A G E N D A
JAMES CITY COUNTY PLANNING COMMISSION
REGULAR MEETING
County Government Center Board Room
101 Mounts Bay Road, Williamsburg VA 23185
January 6, 2021
6:00 PM

A. CALL TO ORDER

B. ROLL CALL

C. PUBLIC COMMENT

D. REPORTS OF THE COMMISSION

E. CONSENT AGENDA

1. Minutes of the October 7, 2020 Regular Meeting
2. Minutes of the October 27, 2020 Joint Work Session with the Board Of Supervisors
3. Development Review Committee Action Item: C-20-0079 Forest Heights Phase III

F. PUBLIC HEARINGS

1. Z-19-0013/MP-19-0011. Colonial Heritage Deer Lake Rezoning and Master Plan Amendment
2. Z-20-0005. Powhatan Terrace Proffer Amendment
3. SUP-20-0018. 8251 Richmond Road Hertzler and George Landscaping
4. SUP-20-0017. Williamsburg Crossing Bruster's Real Ice Cream Amendment

G. PLANNING COMMISSION CONSIDERATIONS

H. PLANNING DIRECTOR'S REPORT

1. Planning Director's Report - January 2021

I. PLANNING COMMISSION DISCUSSION AND REQUESTS

J. ADJOURNMENT

AGENDA ITEM NO. E.1.

ITEM SUMMARY

DATE: 1/6/2021

TO: The Planning Commission

FROM: Paul D. Holt, III, Secretary

SUBJECT: Minutes of the October 7, 2020 Regular Meeting

ATTACHMENTS:

	Description	Type
🗋	Minutes of the October 7, 2020 Regular Meeting	Minutes

REVIEWERS:

Department	Reviewer	Action	Date
Planning Commission	Holt, Paul	Approved	12/22/2020 - 11:23 AM
Planning Commission	Holt, Paul	Approved	12/22/2020 - 11:23 AM
Publication Management	Daniel, Martha	Approved	12/22/2020 - 11:36 AM
Planning Commission	Holt, Paul	Approved	12/22/2020 - 11:38 AM

M I N U T E S
JAMES CITY COUNTY PLANNING COMMISSION
REGULAR MEETING
County Government Center Board Room
101 Mounts Bay Road, Williamsburg VA 23185
October 7, 2020
6:00 PM

A. CALL TO ORDER

Mr. Rich Krapf called the meeting to order at 6 p.m.

1. This meeting will be held electronically pursuant to the Continuity of Government Ordinance re-adopted by the Board of Supervisors on April 14, 2020 and September 8, 2020, and will be aired live on the County's government public access channel, JCC TV 48, via Live Stream on the County website: https://jamescitycountyva.gov/220/Live-Stream, and via the County's YouTube channel: https://www.youtube.com/user/jamescitycounty. Citizen comments may be submitted via US Mail to the Planning Commission Secretary, PO Box 8784, Williamsburg, VA 23187, via electronic mail to community.development@jamescitycountyva.gov, or by leaving a message at 757-253-6750. Citizens may attend and participate in the electronic meeting via Zoom at https://zoom.us/j/93617811717 or dial any of the following numbers for listen-only audio of the meeting: 929-205-6099, 312-626-6799, 301-715-8592, 346-248-7799, 669-900-6833, or 253-215-8782 using Webinar ID: 936 1781 1717. Any public comment received through the above means will be shared at the meeting. Citizens using the link above who would like to speak during public comment and any public hearing will also be able to speak during those times.

2. Zoom Meeting Instructions

B. ROLL CALL

Planning Commissioners Present:
Jack Haldeman
Rich Krapf
Tim O'Connor
Frank Polster
Julia Leverenz
Barbara Null

Planning Commissioners Absent:
Rob Rose

Staff Present:
Paul Holt, Director of Community Development and Planning
Max Hlavin, Deputy County Attorney
Tom Leininger, Senior Planner

1. Virtual Meeting Resolution

A motion to Approve was made by Frank Polster, the motion result was Passed.

AYES: 6 NAYS: 0 ABSTAIN: 0 ABSENT: 1
Ayes: Haldeman, Krapf, Leverenz, Null, O'Connor, Polster
Absent: Rose

Mr. Krapf provided a summary of the resolution allowing the Planning Commission to hold the virtual meeting.

Mr. Frank Polster made a motion to approve the resolution.

