDITIONS OUTSIDE OF THE PROJECT PROPERTY UNLESS SHOWN ON THE PLANS OR WITH PERMISSION OF THE PROPERTY OWNER. ANY UNAUTHORIZED DAMAGES SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.
11. ALL CURB AND GUTTER TO BE DEMOLISHED SHALL BE REMOVED TO THE NEAREST JOINT. CONTRACTOR TO FIELD VERIFY LIMITS AS JOINTS ARE NOT SHOWN ON THE PLANS.
12. ALL EXISTING WATER METERS CALLED OUT TO BE REMOVED SHALL BE CUT & CAPPED AT MAIN.
13. DEMOLITION SHOWN ON PLANS REFLECTS THE FINAL CONDITION FOR EXISTING UTILITIES AND SITE COMPONENTS TO BE REMOVED. CONTRACTOR SHALL PHASE DEMOLITION AS NECESSARY TO MAINTAIN ALL ACTIVE UTILITY SERVICE LINES THROUGHOUT CONSTRUCTION.
14. OFFSITE LIGHT POLES SHALL BE MAINTAINED AND RECONNECTED TO PROPOSED UNDERGROUND ELECTRIC LINE AS NECESSARY.
15. ALL STORM AND SANITARY LINES SHALL REMAIN IN PLACE UNTIL PROPOSED LINES ARE INSTALLED.
16. TEMPORARY TURNAROUNDS FOR FIRE ACCESS SHALL BE PROVIDED DURING CONSTRUCTION WHERE EXISTING OR PROPOSED DRIVES EXTEND GREATER THAN 150' FROM THE NEAREST INTERSECTION OR TURNAROUND POINT.
17. ALL PAVEMENT, BASE COURSE, SIDEWALKS, CURBS, BUILDINGS, FOUNDATIONS, ETC. IN THE AREA TO BE REMOVED SHALL BE REMOVED FULL DEPTH. EXISTING BASE COURSE MATERIALS MAY BE WORKED INTO THE NEW PAVEMENT OR BUILDING SUBGRADE PROVIDED THAT THE GRADATION, CONSISTENCY, COMPACTION, SUBGRADE CONDITION, ETC. ARE IN ACCORDANCE WITH JURISDICTIONAL REGULATIONS AND THE GEOTECHNICAL ENGINEER HAS BEEN CONSULTED. BASE COURSE MATERIALS SHALL NOT BE WORKED INTO THE SUBGRADE OF AREAS TO RECEIVE PLANTING.

SITE DEMOLITION LEGEND:

- PAVEMENT, PAVEMENT STRIPING, SIDEWALKS, CURBS, RAMPS, ISLANDS, AND BOLLARDS TO BE REMOVED
- BUILDING DEMOLITION
- MILL & OVERLAY EXISTING ASPHALT
- UTILITY LINE TO BE REMOVED
- RETAINING WALL TO BE REMOVED
- UTILITY STRUCTURE TO BE REMOVED
- TREE TO BE REMOVED

LEGEND

- IRON ROD
- CATCH BASIN
- FIRE HYDRANT
- SEWER MANHOLE
- EXISTING TREE
- UTILITY VALVE, IDENTIFIED ON PLANS
- WATER METER
- UTILITY POLE

0 25 50 100 150

SCALE: 1" = 50'

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

JAMIE LEM KOSS
LICENSED PROFESSIONAL ENGINEER
AGRICULTURE
No. 115953
STATE OF TENNESSEE
06/01/2026

SITE PLANS FOR:

RIVERGATE INFRASTRUCTURE PLANS

1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
CCH	06/01/2026	REVISION 1

ENLARGED SITE DEMOLITION PLAN

C0.4

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Monday, June 1, 2026
M:\1411-01 Rivergate Campus\01 - Infrastructure and Mass Grading\02 - Civil Sheets\1411-01_0.1~1.4 Enlarged Demolition Plan.dwg

CITY OF GOODLETTSVILLE IMPERVIOUS AREA - INFRASTRUCTURE PHASE		
	SF	AC
EXISTING IMPERVIOUS AREA TO REMAIN	58,892	1.35
EXISTING IMPERVIOUS AREA TO BE MILLED AND OVERLAID	143,676	3.30
INFRASTRUCTURE PHASE PROPOSED IMPERVIOUS AREA	126,598	2.91
FINAL DEVELOPMENT TOTAL PROPOSED IMPERVIOUS AREA*	1,077,010	24.72
FINAL DEVELOPMENT TOTAL IMPERVIOUS AREA*	1,279,578	29.38

*FUTURE OUTPARCEL DESIGNS ASSUMED TO BE 75% IMPERVIOUS AREA

NOTES:

1. CONTRACTOR SHALL CHECK ALL FINISHED GRADES AND DIMENSIONS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE ENGINEER OF RECORD PRIOR TO BEGINNING WORK.
2. THE CONTRACTOR SHALL CONFORM TO ALL LOCAL CODES AND OBTAIN ALL PERMITS PRIOR TO BEGINNING WORK.
3. PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING PAVEMENT AND NEW PAVEMENT. FIELD ADJUSTMENT OF FINAL GRADES MAY BE NECESSARY. INSTALL ALL UTILITIES PRIOR TO INSTALLATION OF FINAL PAVEMENT.
4. CONCRETE WALKS AND PADS SHALL HAVE A BROOM FINISH. ALL CONCRETE SHALL BE CLASS "A" (4,000 PSI) UNLESS OTHERWISE NOTED.
5. ALL DAMAGE TO EXISTING ASPHALT PAVEMENT TO REMAIN WHICH RESULTS FROM NEW CONSTRUCTION SHALL BE REPLACED WITH LIKE MATERIALS AT THE CONTRACTOR'S EXPENSE.
6. DIMENSIONS ARE TO THE FACE OF CURBS, EDGE OF CONCRETE, OR TO THE FACE OF BUILDING, UNLESS OTHERWISE NOTED.
7. ALL CURB TURNOUT, EDGE OF PAVEMENT, AND STRIPING RADII ARE FIVE FEET (5') UNLESS OTHERWISE NOTED.
8. CONTRACTOR TO VERIFY ALL REQUIRED CLEARANCES FROM OVERHEAD POWER LINES PRIOR TO THE START OF CONSTRUCTION.
9. CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD OR UNDERGROUND ELECTRICAL WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK , THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF THE ABOVE NOTED WIRES, NASHVILLE ELECTRIC SERVICE SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES MUST BE TAKEN.
10. IN EASEMENTS AND RIGHTS-OF-WAYS, CONTRACTOR SHALL PROTECT AND RESTORE SAID PROPERTY TO A CONDITION SIMILAR OR EQUAL TO THAT EXISTING AT THE COMMENCEMENT OF CONSTRUCTION, EXCEPT AS NOTED.
11. THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT PROVISIONS OF THE "MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTION" ISSUED BY AGC OF AMERICA, INC. AND THE "SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION' ISSUED BY THE U.S. DEPARTMENT OF LABOR.
12. TRAFFIC CONTROL, IF REQUIRED, SHALL BE PROVIDED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
13. IN THE EVENT OF ANY DISCREPANCY AND/OR ERROR FOUND IN THE DRAWINGS, OR IF PROBLEMS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL BE REQUIRED TO NOTIFY THE ENGINEER OF RECORD IN WRITING BEFORE PROCEEDING WITH THE WORK. IF THE ENGINEER IS NOT NOTIFIED, THE CONTRACTOR SHALL TAKE RESPONSIBILITY FOR THE COST OF ANY REVISION.
14. BUILDING CONTROL POINTS, GRADE AND OFFSET STAKES ARE TO BE SET BY THE CONTRACTOR.
15. PROVIDE 24" TAPER ON ENDS OF ALL CURBS THAT TERMINATE UNLESS OTHERWISE NOTED.
16. ALL CURB RAMPS IN THE PUBLIC RIGHT-OF-WAY ARE TO RECEIVE DETECTABLE WARNINGS PER LOCAL MUNICIPALITY.
17. ALL SITE RETAINING WALLS SHALL BE DESIGNED BY OTHERS.
18. INSTALL CONCRETE JOINTS WHERE SHOWN ON DETAILS. ALIGN ON WALLS, BUILDINGS, RADII, ETC. EVENLY SPACE BETWEEN ELEMENTS AS SHOWN. PROVIDE EXPANSION JOINTS BETWEEN CONCRETE PAVEMENT AND ALL VERTICAL ELEMENTS SUCH AS WALLS, CURBS, ETC.
19. ALL LANDSCAPE ISLANDS SHALL BE MOUNDED WITH TOPSOIL 4" ABOVE THE CURB LINE TO PROMOTE POSITIVE DRAINAGE.
20. SAW CUT LINES SHALL BE DONE IN A STRAIGHT NEAT LINE A MINIMUM OF 18" FROM THE EXISTING EDGE OF PAVEMENT.
21. ALL PAVEMENT MARKINGS SHALL BE 4" WIDE UNLESS OTHERWISE NOTED. ALL PAVEMENT MARKINGS WITHIN BLUEBIRD DRIVE, CUDE LANE, AND RIVERGATE DRIVE SHALL BE THERMOPLASTIC AND COMPLY WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) LATEST EDITION. RIGHT-OF-WAY SIGNAGE TO ALSO COMPLY WITH M.U.T.C.D. ON SITE PAVEMENT MARKINGS SHALL BE WHITE PAINT UNLESS NOTED OTHERWISE.
22. ALL DEVELOPMENT WITHIN THE BOUNDARIES OF THIS PLAN MEETS THE REQUIREMENTS OF THE AMERICAN WITH DISABILITIES ACT AND THE FAIR HOUSING ACT.

SITE DATA:

SP AREA:	14.74 AC
METRO INFRASTRUCTURE AREA:	4.19 AC
GOODLETTSVILLE AREA:	41.95 AC
GOODLETTSVILLE INFRASTRUCTURE AREA:	9.26 AC
TOTAL SITE AREA:	56.69 AC

	METRO NASHVILLE	GOODLETTSVILLE
MAXIMUM DENSITY		PER CITY OF GOODLETTSVILLE APPROVED PRELIMINARY MASTER PLANS AND REZONING ORDINANCES
RESIDENTIAL DWELLING UNITS:	450	427
NON-RESIDENTIAL:	100,000 GSF	185,500 GSF
PROVIDED DENSITY		
RESIDENTIAL DWELLING UNITS:	N/A	N/A
NON-RESIDENTIAL:	N/A	N/A

	METRO NASHVILLE	GOODLETTSVILLE
MAXIMUM FAR:	1.5	0.80
PROVIDED FAR:	N/A	N/A

	METRO NASHVILLE	GOODLETTSVILLE
MAXIMUM ISR:	0.9	0.9
PROVIDED ISR (ROADS, PARKING, SIDEWALKS):	0.22	0.19

	METRO NASHVILLE	GOODLETTSVILLE
PARKING REQUIRED	PER TITLE 17 UZO	
	= 0 SPACES = 14 SPACES	= 0 SPACES = 85 SPACES
PROVIDED ON-STREET PARKING		

PAVING LEGEND

- HEAVY DUTY ASPHALT
- LIGHT DUTY ASPHALT
- MILL & OVERLAY EXISTING ASPHALT
- HEAVY DUTY CONCRETE
- SIDEWALK SECTION

SCALE: 1" = 100'

SITE BENCHMARKS

3: ⅜" CESO CP
N = 716556.19 E = 1763141.09 ELEV = 503.05

4: ⅜" CESO CP
N = 718787.16 E = 1762594.16 ELEV = 557.93

100: ⅜" CESO TRAVERSE
N = 718213.88 E = 1762190.45 ELEV = 511.29

Know what's below. Call before you dig.

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

GUILLERMO ALEJANDRO MONTALVO-LUCAS
REGISTERED LANDSCAPE ARCHITECT
No. 109853
STATE OF TENNESSEE
06/10/2025

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
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CCH	01/19/2026	AGENCY COMMENTS
MMD	02/06/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

OVERALL SITE LAYOUT PLAN

C1.0

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Monday, June 1, 2026
X:\1411 Rivergate Infrastructure\01 - Infrastructure and Mass Grading\02 - Civil Sheets\1411-01_C1.0_Overall Site Layout.dwg

PROPOSED PUBLIC UTILITY, DRAINAGE, AND ACCESS EASEMENT WIDTH VARIES

RIVERGATE DRIVE - 1
PRIVATE DRIVE

PROPOSED PUBLIC UTILITY, DRAINAGE, AND ACCESS EASEMENT WIDTH VARIES

PROPOSED 70' PUBLIC UTILITY, DRAINAGE, AND ACCESS EASEMENT ON ALL PROPOSED PRIVATE DRIVES (TYP.)

EXISTING 200' TVA EASEMENT TO REMAIN

EXISTING 20' PUBLIC SANITARY EASEMENT TO REMAIN

EXISTING INTERNAL EASEMENTS TO BE ABANDONED. EXISTING EASEMENTS TO REMAIN ARE CALLED OUT TO REMAIN. (TYP)

PROPOSED PUBLIC UTILITY, DRAINAGE, AND ACCESS EASEMENT WIDTH VARIES

ROAD D
PRIVATE DRIVE

RIVERGATE DRIVE - 2
PUBLIC ROAD

POTENTIAL FUTURE OUTPARCEL LINE (TYP.)

PROPOSED PUBLIC WATER EASEMENT

PROPOSED 70' PUBLIC UTILITY, DRAINAGE, AND ACCESS EASEMENT ON ALL PROPOSED PRIVATE DRIVES (TYP)

PROPOSED PROPERTY LINE (TYP.)

10' PROPOSED PUBLIC UTILITY EASEMENT

RIVERGATE PARKWAY
PUBLIC ROAD

ROAD B
PRIVATE DRIVE

ROAD C
PRIVATE DRIVE

EXISTING INTERNAL EASEMENTS TO BE ABANDONED, EXISTING EASEMENTS TO REMAIN ARE SPECIFIED. (TYP.)

PROPOSED PUBLIC UTILITY, DRAINAGE, AND ACCESS EASEMENT

GUITAR CENTER TO REMAIN

DILLARD'S TO REMAIN

PROPOSED PUBLIC UTILITY, DRAINAGE, AND ACCESS EASEMENT

PROPOSED PUBLIC UTILITY, DRAINAGE, AND ACCESS EASEMENT WIDTH VARIES

PROPOSED 70' PUBLIC UTILITY, DRAINAGE, AND ACCESS EASEMENT ON BLUEBIRD DRIVE

BLUEBIRD DRIVE
PRIVATE DRIVE

EXISTING 20' PUBLIC SEWER EASEMENT TO REMAIN

ROAD E
PRIVATE DRIVE

PROPOSED PRIVATE ACCESS EASEMENT

RIVERGATE DRIVE
PUBLIC ROAD

35' PUBLIC DRAINAGE EASEMENT

PROPOSED PUBLIC UTILITY, DRAINAGE, AND ACCESS EASEMENT WIDTH VARIES

CUDE LANE
PUBLIC ROAD

PROPOSED PUBLIC UTILITY, DRAINAGE, AND ACCESS EASEMENT WIDTH VARIES

GALLATIN PIKE
PUBLIC ROAD

CITY OF GOODLETTSVILLE
METRO NASHVILLE

JUST TRUCKS LLC
Parcel ID: 02614005400
DB-20250227-0014415
Lot 2 Rivergate Plaza
Resub Part of Lot 3
PB-00007900-0000215
Zoned: CSL

756 PLAZA PARTNERS, GP
Parcel ID: 02614003400
DB-20210910-0121535
Lot 1 Rivergate Plaza
Resub Part of Lot 3
PB-00007900-0000215
Zoned: CSL

BJ's Wholesale Club, Inc.
Parcel ID: 02614006000
DB-20240507-0033423
Lot 1 B J Rivergate
PB-20240227-0013104
Zoned: CSL

TRI STAR ENERGY, LLC
Parcel ID: 02614003200
DB-20011017-0113286
Lot 1 Rivergate Plaza
PB-00004300-0000139
Zoned: CSL

DELORES F. & TRACY D. PRIMROSE, et al
Parcel ID: 02614003300
QC-20240930-0073364
Lot 3 Rivergate Plaza
PB-00004300-0000139
Zoned: CSL

COMMERCE UNION BANK
Parcel ID: 02614003500
DB-00004589-0000533
VPT: Lot 3 Rivergate Plaza
PB-00004560-0000164
Zoned: CSL

RIVERGATE MP HOLDINGS, LLC
Parcel ID: 02614006300
Lot 2 Consolidation Plat Rivergate Mall Redevelopment
Inst.No. PL-20260417-0031646
Map 026-14, Parcel 063

RIVERGATE MP HOLDINGS, LLC
Parcel ID: 02614006200
Lot 1 Consolidation Plat Rivergate Mall Redevelopment
Inst.No. PL-20260417-0031646
Map 026-14, Parcel 064

DAYTON-HUDSON CORPORATION
Parcel ID: 02614004400
DB-00005580-0000868
Lot 2 Rivergate East
SEC 1-1st Rev
PB-00006900-0000334
Zoned: SCR PUD

KHALIK INVESTMENTS 2, LLC
Parcel ID: 02614004500
QC-20250919-0074952
Lot 1 Rivergate East
SEC 1-1st REV
PB-00006900-0000334
Zoned: SCR PUD

HIGHWAY 23, LLC
Parcel ID: 03402011100
DB-20240321-0019543
Lot 4B Rivergate Mall
Shopping Center
Resub LTS 4 & 5
PB-20191126-0122177
Zoned: SCR PUD

DILLARD TN OPERATING LTD. PARTNERSHIP
Parcel ID: 03402007700
DB-00010750-000292
Lot 2 Rivergate Mall
Shopping Center
Resub Tract A-1
PB-20250521-0040111
Zoned: SCR PUD & SP
Map 034-02, Parcel 117

NASHVILLE CHICKEN, LLC
Parcel ID: 03402011000
DB-20200406-0036251
Lot 4A Rivergate Mall
Shopping Center
Resub LTS 4 & 5
PB-20191126-0122177
Zoned: SCR PUD

IN-N-OUT BURGERS
Parcel ID: 03402011600
DB-20250620-0048145
Lot 1 Rivergate Mall
Shopping Center
Resub Tract A-1
PB-20250521-0040111
Zoned: SCR PUD

TENNESSEE CREDIT UNION
Parcel ID: 03402006200
DB-20221017-0113149
Lot A Rivergate Park
PB-00004470-0000090
Zoned: RC1 PUD

FIRST AMERICAN NATIONAL BANK
Parcel ID: 03402006300
DB-00004389-0000181
Lot C Rivergate Park
PB-00004175-0000107
Zoned: RC1 PUD

NORMAN CLARK, LIMITED PARTNERSHIP
Parcel ID: 03402006400
DB-20190517-0046722
Lot B Resub Lot B
Rivergate Park
PB-00004470-0000110
Zoned: RC1 PUD

BRIDGESTONE RETAIL OPERATIONS, LLC
Parcel ID: 03402007900
DB-20201130-0139065
Tract C-1 Rivergate Mall
Shopping Center
Resub A-1,C-1,D-1
PB-00006900-0000349
Zoned: SCR PUD

DURHAM ENTERPRISES, INC.
Parcel ID: 03402007100
DB-00004513-0000615
Lot H Rivergate Park
Re-Sub
Zoned: SCR PUD

FCPT HOLDINGS, LLC
Parcel ID: 03402007000
Inst.No.20180814-0080137
Lot J-Resub: Lot J
Rivergate Park
Plat Book 4300, Page 142
Zoned: SCR PUD

5/8" Iron Pin Capped "BWSC NASHVILLE" Fnd. & Usd.

1/2" Iron Pin Fnd. & Usd.

SITE BENCHMARKS

3: ¾" CESO CP	N = 716556.19	E = 1763141.09	ELEV = 503.05
4: ¾" CESO CP	N = 718787.16	E = 1762594.16	ELEV = 557.93
100: ¾" CESO TRAVERSE	N = 718213.88	E = 1762190.45	ELEV = 511.29

0 50 100 200 300
SCALE: 1" = 100'

Know what's below. Call before you dig.

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PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

GUILLEM ROSE NICHOLLS
REGISTERED LANDSCAPE ARCHITECT
AGRICULTURE
No. 109853
STATE OF TENNESSEE
06/01/2026

SITE PLANS FOR:

RIVERGATE INFRASTRUCTURE PLANS

1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

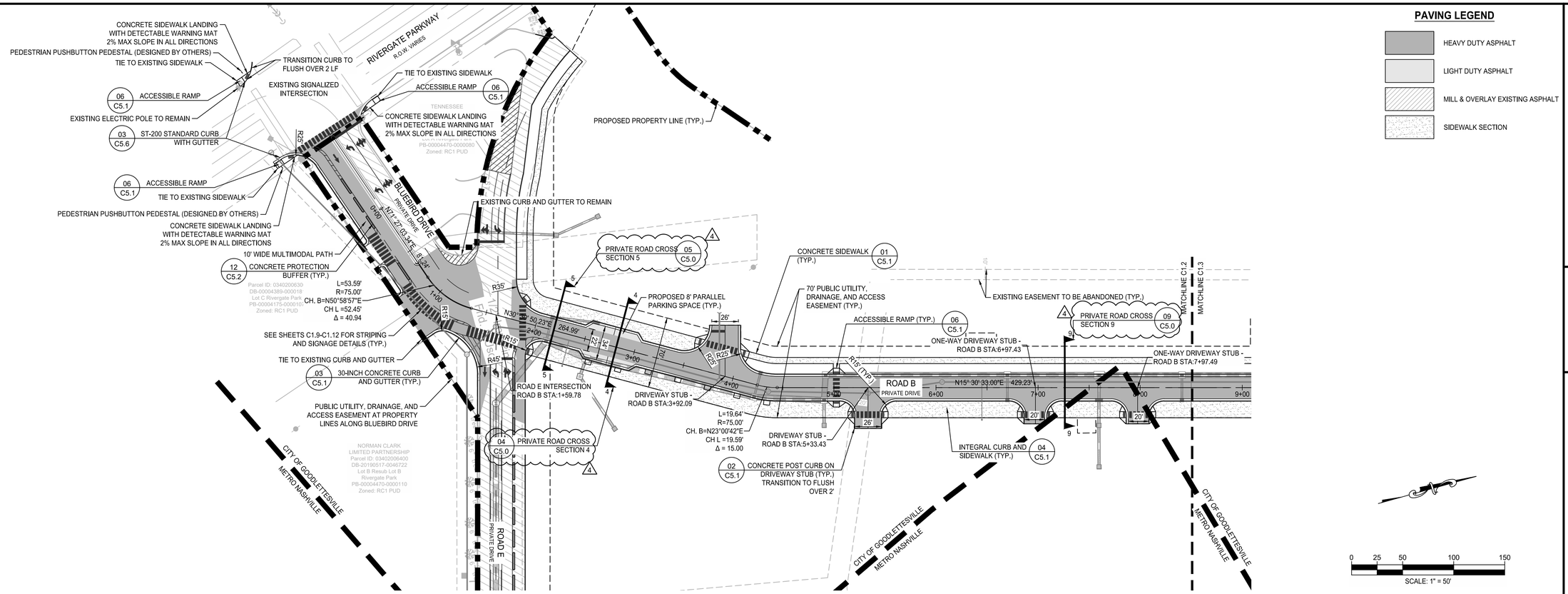
DR.	DATE	DESCRIPTION
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	02/06/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

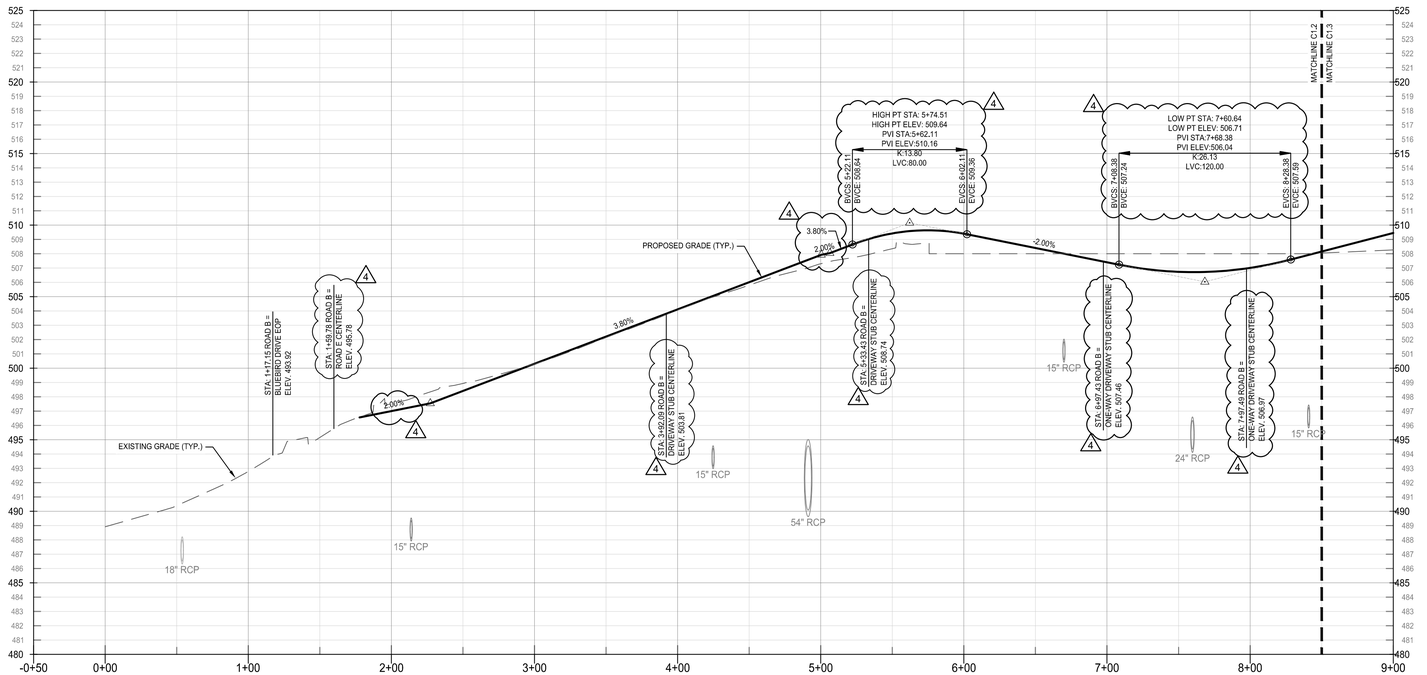
OVERALL EASEMENT PLAN

C1.1

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Monday, June 1, 2026
K:\1411 Rivergate Parcel\01 - Infrastructure and Mass Grading\02 - Civil Sheets\1411-01_C1.1_Overall Easement Plan.dwg





ROAD B (STA. 0+00 - 8+50) PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

SITE BENCHMARKS

3: ⅜" CESO CP
N = 716556.19 E = 1763141.09 ELEV = 503.05

4: ⅜" CESO CP
N = 718787.16 E = 1762594.16 ELEV = 557.93

100: ⅜" CESO TRAVERSE
N = 718213.88 E = 1762190.45 ELEV = 511.29

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FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
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TENNESSEE LICENSED PROFESSIONAL ENGINEER
No. 129053
AGRICULTURE
STATE OF TENNESSEE
06/10/2025

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	05/01/2026	REVISION 1

ROAD B PLAN & PROFILE

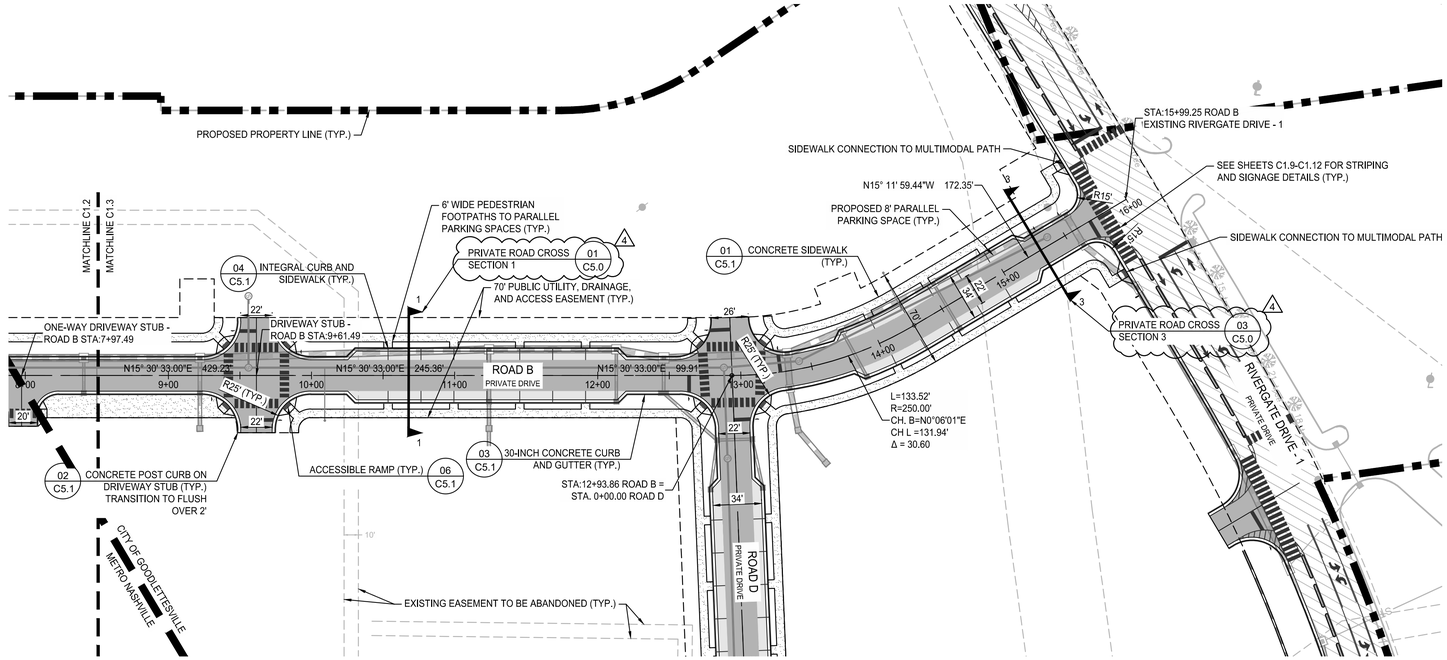
C1.2

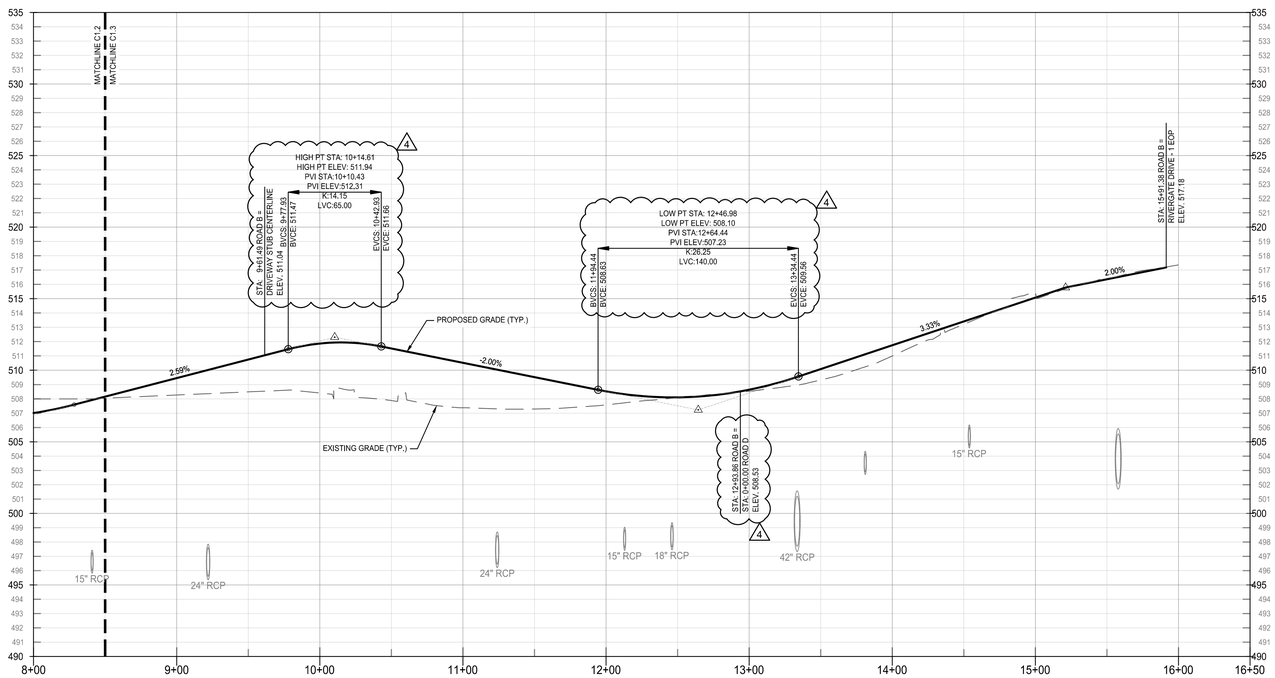
1411-01 RIVERGATE INFRASTRUCTURE PLANS

Monday, June 1, 2026
M:\11 Projects\1411-01 Rivergate\03 - Infrastructure and Mass Grading\02 - Civil Sheets\1411-01_C1.1-1.4_Site Layout Plan & Profiles.dwg

PAVING LEGEND

- HEAVY DUTY ASPHALT
- LIGHT DUTY ASPHALT
- MILL & OVERLAY EXISTING ASPHALT
- SIDEWALK SECTION





ROAD B (STA. 8+50 - 15+89.56) PROFILE

SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

SITE BENCHMARKS

3: 3/4" CESO CP
N = 716556.19 E = 1763141.09 ELEV = 503.05

4: 3/4" CESO CP
N = 718787.16 E = 1762594.16 ELEV = 557.93

100: 3/4" CESO TRAVERSE
N = 718213.88 E = 1762190.45 ELEV = 511.29

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

WILLIAM MICHAEL DUNN
REGISTERED
No. 109953
AGRICULTURE
06/01/2026
STATE OF TENNESSEE

SITE PLANS FOR:

RIVERGATE INFRASTRUCTURE PLANS

1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
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BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	05/01/2026	REVISION 1

ROAD B PLAN & PROFILE

C1.3

1411-01 RIVERGATE INFRASTRUCTURE PLANS

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

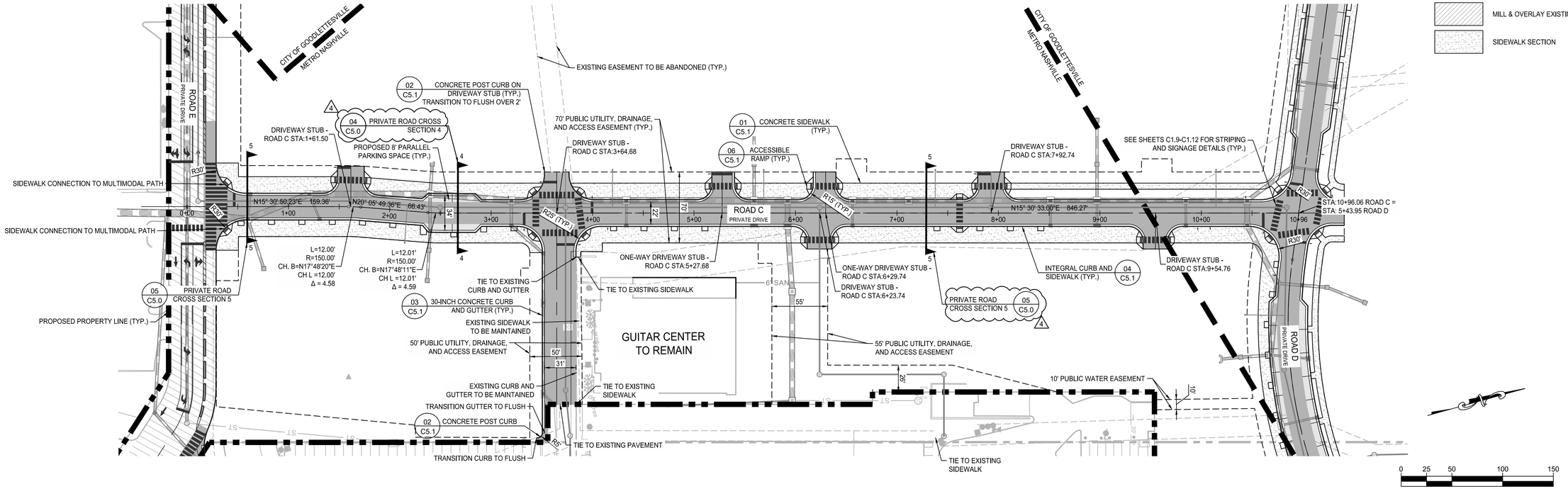
SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

Monday, June 1, 2026
Z:\11 Projects\1411-01 Rivergate\02 - Infrastructure and Mass Grading\02 - Civil Sheets\1411-01_C1.1-1.4_Site Layout Plan & Profiles.dwg

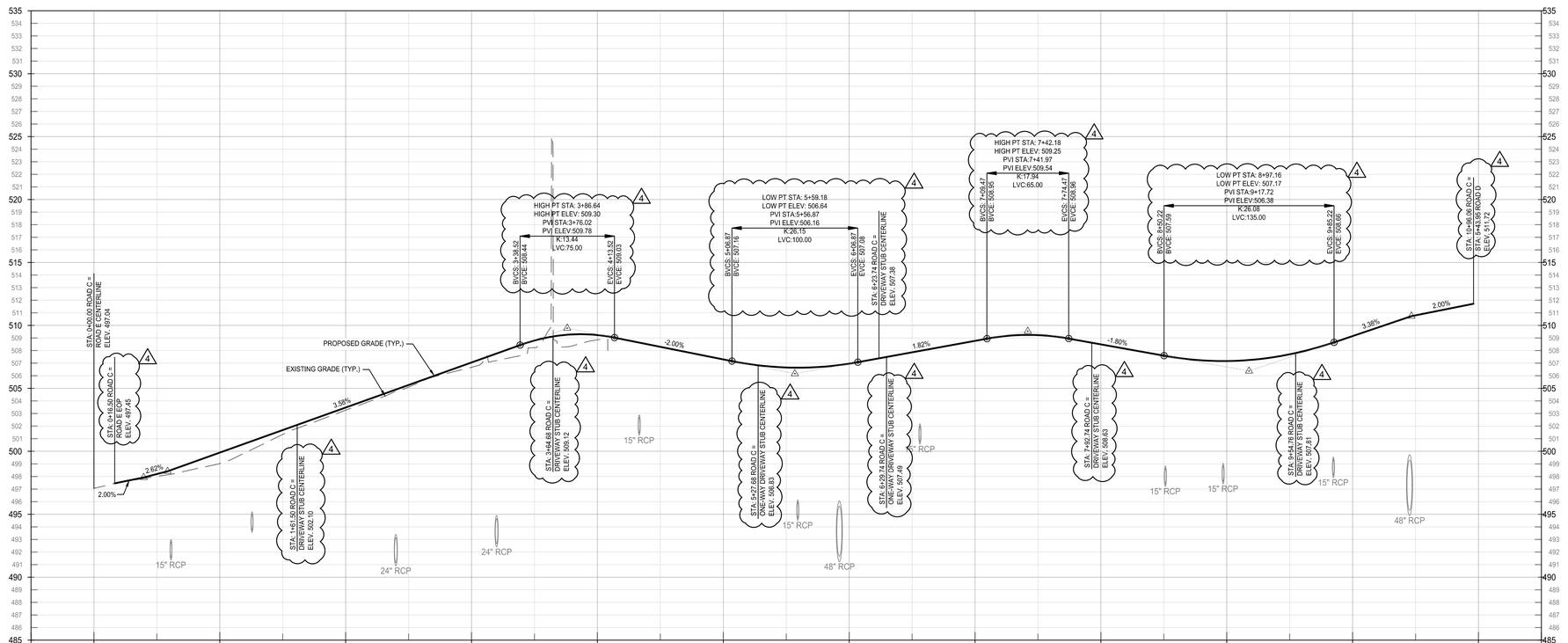
PAVING LEGEND

- HEAVY DUTY ASPHALT
- LIGHT DUTY ASPHALT
- MILL & OVERLAY EXISTING ASPHALT
- SIDEWALK SECTION



0 25 50 100 150

SCALE: 1" = 50'



ROAD C PROFILE

SCALE 1"=50' HORIZONTAL

SITE BENCHMARKS

3: ⅝" CESO CP			
N = 716556.19	E = 1763141.09	ELEV = 503.05	
4: ⅝" CESO CP			
N = 718787.16	E = 1762594.16	ELEV = 557.93	
100: ⅝" CESO TRAVERSE			
N = 718213.88	E = 1762190.45	ELEV = 511.29	

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

MICHELLE D. CHELLEW — No. 129853 — AGRICULTURE — STATE OF TENNESSEE — 06/10/2025

SITE PLANS FOR:

RIVERGATE INFRASTRUCTURE PLANS

1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

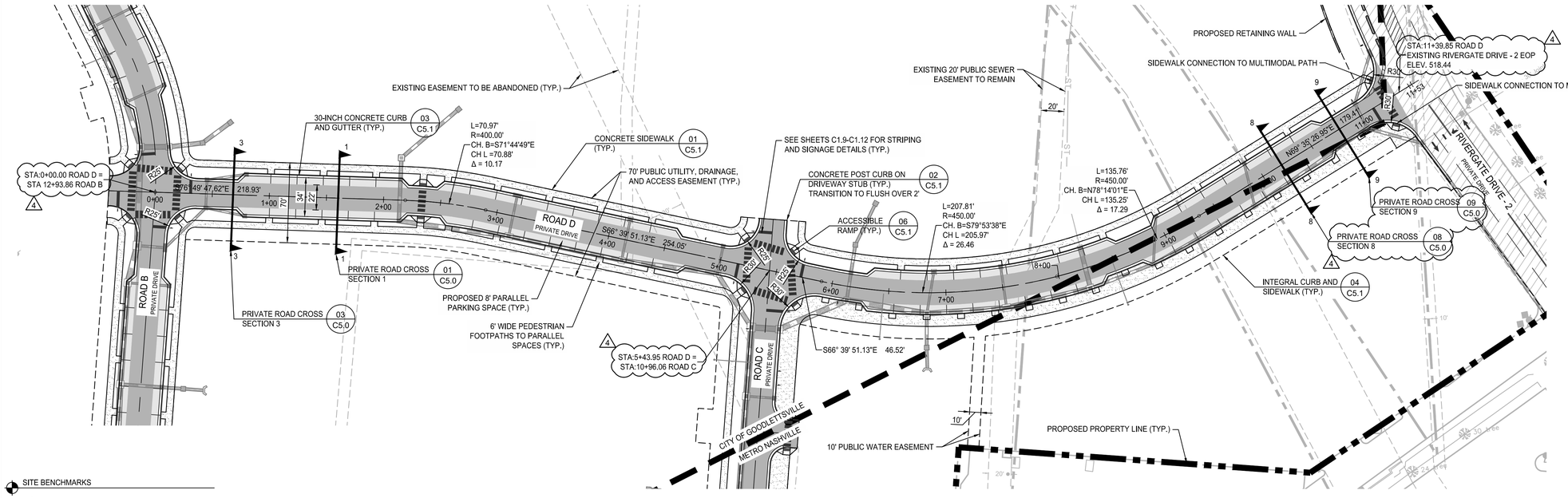
DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

ROAD C PLAN & PROFILE

C1.4

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Monday, June 1, 2026
K:\Civil 3 Projects\1411-01 - Infrastructure and Mass Grading\02 - Cad\Sheets\1411-01 C1.1 to 4_Site Layout Plan & Profiles.dwg

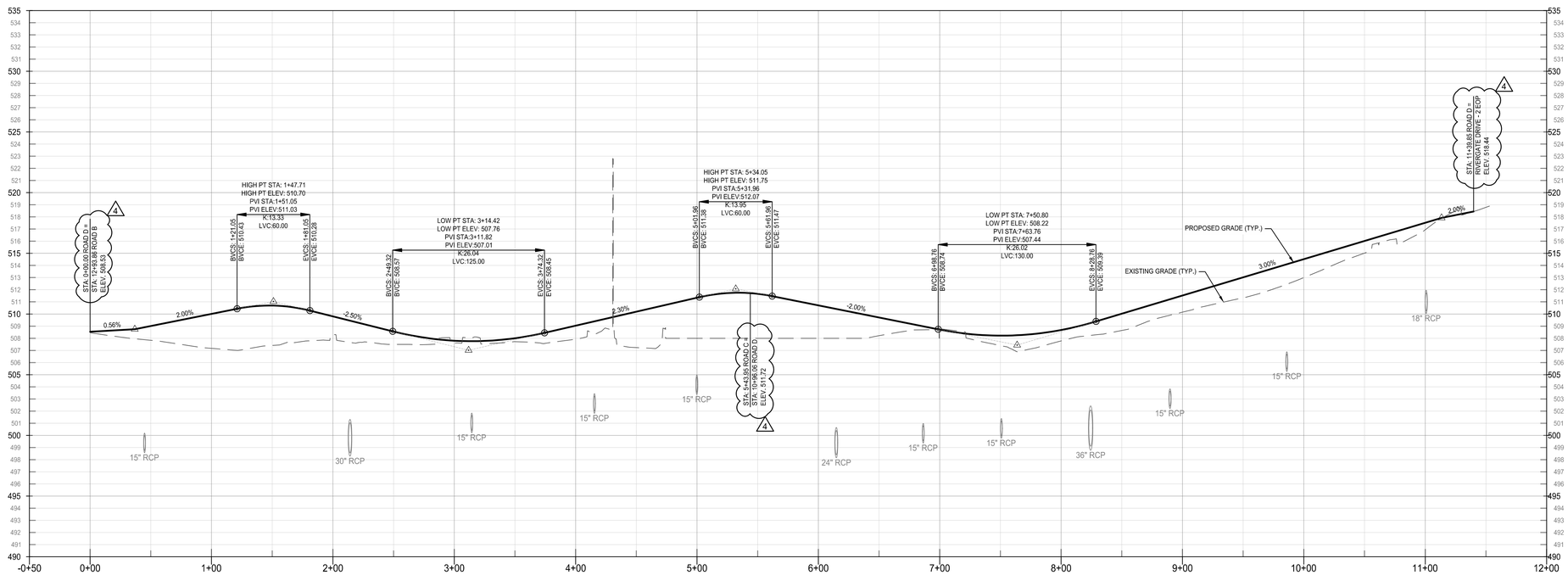


SITE BENCHMARKS

3: 5/8" CESO CP
N = 716556.19 E = 1763141.09 ELEV = 503.05

4: 5/8" CESO CP
N = 718787.16 E = 1762594.16 ELEV = 557.93

100: 1/2" CESO TRAVERSE
N = 718213.88 E = 1762190.45 ELEV = 511.29



ROAD D PROFILE

SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

MICHELLE D. CHRISTIANSEN — 2231 — REGISTERED PROFESSIONAL ENGINEER — AGRICULTURE — No. 109853 — STATE OF TENNESSEE — 06/01/2026

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

ROAD D PLAN & PROFILE

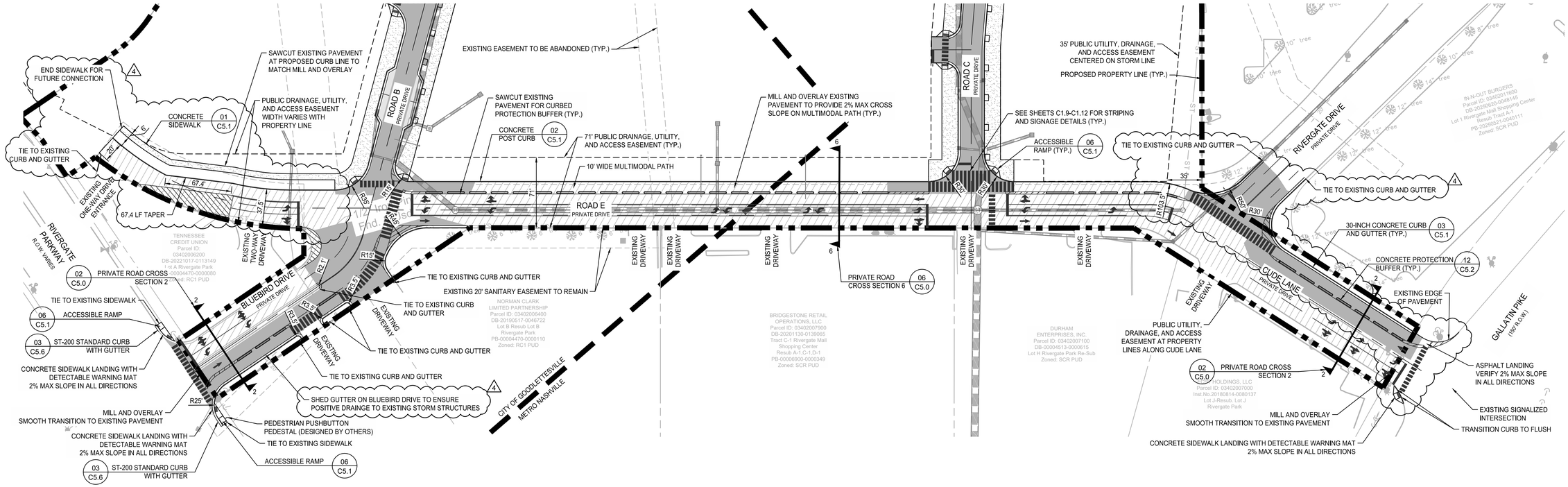
C1.5

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Monday, June 1 2026
N:\1411-01 Rivergate Parkway\01 - Infrastructure and Mass Grading\02 - Civil Sheets\1411-01_C1-5-8_Site Layout Plan & Profiles.dwg

PAVING LEGEND

- HEAVY DUTY ASPHALT
- LIGHT DUTY ASPHALT
- MILL & OVERLAY EXISTING ASPHALT
- SIDEWALK SECTION



SITE BENCHMARKS

3: ⅝" CESO CP
N = 716556.19 E = 1763141.09 ELEV = 503.05

4: ⅝" CESO CP
N = 718787.16 E = 1762594.16 ELEV = 557.93

100: ⅝" CESO TRAVERSE
N = 718213.88 E = 1762190.45 ELEV = 511.29

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

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

WILLEM D. SCHNEIDER — 130 — REGISTERED PROFESSIONAL ENGINEER — AGRICULTURE — No. 109853 — STATE OF TENNESSEE — 06/10/2025

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

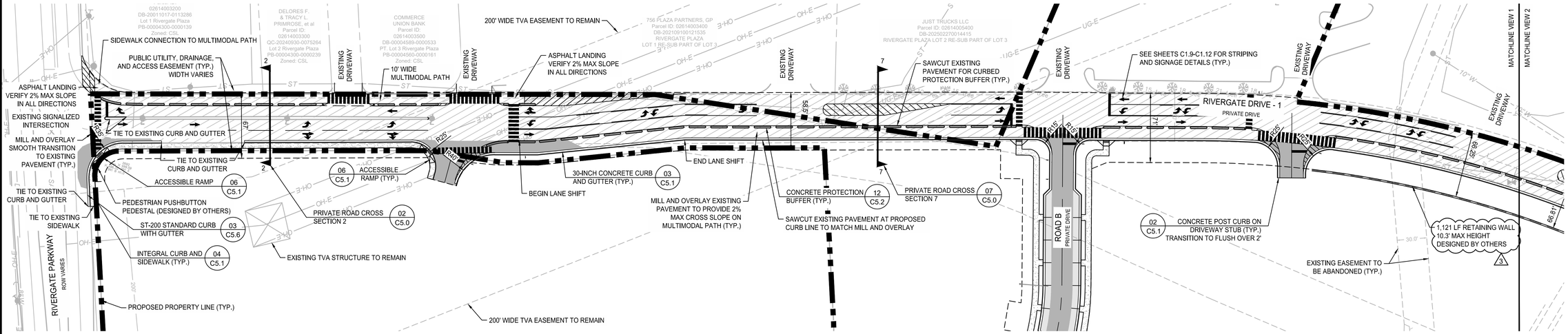
DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	05/01/2026	REVISION 1

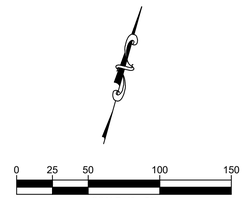
CUDE LANE & ROAD E PLAN

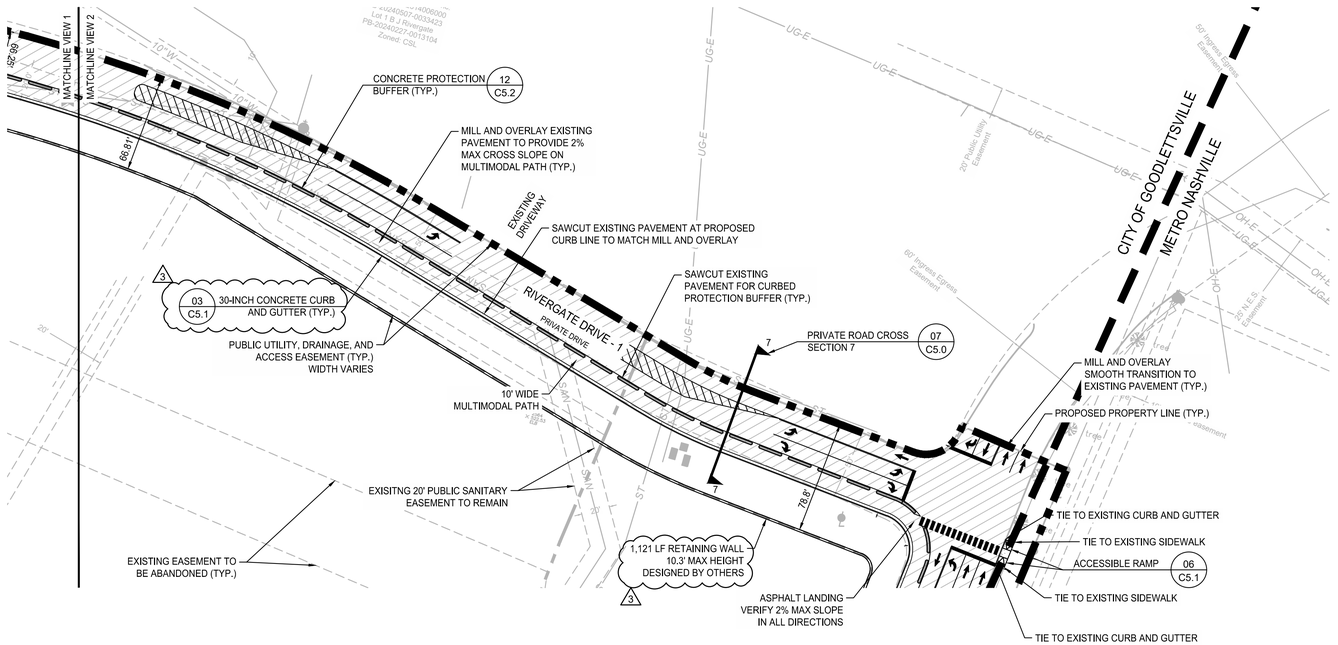
C1.6

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Monday, June 1, 2026
2:11:11 pm Brandon Dalton
Z:\1411-01 Rivergate Parkway\01 - Infrastructure and Mass Grading\02 - Civil\Sheets\1411-01_C1.5-.8_Site Layout Plan & Profiles.dwg







PAVING LEGEND

- HEAVY DUTY ASPHALT
- LIGHT DUTY ASPHALT
- MILL & OVERLAY EXISTING ASPHALT
- SIDEWALK SECTION

SITE BENCHMARKS

3: ¾" CESO CP
N = 716556.19 E = 1763141.09 ELEV = 503.05

4: ¾" CESO CP
N = 718787.16 E = 1762594.16 ELEV = 557.93

100: ¾" CESO TRAVERSE
N = 718213.88 E = 1762190.45 ELEV = 511.29

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
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INFO@FULMERLUCAS.COM - (615) 345-3770

RACHEL M. PHILLIPS — 2025 — AGRICULTURE — No. 139853 — STATE OF TENNESSEE
06/01/2026

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

EXISTING RIVERGATE DRIVE-1 PLAN

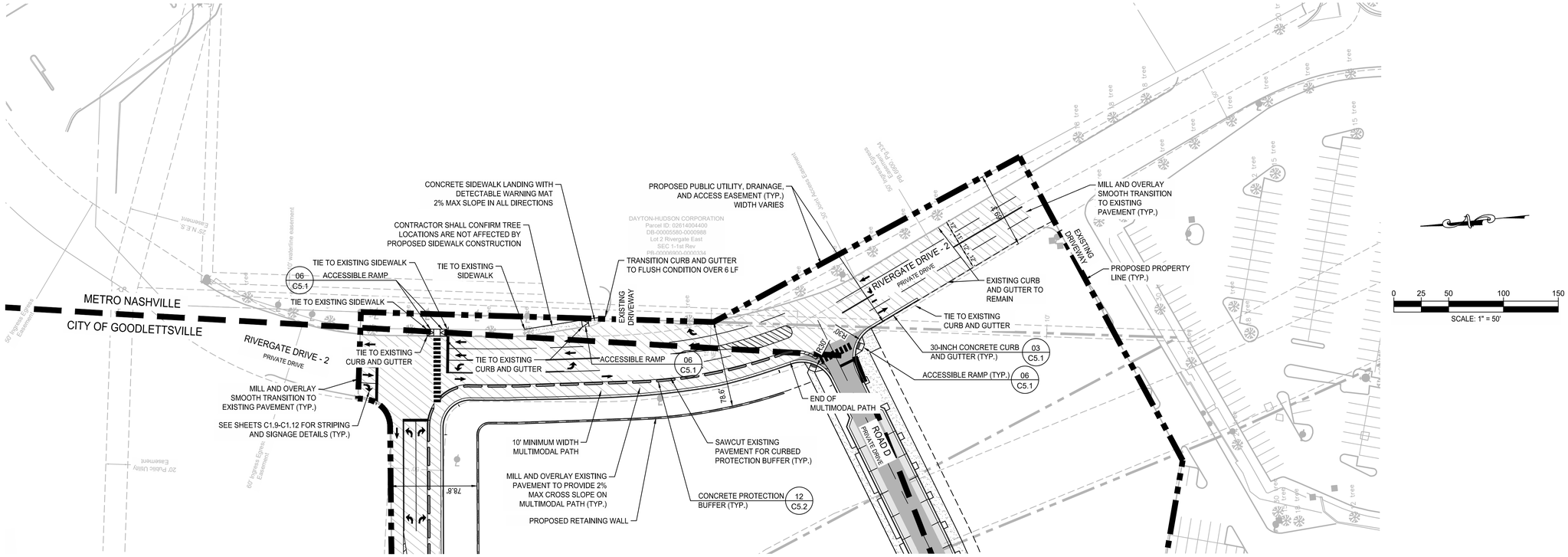
C1.7

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Monday, June 1, 2026
K:\1 Active Projects\1411-01 Rivergate\01 - Infrastructure and Mass Grading\02 - Cad\Sheets\1411-01_C1.7-X_Site Layout Plan & Profiles.dwg

PAVING LEGEND

- HEAVY DUTY ASPHALT
- LIGHT DUTY ASPHALT
- MILL & OVERLAY EXISTING ASPHALT
- SIDEWALK SECTION



SITE BENCHMARKS

3: ⅝" CESO CP
N = 716556.19 E = 1763141.09 ELEV = 503.05

4: ⅝" CESO CP
N = 718787.16 E = 1762594.16 ELEV = 557.93

100: ⅝" CESO TRAVERSE
N = 718213.88 E = 1762190.45 ELEV = 511.29

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

CHELLEM KOTHAPALLI
No. 109853
AGRICULTURE
STATE OF TENNESSEE
6/06/2026

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

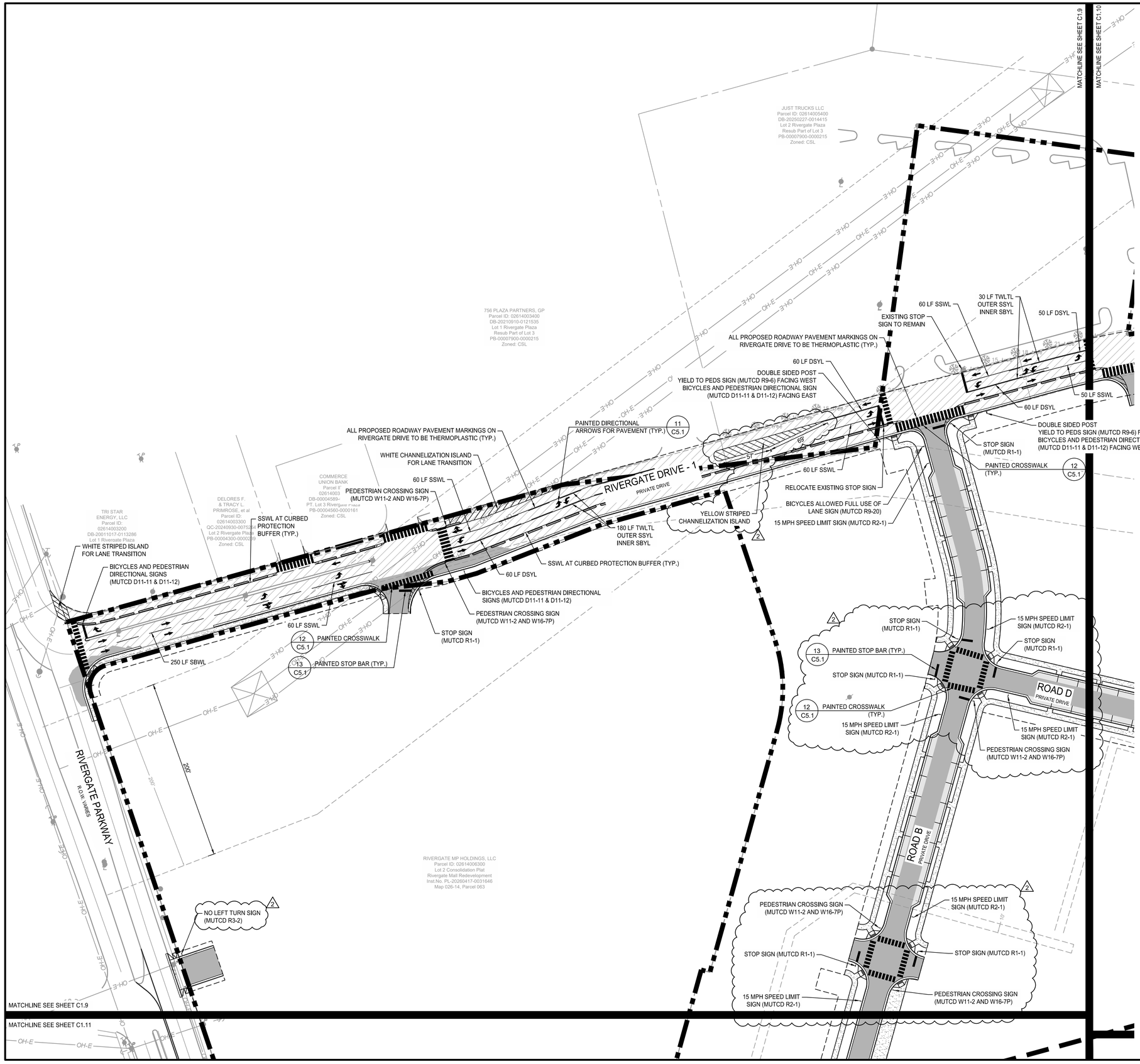
DR.	DATE	DESCRIPTION
CCH	08/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

EXISTING RIVERGATE DRIVE-2 PLAN

C1.8

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Monday, June 1, 2026
Z:\2021 Projects\1411-01 Rivergate Parkway\01 - Infrastructure and Mass Grading\02 - Civil Sheets\1411-01 C1.7-8_Site Layout Plan & Profiles.dwg



PAVING LEGEND

- HEAVY DUTY ASPHALT
- LIGHT DUTY ASPHALT
- MILL & OVERLAY EXISTING ASPHALT
- SIDEWALK SECTION

SITE BENCHMARKS

3: 5/8" CESO CP
N = 716556.19 E = 1763141.09 ELEV = 503.05

4: 5/8" CESO CP
N = 718787.16 E = 1762594.16 ELEV = 557.93

100: 5/8" CESO TRAVERSE
N = 718213.88 E = 1762190.45 ELEV = 511.29

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

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

MICHELLE M. DOYLE
REGISTERED ENGINEER
AGRICULTURE
No. 129653
STATE OF TENNESSEE
06/01/2026

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	01/19/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

ENLARGED STRIPING & SIGNAGE PLAN

C1.9

1411-01 RIVERGATE INFRASTRUCTURE PLANS

MATCHLINE SEE SHEET C1.9

MATCHLINE SEE SHEET C1.10

172 LF TWLTL
OUTER SSYL
INNER SBYL

RIVERGATE DRIVE - 1
PRIVATE DRIVE

11 C5.1 PAINTED DIRECTIONAL ARROWS FOR PAVEMENT (TYP.)

100 LF DYSL

YELLOW STRIPED CHANNELIZATION ISLAND

100 LF SSWL

PAINTED CROSSWALK (TYP.) 12 C5.1

SSWL AT CURBED PROTECTION BUFFER (TYP.)

2

YELLOW STRIPED CHANNELIZATION ISLAND

ALL PROPOSED ROADWAY PAVEMENT MARKINGS ON RIVERGATE DRIVE TO BE THERMOPLASTIC (TYP.)

13 C5.1 PAINTED STOP BAR (TYP.)

STOP SIGN (MUTCD R1-1)

100 LF DYSL

100 LF SSWL

YIELD TO PEDS SIGN (MUTCD R9-6)

STOP SIGN (MUTCD R1-1)

YIELD TO PEDS SIGN (MUTCD R9-6)

65' DYSL

80 LF TWLTL
OUTER SSYL
INNER SBYL

30' SSWL

SSWL TO PROPERTY LINE

DSYL TO PROPERTY LINE

SSWL TO PROPERTY LINE

PAINTED CROSSWALK 12 C5.1

STOP SIGN (MUTCD R1-1)

65' SSWL

60' SBWL

30' DSYL

50 LF SSWL

SSWL AT CURBED PROTECTION BUFFER (TYP.)

60 LF SBWL

DOUBLE SIDED POST
YIELD TO PEDS SIGN (MUTCD R9-6) FACING NORTH
BICYCLES AND PEDESTRIAN DIRECTIONAL SIGN
(MUTCD D11-11 & D11-12) FACING SOUTH

BICYCLES ALLOWED FULL USE OF LANE SIGN (MUTCD R9-20)

15 MPH SPEED LIMIT SIGN (MUTCD R2-1)

YELLOW STRIPED CHANNELIZATION ISLAND MARKINGS EVERY 10' PER TDOT STANDARD DRAWING T-M-3 (TYP.)

60 LF SBWL

ALL PROPOSED ROADWAY PAVEMENT MARKINGS ON RIVERGATE DRIVE TO BE THERMOPLASTIC (TYP.)

WHITE STRIPED 2' PROTECTION BUFFER FOR MULTIMODAL PATH END AT CROSSWALK

75' SSWL

DYSL TO PROPERTY LINE

SBWL TO PROPERTY LINE

STOP SIGN (MUTCD R1-1)

PEDESTRIAN CROSSING SIGN (MUTCD W11-2 AND W16-7P)

15 MPH SPEED LIMIT SIGN (MUTCD R2-1)

STOP SIGN (MUTCD R1-1)

PAINTED STOP BAR (TYP.) 13 C5.1

PAINTED CROSSWALK (TYP.) 12 C5.1

STOP SIGN (MUTCD R1-1)

PEDESTRIAN CROSSING SIGN (MUTCD W11-2 AND W16-7P)

STOP SIGN (MUTCD R1-1)

15 MPH SPEED LIMIT SIGN (MUTCD R2-1)

ROAD D
PRIVATE DRIVE

15 MPH SPEED LIMIT SIGN (MUTCD R2-1)

STOP SIGN (MUTCD R1-1)

15 MPH SPEED LIMIT SIGN (MUTCD R2-1)

15 MPH SPEED LIMIT SIGN (MUTCD R2-1)

2

ROAD C
PRIVATE DRIVE

RIVERGATE DRIVE - 2
PRIVATE DRIVE

CITY OF GOODLETTSVILLE
METRO NASHVILLE

BJ's Wholesale Club, Inc.
Parcel ID: 026140O6200
DB-20240507-0033423
Lot 1 B J Rivergate
PB-20240227-0013104
Zoned: CSL

DAYTON-HUDSON CORPORATION
Parcel ID: 026140O4400
DB-00005580-0000988
Lot 2 Rivergate East
SEC 1-1st Rev
PB-00006900-0000334
Zoned: SCR PUD

20' Public Utility Easement

60' Ingress Egress Easement

25' N.E.S. Easement

10' waterline easement

MATCHLINE SEE SHEET C1.10

MATCHLINE SEE SHEET C1.12

PAVING LEGEND

- HEAVY DUTY ASPHALT
- LIGHT DUTY ASPHALT
- MILL & OVERLAY EXISTING ASPHALT
- SIDEWALK SECTION

SITE BENCHMARKS

3: CESO CP
N = 716556.19 E = 1763141.09 ELEV = 503.05

4: CESO CP
N = 718787.16 E = 1762594.16 ELEV = 557.93

100: CESO TRAVERSE
N = 718213.88 E = 1762190.45 ELEV = 511.29

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

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

CHELLEM KRISHNAMURTHY
REGISTERED LANDSCAPE ARCHITECT
AGRICULTURE
No. 109853
STATE OF TENNESSEE
06/01/2026

SITE PLANS FOR:

RIVERGATE INFRASTRUCTURE PLANS

1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

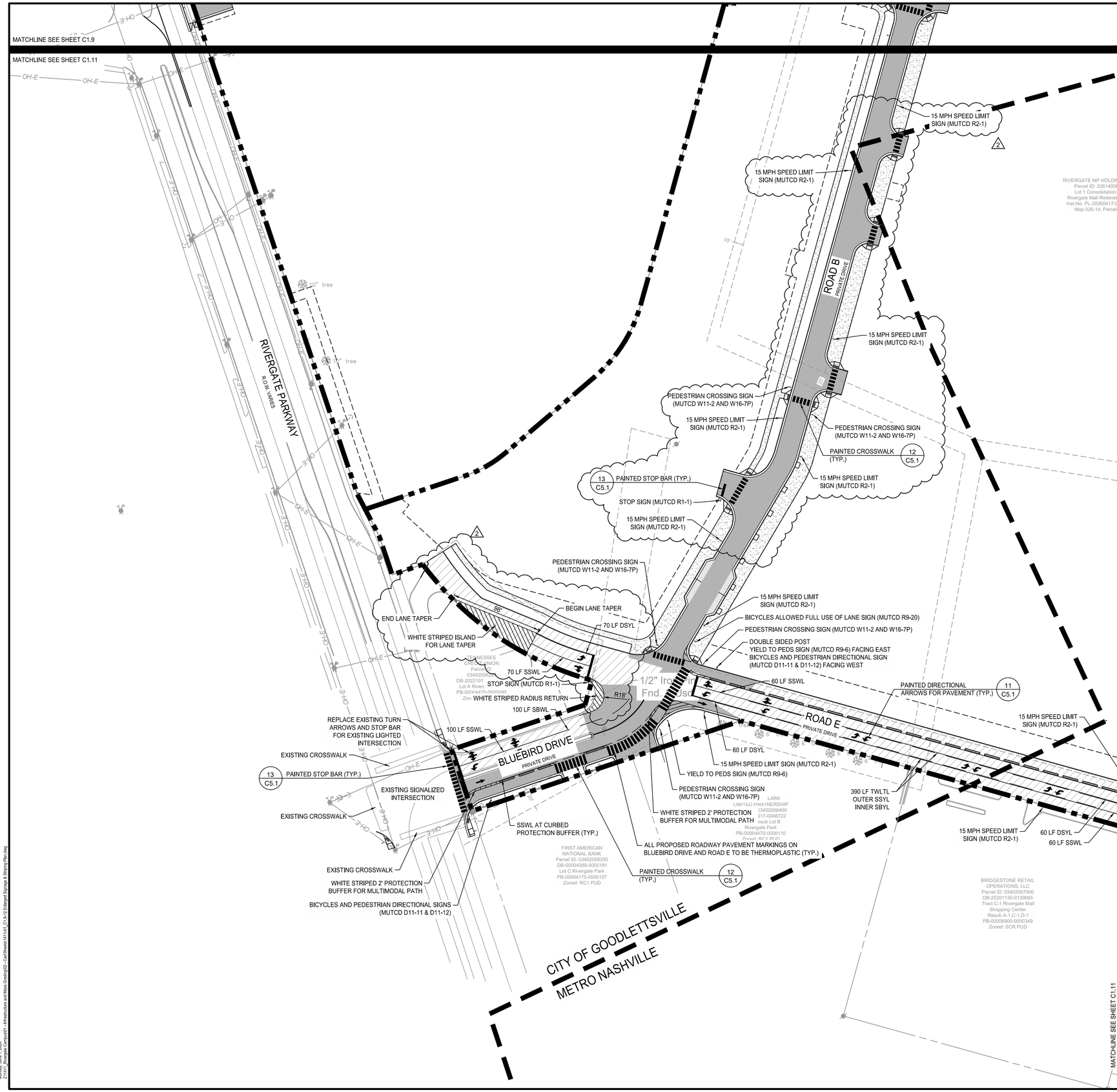
DR.	DATE	DESCRIPTION
CCH	01/19/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

ENLARGED STRIPING & SIGNAGE PLAN

C1.10

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Modified: June 1, 2026
Xref: Base Mapping/01 - Infrastructure and Mass Grading/02 - Civil Sheets/1411-01_C1.9-12 Enlarged Signage & Striping Plan.dwg



PAVING LEGEND

- HEAVY DUTY ASPHALT
- LIGHT DUTY ASPHALT
- MILL & OVERLAY EXISTING ASPHALT
- SIDEWALK SECTION

SITE BENCHMARKS

3: 5/8" CESO CP
N = 716556.19 E = 1763141.09 ELEV = 503.05

4: 5/8" CESO CP
N = 718787.16 E = 1762594.16 ELEV = 557.93

100: 5/8" CESO TRAVERSE
N = 718213.88 E = 1762190.45 ELEV = 511.29

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

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

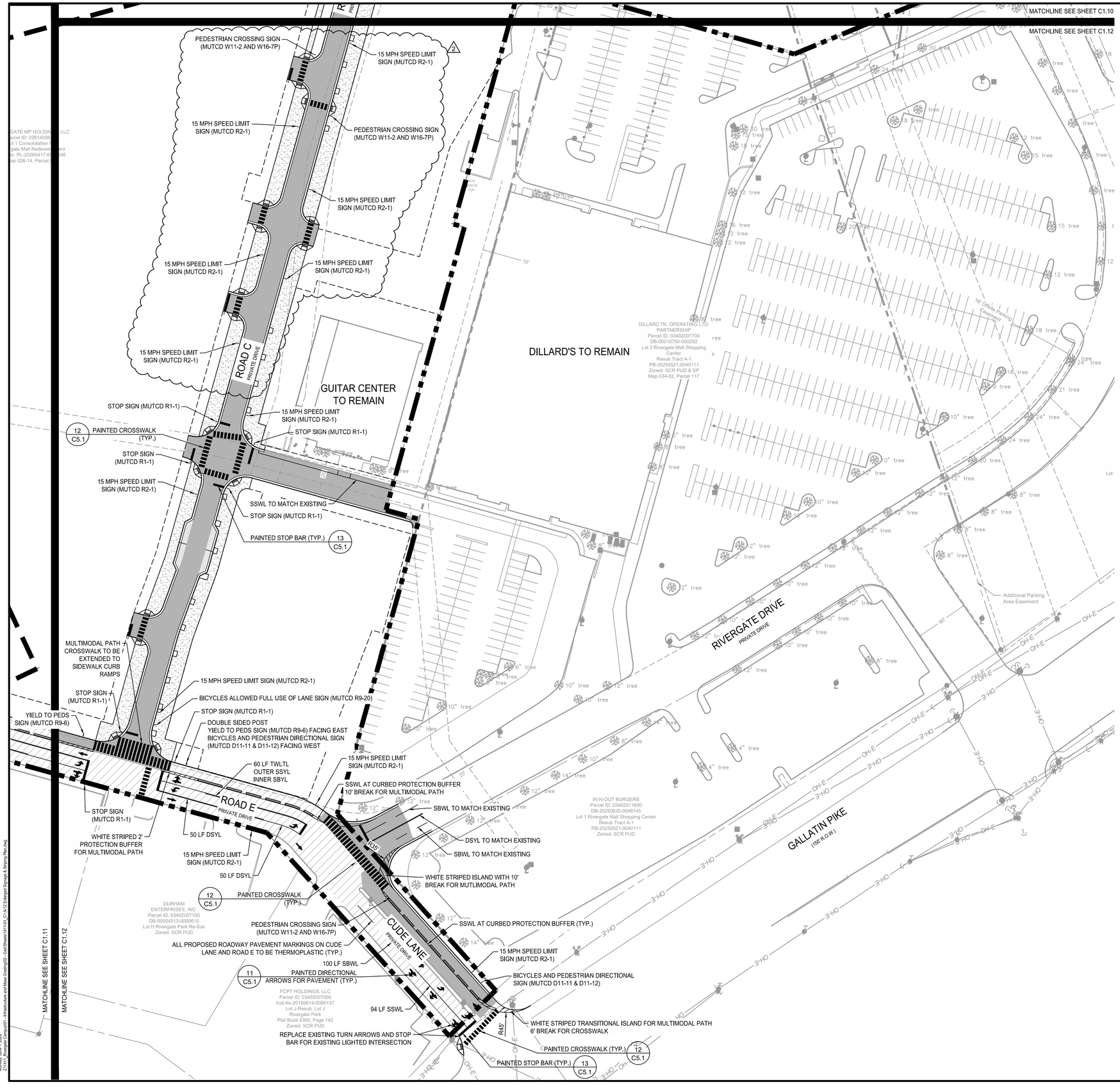
SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	01/19/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

ENLARGED STRIPING & SIGNAGE PLAN

C1.11

1411-01 RIVERGATE INFRASTRUCTURE PLANS



PAVING LEGEND

- HEAVY DUTY ASPHALT
- LIGHT DUTY ASPHALT
- MILL & OVERLAY EXISTING ASPHALT
- SIDEWALK SECTION

SITE BENCHMARKS

3: 5/8" CESO CP
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4: 5/8" CESO CP
N = 718787.16 E = 1762594.16 ELEV = 557.93

100: 5/8" CESO TRAVERSE
N = 718213.88 E = 1762190.45 ELEV = 511.29

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

Know what's below. Call before you dig.

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

GUILLEM ROSS ARCHITECTURE
REGISTERED
AGRICULTURE
No. 109853
STATE OF TENNESSEE
06/01/2026

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	01/19/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

ENLARGED STRIPING & SIGNAGE PLAN

C1.12

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Monday, June 1, 2026
Z:\1411 Rivergate\Cadd\01 - Infrastructure and Mass Grading\02 - Civil Sheets\1411-01_C1.9-12 Enlarged Signage & Striping Plan.dwg

AS-BUILT NOTE:

IN ACCORDANCE WITH THE METRO STORMWATER MANAGEMENT MANUAL, VOLUME 1, SECTION 3.9, AS-BUILT CERTIFICATIONS, MWS STORMWATER DIVISION MUST APPROVE THE FOLLOWING AS-BUILTS PRIOR TO ISSUANCE OF THE USE AND OCCUPANCY PERMIT:

- A CERTIFICATION LETTER FROM TN REGISTERED P.E. STATING THAT THE SITE HAS BEEN INSPECTED AND THAT THE STORMWATER MANAGEMENT SYSTEM AND STORMWATER CONTROL MEASURES (BOTH STRUCTURAL AND NON-STRUCTURAL) ARE COMPLETE AND FUNCTIONAL IN ACCORDANCE WITH THE PLANS APPROVED BY MWS.
- AN AS-BUILT LID SPREADSHEET.
- HYDROLOGIC AND HYDRAULIC CALCULATIONS FOR AS-BUILT CONDITIONS, AS REQUIRED.
- AS-BUILT DRAWINGS SHOWING FINAL TOPOGRAPHIC FEATURES OF ALL THESE FACILITIES. THIS SHALL INCLUDE INVERT ELEVATIONS OF OUTLET CONTROL STRUCTURES.
- ANY DEVIATIONS FROM THE APPROVED PLANS SHALL BE NOTED ON AS-BUILT DRAWINGS SUBMITTED.
- COPY OF AS-BUILT PLAN CAD FILE ON A CD AND SHOULD BE REGISTERED TO THE TN STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM 1983 (NAD83). DATA SHOULD BE PLACED IN SEPARATE LAYERS AND SHOULD BE LABELED / NAMED FOR EASY IDENTIFICATION.
- CUT AND FILL BALANCE CERTIFICATION FOR FLOODPLAIN AND SINKHOLE ALTERATIONS.
- WATER QUALITY BUFFERS SHALL BE SURVEYED AND INCLUDED WITH THE AS-BUILT SUBMITTAL.
- ANY PUBLIC (TO BECOME THE RESPONSIBILITY OF METRO TO MAINTAIN) STORMWATER INFRASTRUCTURE SHALL BE VIDEO-INSPECTED TO VERIFY PROPER INSTALLATION WITH THE VIDEO RECORDING AND ANY ASSOCIATED INSPECTION REPORT SUBMITTED AS PART OF AS-BUILT RECORD.
- ADDITIONAL TESTING MAY BE REQUIRED AS/IF WARRANTED BY VIDEO INSPECTION.

TENNESSEE CONSTRUCTION GENERAL PERMIT NOTICE OF COVERAGE (NOC) CERTIFICATION:

2. I HEREBY CERTIFY THAT THIS PROJECT WILL REQUIRE COVERAGE UNDER TENNESSEE CONSTRUCTION GENERAL PERMIT NO. TNR248669. THE TOTAL DISTURBED AREA IS: ±53.14 AC.

CHECK ALL THAT APPLY: THIS SITE DISCHARGES INTO WATERS IDENTIFIED BY TDEC AS:

☐ IMPAIRED FOR SILTATION ☐ IMPAIRED FOR HABITAT ALTERATION ☐ EXCEPTIONAL

SIGNATURE: MichelleDove DATE: 06/01/2026

CIRCLE ONE: DEVELOPER (PROJECT ENGINEER) OTHER _____

GRADING PLAN NOTES:

1. ALL PIPES UNDER EXISTING PAVED AREAS SHALL BE BACKFILLED TO TOP OF SUBGRADE WITH CRUSHED STONE UNLESS OTHERWISE SPECIFIED BY NDOT, MWS, OR CITY OF GOODLETTSVILLE.
2. CONTRACTOR TO VERIFY ALL EXISTING UTILITY ELEVATIONS AND GRADES PRIOR TO BEGINNING WORK. NOTIFY ENGINEER OF RECORD IMMEDIATELY OF ANY DISCREPANCIES FROM THE PLANS.
3. CONTOUR LINES AND SPOT ELEVATIONS ARE THE RESULT OF DETAILED ENGINEERING GRADING DESIGN AND REFLECT A PLANNED INTENT WITH REGARD TO DRAINAGE AND MOVEMENT OF MATERIALS. SHOULD THE CONTRACTOR HAVE ANY QUESTIONS OF THE INTENT OR ANY PROBLEMS WITH CONTINUITY OF GRADES, THE ENGINEER OF RECORD SHOULD BE CONTACTED IMMEDIATELY PRIOR TO BEGINNING WORK.
4. NO TREES ARE TO BE REMOVED AND/OR VEGETATION DISTURBED EXCEPT AS NECESSARY FOR GRADING PURPOSES AND ONLY AS APPROVED BY THE ENGINEER OR LANDSCAPE ARCHITECT OF RECORD.
5. TOPSOIL IS TO BE STRIPPED FROM ALL CUT AND FILL AREAS. IF POSSIBLE, STOCKPILE AND REDISTRIBUTE A MINIMUM OF 6" OF TOPSOIL OVER FINISHED LANDSCAPED AREAS UNLESS OTHERWISE STATED ON THE LANDSCAPE PLAN.
6. FILL MATERIAL REQUIRED SHALL BE PLACED UNDER THE SUPERVISION OF A GEOTECHNICAL TESTING FIRM AND BE BORROWED AT THE CONTRACTOR'S EXPENSE.
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9. WHERE THE SITE FALLS UNDER METRO NASHVILLE JURISDICTION: GRADING OPERATIONS ARE NOT TO BEGIN UNTIL EROSION CONTROL HAS BEEN INSTALLED AS SHOWN ON DRAWINGS, INSPECTED BY METRO STORMWATER DEPARTMENT, AND THE GRADING PERMIT HAS BEEN ISSUED.
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12. ALL DIMENSIONS AND LOCATIONS OF TEMPORARY EROSION CONTROL DEVICES SHALL BE SUBJECT TO ADJUSTMENT AS DESIGNATED BY THE OWNER'S REPRESENTATIVE.
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18. GC IS TO PHOTOGRAPH INSTALLATION OF ALL WATER QUALITY INFRASTRUCTURE.
19. PIPES WITH 20' OR MORE DEPTH SHALL BE CLASS IV RCP.

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- XXX.XX — SPOT ELEVATION
- XXX.XX — EXISTING SPOT ELEVATION
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NOTE: OUTPARCELS LOCATED WITHIN METRO NASHVILLE JURISDICTION SHALL BE INDIVIDUALLY REQUIRED TO ACHIEVE A MAXIMUM VOLUMETRIC RUNOFF COEFFICIENT (Rv) OF 0.274 IN FUTURE DESIGN THROUGH METRO NASHVILLE LOW IMPACT DEVELOPMENT (LID) REGULATIONS. ALL INDIVIDUAL PARCELS SHALL MAINTAIN A WEIGHTED CN VALUE OF 93.3.

NOTE:

1. ALL LAWN AREAS SHALL BE CULTIVATED TO A DEPTH OF 4" PRIOR TO SODDING OR SEEDING. PREPARED LAWN BEDS SHALL BE FREE FROM STONES OVER 2" DIAMETER AND OTHER DELETERIOUS MATERIAL.
2. THE PLANTING SOIL MIX FOR ON-GRADE PLANTINGS (TREES, SHRUBS, & GROUNDCOVERS) SHALL CONSIST OF THE FOLLOWING UNLESS OTHERWISE INDICATED:
   A. 66% TOPSOIL
   B. 33% ERTH FOOD COMPOST SOIL AMENDMENT BY ERTH PRODUCTS, LLC. OR EQUIVALENT
   C. SCOTTS AGRIFORM 20-10-5 SLOW-RELEASE FERTILIZER
   D. LIME
   E. TERRASORB HYDROGEL PER MANUFACTURER'S SPECIFICATIONS (IN NON-IRRIGATED AREAS ONLY)
3. THE PLANTING SOIL MIX FOR OVER-STRUCTURE PLANTINGS (TREES, SHRUBS, & GROUNDCOVERS) SHALL BE ERTH-HYDROROCKS INTENSIVE LIGHTWEIGHT SOIL BY ERTH PRODUCTS, LLC. OR EQUIVALENT
4. SOD DRESSING TO BE 50% SAND AND 50% ERTH PRODUCTS COMPOST BY ERTH PRODUCTS, LLC. OR EQUIVALENT.

SITE BENCHMARKS

3: ⅝" CESO CP			
N = 716556.19	E = 1763141.09	ELEV = 503.05	
4: ⅝" CESO CP			
N = 718787.16	E = 1762594.16	ELEV = 557.93	
100: ⅝" CESO TRAVERSE			
N = 718213.88	E = 1762190.45	ELEV = 511.29	

SCALE: 1" = 100'

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

MICHELLE M. DOVE — 129853 — REGISTERED AGRICULTURE — 06/01/2026 — STATE OF TENNESSEE

SITE PLANS FOR:

RIVERGATE INFRASTRUCTURE PLANS

1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	03/06/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

OVERALL GRADING & DRAINAGE PLAN

C2.0

1411-01 RIVERGATE INFRASTRUCTURE PLANS

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N = 716556.19 E = 1763141.09 ELEV = 503.05

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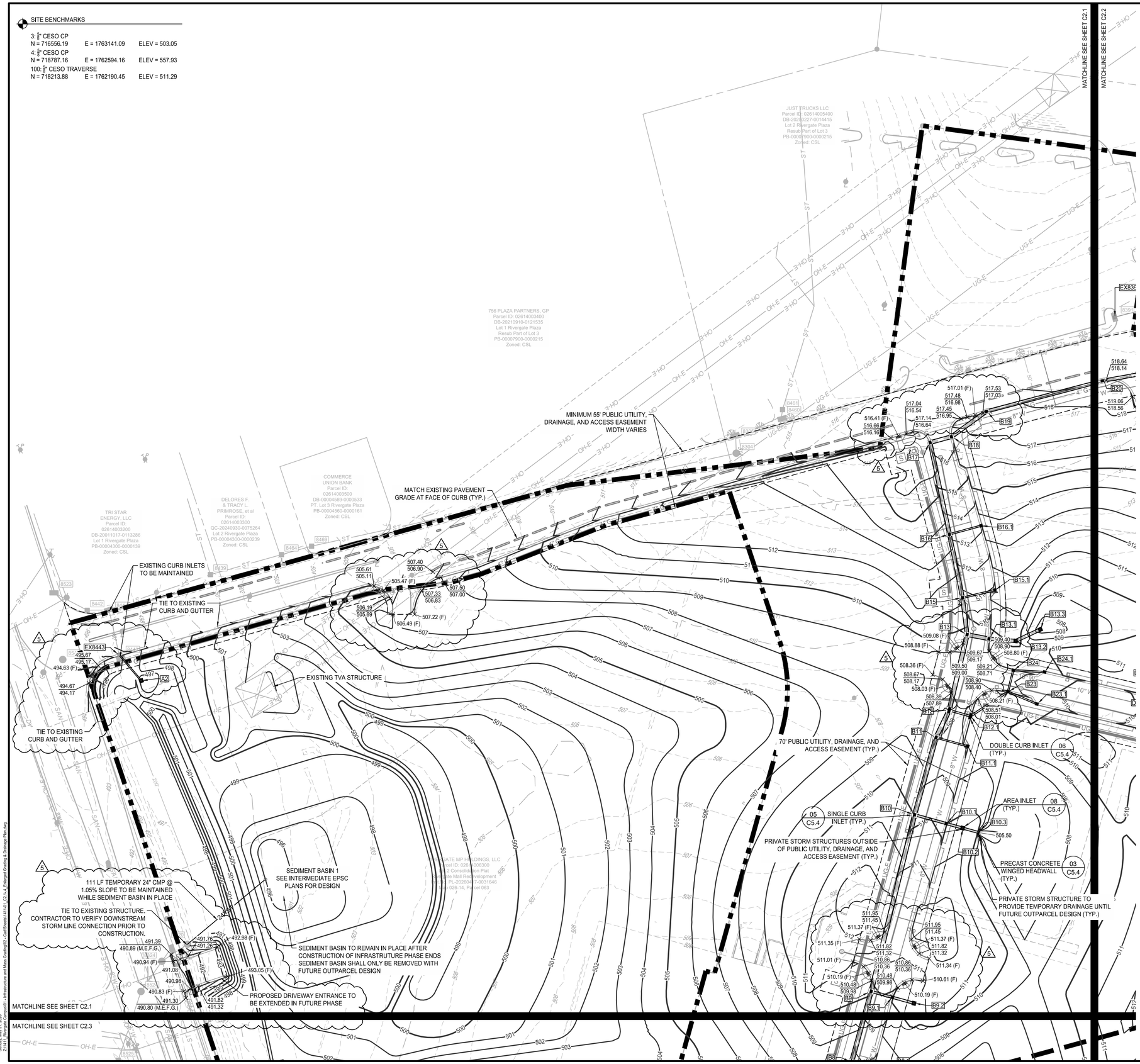

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SCALE: 1" = 50'

Know what's below. Call before you dig.

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

MICHELLE K. HARRIS — REGISTERED LANDSCAPE ARCHITECT — AGRICULTURE — No. 329853 — STATE OF TENNESSEE — 06/01/2026

SITE PLANS FOR:

RIVERGATE INFRASTRUCTURE PLANS

1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
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MMD	06/01/2026	REVISION 1

ENLARGED GRADING & DRAINAGE PLAN

C2.1

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Monday, May 31, 2026
3:47:41 PM
P:\projects\1411-01 - Rivergate Parkway\01 - Infrastructure and Mass Grading\02 - Civil\Sheets\1411-01_C3_1-4_Enlarged Grading & Drainage Plan.dwg

MATCHLINE SEE SHEET C2.1

MATCHLINE SEE SHEET C2.2

SITE BENCHMARKS

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CITY OF GOODLETTSVILLE
METRO NASHVILLE

RIVERGATE DRIVE - 1
PRIVATE DRIVE

ROAD D
PRIVATE DRIVE

RIVERGATE DRIVE - 2
PRIVATE DRIVE

BJ's Wholesale Club, Inc.
Parcel ID: 026140006200
DB-20240507-0033423
Lot 1 B J Rivergate
PB-20240227-0013104
Zoned: CSL

DAYTON-HUDSON CORPORATION
Parcel ID: 026140004400
DB-00005580-0000988
Lot 2 Rivergate East
SEC 1-1st Rev
PB-00006900-0000334
Zoned: SCR PUD

79' PUBLIC UTILITY, DRAINAGE, AND ACCESS EASEMENT WIDTH VARIES

68' PUBLIC UTILITY, DRAINAGE, AND ACCESS EASEMENT WIDTH VARIES

70' PUBLIC UTILITY, DRAINAGE, AND ACCESS EASEMENT (TYP.)

20' Public Utility Easement

25' N.E.S. Easement

90' Ingress Egress Easement

50' Ingress Egress Easement Book P9,334 Page P9,334

10' waterline easement

TIE EXISTING STRUCTURE TO PROPOSED STORM LINE. EXISTING STORM PIPE TO THE SOUTH TO BE CUT AND CAPPED AT STRUCTURE.

START WALL

DOGHOUSE INLET TO BE PLACED ON EXISTING STORM LINE

CONTRACTOR SHALL VERIFY PIPE CONDITION PRIOR TO CONSTRUCTION OF RETAINING WALL.

EXISTING STORM STRUCTURE RIM ELEVATION TO BE ADJUSTED TO FINAL GRADE

EXISTING STORM LINES TO REMAIN PRIVATE

1,121 LF RETAINING WALL 10.3' MAXIMUM HEIGHT DESIGNED BY OTHERS

END WALL

TIE EXISTING STRUCTURE TO PROPOSED STORM LINE. CONTRACTOR SHALL VERIFY INVERT ELEVATIONS OF STRUCTURE PRIOR TO CONSTRUCTION.

TIE TO EXISTING CURB AND GUTTER

MATCH EXISTING PAVEMENT GRADE AT FACE OF CURB (TYP.)

DOUBLE AREA INLET 08 C5.4

SINGLE CURB INLET (TYP.) 05 C5.4

TRIPLE CURB INLET (TYP.) 07 C5.4

AREA INLET (TYP.) 08 C5.4

DOUBLE CURB INLET (TYP.) 06 C5.4

PRECAST CONCRETE WINGED HEADWALL (TYP.) 03 C5.4

PRIVATE STORM STRUCTURE TO PROVIDE TEMPORARY DRAINAGE UNTIL FUTURE OUTPARCEL DESIGN (TYP.)

PRIVATE STORM STRUCTURES OUTSIDE OF PUBLIC ACCESS AND UTILITY EASEMENT (TYP.)

MATCHLINE SEE SHEET C2.2

MATCHLINE SEE SHEET C2.4

0 25 50 100 150

SCALE: 1" = 50'

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RACHELLE M. PUCKETT — No. 129853 — REGISTERED PROFESSIONAL ENGINEER — AGRICULTURE — STATE OF TENNESSEE
5/06/2026

SITE PLANS FOR:

RIVERGATE INFRASTRUCTURE PLANS

1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

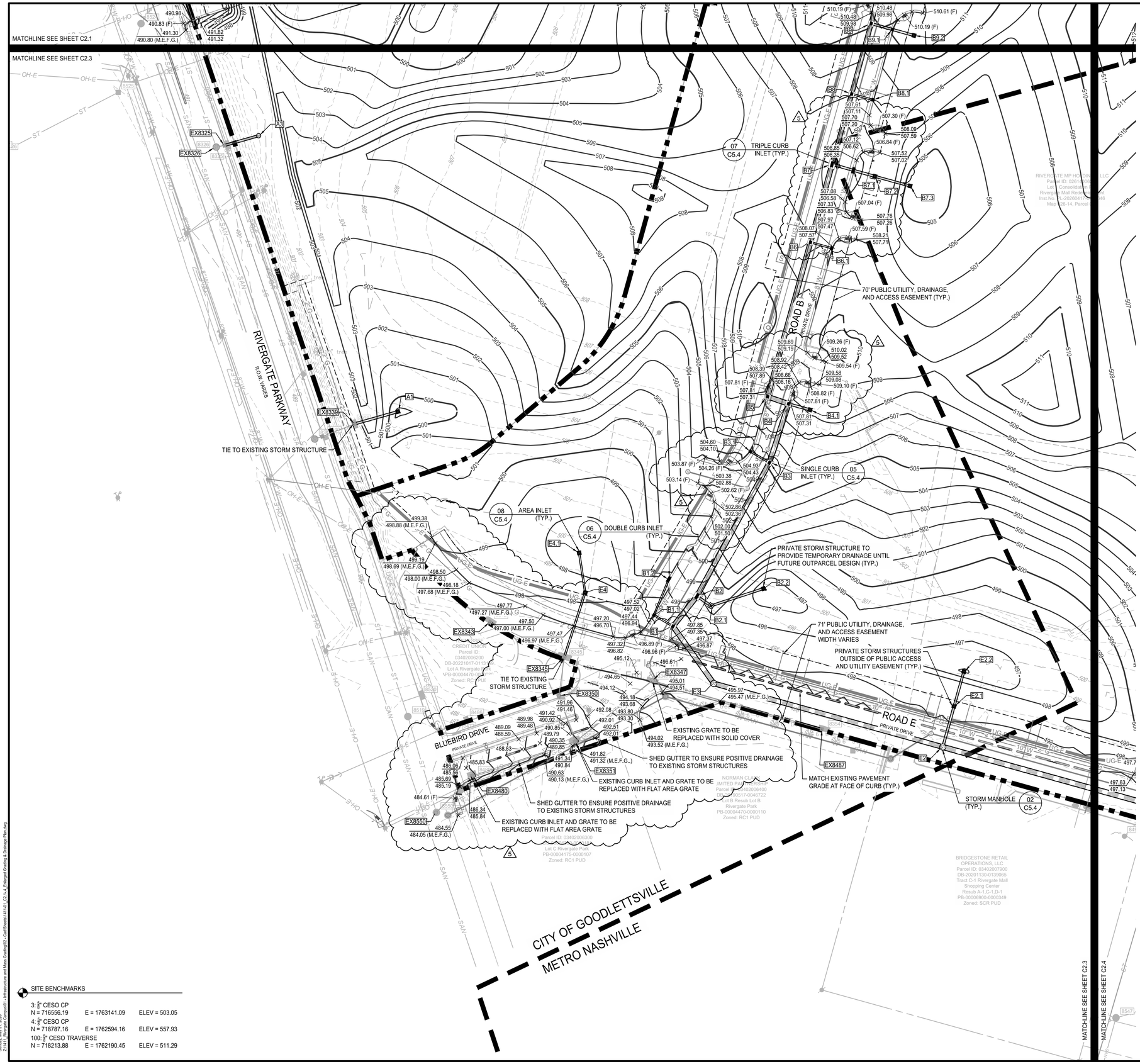
DR.	DATE	DESCRIPTION
CCH	09/10/2025	PERMIT SET
CCH	09/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	03/06/2026	AGENCY COMMENTS
MMD	09/01/2026	REVISION 1

ENLARGED GRADING & DRAINAGE PLAN

C2.2

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Sunday, May 31, 2026
Z:\Projects\1411-01 - Infrastructure and Mass Grading\02 - Cad\Sheets\1411-01_C2.1-x_Enlarged Grading & Drainage Plan.dwg



GRADING PLAN NOTES:

1. ALL PIPES UNDER EXISTING PAVED AREAS SHALL BE BACKFILLED TO TOP OF SUBGRADE WITH CRUSHED STONE UNLESS OTHERWISE SPECIFIED BY NDOT, MWS, OR CITY OF GOODLETTSVILLE.
2. CONTRACTOR TO VERIFY ALL EXISTING UTILITY ELEVATIONS AND GRADES PRIOR TO BEGINNING WORK. NOTIFY ENGINEER OF RECORD IMMEDIATELY OF ANY DISCREPANCIES FROM THE PLANS.
3. CONTOUR LINES AND SPOT ELEVATIONS ARE THE RESULT OF DETAILED ENGINEERING GRADING DESIGN AND REFLECT A PLANNED INTENT WITH REGARD TO DRAINAGE AND MOVEMENT OF MATERIALS. SHOULD THE CONTRACTOR HAVE ANY QUESTIONS OF THE INTENT OR ANY PROBLEMS WITH CONTINUITY OF GRADES, THE ENGINEER OF RECORD SHOULD BE CONTACTED IMMEDIATELY PRIOR TO BEGINNING WORK.
4. NO TREES ARE TO BE REMOVED AND/OR VEGETATION DISTURBED EXCEPT AS NECESSARY FOR GRADING PURPOSES AND ONLY AS APPROVED BY THE ENGINEER OR LANDSCAPE ARCHITECT OF RECORD.
5. TOPSOIL IS TO BE STRIPPED FROM ALL CUT AND FILL AREAS. IF POSSIBLE, STOCKPILE AND REDISTRIBUTE A MINIMUM OF 6" OF TOPSOIL OVER FINISHED LANDSCAPED AREAS UNLESS OTHERWISE STATED ON THE LANDSCAPE PLAN.
6. FILL MATERIAL REQUIRED SHALL BE PLACED UNDER THE SUPERVISION OF A GEOTECHNICAL TESTING FIRM AND BE BORROWED AT THE CONTRACTOR'S EXPENSE.
7. ALL GRADED AREAS, INCLUDING SLOPES, ARE TO BE SODDED OR MULCHED AND SEEDED WITHIN 14 DAYS AFTER GRADING IS SUSPENDED OR COMPLETED.
8. ALL SLOPES EQUAL TO OR GREATER THAN 3:1 MUST BE STABILIZED WITHIN 7 DAYS AFTER GRADING IS SUSPENDED OR COMPLETED.
9. WHERE THE SITE FALLS UNDER METRO NASHVILLE JURISDICTION: GRADING OPERATIONS ARE NOT TO BEGIN UNTIL EROSION CONTROL HAS BEEN INSTALLED AS SHOWN ON DRAWINGS, INSPECTED BY METRO STORMWATER DEPARTMENT, AND THE GRADING PERMIT HAS BEEN ISSUED.
10. WHERE THE SITE FALLS UNDER CITY OF GOODLETTSVILLE JURISDICTION: GRADING OPERATIONS ARE NOT TO BEGIN UNTIL EROSION CONTROL HAS BEEN INSTALLED AS SHOWN ON DRAWINGS, INSPECTED BY THE CITY OF GOODLETTSVILLE, AND THE LAND DISTURBANCE PERMIT HAS BEEN ISSUED.
11. SILT BARRIERS SHALL BE CLEANED OF ACCUMULATED SEDIMENT OR REPLACED WHEN APPROXIMATELY 33% FILLED WITH SEDIMENT OR DIRECTED BY THE EROSION CONTROL INSPECTOR(S).
12. ALL DIMENSIONS AND LOCATIONS OF TEMPORARY EROSION CONTROL DEVICES SHALL BE SUBJECT TO ADJUSTMENT AS DESIGNATED BY THE OWNER'S REPRESENTATIVE.
13. WHEN THE TEMPORARY EROSION CONTROL DEVICES ARE NO LONGER NEEDED FOR THE INTENDED PURPOSE IN THE OPINION OF THE SITE EROSION CONTROL INSPECTOR(S), THEY MAY BE REMOVED.
14. THE CONTRACTOR SHALL PROVIDE THE NECESSARY PROTECTION FOR TREES TO REMAIN IN ACCORDANCE WITH CITY SPECIFICATIONS. DO NOT OPERATE OR STORE HEAVY EQUIPMENT NOR HANDLE OR STORE MATERIALS WITHIN THE DRIP LINES OF TREES TO REMAIN.
15. IF NEEDED, CONTRACTOR SHALL PROVIDE AN AREA FOR CONCRETE WASH DOWN AND EQUIPMENT FUELING IN ACCORDANCE WITH METRO STORMWATER BMP CP-10 AND CP-13 AND THE TDEC EROSION CONTROL HANDBOOK. CONTRACTOR SHALL COORDINATE EXACT LOCATION WITH NPDES DEPARTMENT DURING PRE-CONSTRUCTION MEETING.
16. PRIOR TO FINAL ACCEPTANCE AND INSPECTION, SEDIMENT MUST BE REMOVED FROM ALL NEW AND EXISTING STRUCTURES AND WATER QUALITY SYSTEMS.
17. CONTRACTOR SHALL CONTACT ENGINEER OF RECORD PRIOR TO INSTALLATION OF ALL STORMWATER AND UNDERGROUND UTILITY INFRASTRUCTURE ASSOCIATED WITH THE PROJECT IN ORDER TO DETERMINE REQUIRED AS-BUILT INFORMATION.
18. GC IS TO PHOTOGRAPH INSTALLATION OF ALL WATER QUALITY INFRASTRUCTURE.
19. PIPES WITH 20' OR MORE DEPTH SHALL BE CLASS IV RCP.

LEGEND

- DW — DOMESTIC WATER SERVICE
- G — GAS SERVICE
- SAN — SANITARY SEWER SERVICE
- OH-E — OVERHEAD ELECTRIC SERVICE
- UG-E — UNDERGROUND ELECTRIC SERVICE
- STORM PIPE (SEE PLANS FOR MATERIAL)
- 562 — EXISTING CONTOUR
- 562 — PROPOSED CONTOUR
- (S) SANITARY SEWER MANHOLE
- (ST) STORM SEWER MANHOLE
- CURB INLET
- CATCH BASIN
- NYLOPLAST DRAIN BASIN
- ELECTRIC/COMMUNICATION POLE
- XXX.XX / XXX.XX — TOP OF CURB SPOT ELEVATION / BOTTOM OF CURB SPOT ELEVATION
- TW:XXX.XX / BW:XXX.XX — RETAINING WALL: TOP OF WALL / FINISHED GRADE AT BOTTOM OF WALL
- XXX.XX (M.E.F.G.) — MEET EXISTING GRADE
- XXX.XX — SPOT ELEVATION
- XXX.XX — EXISTING SPOT ELEVATION
- XXX.XX (F) — FLUSH SPOT ELEVATION

NOTE: OUTPARCELS LOCATED WITHIN METRO NASHVILLE JURISDICTION SHALL BE INDIVIDUALLY REQUIRED TO ACHIEVE A MAXIMUM VOLUMETRIC RUNOFF COEFFICIENT (Rv) OF 0.274 IN FUTURE DESIGN THROUGH METRO NASHVILLE LOW IMPACT DEVELOPMENT (LID) REGULATIONS. ALL INDIVIDUAL PARCELS SHALL MAINTAIN A WEIGHTED CN VALUE OF 93.3.

SITE BENCHMARKS

3: 3" CESO CP
N = 716556.19 E = 1763141.09 ELEV = 503.05
4: 3" CESO CP
N = 718787.16 E = 1762594.16 ELEV = 557.93
100: 3" CESO TRAVERSE
N = 718213.88 E = 1762190.45 ELEV = 511.29

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

Know what's below. Call before you dig.

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

GUILLERMO CHAVEZ HERNANDEZ
No. 129853
AGRICULTURE
STATE OF TENNESSEE
06/01/2026

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RIVERGATE INFRASTRUCTURE PLANS
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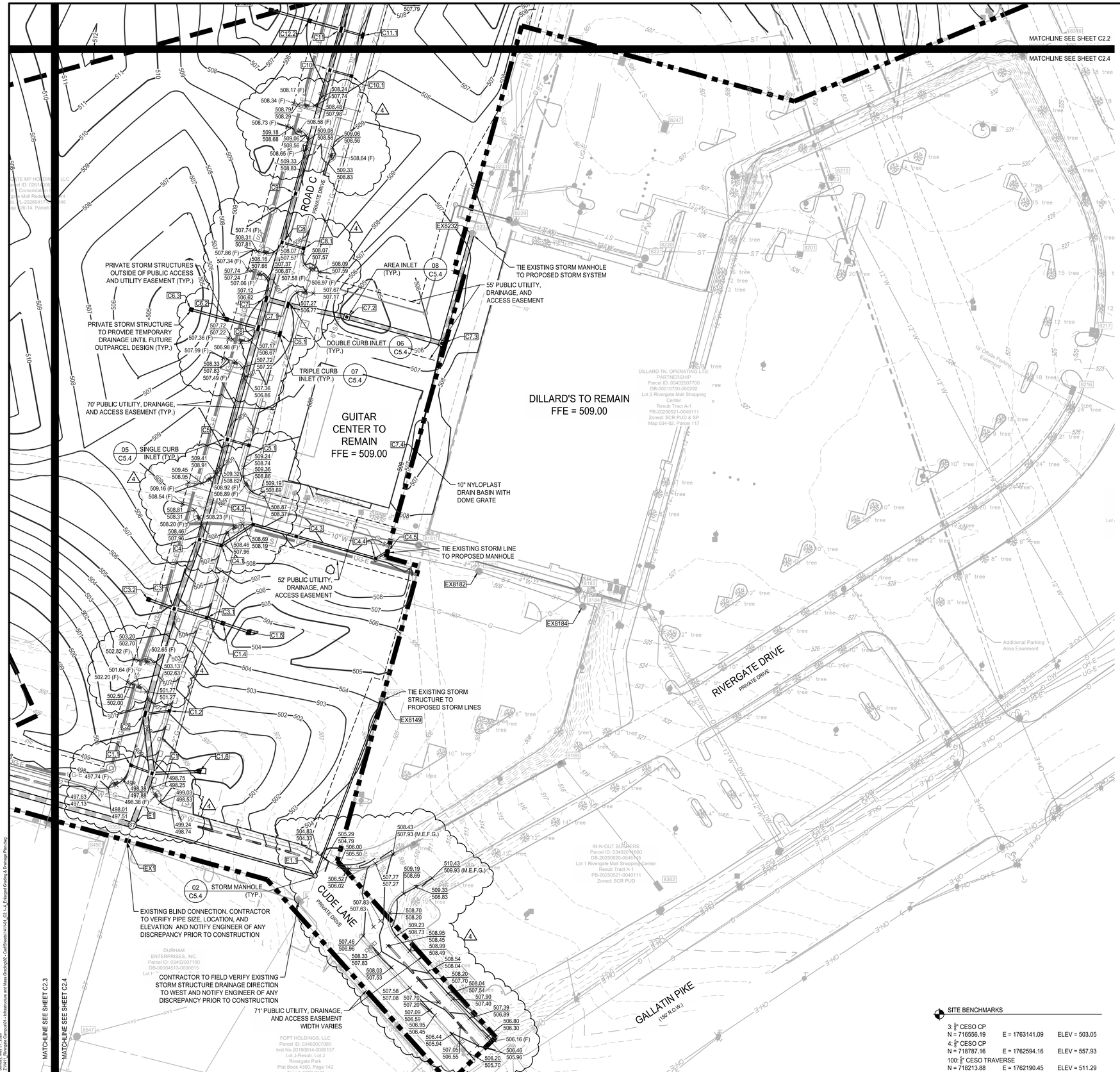
MMD	05/01/2026	REVISION 1

ENLARGED GRADING & DRAINAGE PLAN

C2.3

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Created: May 31, 2024
Z:\Projects\1411-01 - Infrastructure and Mass Grading\02 - Civil\Sheets\1411-01_C2.1-4_Enlarged Grading & Drainage Plan.dwg



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2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

KATHERINE M. DOWNEY — 2248 — REGISTERED LANDSCAPE ARCHITECT — AGRICULTURE — 06/01/2026 — No. 109853 — STATE OF TENNESSEE

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MMD	06/01/2026	REVISION 1

ENLARGED GRADING & DRAINAGE PLAN

C2.4

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Tuesday, May 31, 2026
2:01:13pm | Q:\Projects\1411-01 - Infrastructure and Mass Grading\02 - Civil\Sheets\1411-01_C2.1-2.4_Enlarged Grading & Drainage Plan.dwg

STRUCTURE TABLE

STRUCTURE	TYPE	T.C.	PIPE IN : I.E.	PIPE OUT : I.E.
A1	SAI	498.68		A1-EX8339 - 24" RCP (W) : 493.00
A2	SAI	496.60		A2-EX8443 - 12" RCP (NW) : 493.35
A3	MH	498.54		A4-EX8325 - 24" RCP (W) : 490.00
B1	SCI	496.97	B2-B1 - 54" RCP (NE) : 484.99 B1.1-B1 - 15" RCP (NW) : 487.50	B1-E3 - 54" RCP (SE) : 484.89
B1.1	SCI	496.97	B1.2-B1.1 - 15" RCP (N) : 491.90	B1.1-B1 - 15" RCP (SE) : 488.70
B1.2	DCI	498.24		B1.2-B1.1 - 15" RCP (S) : 494.10
B2	DCI	498.24	B3-B2 - 54" RCP (NE) : 485.78 B2.1-B2 - 24" RCP (SE) : 490.30	B2-B1 - 54" RCP (SW) : 485.68
B2.1	SAI	499.17	B2.2-B2.1 - 24" HDPE (E) : 490.70	B2.1-B2 - 24" RCP (NW) : 490.60
B2.2	SAI	495.93		B2.2-B2.1 - 24" HDPE (W) : 491.70
B3	SCI	504.76	B4-B3 - 54" RCP (N) : 488.50 B3.1-B3 - 15" RCP (NW) : 492.70	B3-B2 - 54" RCP (SW) : 488.40
B3.1	SCI	504.76		B3.1-B3 - 15" RCP (SE) : 493.60
B4	SCI	507.26	B5-B4 - 54" RCP (W) : 490.00 B4.1-B4 - 24" RCP (E) : 497.40	B4-B3 - 54" RCP (S) : 489.90
B4.1	SAI	508.17		B4.1-B4 - 24" RCP (W) : 498.00
B5	SCI	507.32	B6-B5 - 54" RCP (N) : 490.25	B5-B4 - 54" RCP (E) : 490.15
B6	SCI	507.66	B7-B6 - 54" RCP (N) : 491.30 B6.1-B6 - 15" RCP (E) : 500.10	B6-B5 - 54" RCP (S) : 491.20
B6.1	SCI	507.66		B6.1-B6 - 15" RCP (W) : 501.10
B7	TCI	506.39	B8-B7 - 48" RCP (N) : 492.30 B7.1-B7 - 24" RCP (E) : 494.00	B7-B6 - 54" RCP (S) : 491.80
B7.1	DCI	506.39	B7.2-B7.1 - 24" RCP (E) : 494.80	B7.1-B7 - 24" RCP (W) : 494.70
B7.2	SAI	507.32	B7.3-B7.2 - 24" HDPE (E) : 495.40	B7.2-B7.1 - 24" RCP (W) : 495.20
B7.3	SAI	504.00		B7.3-B7.2 - 24" HDPE (W) : 497.00
B8	SCI	507.62	B9-B8 - 48" RCP (N) : 492.90 B8.1-B8 - 15" RCP (E) : 495.50	B8-B7 - 48" RCP (S) : 492.80
B8.1	SCI	507.62		B8.1-B8 - 15" RCP (W) : 496.50
B9	SCI	509.72	B10-B9 - 48" RCP (N) : 493.50 B9.1-B9 - 24" RCP (E) : 495.10	B9-B8 - 48" RCP (S) : 493.40
B9.1	SCI	509.72	B9.2-B9.1 - 24" RCP (E) : 498.00	B9.1-B9 - 24" RCP (W) : 496.10
B9.2	SAI	510.63		B9.2-B9.1 - 24" RCP (W) : 500.00
B10	SCI	509.58	B11-B10 - 48" RCP (N) : 494.70 B10.1-B10 - 24" RCP (E) : 496.10	B10-B9 - 48" RCP (S) : 494.60
B10.1	SCI	509.58	B10.2-B10.1 - 24" RCP (E) : 502.70	B10.1-B10 - 24" RCP (W) : 496.80
B10.2	SAI	510.36	B10.3-B10.2 - 24" HDPE (E) : 503.80	B10.2-B10.1 - 24" RCP (W) : 503.70
B10.3	HW	508.15		B10.3-B10.2 - 24" HDPE (W) : 505.50
B11	SCI	508.21	B12-B11 - 48" RCP (NE) : 495.30 B11.1-B11 - 15" RCP (E) : 497.10	B11-B10 - 48" RCP (S) : 495.20
B11.1	SCI	508.26		B11.1-B11 - 15" RCP (W) : 498.10
B12	DCI	507.78	B13-B12 - 48" RCP (N) : 495.60 B12.1-B12 - 18" RCP (E) : 497.50	B12-B11 - 48" RCP (SW) : 495.50
B12.1	DCI	507.78	B23-B12.1 - 18" RCP (NE) : 497.90	B12.1-B12 - 18" RCP (W) : 497.80
B13	SCI	509.33	B13.1-B13 - 42" RCP (E) : 497.60 B15-B14 - 42" RCP (N) : 497.98	B13-B12 - 48" RCP (S) : 497.10
B13.1	SCI	509.20	B13.2-B13.1 - 36" RCP (E) : 498.30	B13.1-B13 - 42" RCP (W) : 497.80
B13.2	SAI	510.10	B13.3-B13.2 - 36" HDPE (NE) : 499.86	B13.2-B13.1 - 36" RCP (W) : 499.76
B13.3	SAI	507.40		B13.3-B13.2 - 36" HDPE (SW) : 501.35
B15	SCI	510.60	B16-B15 - 42" RCP (N) : 498.57 B15.1-B15 - 15" RCP (E) : 502.30	B15-B14 - 42" RCP (S) : 498.47
B15.1	SCI	510.79		B15.1-B15 - 15" RCP (W) : 503.50
B16	SCI	513.12	B17-B16 - 42" RCP (N) : 499.93 B16.1-B16 - 15" RCP (E) : 504.20	B16-B15 - 42" RCP (S) : 499.83
B16.1	SCI	513.12		B16.1-B16 - 15" RCP (W) : 505.30
B17	SCI	516.20	B18-B17 - 42" RCP (E) : 501.85	B17-B16 - 42" RCP (S) : 501.75
B18	SCI	516.23	B19-B18 - 42" RCP (NE) : 502.37	B18-B17 - 42" RCP (W) : 502.27

STRUCTURE TABLE

STRUCTURE	TYPE	T.C.	PIPE IN : I.E.	PIPE OUT : I.E.
B19	DCI	517.10	B20-B19 - 36" RCP (E) : 503.60	B19-B18 - 42" RCP (SW) : 503.10
B20	TCI	518.19	B21-B20 - 36" RCP (E) : 507.00	B20-B19 - 36" RCP (W) : 506.90
B21	TCI	518.70	EX8300-B21 - 36" RCP (E) : 508.70 EX8392-B21 - 18" RCP (NW) : 514.24	B21-B20 - 36" RCP (W) : 508.60
B22	TCI	522.02		B22-EX8300 - 18" RCP (W) : 518.00
B23	SCI	508.59	B24-B23 - 15" RCP (N) : 498.60 B23.1-B23 - 15" RCP (SE) : 504.55	B23-B12.1 - 18" RCP (SW) : 498.50
B23.1	SCI	509.15		B23.1-B23 - 15" RCP (NW) : 505.50
B24	SCI	508.59	B24.1-B24 - 15" RCP (E) : 505.00	B24-B23 - 15" RCP (S) : 498.90
B24.1	SCI	509.15		B24.1-B24 - 15" RCP (W) : 505.70
C1	SCI	498.15	C1.1-C1 - 15" RCP (W) : 490.80 C2-C1 - 60" RCP (N) : 479.06 C1.6-C1 - 24" RCP (E) : 492.30	C1-E1 - 60" RCP (S) : 478.96
C1.1	SCI	498.23		C1.1-C1 - 15" RCP (E) : 492.30
C1.2	SCI	500.68		C1.2-C2 - 15" RCP (W) : 493.90
C1.4	SAI	505.29	C1.5-C1.4 - 24" HDPE (E) : 493.90	C1.4-C3.1 - 24" RCP (W) : 493.80
C1.5	SAI	502.80		C1.5-C1.4 - 24" HDPE (W) : 496.65
C1.6	SAI	498.80		C1.6-C1 - 24" RCP (W) : 493.90
C2	DCI	500.31	C3-C2 - 60" RCP (N) : 480.66 C1.2-C2 - 15" RCP (E) : 493.60	C2-C1 - 60" RCP (S) : 480.56
C3	SCI	504.47	C4-C3 - 60" RCP (N) : 485.41 C3.1-C3 - 24" RCP (E) : 490.40 C3.2-C3.1 - 24" RCP (W) : 497.40	C3-C2 - 60" RCP (S) : 485.31
C3.1	SCI	504.50	C1.4-C3.1 - 24" RCP (E) : 492.00	C3.1-C3 - 24" RCP (W) : 491.90
C3.2	SAI	505.46		C3.2-C3.1 - 24" RCP (E) : 498.00
C4	SCI	507.45	C5-C4 - 60" RCP (N) : 487.83 C4.1-C4 - 24" RCP (E) : 492.50	C4-C3 - 60" RCP (S) : 487.73
C4.1	SCI	507.45	C4.2-C4.1 - 24" RCP (NE) : 497.00	C4.1-C4 - 24" RCP (W) : 492.80
C4.2	SCI	508.11	C4.3-C4.2 - 24" RCP (E) : 497.60	C4.2-C4.1 - 24" RCP (SW) : 497.50
C4.3	TCI	507.30	C4.4-C4.3 - 18" RCP (E) : 498.20	C4.3-C4.2 - 24" RCP (W) : 498.10
C4.4	DCI	507.52	C4.5-C4.4 - 18" RCP (NE) : 499.30	C4.4-C4.3 - 18" RCP (W) : 499.20
C4.5	MH	507.88	EX8182-C4.5 - 18" RCP (E) : 501.57	C4.5-C4.4 - 18" RCP (SW) : 499.60
C5	SCI	508.31	C6-C5 - 60" RCP (N) : 489.50 C5.1-C5 - 15" RCP (E) : 501.30	C5-C4 - 60" RCP (S) : 489.40
C5.1	SCI	508.31		C5.1-C5 - 15" RCP (W) : 501.60
C6	TCI	506.32	C7-C6 - 60" RCP (N) : 490.30 C6.1-C6 - 15" RCP (E) : 493.97 C6.2-C6 - 24" RCP (W) : 498.40	C6-C5 - 60" RCP (S) : 490.20
C6.1	TCI	506.32		C6.1-C6 - 15" RCP (W) : 495.44
C6.2	SAI	507.44	C6.3-C6.2 - 24" HDPE (W) : 498.90	C6.2-C6 - 24" RCP (E) : 498.80
C6.3	SAI	504.00		C6.3-C6.2 - 24" HDPE (E) : 499.40
C7	DCI	506.53	C8-C7 - 54" RCP (N) : 491.00 C7.1-C7 - 48" RCP (E) : 491.50	C7-C6 - 60" RCP (S) : 490.50
C7.1	DCI	506.53	C7.2-C7.1 - 48" RCP (E) : 492.50	C7.1-C7 - 48" RCP (W) : 491.80
C7.2	SAI	504.11	C7.3-C7.2 - 48" RCP (E) : 493.50	C7.2-C7.1 - 48" RCP (W) : 493.40
C7.3	SAI	506.27	EX8232-C7.3 - 48" RCP (N) : 495.30 C7.4-C7.3 - 10" HDPE (S) : 501.58	C7.3-C7.2 - 48" RCP (W) : 495.20
C7.4	NYLOPLAST BASIN	506.16		C7.4-C7.3 - 10" HDPE (N) : 503.25
C8	SCI	507.65	C9-C8 - 54" RCP (N) : 491.62 C8.1-C8 - 15" RCP (E) : 500.60	C8-C7 - 54" RCP (S) : 491.52
C8.1	SCI	507.65		C8.1-C8 - 15" RCP (W) : 500.90
C9	SCI	508.66	C10-C9 - 54" RCP (N) : 492.17	C9-C8 - 54" RCP (S) : 492.07
C10	SCI	507.25	C11-C10 - 48" RCP (N) : 493.80 C10.1-C10 - 15" RCP (E) : 496.90	C10-C9 - 54" RCP (S) : 493.30
C10.1	SCI	507.25		C10.1-C10 - 15" RCP (W) : 497.90
C11	DCI	506.85	C12-C11 - 48" RCP (N) : 494.18 C11.1-C11 - 15" RCP (E) : 497.10 C12.2-C11 - 24" RCP (W) : 498.80	C11-C10 - 48" RCP (S) : 494.08
C11.1	DCI	506.85		C11.1-C11 - 15" RCP (W) : 498.10
C12	SCI	508.32	C13-C12 - 48" RCP (N) : 494.80 C12.1-C12 - 15" RCP (E) : 497.60	C12-C11 - 48" RCP (S) : 494.70

STRUCTURE TABLE

STRUCTURE	TYPE	T.C.	PIPE IN : I.E.	PIPE OUT : I.E.
C12.1	SCI	508.32		C12.1-C12 - 15" RCP (W) : 498.60
C12.2	SAI	507.98	C12.3-C12.2 - 24" HDPE (W) : 499.30	C12.2-C11 - 24" RCP (E) : 499.20
C12.3	SAI	504.01		C12.3-C12.2 - 24" HDPE (E) : 499.80
C13	SCI	510.36	C14-C13 - 48" RCP (E) : 495.25 D1-C13 - 36" RCP (N) : 495.25	C13-C12 - 48" RCP (S) : 495.15
C14	SCI	510.36	C15-C14 - 48" RCP (E) : 495.47	C14-C13 - 48" RCP (W) : 495.37
C15	SCI	510.09	C16-C15 - 48" RCP (E) : 496.23 C15.1-C15 - 24" RCP (N) : 498.20	C15-C14 - 48" RCP (W) : 496.13
C15.1	SCI	510.09	C15.2-C15.1 - 24" RCP (N) : 498.70	C15.1-C15 - 24" RCP (S) : 498.60
C15.2	SAI	511.00	C15.3-C15.2 - 24" HDPE (NE) : 500.50	C15.2-C15.1 - 24" RCP (S) : 500.40
C15.3	SAI	506.20		C15.3-C15.2 - 24" HDPE (SW) : 502.00
C16	SCI	508.60	C17-C16 - 42" RCP (E) : 497.31 C16.1-C16 - 15" RCP (N) : 499.30 C16.2-C16 - 24" RCP (S) : 499.80	C16-C15 - 48" RCP (W) : 497.21
C16.1	SCI	508.48		C16.1-C16 - 15" RCP (S) : 499.80
C16.2	SAI	509.61	C16.3-C16.2 - 24" HDPE (S) : 502.50	C16.2-C16 - 24" RCP (N) : 500.10
C16.3	HW	505.95		C16.3-C16.2 - 24" HDPE (N) : 503.30
C17	DCI	[illegible]	C18-C17 - 42" RCP (E) : 498.08 C17.1-C17 - 15" RCP (N) : 499.80	C17-C16 - 42" RCP (W) : 497.98
C17.1	SCI	507.77		C17.1-C17 - 15" RCP (S) : 500.10
C18	SCI	508.78	C19-C18 - 24" RCP (E) : 500.30 C18.1-C18 - 36" RCP (N) : 498.90	C18-C17 - 42" RCP (W) : 498.80
C18.1	SCI	508.85	EX8261-C18.1 - 36" RCP (N) : 499.40	C18.1-C18 - 36" RCP (S) : 499.30
C19	SCI	510.49	C20-C19 - 24" RCP (E) : 502.10 C19.1-C19 - 15" RCP (N) : 502.20	C19-C18 - 24" RCP (W) : 502.00
C19.1	SCI	511.09		C19.1-C19 - 15" RCP (S) : 502.60
C20	SCI	513.47	C21-C20 - 24" RCP (NE) : 506.80 C20.1-C20 - 15" RCP (N) : 505.10	C20-C19 - 24" RCP (W) : 505.00
C20.1	SCI	513.83		C20.1-C20 - 15" RCP (S) : 505.80
C21	SCI	517.18	C21.1-C21 - 18" RCP (N) : 510.10 C21.3-C21 - 24" RCP (SE) : 511.40	C21-C20 - 24" RCP (SW) : 509.70
C21.1	SCI	517.27	C21.2-C21.1 - 18" RCP (NE) : 514.30	C21.1-C21 - 18" RCP (S) : 510.40
C21.2	DCI	519.30		C21.2-C21.1 - 18" RCP (SW) : 515.40
C21.3	SCI	517.84	EX8377-C21.3 - 18" RCP (NE) : 512.00 EX8379-C21.3 - 24" RCP (SE) : 512.00	C21.3-C21 - 24" RCP (NW) : 511.90
C22	DCI	524.64	EX8284-C22 - 24" RCP (N) : 514.39	C22-EX8280 - 24" RCP (S) : 514.39
D1	SCI	510.99	D2-D1 - 36" RCP (W) : 495.72 D1.1-D1 - 15" RCP (NE) : 503.30	D1-C13 - 36" RCP (S) : 495.62
D1.1	SCI	511.01		D1.1-D1 - 15" RCP (SW) : 503.80
D2	SCI	508.95	D3-D2 - 36" RCP (NW) : 496.57 D2.1-D2 - 15" RCP (NE) : 501.60	D2-D1 - 36" RCP (E) : 496.47
D2.1	SCI	508.95		D2.1-D2 - 15" RCP (SW) : 502.40
D3	TCI	507.32	D4-D3 - 36" RCP (W) : 497.45 D3.1-D3 - 15" RCP (NE) : 500.00	D3-D2 - 36" RCP (SE) : 497.35
D3.1	TCI	507.32		D3.1-D3 - 15" RCP (SW) : 500.80
D4	SCI	509.01	D4.1-D4 - 30" RCP (N) : 498.30	D4-D3 - 36" RCP (E) : 498.20
D4.1	SCI	509.01	D4.2-D4.1 - 30" RCP (N) : 498.90	D4.1-D4 - 30" RCP (S) : 498.80
D4.2	SAI	509.79	D4.3-D4.2 - 30" HDPE (NE) : 499.30	D4.2-D4.1 - 30" RCP (S) : 499.20
D4.3	DAI	506.25		D4.3-D4.2 - 30" HDPE (SW) : 501.00
E1	MH	497.17	E2-E1 - 60" RCP (W) : 478.00 C1-E1 - 60" RCP (N) : 478.00 E1.1-E1 - 24" RCP (E) : 491.50	E1-EX1 - 72" RCP (S) : 477.65
E1.1	MH	504.76	EX8149-E1.1 - 18" RCP (N) : 495.80	E1.1-E1 - 24" RCP (W) : 495.30
E2	MH	496.88	E3-E2 - 54" RCP (W) : 480.40 E2.1-E2 - 24" RCP (N) : 483.40	E2-E1 - 60" RCP (E) : 480.30
E2.1	SAI	498.37	E2.2-E2.1 - 24" HDPE (N) : 490.00	E2.1-E2 - 24" RCP (S) : 485.50
E2.2	SAI	495.90		E2.2-E2.1 - 24" HDPE (S) : 491.70
E3	MH	496.15	B1-E3 - 54" RCP (NW) : 483.60	E3-E2 - 54" RCP (E) : 483.50
E4	SAI	498.23	E4.1-E4 - 18" HDPE (N) : 492.40	E4-EX8345 - 18" RCP (S) : 492.30

DETAIL KEY:

MH	STORM MANHOLE	DETAIL 02, SHEET C5.4
HW	HEADWALL	DETAIL 03, SHEET C5.4
SCI	SINGLE CURB INLET	DETAIL 05, SHEET C5.4
DCI	DOUBLE CURB INLET	DETAIL 06, SHEET C5.4
TCI	TRIPLE CURB INLET	DETAIL 07, SHEET C5.4
SAI	SINGLE AREA INLET	DETAIL 08, SHEET C5.4
DAI	DOUBLE AREA INLET	DETAIL 08, SHEET C5.4

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MICHELLE M. DOYLE · REGISTERED ENGINEER · AGRICULTURE · COMMERCE · No. 129653 · STATE OF TENNESSEE · 06/01/2026

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	03/06/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

STORM STRUCTURE & PIPE DATA TABLES

C2.5

1411-01 RIVERGATE INFRASTRUCTURE PLANS

STRUCTURE TABLE

STRUCTURE	TYPE	T.C.	PIPE IN : I.E.	PIPE OUT : I.E.
E4.1	SAI	497.10		E4.1-E4 - 18" HDPE (S) : 493.20
EX1	EX BLIND CONNECTION	483.09	E1-EX1 - 72" RCP (N) : 477.29 EX8360-EX1 - 24" RCP (E) : 477.29	EX1-EX8542 - 72" RCP (S) : 477.29
EX8149	EX DAI			EX8149-E1.1 - 18" RCP (S) : 499.70
EX8182	EX MH	505.11	EX8184-EX8182 - 18" RCP (E) : 502.90	EX8182-C4.5 - 18" RCP (W) : 502.80
EX8184	EX MH	508.18		EX8184-EX8182 - 18" RCP (W) : 503.30
EX8187	EX SCI	509.21	EX8188-EX8187 - 24" RCP (NE) : 504.30	EX8187-EX8360 - 24" RCP (SW) : 503.70
EX8188	EX SCI	518.10		EX8188-EX8187 - 24" RCP (SW) : 511.40
EX8232	EX MH	507.39		EX8232-C7.3 - 48" RCP (S) : 496.50
EX8261	EX CB	507.50	EX8278-EX8261 - 36" RCP (N) : 501.40	EX8261-C18.1 - 36" RCP (S) : 501.20
EX8278	EX CB		EX8279-EX8278 - 24" RCP (N) : 502.50	EX8278-EX8261 - 36" RCP (S) : 502.50
EX8279	EX CB	509.10	EX8280-EX8279 - 24" RCP (N) : 503.30	EX8279-EX8278 - 24" RCP (S) : 503.30
EX8280	EX CB	511.10	C22-EX8280 - 24" RCP (N) : 503.60	EX8280-EX8279 - 24" RCP (S) : 503.60
EX8284	EX SCI	526.00		EX8284-C22 - 24" RCP (S) : 520.00
EX8300	EX SCI	[illegible]	B22-EX8300 - 18" RCP (E) : 512.00 EX8456-EX8300 - 36" RCP (N) : 510.60	EX8300-B21 - 36" RCP (W) : 510.40
EX8325	EX SCI	490.08	A4-EX8325 - 24" RCP (E) : 485.00	EX8325-EX8326 - 24" RCP (W) : 484.30
EX8326	EX MH	490.84	EX8325-EX8326 - 24" RCP (E) : 484.00	EX8326-EX8341 - 54" RCP (S) : 482.72
EX8339	EX CI	500.63	A1-EX8339 - 24" RCP (E) : 488.50	EX8339-EX8340 - 24" RCP (W) : 486.90
EX8340	EX SCI	488.18	EX8339-EX8340 - 24" RCP (E) : 483.10	EX8340-EX8341 - 24" RCP (W) : 483.10
EX8341	EX MH	488.53	EX8326-EX8341 - 54" RCP (N) : 480.10 EX8340-EX8341 - 24" RCP (E) : 482.00	
EX8343	EX DCI	496.42		EX8343-EX8345 - 15" RCP (SE) : 493.10
EX8345	EX TCI	494.96	E4-EX8345 - 18" RCP (N) : 491.50 EX8343-EX8345 - 15" RCP (NW) : 491.90	EX8345-EX8350 - 18" RCP (S) : 491.40
EX8347	EX MH	494.80	EX8487-EX8347 - 18" RCP (E) : 490.00	EX8347-EX8351 - 18" RCP (SW) : 490.00
EX8350	EX SCI	489.31	EX8345-EX8350 - 18" RCP (N) : 487.60	EX8350-EX8351 - 18" RCP (S) : 487.60
EX8351	EX DCI	490.83	EX8350-EX8351 - 18" RCP (N) : 485.50 EX8347-EX8351 - 18" RCP (NE) : 485.00	EX8351-EX8480 - 24" RCP (W) : 484.70
EX8360	EX SCI	504.45	EX8187-EX8360 - 24" RCP (NE) : 492.90	EX8360-EX1 - 24" RCP (W) : 492.70
EX8375	EX SCI	520.04	EX8376-EX8375 - 18" RCP (NE) : 516.30	EX8375-EX8379 - 24" RCP (NW) : 516.10
EX8376	EX SCI	520.00		EX8376-EX8375 - 18" RCP (SW) : 516.70
EX8377	EX CB	517.57		EX8377-C21.3 - 18" RCP (SW) : 512.50
EX8379	EX CB	518.15	EX8375-EX8379 - 24" RCP (SE) : 513.30	EX8379-C21.3 - 24" RCP (NW) : 512.40
EX8391	EX CB	520.40		EX8391-EX8392 - 18" RCP (E) : 515.80
EX8392	EX CB	520.14	EX8391-EX8392 - 18" RCP (W) : 515.40	EX8392-B21 - 18" RCP (SE) : 515.40
EX8443	EX CI	496.42	A2-EX8443 - 12" RCP (SE) : 492.30	
EX8456	EX MH	522.66		EX8456-EX8300 - 36" RCP (S) : 511.57
EX8480	EX SCI	485.83	EX8351-EX8480 - 24" RCP (E) : 479.90	EX8480-EX8550 - 18" RCP (SW) : 479.40
EX8487	EX DCI	495.10		EX8487-EX8347 - 18" RCP (W) : 491.90
EX8542	EX MH	489.04	EX1-EX8542 - 72" RCP (N) : 471.50	
EX8550	EX MH	484.36	EX8480-EX8550 - 18" RCP (NE) : 476.00	

DETAIL KEY:

MH	STORM MANHOLE	DETAIL 02, SHEET C5.4
HW	HEADWALL	DETAIL 03, SHEET C5.4
SCI	SINGLE CURB INLET	DETAIL 05, SHEET C5.4
DCI	DOUBLE CURB INLET	DETAIL 06, SHEET C5.4
TCI	TRIPLE CURB INLET	DETAIL 07, SHEET C5.4
SAI	SINGLE AREA INLET	DETAIL 08, SHEET C5.4
DAI	DOUBLE AREA INLET	DETAIL 08, SHEET C5.4

PIPE TABLE

NAME	MATERIAL	DIA.	APPROX. LENGTH	SLOPE
A1-EX8339	RCP	24"	49'	9.10%
A2-EX8443	RCP	12"	38'	2.77%
A4-EX8325	RCP	24"	39'	12.74%
B1-E3	RCP	54"	78'	1.66%
B1.1-B1	RCP	15"	25'	4.90%
B1.2-B1.1	RCP	15"	43'	5.13%
B2-B1	RCP	54"	43'	1.61%
B2.1-B2	RCP	24"	19'	1.59%
B2.2-B2.1	HDPE	24"	61'	1.63%
B3-B2	RCP	54"	169'	1.55%
B3.1-B3	RCP	15"	25'	3.67%
B4-B3	RCP	54"	69'	2.04%
B4.1-B4	RCP	24"	25'	2.42%
B5-B4	RCP	54"	25'	0.61%
B6-B5	RCP	54"	178'	0.53%
B6.1-B6	RCP	15"	25'	4.08%
B7-B6	RCP	54"	90'	0.56%
B7.1-B7	RCP	24"	25'	2.86%
B7.2-B7.1	RCP	24"	25'	1.62%
B7.3-B7.2	HDPE	24"	41'	3.95%
B8-B7	RCP	48"	81'	0.62%
B8.1-B8	RCP	15"	24'	4.08%
B9-B8	RCP	48"	81'	0.62%
B9.1-B9	RCP	24"	24'	4.08%
B9.2-B9.1	RCP	24"	25'	8.08%
B10-B9	RCP	48"	202'	0.54%
B10.1-B10	RCP	24"	37'	1.92%
B10.2-B10.1	RCP	24"	19'	5.32%
B10.3-B10.2	HDPE	24"	18'	9.36%
B11-B10	RCP	48"	89'	0.56%
B11.1-B11	RCP	15"	37'	2.74%
B12-B11	RCP	48"	34'	0.59%
B12.1-B12	RCP	18"	25'	1.22%
B13-B12	RCP	48"	86'	1.74%
B13.1-B13	RCP	42"	25'	0.81%
B13.2-B13.1	RCP	36"	30'	4.92%
B13.3-B13.2	HDPE	36"	30'	4.92%
B15-B14	RCP	42"	41'	1.20%
B15.1-B15	RCP	15"	37'	3.25%
B16-B15	RCP	42"	72'	1.75%
B16.1-B16	RCP	15"	37'	3.00%
B17-B16	RCP	42"	104'	1.75%
B18-B17	RCP	42"	25'	1.72%
B19-B18	RCP	42"	48'	1.52%
B20-B19	RCP	36"	133'	2.47%
B21-B20	RCP	36"	89'	1.80%
B22-EX8300	RCP	18"	201'	2.99%
B23-B12.1	RCP	18"	50'	1.20%
B23.1-B23	RCP	15"	35'	2.73%
B24-B23	RCP	15"	25'	1.22%
B24.1-B24	RCP	15"	35'	2.01%
C1-E1	RCP	60"	60'	1.59%
C1.1-C1	RCP	15"	25'	6.09%
C1.2-C2	RCP	15"	27'	1.13%
C1.4-C3.1	RCP	24"	19'	9.60%

PIPE TABLE

NAME	MATERIAL	DIA.	APPROX. LENGTH	SLOPE
C1.5-C1.4	HDPE	24"	30'	9.15%
C1.6-C1	RCP	24"	51'	3.12%
C2-C1	RCP	60"	65'	2.30%
C3-C2	RCP	60"	119'	3.91%
C3.1-C3	RCP	24"	37'	4.10%
C3.2-C3.1	RCP	24"	30'	2.02%
C4-C3	RCP	60"	80'	2.89%
C4.1-C4	RCP	24"	25'	1.22%
C4.2-C4.1	RCP	24"	42'	1.20%
C4.3-C4.2	RCP	24"	49'	1.03%
C4.4-C4.3	RCP	18"	90'	1.11%
C4.5-C4.4	RCP	18"	15'	2.03%
C5-C4	RCP	60"	113'	1.38%
C5.1-C5	RCP	15"	25'	1.22%
C6-C5	RCP	60"	126'	0.56%
C6.1-C6	RCP	15"	25'	6.00%
C6.2-C6	RCP	24"	36'	1.12%
C6.3-C6.2	HDPE	24"	40'	1.25%
C7-C6	RCP	60"	33'	0.61%
C7.1-C7	RCP	48"	25'	1.22%
C7.2-C7.1	RCP	48"	65'	1.38%
C7.3-C7.2	RCP	48"	108'	1.58%
C7.4-C7.3	HDPE	10"	122'	1.37%
C8-C7	RCP	54"	64'	0.81%
C8.1-C8	RCP	15"	25'	1.22%
C9-C8	RCP	54"	55'	0.81%
C10-C9	RCP	54"	140'	0.81%
C10.1-C10	RCP	15"	25'	4.08%
C11-C10	RCP	48"	46'	0.62%
C11.1-C11	RCP	15"	25'	4.08%
C12-C11	RCP	48"	88'	0.58%
C12.1-C12	RCP	15"	25'	4.08%
C12.2-C11	RCP	24"	36'	1.12%
C12.3-C12.2	HDPE	24"	43'	1.15%
C13-C12	RCP	48"	61'	0.58%
C14-C13	RCP	48"	24'	0.50%
C15-C14	RCP	48"	64'	1.02%
C15.1-C15	RCP	24"	25'	1.63%
C15.2-C15.1	RCP	24"	25'	6.87%
C15.3-C15.2	HDPE	24"	40'	3.72%
C16-C15	RCP	48"	71'	1.38%
C16.1-C16	RCP	15"	37'	1.35%
C16.2-C16	RCP	24"	30'	1.01%
C16.3-C16.2	HDPE	24"	19'	4.26%
C17-C16	RCP	42"	70'	0.96%
C17.1-C17	RCP	15"	37'	0.82%
C18-C17	RCP	42"	75'	0.96%
C18.1-C18	RCP	36"	37'	1.09%
C19-C18	RCP	24"	59'	2.88%
C19.1-C19	RCP	15"	42'	0.96%
C20-C19	RCP	24"	102'	2.84%
C20.1-C20	RCP	15"	38'	1.82%
C21-C20	RCP	24"	120'	2.42%
C21.1-C21	RCP	18"	25'	1.22%
C21.2-C21.1	RCP	18"	46'	2.41%

PIPE TABLE

NAME	MATERIAL	DIA.	APPROX. LENGTH	SLOPE
C21.3-C21	RCP	24"	50'	1.00%
C22-EX8280	RCP	24"	89'	12.06%
D1-C13	RCP	36"	56'	0.67%
D1.1-D1	RCP	15"	25'	2.04%
D2-D1	RCP	36"	85'	0.88%
D2.1-D2	RCP	15"	37'	2.19%
D3-D2	RCP	36"	101'	0.77%
D3.1-D3	RCP	15"	37'	2.19%
D4-D3	RCP	36"	97'	0.77%
D4.1-D4	RCP	30"	36'	1.37%
D4.2-D4.1	RCP	30"	19'	1.60%
D4.3-D4.2	HDPE	30"	66'	2.59%
E1-EX1	RCP	72"	20'	1.77%
E1.1-E1	RCP	24"	207'	1.84%
E2-E1	RCP	60"	262'	0.88%
E2.1-E2	RCP	24"	47'	4.47%
E2.2-E2.1	HDPE	24"	40'	4.25%
E3-E2	RCP	54"	264'	1.17%
E4-EX8345	RCP	18"	75'	1.06%
E4.1-E4	HDPE	18"	45'	1.80%
EX1-EX8542	RCP	72"	327'	1.77%
EX8149-E1.1	RCP	18"	206'	1.90%
EX8182-C4.5	RCP	18"	102'	1.21%
EX8184-EX8182	RCP	18"	120'	0.33%
EX8187-EX8360	RCP	24"	141'	7.68%
EX8188-EX8187	RCP	24"	183'	3.88%
EX8232-C7.3	RCP	48"	124'	0.97%
EX8261-C18.1	RCP	36"	50'	3.61%
EX8278-EX8261	RCP	36"	132'	0.83%
EX8279-EX8278	RCP	24"	124'	0.65%
EX8280-EX8279	RCP	24"	74'	0.41%
EX8284-C22	RCP	24"	47'	12.06%
EX8300-B21	RCP	36"	57'	2.98%
EX8325-EX8326	RCP	24"	9'	3.16%
EX8326-EX8341	RCP	54"	342'	0.76%
EX8339-EX8340	RCP	24"	39'	9.72%
EX8340-EX8341	RCP	24"	9'	12.49%
EX8343-EX8345	RCP	15"	91'	1.32%
EX8345-EX8350	RCP	18"	43'	8.75%
EX8347-EX8351	RCP	18"	109'	4.58%
EX8350-EX8351	RCP	18"	54'	3.88%
EX8351-EX8480	RCP	24"	120'	3.99%
EX8360-EX1	RCP	24"	197'	7.81%
EX8375-EX8379	RCP	24"	197'	1.42%
EX8376-EX8375	RCP	18"	45'	0.89%
EX8377-C21.3	RCP	18"	43'	1.15%
EX8379-C21.3	RCP	24"	37'	1.09%
EX8391-EX8392	RCP	18"	33'	1.21%
EX8392-B21	RCP	18"	76'	1.53%
EX8456-EX8300	RCP	36"	97'	1.00%
EX8480-EX8550	RCP	18"	58'	5.91%
EX8487-EX8347	RCP	18"	196'	0.97%

FULMER LUCAS

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NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

MICHELLE M. D… REGISTERED ENGINEER AGRICULTURE COMMERCE No. 129653 STATE OF TENNESSEE 06/01/2026

SITE PLANS FOR:

RIVERGATE INFRASTRUCTURE PLANS

1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	03/06/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

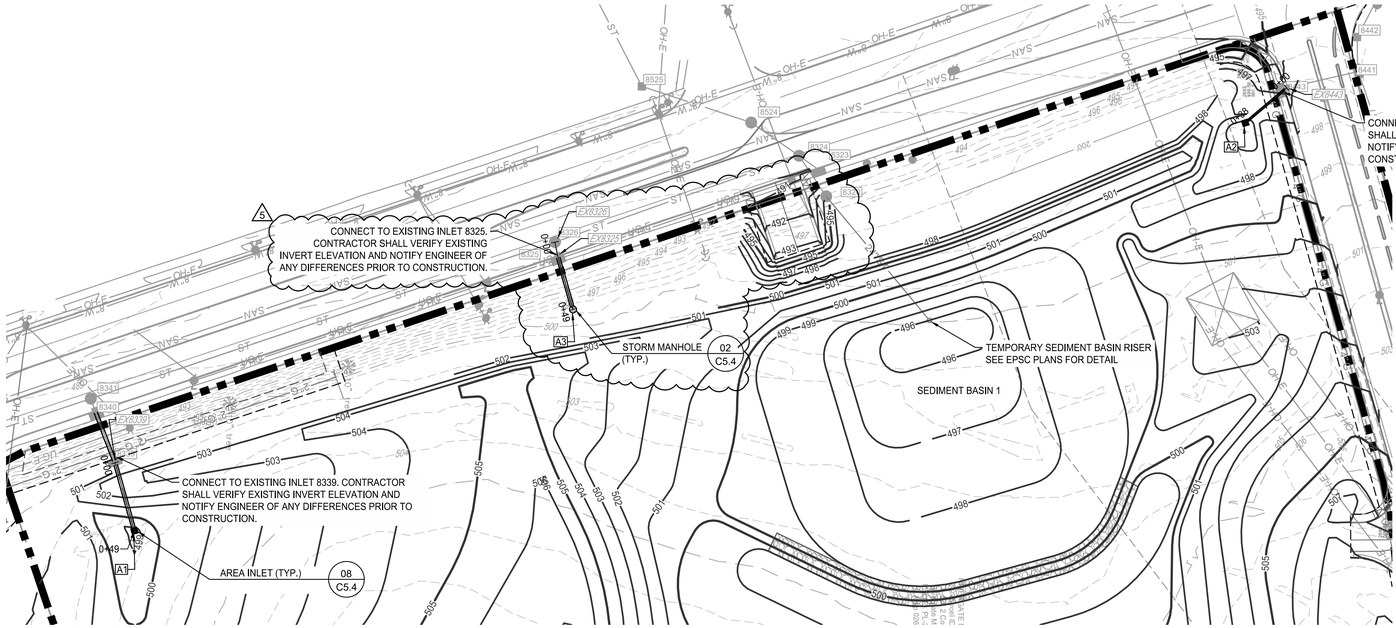
FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

STORM STRUCTURE & PIPE DATA TABLES

C2.6

1411-01 RIVERGATE INFRASTRUCTURE PLANS

NOTE:
PROVIDE MINIMUM 18" VERTICAL SEPARATION BETWEEN ALL WATER, SEWER, AND STORM CROSSINGS INCLUDING SERVICES.