On a roll call vote the Commission voted to approve the resolution. (6-0)

C. PUBLIC COMMENT

Mr. Krapf opened Public Comment.

As no one wished to speak, Mr. Krapf closed Public Comment.

D. REPORTS OF THE COMMISSION

Mr. Polster stated that the Policy Committee did not meet in September 2020.

Mr. Jack Haldeman stated that the Development Review Committee (DRC) met on September 23, 2020, at 4 p.m. to consider Site Plan-20-0060. Chickahominy Riverfront Park Shoreline Stabilization - Tree Removal Site Plan Amendment. Mr. Haldeman stated that a site plan amendment proposing a shoreline stabilization project at Chickahominy Riverfront Park was submitted and approved last year. Mr. Haldeman stated that in the interim, sections of the site continue to erode, and six additional trees less than 12 inches in diameter must be removed within this section in order to effectively address the problem and include this additional area in the stabilization effort. Mr. Haldeman stated that the Planning Director found removal of these trees acceptable, but the DRC must also approve the request, which it did unanimously.

E. CONSENT AGENDA

1. Minutes of the September 2, 2020, Regular Meeting

2. Development Review Committee Action Item: SP-20-0060. Chickahominy Riverfront Park Shoreline Stabilization - Tree Removal SP Amendment

3. Proposed calendar update for 2020-2021

Mr. Polster made a motion to approve the Consent Agenda.

On a voice vote, the Commission approved the Consent Agenda 6-0.

F. PUBLIC HEARINGS

1. SUP-20-0016. Norge Solar Farm SUP Amendment

A motion to Approve was made by Frank Polster, the motion result was Passed.
AYES: 6 NAYS: 0 ABSTAIN: 0 ABSENT: 1

Ayes: Haldeman, Krapf, Leverenz, Null, O'Connor, Polster
Absent: Rose

Mr. Tom Leininger, Senior Planner, stated that Ms. Robin Lucey has applied for a Special Use Permit (SUP) amendment for 320, 339, 341, and 345 Farmville Lane to amend SUP-0028-2016 approved by the Board of Supervisors on January 9, 2018.

Mr. Leininger stated that the SUP amendment would amend condition No. 17 of the approved resolution to extend the commencement of construction by 12 months from the original expiration date. Mr. Leininger stated that if this amendment is approved, the new expiration date would be January 9, 2023. Mr. Leininger stated that there are no further changes to the remaining SUP conditions or master plan.

Mr. Leininger stated that staff finds the proposal to be compatible with the Comprehensive Plan, Zoning Ordinance, and surrounding development, and recommends that the Planning Commission recommend approval of this application subject to the proposed condition. Mr. Leininger noted that since the release of the agenda materials, staff received one citizen comment that was forwarded to the Commission.

Mr. Tim O'Connor inquired if any of the prior legislation to extend expiration dates for site plans and legislative applications would apply to this case.

Mr. Max Hlavin, Deputy County Attorney, stated that approvals for all of the plans covered under the prior legislation expired as of July 1, 2020.

Mr. Krapf called for disclosures from the Commission.

There were no disclosures.

Mr. Krapf opened the Public Hearing.

Mr. Krapf invited the applicant to speak.

Ms. Robin Lucey, Business Development Manager, Dominion Energy, stated that she appreciated the Commission's time in reviewing the application and that she would be happy to answer any questions the Commission might have.

Mr. O'Connor inquired if the applicant is certain that an additional 12 months is sufficient to obtain the necessary permits and begin construction. Mr. O'Connor noted that he would prefer to grant a longer extension at this time rather than require the applicant to keep going through the legislative process.

Ms. Lucey stated that the current timeline should be more than sufficient.

Mr. Krapf requested that staff provide a summary of the citizen comment that was received by email. Mr. Leininger stated that the email noted concerns about buffering and assurance that the Resource Protection Area (RPA) would not be disturbed.

Mr. Leininger noted that during the site plan stage, staff would be able to review the limits of clearing and address any concerns.

As no one else wished to speak, Mr. Krapf closed the Public Hearing.

Mr. Polster noted that it is permissible to disturb the RPA in the A-1, General Agricultural Zoning District. Mr. Polster stated that it appeared that the citizen concern was related to removal of trees. Mr. Polster further stated that even if the disturbed area is replanted, the difference between the mature tree that could be removed and the new plantings would reduce the coverage of the buffer.