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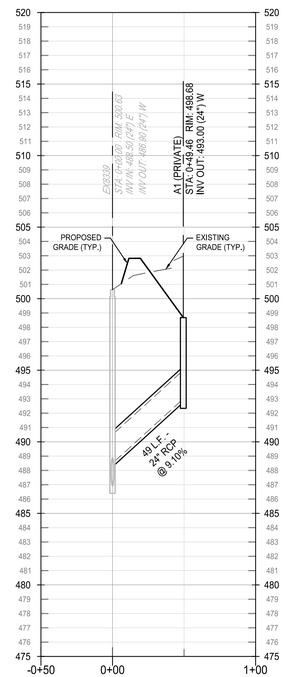

A1-EX8339 PROFILE
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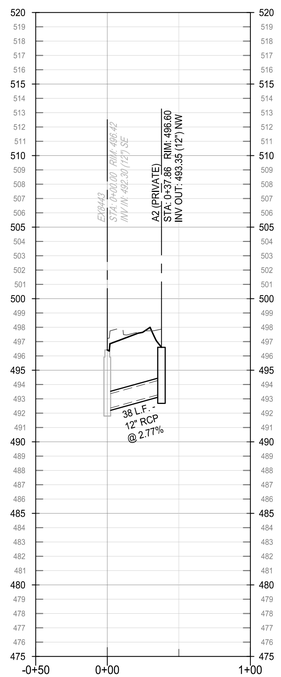
1"=5' VERTICAL



A2-EX8443 PROFILE
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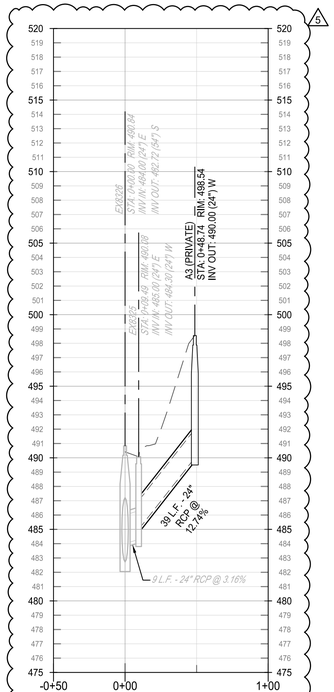
1"=5' VERTICAL



A3-EX8326 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

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SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

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CHELLEM KAY CHRISTIANSEN
LICENSED PROFESSIONAL ENGINEER
No. 129953
AGRICULTURE
STATE OF TENNESSEE
06/10/2025

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	03/05/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

STORM LINE A PLAN & PROFILES

C2.7

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Sunday, May 31, 2026
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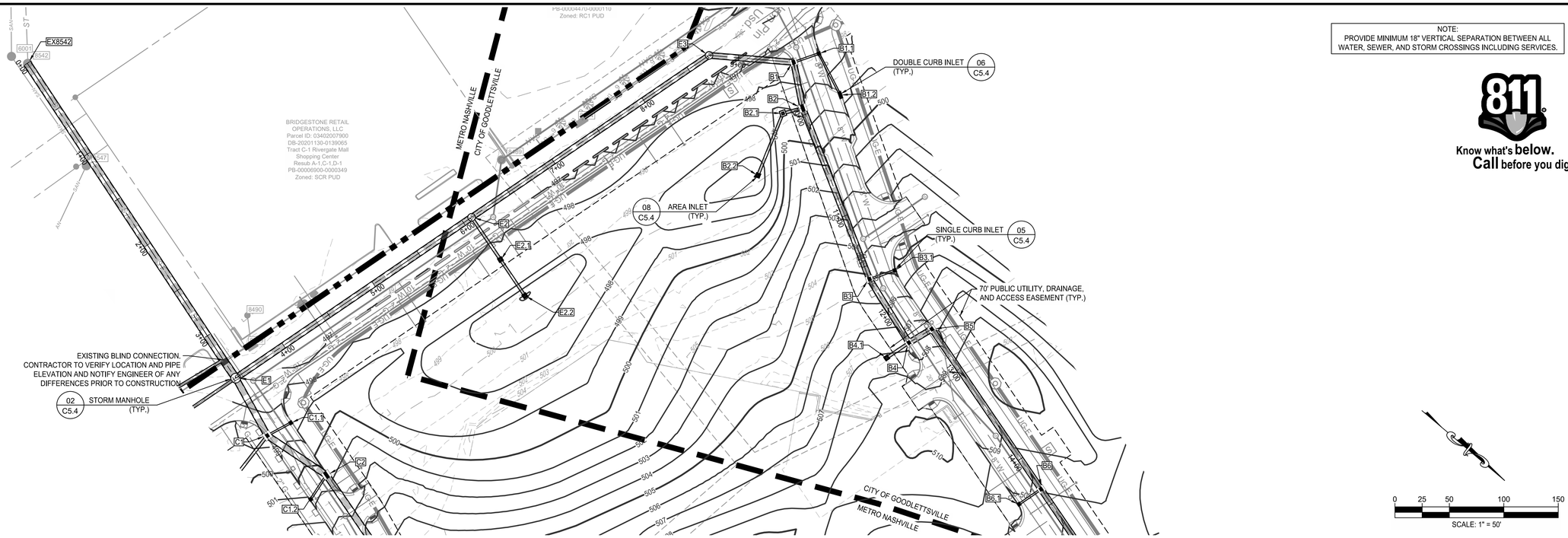
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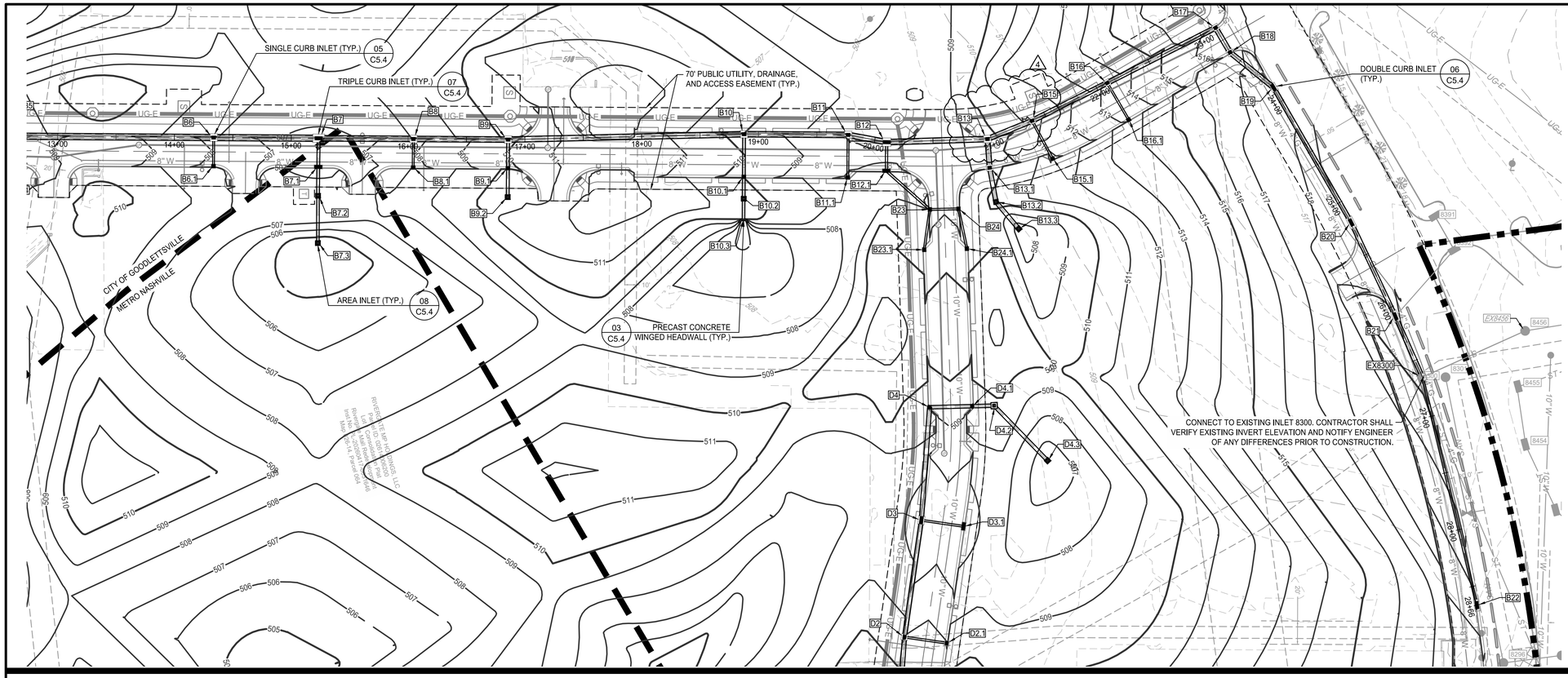

NOTE:
PROVIDE MINIMUM 18" VERTICAL SEPARATION BETWEEN ALL WATER, SEWER, AND STORM CROSSINGS INCLUDING SERVICES.

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WILLIAM DAVID MCDONALD
NO. 129953
AGRICULTURE
STATE OF TENNESSEE
06/01/2026

SITE PLANS FOR:

RIVERGATE INFRASTRUCTURE PLANS

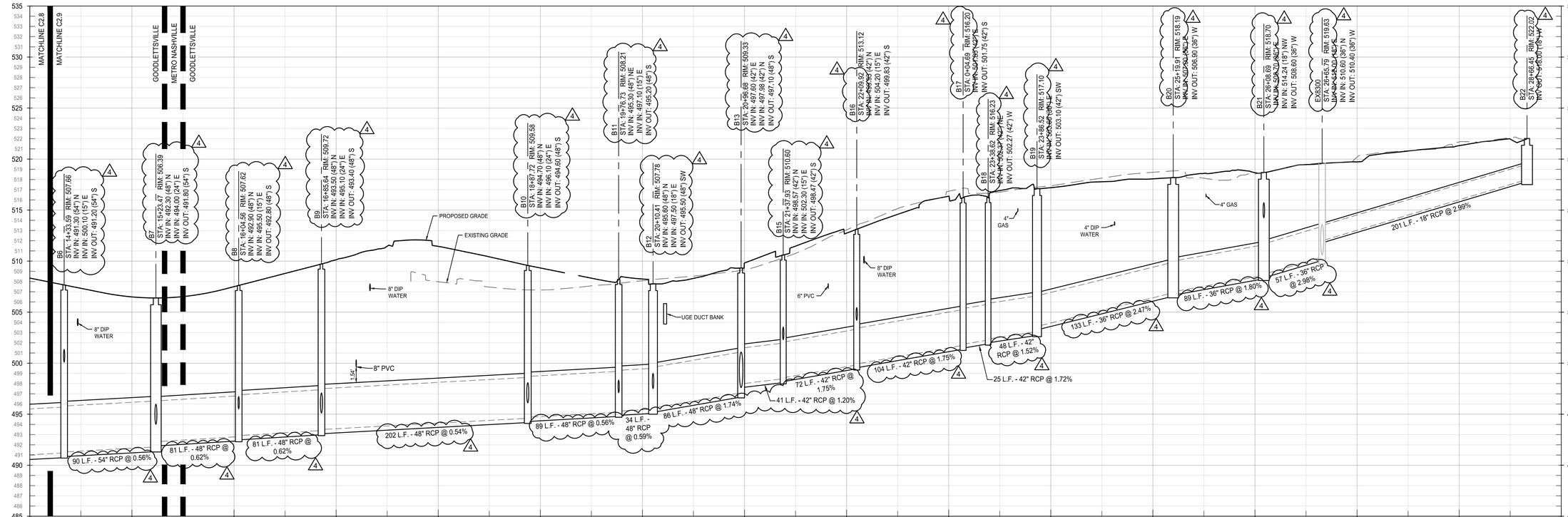
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	05/01/2026	REVISION 1

STORM LINE B PLAN & PROFILES

C2.9

1411-01 RIVERGATE INFRASTRUCTURE PLANS



B22-B6 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SSP-017-002
MWS SWGR: 2025057042

Sunday, May 31, 2026
2:47:11 pm | Georgia Central
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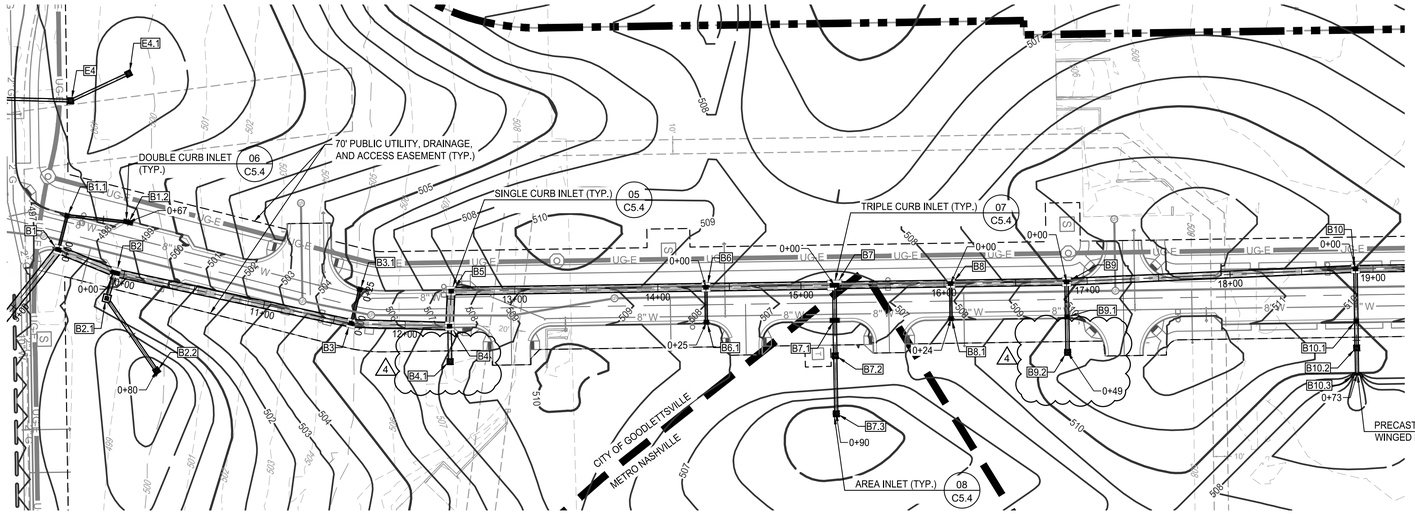

NOTE:
PROVIDE MINIMUM 18" VERTICAL SEPARATION BETWEEN ALL WATER, SEWER, AND STORM CROSSINGS INCLUDING SERVICES.

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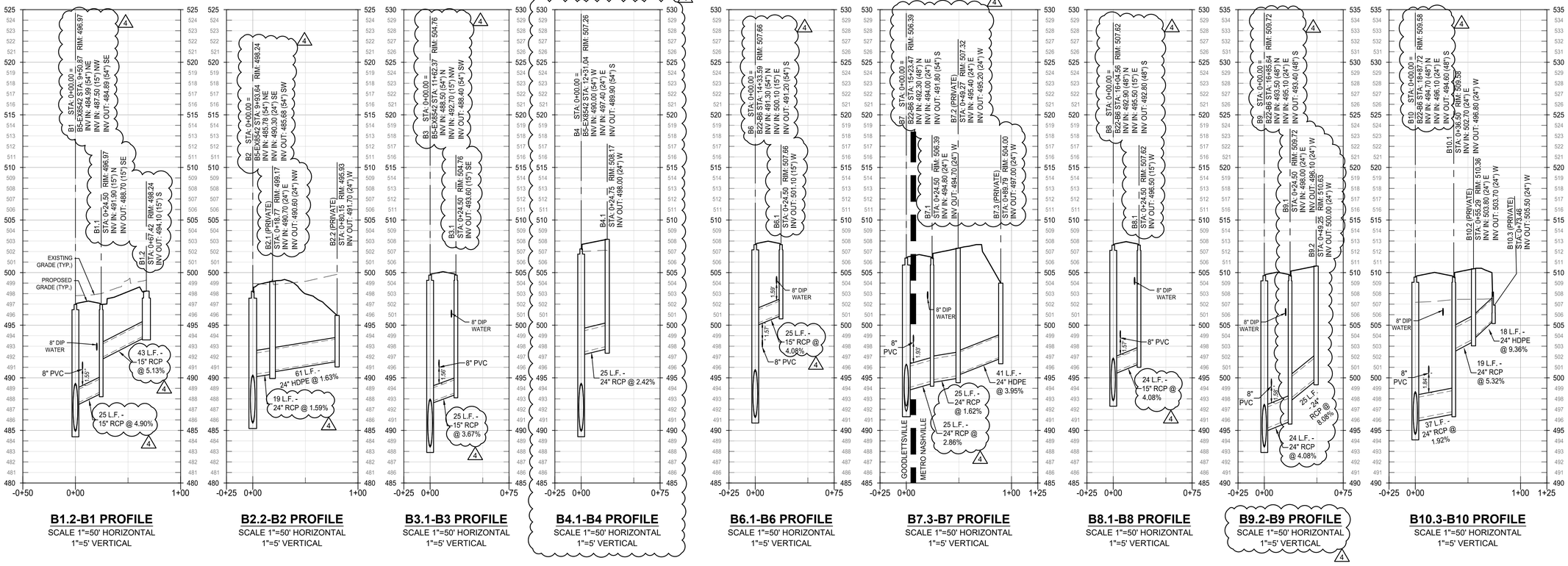

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SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
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PHILLEM PAUL CHRISTENSEN
LICENSED PROFESSIONAL ENGINEER
AGRICULTURE
No. 129853
STATE OF TENNESSEE
06/01/2026

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

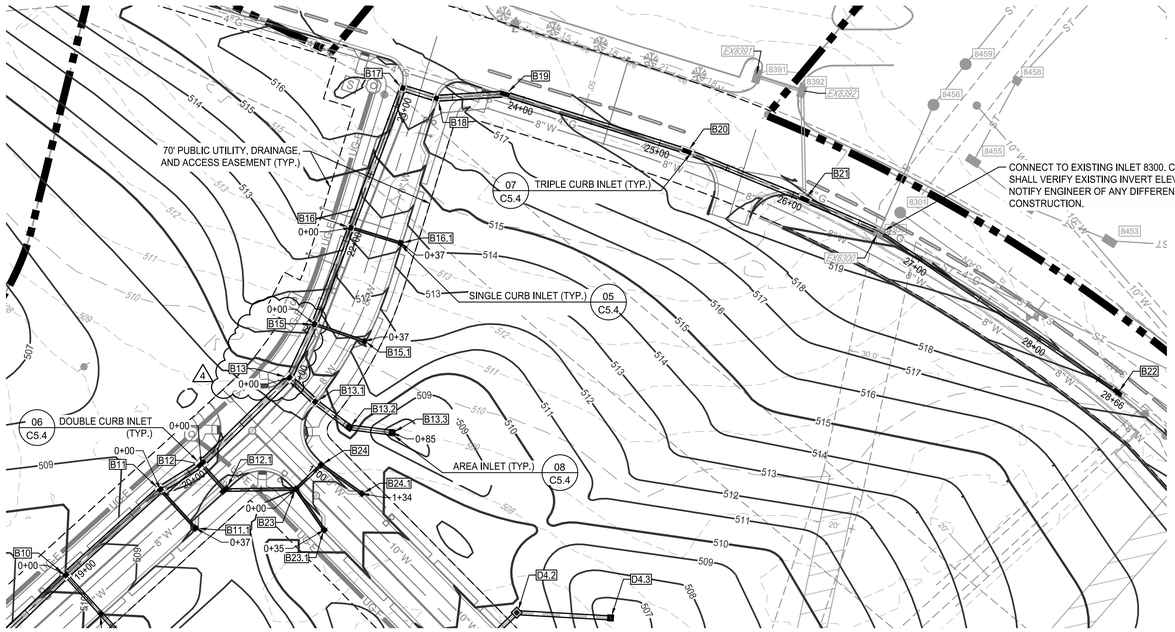
DR.	DATE	DESCRIPTION
CCH	08/10/2025	PERMIT SET
CCH	06/27/2026	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

STORM LINE B PLAN & PROFILES

C2.10

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Sunday, May 31, 2026
2:41:11 PM by Mason Dodd
K:\1 Nashville\Dodd\01 - Infrastructure and Mass Grading\02 - Civil\Sheets\1411-01_C2.13_Storm Plan & Profiles.dwg



NOTE:
PROVIDE MINIMUM 18" VERTICAL SEPARATION BETWEEN ALL WATER, SEWER, AND STORM CROSSINGS INCLUDING SERVICES.

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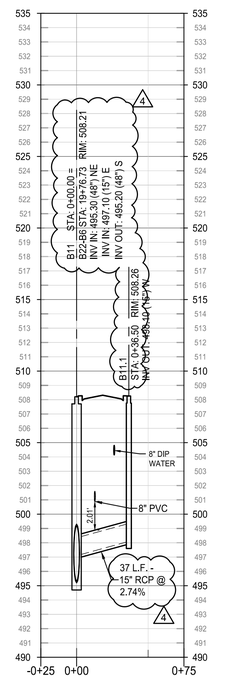

B11.1-B11 PROFILE
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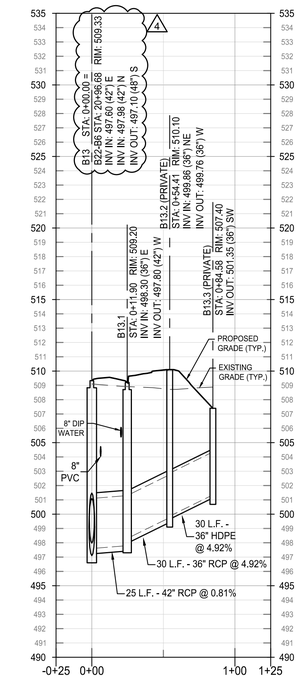
1"=5' VERTICAL



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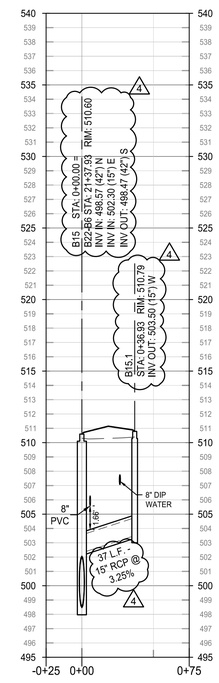

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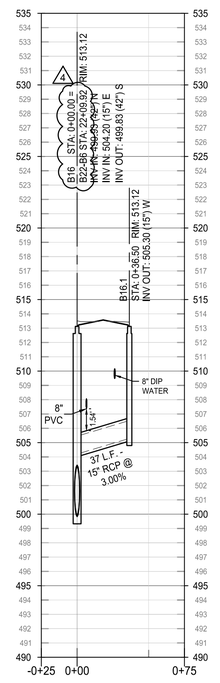

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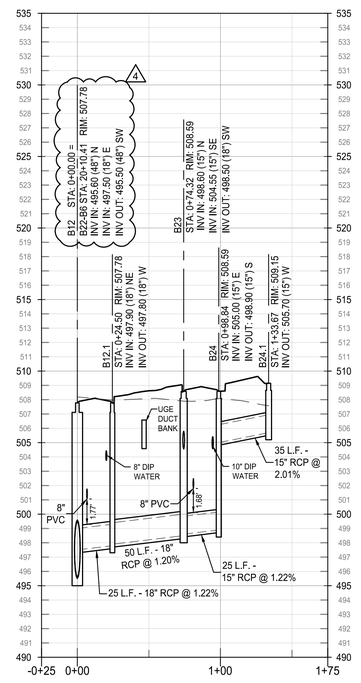

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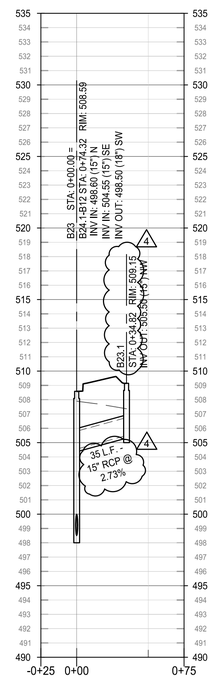

B23.1-B23 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

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SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

GUILLERMO ROMERO
223
AGRICULTURE
06/01/2026
No. 109953
STATE OF TENNESSEE

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

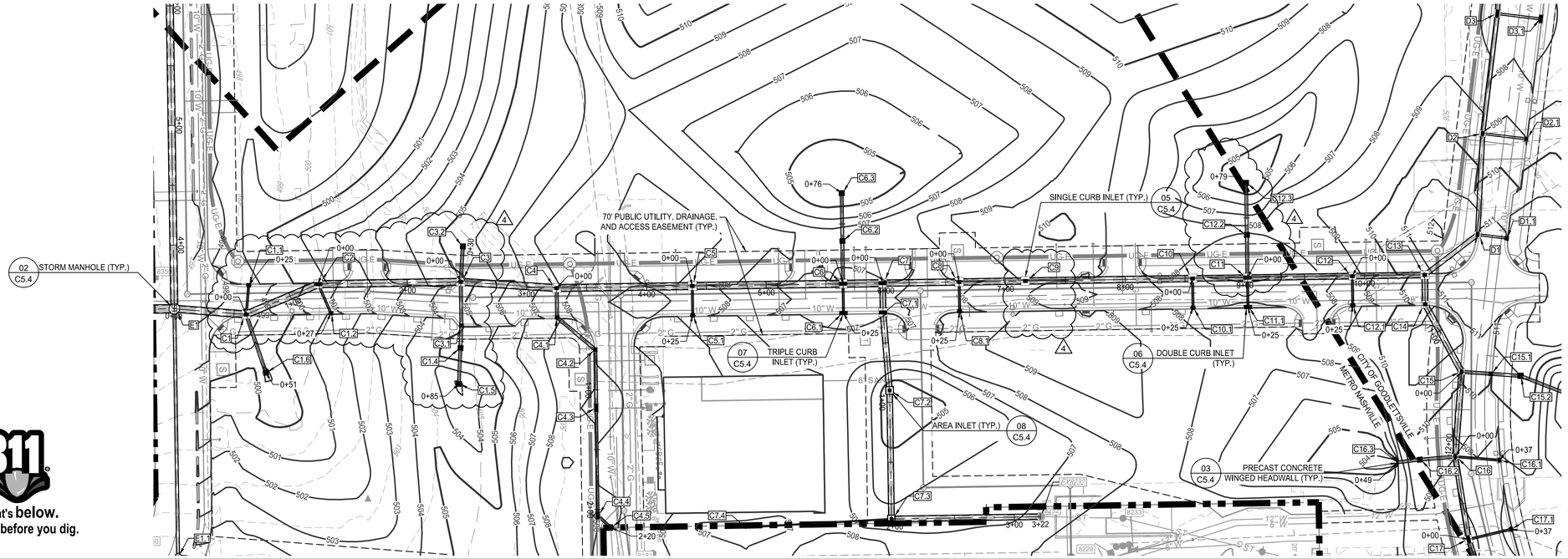
STORM LINE B PLAN & PROFILES

C2.11

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Sunday, May 31, 2026
2:41:11 PM
J:\1411 Rivergate Complex\01 - Infrastructure and Mass Grading\02 - Civil\Sheets\1411-01_C2.13_Storm Plan & Profiles.dwg

NOTE:
PROVIDE MINIMUM 18" VERTICAL SEPARATION BETWEEN ALL WATER, SEWER, AND STORM CROSSINGS INCLUDING SERVICES.



Know what's below. Call before you dig.

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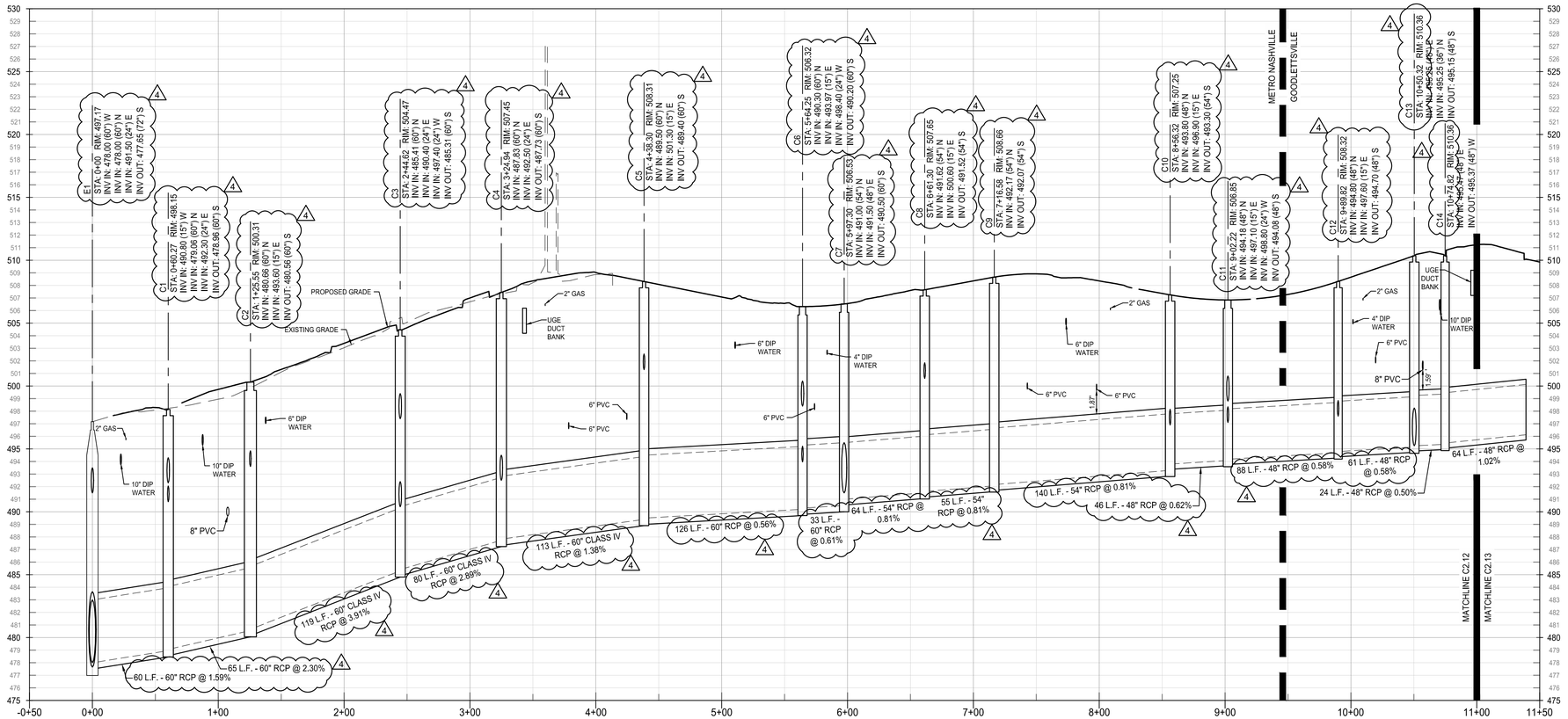

C14-E1 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
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NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

WILLIAM DAVID LUCAS
REGISTERED
No. 109853
AGRICULTURE
STATE OF TENNESSEE
06/01/2026

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	05/01/2026	REVISION 1

STORM LINE C PLAN & PROFILES

C2.12

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Sunday, May 31, 2026
2:47:11 PM
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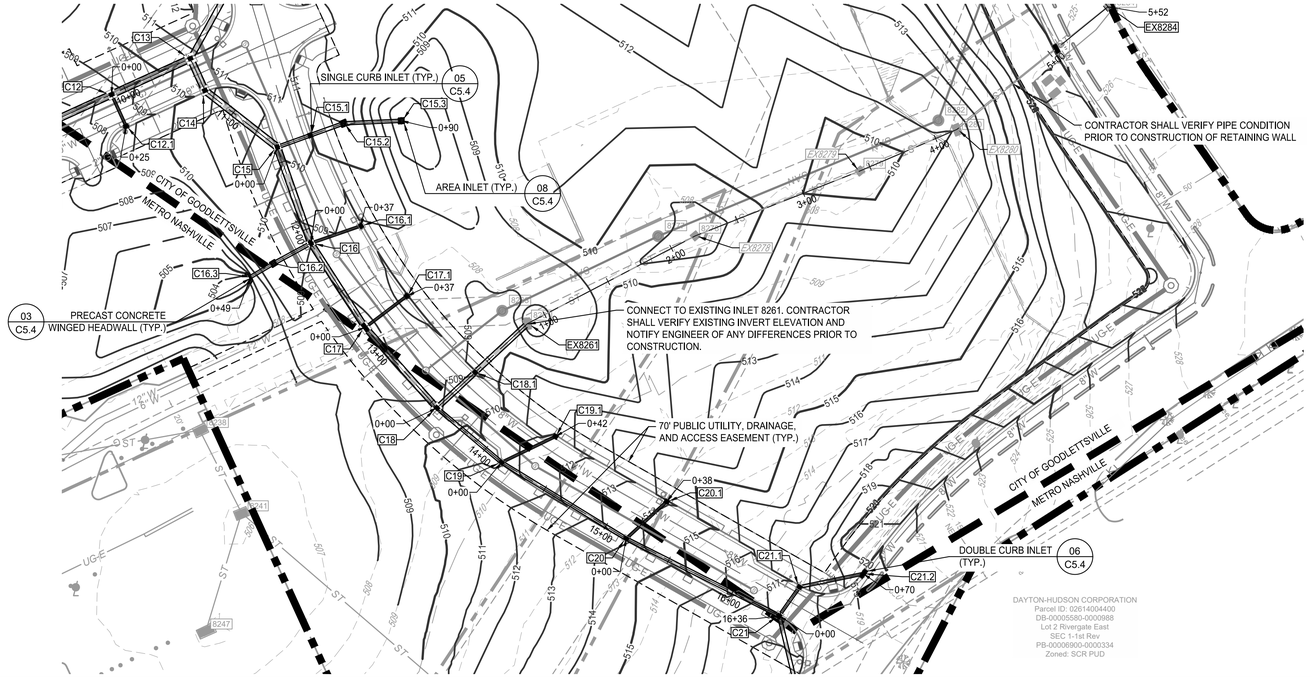
NOTE:
PROVIDE MINIMUM 18" VERTICAL SEPARATION BETWEEN ALL WATER, SEWER, AND STORM CROSSINGS INCLUDING SERVICES.



Know what's **below.**
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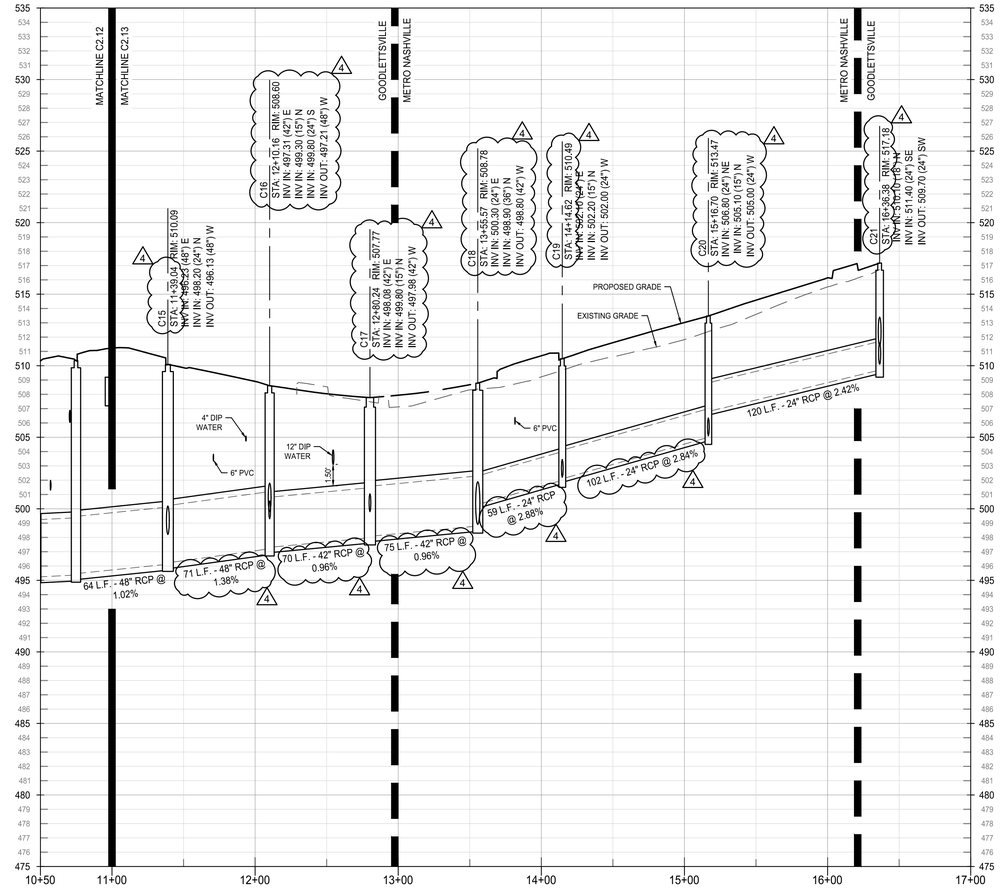

C21-C15 PROFILE
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1"=5' VERTICAL

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

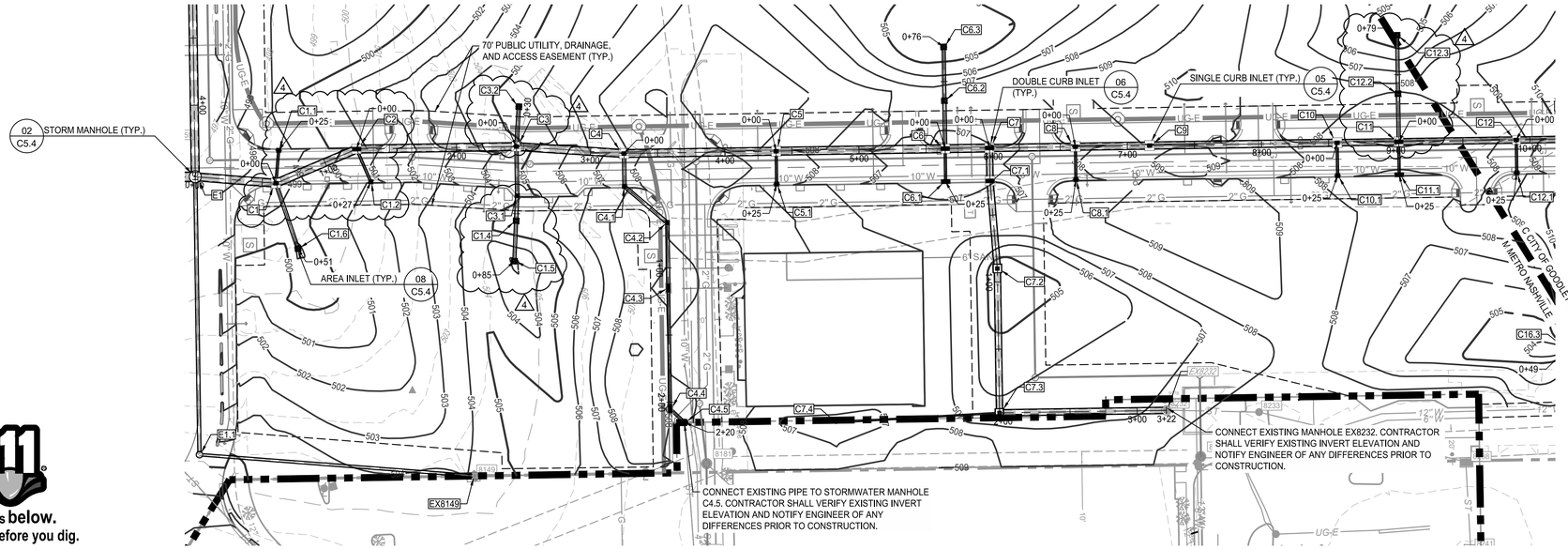
DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

STORM LINE C PLAN & PROFILES

C2.13

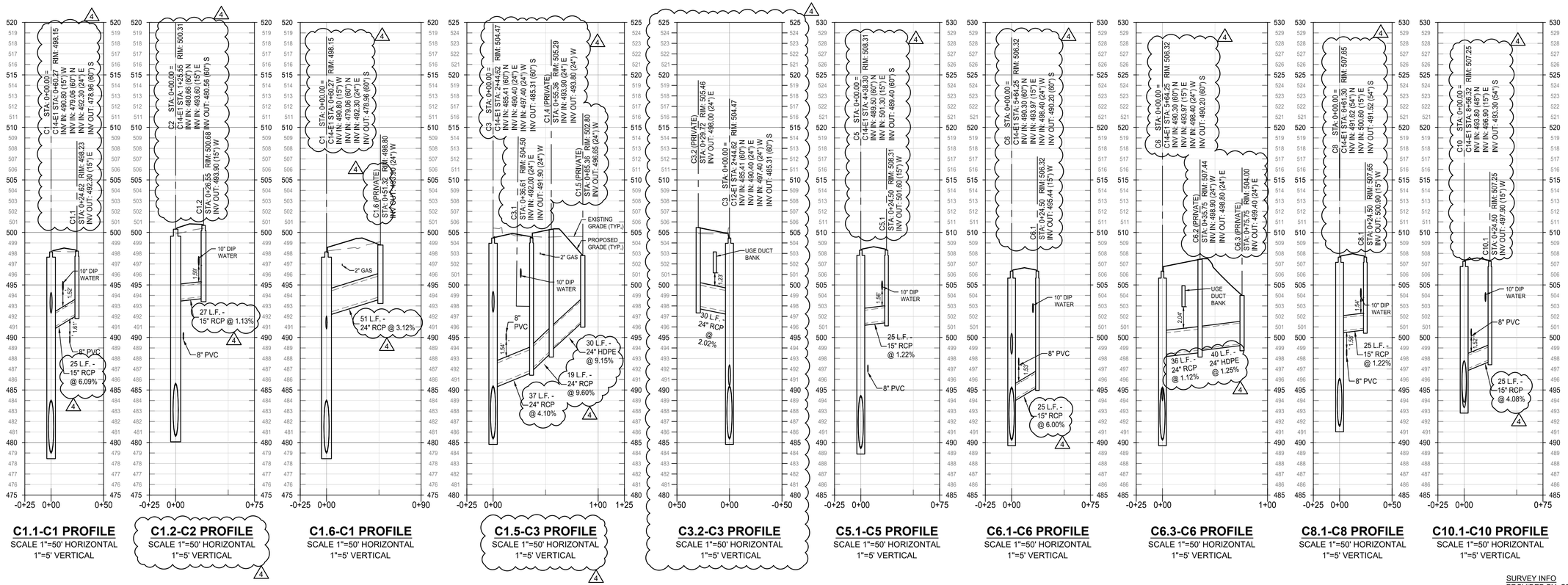
1411-01 RIVERGATE INFRASTRUCTURE PLANS

NOTE:
PROVIDE MINIMUM 18" VERTICAL SEPARATION BETWEEN ALL WATER, SEWER, AND STORM CROSSINGS INCLUDING SERVICES.



Know what's below. Call before you dig.

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



C1.1-C1 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

C1.2-C2 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

C1.6-C1 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

C1.5-C3 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

C3.2-C3 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

C5.1-C5 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

C6.1-C6 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

C6.3-C6 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

C8.1-C8 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

C10.1-C10 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

RACHELLE KAY MICHELLE
LICENSED PROFESSIONAL ENGINEER
No. 129853
AGRICULTURE
STATE OF TENNESSEE
6/06/2025

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

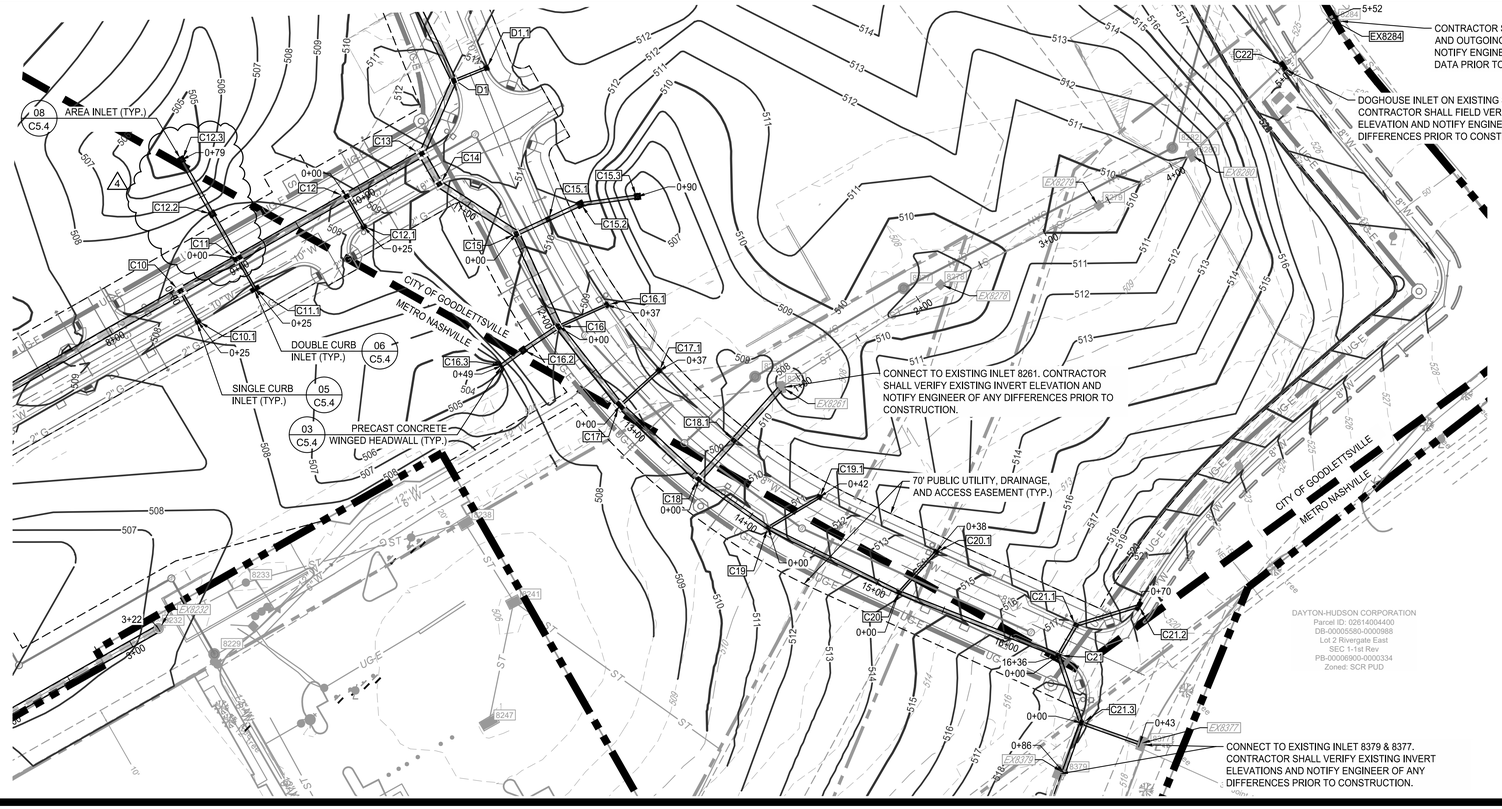
STORM LINE C PLAN & PROFILES

C2.14

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Sunday, May 31, 2026
2:14:51 PM | Brandon Caldwell | 01- Infrastructure and Mass Grading\02- Cad\Sheets\1411-01 C2-14-16_Storm Plan & Profiles.dwg

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



NOTE:
PROVIDE MINIMUM 18" VERTICAL SEPARATION BETWEEN ALL WATER, SEWER, AND STORM CROSSINGS INCLUDING SERVICES.

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

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

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

GUILLERMO DANIEL CHIRINOS
No. 129953
AGRICULTURE
STATE OF TENNESSEE
06/01/2026

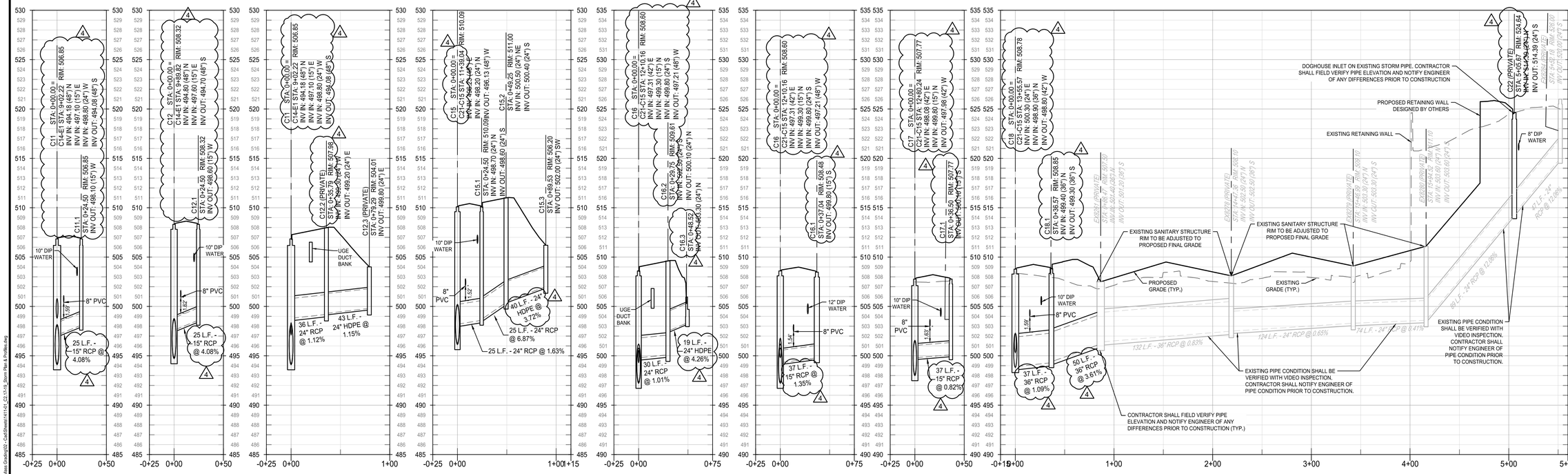
SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	05/01/2026	REVISION 1

STORM LINE C PLAN & PROFILES

C2.15

1411-01 RIVERGATE INFRASTRUCTURE PLANS



SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

Sunday, May 31, 2026
2:41:11 pm | Guillermo Chirinos
Z:\411 Rivergate Goodlettsville\01 - Infrastructure and Mass Grading\02 - Civil\Sheets\1411-01_C3.17-19_Storm Plan & Profiles.dwg

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

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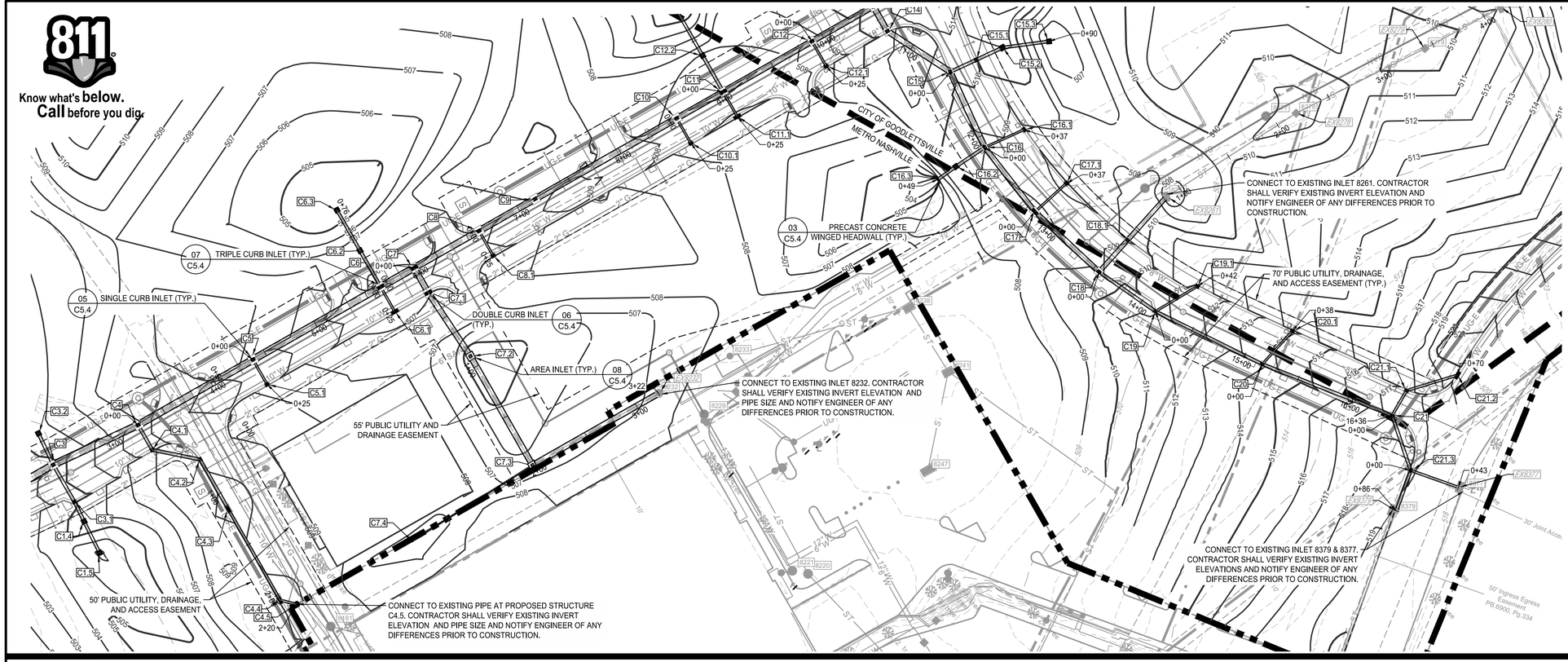

0 25 50 100 150.0001
SCALE: 1" = 50'

C19.1-C19 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

C20.1-C20 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

EX8379-C21 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

EX8232-C7 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

C4.5-C4 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

EX8377-C21.3 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

C21.2-C21 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
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NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

GUILLEM KOCH Licensed Professional Engineer 128 AGRICULTURE 06/01/2026 No. 129953 STATE OF TENNESSEE

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	08/10/2025	PERMIT SET
CCH	08/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

STORM LINE C PLAN & PROFILES

C2.16

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Sunday, May 31, 2026
2:41:11 PM
J:\Projects\Goodlett\01 - Infrastructure and Mass Grading\02 - CadSheets\1411-01_C2.17-19_Storm Plan & Profiles.dwg

NOTE:
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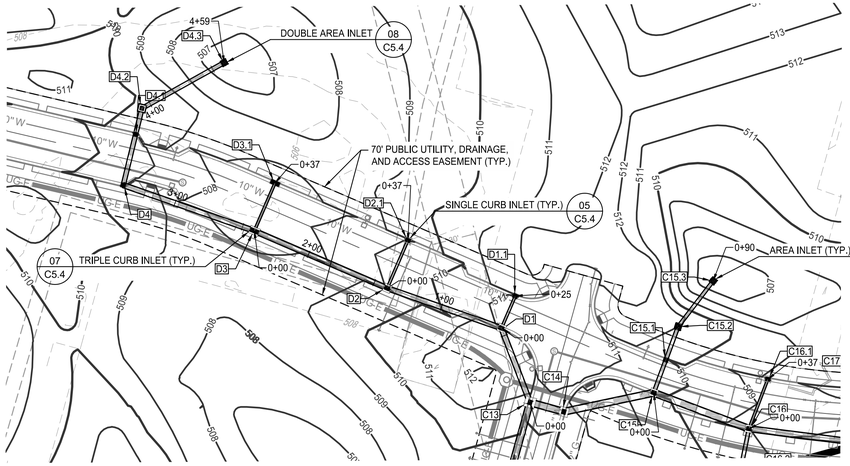



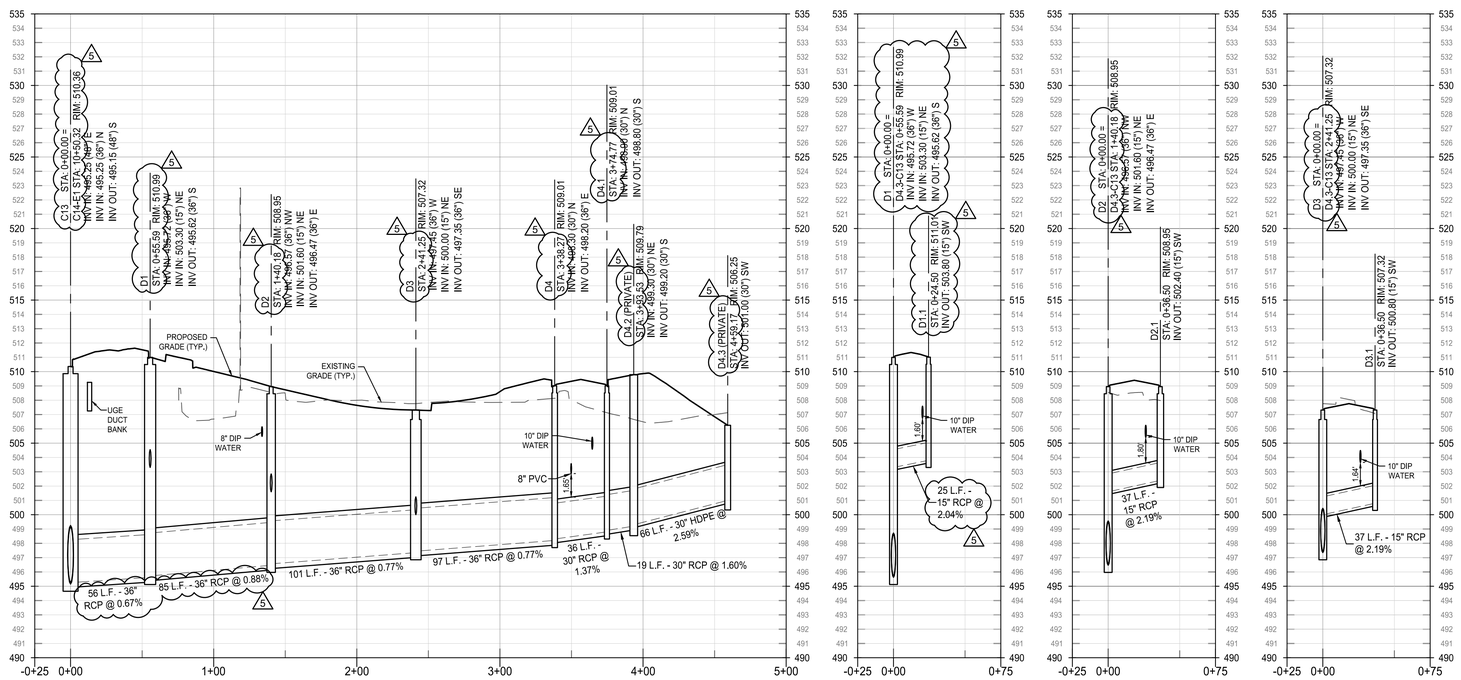

D4.3-C13 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

D1.1-D1 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

D2.1-D2 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

D3.1-D3 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

Know what's **below.**
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SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

WILLEM KOOP
LICENSED PROFESSIONAL ENGINEER
AGRICULTURE
No. 129853
STATE OF TENNESSEE
06/01/2026

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	03/06/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

STORM LINE D PLAN & PROFILES

C2.17

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Sunday, May 31, 2026
2:41:11 pm
K:\411 Rivergate Corporation\411-01 - Infrastructure and Mass Grading\03 - Civil\Sheets\1411-01_C3.17-19_Storm Plan & Profiles.dwg

NOTE:
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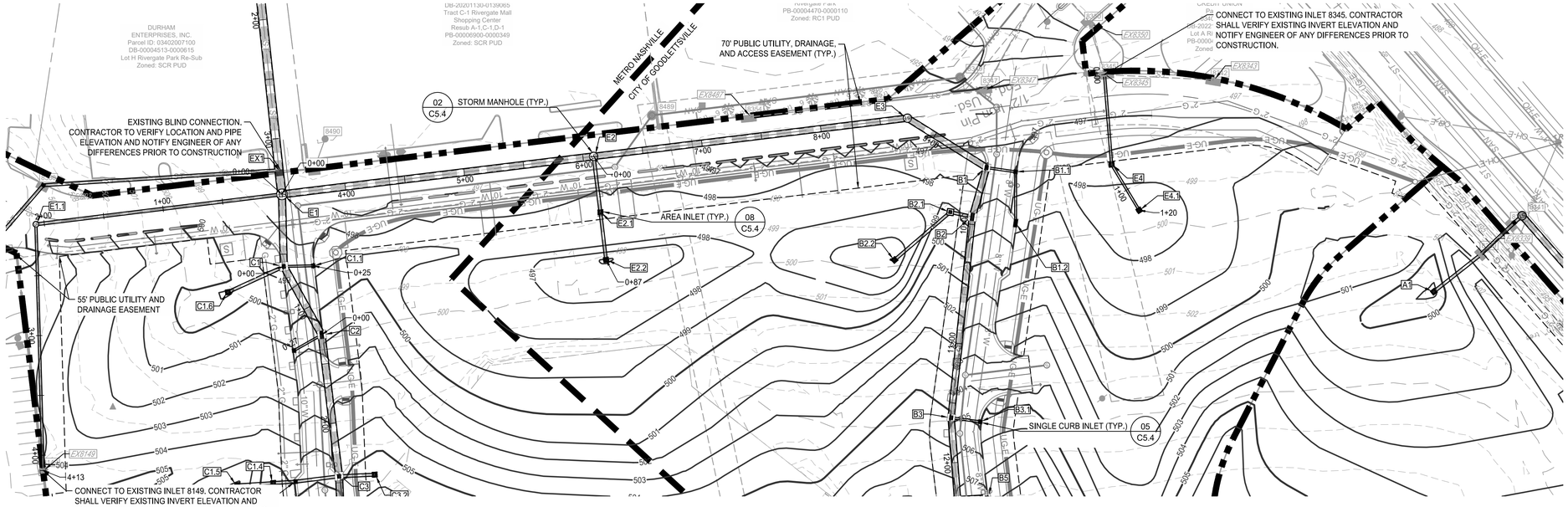
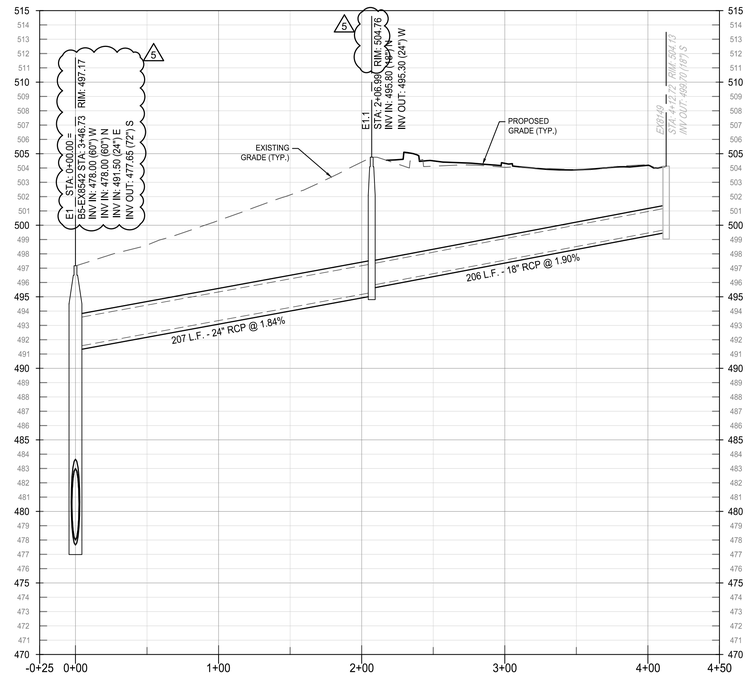
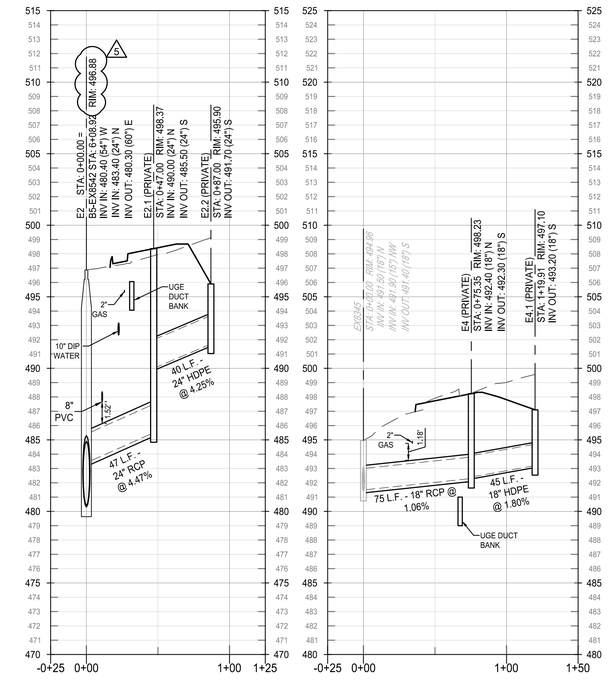


0 25 50 100 150
SCALE: 1" = 50'



EX8149-E1 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL



E2.2-E2 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

E4.1-EX8345 PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

Know what's **below.**
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SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

GUILLERMO ALEJANDRO CHIRINOS 2281 AGRICULTURE STATE OF TENNESSEE
06/10/2025

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	03/06/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

STORM LINE E PLAN & PROFILES

C2.18

1411-01 RIVERGATE INFRASTRUCTURE PLANS

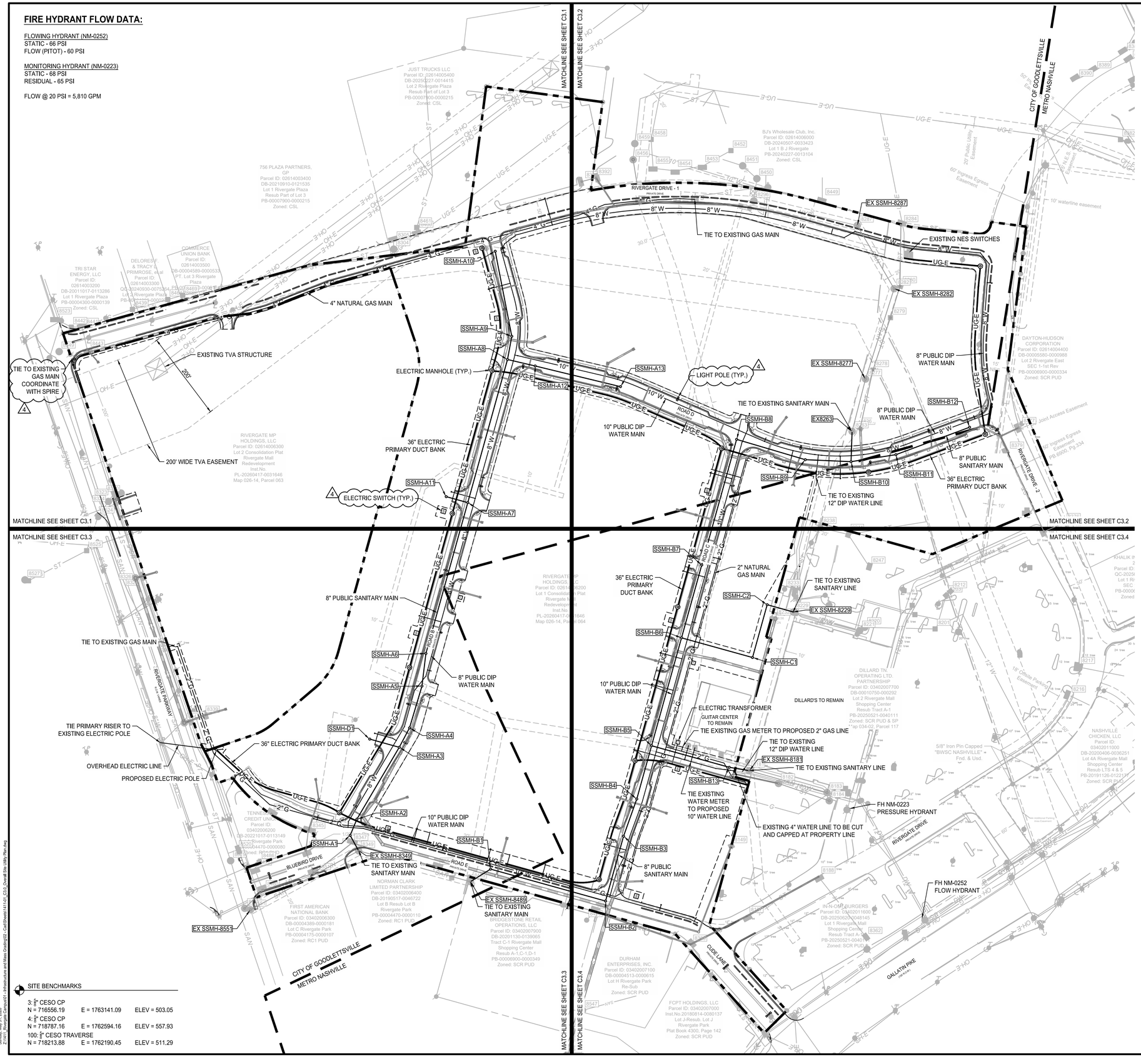
Sunday, May 31, 2026
2:41:11 pm
Z:\1411 Rivergate Corridor\01 - Infrastructure and Mass Grading\02 - Civil\Sheets\1411-01_C2.17-19_Storm Plan & Profiles.dwg

FIRE HYDRANT FLOW DATA:

FLOWING HYDRANT (NM-0252)
STATIC - 66 PSI
FLOW (PITOT) - 60 PSI

MONITORING HYDRANT (NM-0223)
STATIC - 68 PSI
RESIDUAL - 65 PSI

FLOW @ 20 PSI = 5,810 GPM



LEGEND

- DW — DOMESTIC WATER SERVICE
- G — GAS SERVICE
- SAN — SANITARY SEWER SERVICE
- OH-E — OVERHEAD ELECTRIC SERVICE
- UG-E — UNDERGROUND ELECTRIC SERVICE
- STORM PIPE (SEE PLANS FOR MATERIAL).
- PROPERTY LINE
- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- CURB INLET
- CATCH BASIN
- NYLOPLAST DRAIN BASIN
- ELECTRIC/COMMUNICATION POLE

UTILITY NOTES:

1. ALL PIPES UNDER EXISTING PAVED AREAS SHALL BE BACKFILLED TO TOP OF SUBGRADE WITH CRUSHED STONE PER MADISON SUBURBAN UTILITY DISTRICT SPECIFICATIONS.
2. ALL PAVED AREAS SHALL BE CONSTRUCTED TO SUBGRADE AND ALL PROPOSED FILLS SHALL BE MADE AND COMPACTED PRIOR TO CONSTRUCTION OF SANITARY SEWERS.
3. PROPOSED SEWER LINES INSTALLED WITHIN NATURAL EARTH MAY BE SDR 35 PVC. PROPOSED SEWER LINES INSTALLED WITHIN FILL MUST BE DUCTILE IRON PIPE.
4. THE CONTRACTOR IS RESPONSIBLE FOR ALL HORIZONTAL AND VERTICAL BENDS, JOINTS, AND FITTINGS REQUIRED TO CONSTRUCT UTILITIES.
5. THE CONTRACTOR SHALL VERIFY THE EXISTING INVERT ELEVATIONS OF SANITARY SEWERS PRIOR TO CONSTRUCTION.
6. ALL WATER METERS WILL BE PURCHASED FROM MADISON SUBURBAN UTILITY DISTRICT.
7. A MINIMUM OF 3' OF GROUND COVER SHALL BE MAINTAINED OVER ALL PROPOSED SANITARY SEWER MAINS.
8. ALL UTILITY INSTALLATION IS TO BE DONE IN ACCORDANCE WITH THE LOCAL STANDARDS OR OTHER APPLICABLE CODES.
9. GC SHALL REVIEW NES, MSUD, SPIRE, AND CITY OF GOODLETTSVILLE SEWER SPECIFICATIONS PRIOR TO INITIATING WORK.
10. CURRENT SERVICE TO EXISTING STRUCTURES SHALL NOT BE INTERRUPTED WITHOUT ADVANCED WRITTEN PERMISSION FROM THE OWNER.
11. GC IS TO CONTACT CITY OF GOODLETTSVILLE 72 HOURS PRIOR TO TAPPING MANHOLE FOR SANITARY SEWER SERVICE.
12. CONTRACTOR SHALL BID AND PERFORM THE WORK IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL CODES AND THE REQUIREMENTS OF THE LOCAL UTILITY COMPANIES.
13. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND INVERT OF ALL EXISTING UTILITIES AND STORM DRAINAGE. TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. REPAIR TO CONTRACTOR-CAUSED DAMAGE ACCORDING TO LOCAL STANDARDS AND AT THE CONTRACTOR'S EXPENSE. CONTRACTOR TO COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY.
14. PVC SANITARY MAINS SHALL BE SDR35. WHERE SANITARY MAIN HAS GREATER THAN OR EQUAL TO 12' OF COVER, PVC SANITARY MAIN SHALL BE SDR26.
15. THERE SHALL BE NO PHYSICAL CONNECTION BETWEEN A PUBLIC OR PRIVATE WATER SUPPLY SYSTEM AND A SANITARY SEWER OR APPURTENANCE THERETO WHICH WOULD PERMIT THE PASSAGE OF ANY WASTEWATER OR POLLUTED WATER INTO THE POTABLE SUPPLY.
    - A. HORIZONTAL SEPARATION: WHENEVER POSSIBLE, SEWERS SHOULD BE LAID AT LEAST 10 FEET, HORIZONTALLY, FROM ANY EXISTING OR PROPOSED WATER MAIN. SHOULD LOCAL CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET, A SEWER MAY BE LAID CLOSER THAN 10 FEET TO A WATER MAIN IF IT IS LAID IN A SEPARATE TRENCH AND IF THE ELEVATION OF THE TOP (CROWN) OF THE SEWER IS AT LEAST 18 INCHES BELOW THE BOTTOM (INVERT) OF THE WATER MAIN.
    - B. VERTICAL SEPARATION: WHENEVER SEWERS MUST CROSS UNDER WATER MAINS, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE TOP OF THE SEWER IS AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN. WHEN THE ELEVATION OF THE SEWER CANNOT BE VARIED TO MEET THE ABOVE REQUIREMENTS, THE WATER MAIN SHALL BE RELOCATED TO PROVIDE THIS SEPARATION OR RECONSTRUCTED WITH THE MECHANICAL-JOINT PIPE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE SEWER.
    - C. WHEN IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS STIPULATED ABOVE, BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF THE MECHANICAL-JOINT-DUCTILE-IRON PIPE AND SHALL BE PRESSURE-TESTED TO ASSURE WATER-TIGHTNESS BEFORE USE AS A WATER LINE AND SEWER LINE RESPECTIVELY.
16. SEE SHEET C0.0 FOR MADISON SUBURBAN UTILITY DISTRICT STANDARD NOTES.
17. UTILITY PROVIDERS

    SANITARY: CITY OF GOODLETTSVILLE

    WATER: MADISON SUBURBAN UTILITY DISTRICT

    GAS: SPIRE

    ELECTRIC: NASHVILLE ELECTRIC SERVICE

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

0 50 100 200 300
SCALE: 1" = 100'

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

RACHELLE ANN ARMENTROUT
LICENSED PROFESSIONAL ENGINEER
AGRICULTURE
No. 129853
STATE OF TENNESSEE
06/01/2026

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
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CCH	01/19/2026	AGENCY COMMENTS
MMD	02/04/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

OVERALL SITE UTILITY PLAN

C3.0

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Sunday, May 31, 2026
2:47:11 PM (Rachelle Armentrout)
K:\1411 (Rivergate Parkway)\01 - Infrastructure and Mass Grading\02 - Civil\Sheets\1411-01_C3.0_Overall Site Utility Plan.dwg

FIRE HYDRANT FLOW DATA:

FLOWING HYDRANT (NM-0252)
STATIC - 66 PSI
FLOW (PITOT) - 60 PSI

MONITORING HYDRANT (NM-0223)
STATIC - 68 PSI
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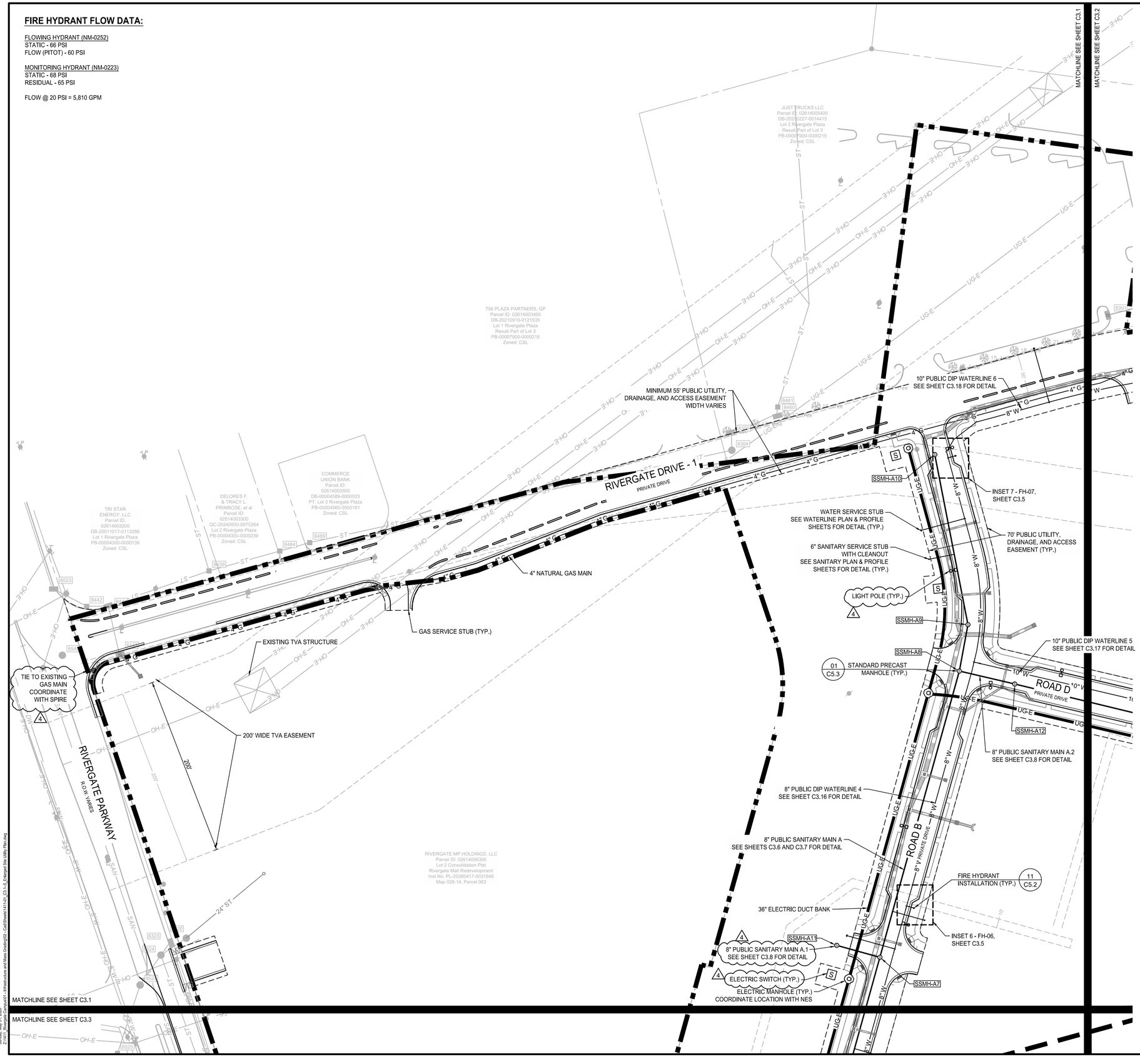
FLOW @ 20 PSI = 5,810 GPM



LEGEND

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- G — GAS SERVICE
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- UG-E — UNDERGROUND ELECTRIC SERVICE
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- NYLOPLAST DRAIN BASIN
- ELECTRIC/COMMUNICATION POLE

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    WATER: MADISON SUBURBAN UTILITY DISTRICT
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SITE BENCHMARKS

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DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

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

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

CHELLEM KRISHNAMURTHY
No. 129853
AGRICULTURE
CIVIL
STATE OF TENNESSEE
06/01/2026

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	09/10/2025	PERMIT SET
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MMD	05/01/2026	REVISION 1

ENLARGED SITE UTILITY PLAN

C3.1

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Sunday, May 31, 2026
Z:\411 Projects\Rivergate\01 - Infrastructure and Mass Grading\02 - Civil\Sheets\1411-01_C3.1-3_Enlarged Site Utility Plan.dwg

MATCHLINE SEE SHEET C3.1

MATCHLINE SEE SHEET C3.2

FIRE HYDRANT FLOW DATA:

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STATIC - 66 PSI
FLOW (PITOT) - 60 PSI

MONITORING HYDRANT (NM-0223)
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RESIDUAL - 65 PSI

FLOW @ 20 PSI = 5,810 GPM

CITY OF GOODLETTSVILLE
METRO NASHVILLE

BJ's Wholesale Club, Inc.
Parcel ID: 02614006200
DB-20240507-0033423
Lot 1 B J Rivergate
PB-20240227-0013104
Zoned: CSL

DAYTON-HUDSON CORPORATION
Parcel ID: 02614004400
DB-00005580-0000988
Lot 2 Rivergate East
SEC 1-1st Rev
PB-00006900-0000334
Zoned: SCR PUD

RIVERGATE DRIVE - 1
PRIVATE DRIVE

ROAD C
PRIVATE DRIVE

ROAD D
PRIVATE DRIVE

RIVERGATE DRIVE - 2
PRIVATE DRIVE

BJ'S WHOLESALE CLUB WATER SERVICE CONNECTION TO BE RECONNECTED TO WATERLINE 6 COORDINATE CLOSELY WITH MSUD

8" PUBLIC DIP WATERLINE 6 SEE SHEET C3.18 FOR DETAIL

TIE TO EXISTING GAS MAIN CONTRACTOR TO VERIFY LOCATION OF EXISTING GAS MAIN

EX SSMH-8287

INSET 13 - FH-13, SHEET C3.5

EXISTING NES SWITCHES TO REMAIN COORDINATE WITH NES

EXISTING PIPE CONDITION SHALL BE VERIFIED WITH VIDEO INSPECTION. CONTRACTOR SHALL NOTIFY ENGINEER OF PIPE CONDITION PRIOR TO CONSTRUCTION. CITY OF GOODLETTSVILLE SEWER DEPARTMENT SHALL BE PRESENT FOR INSPECTION (TYP.)

8" STUB FOR FUTURE EXTENSION

EXISTING SANITARY STRUCTURE TO BE ADJUSTED TO PROPOSED FINAL GRADE. SEE SHEET C3.12 FOR RIM ELEVATION

EX SSMH-8282

EXISTING 20' SANITARY SEWER EASEMENT TO REMAIN

8" PUBLIC SANITARY MAIN E SEE SHEET C3.12 FOR DETAIL

8" PUBLIC SANITARY MAIN A.2 SEE SHEET C3.8 FOR DETAIL

INSET 8 - FH-08, SHEET C3.5

10" PUBLIC DIP WATERLINE 5 SEE SHEET C3.17 FOR DETAIL

LIGHT POLE (TYP.) 4

EXISTING SANITARY STRUCTURE TO BE ADJUSTED TO PROPOSED FINAL GRADE. SEE SHEET C3.12 FOR RIM ELEVATION

EX SSMH-8277

INSET 10 - FH-10, SHEET C3.5

INSET 9 - FH-09, SHEET C3.5

FIRE HYDRANT INSTALLATION (TYP.) 11 C5.2

EXISTING SANITARY STRUCTURE TO BE ADJUSTED TO PROPOSED FINAL GRADE. SEE SHEET C3.12 FOR RIM ELEVATION

EX8263

8" PUBLIC SANITARY MAIN B SEE SHEETS C3.9 AND C3.10 FOR DETAIL

SSMH-A13

70' PUBLIC UTILITY, DRAINAGE, AND ACCESS EASEMENT (TYP.)

36" ELECTRIC PRIMARY DUCT BANK

WATER SERVICE STUB SEE WATERLINE PLAN & PROFILE SHEETS FOR DETAIL (TYP.)

SSMH-B8

SSMH-B9

SSMH-B11

SSMH-B12

01 C5.3 STANDARD PRECAST MANHOLE (TYP.)

8" PUBLIC SANITARY MAIN B SEE SHEETS C3.9 AND C3.10 FOR DETAIL

2" NATURAL GAS MAIN

4 ELECTRIC SWITCH (TYP.)

TIE TO EXISTING 12" WATERLINE. COORDINATE CLOSELY WITH MSUD

SSMH-B10

6" SANITARY SERVICE STUB WITH CLEANOUT SEE SANITARY PLAN & PROFILE SHEETS FOR DETAIL (TYP.)

ELECTRIC MANHOLE (TYP.) COORDINATE LOCATION WITH NES

EXISTING 12" WATER MAIN TO REMAIN

10' PUBLIC WATER EASEMENT

10" PUBLIC DIP WATERLINE 2 SEE SHEET C3.14 FOR DETAIL

MATCHLINE SEE SHEET C3.2

MATCHLINE SEE SHEET C3.4

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MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
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INFO@FULMERLUCAS.COM - (615) 345-3770

CHELLEM DOSS
Licensed
223
AGRICULTURE
ENGINEER
No. 129853
STATE OF TENNESSEE
06/01/2026

SITE PLANS FOR:

RIVERGATE INFRASTRUCTURE PLANS

1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
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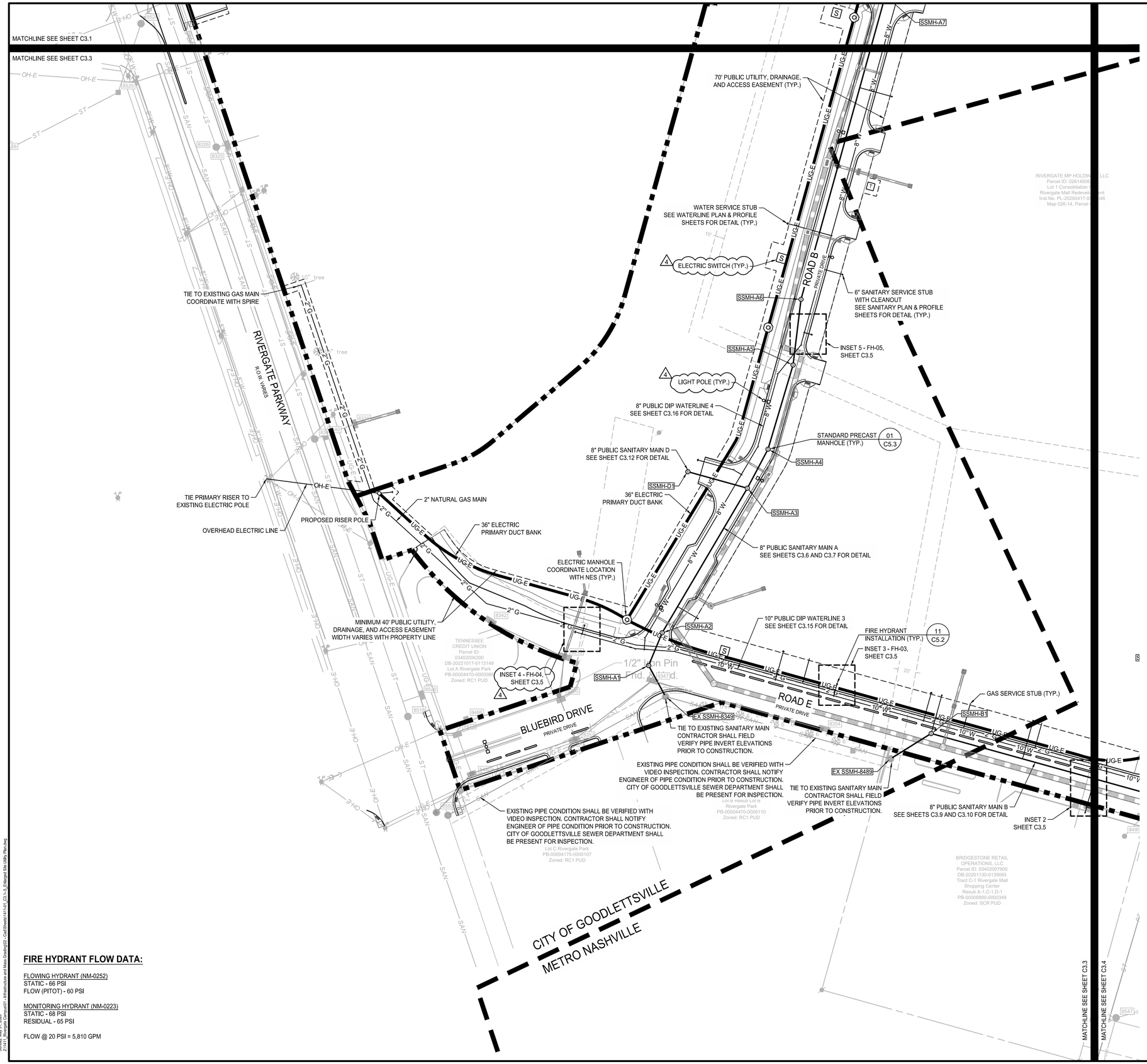
ENLARGED SITE UTILITY PLAN

C3.2

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Sunday, May 31, 2026
2:41:11 PM CDT
J:\2025\2025001 - Infrastructure and Mass Grading\02 - CadD\Sheets\1411-01_C3.1-5_Enlarged Site Utility Plan.dwg



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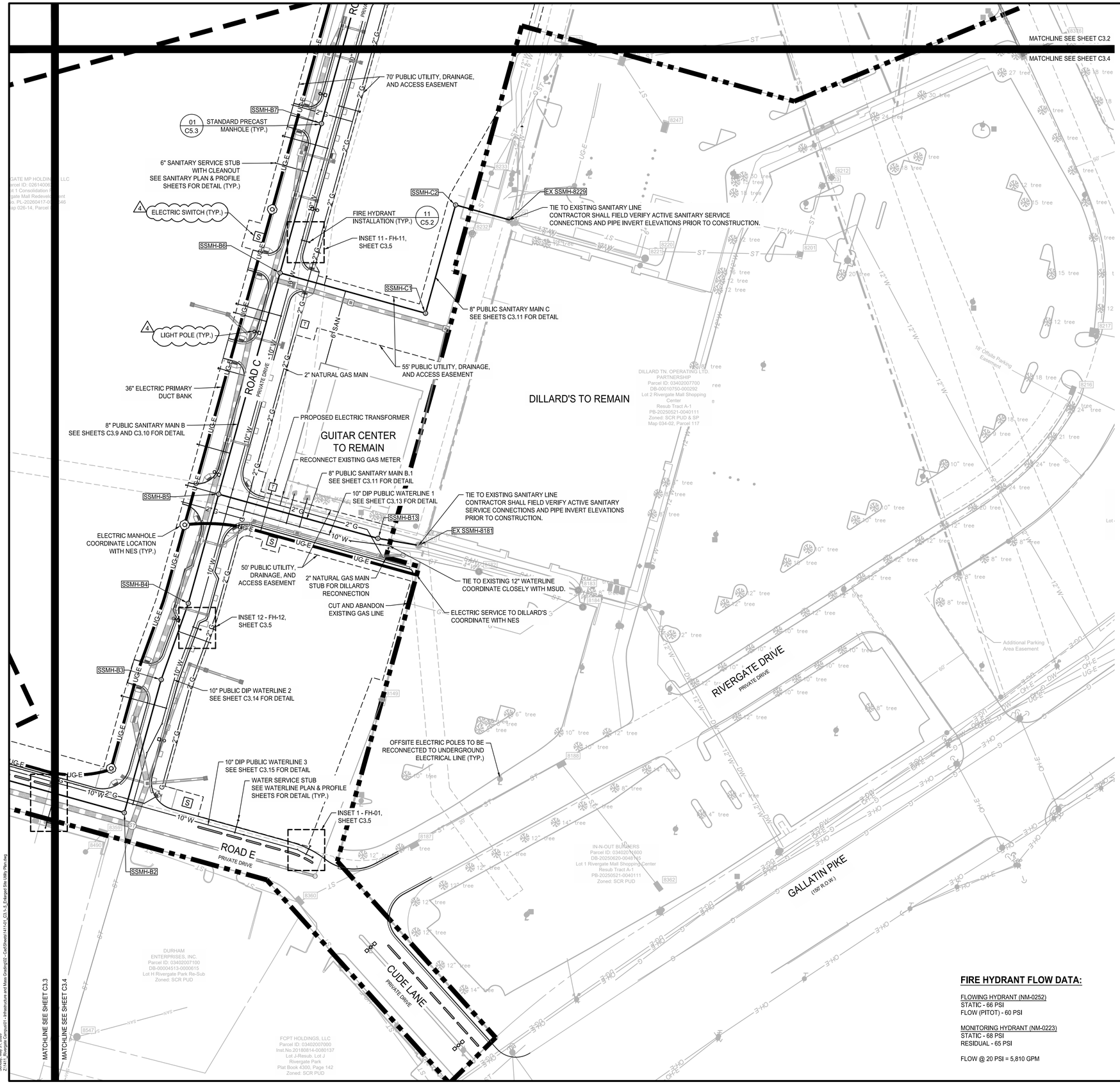
ENLARGED SITE UTILITY PLAN

C3.3

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Sunday, May 31, 2026
2:41:11 PM by Mitchell Dowell
K:\411 Nashville\Design\01 - Infrastructure and Mass Grading\02 - Cad\Sheets\1411-01_C3.1-5_Enlarged Site Utility Plan.dwg



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    - C. WHEN IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS STIPULATED ABOVE, BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF THE MECHANICAL-JOINT-DUCTILE-IRON PIPE AND SHALL BE PRESSURE-TESTED TO ASSURE WATER-TIGHTNESS BEFORE USE AS A WATER LINE AND SEWER LINE RESPECTIVELY.
16. SEE SHEET C0.0 FOR MADISON SUBURBAN UTILITY DISTRICT STANDARD NOTES.
17. UTILITY PROVIDERS

    SANITARY: CITY OF GOODLETTSVILLE

    WATER: MADISON SUBURBAN UTILITY DISTRICT

    GAS: SPIRE

    ELECTRIC: NASHVILLE ELECTRIC SERVICE

SITE BENCHMARKS

3: ¾" CESO CP
N = 716556.19 E = 1763141.09 ELEV = 503.05

4: ¾" CESO CP
N = 718787.16 E = 1762594.16 ELEV = 557.93

100: ¾" CESO TRAVERSE
N = 718213.88 E = 1762190.45 ELEV = 511.29

FIRE HYDRANT FLOW DATA:

FLOWING HYDRANT (NM-0252)
STATIC - 66 PSI
FLOW (PITOT) - 60 PSI

MONITORING HYDRANT (NM-0223)
STATIC - 68 PSI
RESIDUAL - 65 PSI

FLOW @ 20 PSI = 5,810 GPM

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

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

GUILLERMO CESO JR. 120283 REGISTERED AGRICULTURE STATE OF TENNESSEE 5/06/2026

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

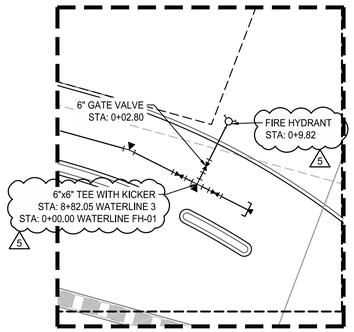
DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
JF	11/14/2025	PUBLIC WATER AND SEWER PLANS
CCH	01/19/2026	AGENCY COMMENTS
MMD	02/04/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

ENLARGED SITE UTILITY PLAN

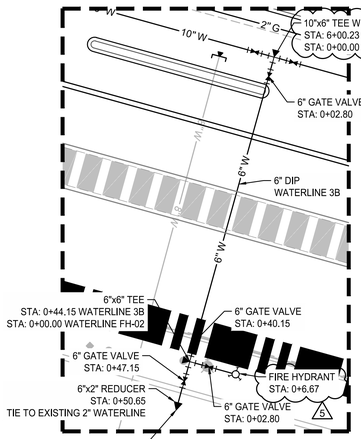
C3.4

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Sunday, May 31, 2026
2:41:11 PM (Daylight Savings)
J:\1411 Rivergate Complex\01 - Infrastructure and Mass Grading\02 - Civil\Sheets\1411-01_C3.1-5_Enlarged Site Utility Plan.dwg

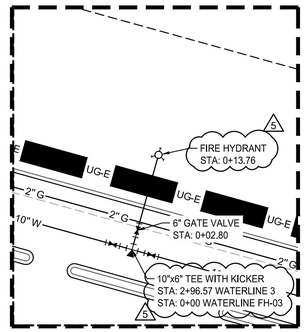


INSET 1 - FH-01
SCALE: 1" = 10'

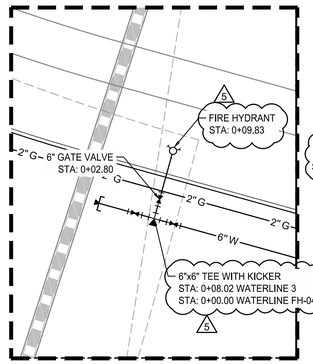


CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF EXISTING 2" WATERLINE PRIOR TO CONSTRUCTION

INSET 2
SCALE: 1" = 10'



INSET 3 - FH-03
SCALE: 1" = 10'



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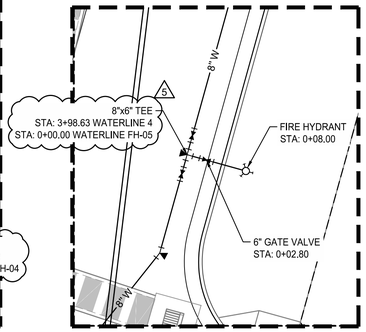
SCALE: 1" = 10'



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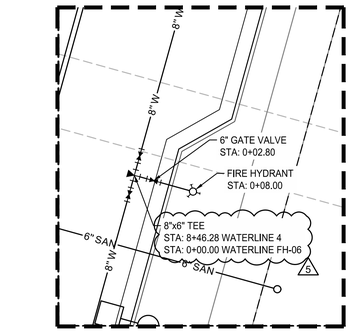
SCALE: 1" = 10'



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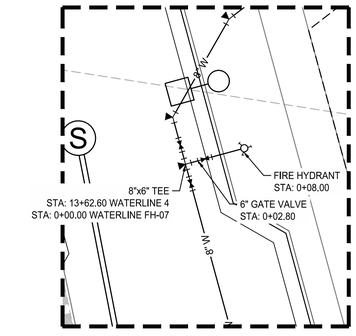
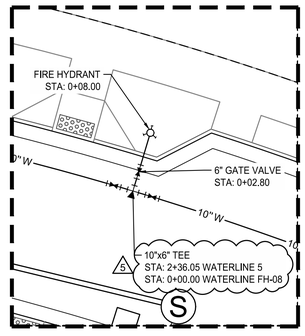
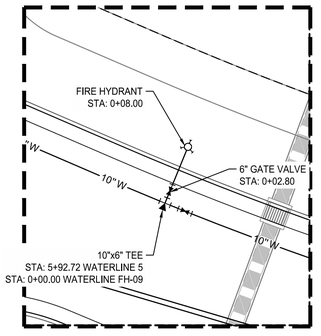
SCALE: 1" = 10'



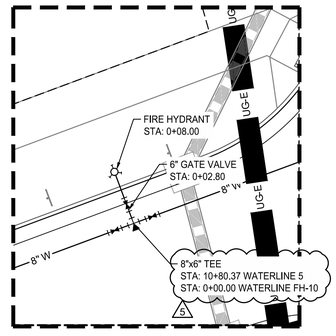
INSET 7 - FH-07
SCALE: 1" = 10'



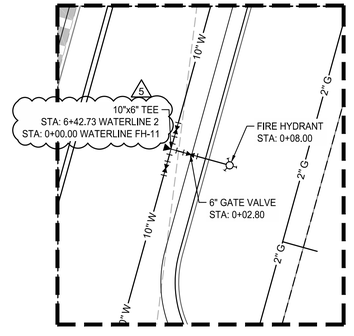
INSET 8 - FH-08
SCALE: 1" = 10'



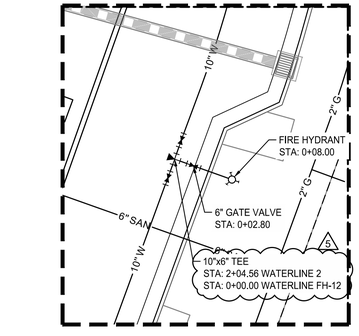
INSET 9 - FH-09
SCALE: 1" = 10'



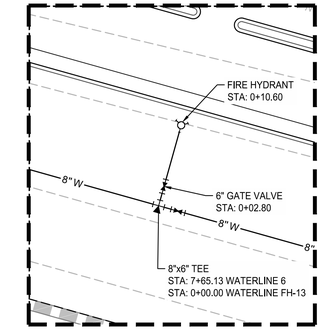
INSET 10 - FH-10
SCALE: 1" = 10'



INSET 11 - FH-11
SCALE: 1" = 10'



INSET 12 - FH-12
SCALE: 1" = 10'



INSET 13 - FH-13
SCALE: 1" = 10'

LEGEND

- DW — DOMESTIC WATER SERVICE
- G — GAS SERVICE
- SAN — SANITARY SEWER SERVICE
- OH-E — OVERHEAD ELECTRIC SERVICE
- UG-E — UNDERGROUND ELECTRIC SERVICE
- STORM PIPE (SEE PLANS FOR MATERIAL).
- PROPERTY LINE
- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- CURB INLET
- CATCH BASIN
- NYLOPLAST DRAIN BASIN
- ELECTRIC/COMMUNICATION POLE

UTILITY NOTES:

1. ALL PIPES UNDER EXISTING PAVED AREAS SHALL BE BACKFILLED TO TOP OF SUBGRADE WITH CRUSHED STONE PER MADISON SUBURBAN UTILITY DISTRICT SPECIFICATIONS.
2. ALL PAVED AREAS SHALL BE CONSTRUCTED TO SUBGRADE AND ALL PROPOSED FILLS SHALL BE MADE AND COMPACTED PRIOR TO CONSTRUCTION OF SANITARY SEWERS.
3. PROPOSED SEWER LINES INSTALLED WITHIN NATURAL EARTH MAY BE SDR 35 PVC. PROPOSED SEWER LINES INSTALLED WITHIN FILL MUST BE DUCTILE IRON PIPE.
4. THE CONTRACTOR IS RESPONSIBLE FOR ALL HORIZONTAL AND VERTICAL BENDS, JOINTS, AND FITTINGS REQUIRED TO CONSTRUCT UTILITIES.
5. THE CONTRACTOR SHALL VERIFY THE EXISTING INVERT ELEVATIONS OF SANITARY SEWERS PRIOR TO CONSTRUCTION.
6. ALL WATER METERS WILL BE PURCHASED FROM MADISON SUBURBAN UTILITY DISTRICT.
7. A MINIMUM OF 3' OF GROUND COVER SHALL BE MAINTAINED OVER ALL PROPOSED SANITARY SEWER MAINS.
8. ALL UTILITY INSTALLATION IS TO BE DONE IN ACCORDANCE WITH THE LOCAL STANDARDS OR OTHER APPLICABLE CODES.
9. GC SHALL REVIEW NES, MSUD, SPIRE, AND CITY OF GOODLETTSVILLE SEWER SPECIFICATIONS PRIOR TO INITIATING WORK.
10. CURRENT SERVICE TO EXISTING STRUCTURES SHALL NOT BE INTERRUPTED WITHOUT ADVANCED WRITTEN PERMISSION FROM THE OWNER.
11. GC IS TO CONTACT CITY OF GOODLETTSVILLE 72 HOURS PRIOR TO TAPPING MANHOLE FOR SANITARY SEWER SERVICE.
12. CONTRACTOR SHALL BID AND PERFORM THE WORK IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL CODES AND THE REQUIREMENTS OF THE LOCAL UTILITY COMPANIES.
13. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND INVERT OF ALL EXISTING UTILITIES AND STORM DRAINAGE, TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. REPAIR TO CONTRACTOR-CAUSED DAMAGE ACCORDING TO LOCAL STANDARDS AND AT THE CONTRACTOR'S EXPENSE. CONTRACTOR TO COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY.
14. PVC SANITARY MAINS SHALL BE SDR35. WHERE SANITARY MAIN HAS GREATER THAN OR EQUAL TO 12' OF COVER, PVC SANITARY MAIN SHALL BE SDR26.
15. THERE SHALL BE NO PHYSICAL CONNECTION BETWEEN A PUBLIC OR PRIVATE WATER SUPPLY SYSTEM AND A SANITARY SEWER OR APPURTENANCE THERETO WHICH WOULD PERMIT THE PASSAGE OF ANY WASTEWATER OR POLLUTED WATER INTO THE POTABLE SUPPLY.
    - A. HORIZONTAL SEPARATION: WHENEVER POSSIBLE, SEWERS SHOULD BE LAID AT LEAST 10 FEET, HORIZONTALLY, FROM ANY EXISTING OR PROPOSED WATER MAIN. SHOULD LOCAL CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET, A SEWER MAY BE LAID CLOSER THAN 10 FEET TO A WATER MAIN IF IT IS LAID IN A SEPARATE TRENCH AND IF THE ELEVATION OF THE TOP (CROWN) OF THE SEWER IS AT LEAST 18 INCHES BELOW THE BOTTOM (INVERT) OF THE WATER MAIN.
    - B. VERTICAL SEPARATION: WHENEVER SEWERS MUST CROSS UNDER WATER MAINS, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE TOP OF THE SEWER IS AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN. WHEN THE ELEVATION OF THE SEWER CANNOT BE VARIED TO MEET THE ABOVE REQUIREMENTS, THE WATER MAIN SHALL BE RELOCATED TO PROVIDE THIS SEPARATION OR RECONSTRUCTED WITH THE MECHANICAL-JOINT PIPE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE SEWER.
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16. SEE SHEET C0.0 FOR MADISON SUBURBAN UTILITY DISTRICT STANDARD NOTES.
17. UTILITY PROVIDERS

    SANITARY: CITY OF GOODLETTSVILLE

    WATER: MADISON SUBURBAN UTILITY DISTRICT

    GAS: SPIRE

    ELECTRIC: NASHVILLE ELECTRIC SERVICE

FIRE HYDRANT FLOW DATA:

FLOWING HYDRANT (NM-0252)
STATIC - 68 PSI
FLOW (PITOT) - 60 PSI

MONITORING HYDRANT (NM-0223)
STATIC - 68 PSI
RESIDUAL - 65 PSI

FLOW @ 20 PSI = 5,810 GPM

SITE BENCHMARKS

3: ⅝" CESO CP
N = 716556.19 E = 1763141.09 ELEV = 503.05
4: ⅝" CESO CP
N = 718787.16 E = 1762594.16 ELEV = 557.93
100: ⅝" CESO TRAVERSE
N = 718213.88 E = 1762190.45 ELEV = 511.29

0 5 10 20 30
SCALE: 1" = 10'

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

WILLIAM MARK MCWHERTER — No. 129853 — AGRICULTURE — STATE OF TENNESSEE — 06/01/2026

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
JF	11/14/2025	PUBLIC WATER & SEWER PLANS
CCH	01/19/2026	AGENCY COMMENTS
MMD	02/04/2026	AGENCY COMMENTS
MMD	02/10/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

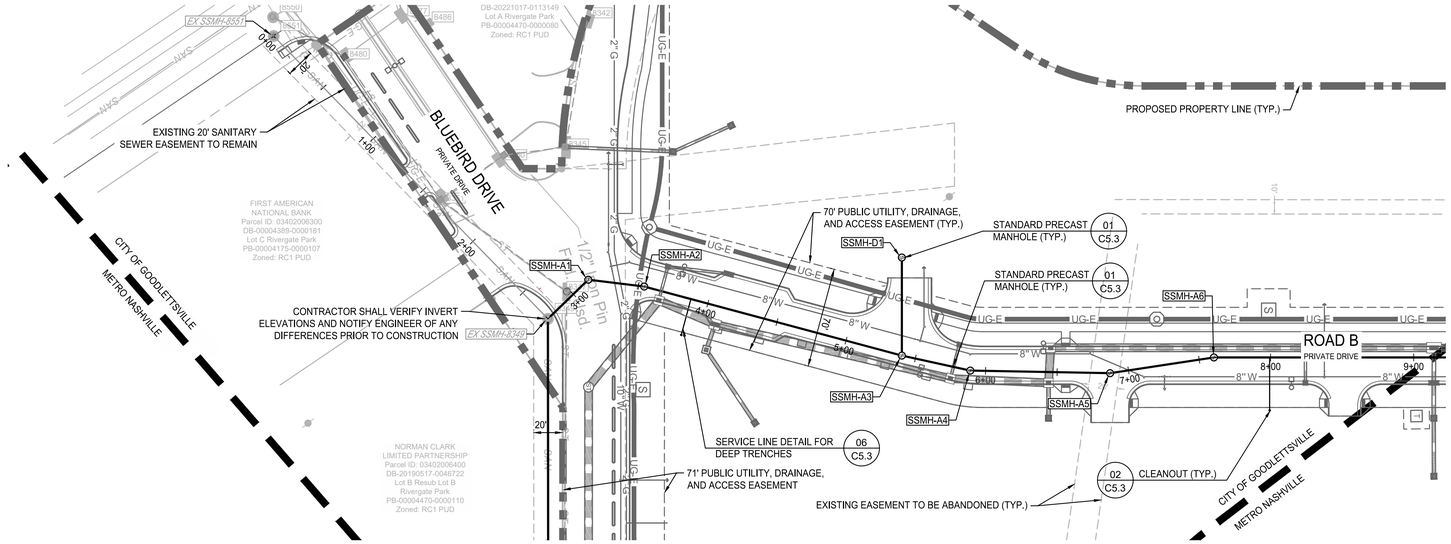
ENLARGED FIRE HYDRANT PLAN

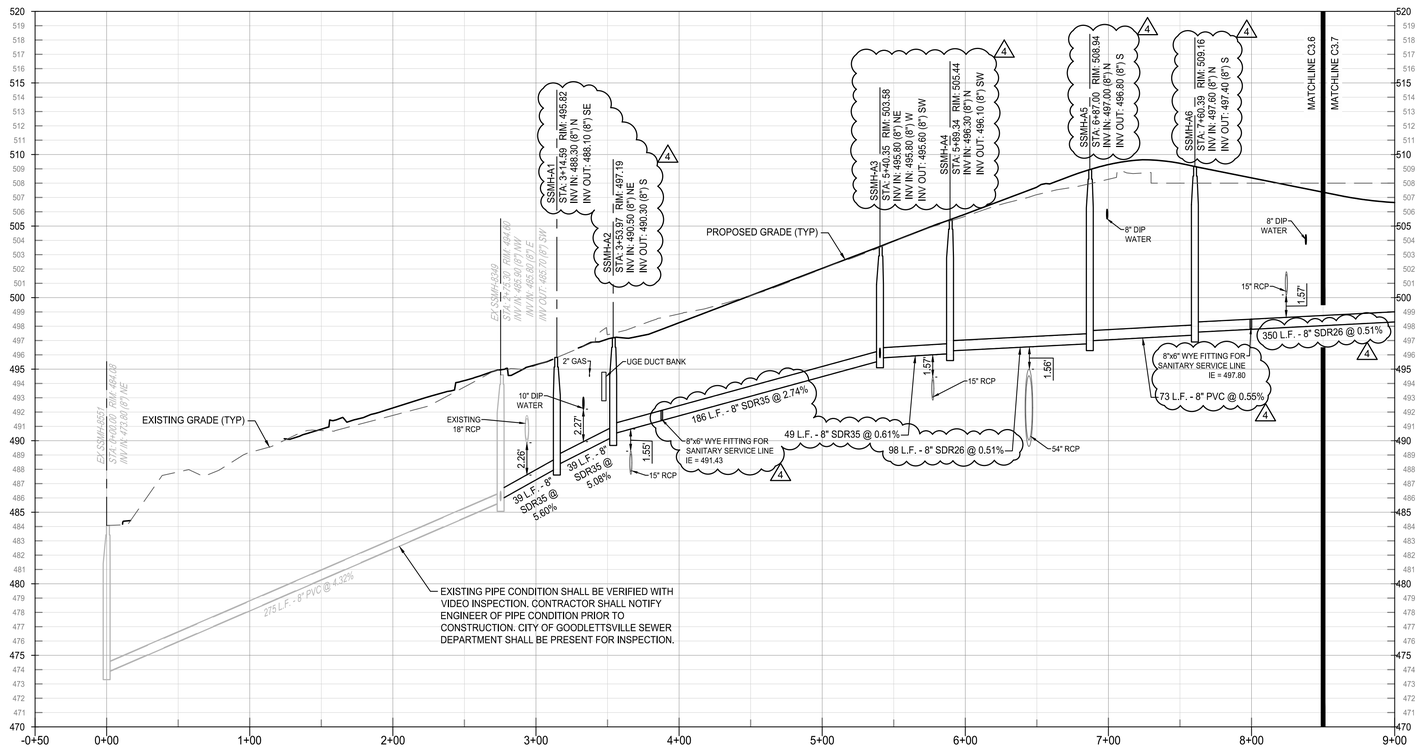
C3.5

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Sunday, May 31, 2026
2:11:11 L:\Projects\Active\01 - Infrastructure and Mass Grading\02 - Civil\Sheets\1411-01_C3.1-5_Enlarged Site Utility Plan.dwg

NOTE:
PROVIDE MINIMUM 18" VERTICAL SEPARATION BETWEEN ALL WATER, SEWER, AND STORM CROSSINGS INCLUDING SERVICES.





SANITARY MAIN A (SSMH-A5 - EX SSMH-8551) PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

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

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

CHELLEM POTHULA
LICENSED PROFESSIONAL ENGINEER
No. 125853
AGRICULTURE
STATE OF TENNESSEE
06/01/2026

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
JF	11/14/2025	PUBLIC WATER AND SEWER PLANS
CCH	01/19/2026	AGENCY COMMENTS
MMD	02/04/2026	AGENCY COMMENTS
BRD	06/01/2026	REVISION 1

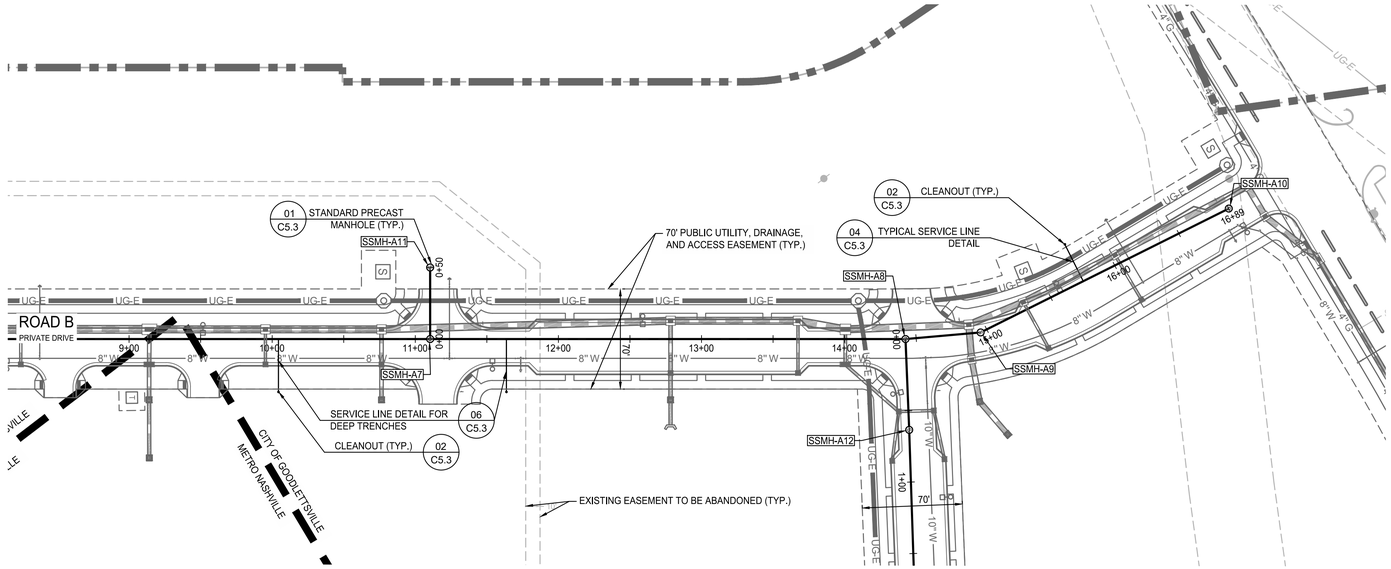
SANITARY SEWER MAIN 'A' PLAN & PROFILE

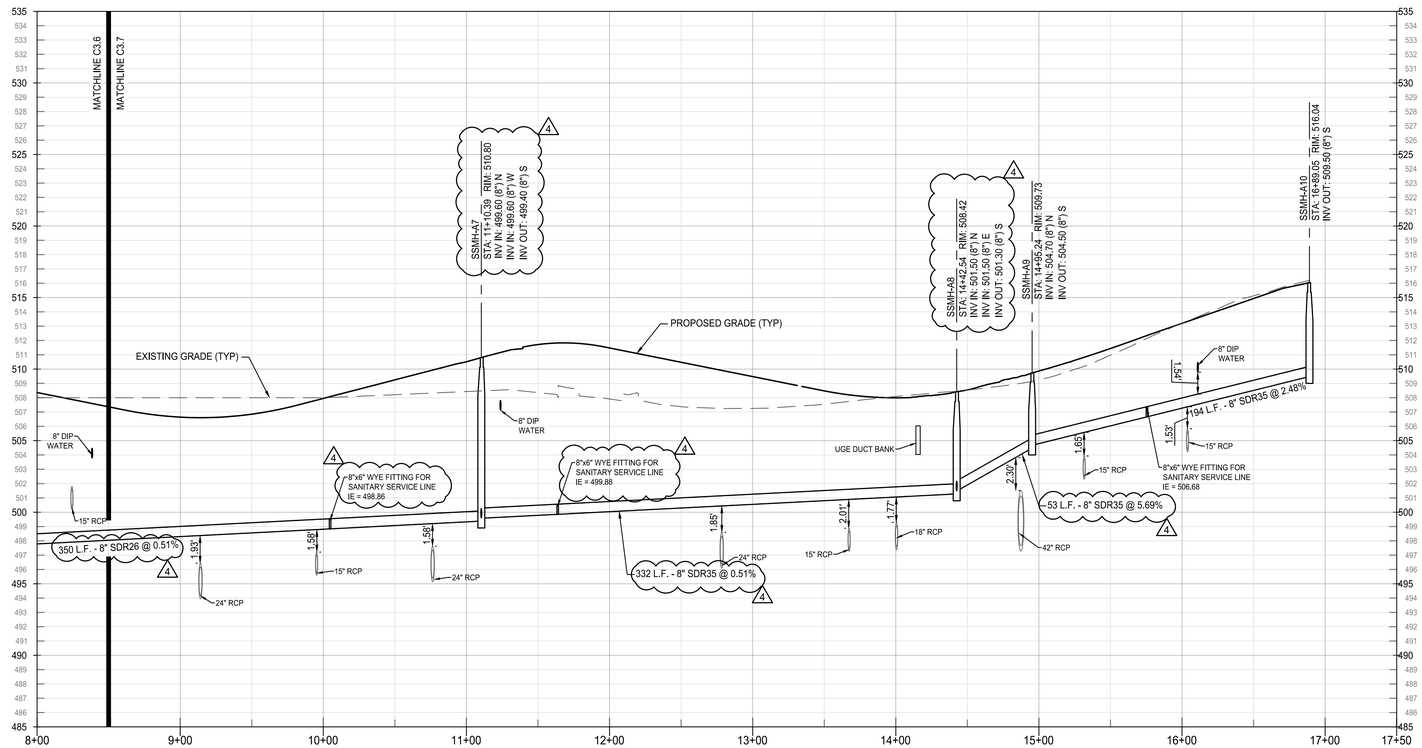
C3.6

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Sunday, May 31, 2026
2:41:11 PM by Mateo Mercado
Z:\1411 Rivergate Parkway\01 - Infrastructure and Mass Grading\02 - Civil\Sheets\1411-01 C3.6-8_Sanitary Sewer Plan & Profiles.dwg

NOTE:
PROVIDE MINIMUM 18" VERTICAL SEPARATION BETWEEN ALL WATER, SEWER, AND STORM CROSSINGS INCLUDING SERVICES.





SANITARY MAIN A (SSMH-A10 - SSMH-A6) PROFILE

SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

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

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

CHELLEM KOTHAPALLI — 329 — AGRICULTURE — No. 109853 — STATE OF TENNESSEE — 06/10/2025

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
JF	11/14/2025	PUBLIC WATER AND SEWER PLANS
CCH	01/19/2026	AGENCY COMMENTS
BRD	06/01/2026	REVISION 1

SANITARY SEWER MAIN 'A' PLAN & PROFILE

C3.7

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Sunday, May 31, 2026
2:44:11 PM by Mason Woodcock
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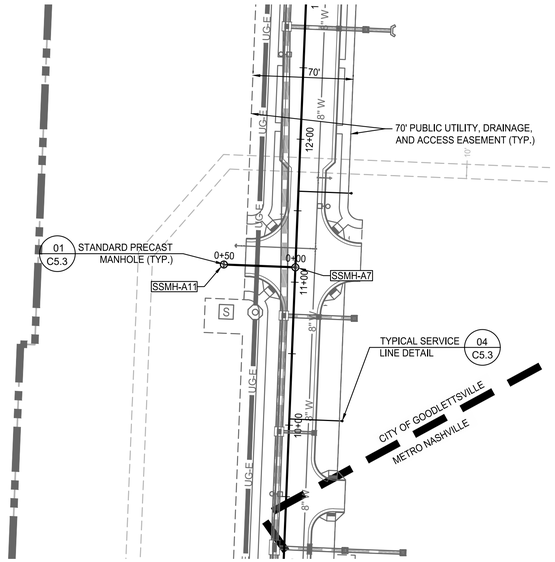
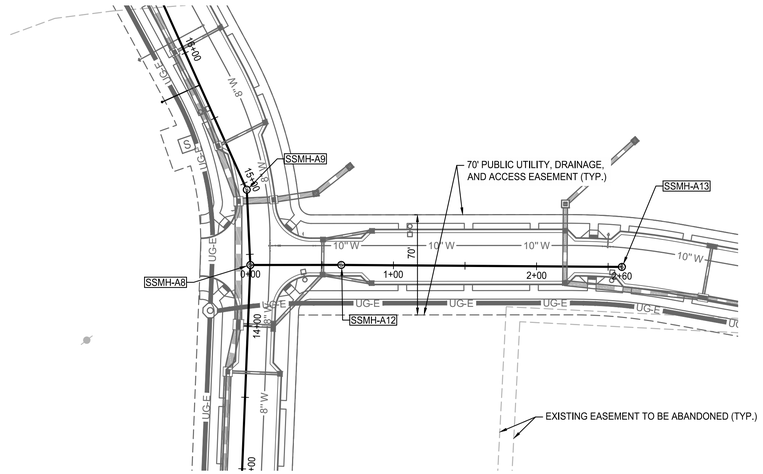
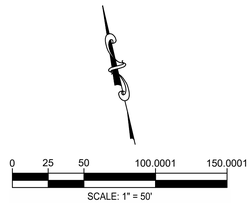
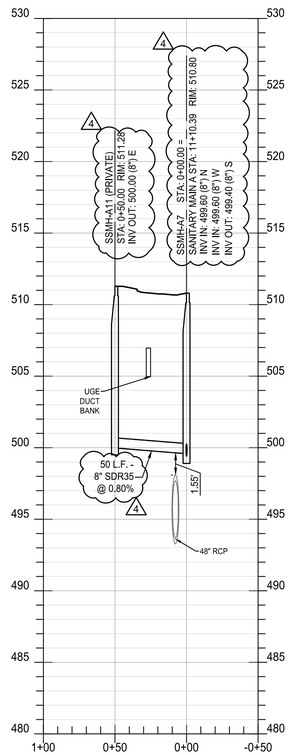
NOTE:
PROVIDE MINIMUM 18" VERTICAL SEPARATION BETWEEN ALL WATER, SEWER, AND STORM CROSSINGS INCLUDING SERVICES.

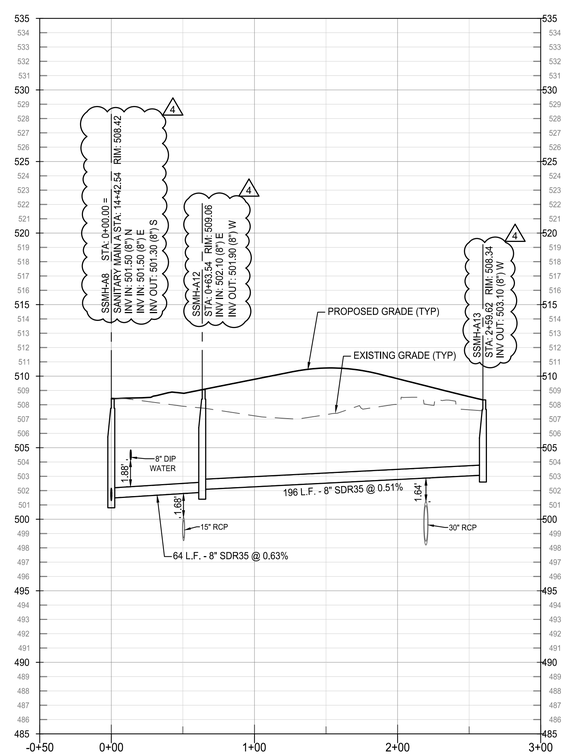








SANITARY MAIN A.1 (SSMH-A11 - SSMH-A7) PROFILE
SCALE H:1"=50'; V:1"=5'



SANITARY MAIN A.2 (SSMH-A13 - SSMH-A8) PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

Know what's below. Call before you dig.

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
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SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

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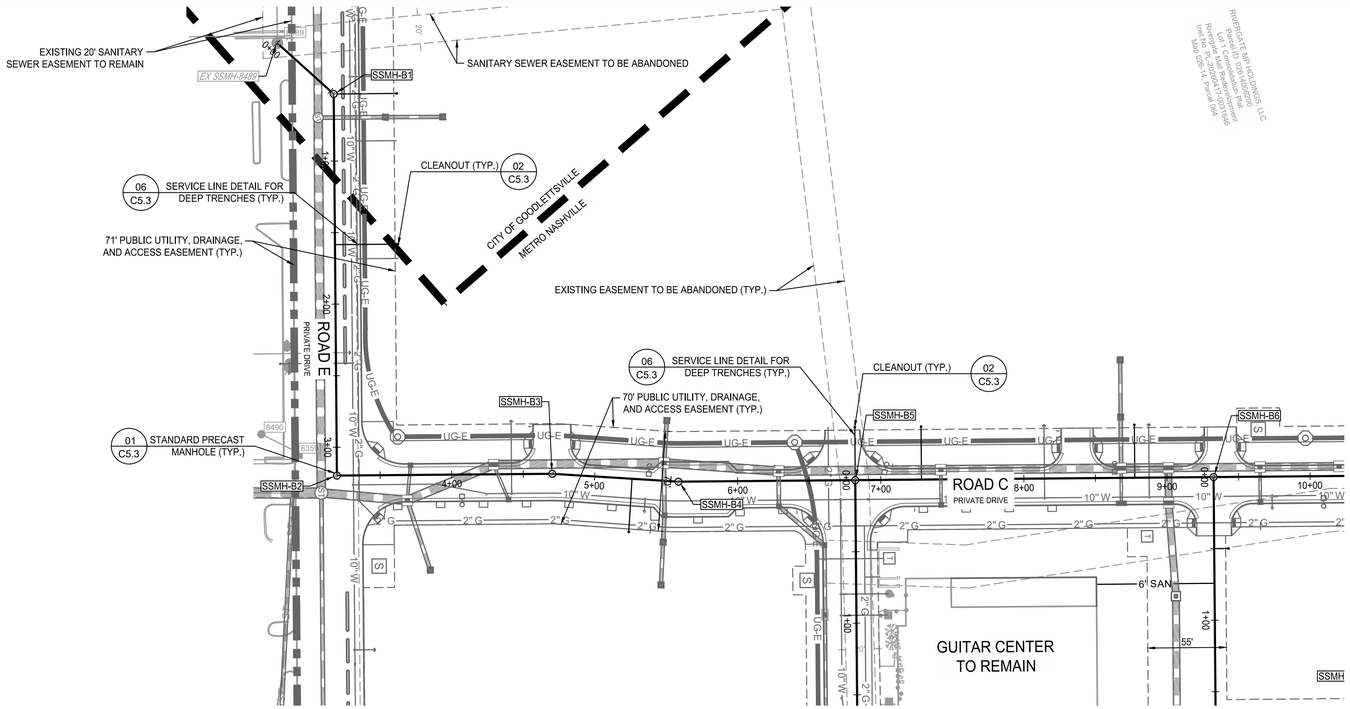
MMD	07/24/2025	AGENCY COMMENTS
JF	11/14/2025	PUBLIC WATER AND SEWER PLANS
CCH	01/19/2026	AGENCY COMMENTS
BRD	06/01/2026	REVISION 1

SANITARY SEWER MAIN 'A' PLAN & PROFILE

C3.8

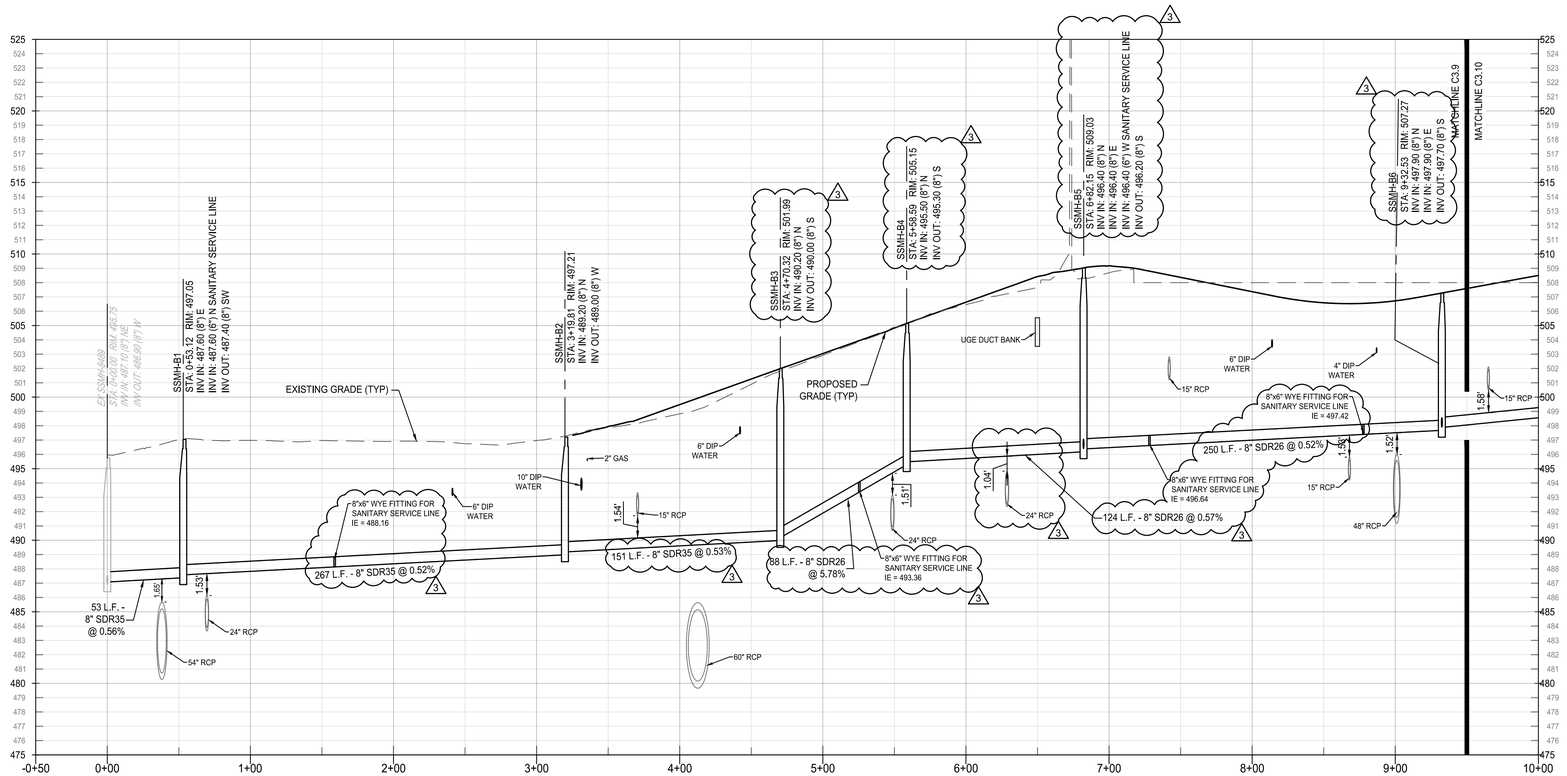
1411-01 RIVERGATE INFRASTRUCTURE PLANS

Sunday, May 31, 2026
Z:\1411_Rivergate Campus\01 - Infrastructure and Mass Grading\02 - Cad\Sheets\1411-01_C3.6-8_Sanitary Sewer Plan & Profiles.dwg



NOTE:
PROVIDE MINIMUM 18" VERTICAL SEPARATION BETWEEN ALL WATER, SEWER, AND STORM CROSSINGS INCLUDING SERVICES.

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



SANITARY MAIN B (SSMH-B6 - EX SSMH-8489) PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

NOTE:
CONTRACTOR TO CONTACT TENNESSEE ONE CALL (811) AT LEAST 72 HOURS PRIOR TO CONSTRUCTION.

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

CHELLEM CHRISTINE HOLLOWAY
LICENSED PROFESSIONAL ENGINEER
AGRICULTURE
No. 129853
STATE OF TENNESSEE
06/10/2025

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
JF	11/14/2025	PUBLIC WATER AND SEWER PLANS
CCH	01/19/2026	AGENCY COMMENTS
BRD	06/01/2026	REVISION 1

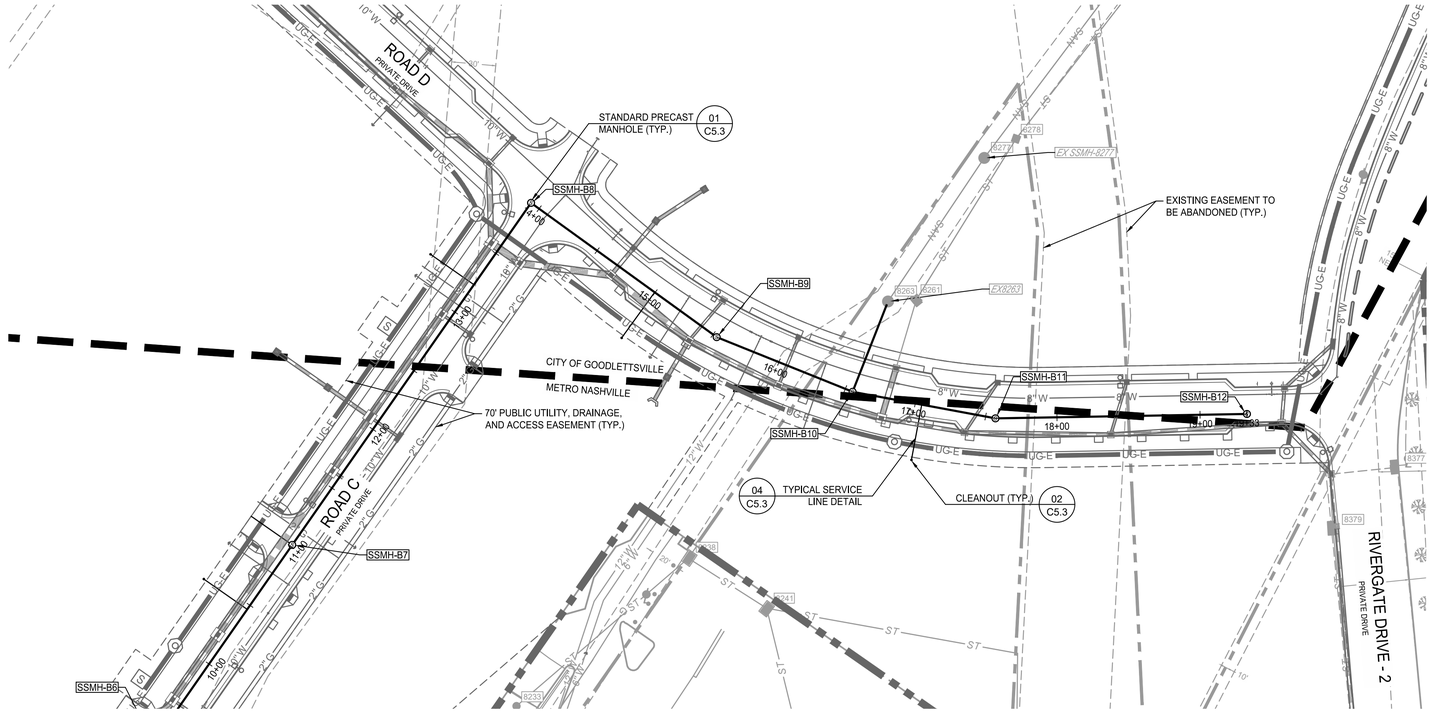
SANITARY SEWER MAIN 'B' PLAN & PROFILE

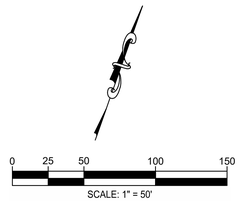
C3.9

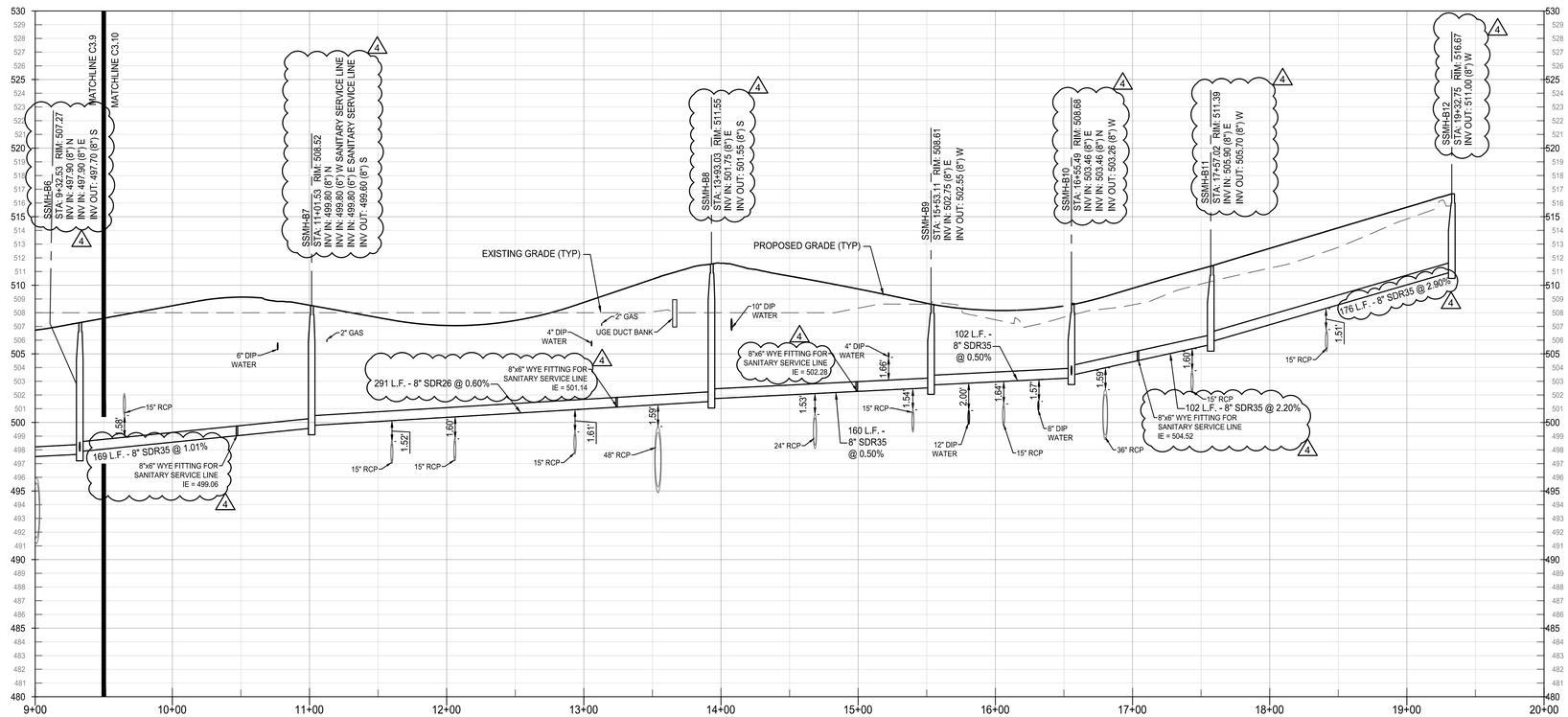
1411-01 RIVERGATE INFRASTRUCTURE PLANS

Sunday, May 31, 2026
2:41:13 PM by Mason Wood
J:\1411 Riverrgate Parcel\01 - Infrastructure and Mass Grading\02 - Cad\Sheets\1411-01_C3.9-11_Sanitary Sewer Plan & Profiles.dwg

NOTE:
PROVIDE MINIMUM 18" VERTICAL SEPARATION BETWEEN ALL WATER, SEWER, AND STORM CROSSINGS INCLUDING SERVICES.







SANITARY MAIN B (SSMH-B12 - SSMH-B7) PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

SCHILLEM RYAN CRAIG
No. 129853
AGRICULTURE
STATE OF TENNESSEE
06/10/2025

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
JF	11/14/2025	PUBLIC WATER AND SEWER PLANS
CCH	01/19/2026	AGENCY COMMENTS
BRD	06/01/2026	REVISION 1

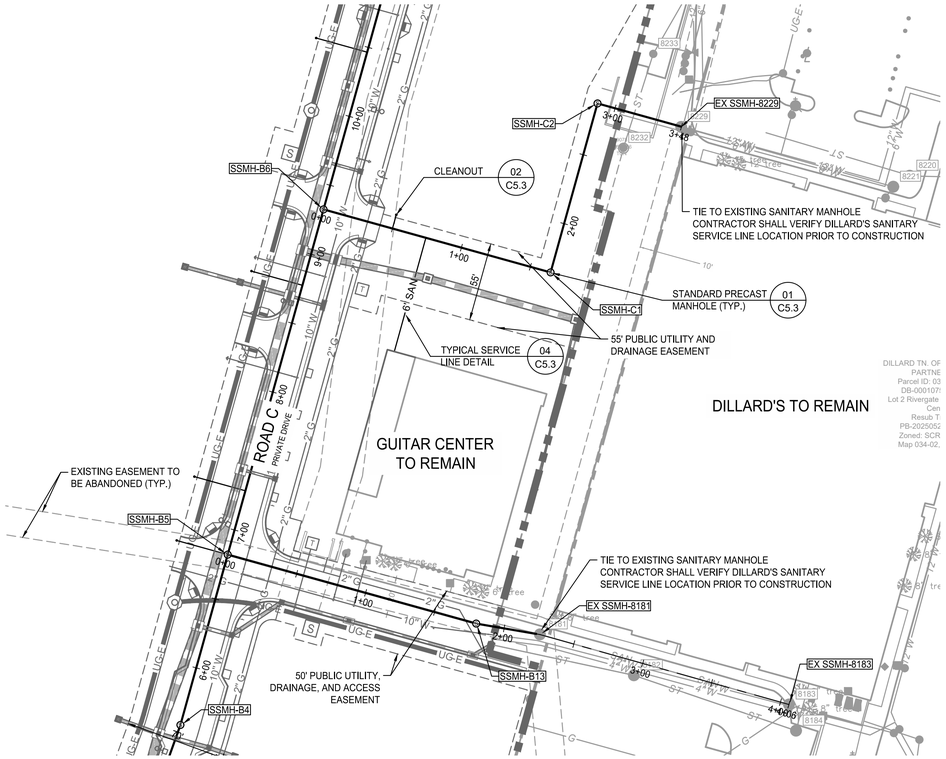
SANITARY SEWER MAIN 'B' PLAN & PROFILE

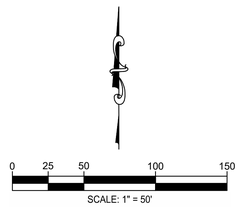
C3.10

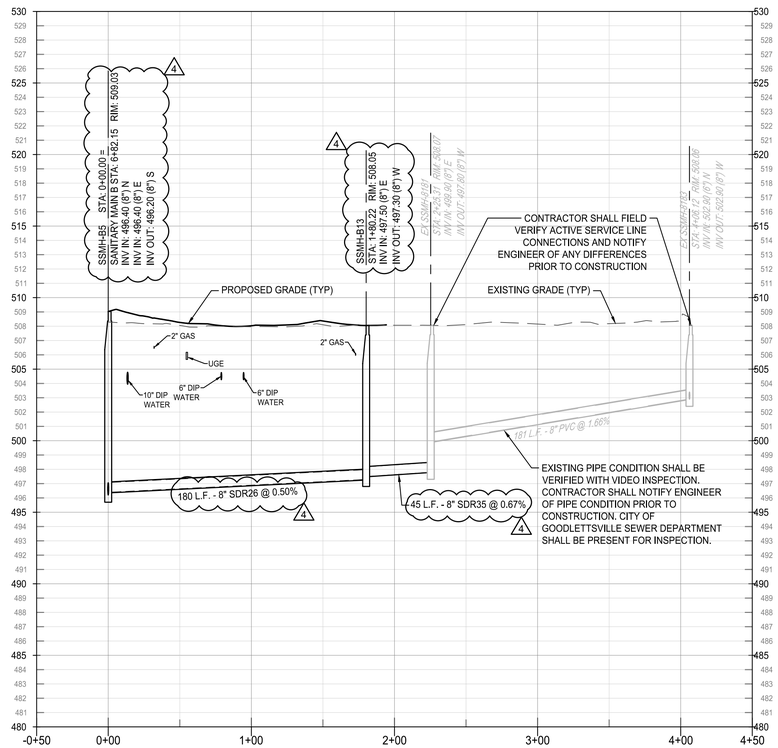
1411-01 RIVERGATE INFRASTRUCTURE PLANS

Sunday, May 31, 2026
2:41:13 PM by mmcneil01 - Infrastructure and Mass Grading\02 - Cad\Sheets\1411-01_C3.x_11_Sanitary Sewer Plan & Profiles.dwg

NOTE:
PROVIDE MINIMUM 18" VERTICAL SEPARATION BETWEEN ALL WATER, SEWER, AND STORM CROSSINGS INCLUDING SERVICES.

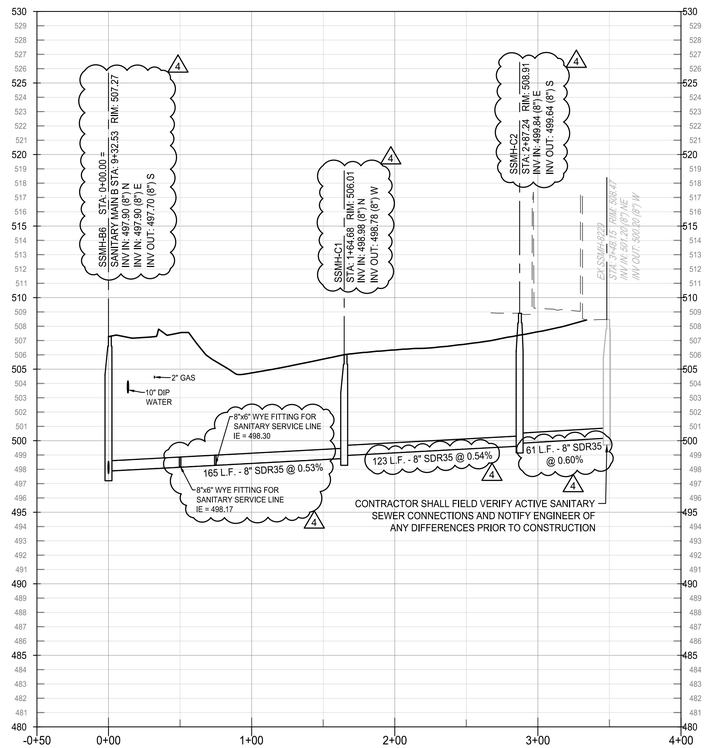






SANITARY MAIN B.1 (EX SSMH-8183 - SSMH-B5) PROFILE

SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL



SANITARY MAIN C (EX SSMH-8229 - SSMH-B6) PROFILE

SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE
PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770



SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

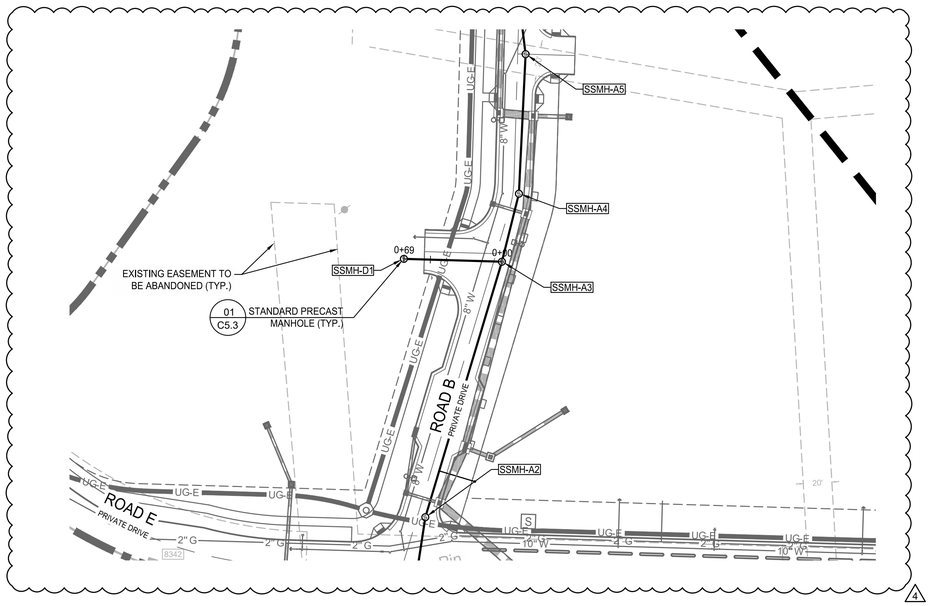
DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
JF	11/14/2025	PUBLIC WATER AND SEWER PLANS
CCH	01/19/2026	AGENCY COMMENTS
BRD	06/01/2026	REVISION 1

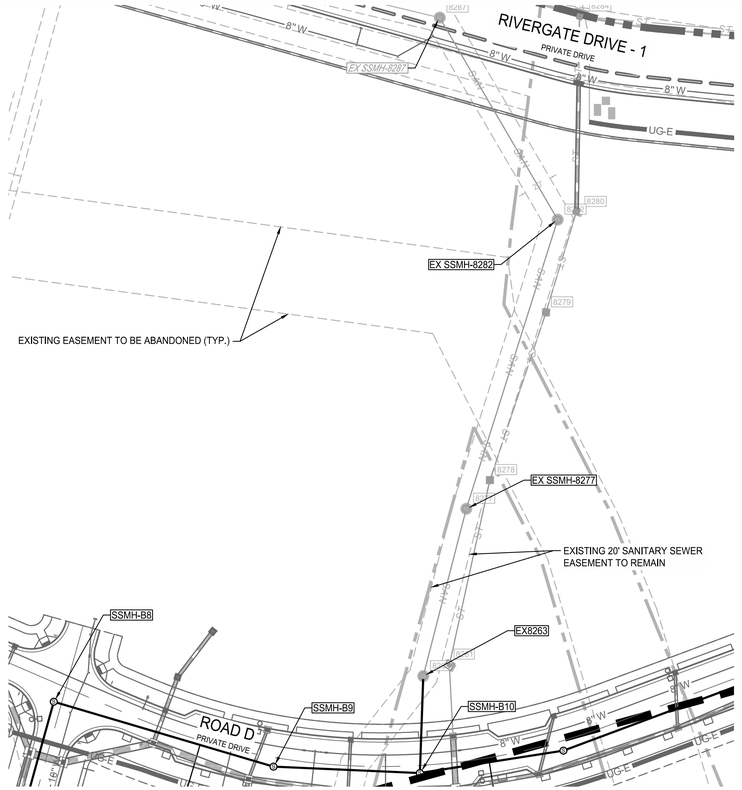
SANITARY SEWER MAIN 'B.1' AND 'C' PLAN & PROFILE

C3.11

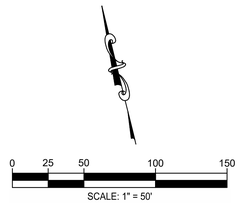
1411-01 RIVERGATE INFRASTRUCTURE PLANS

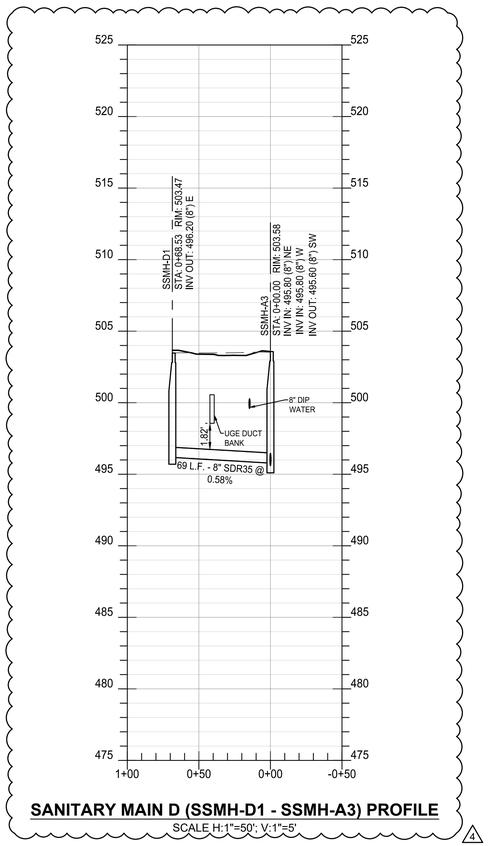
Sunday, May 31, 2026
2:41:11 pm Brandon Mitchell
Z:\2411 Rivergate Parkway\01 - Infrastructure and Mass Grading\02 - Cad\Sheets\1411-01_C3.x_11_Sanitary Sewer Plan & Profiles.dwg



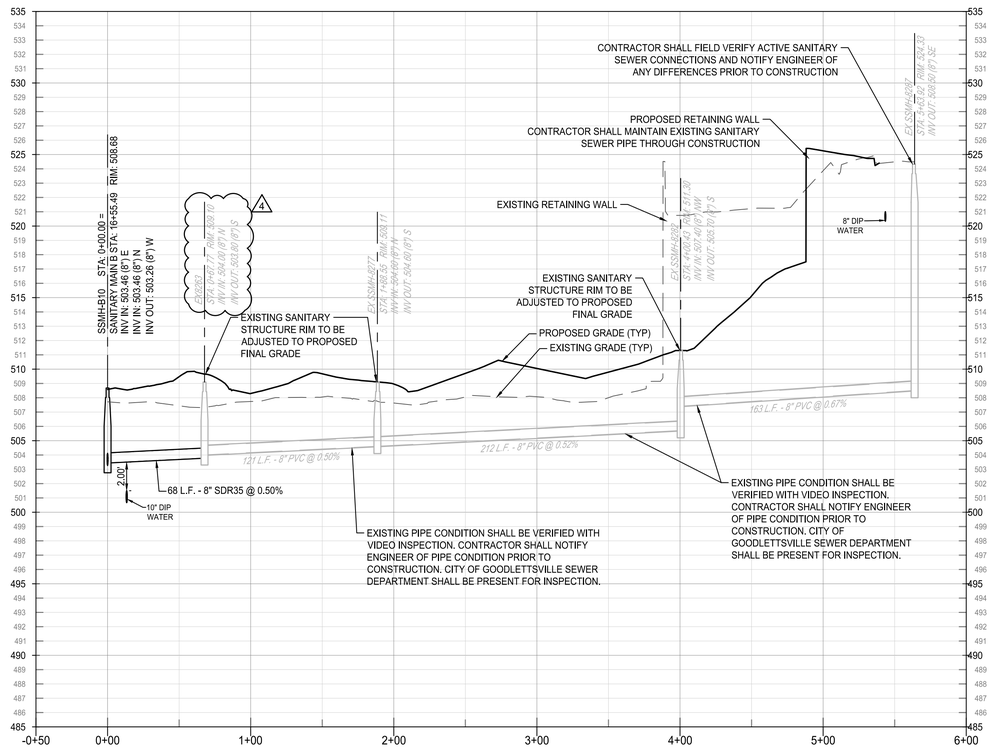


NOTE:
PROVIDE MINIMUM 18" VERTICAL SEPARATION BETWEEN ALL WATER, SEWER, AND STORM CROSSINGS INCLUDING SERVICES.