Mr. Holt stated that as part of the site plan review process, staff will assess the plan to ensure that what is shown for proposed site clearing and what is shown for proposed construction substantively matches up with the master plan.

Mr. Polster noted that the County has spent substantial funds to stabilize the stream on the north side of the property.

Mr. Polster further stated that he is concerned about losing the investment by stirring up Yarmouth Creek with this project.

Mr. Haldeman inquired about the staff memorandum reference to the A-2, Limited Agricultural District.

Mr. Holt stated that the District was phased out many years ago.

Mr. Polster made a motion to recommend approval of the application.

On a roll call vote, the Commission voted to recommend approval of SUP-20-0016. Norge Solar Farm SUP Amendment. (6-0)

G. PLANNING COMMISSION CONSIDERATIONS

There were no items for Planning Commission Consideration.

H. PLANNING DIRECTOR'S REPORT

1. Planning Director's Report - October 2020

Mr. Holt stated that he did not have anything in addition to the information provided in the Agenda Packet.

I. PLANNING COMMISSION DISCUSSION AND REQUESTS

Mr. Krapf noted that Ms. Leverenz will represent the Commission at the October 2020 Board of Supervisors meeting.

Mr. Polster stated that by 2045 Virginia is expected to be 100% carbon free. Mr. Polster further stated that he recognizes that Dominion Energy will be increasing its efforts to establish solar energy production quickly and in numerous locations. Mr. Polster stated that under the auspices of the Virginia Department of Environmental Quality and the Virginia Department of Conservation and Recreation, a Pollinator-Smart Comprehensive Manual has been prepared for use by the solar industry. Mr. Polster further stated that he wished that the Commission would have had this document to use as a checklist during review of the two Solar Farm applications. Mr. Polster stated that the localities have a responsibility regarding siting concerns, health and safety issues, and protection of the environment. Mr. Polster noted that under the County's Zoning Ordinance, developers can qualify for density bonuses by meeting certain LEED requirements. Mr. Polster stated that he would like to see incentives for projects other than housing developments when they apply LEED principles. Mr. Polster further stated that coming out of the development of the manual were sample ordinances for wind and solar

farms that incorporated incentives for environmentally friendly construction techniques. Mr. Polster stated that he would like to determine if there is interest from the Commissioners in bringing this forward as an ordinance update.

Mr. Krapf stated that he finds it to be an excellent idea. Mr. Krapf further stated that the timing is perfect to incorporate this in the Comprehensive Plan discussions. Mr. Krapf stated that including this as an action item under the Environmental section would serve as the basis for an Initiating Resolution for the Policy Committee to consider developing the ordinance.

Mr. O'Connor inquired if the Pollinator-Smart Comprehensive Manual includes any guidance on prime agricultural land. Mr. O'Connor stated that the use of prime agricultural land should be included in the conversation.

Mr. Polster noted that to site a solar or wind farm, it requires a way to connect to the power grid. Mr. Polster further stated that if a site is located in rural lands, the question would be whether there is a place to connect to the grid. Mr. Polster noted that there are major transmission lines running through the County and that siting facilities in proximity to the transmission line might be an option. Mr. Polster stated that this is a subject that must be discussed to address the subject.

Mr. Krapf stated that in the course of the discussion or drafting an ordinance, there is an opportunity to consider performance standards and limitations to avoid creating adverse effects.

Mr. O'Connor stated that some of the transmission lines are located in prime agricultural land, so there is a very real possibility that those parcels could be negatively affected.

Mr. O'Connor stated that on a separate note, he wondered if there was an update on the issue of short-term rentals.

Mr. Holt stated that there will be a better sense of when that discussion will occur after the work session with the Board of Supervisors on October 27, 2020. Mr. Holt stated that following the work session, staff would focus on setting the schedule of discussion topics for the next three months.

Mr. Haldeman inquired about the process for retiring a Zoning District.

Mr. Holt stated that it is not often that a Zoning District is retired. Mr. Holt stated that it is a legislative process reviewed by the Planning Commission and decided on by the Board of Supervisors. Mr. Holt further stated that there would be the usual public notice process and affected property owners would be notified.

Mr. Polster stated that he is not certain there was an answer to his question about Commission interest in discussing a Solar and Wind Farm Ordinance as part of the Comprehensive Plan review and considering any strategic actions under the environmental section of the Comprehensive Plan. Mr. Polster requested a voice vote on the matter.