SANITARY MAIN D (SSMH-D1 - SSMH-A3) PROFILE
SCALE H:1"=50'; V:1"=5'



SANITARY MAIN E (EX SSMH-8287 - SSMH-B10) PROFILE
SCALE 1"=50' HORIZONTAL
1"=5' VERTICAL

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

CHELLEM KRISHNAMURTHY
REGISTERED
ARCHITECT
AGRICULTURE
No. 109853
STATE OF TENNESSEE
06/01/2026

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	02/04/2026	AGENCY COMMENTS
BRD	06/01/2026	REVISION 1

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

SANITARY SEWER MAIN 'D' AND 'E' PLAN & PROFILE

C3.12

1411-01 RIVERGATE INFRASTRUCTURE PLANS

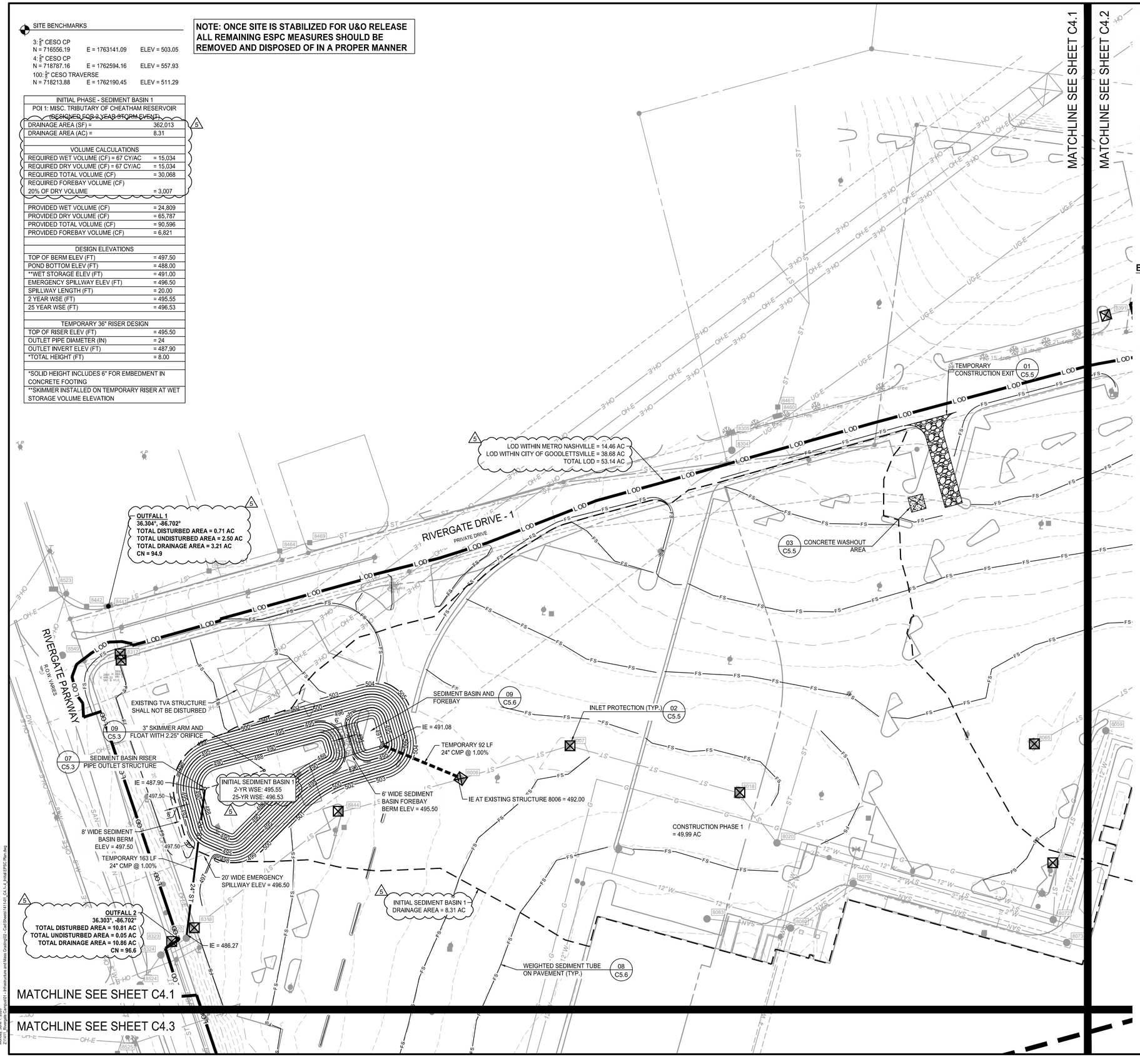
Sunday, May 31, 2026
2:41:11 PM by Mateo Dimond01 - Infrastructure and Mass Grading\02 - CadSheets\1411-01_C3.12-13_Sanitary Sewer Plan & Profiles.dwg

SITE BENCHMARKS

3: ⅝" CESO CP
N = 716556.19 E = 1763141.09 ELEV = 503.05
4: ⅝" CESO CP
N = 718787.16 E = 1762594.16 ELEV = 557.93
100: ⅝" CESO TRAVERSE
N = 718213.88 E = 1762190.45 ELEV = 511.29

NOTE: ONCE SITE IS STABILIZED FOR U&O RELEASE ALL REMAINING ESPC MEASURES SHOULD BE REMOVED AND DISPOSED OF IN A PROPER MANNER

INITIAL PHASE - SEDIMENT BASIN 1	
POI 1: MISC. TRIBUTARY OF CHEATHAM RESERVOIR (DESIGNED FOR 2 YEAR STORM EVENT)	
DRAINAGE AREA (SF) =	362,013
DRAINAGE AREA (AC) =	8.31
VOLUME CALCULATIONS	
REQUIRED WET VOLUME (CF) = 67 CY/AC	= 15,034
REQUIRED DRY VOLUME (CF) = 67 CY/AC	= 15,034
REQUIRED TOTAL VOLUME (CF)	= 30,068
REQUIRED FOREBAY VOLUME (CF) 20% OF DRY VOLUME	= 3,007
PROVIDED WET VOLUME (CF)	= 24,809
PROVIDED DRY VOLUME (CF)	= 65,787
PROVIDED TOTAL VOLUME (CF)	= 90,596
PROVIDED FOREBAY VOLUME (CF)	= 6,821
DESIGN ELEVATIONS	
TOP OF BERM ELEV (FT)	= 497.50
POND BOTTOM ELEV (FT)	= 488.00
**WET STORAGE ELEV (FT)	= 491.00
EMERGENCY SPILLWAY ELEV (FT)	= 496.50
SPILLWAY LENGTH (FT)	= 20.00
2 YEAR WSE (FT)	= 495.55
25 YEAR WSE (FT)	= 496.53
TEMPORARY 36" RISER DESIGN	
TOP OF RISER ELEV (FT)	= 495.50
OUTLET PIPE DIAMETER (IN)	= 24
OUTLET INVERT ELEV (FT)	= 487.90
*TOTAL HEIGHT (FT)	= 8.00
*SOLID HEIGHT INCLUDES 6" FOR EMBEDMENT IN CONCRETE FOOTING	
**SKIMMER INSTALLED ON TEMPORARY RISER AT WET STORAGE VOLUME ELEVATION	



GENERAL NOTES:

1. GENERAL CONTRACTOR (GC) IS TO CONFORM TO ALL LOCAL CODES AND OBTAIN ALL PERMITS PRIOR TO BEGINNING WORK.
2. GC SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES. GC SHALL TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. REPAIR ALL CONTRACTOR CAUSED DAMAGE ACCORDING TO LOCAL STANDARDS AND AT THE CONTRACTOR'S EXPENSE. COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY.
3. GC SHALL EXERCISE EXTREME CAUTION WHEN WORKING IN THE VICINITY OF UNDERGROUND OR OVERHEAD ELECTRICAL WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK, THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF ELECTRICAL WIRES, THE ELECTRICAL COMPANY SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES TAKEN.
4. IN EASEMENTS AND RIGHTS-OF-WAY, GC SHALL PROTECT AND RESTORE SAID PROPERTY TO A CONDITION SIMILAR OR EQUAL TO THAT EXISTING AT THE COMMENCEMENT OF CONSTRUCTION, EXCEPT WHERE NOTED.
5. GC IS TO PHOTOGRAPH ALL EXISTING CONDITIONS PRIOR TO INITIATING CONSTRUCTION.
6. CLEAR THE ENTIRE CONSTRUCTION AREA OF ALL WEEDS, BUSHES, TREES NOTED FOR REMOVAL OR WITHIN GRADING BOUNDARY. STUMPS, ASPHALT, CONCRETE, CURBS AND OTHER PROTRUDING OBSTRUCTIONS NOT DESIGNATED TO REMAIN.
7. ALL MATERIALS NOT TO REMAIN ARE TO BE DISPOSED OF OFF SITE AT A PROPERLY PERMITTED LOCATION.
8. GC IS RESPONSIBLE FOR CLEANING AND MAINTAINING HAUL ROUTES AND CONTROLLING DUST. CLEANING SHOULD BE CONTINUOUS DURING ACTIVE WORK.
9. GC IS RESPONSIBLE FOR ALL NECESSARY EROSION CONTROL TO KEEP SEDIMENT ON SITE, EVEN IF IT IS NOT DIRECTLY SHOWN ON THE PLANS. ANY EROSION CONTROL NEEDED NOT SHOWN ON THE PLANS SHALL BE MARKED ON THE PLANS.
10. GC SHALL NOT DISTURB EXISTING CONDITIONS OUTSIDE OF THE PROJECT PROPERTY UNLESS SHOWN ON THE PLANS OR WITH PERMISSION OF THE PROPERTY OWNER. ANY UNAUTHORIZED DAMAGES SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.
11. ALL CURB AND GUTTER TO BE DEMOLISHED SHALL BE REMOVED TO THE NEAREST JOINT. CONTRACTOR TO FIELD VERIFY LIMITS AS JOINTS ARE NOT SHOWN ON THE PLANS.

EROSION & SEDIMENT CONTROL NOTES:

1. ALL PERIMETER MEASURES MUST BE IN PLACE BEFORE GRADING.
2. ALL STOCKPILES ARE TO BE CONTAINED ON THE PROJECT PROPERTY UNLESS WRITTEN PERMISSION IS GIVEN BY THE ADJACENT PROPERTY OWNER. INSTALL SILT FENCE AT THE BASE OF ANY STOCKPILES.
3. ALL GRADED SLOPES 3:1 OR STEEPER AND DITCH BOTTOMS SHALL RECEIVE PROPER EROSION CONTROL BLANKETS/MATTING OR SOD.
4. ALL FIELD ADJUSTMENT OF EROSION CONTROL MEASURES SHALL BE NOTED ON THE PLANS KEPT IN THE JOB TRAILER.
5. WHEN THE TEMPORARY EROSION CONTROL DEVICES ARE NO LONGER NEEDED FOR THE INTENDED PURPOSE IN THE OPINION OF THE DESIGNATED SITE EROSION CONTROL SPECIALIST, THEY MAY BE REMOVED.
6. CONTRACTOR TO PROVIDE AN AREA FOR CONCRETE WASH DOWN AND EQUIPMENT FUELING IN ACCORDANCE WITH METRO CP-10 AND CP-13, RESPECTIVELY. CONTRACTOR TO COORDINATE EXACT LOCATION WITH NPDES DEPARTMENT DURING PRECONSTRUCTION MEETING. CONTROL OF OTHER SITE WASTES SUCH AS DISCARDED BUILDING MATERIALS, CHEMICALS, LITTER, AND SANITARY WASTES THAT MAY CAUSE ADVERSE IMPACTS TO WATER QUALITY IS ALSO REQUIRED BY THE GRADING PERMITTEE. LOCATION OF AND/OR NOTES REFERRING TO THESE BMP'S SHALL BE SHOWN ON THE EPSC PLAN.
7. ALL AREAS NOT OTHERWISE RECEIVING SOD OR OTHER PLANTING SHALL RECEIVE SEED AND STRAW PER THE SPECIFICATIONS INCLUDED WITHIN TENNESSEE EROSION AND SEDIMENT CONTROL HANDBOOK.
8. ALL GRADED AREAS, INCLUDING SLOPES, ARE TO BE SODDED OR MULCHED AND SEEDED WITHIN 14 DAYS AFTER GRADING IS SUSPENDED OR COMPLETED.
9. ANY DISTURBED AREA LEFT FOR A PERIOD OF GREATER THAN 7 DAYS WITH SLOPES GREATER THAN OR EQUAL TO 3:1 SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.
10. GRADING OPERATIONS ARE NOT TO BEGIN UNTIL EROSION CONTROL HAS BEEN INSTALLED AS SHOWN ON DRAWINGS, INSPECTED BY METRO STORMWATER DEPARTMENT, AND THE GRADING PERMIT HAS BEEN ISSUED.
11. SILT BARRIERS SHALL BE CLEANED OF ACCUMULATED SEDIMENT OR REPLACED WHEN APPROXIMATELY 33% FILLED WITH SEDIMENT OR DIRECTED BY THE EROSION CONTROL SPECIALIST.
12. THE CONTRACTOR SHALL PROVIDE THE NECESSARY PROTECTION FOR TREES TO REMAIN IN ACCORDANCE WITH CITY SPECIFICATIONS. DO NOT OPERATE OR STORE HEAVY EQUIPMENT NOR HANDLE OR STORE MATERIALS WITHIN THE DRIP LINES OF TREES TO REMAIN.
13. PRIOR TO FINAL ACCEPTANCE AND INSPECTION, SEDIMENT MUST BE REMOVED FROM ALL NEW AND EXISTING STRUCTURES AND WATER QUALITY SYSTEMS.
14. TDEC NOTICE OF TERMINATION (NOT) TO BE SUBMITTED ONLINE BY THE GENERAL CONTRACTOR UPON COMPLETION OF SITE WORK. GENERAL CONTRACTOR MUST HAVE A TDEC 'MY FORMS SYSTEM' ACCOUNT ON https://forms.tdec.tn.gov/ IN ORDER TO FILE THE NOT.
15. RECEIVING WATERS: MISCELLANEOUS TRIBUTARIES TO CHEATHAM RESERVOIR; NOT IMPAIRED PER TDEC ARCGIS DATAVIEWER SEGMENT ID TN05130202001T_0999
16. CONSTRUCTION SHALL BE PHASED TO LIMIT THE OVERALL DISTURBED AREA AT ANY ONE TIME TO LESS THAN 50 ACRES. FOR PROJECTS OF MORE THAN 50 ACRES ,THE CONSTRUCTION PHASES SHALL BE DESCRIBED IN THE SWPPP.

TENNESSEE CONSTRUCTION GENERAL PERMIT NOTICE OF COVERAGE (NOC) CERTIFICATION:

2. I HEREBY CERTIFY THAT THIS PROJECT WILL REQUIRE COVERAGE UNDER TENNESSEE CONSTRUCTION GENERAL PERMIT NO. TNR248669. THE TOTAL DISTURBED AREA IS: ±53.14 AC.

CHECK ALL THAT APPLY: THIS SITE DISCHARGES INTO WATERS IDENTIFIED BY TDEC AS:

☐ IMPAIRED FOR SILTATION ☐ IMPAIRED FOR HABITAT ALTERATION ☐ EXCEPTIONAL

SIGNATURE: MichelleDove DATE: 06/01/2026

CIRCLE ONE: DEVELOPER (PROJECT ENGINEER) OTHER _____

EROSION CONTROL LEGEND:

- INLET PROTECTION
- SF / FS — WIRE BACKED SILT FENCE / WEIGHTED SEDIMENT TUBE OR APPROVED EQUAL
- LOD — LIMITS OF DISTURBANCE
- SEDIMENT BASIN DRAINAGE AREA
- CONSTRUCTION PHASE LINE
- CONSTRUCTION ENTRANCE/EXIT
- CONCRETE WASHOUT AREA

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

Know what's below. Call before you dig.

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

MICHELLE DOVE — REGISTERED — No. 129853 — AGRICULTURE — STATE OF TENNESSEE
06/01/2026

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/29/2026	AGENCY COMMENTS
MMD	03/06/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

ENLARGED INITIAL EPSC PLAN

C4.1

1411-01 RIVERGATE INFRASTRUCTURE PLANS

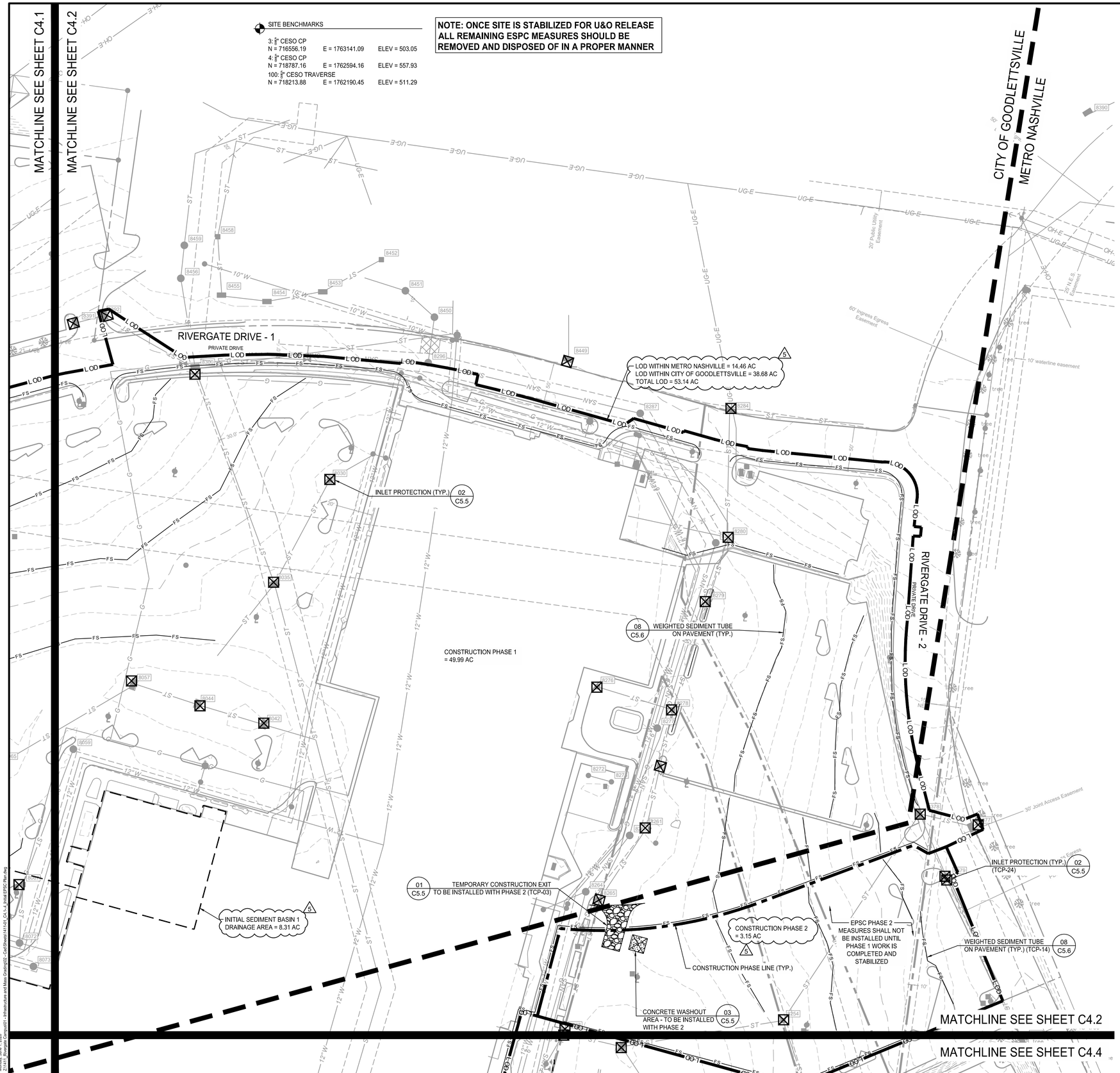
MATCHLINE SEE SHEET C4.1

MATCHLINE SEE SHEET C4.2

SITE BENCHMARKS

3: ⅝" CESO CP
N = 716556.19 E = 1763141.09 ELEV = 503.05
4: ⅝" CESO CP
N = 718787.16 E = 1762594.16 ELEV = 557.93
100: ⅝" CESO TRAVERSE
N = 718213.88 E = 1762190.45 ELEV = 511.29

NOTE: ONCE SITE IS STABILIZED FOR U&O RELEASE ALL REMAINING ESPC MEASURES SHOULD BE REMOVED AND DISPOSED OF IN A PROPER MANNER



GENERAL NOTES:

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2. GC SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES. GC SHALL TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. REPAIR ALL CONTRACTOR CAUSED DAMAGE ACCORDING TO LOCAL STANDARDS AND AT THE CONTRACTOR'S EXPENSE. COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY.
3. GC SHALL EXERCISE EXTREME CAUTION WHEN WORKING IN THE VICINITY OF UNDERGROUND OR OVERHEAD ELECTRICAL WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK, THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF ELECTRICAL WIRES, THE ELECTRICAL COMPANY SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES TAKEN.
4. IN EASEMENTS AND RIGHTS-OF-WAY, GC SHALL PROTECT AND RESTORE SAID PROPERTY TO A CONDITION SIMILAR OR EQUAL TO THAT EXISTING AT THE COMMENCEMENT OF CONSTRUCTION, EXCEPT WHERE NOTED.
5. GC IS TO PHOTOGRAPH ALL EXISTING CONDITIONS PRIOR TO INITIATING CONSTRUCTION.
6. CLEAR THE ENTIRE CONSTRUCTION AREA OF ALL WEEDS, BUSHES, TREES NOTED FOR REMOVAL OR WITHIN GRADING BOUNDARY. STUMPS, ASPHALT, CONCRETE, CURBS AND OTHER PROTRUDING OBSTRUCTIONS NOT DESIGNATED TO REMAIN.
7. ALL MATERIALS NOT TO REMAIN ARE TO BE DISPOSED OF OFF SITE AT A PROPERLY PERMITTED LOCATION.
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EROSION & SEDIMENT CONTROL NOTES:

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4. ALL FIELD ADJUSTMENT OF EROSION CONTROL MEASURES SHALL BE NOTED ON THE PLANS KEPT IN THE JOB TRAILER.
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15. RECEIVING WATERS: MISCELLANEOUS TRIBUTARIES TO CHEATHAM RESERVOIR; NOT IMPAIRED PER TDEC ARCGIS DATAVIEWER SEGMENT ID TN05130202001T_0999
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TENNESSEE CONSTRUCTION GENERAL PERMIT NOTICE OF COVERAGE (NOC) CERTIFICATION:

5

2. I HEREBY CERTIFY THAT THIS PROJECT WILL REQUIRE COVERAGE UNDER TENNESSEE CONSTRUCTION GENERAL PERMIT NO. TNR248669. THE TOTAL DISTURBED AREA IS: ±53.14 AC..

CHECK ALL THAT APPLY: THIS SITE DISCHARGES INTO WATERS IDENTIFIED BY TDEC AS:

☐ IMPAIRED FOR SILTATION ☐ IMPAIRED FOR HABITAT ALTERATION ☐ EXCEPTIONAL

SIGNATURE: Michelle Dove DATE: 06/01/2026

CIRCLE ONE: DEVELOPER (PROJECT ENGINEER) OTHER _____

EROSION CONTROL LEGEND:

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- SF / FS — WIRE BACKED SILT FENCE / WEIGHTED SEDIMENT TUBE OR APPROVED EQUAL
- LOD — LIMITS OF DISTURBANCE
- SEDIMENT BASIN DRAINAGE AREA
- CONSTRUCTION PHASE LINE
- CONSTRUCTION ENTRANCE/EXIT
- CONCRETE WASHOUT AREA

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

Know what's below. Call before you dig.

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

WILLEM K. MICHELSEN — LICENSED PROFESSIONAL ENGINEER — AGRICULTURE — No. 109853 — STATE OF TENNESSEE — 06/01/2026

SITE PLANS FOR:

RIVERGATE INFRASTRUCTURE PLANS

1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
WMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/28/2026	AGENCY COMMENTS
WMD	03/05/2026	AGENCY COMMENTS
WMD	06/01/2026	REVISION 1

ENLARGED INITIAL EPSC PLAN

C4.2

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Monday, June 1, 2026
Z:\1411 Rivergate\1411-01 - Infrastructure and Mass Grading\02 - Cad\Sheets\1411-01- C4.1-4_Initial EPSC Plan.dwg

MATCHLINE SEE SHEET C4.1

MATCHLINE SEE SHEET C4.3

02 C5.5 INLET PROTECTION (TYP.)

WEIGHTED SEDIMENT TUBE ON PAVEMENT (TYP.) 08 C5.6

RIVERGATE PARKWAY
ROW VARIES

BLUEBIRD DRIVE
PRIVATE DRIVE

ROAD E
PRIVATE DRIVE

CONSTRUCTION PHASE 1
= 49.99 AC

5 LOD WITHIN METRO NASHVILLE = 14.46 AC
LOD WITHIN CITY OF GOODLETTSVILLE = 38.68 AC
TOTAL LOD = 53.14 AC

5 OUTFALL 3
36.301°, -86.701°
TOTAL DISTURBED AREA = 7.02 AC
TOTAL UNDISTURBED AREA = 0.54 AC
TOTAL DRAINAGE AREA = 7.56 AC
CN = 95.8

08 C5.6 WEIGHTED SEDIMENT TUBE ON PAVEMENT (TYP.) (TCP-14)

CITY OF GOODLETTSVILLE
METRO NASHVILLE

MATCHLINE SEE SHEET C4.3

MATCHLINE SEE SHEET C4.4

SITE BENCHMARKS

3: ⅝" CESO CP
N = 716556.19 E = 1763141.09 ELEV = 503.05
4: ⅝" CESO CP
N = 718787.16 E = 1762594.16 ELEV = 557.93
100: ⅝" CESO TRAVERSE
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☐ IMPAIRED FOR SILTATION ☐ IMPAIRED FOR HABITAT ALTERATION ☐ EXCEPTIONAL

SIGNATURE: MichelleDove DATE: 06/01/2026

CIRCLE ONE: DEVELOPER (PROJECT ENGINEER) OTHER _____

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- SEDIMENT BASIN DRAINAGE AREA
- CONSTRUCTION PHASE LINE
- CONSTRUCTION ENTRANCE/EXIT
- CONCRETE WASHOUT AREA

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

Know what's below. Call before you dig.
SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

MICHELLE M. DOVE — REGISTERED — AGRICULTURE — CIVIL — No. 109853 — STATE OF TENNESSEE — 06/01/2026

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
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MMD	03/05/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

ENLARGED INITIAL EPSC PLAN

C4.3

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Monday, June 1, 2026
2:11:13 PM
Z:\1411 Rivergate Infrastructure\01 - Infrastructure and Mass Grading\02 - Cad\Sheets\1411-01_C4.1-x_4_Initial EPSC Plan.dwg

MATCHLINE SEE SHEET C4.2

MATCHLINE SEE SHEET C4.4

MATCHLINE SEE SHEET C4.3

MATCHLINE SEE SHEET C4.4

CONSTRUCTION PHASE 1
= 49.99 AC

GUITAR CENTER
TO REMAIN

DILLARD'S
TO REMAIN

TEMPORARY CONSTRUCTION EXIT
TO BE INSTALLED WITH PHASE 2 (TCP-03)
01 C5.5

03 C5.5 CONCRETE WASHOUT AREA - TO BE INSTALLED WITH PHASE 2

CONSTRUCTION PHASE LINE (TYP.)

EPSC PHASE 2 MEASURES SHALL NOT BE INSTALLED UNTIL PHASE 1 WORK IS COMPLETED AND STABILIZED

WEIGHTED SEDIMENT TUBE ON PAVEMENT (TYP.) (TCP-14) 08 C5.6

LOD WITHIN METRO NASHVILLE = 14.46 AC
LOD WITHIN CITY OF GOODLETTSVILLE = 38.68 AC
TOTAL LOD = 53.14 AC

INLET PROTECTION (TYP) (TCP-24) 02 C5.5

CONSTRUCTION PHASE 2
= 3.15 AC

RIVERGATE DRIVE
PRIVATE DRIVE

ROAD E
PRIVATE DRIVE

CUDE LANE
PRIVATE DRIVE

GALLATIN PIKE
150' R.O.W.

16' Utilelia Parking Easement

Additional Parking Area Easement

OUTFALL 4
36.301°, -86.698°
TOTAL DISTURBED AREA = 31.51 AC
TOTAL UNDISTURBED AREA = 30.10 AC
TOTAL DRAINAGE AREA = 61.61 AC
CN = 95.0

OUTFALL 5
36.299°, -86.697°
TOTAL DISTURBED AREA = 0.14 AC
TOTAL UNDISTURBED AREA = 2.03 AC
TOTAL DRAINAGE AREA = 2.17 AC
CN = 94.4

NOTE: ONCE SITE IS STABILIZED FOR U&O RELEASE ALL REMAINING ESPC MEASURES SHOULD BE REMOVED AND DISPOSED OF IN A PROPER MANNER

SITE BENCHMARKS

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N = 718787.16	E = 1762594.16	ELEV = 557.93	
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DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

WILLIAM MICHELLE DOVE
REGISTERED
AGRICULTURE
No. 109853
STATE OF TENNESSEE
06/01/2026

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
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MMD	03/06/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

ENLARGED INITIAL EPSC PLAN

C4.4

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Monday, June 1, 2026
N:\1 Projects\1411-01 Rivergate\01 - Infrastructure and Mass Grading\02 - Civil Sheets\1411-01_C4.1-4_Initial EPSC Plan.dwg

SITE BENCHMARKS

3: ⅝" CESO CP
N = 716556.19 E = 1763141.09 ELEV = 503.05
4: ⅝" CESO CP
N = 718787.16 E = 1762594.16 ELEV = 557.93
100: ⅝" CESO TRAVERSE
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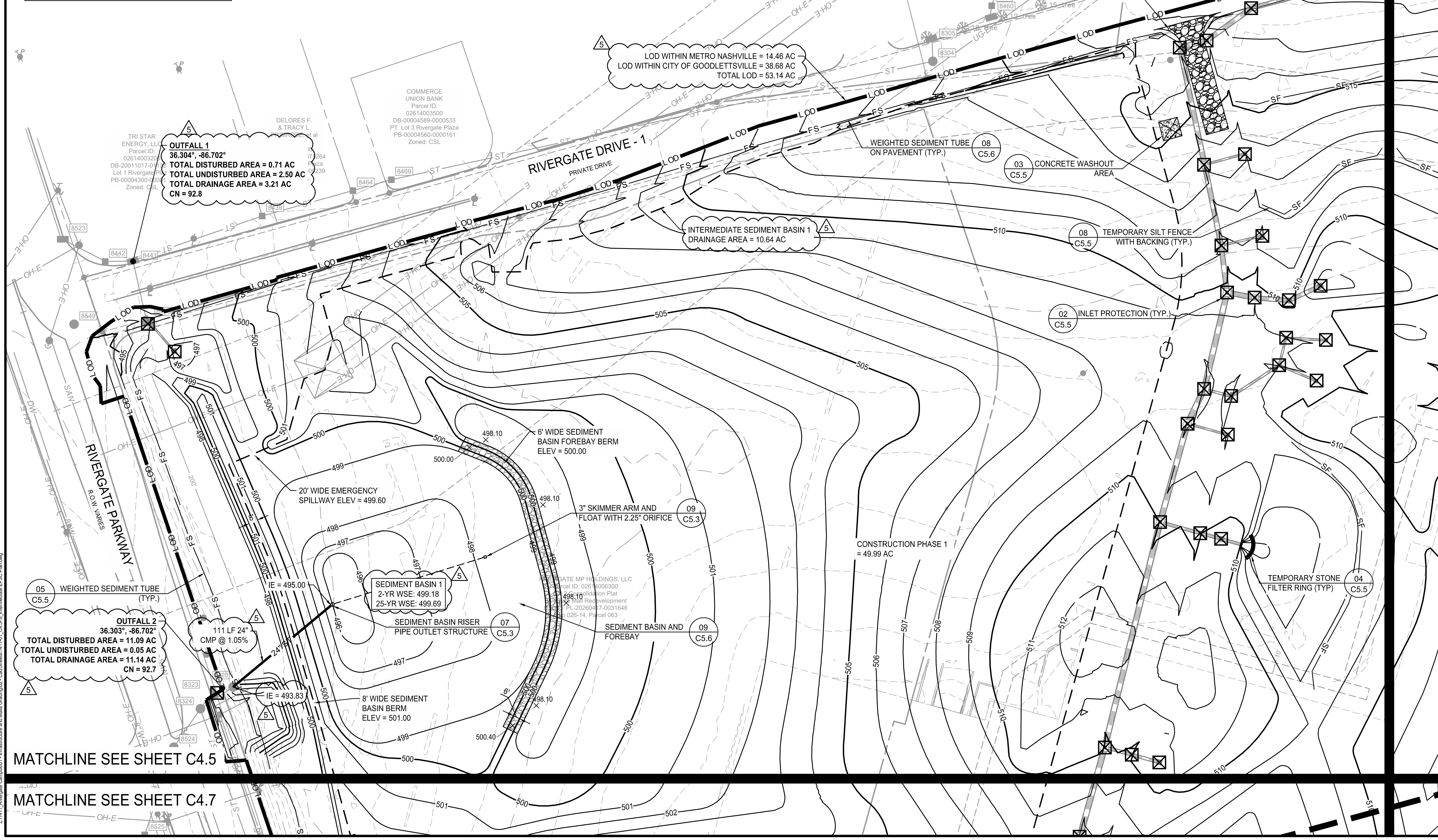
NOTE: ONCE SITE IS STABILIZED FOR U&O RELEASE ALL REMAINING ESPC MEASURES SHOULD BE REMOVED AND DISPOSED OF IN A PROPER MANNER

INTERMEDIATE AND FINAL PHASE - SEDIMENT BASIN 1	
POI 1: MISC. TRIBUTARY OF CHEATHAM RESERVOIR (DESIGNED FOR 2 YEAR STORM EVENT)	
DRAINAGE AREA (SF) =	463,421
DRAINAGE AREA (AC) =	10.64
VOLUME CALCULATIONS	
REQUIRED WET VOLUME (CF) = 67 CY/AC	= 19,245
REQUIRED DRY VOLUME (CF) = 67 CY/AC	= 19,245
REQUIRED TOTAL VOLUME (CF)	= 38,491
REQUIRED FOREBAY VOLUME (CF) 20% OF DRY VOLUME	= 3,849
PROVIDED WET VOLUME (CF)	= 24,230
PROVIDED DRY VOLUME (CF)	= 40,021
PROVIDED TOTAL VOLUME (CF)	= 64,251
PROVIDED FOREBAY VOLUME (CF)	= 7,417
DESIGN ELEVATIONS	
TOP OF BERM ELEV (FT)	= 501.00
POND BOTTOM ELEV (FT)	= 495.10
**WET STORAGE ELEV (FT)	= 498.10
EMERGENCY SPILLWAY ELEV (FT)	= 499.60
SPILLWAY LENGTH (FT)	= 20.00
2 YEAR WSE (FT)	= 499.19
25 YEAR WSE (FT)	= 499.69
TEMPORARY 36" RISER DESIGN	
TOP OF RISER ELEV (FT)	= 499.10
OUTLET PIPE DIAMETER (IN)	= 24
OUTLET INVERT ELEV (FT)	= 495.00
*TOTAL HEIGHT (FT)	= 4.60
*SOLID HEIGHT INCLUDES 6" FOR EMBEDMENT IN CONCRETE FOOTING	
**SKIMMER ORIFICE INSTALLED AT WET STORAGE VOLUME ELEVATION	



GENERAL NOTES:

1. GENERAL CONTRACTOR (GC) IS TO CONFORM TO ALL LOCAL CODES AND OBTAIN ALL PERMITS PRIOR TO BEGINNING WORK.
2. GC SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES. GC SHALL TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. REPAIR ALL CONTRACTOR CAUSED DAMAGE ACCORDING TO LOCAL STANDARDS AND AT THE CONTRACTOR'S EXPENSE. COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY.
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4. IN EASEMENTS AND RIGHTS-OF-WAY, GC SHALL PROTECT AND RESTORE SAID PROPERTY TO A CONDITION SIMILAR OR EQUAL TO THAT EXISTING AT THE COMMENCEMENT OF CONSTRUCTION, EXCEPT WHERE NOTED.
5. GC IS TO PHOTOGRAPH ALL EXISTING CONDITIONS PRIOR TO INITIATING CONSTRUCTION.
6. CLEAR THE ENTIRE CONSTRUCTION AREA OF ALL WEEDS, BUSHES, TREES NOTED FOR REMOVAL OR WITHIN GRADING BOUNDARY, STUMPS, ASPHALT, CONCRETE, CURBS AND OTHER PROTRUDING OBSTRUCTIONS NOT DESIGNATED TO REMAIN.
7. ALL MATERIALS NOT TO REMAIN ARE TO BE DISPOSED OF OFF SITE AT A PROPERLY PERMITTED LOCATION.
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11. ALL CURB AND GUTTER TO BE DEMOLISHED SHALL BE REMOVED TO THE NEAREST JOINT. CONTRACTOR TO FIELD VERIFY LIMITS AS JOINTS ARE NOT SHOWN ON THE PLANS.

EROSION & SEDIMENT CONTROL NOTES:

1. ALL PERIMETER MEASURES MUST BE IN PLACE BEFORE GRADING.
2. ALL STOCKPILES ARE TO BE CONTAINED ON THE PROJECT PROPERTY UNLESS WRITTEN PERMISSION IS GIVEN BY THE ADJACENT PROPERTY OWNER. INSTALL SILT FENCE AT THE BASE OF ANY STOCKPILES.
3. ALL GRADED SLOPES 3:1 OR STEEPER AND DITCH BOTTOMS SHALL RECEIVE PROPER EROSION CONTROL BLANKETS/MATTING OR SOD.
4. ALL FIELD ADJUSTMENT OF EROSION CONTROL MEASURES SHALL BE NOTED ON THE PLANS KEPT IN THE JOB TRAILER.
5. WHEN THE TEMPORARY EROSION CONTROL DEVICES ARE NO LONGER NEEDED FOR THE INTENDED PURPOSE IN THE OPINION OF THE DESIGNATED SITE EROSION CONTROL SPECIALIST, THEY MAY BE REMOVED.
6. CONTRACTOR TO PROVIDE AN AREA FOR CONCRETE WASH DOWN AND EQUIPMENT FUELING IN ACCORDANCE WITH METRO CP-10 AND CP-13, RESPECTIVELY. CONTRACTOR TO COORDINATE EXACT LOCATION WITH NPDES DEPARTMENT DURING PRECONSTRUCTION MEETING. CONTROL OF OTHER SITE WASTES SUCH AS DISCARDED BUILDING MATERIALS, CHEMICALS, LITTER, AND SANITARY WASTES THAT MAY CAUSE ADVERSE IMPACTS TO WATER QUALITY IS ALSO REQUIRED BY THE GRADING PERMITTEE. LOCATION OF AND/OR NOTES REFERRING TO THESE BMP'S SHALL BE SHOWN ON THE EPSC PLAN.
7. ALL AREAS NOT OTHERWISE RECEIVING SOD OR OTHER PLANTING SHALL RECEIVE SEED AND STRAW PER THE SPECIFICATIONS INCLUDED WITHIN TENNESSEE EROSION AND SEDIMENT CONTROL HANDBOOK.
8. ALL GRADED AREAS, INCLUDING SLOPES, ARE TO BE SODDED OR MULCHED AND SEEDED WITHIN 14 DAYS AFTER GRADING IS SUSPENDED OR COMPLETED.
9. ANY DISTURBED AREA LEFT FOR A PERIOD OF GREATER THAN 7 DAYS WITH SLOPES GREATER THAN OR EQUAL TO 3:1 SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.
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11. SILT BARRIERS SHALL BE CLEANED OF ACCUMULATED SEDIMENT OR REPLACED WHEN APPROXIMATELY 33% FILLED WITH SEDIMENT OR DIRECTED BY THE EROSION CONTROL SPECIALIST.
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15. RECEIVING WATERS: MISCELLANEOUS TRIBUTARIES TO CHEATHAM RESERVOIR; NOT IMPAIRED PER TDEC ARCGIS DATAVIEWER SEGMENT ID TN05130202001T_0999
16. CONSTRUCTION SHALL BE PHASED TO LIMIT THE OVERALL DISTURBED AREA AT ANY ONE TIME TO LESS THAN 50 ACRES. FOR PROJECTS OF MORE THAN 50 ACRES ,THE CONSTRUCTION PHASES SHALL BE DESCRIBED IN THE SWPPP.

TENNESSEE CONSTRUCTION GENERAL PERMIT NOTICE OF COVERAGE (NOC) CERTIFICATION:

2. I HEREBY CERTIFY THAT THIS PROJECT WILL REQUIRE COVERAGE UNDER TENNESSEE CONSTRUCTION GENERAL PERMIT NO. TNR248669. THE TOTAL DISTURBED AREA IS: ±53.14 AC.

CHECK ALL THAT APPLY: THIS SITE DISCHARGES INTO WATERS IDENTIFIED BY TDEC AS:

☐ IMPAIRED FOR SILTATION ☐ IMPAIRED FOR HABITAT ALTERATION ☐ EXCEPTIONAL

SIGNATURE: Michelle Dove DATE: 06/01/2026

CIRCLE ONE: DEVELOPER (PROJECT ENGINEER) OTHER ________

EROSION CONTROL LEGEND:

- INLET PROTECTION
- WIRE BACKED SILT FENCE (SF) / WEIGHTED SEDIMENT TUBE (FS) OR APPROVED EQUAL
- LIMITS OF DISTURBANCE (LOD)
- SEDIMENT BASIN DRAINAGE AREA
- CONSTRUCTION PHASE LINE
- CONSTRUCTION ENTRANCE/EXIT
- CONCRETE WASHOUT AREA

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

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

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

MICHELLE M. DOVE, REGISTERED ENGINEER, STATE OF TENNESSEE, No. 129653 — 06/01/2026

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
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GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

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MMD	06/01/2026	REVISION 1

ENLARGED INTERMEDIATE EPSC PLAN

C4.5

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Sunday, May 31, 2026
Z:\1411_Rivergate Campus\01 - Infrastructure and Mass Grading\02 - Cad\Sheets\1411-01_C4.5-8_Intermediate EPSC Plan.dwg

MATCHLINE SEE SHEET C4.5

MATCHLINE SEE SHEET C4.6

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CITY OF GOODLETTSVILLE
METRO NASHVILLE

RIVERGATE DRIVE - 1
PRIVATE DRIVE

RIVERGATE DRIVE - 2
PRIVATE DRIVE

BJ's Wholesale Club, Inc.
Parcel ID: 02614006200
DB-20240507-0033423
Lot 1 B J Rivergate
PB-20240227-0013104
Zoned: CSL

DAYTON-HUDSON CORPORATION
Parcel ID: 02614004400
DB-00005580-0000988
Lot 2 Rivergate East
SEC 1-1st Rev
PB-00006900-0000334
Zoned: SCR PUD

20' Public Utility Easement

25' N.E.S. Easement

80' Ingress Egress Easement

10' waterline easement

30' Joint Access Easement

LOD WITHIN METRO NASHVILLE = 14.46 AC
LOD WITHIN CITY OF GOODLETTSVILLE = 38.68 AC
TOTAL LOD = 53.14 AC

CONSTRUCTION PHASE 1
= 49.99 AC

CONSTRUCTION PHASE 2
= 3.15 AC

WEIGHTED SEDIMENT TUBE ON PAVEMENT (TYP.) — 08 C5.6

08 C5.5 TEMPORARY SILT FENCE WITH BACKING (TYP.)

02 C5.5 INLET PROTECTION (TYP.)

01 C5.5 TEMPORARY CONSTRUCTION EXIT TO BE INSTALLED WITH PHASE 2 (TCP-03)

04 C5.5 TEMPORARY STONE FILTER RING

03 C5.5 CONCRETE WASHOUT AREA - TO BE INSTALLED WITH PHASE 2

CONSTRUCTION PHASE LINE (TYP.)

TIE EPSC PHASE 1 GRADING TO EXISTING GRADING (TYP.)

EPSC PHASE 2 MEASURES SHALL NOT BE INSTALLED UNTIL PHASE 1 WORK IS COMPLETED AND STABILIZED

INLET PROTECTION (TYP.) (TCP-24) — 02 C5.5

WEIGHTED SEDIMENT TUBE (TYP.) (TCP-14) — 05 C5.5

TEMPORARY SILT FENCE WITH BACKING (TYP.) (TCP-13) — 08 C5.5

MATCHLINE SEE SHEET C4.6

MATCHLINE SEE SHEET C4.8

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SIGNATURE: Michelle Dove DATE: 06/01/2026

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0 25 50 100 150

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MICHELLE DOVE — 129853 — AGRICULTURE — ENGINEER — STATE OF TENNESSEE — 06/01/2026

SITE PLANS FOR:

RIVERGATE INFRASTRUCTURE PLANS

1000 RIVERGATE PARKWAY
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C4.6

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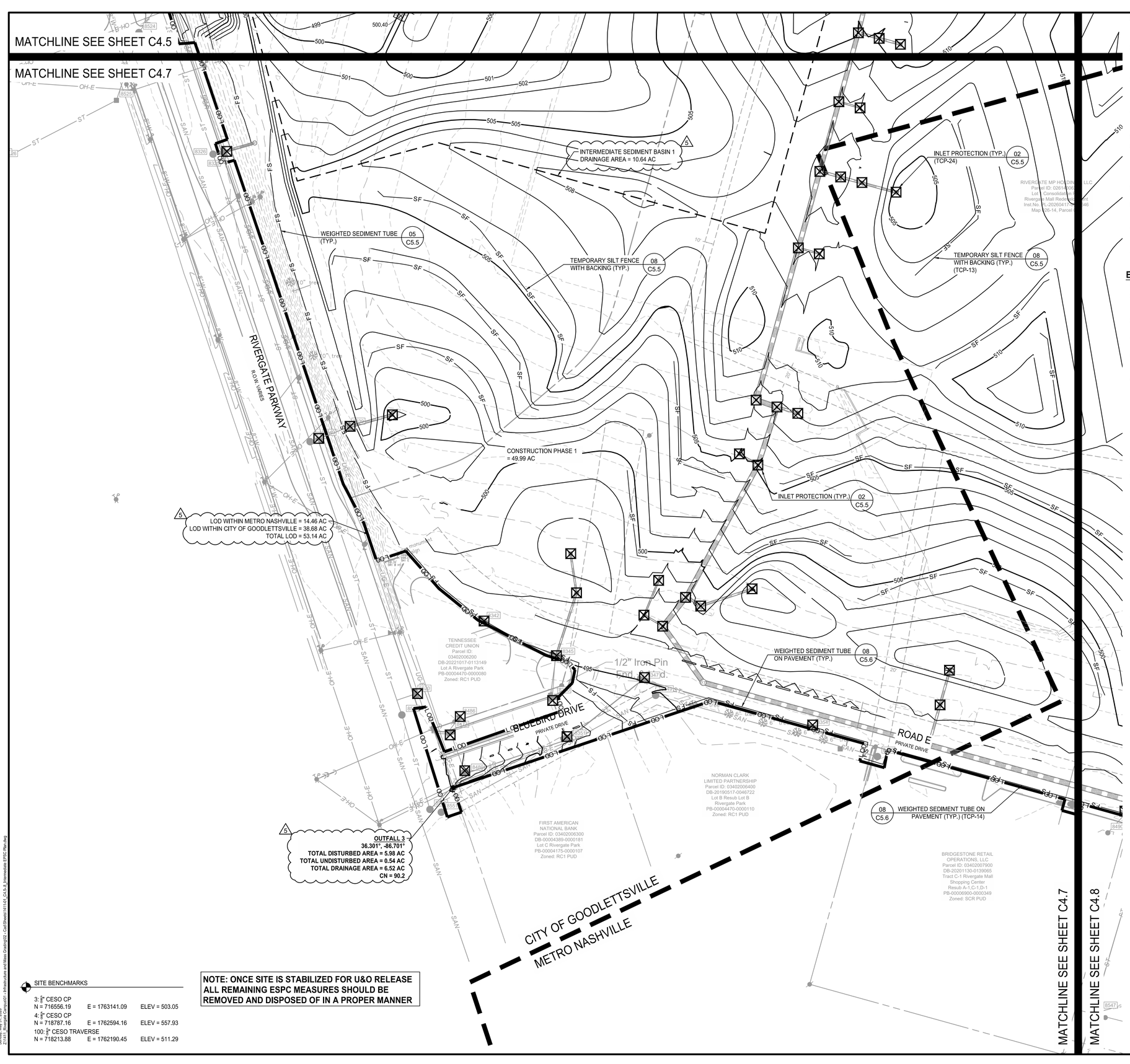

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TENNESSEE CONSTRUCTION GENERAL PERMIT NOTICE OF COVERAGE (NOC) CERTIFICATION:

5

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CHECK ALL THAT APPLY: THIS SITE DISCHARGES INTO WATERS IDENTIFIED BY TDEC AS:

☐ IMPAIRED FOR SILTATION ☐ IMPAIRED FOR HABITAT ALTERATION ☐ EXCEPTIONAL

SIGNATURE: Michelle Dove DATE: 06/01/2026

CIRCLE ONE: DEVELOPER (PROJECT ENGINEER) OTHER _____

EROSION CONTROL LEGEND:

- INLET PROTECTION
- SF / FS — WIRE BACKED SILT FENCE / WEIGHTED SEDIMENT TUBE OR APPROVED EQUAL
- LOD — LIMITS OF DISTURBANCE
- SEDIMENT BASIN DRAINAGE AREA
- CONSTRUCTION PHASE LINE
- CONSTRUCTION ENTRANCE/EXIT
- CONCRETE WASHOUT AREA

SCALE: 1" = 50'

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

MICHELLE M. DOVE — 129853 — AGRICULTURE — STATE OF TENNESSEE — 06/01/2026

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
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MMD	07/24/2025	AGENCY COMMENTS
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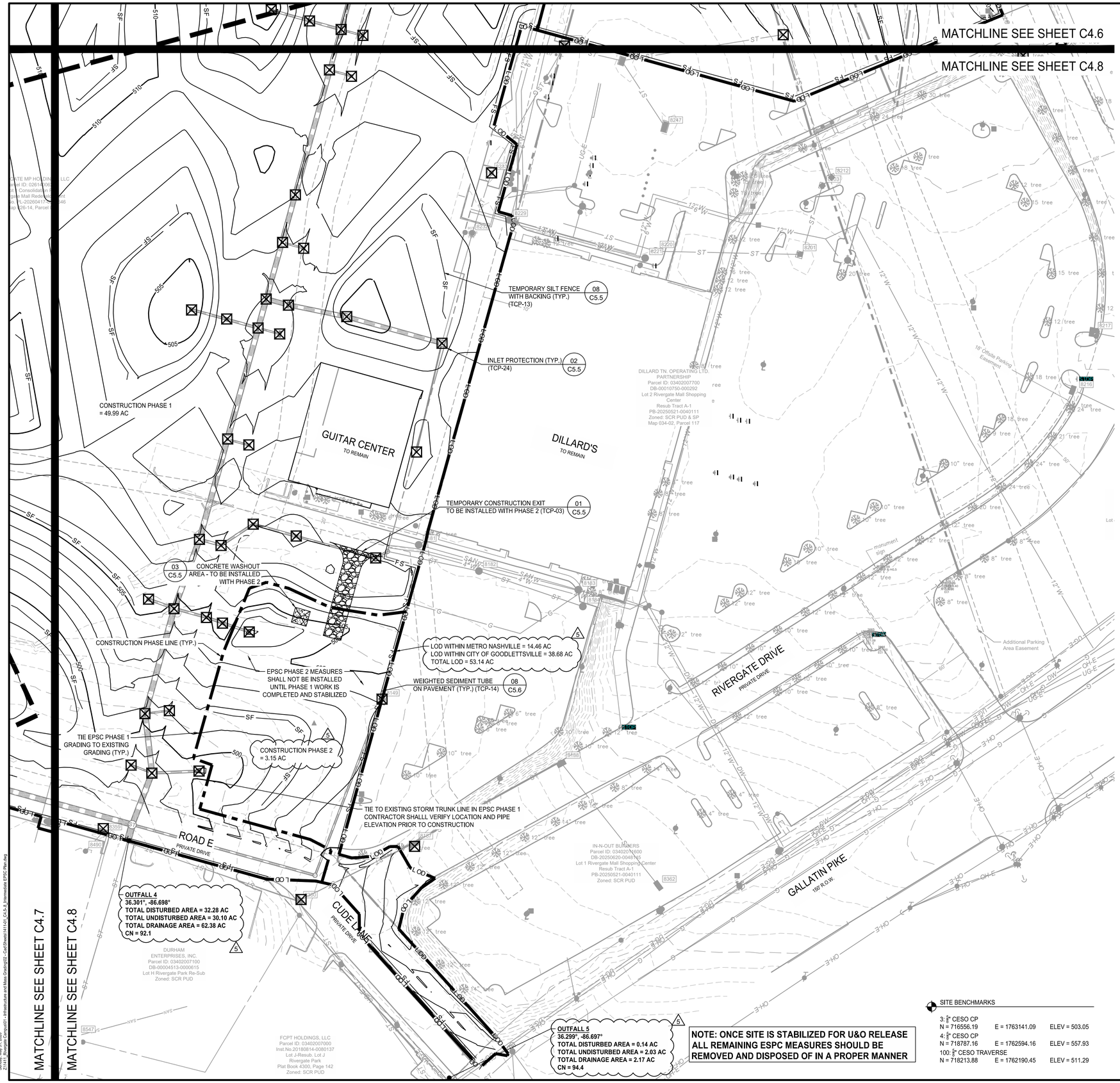
MMD	06/01/2026	REVISION 1

ENLARGED INTERMEDIATE EPSC PLAN

C4.7

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Sunday, May 31, 2026
2:21:01 pm
Z:\Projects\1411-01\Drawings\03 - Infrastructure and Mass Grading\02 - Civil Sheets\1411-01_C4.5-8_Intermediate EPSC Plan.dwg



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SIGNATURE: MichelleDove DATE: 06/01/2026

CIRCLE ONE: DEVELOPER (PROJECT ENGINEER) OTHER _____

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MICHELLE M. DOVE — REGISTERED — AGRICULTURE — No. 109853 — STATE OF TENNESSEE — 06/01/2026

SITE PLANS FOR:

RIVERGATE INFRASTRUCTURE PLANS

1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
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MMD	07/24/2025	AGENCY COMMENTS
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MMD	06/01/2026	REVISION 1

ENLARGED INTERMEDIATE EPSC PLAN

C4.8

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Sunday, May 31, 2026
J:\1411-01 Rivergate Growth\01 - Infrastructure and Mass Grading\02 - Civil\Sheets\1411-01_C4.8_2 Intermediate EPSC Plan.dwg

SITE BENCHMARKS

3: 5/8" CESO CP
N = 716556.19 E = 1763141.09 ELEV = 503.05

4: 5/8" CESO CP
N = 718787.16 E = 1762594.16 ELEV = 557.93

100: 5/8" CESO TRAVERSE
N = 718213.88 E = 1762190.45 ELEV = 511.29

MATCHLINE SEE SHEET C4.9

MATCHLINE SEE SHEET C4.10

MATCHLINE SEE SHEET C4.11

JUST TRUCKS LLC
Parcel ID: 02614005400
DB-20250227-0014415
Lot 2 Rivergate Plaza
Resub Part of Lot 3
PB-00007900-0000215
Zoned: CSL

756 PLAZA PARTNERS, GP
Parcel ID: 02614003400
DB-20210910-0121535
Lot 1 Rivergate Plaza
Resub Part of Lot 3
PB-00007900-0000215
Zoned: CSL

COMMERCE UNION BANK
Parcel ID: 02614003500
DB-00004589-0000533
PT. Lot 3 Rivergate Plaza
PB-00004560-0000161
Zoned: CSL

TRI STAR ENERGY, LLC
Parcel ID: 02614003200
DB-20011017-0000
Lot 1 Rivergate
PB-00004300-0000
Zoned: CSL

DELORES F. & TRACY L.

RIVERGATE MP HOLDINGS, LLC
Parcel ID: 026140006300
DB 2022 Consolidation Plat
Rivergate Mall Reconveyance
PB-20228047-0031646
Lot 2 026-14, Parcel 063

LOD WITHIN METRO NASHVILLE = 14.46 AC
LOD WITHIN CITY OF GOODLETTSVILLE = 38.68 AC
TOTAL LOD = 53.14 AC

OUTFALL 1
36.304°, -86.702°
TOTAL DISTURBED AREA = 0.71 AC
TOTAL UNDISTURBED AREA = 2.50 AC
TOTAL DRAINAGE AREA = 3.21 AC
CN = 92.8

OUTFALL 2
36.303°, -86.702°
TOTAL DISTURBED AREA = 11.09 AC
TOTAL UNDISTURBED AREA = 0.05 AC
TOTAL DRAINAGE AREA = 11.14 AC
CN = 92.7

RIVERGATE DRIVE - 1
PRIVATE DRIVE

RIVERGATE PARKWAY
R.O.W. VARIES

ROAD D
PRIVATE DRIVE

ROAD B
PRIVATE DRIVE

SEDIMENT BASIN 1
SEE INTERMEDIATE EPSC PLANS FOR DETAIL

CONSTRUCTION PHASE 1
= 49.99 AC

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SIGNATURE: MichelleDove DATE: 06/01/2026

CIRCLE ONE: DEVELOPER (PROJECT ENGINEER) OTHER _____

EROSION CONTROL LEGEND:

- AREA OF PERMANENT STABILIZATION. SEED WITH KY-31 FESCUE AT 5 LBS PER 1,000 SF STRAW MULCH AT 1.5 BALES PER 1,000 SF.
- AREA TO RECEIVE TURF REINFORCEMENT MATTING
- LOD — LIMITS OF DISTURBANCE
- CONSTRUCTION PHASE LINE

NOTE: ONCE SITE IS STABILIZED FOR U&O RELEASE ALL REMAINING ESPC MEASURES SHOULD BE REMOVED AND DISPOSED OF IN A PROPER MANNER

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PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

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

FINAL SP: 2025SP-017-002
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MICHELLE M. DOVE
REGISTERED
AGRICULTURE
No. 109953
STATE OF TENNESSEE
06/01/2026

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ENLARGED FINAL EPSC PLAN

C4.9

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Sunday, May 31, 2026
2:44:00 PM
J:\1411-01 Rivergate\01 - Infrastructure and Mass Grading\02 - Civil\Sheets\1411-01_Civil- 10_Final EPSC Plan.dwg



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4. ALL FIELD ADJUSTMENT OF EROSION CONTROL MEASURES SHALL BE NOTED ON THE PLANS KEPT IN THE JOB TRAILER.
5. WHEN THE TEMPORARY EROSION CONTROL DEVICES ARE NO LONGER NEEDED FOR THE INTENDED PURPOSE IN THE OPINION OF THE DESIGNATED SITE EROSION CONTROL SPECIALIST, THEY MAY BE REMOVED.
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☐ IMPAIRED FOR SILTATION ☐ IMPAIRED FOR HABITAT ALTERATION ☐ EXCEPTIONAL

SIGNATURE: MichelleDove DATE: 06/01/2026

CIRCLE ONE: DEVELOPER (PROJECT ENGINEER) OTHER _____

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- CONSTRUCTION PHASE LINE

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

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

SURVEY INFO
PROVIDED BY: CESO, INC.
DATUM: TENNESSEE STATE PLANE (NAD83 & NAVD 88)

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

WILLIAM MICHELLE DOVE — 102823 — AGRICULTURE — 06/01/2026 — STATE OF TENNESSEE

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

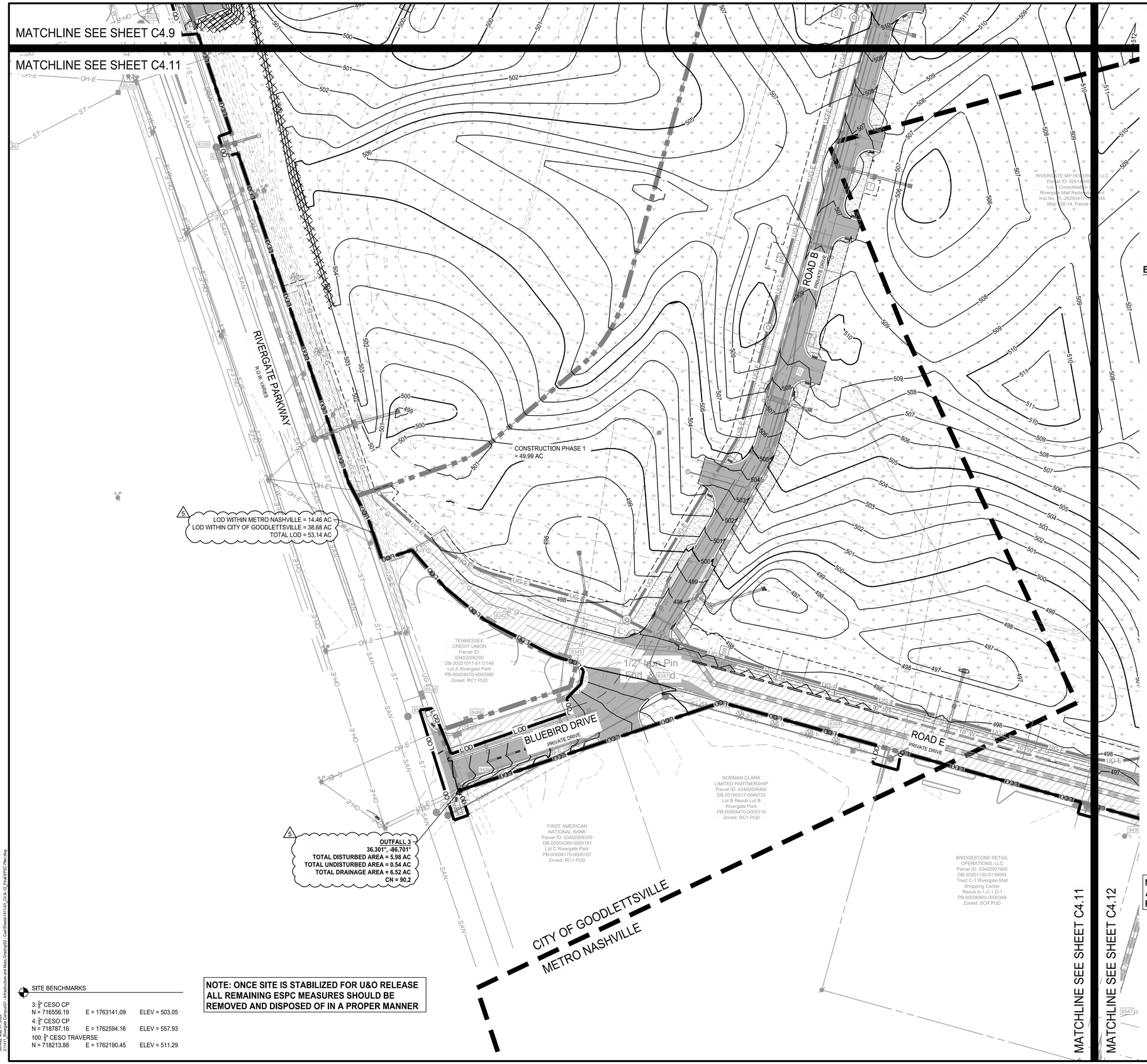
DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
MMD	03/05/2026	AGENCY COMMENTS
MMD	06/01/2026	REVISION 1

ENLARGED FINAL EPSC PLAN

C4.10

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Scotty, May 31, 2026
S:\Projects\1411-01 Rivergate\01 - Infrastructure and Mass Grading\02 - Civil Sheets\1411-01_C4-9_10_12_Final EPSC Plan.dwg



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3: ⅜" CESO CP
N = 716556.19 E = 1763141.09 ELEV = 503.05

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GUILLERMO JOSE MICHELENA
LICENSED PROFESSIONAL ENGINEER
AGRICULTURE
No. 139853
STATE OF TENNESSEE
06/01/2026

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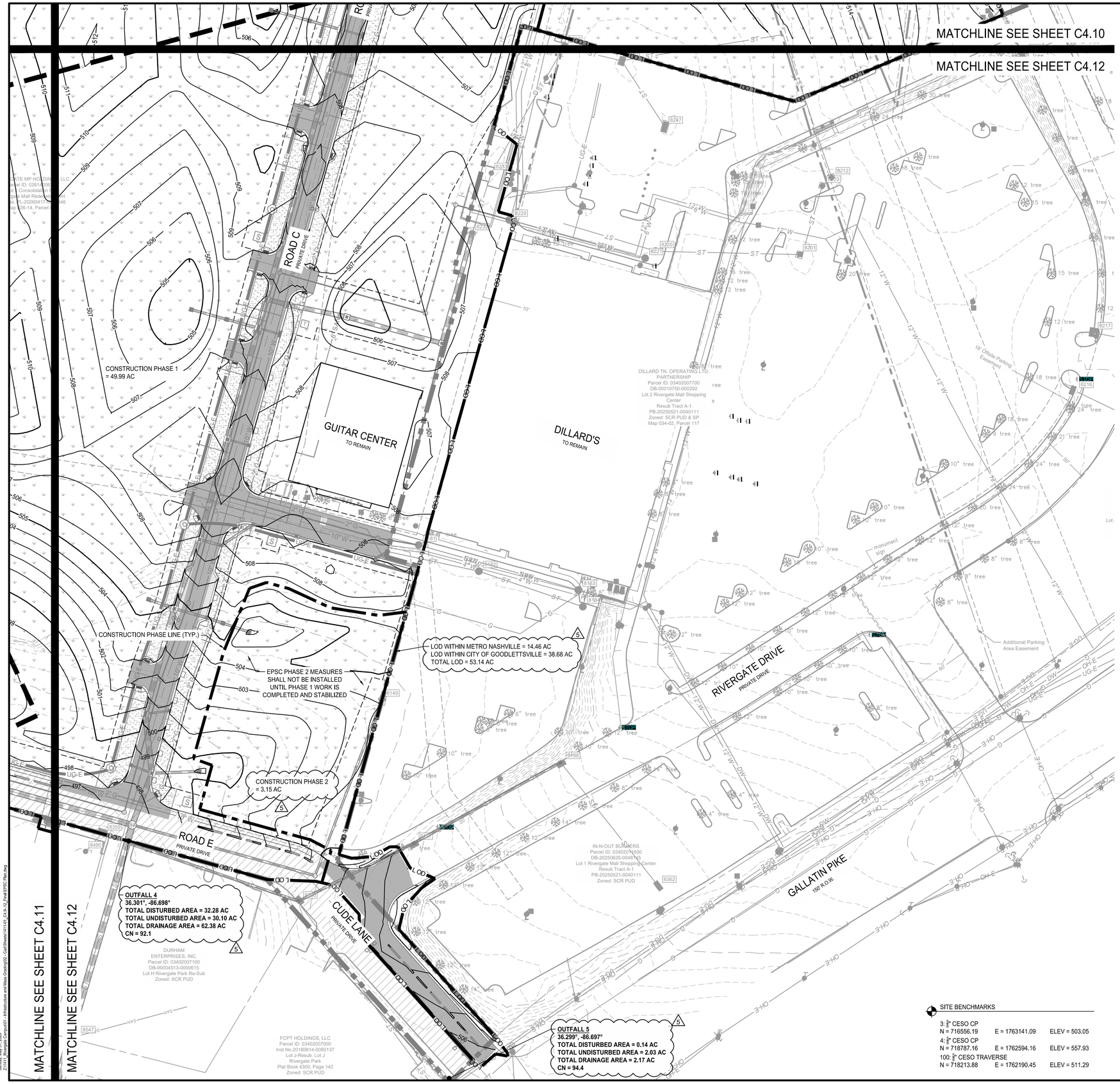
ENLARGED FINAL EPSC PLAN

C4.11

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Scotty, May 31, 2026
J:\1411 Rivergate Infrastructure\501 - Infrastructure and Mass Grading\02 - Civil Sheets\1411-01_C4-to-12_Final EPSC Plan.dwg



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REGISTERED
PROFESSIONAL
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AGRICULTURE
No. 129853
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06/01/2026

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ENLARGED FINAL EPSC PLAN

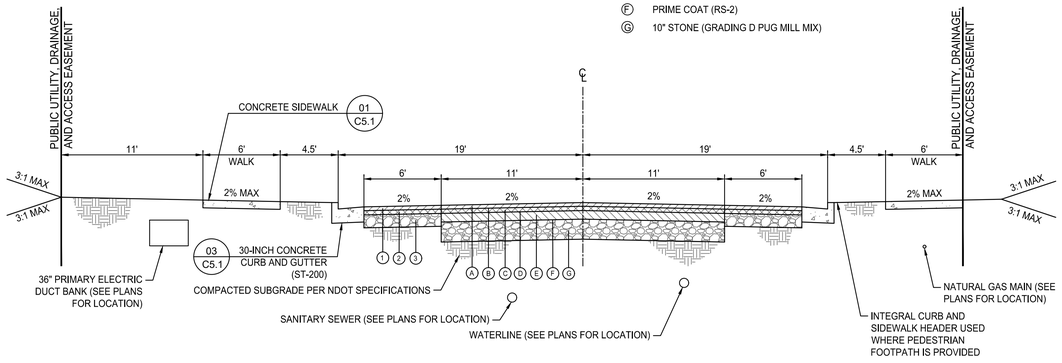
C4.12

1411-01 RIVERGATE INFRASTRUCTURE PLANS

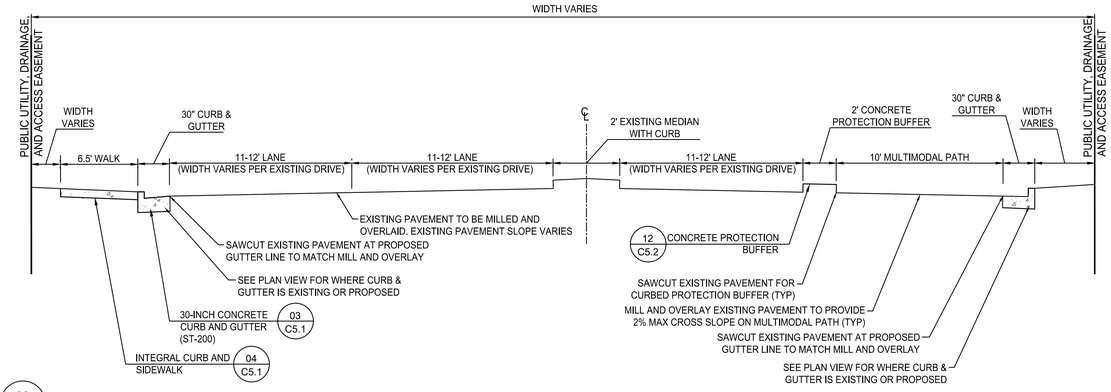
Sunday, May 31, 2026
2:20:00 PM
Z:\Projects\Rivergate\01 - Infrastructure and Mass Grading\02 - Civil Sheets\1411-01_C4.9 - 12_Final EPSC Plan.dwg

FOR ALL PROPOSED PAVEMENT:

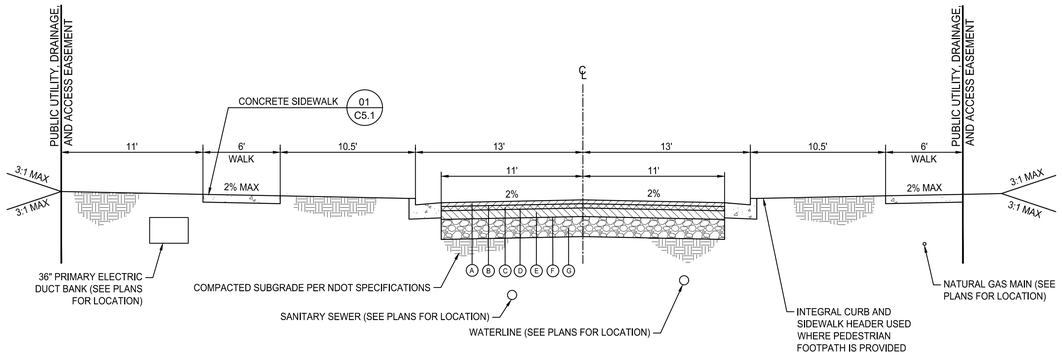
Ⓐ	1.5" ASPHALTIC SURFACE COURSE (TDOT 411D MIX)	①	1.5" SURFACE COURSE
Ⓑ	TACK COAT (SS-1)	②	2" BINDER COURSE
Ⓒ	2" BITUMINOUS BINDER (B-M2)	③	6" GRADED AGGREGATE BASE
Ⓓ	TACK COAT (SS-1)		
Ⓔ	4" BITUMINOUS BASE (307A)		
Ⓕ	PRIME COAT (RS-2)		
Ⓖ	10" STONE (GRADING D PUG MILL MIX)		



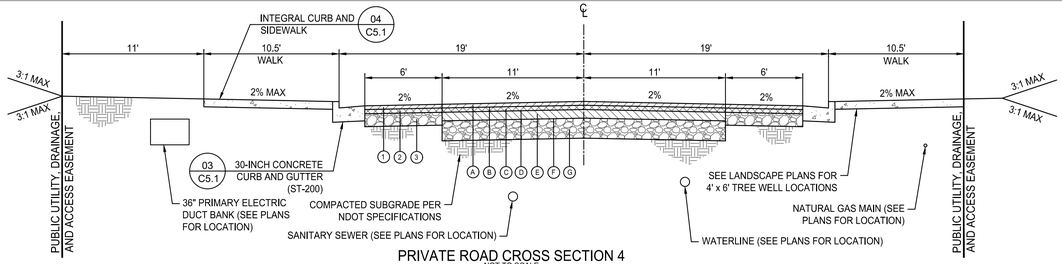
01 C5.0 PRIVATE ROAD CROSS SECTION 1
NOT TO SCALE



02 C5.0 PRIVATE ROAD CROSS SECTION 2
NOT TO SCALE



03 C5.0 PRIVATE ROAD CROSS SECTION 3
NOT TO SCALE



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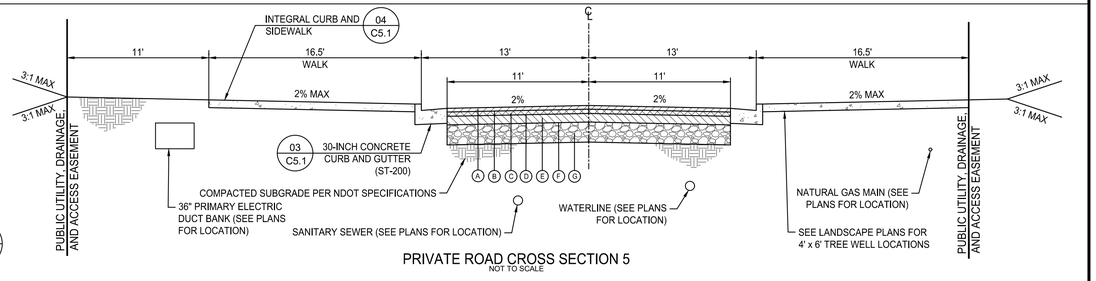
NOT TO SCALE



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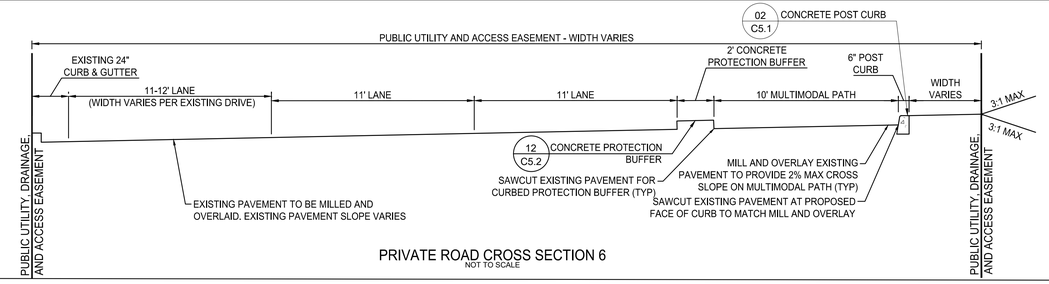
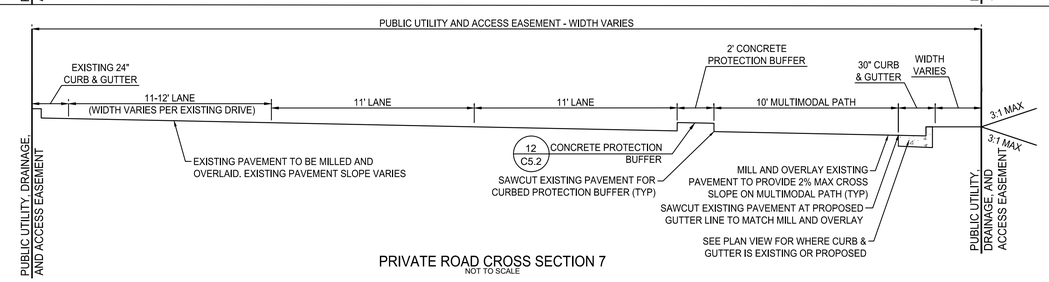
NOT TO SCALE

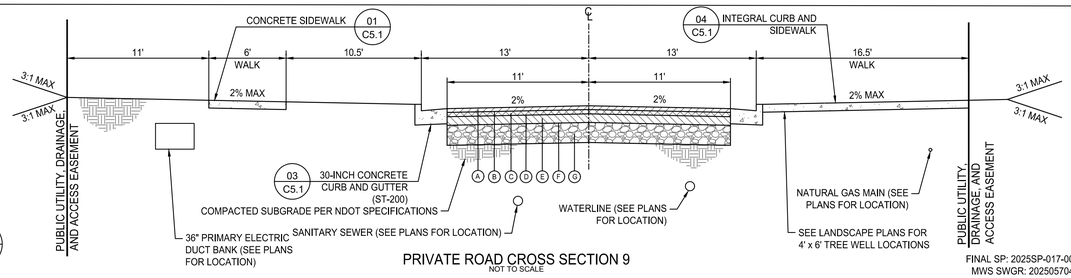


06 C5.0 PRIVATE ROAD CROSS SECTION 6
NOT TO SCALE

08 C5.0 PRIVATE ROAD CROSS SECTION 8
NOT TO SCALE



07 C5.0 PRIVATE ROAD CROSS SECTION 7
NOT TO SCALE



09 C5.0 PRIVATE ROAD CROSS SECTION 9
NOT TO SCALE

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

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2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770



SITE PLANS FOR:

RIVERGATE INFRASTRUCTURE PLANS

1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

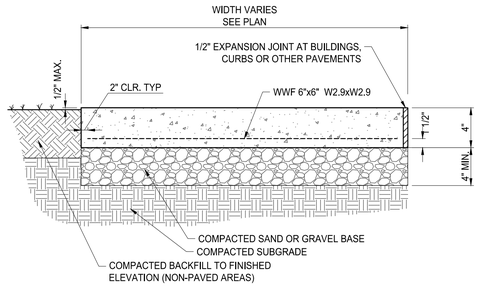
DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS

SITE DETAILS

C5.0

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Thursday, January 22, 2026
21:11:41 - Q:\Projects\1411-01 - Infrastructure and Mass Grading\02 - Civil Sheets\1411-01_C5.0_Site Details.dwg

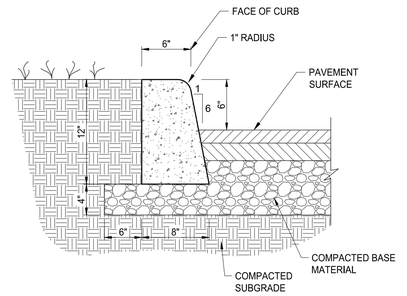


SECTION VIEW

NOTES:
1. PROVIDE WEAKENED PLANE (SAW CUT OR TOOLED) TRANSVERSE CONTROL JOINTS AT 5'-0" ON CENTER.
2. PROVIDE EXPANSION JOINTS AT 30'-0" (MAX.) ON CENTER AND CONTINUOUSLY BETWEEN SIDEWALK AND WALLS OR OTHER STRUCTURES.
3. LONGITUDINAL SLOPES SHALL NOT EXCEED 5.00% (1:20)
4. CROSS SLOPES SHALL NOT EXCEED 2.00% (1:50)
5. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI (TYP.)

01 / C5.1

CONCRETE SIDEWALK
NOT TO SCALE

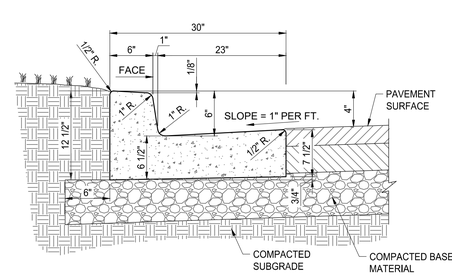


TYPICAL CROSS-SECTION

NOTES:
1. CURB SHALL BE CONSTRUCTED IN 10 FOOT LENGTHS, OR EXTRUDED AND THEN SAWCUT AT 10 FOOT INTERVALS TO A DEPTH OF 1.75".
2. 1/2" EXPANSION JOINTS SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 50 FEET, AT THE ENDS OF RETURNS, AND AT ALL POINTS WHERE THE NEW CURB AND GUTTER ABUTS OTHER CONCRETE STRUCTURES OR INLET CASTINGS.
3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI (TYP.)

02 / C5.1

CONCRETE POST CURB
NOT TO SCALE

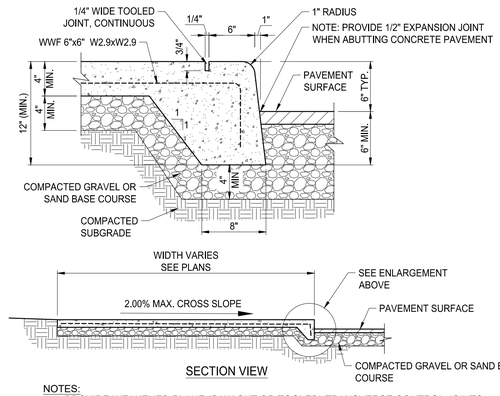


TYPICAL CROSS-SECTION

NOTES:
1. CURB AND GUTTER SHALL BE CONSTRUCTED IN 10 FOOT LENGTHS, OR EXTRUDED AND THEN SAWCUT AT 10 FOOT INTERVALS TO A DEPTH OF 1.75".
2. 1/2" EXPANSION JOINTS SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 100 FEET, AT THE ENDS OF CIRCULAR RETURNS, LINING UP WITH PAVEMENT JOINTS WHERE ADJACENT PAVEMENT IS CONCRETE, AND AT ALL POINTS WHERE THE NEW CURB AND GUTTER ABUTS OTHER CONCRETE STRUCTURES OR INLET CASTINGS.
3. 10' LONG TRANSITIONS SHALL BE PROVIDED BETWEEN NORMAL GUTTER AND REVERSE-PITCHED GUTTER, UNLESS OTHERWISE NOTED ON THE PAVING PLANS.
4. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI (TYP.)
5. PROVIDE REVERSE-PITCHED GUTTER WHERE GRADING PLAN INDICATES SLOPE AWAY FROM CURB.

03 / C5.1

30-INCH CONCRETE CURB AND GUTTER
NOT TO SCALE

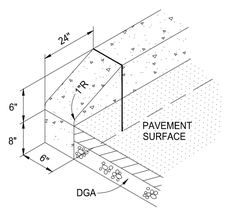


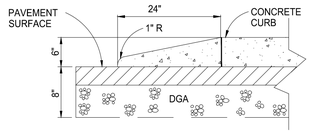
SECTION VIEW

NOTES:
1. PROVIDE WEAKENED PLANE (SAW CUT OR TOOLED) TRANSVERSE CONTROL JOINTS AT 5'-0" ON CENTER.
2. PROVIDE EXPANSION JOINTS AT 30'-0" (MAX.) ON CENTER AND CONTINUOUSLY BETWEEN SIDEWALK AND WALLS OR OTHER STRUCTURES.
3. LONGITUDINAL SLOPES SHALL NOT EXCEED 5.00% (1:20)
4. CROSS SLOPES SHALL NOT EXCEED 2.00% (1:50)
5. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI (TYP.)

04 / C5.1

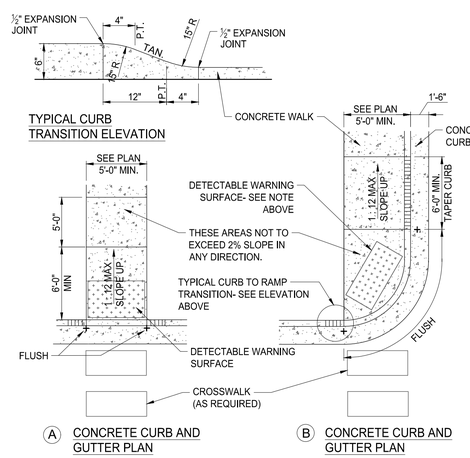
INTEGRAL CURB AND SIDEWALK
NOT TO SCALE





05 / C5.1

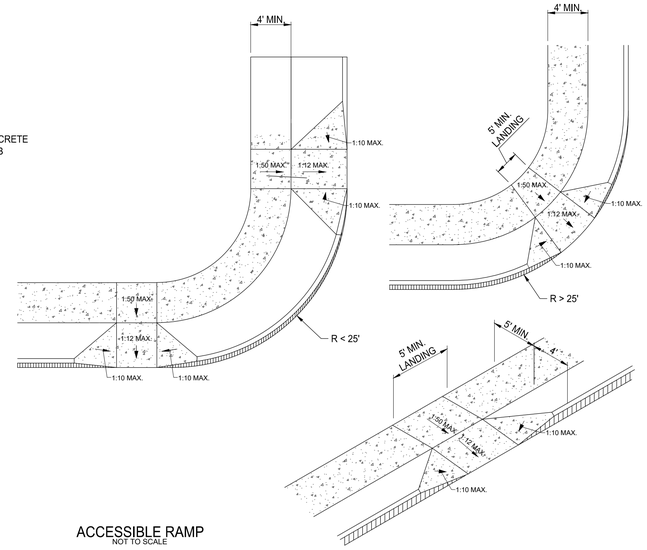
CURB TAPER
NOT TO SCALE



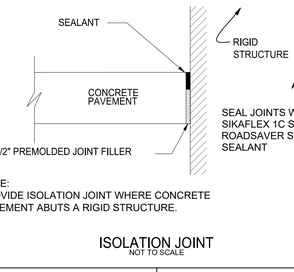
A CONCRETE CURB AND GUTTER PLAN

B CONCRETE CURB AND GUTTER PLAN

06 / C5.1



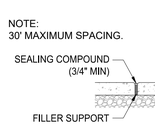
ACCESSIBLE RAMP
NOT TO SCALE



NOTE:
PROVIDE ISOLATION JOINT WHERE CONCRETE PAVEMENT ABUTS A RIGID STRUCTURE.

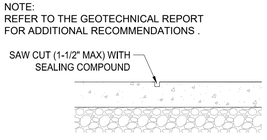
07 / C5.1

ISOLATION JOINT
NOT TO SCALE



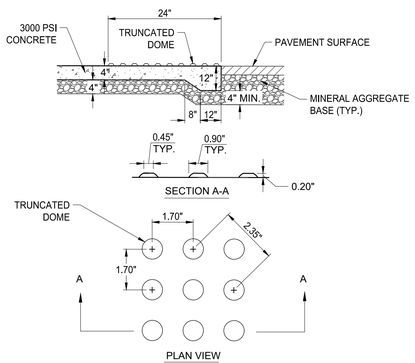
08 / C5.1

EXPANSION JOINT
NOT TO SCALE



09 / C5.1

CONTROL JOINT
NOT TO SCALE

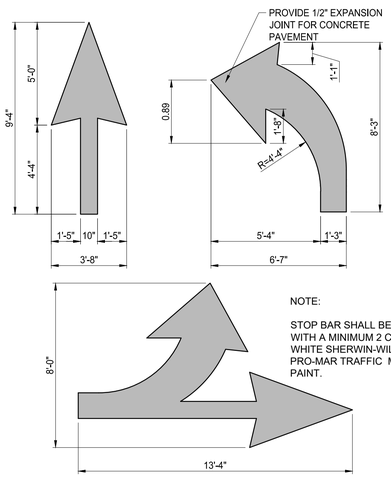


PLAN VIEW

DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A NOMINAL DIAMETER OF 0.9 IN. (23 MM), A NOMINAL HEIGHT OF 0.2 IN. (5 MM), A CENTER-TO-CENTER SPACING AS SHOWN ABOVE, AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. SEE SITE LAYOUT PLANS AND DETAILS FOR LOCATIONS OF TRUNCATED DOMES. SUBMIT PROPOSED MATERIAL AND/OR TEST PANEL FOR APPROVAL BY THE ENGINEER PRIOR TO BEGINNING CONSTRUCTION. PROVIDE ARMOR-TILE, OR EQUIVALENT SYSTEM.

10 / C5.1

DETECTABLE WARNING SURFACE
NOT TO SCALE

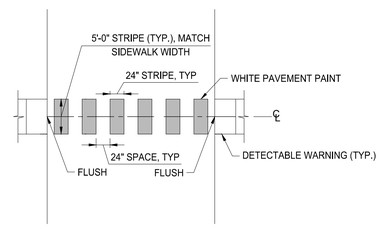


NOTE:

STOP BAR SHALL BE PAINTED WITH A MINIMUM 2 COATS OF WHITE SHERWIN-WILLIAMS PRO-MAR TRAFFIC MARKING PAINT.

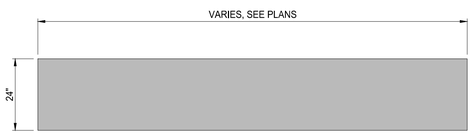
11 / C5.1

PAINTED DIRECTIONAL ARROWS FOR PAVEMENT
NOT TO SCALE



12 / C5.1

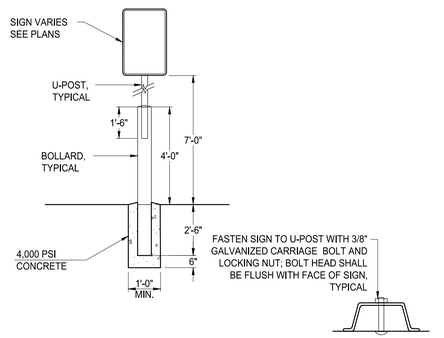
PAINTED CROSSWALK
NOT TO SCALE



NOTES:
1. STOP BAR SHALL BE PAINTED WITH A MINIMUM 2 COATS OF WHITE SHERWIN-WILLIAMS PRO-MAR TRAFFIC MARKING PAINT.
2. EDGE OF STOP BAR SHALL BE PARALLEL TO EDGE OF HIGHWAY TRAVEL WAY.

13 / C5.1

PAINTED STOP BAR
NOT TO SCALE



U-POST

MEMBER DESIGNATION = U6
MATERIAL: A.S.T.M. A-499
Fy = 50,000 PSI MIN.
GRADE = 50

14 / C5.1

SIGN ON BOLLARD
NOT TO SCALE

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

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2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

GUILLERMO ANDRES MARTINEZ
LICENSED PROFESSIONAL ENGINEER
AGRICULTURE
No. 135053
STATE OF TENNESSEE

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS

SITE DETAILS

C5.1

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Thursday, January 29, 2026
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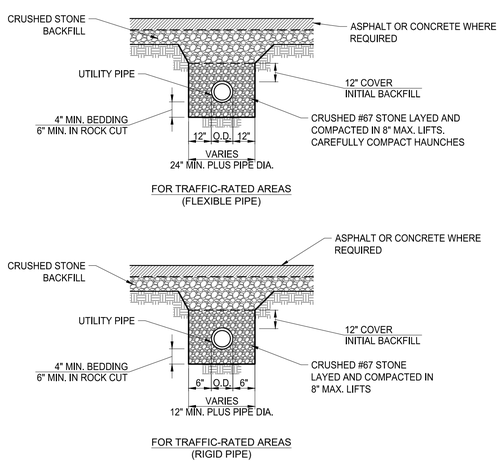
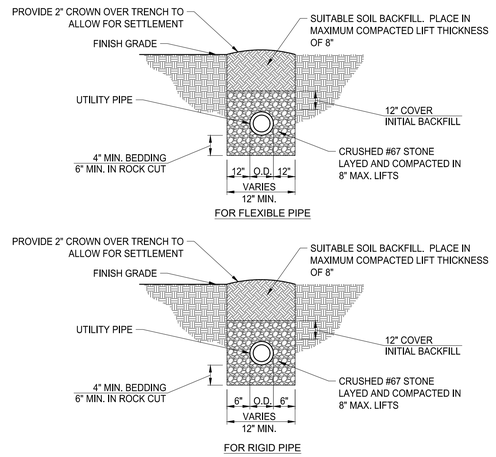


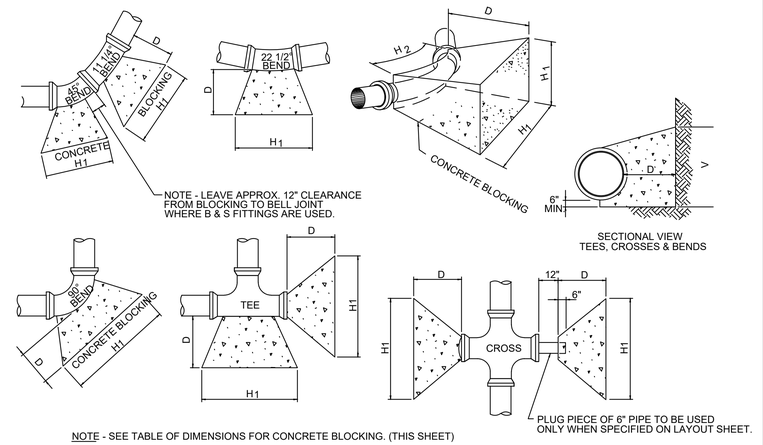
01 C5.2

TYPICAL UTILITY LINE TRENCH - PAVED AREAS
NOT TO SCALE



02 C5.2

TYPICAL UTILITY LINE TRENCH - UNPAVED AREAS
NOT TO SCALE



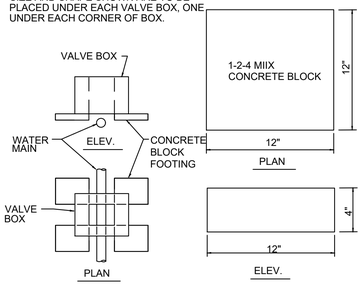
NOTE - SEE TABLE OF DIMENSIONS FOR CONCRETE BLOCKING. (THIS SHEET)

03 C5.2

CONCRETE BLOCKING
NOT TO SCALE

NOTE - BEFORE INSTALLATION OF VALVE BOXES AND FOOTINGS, THE EARTH ON WHICH THE FOOTINGS AND THE VALVE BOXES ARE TO BE SET SHALL BE BACK-FILLED AND THROUGHLY TAMPED AND COMPACTED.

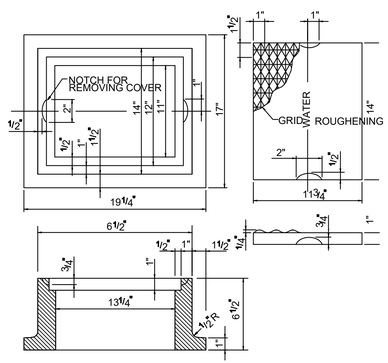
FOUR (4) CONCRETE BLOCKS OF THE SIZE AND SHAPE SHOWN ARE TO BE PLACED UNDER EACH VALVE BOX, ONE UNDER EACH CORNER OF BOX.



NO REINFORCING STEEL IN FOOTING. CONCRETE MIX TO BE 1 PART CEMENT 2 PARTS SAND AND 4 PARTS No. 2 CRUSHED STONE OR GRAVEL. VOLUME FOR ONE BLOCK = 0.333 CU. FT. FOR ALL BLOCKS VOLUME = 1.332 CU. FT. WEIGHT OF ONE BLOCK = APPROX. 50 LBS. FOR ALL FOUR BLOCKS, WEIGHT = 200 LBS. BEARING AREA ON SOIL = 576 SQ. IN.

04 C5.2

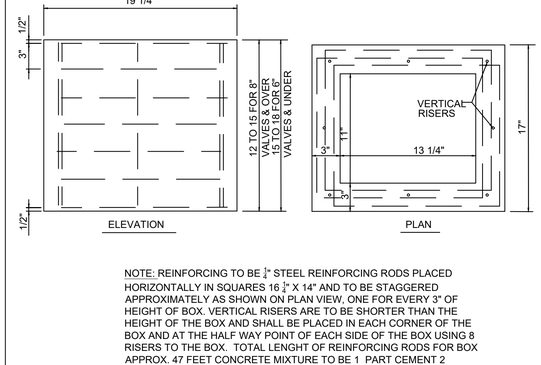
CONCRETE VALVE BOX FOOTING
NOT TO SCALE



JOHN BOUCHARD # 8006 ROADWAY TYPE NASHVILLE STANDARD OR EQUAL. COVER MUST FIT EVENLY ON RABBIT OF FRAME IN ORDER TO EQUALLY DISTRIBUTE WEIGHT OF COVER OVER FRAME. MINIMUM WEIGHT OF FRAME 150 LBS MINIMUM WEIGHT OF COVER 45 LBS

05 C5.2

CAST IRON VALVE BOX FRAME AND COVER
NOT TO SCALE



NOTE: REINFORCING TO BE ½" STEEL REINFORCING RODS PLACED HORIZONTALLY IN SQUARES 16 ½" X 14" AND TO BE STAGGERED APPROXIMATELY AS SHOWN ON PLAN VIEW, ONE FOR EVERY 3" OF HEIGHT OF BOX. VERTICAL RISERS ARE TO BE SHORTER THAN THE HEIGHT OF THE BOX AND SHALL BE PLACED IN EACH CORNER OF THE BOX AND AT THE HALF WAY POINT OF EACH SIDE OF THE BOX USING 8 RISERS TO THE BOX. TOTAL LENGHT OF REINFORCING RODS FOR BOX APPROX. 47 FEET CONCRETE MIXTURE TO BE 1 PART CEMENT 2 PARTS SAND & 4 PARTS No. 2 CRUSHED STONE OR GRAVEL. TOTAL VOLUME OF MIXTURE FOR BOX - APPROX. 2 CU. FT.

06 C5.2

CONCRETE VALVE BOX
NOT TO SCALE

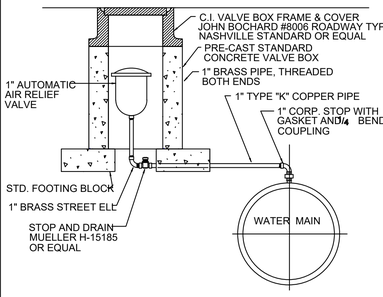
TABLE OF DIMENSIONS FOR CONCRETE BLOCKING																							
SIZE OF PIPE	TAPPING SLEEVES TEES & PLUGS					90° BENDS					45° BENDS					22 ½° BENDS					11 ¼° BENDS				
	H_1	H_2	V	D	CU. FT.	H_1	H_2	V	D	CU. FT.	H_1	H_2	V	D	CU. FT.	H_1	H_2	V	D	CU. FT.	H_1	H_2	V	D	CU. FT.
2"&2¼"	18"	10"	12"	18"	1.90	18"	10"	12"	18"	1.90	18"	6"	12"	18"	1.50	18"	6"	12"	18"	1.50	18"	6"	12"	18"	1.50
3"&4"	24"	12"	12"	18"	2.25	24"	12"	12"	18"	2.25	18"	8"	12"	18"	1.60	18"	8"	12"	18"	1.60	18"	8"	12"	18"	1.60
6"	24"	16"	18"	18"	3.50	30"	16"	18"	18"	4.05	24"	10"	16"	18"	3.20	24"	10"	16"	18"	3.20	24"	10"	16"	18"	3.20
8"	36"	18"	18"	18"	5.05	39"	18"	24"	18"	7.30	30"	11"	18"	18"	3.95	24"	11"	18"	18"	3.40	24"	11"	16"	18"	3.40
10"	48"	24"	18"	24"	7.15	54"	32"	12"	18"	10.25	24"	18"	21"	18"	4.60	24"	18'	21"	18"	4.60	24"	18"	21"	18"	4.60
12"	54"	30"	24"	24"	13.4	54"	36"	26"	24"	18.15	42"	18"	24"	24"	9.60	24"	18"	24"	24"	6.80	24"	18"	21"	24"	6.10
16"	66"	34"	36"	24"	22.5	69"	48"	48"	24"	29.0	48"	30"	36"	24"	17.0	24"	30"	27"	24"	11.8	27"	24"	27"	24"	9.10
24"	84"	48"	46"	30"	75.6	88"	68"	68"	36"	126.8	60"	36"	42"	36"	48.0	36"	30"	42"	36"	22.7	36"	30"	42"	36"	22.7

TABLE IS BASED ON 225 P.S.I. OR 150 P.S.I. WORKING PRESSURE PLUS 50% WATER HAMMER.

NOTE: CONCRETE USED FOR BLOCKING SHALL BE 3500#/sq. in EARTH PRESSURES ARE FIGURED AT 4000# PER SQ. FT. BEARING AREA OF KICKERS SHALL BE INCREASED WHEN POURED AGAINST SAND, LOOSE FILL, WET EARTH, CINDERS, ETC.

07 C5.2

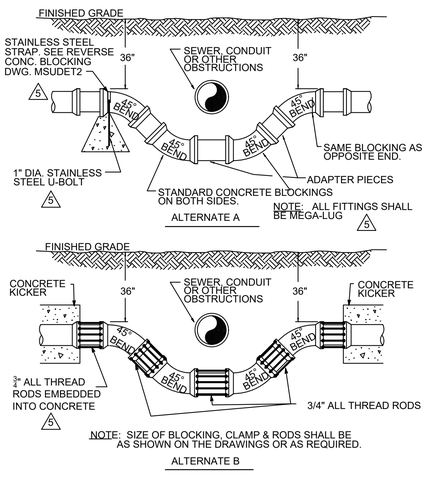
TABLE OF DIMENSIONS FOR CONCRETE BLOCKING
NOT TO SCALE



08 C5.2

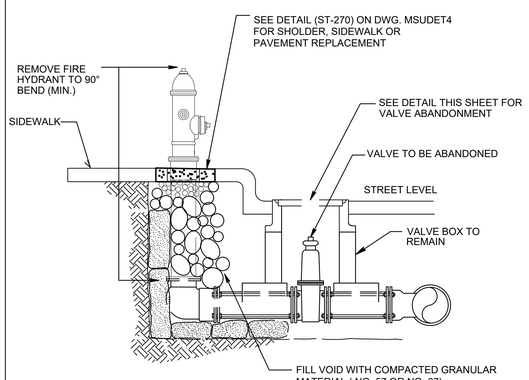
NOTE: ALL COPPER CONNECTIONS ARE FLARE

1-INCH AIR RELIEF VALVE
NOT TO SCALE



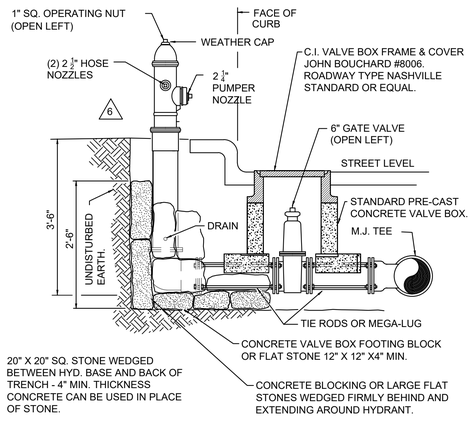
09 C5.2

METHOD OF CROSSING UNDER OBSTRUCTION
NOT TO SCALE



10 C5.2

FIRE HYDRANT REMOVAL
NOT TO SCALE



20" X 20" SQ. STONE WEDGED BETWEEN HYD. BASE AND BACK OF TRENCH - 4" MIN. THICKNESS CONCRETE CAN BE USED IN PLACE OF STONE.

CONCRETE BLOCKING OR HYDRANT SHALL BE SET ON FLAT STONE OR CONC. VALVE BOX FOOTING BLOCK. LARGE FLAT STONES SHALL BE WEDGED FIRMLY BEHIND AND EXTENDING AROUND HYDRANT TO UNDISTURBED EARTH.

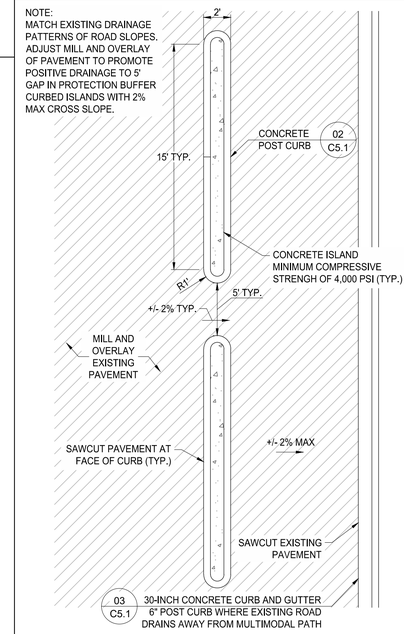
CARE SHALL BE TAKEN TO SET HYDRANT PLUMB.

A MINIMUM OF 2 CU. FT. OF CRUSHED STONE SHALL BE PLACED AROUND LEAD ADJOINING BLOCKING FOR DRAINAGE FROM WASTE OPENING.

11 C5.2

FIRE HYDRANT INSTALLATION
NOT TO SCALE

NOTE:
MATCH EXISTING DRAINAGE PATTERNS OF ROAD SLOPES, ADJUST MILL AND OVERLAY OF PAVEMENT TO PROMOTE POSITIVE DRAINAGE TO 5' GAP IN PROTECTION BUFFER CURBED ISLANDS WITH 2% MAX CROSS SLOPE.



CONCRETE PROTECTION BUFFER
NOT TO SCALE

12 C5.2

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

CHELLEM D. MICHAEL 2281 LICENSED PROFESSIONAL ENGINEER AGRICULTURE 07/24/2025 No. 109853 STATE OF TENNESSEE

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

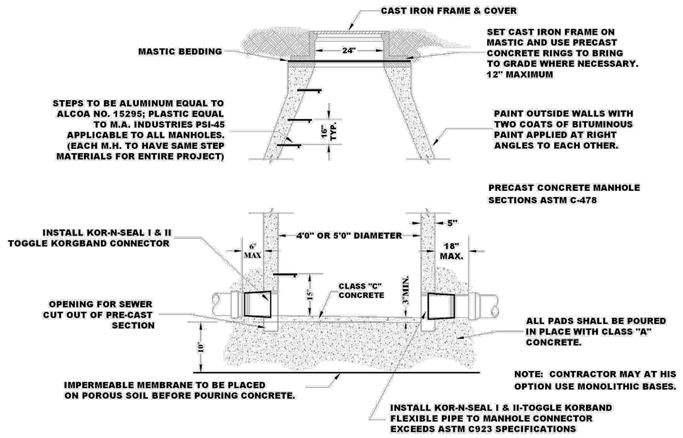
DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
JF	11/14/2025	PUBLIC WATER PLANS
CCH	01/16/2026	AGENCY COMMENTS

SITE DETAILS

C5.2

1411-01 RIVERGATE INFRASTRUCTURE PLANS

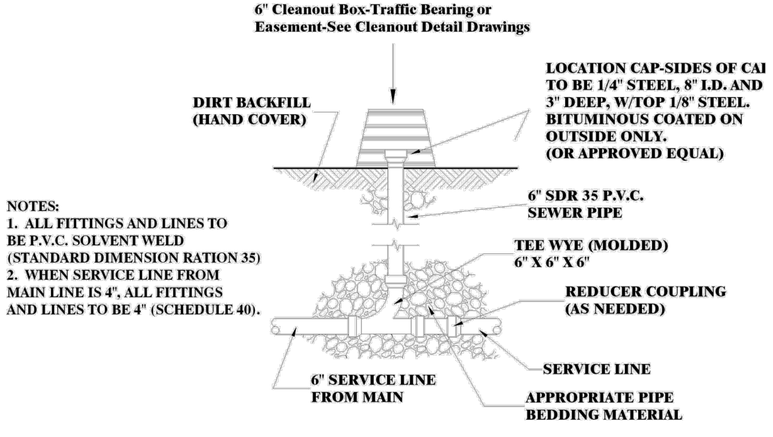
Thursday, January 29, 2026
Z:\1411 - Rivergate\1411-01 - Infrastructure and Mass Grading\02 - CadFiles\1411-01_C5.0_Site Details.dwg



01
C5.3

STANDARD PRECAST MANHOLE (A-A)

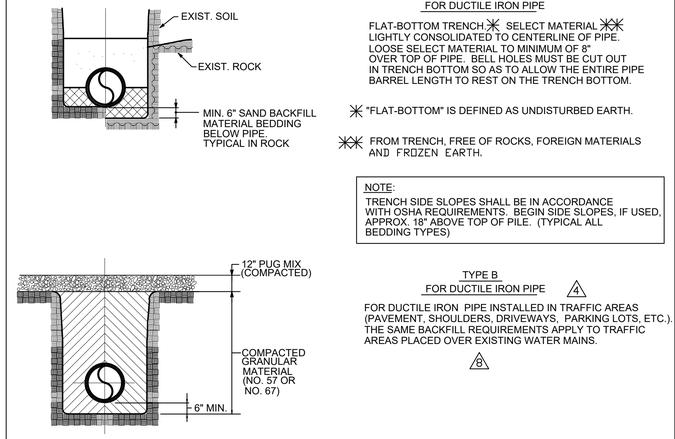
STANDARD PRECAST MANHOLE
NOT TO SCALE



02
C5.3

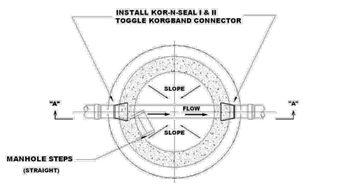
CLEANOUT
NOT TO SCALE

CLEANOUT

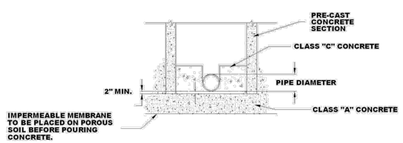


08
C5.3

TRENCH DETAILS FOR WATERLINES
NOT TO SCALE

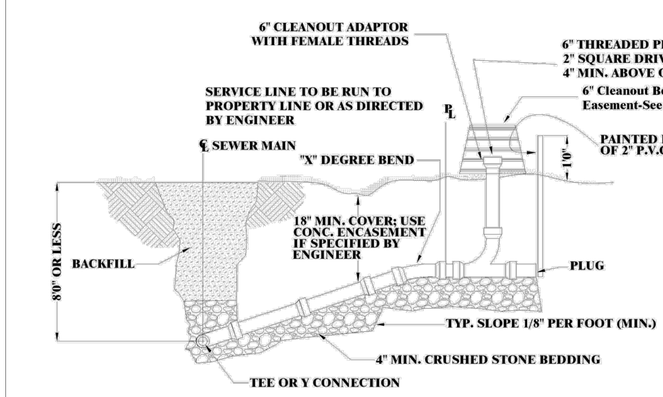


PLAN VIEW



ELEVATION SECTION "B-B"

NOTE: CONCRETE WILL BE READY MIX AND SHALL COMPLY WITH THE SPECIFICATIONS ASTM DESIGNATION 94 FOR THE CLASSES A, B, AND C AS OUTLINED IN THE STANDARD SPECS.



TYPICAL SERVICE LINE DETAIL

04
C5.3

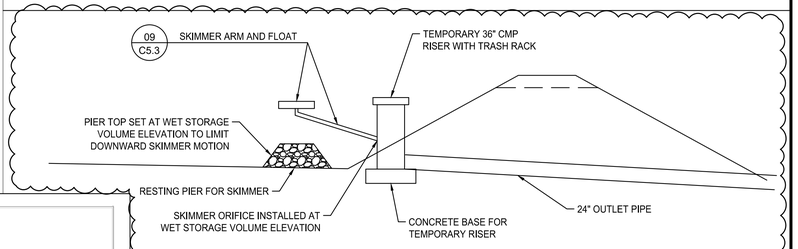
TYPICAL SERVICE LINE DETAIL
NOT TO SCALE

1. BACKFILL ON SERVICE LINES TO BE AS DESCRIBED IN PROJECT SPECS.
2. SERVICE LINES FOR DEEP TRENCHES TO BE USED WHERE SHOWN ON PLANS OR AS DIRECTED BY ENGINEER. SERVICE FOR DEEP TRENCHES SHALL BE CONSTRUCTED AS SHOWN IN DETAIL ABOVE IN LIEU OF VERTICAL STACKS ENCASED IN CONCRETE.
3. BATTER BOARDS NO REQUIRED FOR LAYING PIPE, BUT GRADE TO BE REASONABLY UNIFORM AND ALIGNMENT STRAIGHT. GRADE SHALL BE THAT WHICH IS SUFFICIENT TO PROVIDE SERVICE TO BUILDING OR AS DIRECTED BY ENGINEER WITH MINIMUM TO BE THAT ALLOWED BY LOCAL PLUMBING CODE OR 1/8" PER FOOT MINIMUM OR AS NOTED ON PLANS.
4. MARKING ROD SHALL EXTEND FROM BOTTOM OF END OF SERVICE LINE TO 1'0" ABOVE GROUND.

SERVICE LINE TRENCHING DETAILS

05
C5.3

SERVICE LINE TRENCHING DETAILS
NOT TO SCALE



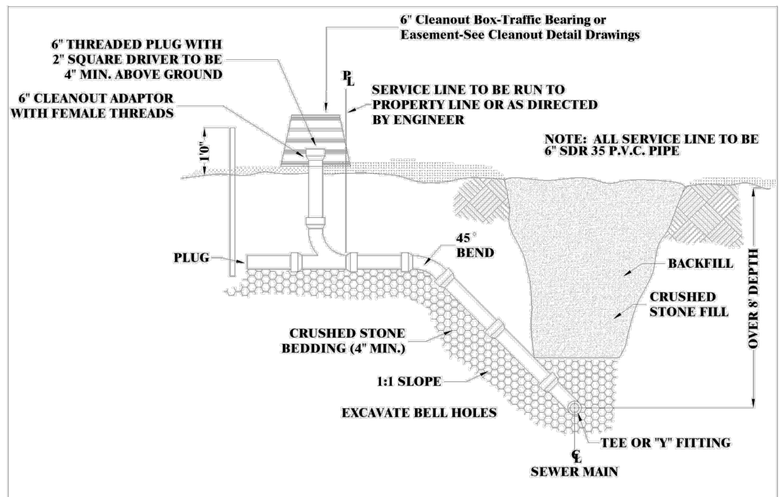
07
C5.3

SEDIMENT BASIN RISER PIPE OUTLET STRUCTURE
NOT TO SCALE

MANHOLE FRAMES AND COVERS

03
C5.3

MANHOLE FRAMES AND COVERS
NOT TO SCALE

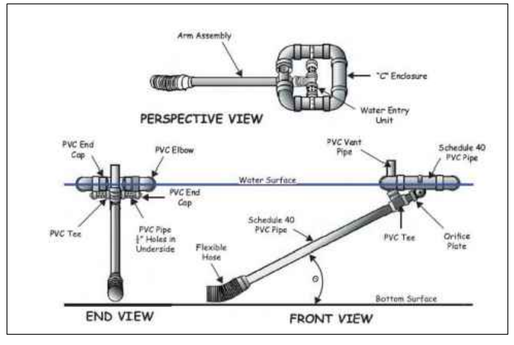


SERVICE LINE DETAIL FOR DEEP TRENCHES
NOT TO SCALE

SERVICE LINE DETAIL FOR DEEP TRENCHES

(ONLY WHEN CALLED FOR ON PLANS OR DIRECTED BY CITY ENGINEER)

06
C5.3



09
C5.3

SKIMMER ARM AND FLOAT
NOT TO SCALE

3

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770



SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	08/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
JF	11/14/2025	PUBLIC WATER PLANS
CCH	01/19/2026	AGENCY COMMENTS

SITE DETAILS

C5.3

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Thursday, January 22, 2026
T:\1411\Drawings\Civil\1411-Infrastructure and Mass Grading\02 - Civil Sheets\1411-01_C5.3_Site Details.dwg

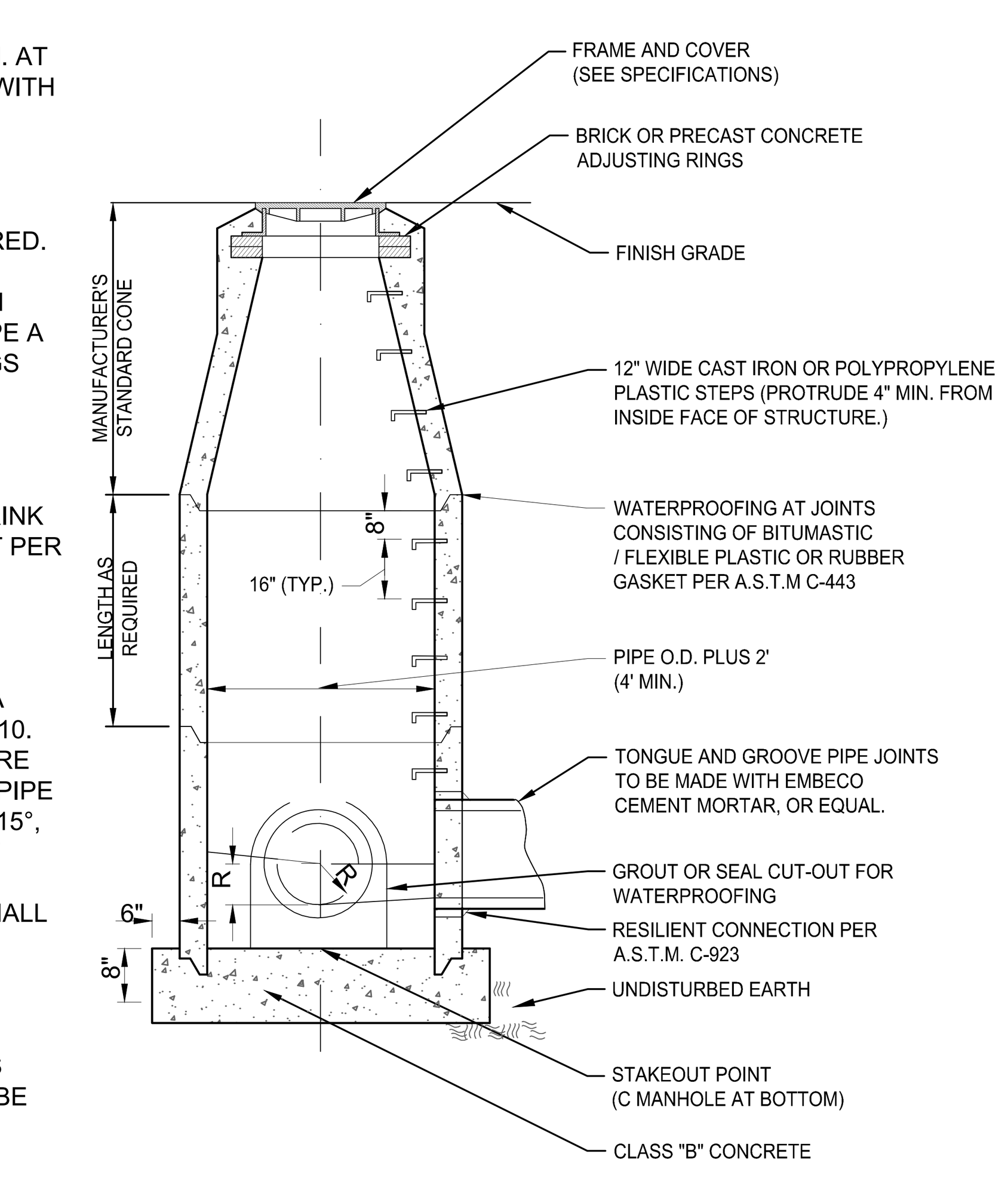
MSUD NOTES:

1. ALL WATER LINE CONSTRUCTION AND MATERIALS WILL BE IN STRICT COMPLIANCE WITH THE CURRENT APPROVED SPECIFICATIONS FOR THE MADISON SUBURBAN UTILITY DISTRICT (MSUD) AS ON FILE WITH THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION, DIVISION OF WATER QUALITY CONTROL.
2. BEFORE ANY WATER LINE WORK IS INITIATED ON THIS PROJECT, THE CONTRACTOR SHOULD CONTACT MSUD AND SATISFY ALL REQUIREMENTS OF MSUD. UPON COMPLETION OF THE WATER LINE INSTALLATION, THE CONTRACTOR WILL PERFORM A PRESSURE TEST AND DISINFECT THE LINE UNDER THE INSPECTION OF MSUD. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE COST OF REASONABLE INSPECTION FEES OF MSUD.
3. ANY AND ALL FEES, LICENSES, AND PERMITS NECESSARY FOR THIS CONSTRUCTION ARE TO BE OBTAINED AND PAID PRIOR TO THE INITIATION OF CONSTRUCTION AND THE COST THEREFORE WILL BE BORNE BY THE CONTRACTOR.
4. MSUD WILL SUPPLY THE APPROPRIATE WATER METER(S) AND SHALL BE REIMBURSED BY THE CONTRACTOR FOR MATERIAL COSTS.
5. WATER LINE CONSTRUCTION IS TO BE COMPLETED BY THE CONTRACTOR EXCEPT FOR THE ACTURAL CONNECTIONS TO EXISTING WATER LINE. AT LEAST 72 HOURS PRIOR TO CONNECTING PROPOSED WATER LINE TO THE SYSTEM, THE CONTRACTOR WILL NOTIFY MSUD AND COORDINATE METHOD OF CONNECTION AND TIME TO SHUT DOWN EXISTING WATER LINE IF REQUIRED.
6. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL EXISTING UTILITIES (INCLUDING STORM DRAINAGE PIPES OR STRUCTURES) BEFORE COMMENCEMENT OF CONSTRUCTION.
7. WATER LINE MATERIAL WILL BE DUCTILE IRON PIPE, CLASS 52 WITH DUCTILE IRON FITTINGS AND DUCTILE IRON OR BRASS TAPS AS APPROPRIATE.
8. THE CONTRACTOR IS REQUIRED TO LOCATE ALL NEW TIE-INS, FITTINGS, VALVES, VAULTS, PRESSURE REDUCING VALVES, WATER UTILITY CROSSINGS OF OTHER UTILITIES OR STREAMS, CASING PIPE ENDS, CONCRETE ENCASEMENT ENDS, AND FIRE HYDRANTS UTILIZING THE GLOBAL POSITIONING SYSTEM (GPS). POINTS ON THE WATER MAIN EVERY 50 FEET BETWEEN THESE ITEMS SHALL ALSO BE LOCATED. ELEVATIONS AND COORDINATES (NORTHING AND EASING BASED UPON THE TENNESSEE RECTANGULAR GRID SYSTEM, 1983 NORTH AMERICA DATUM OR UPDATED VERSIONS OF EACH OF THESE ITEMS SHALL BE OBTAINED AND PROVIDED TO MSUD. THIS GPS INFORMATIONS SHALL INCLUDE REAL TIME SIGNAL CORRECTION. THE CONTRACTOR SHALL COORDINATE THE DEVELOPMENT OF THIS DATA WITH THE MSUD PROJECT INSPECTOR. FINAL ACCEPTANCE OF THE NEW FACILITIES BY MSUD IS CONTINGENT UPON RECEIPT OF THIS INFORMATION. TWO (2) 24" X 36" HARD COPIES AND ONE (1) ELECTRONIC COPY (MICROSTATION OR AUTOCAD) OF THE AS-BUILT PLANS, INCLUDING THIS GPS DATA, ARE TO BE PROVIDED TO MSUD ONCE CONSTRUCTION IS COMPLETED. THE ELECTRONIC COPY SHALL BE UTILIZED SOLELY FOR THE PURPOSE OF TRANSFERRING AS-BUILT INFORMATION TO MSUD'S WATER SYSTEM DISTRIBUTION MAPS.
9. ALL BENDS, TEES, CROSSES, PLUGS, AND PRESSURE CONNECTIONS, ETC. SHALL BE BACKED UP AND ANCHORED WITH CONCRETE BLOCKING.
10. BACKFLOW PREVENTERS ARE TO BE INSTALLED BY TENNESSEE CERTIFIED INSTALLERS WHO SPECIALIZE IN BACKFLOW PREVENTION. ALL INSTALLATIONS ARE TO MEET MSUD'S REQUIREMENTS. ALSO, THE CONTRACTOR MUST SCHEDULE A TIME FOR TESTING OF THE DEVICE WITH THE DISTRICT'S INSPECTOR BEFORE COMPLETION OF THE PROJECT. IT IS NECESSARY FOR THE CONTRACTOR TO BE PRESENT DURING THIS TEST IN ORDER TO CORRECT ANY POTENTIAL PROBLEMS PRIOR TO OCCUPANCY OF THE PROPERTY.
11. BE SURE TO NOTIFY THE STATE, WHEN REQUIRED BY STATE REGULATIONS, BEFORE YOU BEGIN ANY WATER LINE CONSTRUCTION.
12. ALL VALVES SHALL OPEN BY TURNING TO THE LEFT AND BE SECURED USING MEGA-LUGS. ALL PIPE FITTINGS SHALL BE SECURED USING MEGA-LUGS.
13. IF STATE REVIEW AND APPROVAL IS REQUIRED, OWNER/DEVELOPER SHALL SUBMIT A STATE APPROVED SET OF PLANS TO MSUD A MINIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL MAINTAIN A SET OF STATE APPROVED PLANS AND SPECIFICATIONS ON THE PROJECT SITE AT ALL TIMES.
14. UNLESS WRITTEN AUTHORIZATION FROM MSUD PROVIDES OTHERWISE, ALL WATER METERS SHALL BE PLACED IN AN ALIGNMENT THAT IS PERPENDICULAR TO THE ROAD FRONTING THE STRUCTURE BEING SERVED; THEY SHALL BE PLACED A MINMUM OF 2'-0" FROM ANY STRUCTURE, INCLUDING, BUT NOT LIMITED TO SIDEWALDS, DRIVEWAYS MAILBOXES, TREES, ETC.; AND THEY SHALL BE LOCATED AT THE FRONT OF THE STRUCTURE.
15. UNLESS WRITTEN AUTHORIZATION FROM MSUD PROVIDES OTHERWISE, NO FIRE HYDRANTS SHALL BE PLACED BETWEEN A SIDEWALK AND THE ROAD OR CURBING.
15. UNLESS WRITTEN AUTHORIZATION FROM MSUD PROVIDES OTHERWISE, NO WATER MAINS SHALL BE PLACED UNDER A SIDEWALK, EXTENDING PARALLEL TO THE SIDEWALK.
16. ANY WATER MAINS INSTALLED CROSSING UNDER PAVEMENT CARRYING VEHICULAR TRAFFIC SHALL BE BACKFILLED WITH STONE, PER MSUD TRENCH DETAIL – TYPE B. ANY PAVEMENT CARRYING VEHICULAR TRAFFIC, PLACED OVER EXISTING WATER MAINS, SHALL REQUIRE THE MAIN TO BE BEDDED WITH STONE, PER MSUD TRENCH DETAIL – TYPE B.
17. UNLESS WRITTEN AUTHORIZATION FROM MSUD PROVIDES OTHERWISE, NO WATER VALVES SHALL BE PLACED IN SIDEWALKS OR RESIDENTIAL DRIVEWAYS.
18. UNLESS WRITTEN AUTHORIZATION FROM MSUD PROVIDES OTHERWISE, WATER MAINS IN RESIDENTIAL DEVELOPMENTS SHALL BE PLACED IN THE MIDDLE OF ONE LANE OF A STREET. ANY LINE DEFLECTED MORE THAN 5° WILL HAVE TO USE A BEND.
19. ON-SITE MSUD APPROVAL OF A PART OF A PROJECT'S WATER SYSTEM INSTALLATION DOES NOT CONSTITUTE THE DISTRICT'S APPROVAL OF ALL OF THE PROJECT'S WATER SYSTEM INSTALLATION. FINAL ON-SITE APPROVAL OF THE PROJECT'S TOTAL WATER SYSTEM INSTALLATION MUST BE OBTAINED BEFORE THE MSUD WILL RECEIVE OWNERSHIP OF THAT WATER SYSTEM. FROM THE TIME OF THE ON-SITE INSPECTION AND FINAL APPROVAL OF THE TOTAL WATER SYSTEM INSTALLATION BY A REPRESENTATIVE OF THE MSUD, FURTHER CHANGES IMPACTING THE CONDITIONS OF OR THE ACCESSIBILITY TO THE WATER SYSTEM FACILITIES ARE STRICTLY FORBIDDEN WITHOUT THE PRIOR APPROVAL OF THE MSUD. THESE INCLUDE, BUT ARE NOT LIMITED TO, CHANGES IN OVERBURDEN SLOPE OR DEPTH ON THE WATER MAIN, CHANGES THAT ADVERSELY EFFECT, IN THE OPINION OF THE MSUD, VEHICULAR OR EQUIPMENT ACCESS TO THE WATER MAINS, THE PLANTING OF TREES, SHRUBS, ETC. IN THE WATER UTILITIES EASEMENT OR THE LATER CONSTRUCTION OR PLACEMENT OF STRUCTURES CONSTRICTING THE WIDTH OF THE WATER UTILITIES EASEMENT. SHOULD THESE OR OTHER TYPES OF CHANGES BE MADE WITHOUT PRIOR APPROVAL OF THE MSUD, THEY SHALL BE RETURNED BACK TO THE ORIGINAL CONDITIONS AT THE TIME OF FINAL APPROVAL, AT THE COST OF THE PROPERTY OWNER DURING THOSE CHANGES.
20. THE ENGINEER OR ARCHITECT OF THE PROJECT PLANS BEING SUBMITTED TO THE MSUD FOR APPROVAL OF THE WATER SYSTEM INSTALLATION SHALL BE RESPONSIBLE FOR INSURING THAT THOSE
PLANS INCLUDE ALL ASPECTS OF THE PROJECT IMPACTING THE WATER SYSTEM ADDITIONS OR MODIFICATIONS. ANY SUBSEQUENT CHANGES IN PLANS, ADVERSELY IMPACTING THE WATER SYSTEM INSTALLATION, IN THE OPINION OF THE MSUD, AFTER APPROVAL OF THE ORIGINAL PLANS SUBMITTED BY THE MSUD, SHALL NEGATE THE PRIOR APPROVAL AND GIVE CAUSE FOR A RESUBMITTAL OF THE REVISED PLANS TO THE MSUD FOR APPROVAL. THE PLAN SHEETS OF THE WATER SYSTEM ADDITIONS OR MODIFICATIONS SHALL BE THE CONTROL SHEETS FOR THE REVIEW OF THE MSUD FOR APPROVAL AND SHALL INCLUDE ALL PROPER CROSS-REFERENCE NOTES TO ANY OTHER SHEETS SHOWING INFORMATION RELATED TO PIPE DEPTH, GROUND SLOPE, ETC. THE WATER MAIN DEPTH, AT ALL TIMES, SHALL BE THREE (3) FEET FROM THE GROUND ELEVATION TO THE TOP OF THE PIPE, UNLESS OTHER PROJECT ISSUES, SUCH AS EXISTING UTILITIES, ETC., REQUIRE A GREATER DEPTH FOR THE WATER MAIN. UNLESS APPROVAL HAS BEEN PROVIDED BY THE MSUD, NO WATER MAIN DEPTH SHALL BE
GREATER THAN SIX (6) FEET UPON FINAL CONSTRUCTION OF THE PROJECT.
21. THE ENGINEER OR ARCHITECT OF THE PROJECT PLANS BEING SUBMITTED TO THE MSUD FOR APPROVAL OF THE WATER SYSTEM / FIRE SPRINKLER INSTALLATION SHALL INCLUDE ON THE UTILITY DRAWINGS A SPRINKLER HEAD SCHEDULE WHICH SHALL INCLUDE SIZES AND QUANTITIES OF SPRINKLER HEADS.
22. NEW WATER MAINS TO BE OWNED AND MAINTAINED BY THE M.S.U.D.,OUTSIDE OFF-ROAD RIGHT-OF-WAYS, SHALL NOT BE INSTALLED UNDER PAVEMENT AND / OR CONCRETE IN PRIVATE PROPERTY, UNLESS THERE ARE NO OTHER OPTIONS FOR THE ROUTE OF THE MAIN. SHOULD THE WATER MAIN HAVE TO BE INSTALLED UNDER PAVEMENT AND / OR CONCRETE, OUTSIDE OF THE ROAD RIGHT-OF-WAY, THE PROPERTY OWNER AGREES TO ASSUME ALL COSTS AND RESPONSIBILITIES OF RESTORING THE PAVEMENT AND / OR CONCRETE, SHOULD THE M.S.U.D.BE REQUIRED TO ACCESS THE WATER MAIN FOR MAINTENANCE, REPAIR OR REVISION.
23. ANY EXISTING FIRE, DOMESTIC AND/OR IRRIGATION SERVICE LINES THAT WILL NOT BE USED BY A PROPOSED DEVELOPMENT SHALL BE DISCONNECTED BACK AT THEIR TAP OR CONNECTION TO THE PUBLIC WATER MAIN. FOR CORPORATION STOP TAPS, THE STOP SHALL BE CLOSED, THEN THE SERVICE
LINE DISCONNECTED AT THE STOP, PER MSUD APPROVED METHODS. FOR LARGER SERVICE CONNECTIONS USING TAPPING SLEEVES AND VALVES OR TEES AND VALVES, THE VALVE SHALL BE CLOSED BY THE MSUD, BEFORE THE PROJECT CONTRACTOR DISCONNECTS THE WATER SERVICE LINE WITHIN THREE FEET OF THE VALVE, ON THE CUSTOMER SIDE OF THE VALVE. THE WATER SERVICE LINE SHALL THEN BE CAPPED AT THE DISCONNECTION, UTILIZING TWO OF THREE METHODS OF RESTRAINT: MEGALUG, ROD OR CONCRETE KICKER. THIS DISCONNECTION AND RESTRAINT SHALL BE PERFORMED UNDER THE INSPECTION AND APPROVAL OF THE MSUD PROJECT INSPECTOR. NO DISCONNECTS SHALL LEAK WITHIN 24 HOURS AFTER THE DISCONNECT IS PERFORMED. ALL DISCONNECTIONS SHALL BE ACCEPTED BY THE MSUD IN WRITING. THE MSUD IS RESPONSIBLE FOR REMOVING ANY ABANDONED METERS OWNED BY THE MSUD. THE PROJECT CONTRACTOR IS RESPONSIBLE FOR REMOVING AND DISPOSING OF ALL ABANDONED BACKFLOW DEVICES. ALL ABANDONED METER AND BACKFLOW DEVICE VAULTS ARE PROPERTY OF THE PROJECT OWNER AND CAN BE DISPOSED OF IN A MANNER OF THEIR CHOICE.

01 / C5.4
MADISON SUBURBAN UTILITY DISTRICT STANDARD NOTES
NOT TO SCALE

NOTES:

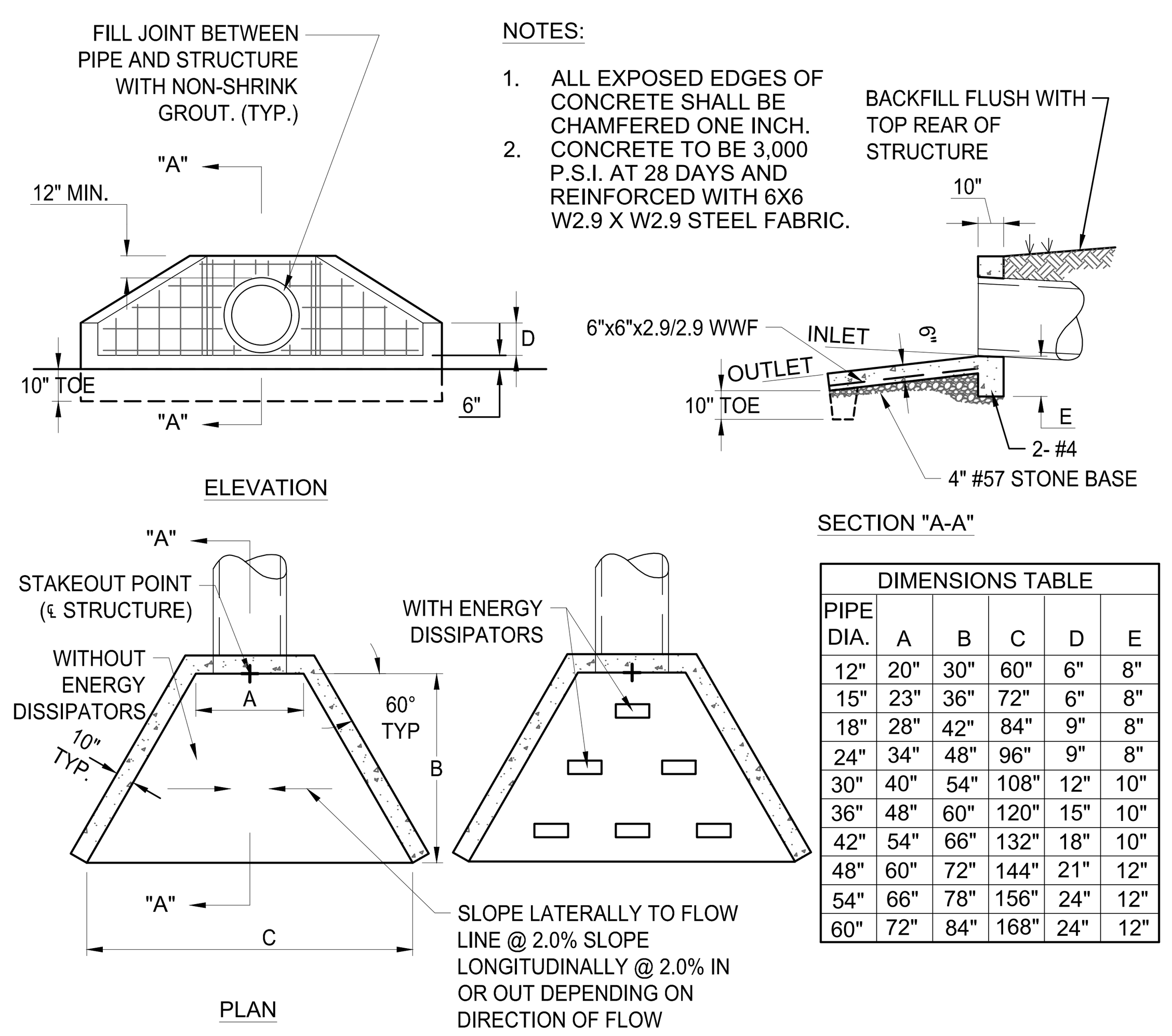
1. CONCRETE TO BE 4,000 P.S.I. AT 28 DAYS AND REINFORCED WITH NO. 4, GRAD 60 BARS.
2. PROVIDE ½" THICK LEDGER PLATES WHERE MORE THAN TWO CASTINGS ARE REQUIRED.
3. CASTING EQUAL OF NEENAH 1788 OR EJIW 1040 WITH TYPE A SOLID COVER. ALL CASTINGS ARE DESIGNED TO MEET AASHTO M306 LOADING.
4. FOR RCP CONNECTIONS TO STRUCTURES USE NON-SHRINK GROUT OR RUBBER GASKET PER ASTM C923 OR C1478.
5. JOINTS BETWEEN PLASTIC FLEXIBLE PIPE AND STRUCTURES SHALL HAVE A GASKET MEETING ASTM F2510. FOR CMP PIPE TO STRUCTURE CONNECTIONS OR PLASTIC PIPE AT A SKEW GREATER THAN 15°, WHERE A GASKET WILL NOT WORK. NON-SHRINK GROUT APPLIED IN TWO STAGES SHALL BE USED.
6. ALL PRECAST CONCRETE MANHOLE SECTIONS TO BE ASTM C478, MIN. THICKNESS WALLS. CONE SECTION TO BE CONCENTRIC UNLESS OTHERWISE APPROVED BY ENGINEER.



02 / C5.4
STORM MANHOLE
NOT TO SCALE

NOTES:

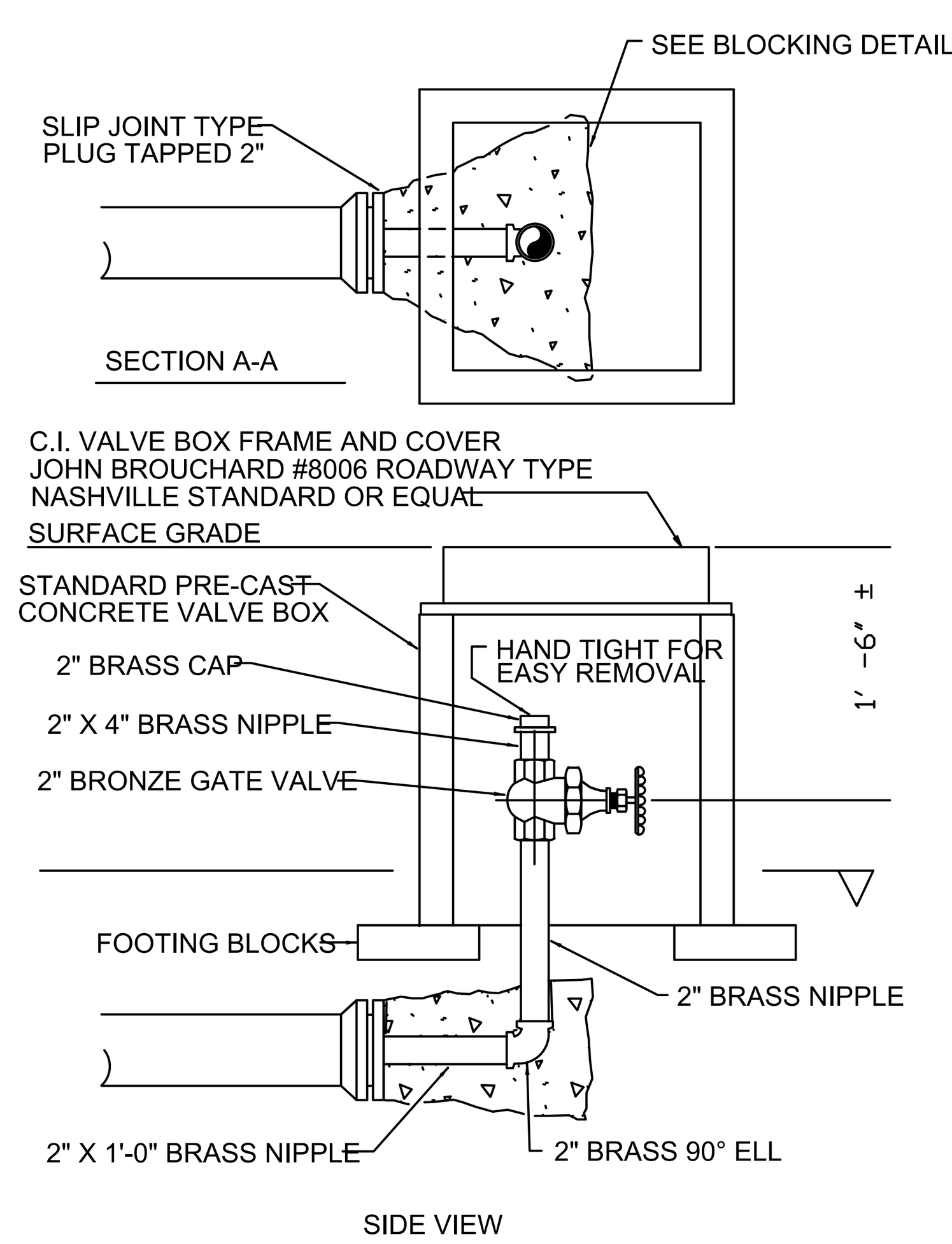
1. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED ONE INCH.
2. CONCRETE TO BE 3,000 P.S.I. AT 28 DAYS AND REINFORCED WITH 6X6 W2.9 X W2.9 STEEL FABRIC.



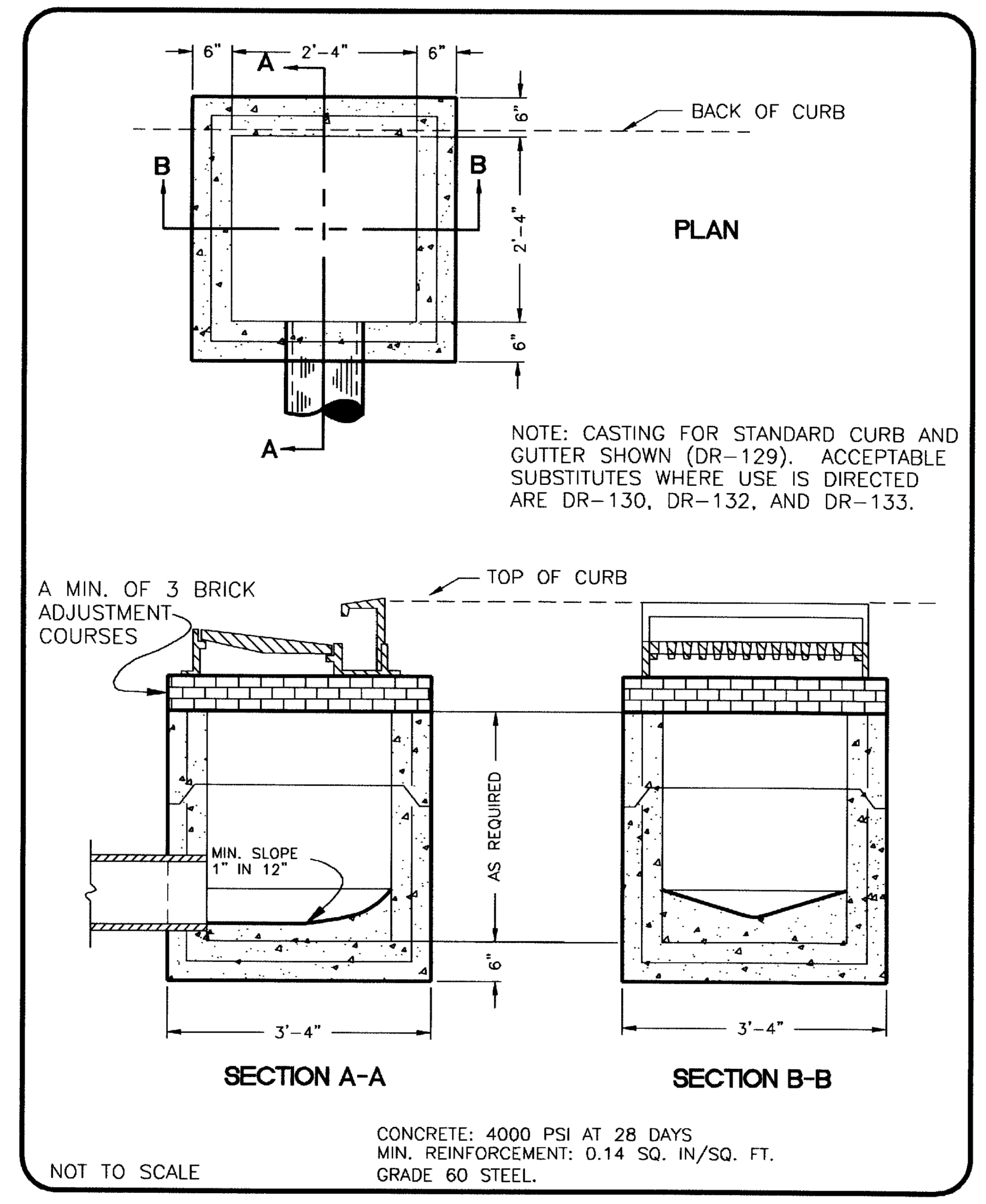
DIMENSIONS TABLE

PIPE DIA.	A	B	C	D	E
12"	20"	30"	60"	6"	8"
15"	23"	36"	72"	6"	8"
18"	28"	42"	84"	9"	8"
24"	34"	48"	96"	9"	8"
30"	40"	54"	108"	12"	10"
36"	48"	60"	120"	15"	10"
42"	54"	66"	132"	18"	10"
48"	60"	72"	144"	21"	12"
54"	66"	78"	156"	24"	12"
60"	72"	84"	168"	24"	12"

03 / C5.4
PRECAST CONCRETE WINGED HEADWALL
NOT TO SCALE

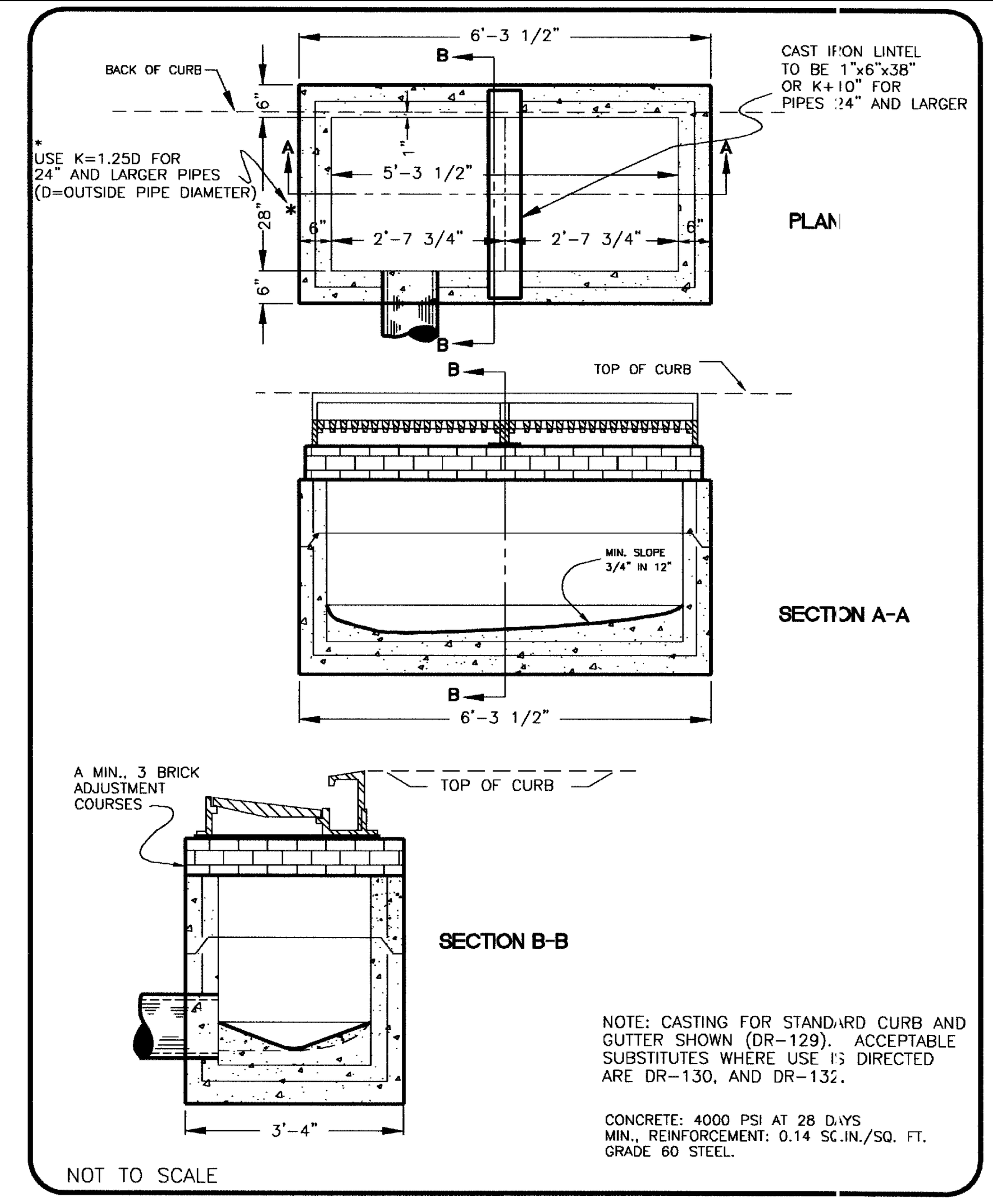


04 / C5.4
2-INCH BLOW-OFF
NOT TO SCALE



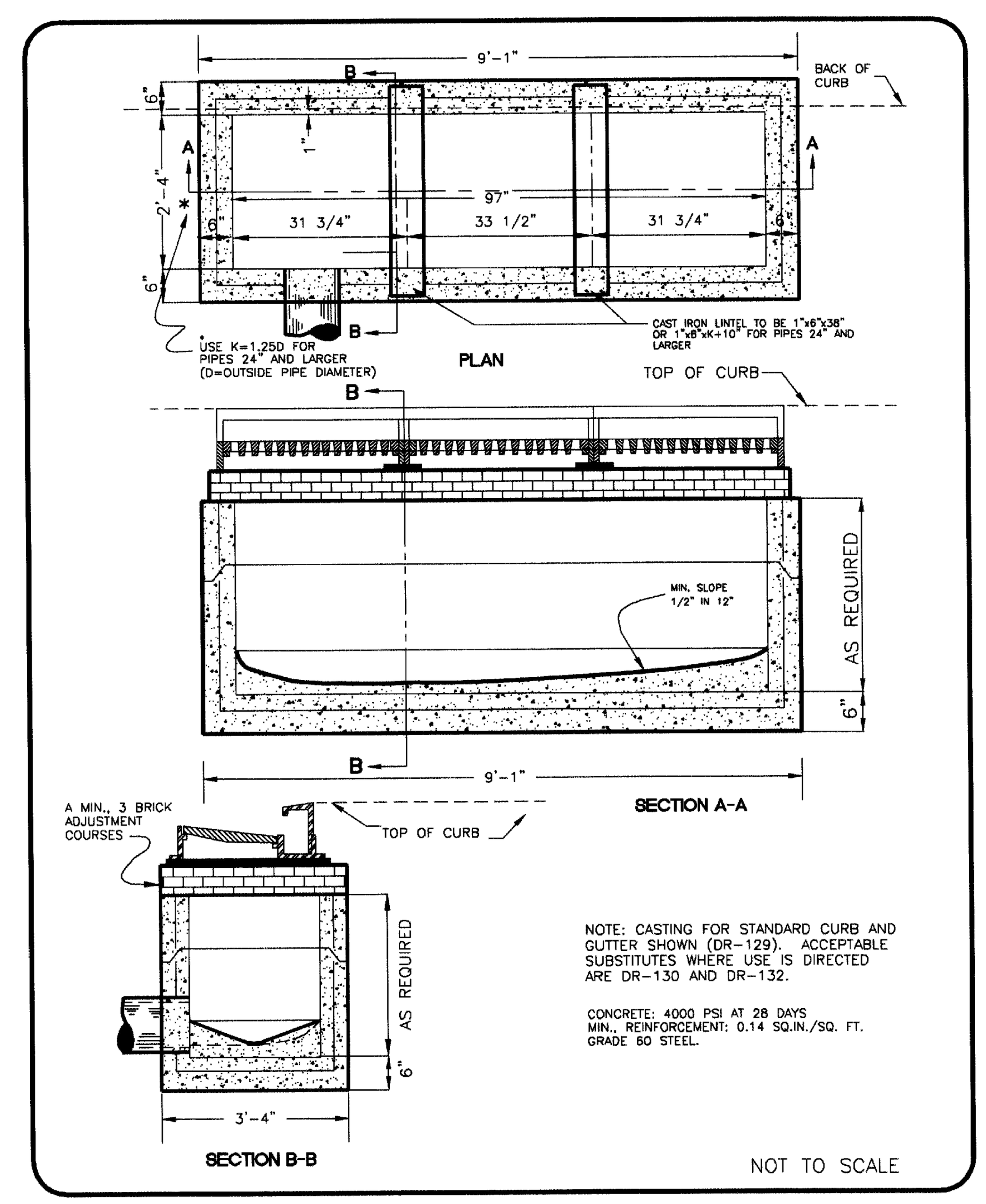
METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY DEPARTMENT OF PUBLIC WORKS	SINGLE INLET (PRECAST)	DWG. NO. DR-105
ASST. DIR. ENG.: DIRECTOR:	DATE: DATE: 3/14/00	REVISED: 02/08/00

05 / C5.4
SINGLE CURB INLET
NOT TO SCALE



METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY DEPARTMENT OF PUBLIC WORKS	DOUBLE INLET (PRECAST)	DWG. NO. DR-110
ASST. DIR. ENG.: DIRECTOR:	DATE: DATE: 3/14/00	REVISED: 02/14/00

06 / C5.4
DOUBLE CURB INLET
NOT TO SCALE



METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY DEPARTMENT OF PUBLIC WORKS	TRIPLE INLET (PRECAST)	DWG. NO. DR-115
ASST. DIR. ENG.: DIRECTOR:	DATE: DATE: 3/14/00	REVISED: 03/02/00

07 / C5.4
TRIPLE CURB INLET
NOT TO SCALE

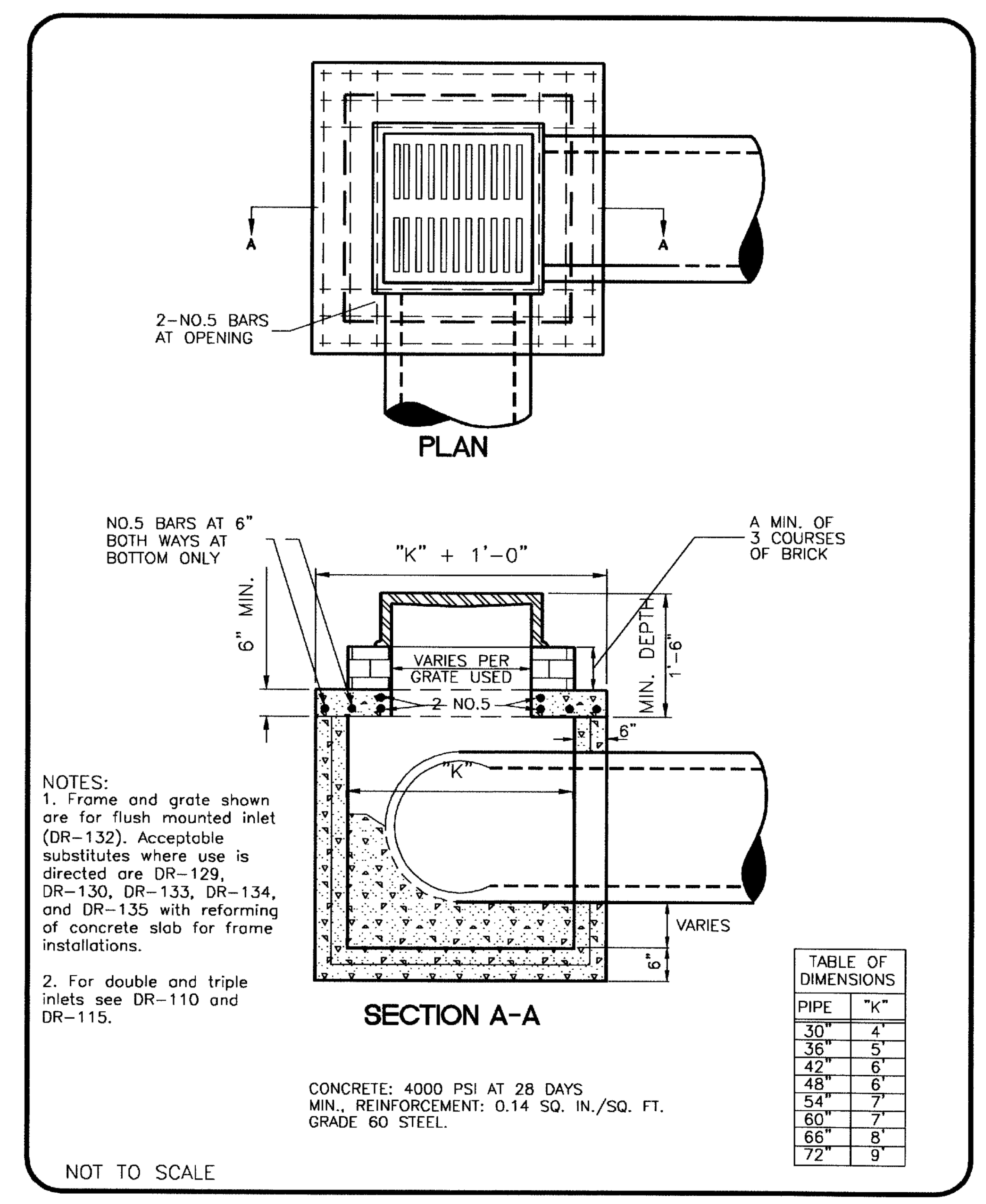


TABLE OF DIMENSIONS

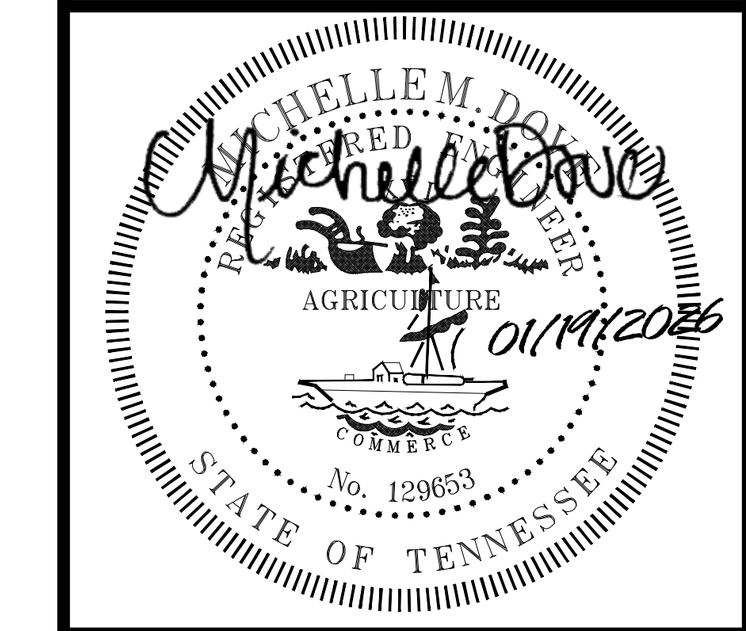
PIPE	"K"
30"	4'
36"	5'
42"	6'
48"	6'
54"	7'
60"	7'
66"	8'
72"	9'

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY DEPARTMENT OF PUBLIC WORKS	COMBINATION INLET (PRECAST)	DWG. NO. DR-120
ASST. DIR. ENG.: DIRECTOR:	DATE: DATE: 3/14/00	REVISED: 02/08/00

08 / C5.4
AREA INLET
NOT TO SCALE

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770



SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

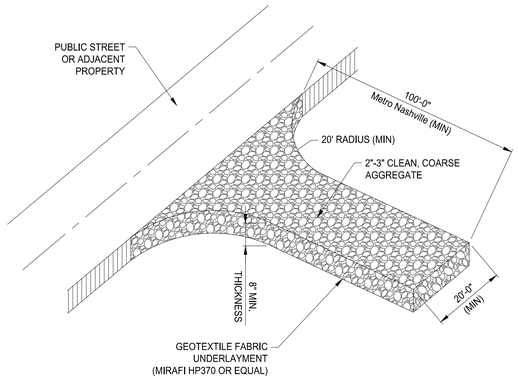
DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
JF	11/14/2025	PUBLIC WATER PLANS
CCH	01/19/2026	AGENCY COMMENTS

SITE DETAILS

C5.4

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Thursday, January 22, 2026
Z:\1411_Rivergate Campus\01 - Infrastructure and Mass Grading\02 - Cad\Sheets\1411-01_C5.0_Site Details.dwg

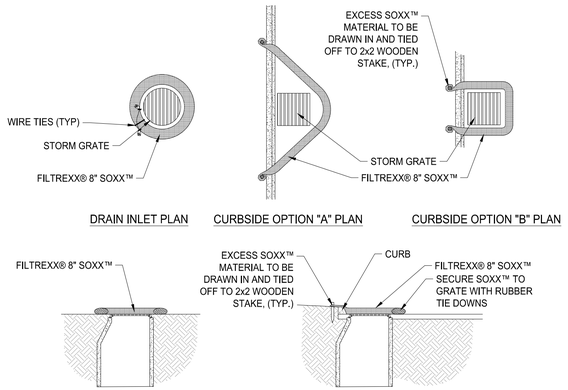


ISOMETRIC VIEW

01 C5.5

METRO TCP-03

TEMPORARY CONSTRUCTION EXIT
NOT TO SCALE



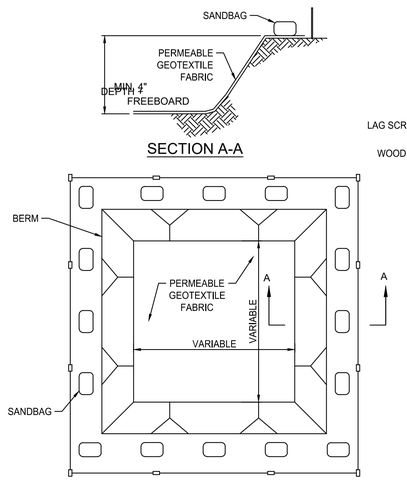
DRAIN INLET PLAN | CURBSIDE OPTION "A" PLAN | CURBSIDE OPTION "B" PLAN

DRAIN INLET SECTION | CURB SIDE SECTION

02 C5.5

METRO TCP-24

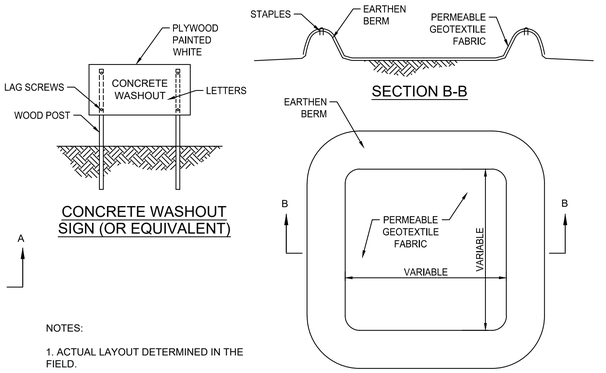
INLET PROTECTION
NOT TO SCALE



SECTION A-A

PLAN VIEW
TYPE "BELOW GRADE"

03 C5.5



CONCRETE WASHOUT SIGN (OR EQUIVALENT)

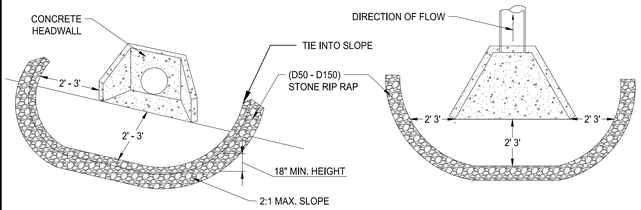
SECTION B-B

PLAN VIEW
TYPE "ABOVE GRADE"
WITH EARTHEN BERMS

NOTES:

1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. SIGNAGE IDENTIFYING THE CONCRETE WASHOUT AREA SHALL BE INSTALLED WITHIN 5FT. OF THE WASHOUT FACILITY.