Mr. Holt stated that he had concerns about doing the work of the Planning Commission Working Group (PCWG) at this different venue and under this agenda. Mr. Holt recommended that, if there is a consensus, the Commission could make a request to him to include these items with recommendations for Goals, Strategies, and Actions (GSAs).

Mr. Polster stated that he is okay with that.

As no one expressed dissent to requesting Mr. Holt to include the two items with the

recommendations for GSAs, Mr. Krapf requested that Mr. Holt proceed with adding them to the items for GSAs to be considered by the PCWG.

J. ADJOURNMENT

Ms. Julia Leverenz made a motion to adjourn to the PCWG meeting on October 19, 2020.

The meeting was adjourned at approximately 6:42 p.m.

_____	_____
Paul D. Holt, III, Secretary	Rich Krapf, Chair

AGENDA ITEM NO. E.2.

ITEM SUMMARY

DATE: 1/6/2021

TO: The Planning Commission

FROM: Paul D. Holt, III, Secretary

SUBJECT: Minutes of the October 27, 2020 Joint Work Session with the Board Of Supervisors

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ATTACHMENTS:

	Description	Type
🗋	Minutes of the October 27, 2020 Joint Work Session with the JCC Board Of Supervisors	Minutes

REVIEWERS:

Department	Reviewer	Action	Date
Planning Commission	Holt, Paul	Approved	12/23/2020 - 1:35 PM
Planning Commission	Holt, Paul	Approved	12/23/2020 - 1:36 PM
Publication Management	Burcham, Nan	Approved	12/23/2020 - 1:39 PM
Planning Commission	Holt, Paul	Approved	12/23/2020 - 1:40 PM

M I N U T E S
JAMES CITY COUNTY BOARD OF SUPERVISORS
WORK SESSION
County Government Center Board Room
101 Mounts Bay Road, Williamsburg, VA 23185
October 27, 2020
4:00 PM

A. CALL TO ORDER

B. ROLL CALL

Michael J. Hipple, Vice Chairman, Powhatan District
Ruth M. Larson, Berkeley District
P. Sue Sadler, Stonehouse District - via phone
John J. McGlennon, Roberts District
James O. Icenhour, Jr., Chairman, Jamestown District

Scott A. Stevens, County Administrator
Adam R. Kinsman, County Attorney

Mr. Icenhour asked for a motion to allow Ms. Sadler to participate in the meeting remotely, due to an ongoing medical condition that prevented her attendance.

A motion to allow Ms. Sadler to participate remotely was made by Ruth Larson, the motion result was Passed.
AYES: 4 NAYS: 0 ABSTAIN: 0 ABSENT: 1
Ayes: Hipple, Icenhour Jr, Larson, McGlennon
Absent: Sadler

Ms. Sadler acknowledged her presence on the call.

C. BOARD DISCUSSIONS

Mr. Icenhour acknowledged Mr. Rich Krapf, Planning Commission Chairman, would call the Planning Commission meeting to order.

At approximately 4:45 p.m., Mr. Krapf called the Planning Commission Working Group (PCWG) October 27, 2020, meeting to order.

Mr. Paul Holt, Director of Community Development and Planning, called the roll.

ROLL CALL

Planning Commissioners Present:
Barbara Null
Julia Leverenz
Frank Polster
Jack Haldeman
Tim O'Connor
Rich Krapf

Planning Commissioners Absent:
Rob Rose

1. Briefing on the Engage 2045 Comprehensive Plan Update Process

Ms. Ellen Cook, Principal Planner, addressed the Board with a PowerPoint presentation on the Engage 2045 Comprehensive Plan Update. Ms. Cook noted this update represented the fourth check-in with the Board. She further noted Mr. Vlad Gavrilovic, Principal with EPR, P.C., and Ms. Leigh Anne King, Director, Clarion Associates. Ms. Cook noted Ms. Ginny Wertman, PCWG member and Acting Chair of the Community Participation Team (CPT) was also in attendance. Ms. Cook further noted the significant progress the PCWG, CPT, consultants, and staff had made in the Comprehensive Plan update since the May 2020 meeting. Ms. Cook noted the PowerPoint presentation focused on a summary of the second round of public input and the scenario planning process results. She further noted two frameworks, Revising the Plan and the Preferred Scenario, would be highlighted in the presentation.

Ms. King addressed the Board highlighting the five-phase project process in the PowerPoint presentation. She noted the community engagement process included four key components. Ms. King noted public engagement in the process was a cumulative effort which was built on the existing 2035 Comprehensive Plan, the 2019 Citizen Survey, Round One input, and the Round Two input. She further noted two additional rounds of input were upcoming. Ms. King continued the presentation with statistical breakdowns of key issues from the 2019 Citizen Survey. She noted five public input priorities were developed from Round One of the Summit on the Future: nature; community character; affordable housing; economic development; and quality of life. Ms. King continued the presentation highlighting information in each of those five key areas. She noted specifics from Round Two, which included a virtual assembly and online questionnaires to gather additional input. She further noted the importance of education, and while not a focus of a specific 2035 Comprehensive Plan goal, it was identified as an important component of the community per the 2019 Citizen Survey.

Mr. Gavrilovic continued the presentation and addressed the scenario effort planning. He noted two scenarios were developed with one showing current trends and the second showing an alternative vision based on public input. He further noted both scenarios were run through three computer models: land use indicators, transportation indicators, and economic and facilities indicators. Mr. Gavrilovic noted the results were shared with the PCWG and the public and incorporated into a questionnaire for citizen response. He continued the PowerPoint presentation highlighting the results of the scenario testing and modeling conclusions from the PCWG. Mr. Gavrilovic noted these results were shared with the public through maps, images, and numbers, which were incorporated into an online questionnaire for citizen preference on the scenarios. He further noted the process regarding the questionnaire in the presentation, adding the input was very robust and thorough. Mr. Gavrilovic continued the PowerPoint presentation with a statistical breakdown for both scenarios in the three areas of maps, images, and numbers. He noted Scenario B was the preferred choice in all three areas and a more site-specific evaluation will need to be done to create the actual Future Land Use map. Mr. Gavrilovic noted the Round Two inputs were consistent with the 2019 Citizen Survey and the Round One public input priorities. He further noted the CPT's and PCWG's roles in the development of the information.

Ms. Wertman addressed the Board noting the coordination between the CPT and the Planning Commission on the instruments to gather public input. She noted the numerous opportunities for citizens to provide open-ended comments and the valuable information gathered from those comments. She further noted CPT-planned in-person events were abandoned due to the pandemic, but added social and digital media were used in that absence. Ms. Wertman noted

the use of advertising on the Williamsburg Area Transit Authority buses as well as live question and answer sessions during virtual assembly. She further noted the use of the Williamsburg Regional Library bookmobile for electronic survey access as well as paper copies upon request through the Planning Division for citizens who may have electronic restrictions. Ms. Wertman noted a significant decline in citizen participation even with those actions taken. She further noted most of those participants indicated this was the first time they had been involved in a County planning process. Ms. Wertman noted this was largely due to the outreach efforts and the CPT would continue to find creative ways to engage citizens regarding participation and feedback.

Mr. Icenhour thanked Ms. Wertman and asked for questions and/or comments from the Board.

Mr. McGlennon noted the presentation was very helpful and useful. He further noted a clear sense from citizens on what they did and did not want in the County. He asked about scenarios regarding management of the population growth and the possible incorporation into the next round.

Mr. Gavrilovic noted the scenarios had purposely held the populations constant in establishing a standard baseline, but added population adjustments could be incorporated into policies and actions.

Mr. Hipple noted more development appeared to be mostly in the Primary Service Area (PSA) and possible changes to how the PSA is currently used. He further noted those changes could potentially free up the rural lands and allow the rural character to remain intact. Mr. Hipple noted reviewing if the PSA was truly in the right place with directional adjustments but not size reduction. He further noted a potential protection zone for rural roads so no change would occur in those areas.

Ms. Sadler asked if the pandemic had changed the timeline for the process. She inquired if additional meetings would be factored into the timeline.

Ms. Tammy Rosario, Assistant Director of Community Development and Planning, noted some adjustment had taken place with the overall timeline. She further noted the original Round Two Public Input Session schedule had been impacted by a month. Ms. Rosario noted the pandemic, in combination with the complicated nature of the material, had impacted the schedule also. She further noted adjustments within the timeline to address the process as a possible late summer Board consideration item. Ms. Rosario noted an approximate two-month delay in the process to date.

Ms. Sadler thanked Ms. Rosario for the update. She inquired if citizens who had not participated in the survey would have an opportunity to do so.

Ms. Rosario responded yes. She noted an extension of the public input period from three or four to seven weeks. She further noted the CPT was currently considering that point.