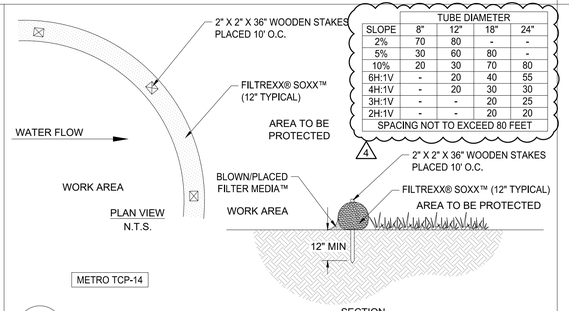
CONCRETE WASHOUT AREA
NOT TO SCALE



NOTES:
1. INSPECT STONE FILTER RING ONCE FINAL STABILIZATION HAS OCCURRED AND REPAIR AS NECESSARY.

04 C5.5

TEMPORARY STONE FILTER RING
NOT TO SCALE



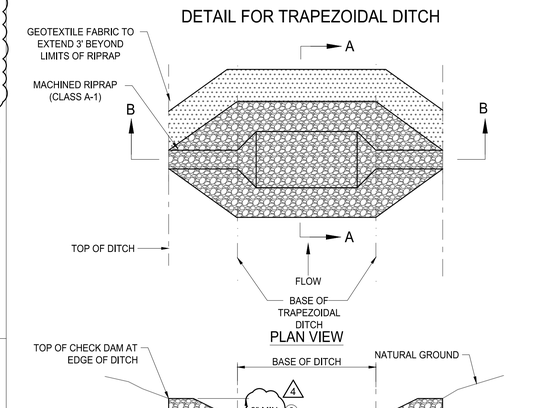
SLOPE	TUBE DIAMETER 8"	12"	18"	24"
2%	70	80	-	-
5%	30	60	80	-
10%	20	30	70	80
6H:1V	-	20	40	55
4H:1V	-	20	30	30
3H:1V	-	-	20	25
2H:1V	-	-	20	20
SPACING NOT TO EXCEED 80 FEET				

4

METRO TCP-14

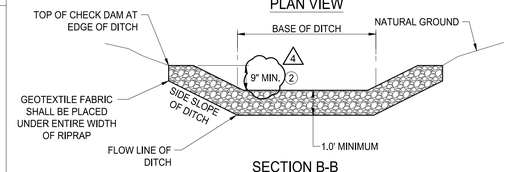
05 C5.5

WEIGHTED SEDIMENT TUBE
NOT TO SCALE

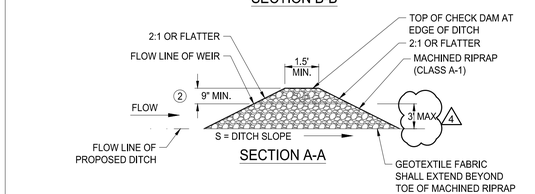


DETAIL FOR TRAPEZOIDAL DITCH

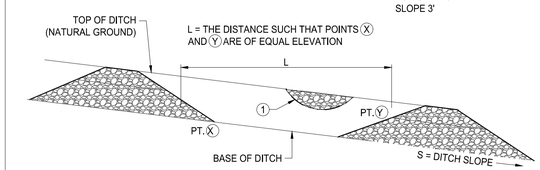
PLAN VIEW



SECTION B-B



SECTION A-A



DETAIL FOR SPACING BETWEEN CHECK DAMS

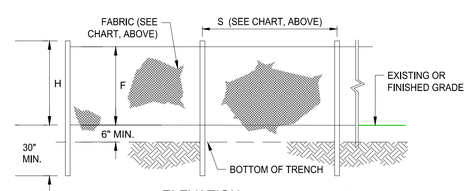
NOTES:
1. FILL LOW AREAS ALONG TOP OF BANK TO PREVENT BACKWATER FROM EXITING DITCH.
2. WEIR FLOW DEPTH BASED UPON 2YR/24HR STORM EVENT.

07 C5.5

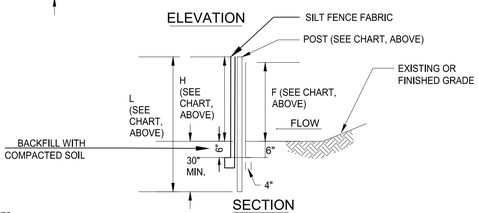
METRO TCP-12

TEMPORARY ROCK CHECK DAM
NOT TO SCALE

POST SIZE, MATERIAL AND SPACING CHART		
	WITHOUT BACKING	WITH BACKING
MIN. LENGTH = L	58"	58"
MIN. HEIGHT = H	16"	30"
MAX. SPACING = S	6'-0"	6'-0"
MATERIAL	2.25 - 2.25" PINE OR 1.25 LB./FT. STEEL	1.25 LB./FT. STEEL
	WITHOUT BACKING	WITH BACKING
TENSILE STRENGTH (LBS. MIN.) (1) (ASTM D-4632)	WARP - 120 FILL - 100	WARP - 310 FILL - 200
ELONGATION (% MAX.) (ASTM D-4632)	20	---
AOS (APPARENT OPENING SIZE) (MAX. SIEVE SIZE) (ASTM D-4751)	#30	#70
FLOW RATE (GAL./MIN./SQ. FT.) (GDT-87) (MAX.)	4	18
ULTRAVIOLET STABILITY (2) (ASTM D-4632 AFTER 300 HOURS WEATHERING IN ACCORDANCE WITH ASTM D-4355)	70	90
BURSTING STRENGTH (PSI MIN.) (ASTM D-3786 DIAPHRAGM BURSTING STRENGTH TESTER)	250	400
MINIMUM FABRIC WIDTH (INCHES) = F+6"	26"	38"
(1) MINIMUM ROLL AVERAGE OF FIVE SPECIMENS. (2) PERCENT OF REQUIRED INITIAL MINIMUM STRENGTH. (3) PROVIDE WIRE FABRIC BACKING FOR TYPE C.		



ELEVATION



SECTION

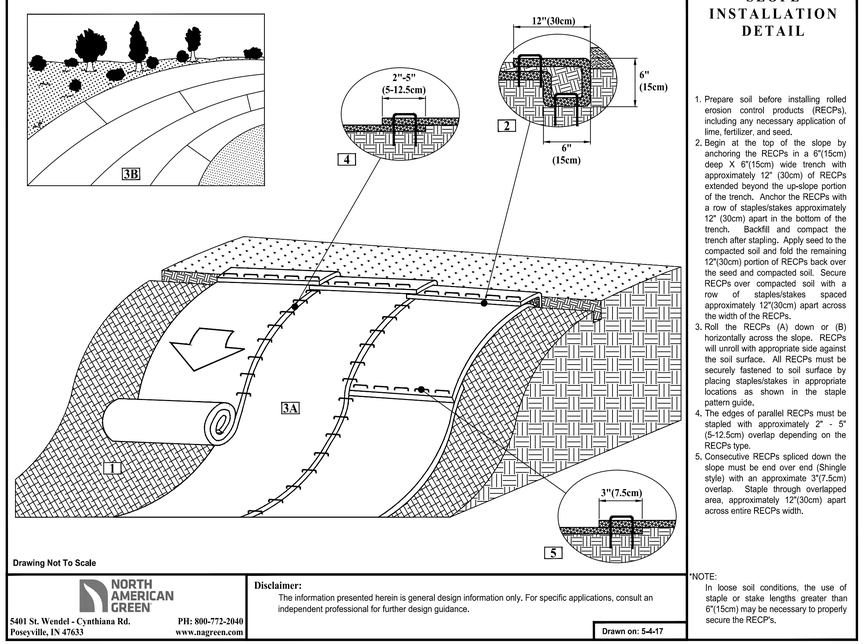
NOTES:
1. USE SILT FENCE WITHOUT BACKING UNLESS OTHERWISE NOTED.
2. SILT FENCE SHALL BE INSTALLED USING A MECHANICAL TRENCHING MACHINE.
3. FABRIC, IN AREAS WHERE ROCK PROHIBITS PROPER EMBEDMENT, SHALL BE SECURED BY PLACING CLEAN CRUSHED STONE OR SAND ALONG THE BASE OF THE FENCE, 20 POUNDS OF STONE OR SAND, PER FOOT, MIN.
4. FILTER FABRIC SHALL BE FASTENED TO WOODEN POSTS WITH A MINIMUM OF FIVE, 17 GAUGE (¾" WIDE X 1½" LONG) WIRE STAPLES.
5. FILTER FABRIC SHALL BE FASTENED TO STEEL POSTS WITH A MINIMUM OF FIVE WIRES OR PLASTIC ZIP TIES WITH A MINIMUM OF 50 LBS TENSILE STRENGTH.
6. CONTRACTOR SHALL PERIODICALLY REMOVE ACCUMULATED SEDIMENT WHEN SEDIMENT DEPTH REACHES 12".

08 C5.5

METRO TCP-13

TEMPORARY SILT FENCE WITH BACKING
NOT TO SCALE

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042



Drawing Not To Scale

NORTH AMERICAN GREEN
5401 St. Wendel - Cynthiana Rd. PH: 800-772-2040
Poseyville, IN 47633 www.nagreen.com

Disclaimer:
The information presented herein is general design information only. For specific applications, consult an independent professional for further design guidance.

Drawn on: 5-4-17

SLOPE INSTALLATION DETAIL

1. Prepare soil before installing rolled erosion control products (RECPs), including any necessary application of lime, fertilizer, and seed.
2. Begin at the top of the slope by anchoring the RECPs in a 6"(15cm) deep X 6"(15cm) wide trench with approximately 12" (30cm) of RECPs extended beyond the up-slope portion of the trench. Anchor the RECPs with a row of staples/stakes approximately 12" (30cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and fold the remaining 12"(30cm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/stakes spaced approximately 12"(30cm) apart across the width of the RECPs.
3. Roll the RECPs (A) down or (B) horizontally across the slope. RECPs will unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide.
4. The edges of parallel RECPs must be stapled with approximately 2" - 5" (5-12.5cm) overlap depending on the RECPs type.
5. Consecutive RECPs spliced down the slope must be end over end (Shingle style) with an approximate 3"(7.5cm) overlap. Staple through overlapped area, approximately 12"(30cm) apart across entire RECPs width.

*NOTE:
In loose soil conditions, the use of staple or stake lengths greater than 6"(15cm) may be necessary to properly secure the RECP's.

06 C5.5

SLOPE INSTALLATION DETAIL
NOT TO SCALE

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770



SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

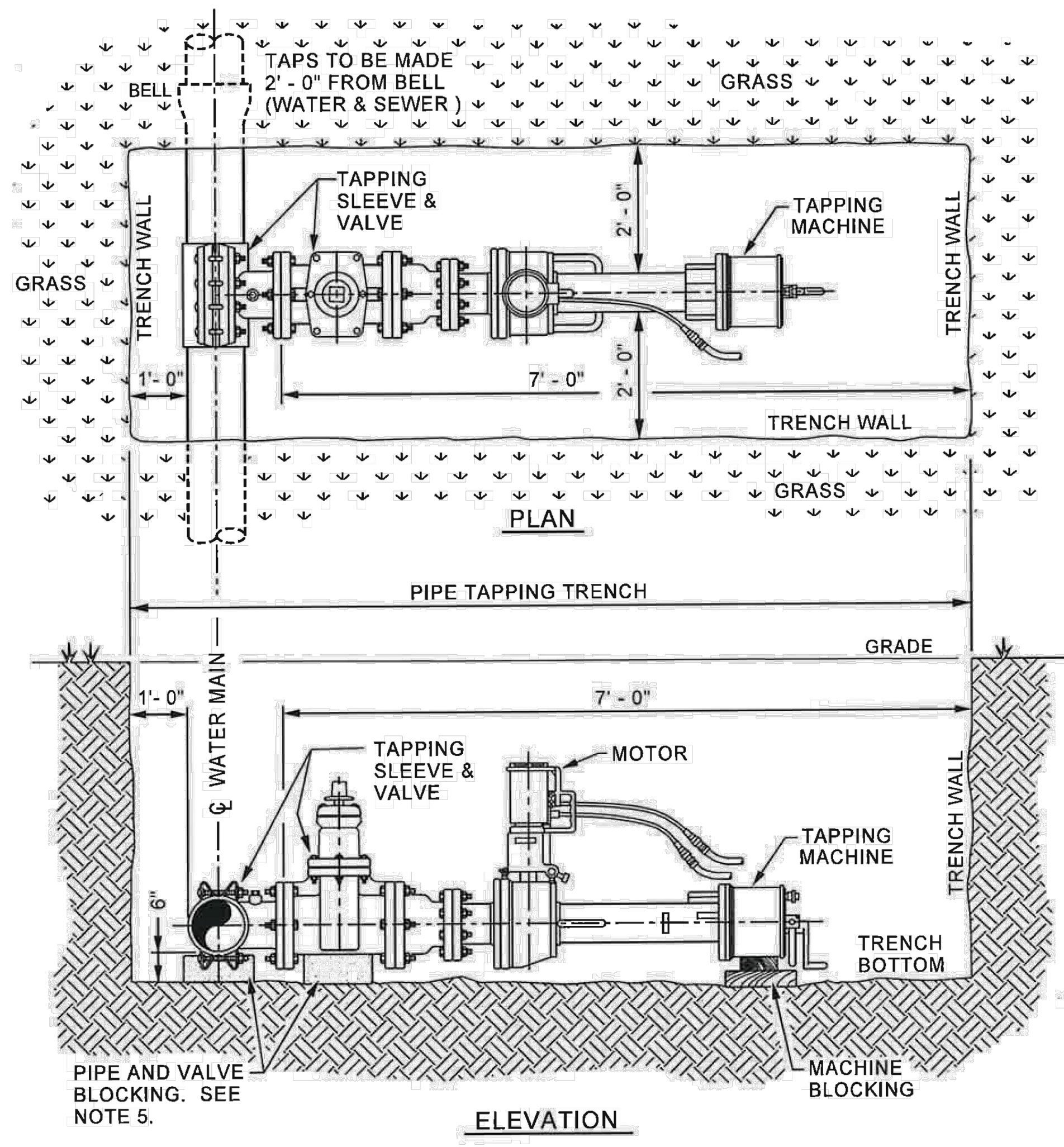
DR.	DATE	DESCRIPTION
CCH	06/10/2025	PERMIT SET
CCH	06/27/2025	PERMIT SET
MMD	07/24/2025	AGENCY COMMENTS
BD	11/10/2025	AGENCY COMMENTS
CCH	01/19/2026	AGENCY COMMENTS
CCH	01/30/2026	AGENCY COMMENTS
MMD	03/06/2026	AGENCY COMMENTS

SITE DETAILS

C5.5

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Friday, March 6, 2026
P:\1411 Rivergate Infrastructure\01 - Infrastructure and Mass Grading\02 - Cad\Sheets\1411-01_C5.5_Site Details.dwg



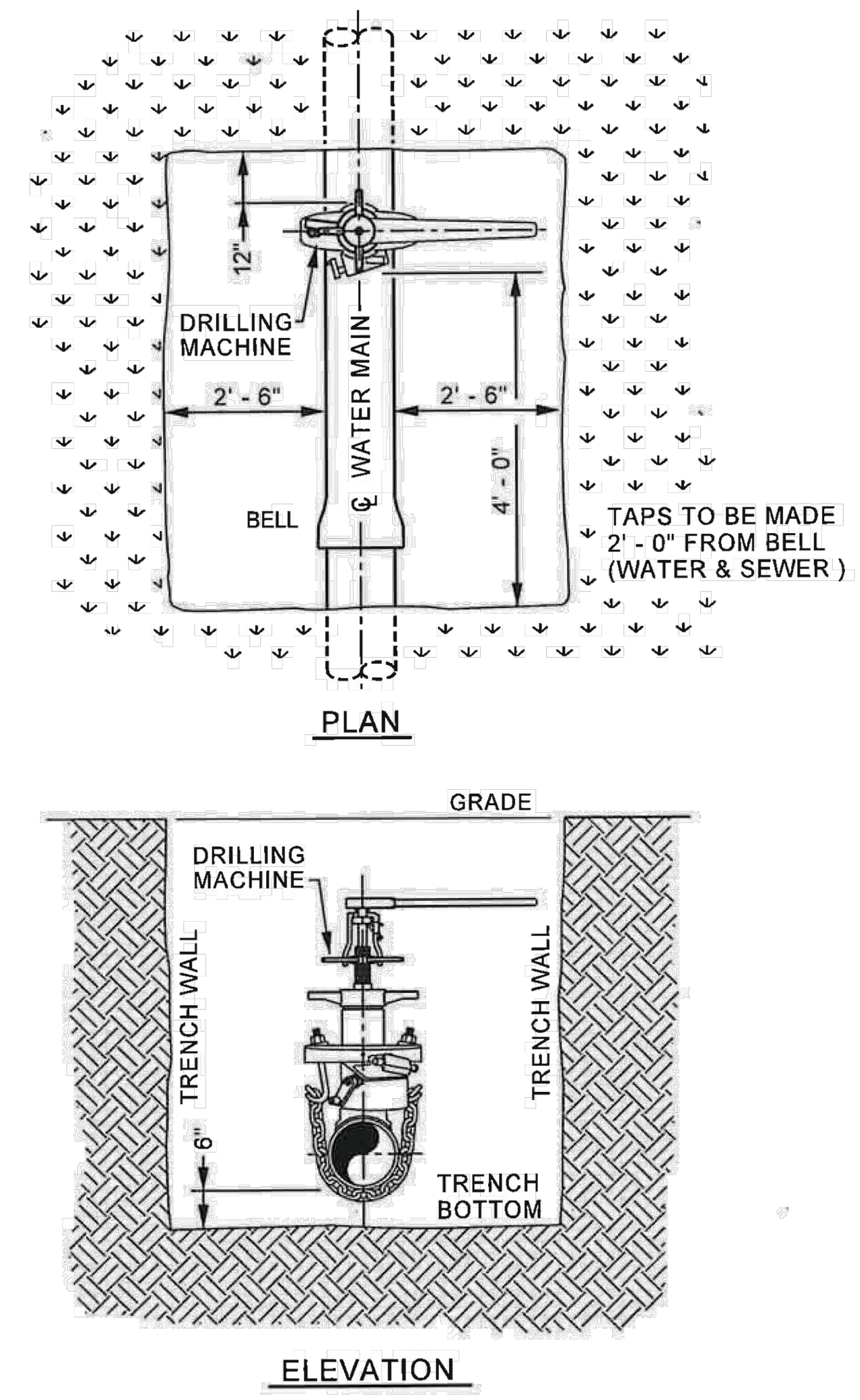
NOTES:

1. ALL TRENCHES 5' - 0" DEEP OR MORE SHALL HAVE SHORING OR TRENCH BOX TO FOLLOW ALL O.S.H.A. AND T.O.S.H.A. REGULATIONS.
2. THE CONTRACTOR SHALL PROVIDE LADDER FOR ACCESS TO THE EXCAVATED PIPE AND GRAVEL IF THE TRENCH IS MUDDY WHILE THE M.S.U.D. CREW IS ON SITE.
3. ALL TRENCHES FOR TAPPING SHALL BE 4' - 0" WIDE OR GREATER. 4' - 0 " OF PIPE IS TO BE EXPOSED WITH 1' - 0" CLEARANCE BEHIND THE PIPE AND 6" UNDER THE PIPE.
4. ALL TAPPING SLEEVES SHALL BE FORD - STAINLESS STEEL "FAST" (DIAMETER) - (TAP SIZE) M.J. OR EQUIVALENT APPROVED BY M.S.U.D.
5. ALL BLOCKS UNDER THE TAPPING VALVE SHALL BE STANDARD CONCRETE FOOTING BLOCKS.
6. ALL WATER SERVICE LINES AND VALVE BOXES SHALL BE IN GRASSY AREA (NOT IN DRIVEWAY OR SIDEWALK).

TENNESSEE ONE CALL
CALL BEFORE YOU DIG !
(615) 367-1110 1 (800) 351-1111
www.tnonecall.com
www.tenn811.com
Tennessee 811
Know what's below. Call before you dig.

MADISON SUBURBAN UTILITY DISTRICT
TAPPING MACHINE TRENCH DIMENSIONS
JVE / BWSC
Turner Professional Building
5100 Linbar Drive, Suite 106
Nashville, Tennessee 37211
SCALE: N.T.S. | SHEET NO. 1
DATE: 4/14/22
TSVPIT_SHEET_01

01 C5.6
TAPPING MACHINE TRENCH DIMENSIONS
NOT TO SCALE



NOTES:

1. ALL TRENCHES 5' - 0" DEEP OR GREATER SHALL HAVE SHORING OR TRENCH BOXES SET TO FOLLOW ALL O.S.H.A. AND T.O.S.H.A. REGULATIONS.
2. ALL TRENCHES FOR TAPPING SHALL BE 4' - 0" WIDE OR GREATER.
3. THE PLUMBER / CONTRACTOR SHALL PROVIDE APPROPRIATE SIZED SUMP PUMPS FOR EXCAVATED TRENCH DURING M.S.U.D. TAPPING PROCESS IF WATER IS PRESENT IN THE TRENCH.
4. THE PLUMBER / CONTRACTOR SHALL PROVIDE LADDER FOR ACCESS TO THE EXCAVATED PIPE AND GRAVEL IF THE TRENCH IS MUDDY WHILE THE M.S.U.D. CREW IS ON SITE.
5. ALL TAPS REQUIRE MINIMUM 6 INCH CLEARANCE UNDER MAIN FOR 4 FEET OF THE EXPOSED LINE.
6. ALL PUBLICLY OWNED WATER SERVICE LINES AND METER BOXES SHALL BE PLACED IN GRASSY AREA (NOT UNDER DRIVEWAYS).

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CALL BEFORE YOU DIG !
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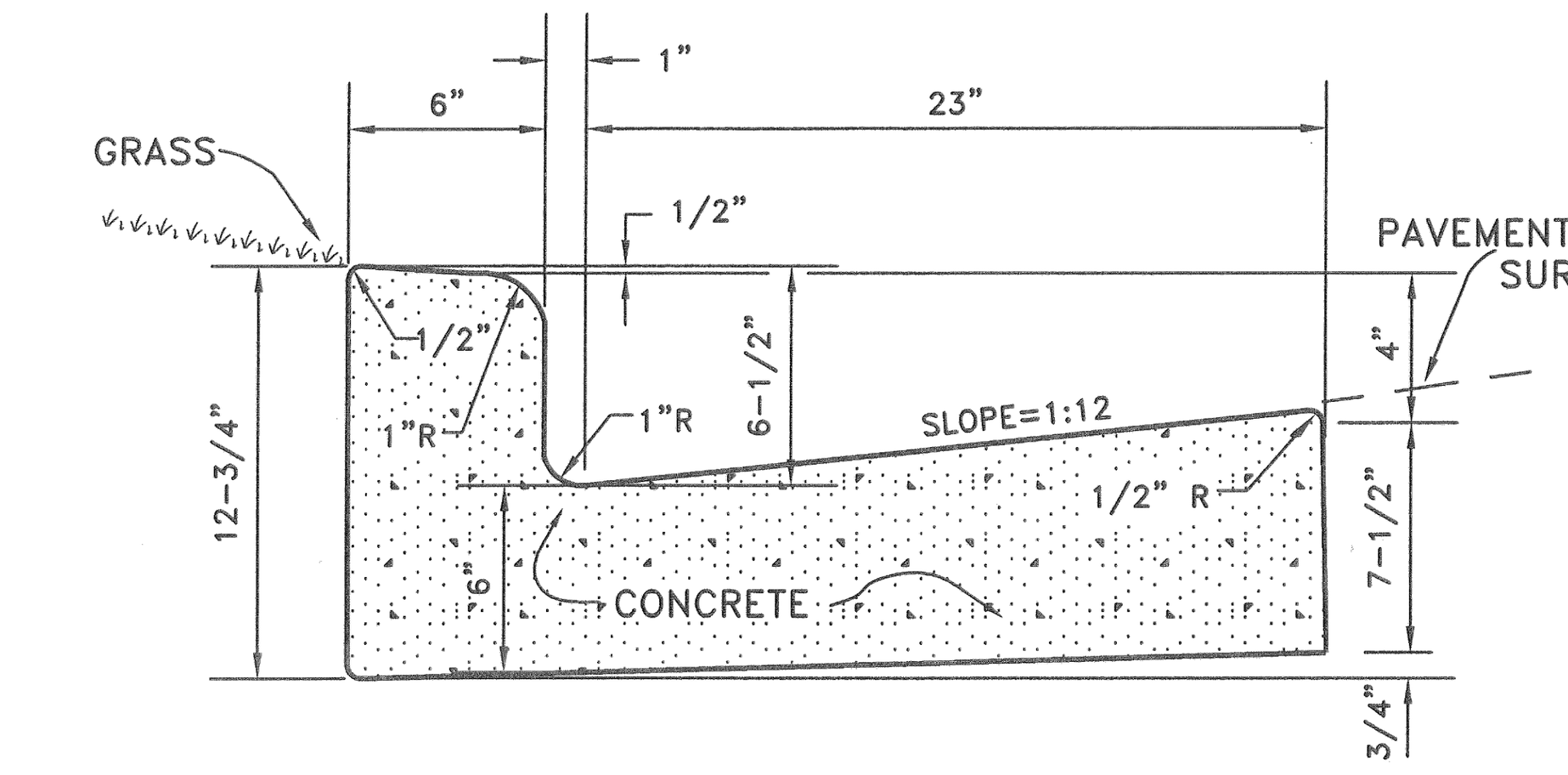
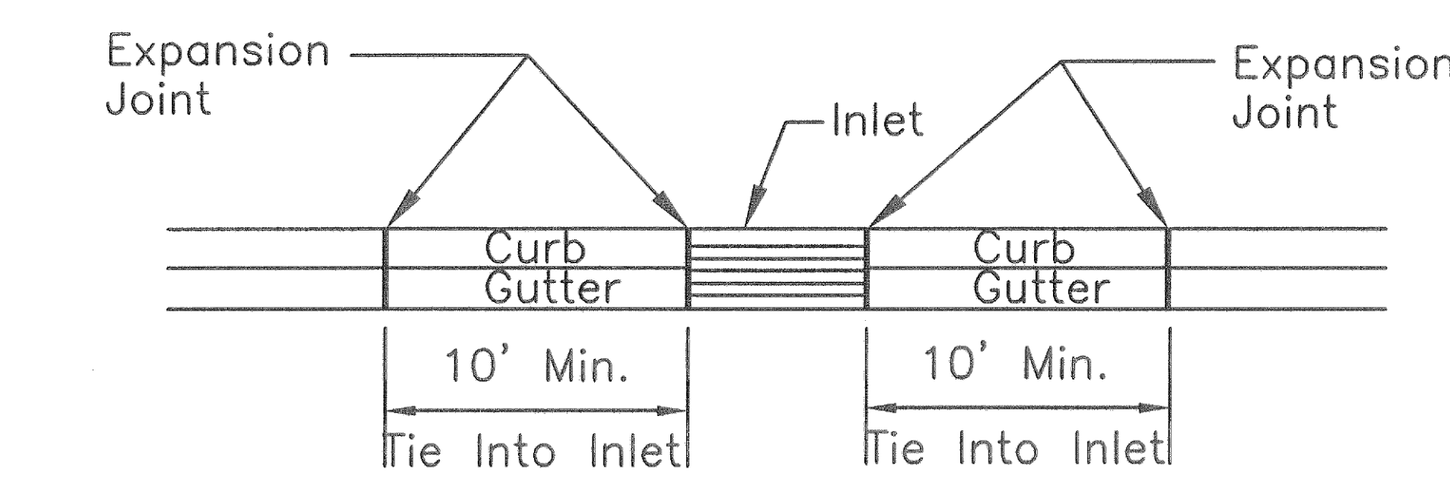
www.tnonecall.com
www.tenn811.com
Tennessee 811
Know what's below. Call before you dig.

MADISON SUBURBAN UTILITY DISTRICT
B101 DRILLING MACHINE TRENCH DIMENSIONS
JVE / BWSC
Turner Professional Building
5100 Linbar Drive, Suite 106
Nashville, Tennessee 37211
SCALE: N.T.S. | SHEET NO. 2
DATE: 5/3/22
B101PIT_SHEET_02

02 C5.6
B101 DRILLING MACHINE TRENCH DIMENSIONS
NOT TO SCALE



TYPICAL CROSS - SECTION



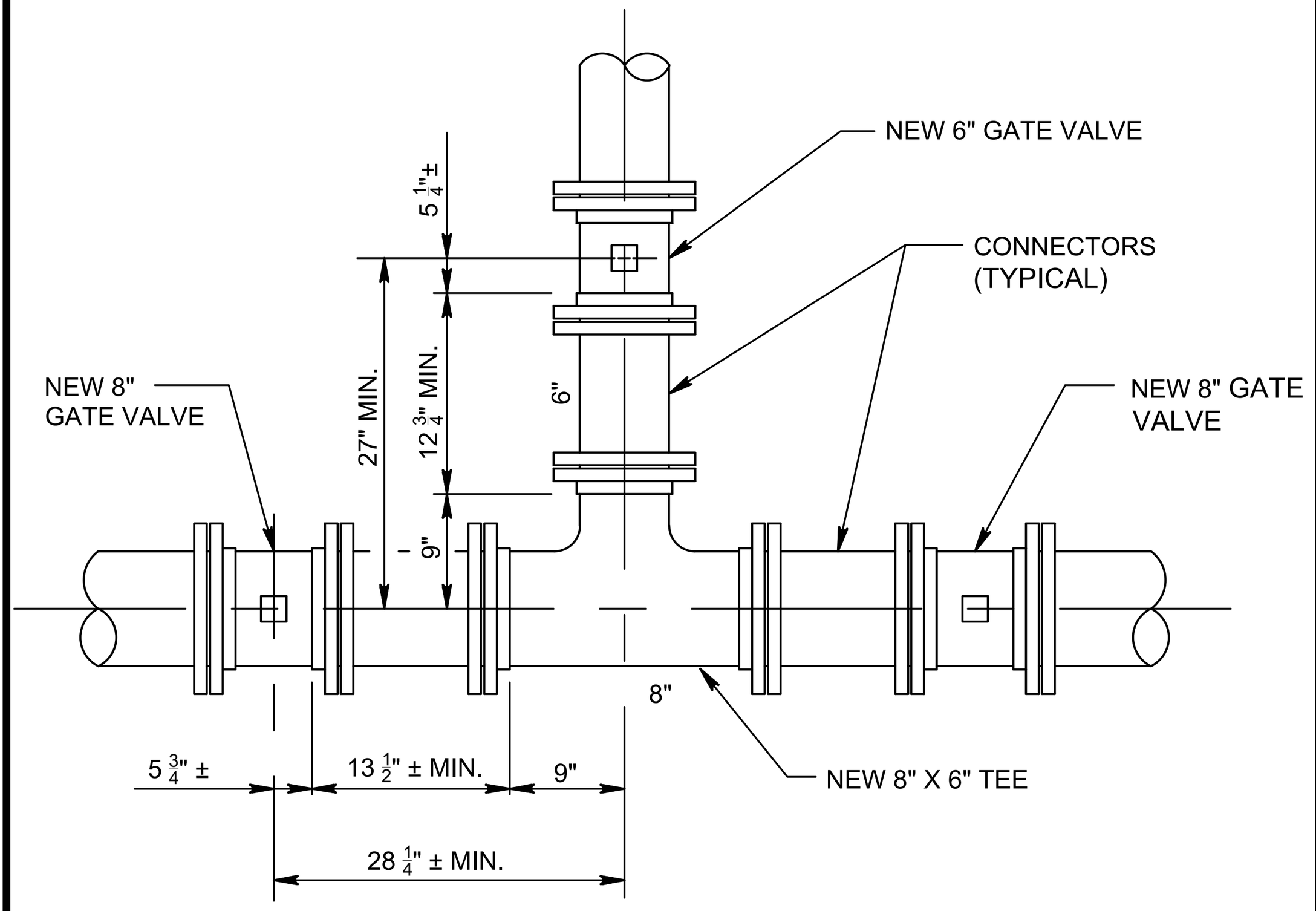
FRONT VIEW

GENERAL NOTES
1. Expansion joints to be spaced a maximum of 100 feet apart or as directed by the Engineer.
2. Expansion joints will also be required at tangent points, ramps, and inlets.
3. Contraction joints are to be cut into curb and gutter every 10 feet to a depth of D/4, where D equals the thickness of the section. The spacing of 10 feet may be reduced at closures but no section of curb and gutter shall be less than 10 feet.
4. There will be a minimum of 10 feet tie in at curb inlets on each side of the inlet. An expansion joint will be used on each side of the tie in.
5. Cost of contraction joints to be included in the unit bid price for concrete curb with gutter.

NOT TO SCALE

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY DEPARTMENT OF PUBLIC WORKS | STANDARD CURB WITH GUTTER | DWG. NO. ST-200
DIR. OF ENG.: Mark May DATE: 5/12/03 | REVISED: 07/21/00 REVISED: 05/02/03 REVISED:

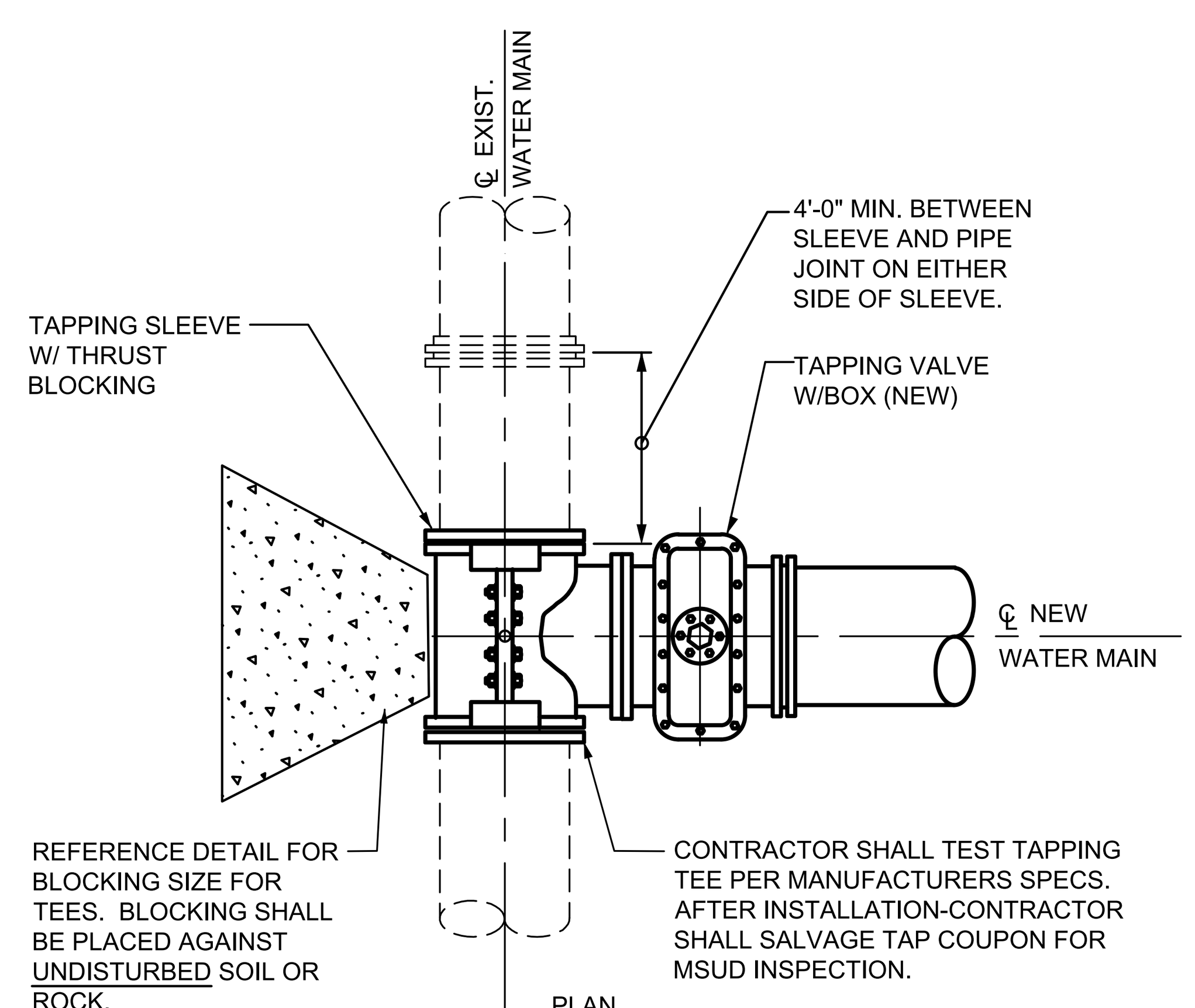
03 C5.6
ST-200 STANDARD CURB WITH GUTTER
NOT TO SCALE



NOTE: MEGA-LUG ALL VALVES. (3)

SEE NOTE 12, DWG MSUDET1 (4)

04 C5.6
TYPICAL VALVE SPACING
NOT TO SCALE

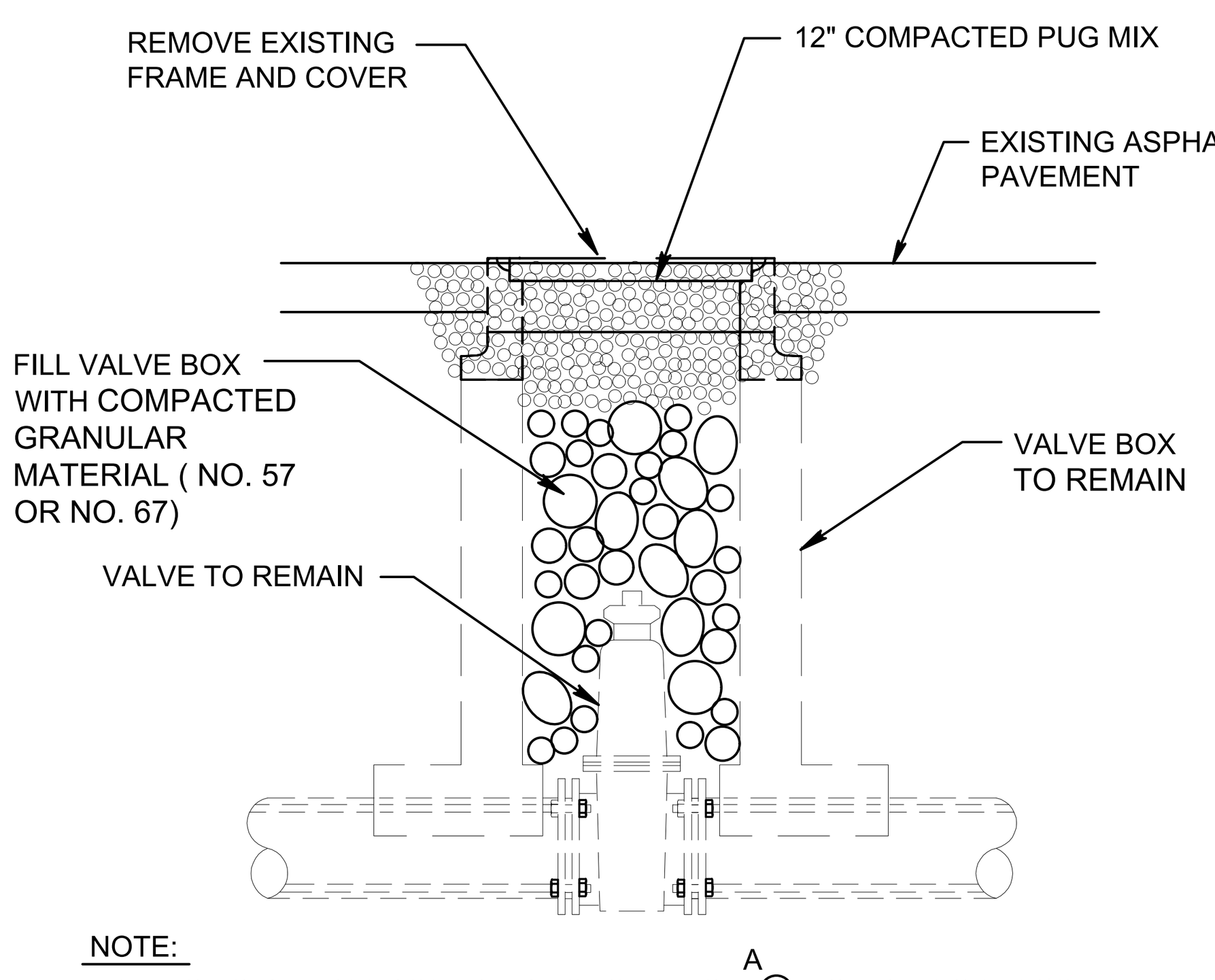


05 C5.6
TAPPING SLEEVE & VALVE
NOT TO SCALE

PUSH ON PIPE JOINT			
PIPE SIZE IN INCHES	MAXIMUM OFFSET IN INCHES LAYING LENGTH = 18 FEET	MAXIMUM OFFSET IN INCHES LAYING LENGTH = 20 FEET	MAXIMUM DEFLECTION ANGLE IN DEGREES
3	19	21	5
4	19	21	5
6	19	21	5
8	19	21	5
10	19	21	5
12	19	21	5
14	11	12	3
16	11	12	3
18	11	12	3
20	11	12	3
24	11	12	3
30	11	12	3
36	11	12	3
42	11	12	3
48	—	12	3
54	—	12	3
60	—	12	3

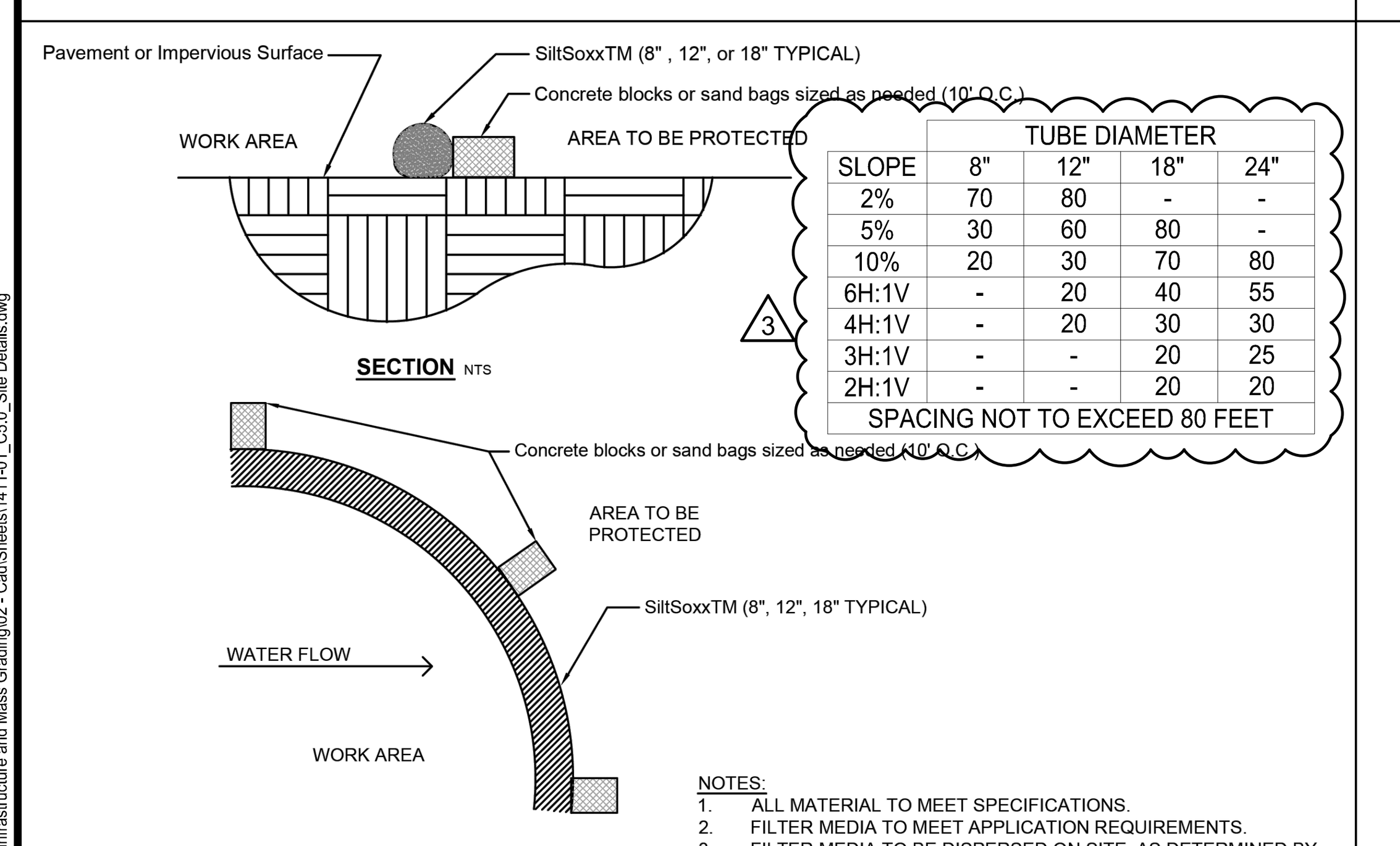
(3)

06 C5.6
MAXIMUM FULL LENGTH PIPE DEFLECTION
NOT TO SCALE



NOTE:
VALVES TO BE ABANDONED ARE SHOWN AS (A) ON PLANS (TYPICAL)

07 C5.6
EXISTING VALVES TO BE ABANDONED
NOT TO SCALE



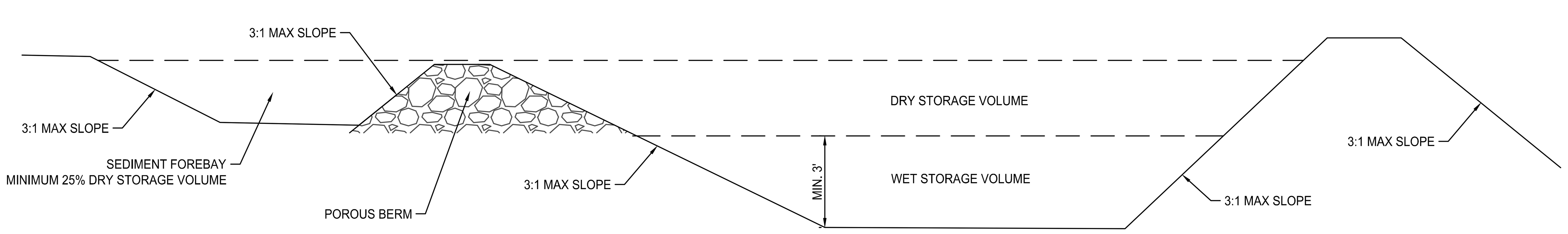
	TUBE DIAMETER			
SLOPE	8"	12"	18"	24"
2%	70	80	-	-
5%	30	60	80	-
10%	20	30	70	80
6H:1V	-	20	40	55
4H:1V	-	20	30	30
3H:1V	-	-	20	25
2H:1V	-	-	20	20
SPACING NOT TO EXCEED 80 FEET				

(3)

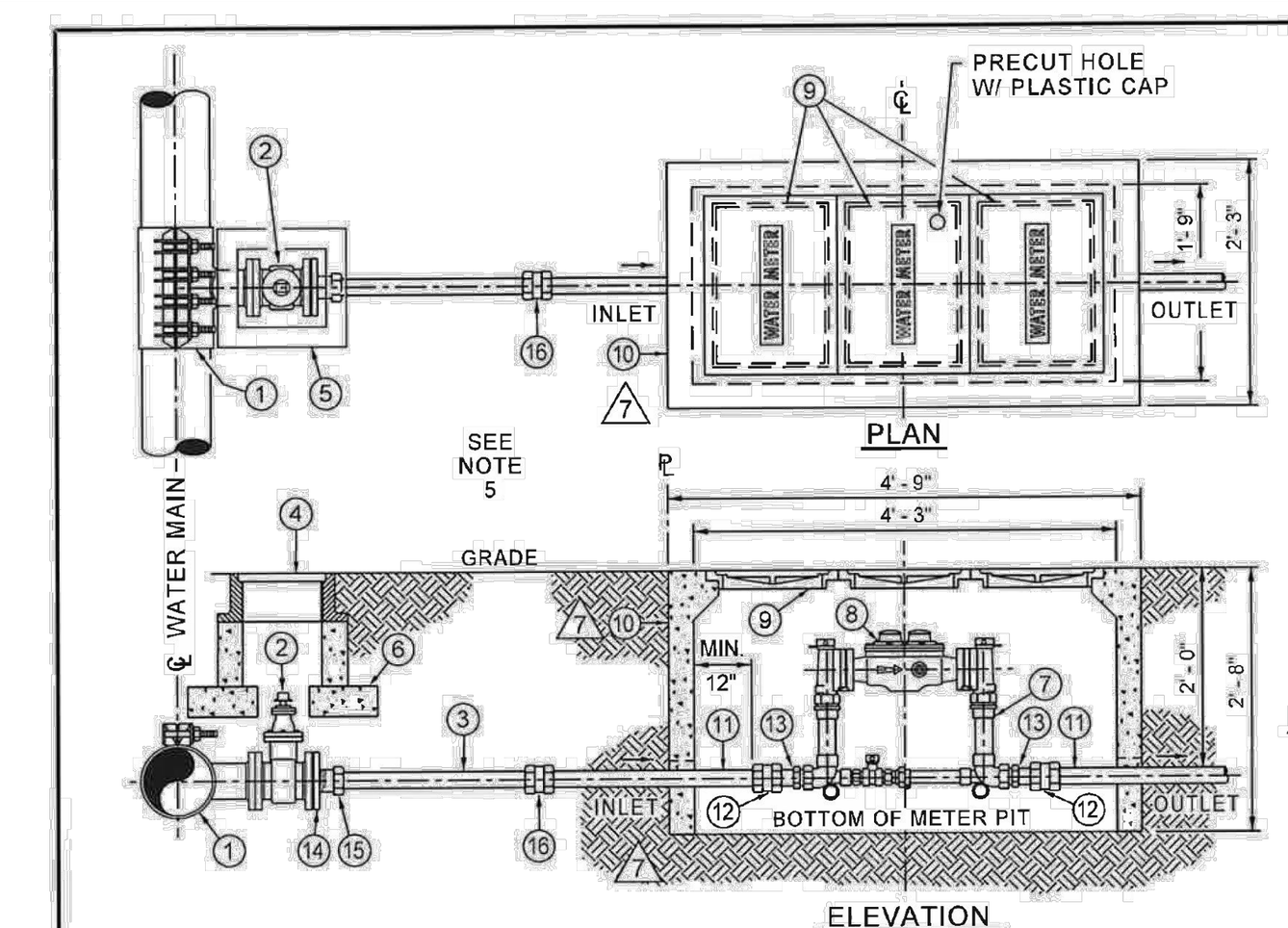
NOTES:
1. ALL MATERIAL TO MEET SPECIFICATIONS.
2. FILTER MEDIA TO MEET APPLICATION REQUIREMENTS.
3. FILTER MEDIA TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

SiltSoxxTM for Sediment Control on Pavement

08 C5.6
WEIGHTED SEDIMENT TUBE ON PAVEMENT
NOT TO SCALE



09 C5.6
SEDIMENT BASIN AND FOREBAY
NOT TO SCALE



MATERIAL SCHEDULE
1. TAPPING SLEEVE - PIPE SIZE BY 4" STAINLESS STEEL WRAP AROUND SLEEVE. (fordmeterbox.com)
2. 4" GATE VALVE FLG. x M.J. (TO BE BOLTED TO TAPPING SLEEVE) OPEN LEFT, RESILENT WEDGE, 2" SQUARE OPERATIONG NUT.
3. 2" 'K' TYPE COPPPER
4. C.I. VALVE BOX FRAME AND COVER (1) JOHN BOUCHARD #8006 NASHVILLE STANDARD OR APPROVED EQUAL
5. VALVE BOX, PRE-CAST CONCRETE (1)
6. 12"x 12"x 4" CONCRETE VALVE BOX FOOTING (4)
7. 2" COPPER SETTER - FORD VV77-12B-11-77 WITH BY-PASS, FEMALE IRON PIPE INLET AND OUTLET SERVICE CONNECTIONS ANGLE METER VALVES INLET AND OUTLET 12" HEIGHT.
8. 2" NEPTUNE RADIO READ WITH ANTENNA. (CUSTOMER SHALL PICK UP FROM M.S.U.D.). CUSTOMER IS RESPONSIBLE FOR METER DELIVERY
9. C.I. METER BOX FRAME AND COVER (3) ONE (1) WITH PRECUT HOLE. JOHN BOUCHARD #8110 NASHVILLE STANDARD OR APPROVED EQUAL (CANNOT SAY "METRO").
10. 2" METER BOX (NO BASE), PRE-CAST CONCRETE JARRET CONCRETE - 2012 TN12, ASHLAND CITY, TN, 37015- PHONE 615.792.9332
11. 2" X 20" BRASS NIPPLE
12. 2" BRASS UNION
13. CONNECTIONS TO COPPERSETTER: USE SMALL BRASS NIPPLE
14. 4" PLUG M.J. WITH 2" THREAD HOLE
15. 2" MALE THREADED BY 2" COMPRESSION FITTING
16. 2" FEMALE X FEMALE THREADED COUPLING
17. ALL BACKFILL SHALL BE #57 STONE.

NOTES:
1. ALL WORK TO BE INSPECTED BY M.S.U.D. AFTER WORK IS COMPLETE AND BEFORE BACKFILLING.
2. ALL WATER METERS SHALL BE PLACED OUTSIDE OF ANY PAVED AREA SUCH AS DRIVEWAYS, ROADS, ETC. METER BOX NEEDS TO BE 1" ABOVE FINISHED GRADE. PLACE METER IN GREEN SPACE.
3. CONNECTIONS: ALL COPPER CONNECTIONS AND FITTINGS WILL BE COMPRESSION. USE TEFLON TAPE OR JOINT COMPOUND ON ALL THREADED CONNECTIONS.
4. WASHERS WILL BE FIBER OR RUBBER
5. THERE SHALL BE A MINIMUM DISTANCE OF 3'- 0" BETWEEN THE OUTER EDGE OF THE METER BOX AND ANY OTHER UTILITIES, OR ABOVE-GROUND OR BELOW-GROUND STRUCTURES.
6. CONTACT M.S.U.D. FOR INFORMATION ON ITEM 8 IN THE MATERIAL SCHEDULE ABOVE. (2" NEPTUNE METER)
7. COPPER LINE SHALL BE ONE PIECE FROM VALVE TO FIRST COUPLING AND FROM COUPLING TO COPPER SETTER.
8. CROSS STREET WILL ADD 2" GATE VALVE ON M.S.U.D. SIDE OF BOX.

2" TAP & METER SAME SIDE AS MAIN

MADISON SUBURBAN UTILITY DISTRICT
2" METER INSTALLATION
JVE / BWSC
3414 Old Franklin Road
Antioch, Tennessee 37013
SCALE: N.T.S. | SHEET NO. 3
DATE: 12/20/02
M_SHEET_03
REVISED: 5/13/24 PER M.S.U.D. (7)

10 C5.6
2 INCH METER
NOT TO SCALE

FINAL SP: 2025SP-017-002
MWS SWGR: 2025057042

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

SITE PLANS FOR:
RIVERGATE INFRASTRUCTURE PLANS
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

DR.	DATE	DESCRIPTION
CCH	01/28/2026	AGENCY COMMENTS
CCH	02/10/2026	AGENCY COMMENTS
MMD	03/06/2026	AGENCY COMMENTS

SITE DETAILS

C5.6

1411-01 RIVERGATE INFRASTRUCTURE PLANS

Friday, March 6, 2026
Z:\1411_Rivergate Campus\01 - Infrastructure and Mass Grading\02 - Cad\Sheets\1411-01_C5.0_Site Details.dwg

GENERAL LANDSCAPE NOTES

1. LANDSCAPE WORK SHALL INCLUDE, BUT IS NOT LIMITED TO, THE SUPPLYING OF ALL PLANT MATERIALS SPECIFIED, THE FURNISHING OF ALL LABOR, EQUIPMENT WATER, ELECTRICITY, EQUIPMENT AND ALL MATERIALS CALLED, INCLUDING ALL RELATED PREPARATION WORK REGARDING SITE INCONSISTENCIES AND SOIL ISSUES. THE WORK SHALL INCLUDE MAINTAINING OF ALL PLANTS AND PLANTING AREAS UNTIL FINAL ACCEPTANCE BY THE OWNER. THE LC SHALL ASSIGN A QUALIFIED PROJECT MANAGER AND FIELD SUPERVISOR TO WORK DIRECTLY WITH THE LA AND SUPERVISE THE WORK AT ALL TIMES THROUGH FINAL OWNER ACCEPTANCE.

2. ALL LANDSCAPE WORK SHALL COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES. PERMITTING IS THE RESPONSIBILITY OF THE CONTRACTOR.

3. VERIFICATION OF EXISTING CONDITIONS IS THE RESPONSIBILITY OF THE CONTRACTOR. THIS INCLUDES BUT IS NOT LIMITED TO: SOIL CONDITIONS, UTILITIES (UNDERGROUND AND ABOVE GROUND), EXISTING STRUCTURES, ETC.

4. THE CONTRACTOR SHOULD BE COMPLETELY FAMILIAR WITH LANDSCAPE PLANS PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES, POTENTIAL PROBLEMS, ETC. SHOULD BE MADE KNOWN TO THE LA PRIOR TO COMMENCEMENT OF WORK

5. ALL REASONABLE SAFEGUARDS ARE TO BE TAKEN IN ORDER TO PROTECT EXISTING STRUCTURES, PAVEMENT, FURNISHINGS, LAWN AND LANDSCAPING. THE CONTRACTOR IS RESPONSIBLE FOR DAMAGE THAT OCCURS AS A RESULT OF CONTRACTOR NEGLIGENCE.

6. EXISTING OR PROPOSED DRAINAGE PATTERNS ARE NOT TO BE DISTURBED BY THE CONTRACTOR IN A WAY THAT IS INCONSISTENT WITH THE LANDSCAPE PLANS.

7. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK TO BE PERFORMED WITH THE WORK OF OTHER SUBCONTRACTORS ON THE SITE, INCLUDING SCHEDULING AND PHYSICAL INTERFERENCE.

8. THE CONTRACTOR MUST CONFIRM THE AVAILABILITY OF ALL SPECIFIED PLANT MATERIAL PRIOR TO THE COMMENCEMENT OF WORK. THE CONTRACTOR SHALL ARRANGE FOR APPROVAL FOR PLANT MATERIALS BY THE LA VIA FIELD VISITS/TAGGING AND OR SUBMISSION OF PLANT SAMPLES AT THE DISCRETION OF THE LA.

9. ALL PLANT MATERIAL SHALL MEET OR EXCEED THE 2014 AMERICAN STANDARDS FOR NURSERY STOCK (ANSI Z60.1-2014) AS ESTABLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMAN AND APPROVED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE INC.

10. ALL PLANT MATERIAL SIZES SPECIFIED ARE MINIMUM SIZES. ALL CONTAINER AND TREE CALIPER SIZES ARE MINIMUM. CONTAINER OR CALIPER SIZE MAY BE INCREASED IF NECESSARY TO PROVIDE OVERALL PLANT SIZE SPECIFIED.

11. CONTRACTOR TO PROVIDE PICTURES OF ALL PLANT MATERIAL WITH DIMENSIONS FOR APPROVAL. ALL PLANT MATERIAL SHALL BE SUBJECT TO APPROVAL AT THE JOB SITE BY THE LA PRIOR TO INSTALLATION. WHEN DELIVERED PLANT MATERIAL DOES NOT COMPLY WITH THE REQUIREMENTS, THE LA RESERVES THE RIGHT TO REJECT SUCH PLANTS AND REQUIRE THE LC TO REPLACE REJECTED WORK AND CONTINUE SPECIFIED MAINTENANCE UNTIL RE-INSPECTED AND FOUND TO BE ACCEPTABLE. THE LC SHALL REMOVE REJECTED PLANTS AND MATERIALS FROM THE PLANTING SIT WITHIN 72 HOURS AND REPLACE WITH ACCEPTABLE MATERIAL THE COST OF LC.

12. NO PLANT SUBSTITUTIONS WILL BE PERMITTED WITHOUT PRIOR WRITTEN APPROVAL FROM THE LA. ANY SUBSTITUTIONS MUST BE SUBMITTED IN WRITING ACCOMPANIED BY PICTURES OR SAMPLES FOR APPROVAL BY THE LA PRIOR TO INSTALLATION.

13. ALL SHRUB BEDS SHALL BE TILLED TO MINIMUM DEPTH OF 4-6". PLANTING BEDS TO BE SEPARATED FROM LAWN AREAS AND HARDSCAPES WITH A 3" DEEP EXCAVATED TRENCH. THE TRENCH SHALL HAVE A VERTICAL FACE AGAINST THE LAWN AREA OR ADJACENT HARDSCAPE, AND A GENTLY TAPERED EDGE LEADING INTO THE SHRUB BED.

14. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE SOIL IN ALL PLANTED AREAS IS OF AN APPROPRIATE TYPE AND CONSISTENCY FOR PLANTING AND AT THE CORRECT PH. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING SOIL AND SUITABILITY, AND ANY NECESSARY AMENDMENTS SHOULD BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE LA.

15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING EXISTING VEGETATION AS REQUIRED AND PREPARING PLANTING AREAS PRIOR TO INSTALLATION OF PLANT MATERIALS.

16. THE CONTRACTOR SHALL TEST PROJECT SOILS TO VERIFY THAT THE SOILS ON-SITE ARE ACCEPTABLE FOR PROPER GROWTH OF PLANT MATERIALS AND ADEQUATE DRAINAGE IN PLANT BEDS AND PLANTERS. THE CONTRACTOR SHALL COORDINATE THE LOCATION, AND PROCUREMENT OF EXISTING ON-SITE SOIL SAMPLES WITH THE LANDSCAPE ARCHITECT. REPRESENTATIVE SAMPLES SHALL BE SUBMITTED TO A CERTIFIED TESTING LABORATORY FOR ANALYSIS. THE FINDINGS, TOGETHER WITH RECOMMENDATIONS FOR AMENDING THE SOILS SHALL BE REVIEWED AND APPROVED BY THE OWNER AND LANDSCAPE ARCHITECT PRIOR TO DELIVERY AND INSTALLATION OF PLANT MATERIALS AT THE JOB.

17. ALL PLANTING BEDS SHALL BE STAKED AND OR PAINTED BY THE LC FOR APPROVAL BY THE LA PRIOR TO PLANT INSTALLATION. TREES SHALL BE LOCATED WITH STAKES OR FLAGS FOR APPROVAL BY THE LA PRIOR TO INSTALLATION.

18. ALL PROPOSED TREES SHALL BE INSTALLED EITHER ENTIRELY IN OR ENTIRELY OUT OF PLANTING BEDS. PLANTING BED OUTLINES SHALL NOT BE OBSTRUCTED AND SHALL BE SMOOTH AND FLOWING. IF TREES ARE LOCATED OUTSIDE PLANTING BEDS IN SOD AREAS, MAINTAIN A MINIMUM 3' WIDE OFFSET.

19. THE PLANT QUANTITIES REPRESENTED ON THE LANDSCAPE CONTRACT DOCUMENTS ARE FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES AND REPORTING ANY DISCREPANCIES TO THE LANDSCAPE ARCHITECT FOR CLARIFICATION PRIOR TO CONTRACT AWARD AND COMMENCEMENT OF WORK.

20. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE AMOUNT OF SOD OR SEED REQUIRED TO INSTALL LAWN AREAS ACCORDING TO THE LANDSCAPE PLANS. ANY ADDITIONAL SOD OR SEEDED AREAS ADDED TO THE PLANS DURING THE INSTALLATION PROCESS SHALL BE PROVIDED BY THE CONTRACTOR AT A MUTUALLY AGREED UPON SQ. FT. UNIT COST. AREAS TO BE SODDED OR SEEDED SHALL BE AMENDED PER SOILS REPORT TO PROVIDE REQUIRED NUTRIENTS AND SOIL PH OF BETWEEN 6.0 AND 7.0.

21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY AND PLUMB CONDITION OF ALL INSTALLED PLANT MATERIALS AND REPLACING ANY DAMAGED PLANT MATERIAL WITH PLANTS OF EQUAL KIND, SIZE AND CONDITION AT NO ADDITIONAL COST TO THE OWNER. NO CHAINS OR CABLES ATTACHED TO THE TRUNK SHALL BE USED WHEN INSTALLING PLANT MATERIALS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PREVENT PLANTS AND TREES FROM FALLING OR BEING BLOWN OVER, AND TO REPLACE ALL PLANTS WHICH ARE DAMAGED DUE TO INADEQUATE GUYING OR STAKING, AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL REMOVE ALL STAKING MATERIALS THE END OF THE WARRANTY PERIOD AND DISPOSE OFFSITE.

22. ALL PLANTING BEDS SHALL BE MULCHED WITH A 4" LAYER OF MULCH AS SPECIFIED. ALL TREES SHALL HAVE A 4" THICK MUCH RING PLACED AROUND THE BASE OF THE TRUNK. THE LANDSCAPE SCOPE OF WORK INCLUDES MULCHING AS AN INTEGRAL PART OF THE PROJECT.

23. LANDSCAPE PLANTING AREAS SHALL BE STABILIZED AND MAINTAINED WITH SEED, SOD, GROUND COVERS, MULCHES OR OTHER APPROVED MATERIALS TO PREVENT SOIL EROSION AND ALLOW RAINWATER INFILTRATION. WHEN POSSIBLE, NATIVE GROUND COVER SHALL BE UTILIZED.

24. GROUNDCOVER MAY BE PLANTED OR INSTALLED WITHIN ANY UTILITY OR DRAINAGE EASEMENT. TREES AND SHRUBS MAY REQUIRE APPROVAL BY THE EASEMENT HOLDER.

25. IN AREAS THAT REQUIRE CANOPY TREES WHERE OVERHEAD UTILITIES PREVENT THE USE OF CANOPY TREES, UNDER STORY TREES MAY BE SUBSTITUTED. MULTI-STEMMED UNDER STORY TREES MAY BE USED PROVIDED THEY MEET THE MINIMUM SIZE AT TIME OF PLANTING.

26. ALL PLANT MATERIALS SHALL RECEIVE ADEQUATE WATERING BY THE CONTRACTOR AS REQUIRED UNTIL THE LANDSCAPE IRRIGATION SYSTEM IS FULLY OPERATIONAL AND UNTIL FINAL ACCEPTANCE BY OWNER.

27. ALL EXISTING PLANT BEDS TO REMAIN WITHIN THE CONSTRUCTION LIMIT LINE SHALL BE LEFT UNDISTURBED. EXISTING TREES TO REMAIN, AS NOTED ON THE DRAWINGS, SHALL BE LEFT UNDISTURBED AND PROTECTED BY BARRICADES ERECTED AT THE PERIMETER OF THE TREE DRIP LINE(S). NO VEHICLE SHALL TRAVERSE THIS AREA NOR SHALL ANY STORAGE OF MATERIALS OR EQUIPMENT BE PERMITTED WITHIN THE AREA OF THE TREE DRIPLINE(S). ANY EXISTING PLANT BEDS OR TREES DAMAGED BY CONSTRUCTION ACTIVITY SHALL BE REPLACED BY THE RESPONSIBLE PARTY AT THEIR OWN EXPENSE.