Ms. Sadler asked if late arrivals to the process would feel their input was still important. She stressed that citizen involvement was crucial.

Ms. Rosario responded yes the input would be valuable and welcome in the process. She noted the educational aspect of the process so that each new participant would understand and want to be involved.

Mr. McGlennon referenced Mr. Hipple's comments on the PSA and the preservation of agricultural area surrounding it. He noted a need to also protect natural areas within the PSA

too. He further noted reexamining property within the PSA for redevelopment and restoration.

Mr. Gavrilovic noted citizens had denoted areas for preservation on the Preserve Change Map at the November 2019 Summit. He further noted the feedback reflected a wide range of preservation in and out of the PSA and the specific features of that preservation.

Ms. Larson noted citizen input was paramount, but questioned if citizens fully understood the process. She further noted input from the PCWG for changes to the Comprehensive Plan. Ms. Larson inquired how to address people and let them know that not everything will be obtained in this Comprehensive Plan. She questioned, based on past experience, if people were okay if some things were addressed and they felt someone was listening to their input.

Ms. King addressed the point referencing a comment Mr. Hipple had made during work on the Strategic Plan. She noted that not everyone would agree on all points, but if it was a good consensus plan, that was the goal. Ms. King further noted listening to all input and building on it. She noted the next steps in the process addressed specific policy direction and implementation. Ms. King further noted transparency and open discussion were important.

Mr. Hipple noted finding the balance and harmony between development and greenspace. He further noted the importance of those elements for citizens, developers, and the County.

Ms. Larson noted the importance of the things that were already established and could not be changed. She further noted any change would be a process.

Ms. Cook noted Ms. King would continue the presentation by addressing Visions, Goals, and Policies for the nine chapters of the Comprehensive Plan.

Ms. King noted in the PowerPoint presentation that the process was moving in Phase Three. She further noted revision of the plan framework was based on the 2035 Comprehensive Plan and encompassed Vision, Goals, Strategies, and Actions (GSAs). Ms. King continued the presentation highlighting significant overlap and consistency in themes from the 2035 Vision Statement which are seen in the current input process. She noted GSAs from the 2035 Comprehensive Plan and gave statistical information on each component. Ms. King further noted that in analyzing the public input, both new policy ideas and enhancement of existing policies became evident as noted with Land Use.

Ms. Larson asked what would be an example of the policy idea that stated ‘support a greater mix of uses within or adjacent to existing and new neighborhoods.’

Ms. King noted this included more biking and walking opportunities between various communities and not just within isolated communities.

Mr. Gavrilovic noted this addressed citizens’ responses for the opportunities to walk to shopping, restaurants, or other amenities. He further noted potential redevelopment of areas as mixed use to support those opportunities.

Ms. King continued the presentation noting policy considerations for Community Character. She noted the next goal, Economic Development, received public input for focus on higher paying jobs and industries. Ms. King further noted policy ideas for consideration with Housing, which included clarification on the local housing market targets. She continued the presentation addressing Transportation. Ms. King noted strong public support for additional biking and walking facilities. She further noted Parks and Recreation and Public Facilities policy considerations in the PowerPoint presentation. Ms. King addressed the final component of Population Needs.

Mr. Gavrilovic noted a 50-page document, the Preferred Scenario Framework, was included in the Agenda Packet. He further noted the presentation indicated the key ideas from the Preferred Scenario Map, the alternative Scenario B. Mr. Gavrilovic discussed the six main points from the citizen input, which included limiting new residential development in rural lands, potential reduction of the PSA, redesignation of land use toward Mixed Use. He noted Complete Communities would benefit from the Mixed Use designation to encompass walking to shops, restaurants, and other amenities together within the community. Mr. Gavrilovic continued the presentation highlighting additional planning concepts that embraced current market trends and best practices in the profession.

Ms. Leverenz addressed the Board noting the Planning Commission's review on the GSA framework, which built upon the 2035 plan. She noted similarities and overlaps in the 2035 Vision Statement, but added there was enough variation in the public input themes to warrant reviewing the language and organization of the Vision Statement. Ms. Leverenz cited the Nature theme from the 2035 Vision Statement and the 2045 public input both included the intent to protect sensitive features such as greenspace. She noted the public input also referenced water quality and sea level rise. She further noted the PCWG felt that a revision of the Vision Statement was needed using the input as a guide. Ms. Leverenz noted education as an important factor to be considered in any revisions. She further noted watching the gap areas, as seen during the PowerPoint presentation, particularly moving forward with the Strategies and Actions in the Comprehensive Plan. Ms. Leverenz added if there was an area the public felt was important, but did not think the County was there yet, that needed to be considered. She noted Round Two public input brought new ideas forward, which the Planning Commission added to as well. She further noted the importance of these ideas during the review process.