28. ALL NEW WORK THAT IS TO BE DONE IN TREE SAVE AREAS SHALL BE DONE BY HAND, INCLUDING CLEARING & GRUBBING, SITE PREP, GRADING, TRENCHING, AND PLANTING. THERE SHOULD BE NO TILLING WITHIN THE TREE SAVE AREA. ALL TRENCHING TO BE OUTSIDE OF DRIP LINE OF EXISTING TREES TO BE SAVED. IF TRENCHING MUST OCCUR WITHIN THE CRITICAL ROOT ZONE, THEN TRENCHING SHOULD FOLLOW TREE PRESERVATION GUIDELINES FOR THE PROJECT OR LOCAL MUNICIPALITY.

29. STREET TREES ARE LOCATED WITHIN PUBLIC ACCESS AND UTILITY EASEMENTS. VERIFY ALL TREE LOCATIONS AGAINST FINAL UTILITY INSTALLATIONS AND ADJUST IN FIELD AS REQUIRED TO AVOID CONFLICTS. NOTIFY AND REVIEW ANY ADJUSTMENTS WITH THE LANDSCAPE ARCHITECT BEFORE PLANTING.

30. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING EFFECTIVE TRAFFIC CONTROL AND REMOVAL OF ALL DEBRIS OFF-SITE ON A DAILY BASIS.

31. QUANTITIES NECESSARY TO COMPLETE THE WORK ON THE DRAWING SHALL BE FURNISHED BY THE CONTRACTOR. QUANTITY ESTIMATES HAVE BEEN MADE CAREFULLY, BUT THE LANDSCAPE ARCHITECT ASSUMES NO LIABILITY FOR OMISSIONS OR ERRORS. QUANTITIES PROVIDED ON PLANS ARE ONLY AN AID FOR CLARIFICATION OF UNITS AND A CHECK FOR THE CONTRACTOR TO COMPARE WITH HIS OWN ESTIMATES. DIFFERENCES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO EXECUTION OF CONTRACT DOCUMENTS. NO EXTRA COMPENSATION SHALL BE ALLOWED FOR EXTRA QUANTITIES NECESSARY TO COMPLETE THE WORK AFTER EXECUTION OF THE CONTRACT DOCUMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF PLANT MATERIAL ACCORDING TO DRAWINGS.

32. WARRANTY: ALL PLANTS SHALL BE WARRANTED TO REMAIN ALIVE AND HEALTHY AND IN THRIVING CONDITION FOR ONE YEAR FROM THE DATE OF JOB ACCEPTANCE. PLANTS SHALL BE SPECIMEN QUALITY. PLANTS SHALL BE SOUND, HEALTHY AND VIGOROUS, WELL BRANCHED, AND DENSELY FOLIATED WHEN IN LEAF. SHOULD THE ONE YEAR WARRANTY PERIOD END DURING DORMANCY, THEN WARRANTY WILL EXTEND THROUGH SPRING. CONTRACTOR TO GUARANTEE ALL PLANT MATERIAL TO BREAK DORMANCY IN SPRING TIME.

33. HEIGHT AND SPREAD DIMENSIONS SPECIFIED REFER TO THE MAIN BODY OF THE PLANT AND NOT FROM BRANCH TIP TO TIP. IF A RANGE OF SIZE IS GIVEN, NO PLANT SHALL BE LESS THAN THE MINIMUM SIZE AND NOT LESS THAN 5 PERCENT OF THE PLANTS SHALL BE AS LARGE AS THE MAXIMUM SIZE SPECIFIED.

34. SHADE TREES SHALL BE STRAIGHT UNLESS OTHERWISE SPECIFIED. SEE SPECIFICATIONS FOR FERTILIZER AND AMENDMENT ADDITIVES.

35. THE TRUNK FLARE DEPTH FOR ALL TREES SHOULD BE VISIBLE AT +/- 2" ABOVE GRADE.

36. B&B MATERIAL SHALL BE SHIPPED IN BIODEGRABLE WIRE BASKETS, BURLAP, & STRAPPING.

37. WIRE BASKETS SHOULD HAVE TOP RUNG CUT AWAY FROM BASKET HORIZONTALLY, AND REMAINDER OF BASKET TO REMAIN. ALL STRAPPING SHOULD BE REMOVED AND DISPOSED OF AT TIME OF PLANTING.

38. ALL B&B TREES SHALL BE MOVED WITH STRAPPING CONNECTED TO WIRE BASKET ONLY, NEVER ATTACHED DIRECTLY TO TREE TRUNK. CONTAINER PLANTS SHALL BE MOVED IN A WAY THAT IS COMPLETELY SUPPORTED BY THE CONTAINER, NOT THE TREE TRUNK.

39. ALL TREES TO BE INSTALLED WITH MOST ATTRACTIVE SIDE FACING PREDOMINANT POINT OF VISIBILITY.

40. TREES SHALL BE A MINIMUM OF FIFTEEN FEET FROM LIGHT POLES AND TRANSFORMERS. TREES MAY BE CLUSTERED OR MOVED TO A MORE APPROPRIATE LOCATION IF LIGHT POLES OR TRANSFORMERS CONFLICT WITH TREE LOCATIONS, AS LONG AS ALL OTHER TREE LOCATION REQUIREMENTS ARE MET.

41. PLANTING NEAR FIRE HYDRANTS. TREE LOCATIONS NEAR FIRE HYDRANTS SHALL COMPLY WITH THE FIRE CODE, AS APPLICABLE. SHRUBS SHALL BE A MINIMUM OF FIVE FEET FROM A FIRE HYDRANT.

42. ALL LANDSCAPE BEDS TO BE EDGED AS SHOWN IN LANDSCAPE DETAILS.

43. THE CONTRACTOR TO ENSURE ALL TREE ROOTS BE STURDILY ESTABLISHED IN BALL THAT HAS BEEN TIGHTLY WRAPPED AND SECURELY TIED WITH TWINE OR WIRE, OR PINNED.

44. TREES SPECIFIED TO HAVE CLEAR TRUNK HEIGHT TO BE PURCHASED FROM THE NURSERY WITH SAID CLEAR TRUNK HEIGHT, NOT FIELD-PRUNED BY CONTRACTOR.

45. THE CONTRACTOR TO PROVIDE PRE-EMERGENT HERBICIDE IN ALL PLANTING BEDS WITH EXCEPTION OF SEEDED AREAS.

46. THE CONTRACTOR TO BACK-FILL ALL PLANTINGS WITH $\frac{2}{3}$ CULTIVATED EXISTING SOILS (FREE OF CLUMPS AND ROCKS) & $\frac{1}{3}$ PLANTING MIX.

47. THE CONTRACTOR TO PREP ALL PERENNIAL AND ANNUAL COLOR BEDS PER LANDSCAPE DETAILS AND APPLY MIRACLE GROW AND SLOW RELEASE FERTILIZER.

48. THE CONTRACTOR TO INSTALL ALL WARRANTY MATERIAL PER ORIGINAL LANDSCAPE NOTES & DETAILS IN PLANS.

49. THE CONTRACTOR TO PREP ALL SOD AREAS WITH SOD DRESSING AT A RATE OF 1 CY / PALLET SOD.

50. IF ANY PLANT MATERIAL DIES DUE TO INADEQUATE COVERAGE, CONTRACTOR WILL MODIFY THE IRRIGATION SYSTEM PRIOR TO REPLACING PLANTS, AT NO ADDITIONAL CHARGE TO THE OWNER.

LANDSCAPE SUBMITTALS:

1. SOIL SAMPLES:
   - 1.1. THE CONTRACTOR SHALL SUBMIT EXISTING SOIL SAMPLES FROM AREAS ON SITE, TO BE SELECTED BY THE LANDSCAPE ARCHITECT, AND FROM PROPOSED TOPSOIL STOCKPILE FOR PH TESTING, TO AN INDEPENDENT TESTING LABORATORY. A COPY OF THE REPORTS WILL BE MADE AVAILABLE TO THE LANDSCAPE ARCHITECT AS A PREREQUISITE FOR BEGINNING CONSTRUCTION.
   - 1.2. SUBMIT ONE (1) GALLON ZIPLOC BAG OF EACH PROPOSED PLANTING SOIL MIX.
   - 1.3. PLANTING SOIL MIX TEXT REPORT: SUBMIT RESULTS OF SOIL ANALYSIS BY A QUALIFIED SOIL-TESTING LABORATORY, FOR INFORMATION ONLY, OF EACH PLANTING SOIL MIX AS SPECIFIED. REPORT SHALL INCLUDE PERCENTAGES OF ORGANIC MATTER, PH LEVEL, MINERAL, MAJOR NUTRIENT, AND MICRO NUTRIENT CONTENT OF EACH MIX.
     - 1.3.1. STATE RECOMMENDED QUANTITIES OF NITROGEN, PHOSPHORUS, POTASH AND OTHER NUTRIENTS AND SOIL AMENDMENTS TO BE ADDED FOR SUITABLE GROWTH.

2. THE CONTRACTOR TO COORDINATE WITH OWNER AND GENERAL CONTRACTOR FOR NECESSARY POINTS OF CONNECTION FOR POWER AND WATER.

3. THE CONTRACTOR IS TO PROVIDE PHOTOGRAPHS OF ALL TREES, SHRUBS, & GROUNDCOVER MATERIAL TO LANDSCAPE ARCHITECT PRIOR TO DELIVERY TO JOB SITE FOR APPROVAL. PHOTOGRAPHS TO BE TAKEN FROM A VIEW THAT DEPICTING TRUE SIZE AND CONDITION OF THE TYPICAL PLANT TO BE FURNISHED. INCLUDE A SCALE ROD OR OTHER MEASURING DEVICE IN EACH PHOTOGRAPH. PROVIDE LOCATION AND SOURCE NURSERY.

4. THE CONTRACTOR WILL ACCOMPANY THE LANDSCAPE ARCHITECT TO THE SOURCE NURSERY TO SELECT AND TAG ALL TREES TO BE USED ON THE PROJECT.

5. THE CONTRACTOR TO SUBMIT A DETAILED IRRIGATION PLAN FOR APPROVAL PRIOR TO EXECUTION OF LANDSCAPE CONTRACT.

6. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH TWO (2) COMPLETE BOUND COPIES OF WRITTEN INSTRUCTIONS ON PROPER AND SUBSEQUENT CARE FOR THE PRESCRIBED MATERIALS AS A CONDITION FOR FINAL ACCEPTANCE. INCLUDE THIS INFORMATION IN THE "MAINTENANCE MANUAL" AS REQUIRED AND (1) DIGITAL COPY IN PDF FORMAT.

GENERAL IRRIGATION NOTES:

1. IRRIGATION TO BE A 2-WIRE DESIGN-BUILD SYSTEM BY THE LC. IRRIGATION SYSTEM TO PROVIDE COMPLETE COVERAGE OF ALL LANDSCAPED AREAS. SYSTEM SHOULD BE DESIGNED WITH A MINIMUM ZONE SEPARATION OF SHRUBS, TURF, AND ANNUAL COLOR.

2. LC IS RESPONSIBLE FOR SUPPLY OF ALL NECESSARY PARTS FOR IRRIGATION SYSTEM; INCLUDING BUT NOT LIMITED TO: HEADS, SLEEVES, WATER LINES, WATER METER, WIFI CONTROLLERS, VALVES & DECODERS, BACK-FLOW PREVENTION DEVICE, FITTINGS, AND RAIN SENSOR.

3. IRRIGATION HEADS SHOULD BE MP ROTATORS, SPRAYS, OR DRIP. IRRIGATION SYSTEM SHOULD BE DESIGNED TO HAVE NO OVER SPRAY ON ADJACENT HARDSCAPES.

4. ALL IRRIGATION HEADS TO HAVE HEAD TO HEAD COVERAGE AND MATCHED PRECIPITATION RATES.

5. LC TO WARRANT IRRIGATION SYSTEM FOR 1 YEAR AND GUARANTEE ADEQUATE COVERAGE TO ENSURE ALL NEW PLANTS ON THE LANDSCAPE THRIVE. ANY DEFICIENCIES WILL BE CORRECTED IMMEDIATELY AT NO ADDITIONAL COST TO THE OWNER.

6. LC TO PROVIDE AS-BUILT DRAWINGS, MANUALS, AND MANUFACTURERS WARRANTY INFORMATION FOR ALL IRRIGATION PRIOR TO FINAL PAYMENT IS RELEASED.

7. LC CONTRACTOR WILL HAVE A TRAINING MEETING WITH THE OWNER TO REVIEW OPERATION OF THE IRRIGATION SYSTEM.

8. ALL MAINLINES TO HAVE A MINIMUM OF 18" OF COVER. (CLASS 200 PVC PIPE).

9. ALL LATERAL AND SUB-MAIN PIPE TO HAVE A MINIMUM OF 12" OF COVER. (CLASS 200 PVC PIPE).

10. NO ROCKS, BOULDER, OR OTHER EXTRANEOUS MATERIALS TO BE USED IN BACKFILLING OF TRENCH.

11. ALL PIPE TO BE INSTALLED AS PER MANUFACTURERS' SPECIFICATIONS.

12. ALL THREADED JOINTS TO BE COATED WITH TEFLON TAPE OR LIQUID TEFLON.

13. ALL LINES TO BE THOROUGHLY FLUSHED BEFORE INSTALLATION OF SPRINKLER HEADS.

14. SPRINKLER AND RELATED EQUIPMENT TO BE INSTALLED AS PER DETAILS.

15. ALL ELECTRICAL JOINTS TO BE MADE USING WATERPROOF CONNECTIONS AS SHOWN ON DETAILS.

16. ALL EQUIPMENT NOT SPECIFIED IN THE LEGEND SHALL BE DETERMINED AND FURNISHED BY THE CONTRACTOR.

17. NO ELECTRICAL CONNECTIONS SHALL BE MADE IN THE FIELD EXCEPT AT A VALVE CONTROL BOX OR ANOTHER VALVE BOX SPECIFICALLY FOR CONNECTIONS.

18. ANY DISCREPANCY BETWEEN THIS SHEET AND OTHERS IN THIS SET MUST BE REFERRED TO THE IRRIGATION CONSULTANT BY THE CONTRACTOR FOR CLARIFICATION BEFORE PRECEDING WITH THE WORK.

19. ALL 24 VOLT WIRE SHALL BE #12 UF/UL FOR COMMON WIRE, AND #14 UF/UL FOR CONTROL WIRES, DIRECT BURIAL, SOLID COPPER.

20. CONTRACTOR TO BE RESPONSIBLE FOR PROPER COVERAGE OF AREAS TO BE WATERED. I.E. ADJUST HEADS WITH INSUFFICIENT COVERAGE DUE TO BLOCKAGE BY EXISTING OR PROPOSED SITE FEATURES.

21. CONTRACTOR TO REFER TO LANDSCAPE PLAN TO KEEP SPRINKLER EQUIPMENT AND ACCESSORY MATERIAL FROM INTERFERING WITH PROPER PLANTING, I.E. VERIFY ROOT BALL SIZE FOR PLANTING.

22. CONTRACTOR SHALL PROVIDE EXPANSION COILS AT EACH WIRE CONNECTION IN VALVE BOX (WRAP AROUND 3/4" PIPE 12 TIMES).

23. CONTRACTOR TO UTILIZE APPROPRIATE AUTOMATIC DRAIN DEVICE WHERE LOW HEAD DRAINAGE MAY OCCUR.

24. ALL SPRINKLERS TO BE MOUNTED ON SWING JOINTS - REFER TO DETAILS.

25. CONTRACTOR SHALL UTILIZE VALVE I.D. TAGS ON ALL REMOTE CONTROL VALVES.

26. 24 VOLT WIRE SHALL BE COLOR CODED; COMMON-WHITE, CONTROL-RED.

27. CONTRACTOR SHALL INSTALL MANUFACTURERS' RECOMMENDED GROUNDING EQUIPMENT FOR POWER SUPPLY AND VALVE OUTPUT WITH (2) 5/8" COPPER CLAD GROUND RODS.

28. CONTRACTOR SHALL INSTALL MANUFACTURERS' RECOMMENDATION ON FAULT GROUND AND LIGHTNING PROTECTION.

29. ALL MATERIAL TO BE SUPPLIED BY CONTRACTOR TO OWNER:
   - 29.1. TWO WRENCHES FOR DISASSEMBLING AND ADJUSTING EACH TYPE OF SPRINKLER HEADS AND VALVE SUPPLIED.
   - 29.2. TWO KEYS FOR EACH OF THE AUTOMATIC CONTROLLERS.
   - 29.3. TWO QUICK COUPLER KEYS WITH MATCHING HOSE SWIVELS.

30. SYSTEM IS DIAGRAMMATIC TO IMPROVE CLARITY. ALL MAINLINE PIPING ELECTRIC VALVES AND WIRING ARE TO BE INSTALLED IN LANDSCAPE AREAS AND WITHIN PROPERTY BOUNDARIES. CONTRACTOR SHALL REFERENCE THE LANDSCAPE PLAN PRIOR TO THE INSTALLATION OF PIPING TO AVOID CONTACT WITH PLANT MATERIALS EXISTING OR NEW.

31. CONTRACTOR TO ADD EXTENSION RISER TO POP-UP HEADS WHEN NEEDED FOR PROPER COVERAGE.

32. CONTRACTOR SHALL INSTALL SPRINKLER EQUIPMENT 12" FROM FOUNDATIONS. ALSO INSTALL SPRINKLERS 4" FROM CURB OR WALKS.

33. PRIOR TO BID IRRIGATION CONTRACTOR SHALL VERIFY RIGHT-OF-WAY AND BACKFLOW REQUIREMENTS. NO LATER THAN FIVE DAYS BEFORE BID SUBMITTALS CONTRACTOR SHALL NOTIFY CONSULTANT OF ANY CHANGES FROM PLANS AND SPECIFICATIONS.

34. IRRIGATION CONTRACTOR SHALL PROVIDE THE OWNER AND LANDSCAPE ARCHITECT WITH A REPRODUCIBLE CROSS MEASURED AS-BUILT DRAWING OF THE INSTALLED IRRIGATION SYSTEM IN AUTOCAD 2004 FORMAT BEFORE FINAL ACCEPTANCE.

35. A 1-YEAR WARRANTY PERIOD SHALL BE PROVIDED FOR SYSTEM AFTER SUBSTANTIAL COMPLETION IS ACCEPTED. START UP AND ADJUSTING OF SYSTEM IN SPRING TIME SHALL BE INCLUDED IN WARRANTY.

36. PRIOR TO BID, CONTRACTOR SHALL VERIFY THAT ALL MATERIALS, INSTALLATION PARAMETERS AND OPERATIONS CONFORM TO ALL APPLICABLE CODES AND ORDINANCES. NO LATER THAN FIVE DAYS BEFORE BID SUBMITTALS CONTRACTOR SHALL NOTIFY IRRIGATION CONSULTANT/DESIGNER OF ANY CHANGES REQUIRED DUE TO CURRENT CODE OR ORDINANCE DISCREPANCIES. F CONTRACTOR DOES NOT COMPLY TO THIS NOTIFICATION, THE CONTRACTOR IF CONTRACTOR DOES NOT COMPLY TO THIS NOTIFICATION, THE CONTRACTOR HALL BE RESPONSIBLE FOR ALL NECESSARY INSTALLATION CHANGE AND REDESIGN COSTS FOR NON-COMPLIANCE.

ANNUAL COLOR AND PERENNIAL PLANTING NOTES:

1. EXCAVATE BED TO A DEPTH OF 4 INCHES. REMOVE EXISTING SOIL FROM SITE. BREAK THROUGH "HARDPAN" AND REMOVE ALL STONES, ROOTS, DEBRIS, ETC. ROTOTILL EXCAVATED BED AN ADDITIONAL 6-8 INCHES IN DEPTH.
2. SLOPE THE BASE OF THE BED TO THE TRENCH EDGE.
3. ADD 6 INCHES OF ANNUAL/PERENNIAL SOIL MIX TO EXCAVATED BED & ROTOTILL INTO EXISTING SOIL.
4. PLACE ADDITIONAL ANNUAL/PERENNIAL SOIL MIX TO RAISE ENTIRE BED 6 INCHES ABOVE FINISHED GRADE FOR SEASONAL COLOR AND 4 INCHES FOR PERENNIAL COLOR. IN SEASONAL BED FRONTS A SHRUB OR GROUNDCOVER BED, MATCH THE BED'S HEIGHT & CONTINUE POSITIVE SLOPE TOWARD TRENCH EDGE.
5. ROTOTILL ENTIRE BED TO A DEPTH OF 12 INCHES.
6. EVENLY SPREAD FERTILIZER PER MANUFACTURER'S SPECIFICATIONS AND RAKE INTO TOP 3 INCHES OF PREPARED SOIL.
7. PLANT SEASONAL COLOR AS SPECIFIED AT INDICATED SPACING AS SHOWN ON PLANS.
8. EDGE SEASONAL COLOR BED AND MULCH AS SPECIFIED.
9. DRENCH WITH MIRACLE GROW FERTILIZER, WATERING THOROUGHLY.

MULCHING NOTES:

1. PLANTINGS ON GRADE TO BE MULCHED WITH PINE STRAW MULCH TO A DEPTH OF 4 INCHES.
2. PLANTINGS OVER-STRUCTURE TO BE MULCHED WITH TRIPLE GROUND BROWN SHREDDED HARDWOOD TO A DEPTH OF 4 INCHES, WITH EXCEPTION OF AREAS TO RECEIVE DECORATIVE STONE.
3. ANNUAL COLOR TO BE MULCHED WITH MINI PINE BARK NUGGETS TO A DEPTH OF 2 INCHES.
4. PLANTINGS IN DECORATIVE PLANTERS TO BE MULCHED WITH MINI PINE BARK NUGGETS TO A DEPTH OF 2 INCHES.
5. NATURAL AREAS TO BE MULCHED 10' FROM BED LINES WITH PINE STRAW MULCH TO A DEPTH OF 3 INCHES AND WHERE DISTURBED.

PLANTING SOIL MIX NOTES:

1. THE CONTRACTOR SHALL FURNISH TOPSOIL: TOPSOIL MUST BE APPROVED BY THE LA. REFER TO SPECIFICATION SECTION 329000 FOR TOPSOIL REQUIREMENTS.
2. THE LANDSCAPE CONTRACTOR SHALL SUPPLY ALL PLANTING SOIL MIX.
3. THE PLANTING SOIL MIX MUST BE APPROVED BY LA PRIOR TO ANY BACKFILLING.
4. THE PLANTING SOIL MIX FOR ON-GRADE PLANTINGS (TREES, SHRUBS, & GROUNDCOVERS) SHALL CONSIST OF THE FOLLOWING UNLESS OTHERWISE INDICATED ON THE DRAWINGS IN EQUALLY MIXED PROPORTIONS:
   - 4.1. 66% TOPSOIL
   - 4.2. 33% ERTH FOOD COMPOST SOIL AMENDMENT BY ERTH PRODUCTS, LLC. OR EQUIVALENT
   - 4.3. SCOTTS AGRIFORM 20-10-5 SLOW RELEASE FERTILIZER, AS RECOMMENDED IN SOIL REPORT.
   - 4.4. LIME AS RECOMMENDED IN SOIL REPORT.
   - 4.5. TERRASORB HYDROGEL PER MANUFACTURERS SPECIFICATIONS, (IN NON-IRRIGATED AREAS ONLY)
5. THE PLANTING SOIL MIX FOR OVER-STRUCTURE PLANTINGS (TREES, SHRUBS, & GROUNDCOVERS) SHALL BE ERTH-HYDROCKS INTENSIVE LIGHTWEIGHT SOIL BY ERTH PRODUCTS, LLC. OR EQUIVALENT.
6. ANNUAL/ PERENNIAL COLOR SOIL MIX FOR ANNUALS ON GRADE SHALL CONSIST OF THE FOLLOWING UNLESS OTHERWISE INDICATED ON THE DRAWINGS IN EQUALLY MIXED PROPORTIONS:
   - 6.1. 33% TOPSOIL
   - 6.2. 33% MR. NATURALS COMPLETE LANDSCAPE MIX CLM BY MR. NATURALS OR EQUIVALENT
   - 6.3. 33% BLACK COW MANURE OR EQUIVALENT
   - 6.4. OSMOCOTE 14-14-14 SMART RELEASE FERTILIZER PER MANUFACTURERS SPECIFICATIONS
7. PLANTING MIX FOR RAISED PLANTERS/DECORATIVE POTS SHALL BE MR. NATURALS LANDSCAPE MIX CLM BY MR. NATURALS OR EQUIVALENT.
   - 7.1. OSMOCOTE 14-14-14 SMART RELEASE FERTILIZER PER MANUFACTURERS SPECIFICATIONS
8. SOD DRESSING TO BE 50% SAND AND 50% ERTH PRODUCTS COMPOST BY ERTH PRODUCTS, LLC., OR EQUIVALENT.
9. BIOSWALE / RAINGARDEN SOILS SHALL BE BIO-RETENTION / RAINGARDEN MIX BY ERTH PRODUCTS, LLC. OR EQUIVALENT.

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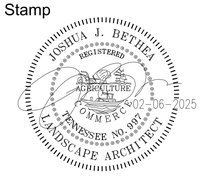
RIVERGATE MALL INFRASTRUCTURE
1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

Stamp


JOSHUA J. BETHEA
REGISTERED
AGRICULTURE
02-06-2025
TENNESSEE NO. 3927
LANDSCAPE ARCHITECT

OVERALL PLANT SCHEDULE

SYMBOL	CODE	QTY	GOODLETTSVILLE	METRO NASHVILLE	REMARKS	BOTANICAL / COMMON NAME	CONT.	CAL.	SIZE	FORM	NOTES	CANOPY
TREES												
	ARM	22	22			ACER RUBRUM `ARMSTRONG` / `ARMSTRONG` RED MAPLE	B & B	2" CAL.	MINIMUM 12` HGT.	CENTRAL LEADER	FULL AND HEALTHY	25'
	PE	24	4	20	5' CLEAR TRUNK HEIGHT	PLATANUS X ACERIFOLIA `EXCLAMATION` TM / EXCLAMATION LONDON PLANE TREE	2"CAL	2"CAL	MINIMUM 12` HGT.	CENTRAL LEADER	FULL AND HEALTHY	20'
	QN	35	23	12	5' CLEAR TRUNK HEIGHT	QUERCUS NUTTALLII / NUTTALL OAK	B & B	2"CAL	MINIMUM 12` HGT.	CENTRAL LEADER	FULL AND HEALTHY	25'
	UP	44	44		5' CLEAR TRUNK HEIGHT	ULMUS AMERICANA `PRINCETON` / AMERICAN ELM	B & B	2"CAL	MINIMUM 12` HGT.	CENTRAL LEADER	FULL AND HEALTHY	40'

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RIVERGATE MALL INFRASTRUCTURE

1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

Stamp

JOSHUA J. BETHEL REGISTERED AGRICULTURE LAND 02-06-2025 COMMERCE TENNESSEE NO. 0897 LANDSCAPE ARCHITECT

No.	Drawing Issuance	Date
01	SITE PLAN SUBMITTAL	11/10/25
02	SITE PLAN RE-SUBMITTAL	01/23/26
03	SITE PLAN RE-SUBMITTAL	02/06/26
04	SITE PLAN RE-SUBMITTAL	05/12/26

No.	Drawing Revision	Date

Sheet Title

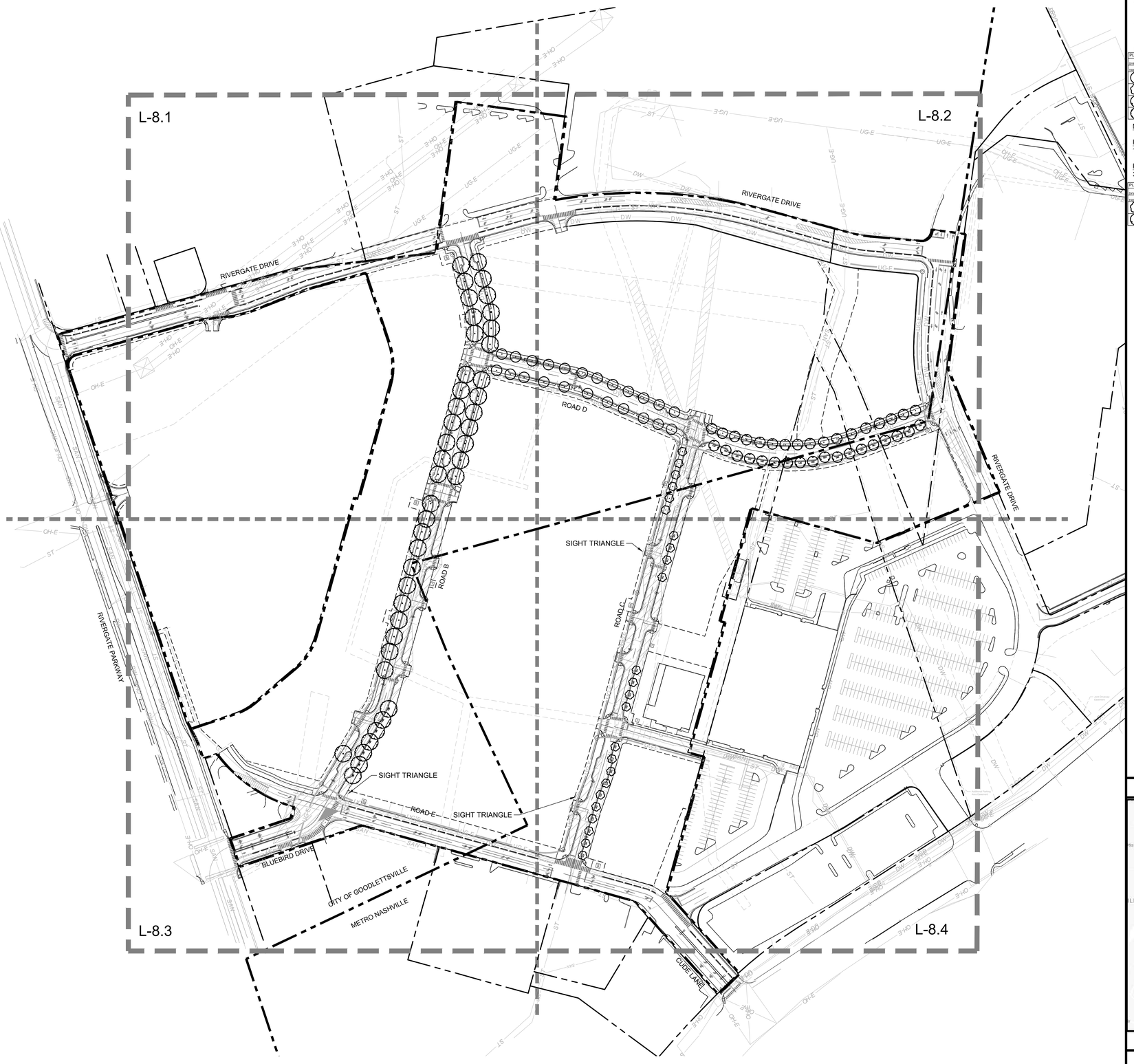
OVERALL PLANTING SCHEDULE

Sheet Number

L-7.1

NOT FOR COSNTRUCTION

PROJECT NUMBER: 2024-041



STREET TREE NOTE:

PROPOSED STREET TREES SHOULD HAVE AN INITIAL CLEAR HEIGHT OF 5'-7" (DEPENDENT ON TRUNK CALIPER AT TIME OF PLANTING) WITH UPWARD TAPERED GROWTH HABITS TO ENSURE FUTURE GROWTH DOESN'T IMPEDE PEDESTRIAN, BICYCLE, AND LARGER VEHICULAR & EMERGENCY TRAFFIC. MAINTENANCE WILL BE CRUCIAL TO MAINTAIN A 14' CLEARANCE OVER STREETS AS THE TREES MATURE AND SPREAD OUTWARD OVER THE VEHICULAR TRAVEL LANES.

CITY OF GOODLETTESVILLE STREET TREES:

REQUIRED:
1 TREE PER 40 LINEAR FEET OF FRONTAGE (+/- 4104 SF / 40) = 104.5 TREES

PROVIDED:
94 TREES

PLANT SCHEDULE GOODLETTSVILLE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT.	CAL.	SIZE	FORM	NOTES
TREES								
	ARM	23	ACER RUBRUM 'ARMSTRONG' / ARMSTRONG' RED MAPLE	B & B	3" CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY
	PE	4	PLATANUS X ACERIFOLIA 'EXCLAMATION' TM / EXCLAMATION LONDON PLANE TREE	2"CAL.	2"CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY
	QN	23	QUERCUS NUTTALLII / NUTTALL OAK	B & B	2"CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY
	UP	44	ULMUS AMERICANA 'PRINCETON' / AMERICAN ELM	B & B	2"CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY

METRO NASHVILLE STREET TREES:

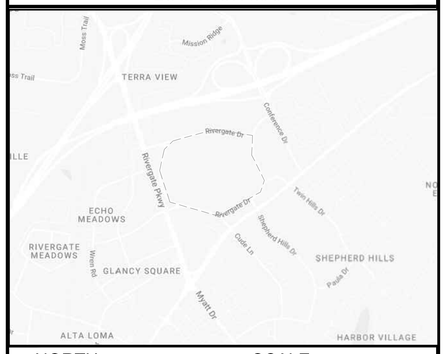
REQUIRED:
1 TREE PER 30 LINEAR FEET OF FRONTAGE (+/- 1,827 SF / 30) = 61 TREES

PROVIDED:
32 TREES

PLANT SCHEDULE METRO NASHVILLE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT.	CAL.	SIZE	FORM	NOTES
	PE	20	PLATANUS X ACERIFOLIA 'EXCLAMATION' TM / EXCLAMATION LONDON PLANE TREE	B & B	2"CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY
	QN	12	QUERCUS NUTTALLII / NUTTALL OAK	B & B	2"CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY

LOCATION MAP



NORTH

SCALE

0 100 200 300 400 feet
1" = 100'

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RIVERGATE MALL INFRASTRUCTURE

1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

Stamp

JOSHUA J. BETTEN
REGISTERED
LANDSCAPE ARCHITECT
TENNESSEE NO. 997
02-06-2025

No.	Drawing Issuance	Date
01	SITE PLAN SUBMITTAL	11/10/25
02	SITE PLAN RE-SUBMITTAL	01/23/26
03	SITE PLAN RE-SUBMITTAL	02/06/26
04	SITE PLAN RE-SUBMITTAL	05/12/26

No.	Drawing Revision	Date

Sheet Title

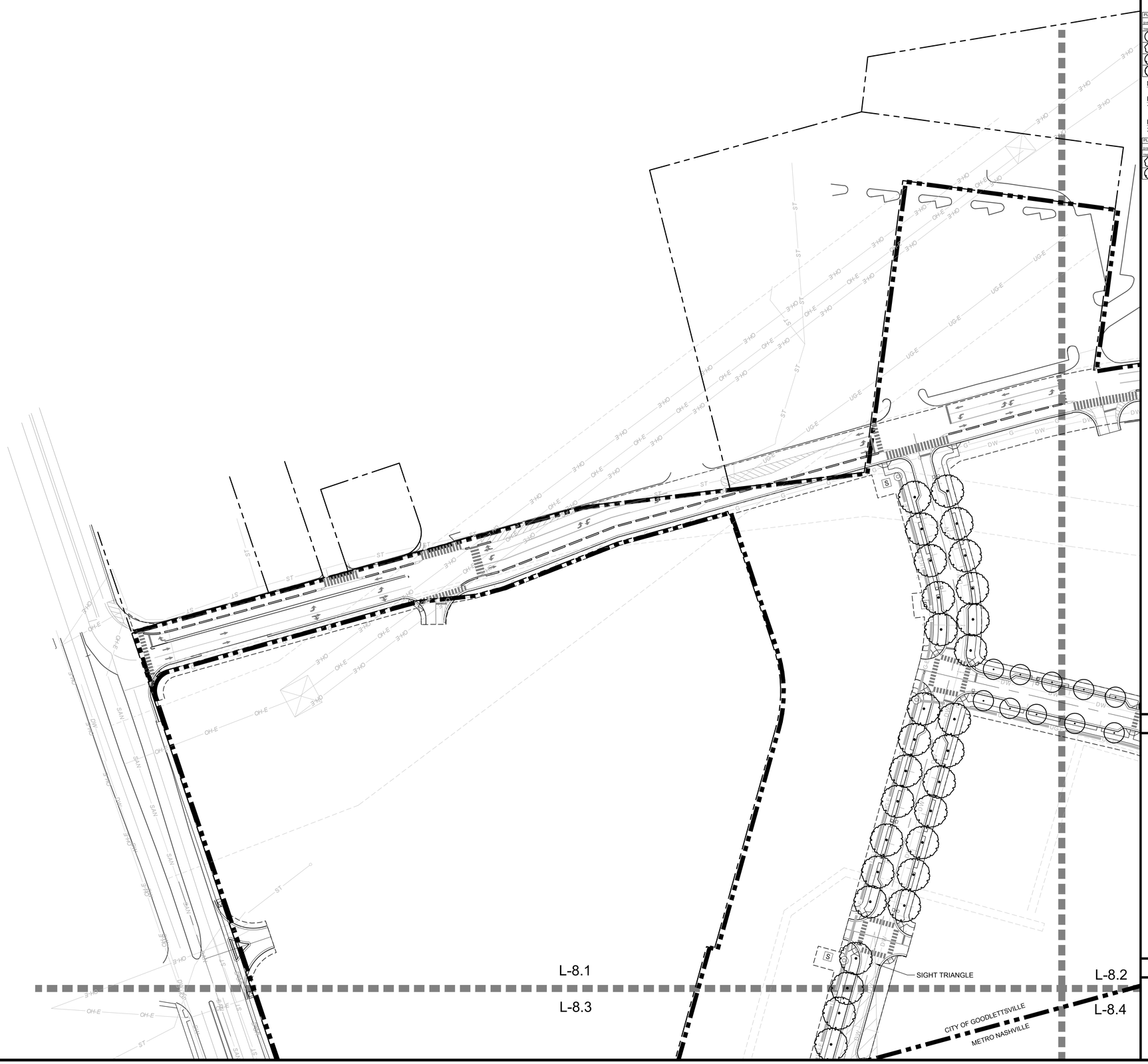
OVERALL SITE PLAN

Sheet Number

L-8.0

NOT FOR CONSTRUCTION

PROJECT NUMBER: 2024-041



STREET TREE NOTE:

PROPOSED STREET TREES SHOULD HAVE AN INITIAL CLEAR HEIGHT OF 5'-7' (DEPENDENT ON TRUNK CALIPER AT TIME OF PLANTING) WITH UPWARD TAPERED GROWTH HABITS TO ENSURE FUTURE GROWTH DOESN'T IMPEDE PEDESTRIAN, BICYCLE, AND LARGER VEHICULAR & EMERGENCY TRAFFIC. MAINTENANCE WILL BE CRUCIAL TO MAINTAIN A 14' CLEARANCE OVER STREETS AS THE TREES MATURE AND SPREAD OUTWARD OVER THE VEHICULAR TRAVEL LANES.

CITY OF GOODLETTESVILLE STREET TREES:

REQUIRED:
1 TREE PER 40 LINEAR FEET OF FRONTAGE (+/- 4104 SF / 40) = 104.5 TREES

PROVIDED:
94 TREES

PLANT SCHEDULE GOODLETTSVILLE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT.	CAL.	SIZE	FORM	NOTES
TREES								
	ARM	23	ACER RUBRUM 'ARMSTRONG' / ARMSTRONG RED MAPLE	B & B	3" CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY
	PE	4	PLATANUS X ACERIFOLIA 'EXCLAMATION' TM / EXCLAMATION LONDON PLANE TREE	2"CAL.	2"CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY
	QN	23	QUERCUS NUTTALLII / NUTTALL OAK	B & B	2"CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY
	UP	44	ULMUS AMERICANA 'PRINCETON' / AMERICAN ELM	B & B	2"CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY

METRO NASHVILLE STREET TREES:

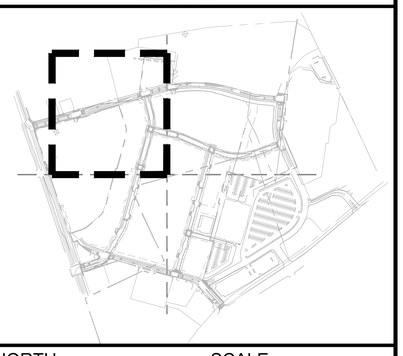
REQUIRED:
1 TREE PER 30 LINEAR FEET OF FRONTAGE (+/- 1,827 SF / 30) = 61 TREES

PROVIDED:
32 TREES

PLANT SCHEDULE METRO NASHVILLE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT.	CAL.	SIZE	FORM	NOTES
TREES								
	PE	20	PLATANUS X ACERIFOLIA 'EXCLAMATION' TM / EXCLAMATION LONDON PLANE TREE	2"CAL.	2"CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY
	QN	12	QUERCUS NUTTALLII / NUTTALL OAK	B & B	2"CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY

KEY MAP



NORTH

SCALE

NORTH

0 50 100 150 200 feet
1" = 50'

IRONWOOD DESIGNGROUP
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RIVERGATE MALL INFRASTRUCTURE

1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

Stamp

JOSHUA J. BETHEA
REGISTERED
LANDSCAPE ARCHITECT
TENNESSEE NO. 997
COMMERCIAL
06-02-2025

No.	Drawing Issuance	Date
01	SITE PLAN SUBMITTAL	11/10/25
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03	SITE PLAN RE-SUBMITTAL	02/06/26
04	SITE PLAN RE-SUBMITTAL	05/12/26

No.	Drawing Revision	Date

Sheet Title

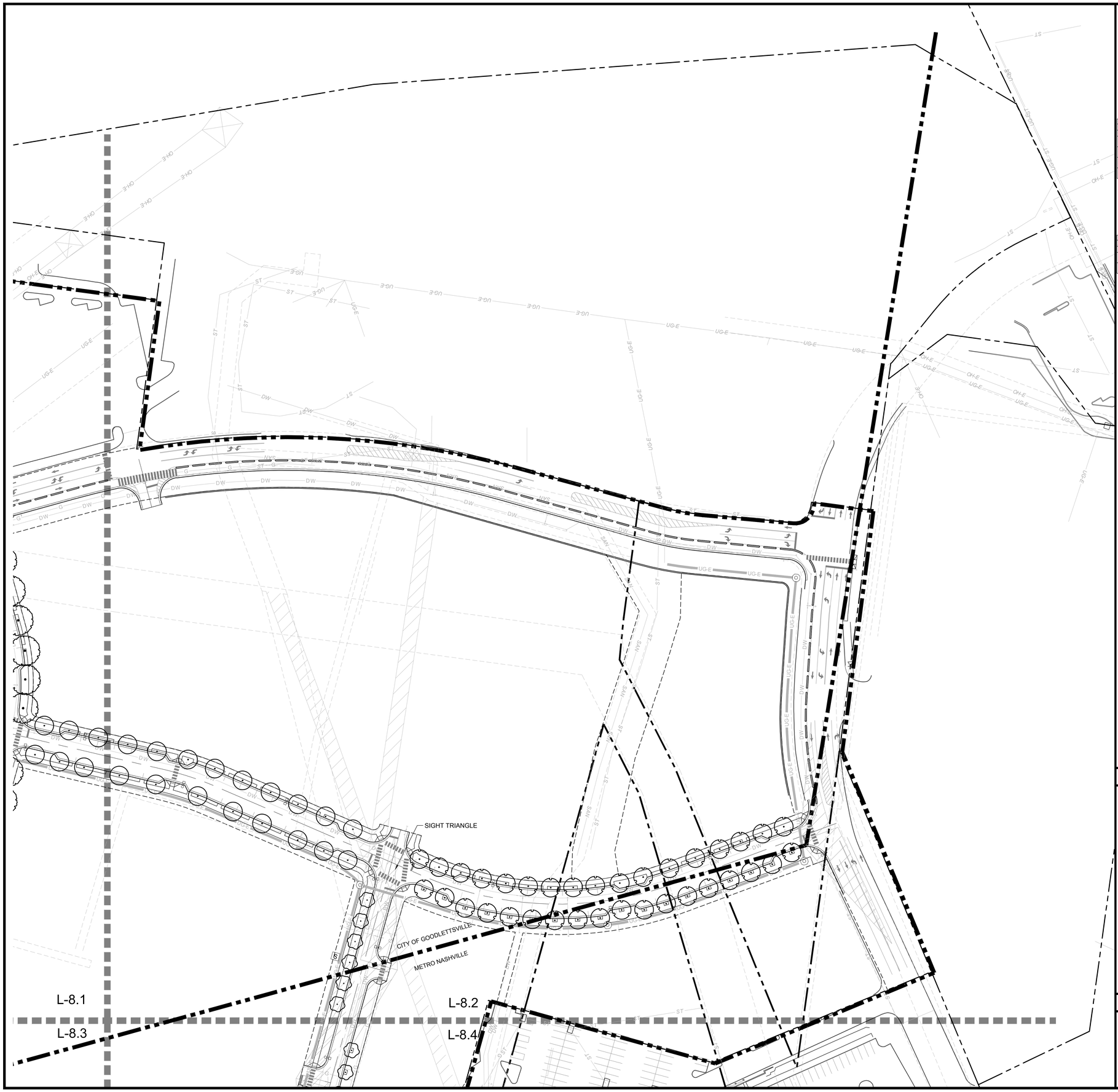
PARTIAL PLANTING PLAN

Sheet Number

L-8.1

NOT FOR CONSTRUCTION

PROJECT NUMBER: 2024-041



STREET TREE NOTE:

PROPOSED STREET TREES SHOULD HAVE AN INITIAL CLEAR HEIGHT OF 5'-7' (DEPENDENT ON TRUNK CALIPER AT TIME OF PLANTING) WITH UPWARD TAPERED GROWTH HABITS TO ENSURE FUTURE GROWTH DOESN'T IMPEDE PEDESTRIAN, BICYCLE, AND LARGER VEHICULAR & EMERGENCY TRAFFIC. MAINTENANCE WILL BE CRUCIAL TO MAINTAIN A 14' CLEARANCE OVER STREETS AS THE TREES MATURE AND SPREAD OUTWARD OVER THE VEHICULAR TRAVEL LANES.

CITY OF GOODLETTESVILLE STREET TREES:

REQUIRED:
1 TREE PER 40 LINEAR FEET OF FRONTAGE (+/- 4104 SF / 40) = 104.5 TREES

PROVIDED:
94 TREES

PLANT SCHEDULE GOODLETTSVILLE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT.	CAL.	SIZE	FORM	NOTES
TREES								
	ARM	23	ACER RUBRUM 'ARMSTRONG' / ARMSTRONG' RED MAPLE	B & B	3" CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY
	PE	4	PLATANUS X ACERIFOLIA 'EXCLAMATION' TM / EXCLAMATION LONDON PLANE TREE	2"CAL.	2"CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY
	QN	23	QUERCUS NUTTALLII / NUTTALL OAK	B & B	2"CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY
	UP	44	ULMUS AMERICANA 'PRINCETON' / AMERICAN ELM	B & B	2"CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY

METRO NASHVILLE STREET TREES:

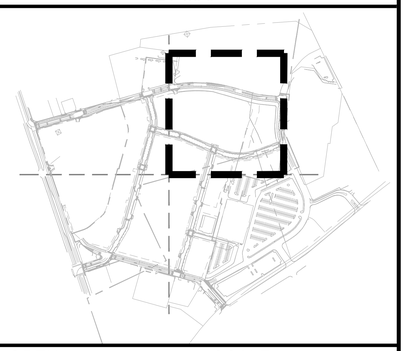
REQUIRED:
1 TREE PER 30 LINEAR FEET OF FRONTAGE (+/- 1,827 SF / 30) = 61 TREES

PROVIDED:
32 TREES

PLANT SCHEDULE METRO NASHVILLE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT.	CAL.	SIZE	FORM	NOTES
TREES								
	PE	20	PLATANUS X ACERIFOLIA 'EXCLAMATION' TM / EXCLAMATION LONDON PLANE TREE	2"CAL.	2"CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY
	QN	12	QUERCUS NUTTALLII / NUTTALL OAK	B & B	2"CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY

KEY MAP



NORTH

SCALE

0 50 100 150 200 feet
1" = 50'

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RIVERGATE MALL INFRASTRUCTURE

1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

Stamp

JOSHUA J. BETHEA
REGISTERED
LANDSCAPE ARCHITECT
TENNESSEE NO. 3987
02-06-2025

No.	Drawing Issuance	Date
01	SITE PLAN SUBMITTAL	11/10/25
02	SITE PLAN RE-SUBMITTAL	01/23/26
03	SITE PLAN RE-SUBMITTAL	02/06/26
04	SITE PLAN RE-SUBMITTAL	05/12/26

No.	Drawing Revision	Date

Sheet Title

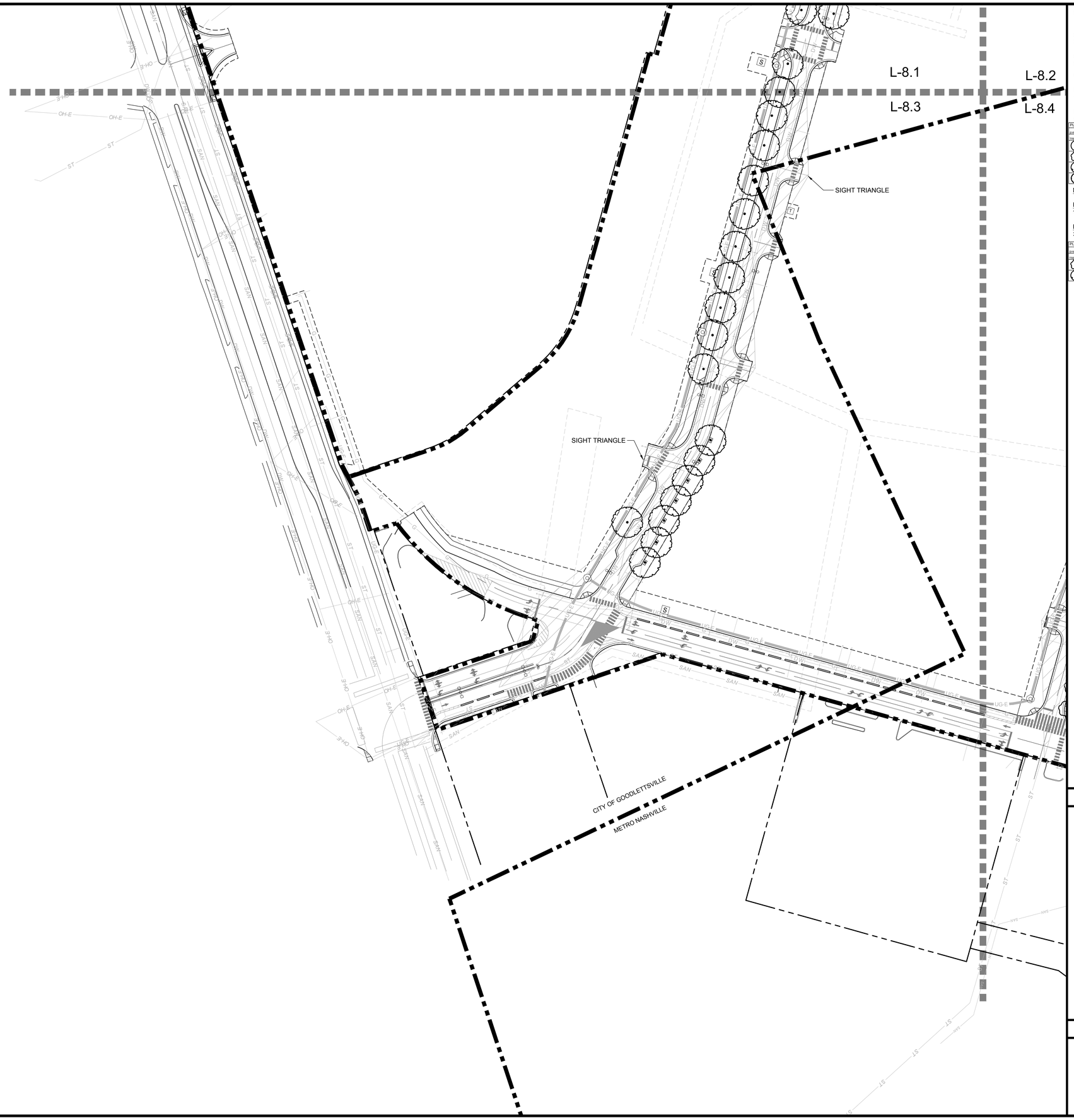
PARTIAL PLANTING PLAN

Sheet Number

L-8.2

NOT FOR COSNTRUCTION

PROJECT NUMBER: 2024-041



STREET TREE NOTE:

PROPOSED STREET TREES SHOULD HAVE AN INITIAL CLEAR HEIGHT OF 5'-7" (DEPENDENT ON TRUNK CALIPER AT TIME OF PLANTING) WITH UPWARD TAPERED GROWTH HABITS TO ENSURE FUTURE GROWTH DOESN'T IMPEDE PEDESTRIAN, BICYCLE, AND LARGER VEHICULAR & EMERGENCY TRAFFIC. MAINTENANCE WILL BE CRUCIAL TO MAINTAIN A 14' CLEARANCE OVER STREETS AS THE TREES MATURE AND SPREAD OUTWARD OVER THE VEHICULAR TRAVEL LANES.

CITY OF GOODLETTESVILLE STREET TREES:

REQUIRED:
1 TREE PER 40 LINEAR FEET OF FRONTAGE (+/- 4104 SF / 40) = 104.5 TREES

PROVIDED:
94 TREES

PLANT SCHEDULE GOODLETTSVILLE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT.	CAL.	SIZE	FORM	NOTES
TREES								
	ARM	23	ACER RUBRUM 'ARMSTRONG' / ARMSTRONG' RED MAPLE	B & B	3" CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY
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	UP	44	ULMUS AMERICANA 'PRINCETON' / AMERICAN ELM	B & B	2"CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY

METRO NASHVILLE STREET TREES:

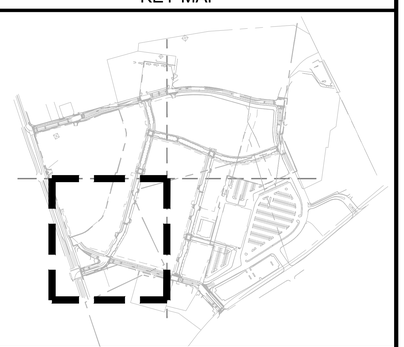
REQUIRED:
1 TREE PER 30 LINEAR FEET OF FRONTAGE (+/- 1,827 SF / 30) = 61 TREES

PROVIDED:
32 TREES

PLANT SCHEDULE METRO NASHVILLE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT.	CAL.	SIZE	FORM	NOTES
TREES								
	PE	20	PLATANUS X ACERIFOLIA 'EXCLAMATION' TM / EXCLAMATION LONDON PLANE TREE	B & B	2"CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY
	QN	12	QUERCUS NUTTALLII / NUTTALL OAK	B & B	2"CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY

KEY MAP



NORTH SCALE

NORTH

0 50 100 150 200 feet
1" = 50'

IRONWOOD DESIGNGROUP
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Planning | LEED Consulting | Urban Design

RIVERGATE MALL INFRASTRUCTURE

1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

Stamp

JOSHUA J. BETHEL
REGISTERED
LANDSCAPE ARCHITECT
TENNESSEE NO. 997
02-06-2025

No.	Drawing Issuance	Date
01	SITE PLAN SUBMITTAL	11/10/25
02	SITE PLAN RE-SUBMITTAL	01/23/26
03	SITE PLAN RE-SUBMITTAL	02/06/26
04	SITE PLAN RE-SUBMITTAL	05/12/26

No.	Drawing Revision	Date

Sheet Title

PARTIAL PLANTING PLAN

Sheet Number

L-8.3

NOT FOR COSNTRUCTION
PROJECT NUMBER: 2024-041

L-8.1

L-8.3

L-8.2

L-8.4

CITY OF GOODLETTSVILLE
METRO NASHVILLE

SIGHT TRIANGLE

SIGHT TRIANGLE

Joint Driveway Easement

Additional Parking Area Easement

STREET TREE NOTE:

PROPOSED STREET TREES SHOULD HAVE AN INITIAL CLEAR HEIGHT OF 5'-7" (DEPENDENT ON TRUNK CALIPER AT TIME OF PLANTING) WITH UPWARD TAPERED GROWTH HABITS TO ENSURE FUTURE GROWTH DOESN'T IMPEDE PEDESTRIAN, BICYCLE, AND LARGER VEHICULAR & EMERGENCY TRAFFIC. MAINTENANCE WILL BE CRUCIAL TO MAINTAIN A 14' CLEARANCE OVER STREETS AS THE TREES MATURE AND SPREAD OUTWARD OVER THE VEHICULAR TRAVEL LANES.

CITY OF GOODLETTESVILLE STREET TREES:

REQUIRED:
1 TREE PER 40 LINEAR FEET OF FRONTAGE (+/- 4104 SF / 40) = 104.5 TREES

PROVIDED:
94 TREES

PLANT SCHEDULE GOODLETTSVILLE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT.	CAL.	SIZE	FORM	NOTES
TREES								
	ARM	23	ACER RUBRUM 'ARMSTRONG' / ARMSTRONG' RED MAPLE	B & B	3" CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY
	PE	4	PLATANUS X ACERIFOLIA 'EXCLAMATION' TM / EXCLAMATION LONDON PLANE TREE	3"CAL.	3"CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY
	QN	23	QUERCUS NUTTALLII / NUTTALL OAK	B & B	3"CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY
	UP	44	ULMUS AMERICANA 'PRINCETON' / AMERICAN ELM	B & B	3"CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY

METRO NASHVILLE STREET TREES:

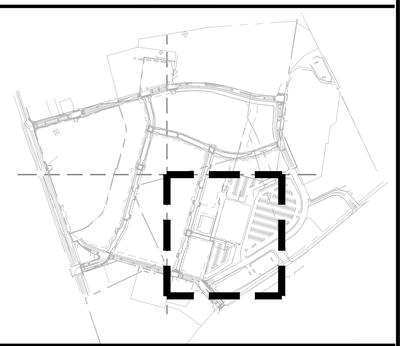
REQUIRED:
1 TREE PER 30 LINEAR FEET OF FRONTAGE (+/- 1,827 SF / 30) = 61 TREES

PROVIDED:
32 TREES

PLANT SCHEDULE METRO NASHVILLE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT.	CAL.	SIZE	FORM	NOTES
TREES								
	PE	20	PLATANUS X ACERIFOLIA 'EXCLAMATION' TM / EXCLAMATION LONDON PLANE TREE	3"CAL.	3"CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY
	QN	12	QUERCUS NUTTALLII / NUTTALL OAK	B & B	3"CAL.	MINIMUM 12' HGT.	CENTRAL LEADER	FULL AND HEALTHY

KEY MAP



NORTH

SCALE

NORTH

0 50 100 150 200 feet

1" = 50'

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RIVERGATE MALL INFRASTRUCTURE

1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

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JOSHUA J. BETTIS REGISTERED LANDSCAPE ARCHITECT TENNESSEE NO. 997 — 02/06/2025

No.	Drawing Issuance	Date
01	SITE PLAN SUBMITTAL	11/10/25
02	SITE PLAN RE-SUBMITTAL	01/23/26
03	SITE PLAN RE-SUBMITTAL	02/06/26
04	SITE PLAN RE-SUBMITTAL	05/12/26

No.	Drawing Revision	Date

Sheet Title

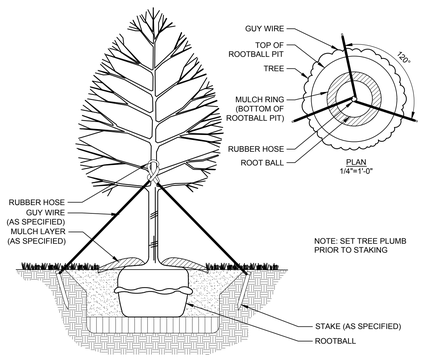
PARTIAL PLANTING PLAN

Sheet Number

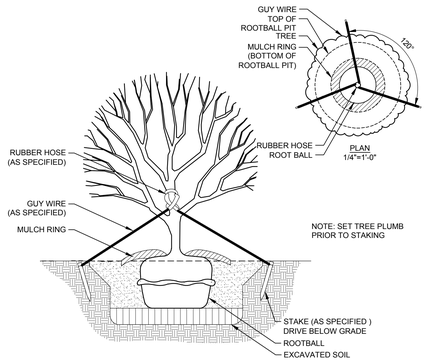
L-8.4

NOT FOR COSNTRUCTION

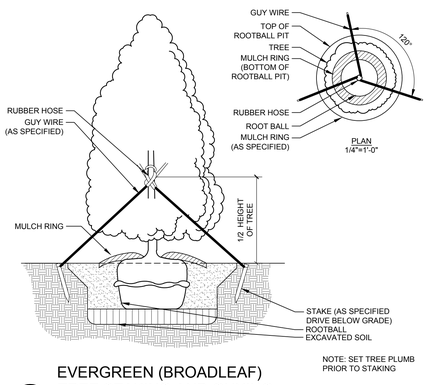
PROJECT NUMBER: 2024-041



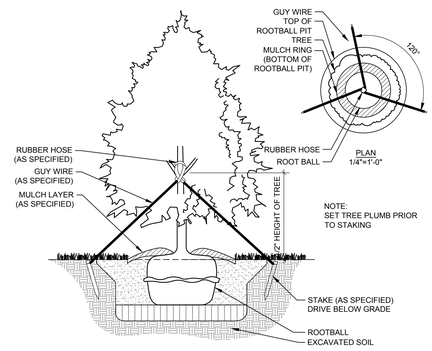
1 L-9.0 TREE STAKING AND GUYING
NTS



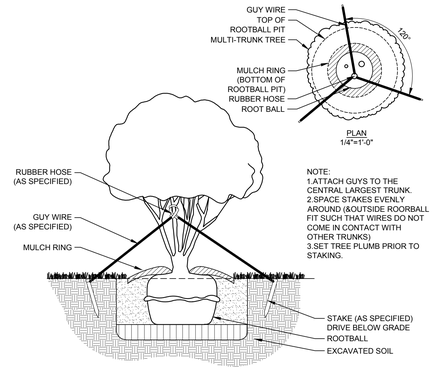
2 L-9.0 FLOWERING TREE STAKING AND GUYING
NTS



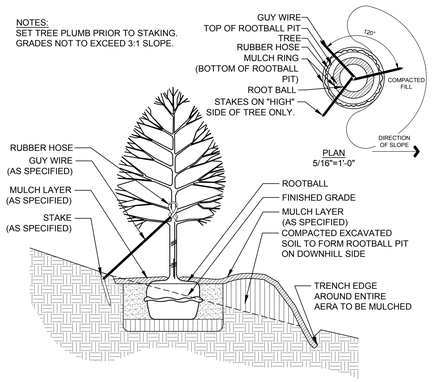
3 L-9.0 EVERGREEN (BROADLEAF) TREE STAKING AND GUYING
NTS



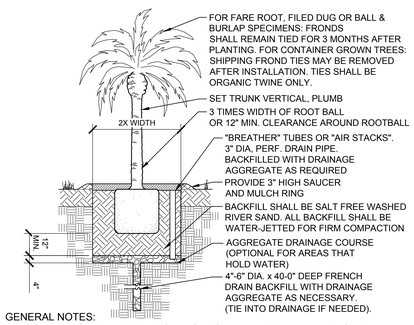
4 L-9.0 EVERGREEN (CONIFER) TREE STAKING AND GUYING
NTS



5 L-9.0 MULTI-TRUNK TREE STAKING AND GUYING
NTS

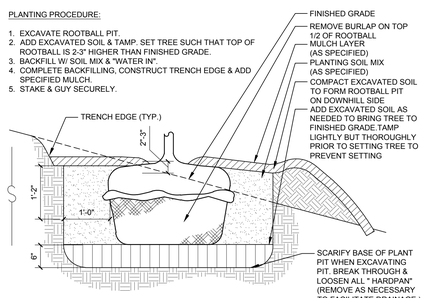


6 L-9.0 TREE ON SLOPE STAKING AND GUYING
NTS

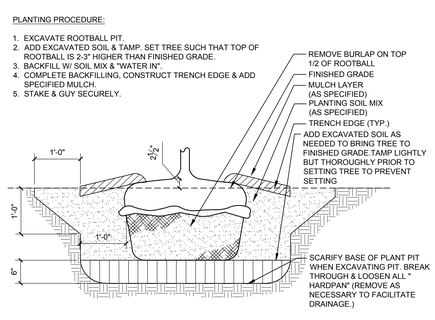


GENERAL NOTES:
IF ROOTBALL IS WRAPPED IN NON-BIODEGRADABLE BURLAP, REMOVE ENTIRE WRAP AFTER PLACED IN PIT. WHEN BACKFILLING PLANT PIT, PLACE RIVER SAND IN TWO LIFTS. AFYER FIRST LIFT, PUDDLE SOIL IN WITH WATER TO REMOVE ALL AIR POCKETS. PLACE SECOND LIFT AND REPEAT. CONTINUE TO PUDDLE AND FILL AS NECESSARY.

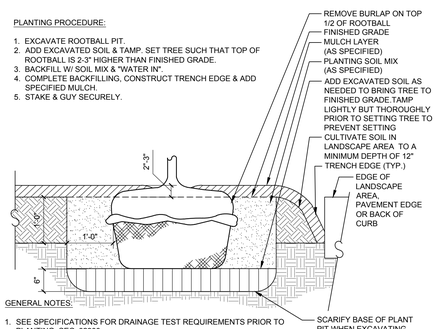
7 L-9.0 TYPICAL PALM PLANTING IN CLAY SOILS
3/4" = 1'-0"



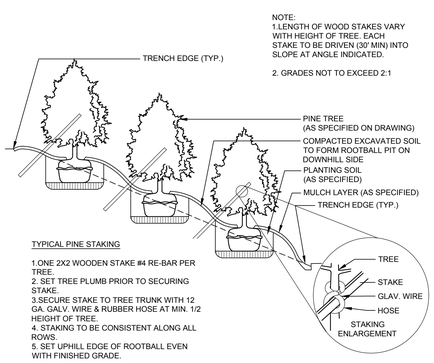
8 L-9.0 TREE ROOTBALL PIT (ON SLOPE)
NTS



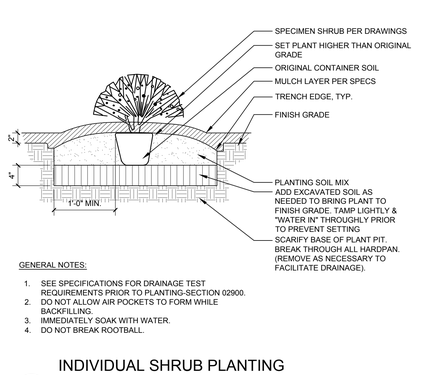
9 L-9.0 TYPICAL TREE ROOT BALL PIT (NO WELL)
3/4" = 1'-0"



10 L-9.0 TYP. CULTIVATED TREE PIT IN PLANTING AREA
3/4" = 1'-0"

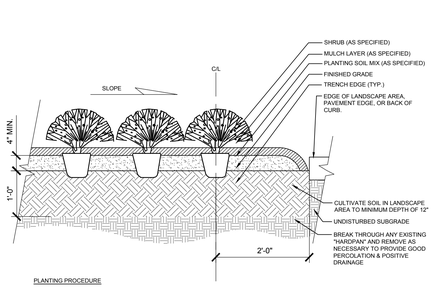


11 L-9.0 MASS PINE PLANTING AND STAKING ON SLOPE
1/8" = 1'-0"



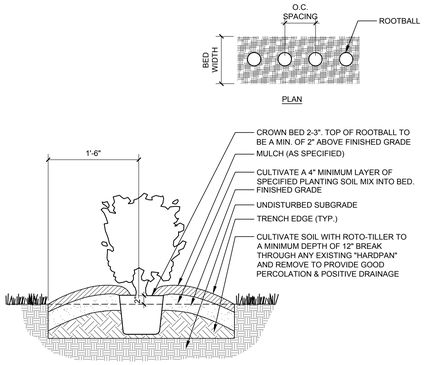
GENERAL NOTES:
1. SEE SPECIFICATIONS FOR DRAINAGE TEST REQUIREMENTS PRIOR TO PLANTING-SECTION 02900.
2. DO NOT ALLOW AIR POCKETS TO FORM WHILE BACKFILLING.
3. IMMEDIATELY SOAK WITH WATER.
4. DO NOT BREAK ROOTBALL.

12 L-9.0 INDIVIDUAL SHRUB PLANTING (CONTAINER) IN MULCH PLANTING AREA
NTS

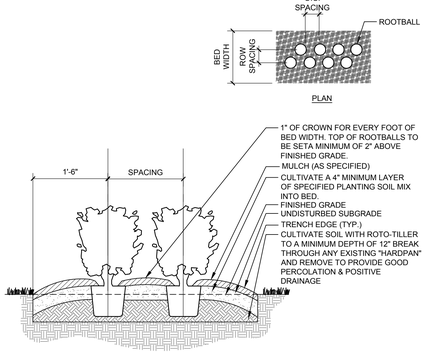


PLANTING PROCEDURE
1. LAYOUT BED AND OUTLINE WITH TRENCH EDGE. PLACE SOIL FROM EDGE WITHIN BED.
2. ROTOTILL BED TO 12" DEPTH. SPREAD 4" MIN. LAYER OF PLANTING SOIL MIX OVER BED. ROTOTILL SOIL MIX INTO TOP OF BED.
3. INSTALL PLANTS & MULCH. WATER THOROUGHLY.

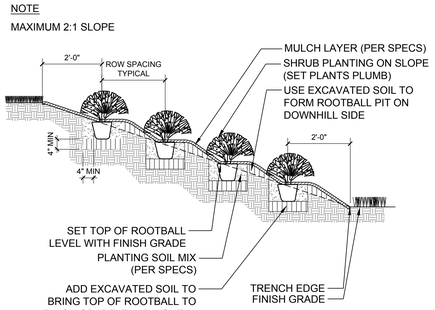
13 L-9.0 SHRUB PLANTING IN MULCHED AND CULTIVATED PLANTING AREA
3/4" = 1'-0"



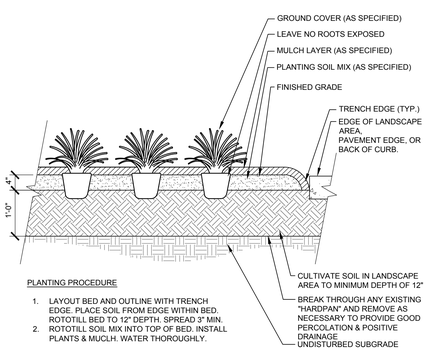
14 L-9.0 HEDGE PLANTING (SINGLE ROW)
NTS



15 L-9.0 HEDGE PLANTING (DOUBLE ROW)
NTS

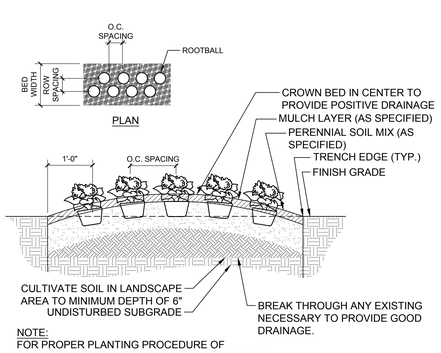


16 L-9.0 SHRUB PLANTING ON SLOPE
NTS



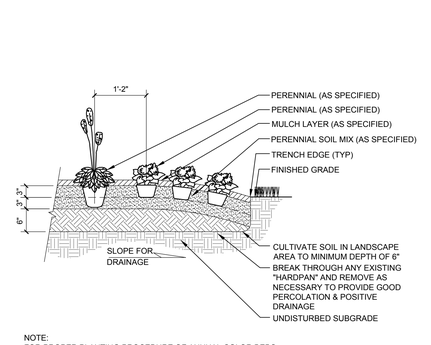
PLANTING PROCEDURE
1. LAYOUT BED AND OUTLINE WITH TRENCH EDGE. PLACE SOIL FROM EDGE WITHIN BED. ROTOTILL BED TO 12" DEPTH. SPREAD 3" MIN.
2. ROTOTILL SOIL MIX INTO TOP OF BED. INSTALL PLANTS & MULCH. WATER THOROUGHLY.

17 L-9.0 GROUNDCOVER PLANTINGS IN MULCHED CULTIVATED PLANTING AREAS
3/4" = 1'-0"



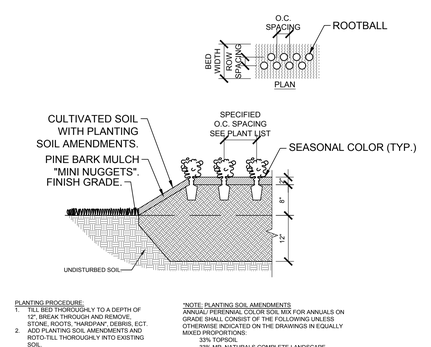
NOTE:
FOR PROPER PLANTING PROCEDURE OF PERENNIAL BEDS,REFER TO "ANNUAL COLOR AND PERENNIAL PLANTING" NOTES.

18 L-9.0 PERENNIAL BED PLANTING INDIVIDUAL SPECIES
NTS



NOTE:
FOR PROPER PLANTING PROCEDURE OF ANNUAL COLOR BEDS, REFER TO "ANNUAL COLOR AND PERENNIAL PLANTING" NOTES

19 L-9.0 TYPICAL PERENNIAL PLANTING DETAIL
3/4" = 1'-0"



PLANTING PROCEDURE:
1. TILL BED THOROUGHLY TO A DEPTH OF 12". BREAK THROUGH AND REMOVE, STONE, ROOTS, "HARDPAN", DEBRIS, ECT.
2. ADD PLANTING SOIL AMENDMENTS AND ROTO-TILL THOROUGHLY INTO EXISTING SOIL.
3. MOUND ENTIRE BED 6" ABOVE ORIGINAL GRADE.
4. PLANT ANNUALS, EDGE BED AND MULCH.
5. WATER THOROUGHLY.

*NOTE: PLANTING SOIL AMENDMENTS
ANNUAL/ PERENNIAL COLOR SOIL MIX FOR ANNUALS ON GRADE SHALL CONSIST OF THE FOLLOWING UNLESS OTHERWISE INDICATED ON THE DRAWINGS IN EQUALLY MIXED PROPORTIONS:
33% TOPSOIL
33% MR. NATURALS COMPLETE LANDSCAPE MIX CLAY BY MR. NATURALS OR EQUIVALENT
33% BLACK COW MANURE OR EQUIVALENT
OSMOCOTE 14-14-14 SMART RELEASE
FERTILIZER PER MANUFACTURERS SPECIFICATIONS

20 L-9.0 PERENNIAL SEASONAL COLOR PLANTING DETAIL
NTS

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RIVERGATE MALL INFRASTRUCTURE

1000 RIVERGATE PARKWAY
GOODLETTSVILLE, DAVIDSON COUNTY, TENNESSEE 37072

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No.	Drawing Issuance	Date
01	SITE PLAN SUBMITTAL	11/10/25
02	SITE PLAN RE-SUBMITTAL	01/23/26
03	SITE PLAN RE-SUBMITTAL	02/06/26
04	SITE PLAN RE-SUBMITTAL	05/12/26

No.	Drawing Revision	Date

Sheet Title

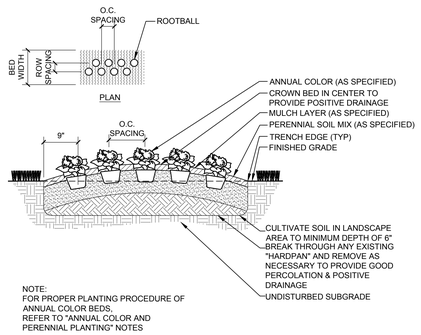
PLANTING DETAILS

Sheet Number

L-9.0

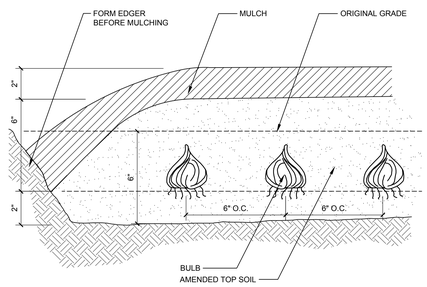
NOT FOR CONSTRUCTION

PROJECT NUMBER: 2024-041



NOTE:
FOR PROPER PLANTING PROCEDURE OF ANNUAL COLOR BEDS, REFER TO "ANNUAL COLOR AND PERENNIAL PLANTING" NOTES

1 L-9.1 TYPICAL ANNUAL COLOR PLANTING DETAIL
NTS



2 L-9.1 TYPICAL BULB PLANTING DETAIL
3" = 1'-0"

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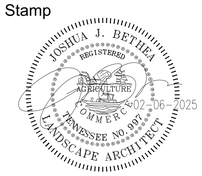

No.	Drawing Issuance	Date
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02	SITE PLAN RE-SUBMITTAL	01/23/26
03	SITE PLAN RE-SUBMITTAL	02/06/26
04	SITE PLAN RE-SUBMITTAL	05/12/26

No.	Drawing Revision	Date

Sheet Title

PLANTING DETAILS

Sheet Number

L-9.1

NOT FOR COSNTRUCTION
PROJECT NUMBER: 2024-041



CONCEPT SITE PLAN - 95 UNITS TOTAL + GYM

1219 S DICKERSON PIKE STORAGE
GOODLETTSVILLE | TN

06.09.2026

SCALE: 1" = 40'-0"

N

PRELIMINARY - NOT FOR CONSTRUCTION


FOS GYM
FOS GYM