Mr. Krapf addressed the Board and expressed his thanks for the opportunity to share the PCWG's thoughts on the Scenario Framework document. He noted the PCWG had spent considerable time on this process, adding that it was new and very complex. He further noted some of the PCWG's work had included guiding the concepts for the scenario modeling process, reviewing the indicator results for the two scenarios, developing a questionnaire with the public in coordination with the CPT, and consideration of the questionnaire results and concepts discussed within the framework document. Mr. Krapf noted the PCWG reviewed the input and found significant support for the Scenario B model, which represented a departure from the current trend in James City County. He further noted the next steps in the PCWG's review of policies and the Land Use map.

Mr. Icenhour inquired if there was any discussion or questions from the Board or the PCWG. He noted the presentation that showed the gap analysis was enlightening. He further noted it indicated areas where citizens liked the idea, but acknowledged the County was not there yet. Mr. Icenhour noted he was very pleased with the presentation and results and felt confident moving to the next step in the process.

Mr. Hipple noted he felt it was a well put together plan with good citizen information, but added he was disappointed there had not been more participation. He further noted caution regarding making things too tight and adjusting the PSA. He added he was for some growth to keep things moving, but also wanted to protect the rural areas. Mr. Hipple stressed caution on changing the land use, but supported limited growth that was managed and planned. He noted he liked how the plan addressed accessibility to waterways and safer bike trails.

Ms. Larson noted the hard work that had been done. She further noted not just having a Comprehensive Plan that had check boxes, but a real working plan on which to make decisions. Ms. Larson expressed concern about how to be all things to all people and possible Board actions and decisions going forward, particularly with land use. She noted attendance at Round One of public input and the diverse age group that attended, but added the pandemic's

impact on the schedule. Ms. Larson expressed hope that people would continue to stay involved in the process. She thanked everyone for their involvement.

Mr. McGlennon thanked the PCWG, CPT, and the consultants for their hard work. He noted the opportunity to rethink and envision new things as citizens provide input on how they want things to be in the County. He noted as the process moved forward to make citizens aware of the difficult choices that will make a better community. Mr. McGlennon noted affordable housing is an area where citizens know tough decisions need to be made if particular policies or needs within the community are valued. He further noted he felt the process was heading in the right direction and looked forward to additional participation in future stages.

Ms. Sadler thanked everyone involved in the process and noted she felt they were moving in the right direction. She further noted she and Mr. Hipple both lived in the rural part of the County and she echoed his thoughts on development. Ms. Sadler noted citizen concern on maintaining the rural character and its uniqueness. She further noted development and school concerns.

Mr. Icenhour noted a clear message to move forward was being sent to move ahead with the Preferred Scenario Framework. He further noted he was impressed with the presentation and urged the group to keep up the good work.

Mr. Holt noted there were several housekeeping items for the Planning Commission to address.

Mr. Krapf thanked the Board for the positive reinforcement.

Mr. Holt noted as the Planning Commission meeting this evening was a public meeting with a physical quorum present, rather than a virtual meeting held under the County's Continuity of Government Ordinance, remote participation of Ms. Leverenz and Mr. O'Connor required approval from a majority of the Planning Commission members physically present at the evening's meeting. Mr. Holt noted the approval for both could be done by the same motion and vote. He recommended Mr. Krapf call for said motion and a voice vote would be recorded for the minutes.

Mr. Krapf asked for a motion to accept the virtual participation of Ms. Leverenz, due to a medical condition that prevents her from attending, and Mr. O'Connor, due to personal reasons, as stated.

Ms. Null made the motion.

Mr. Krapf noted the vote passed unanimously. He asked for a motion to adjourn the PCWG meeting until 4 p.m. on November 9.

Ms. Null made the motion.

Mr. Krapf noted the vote passed unanimously.

At approximately 6:04 p.m., Mr. Krapf adjourned the Planning Commission Working Group meeting.

At approximately 6:04 p.m., Ms. Sadler left the Board of Supervisors meeting.

2. Contract Award and Lease-Purchase - Portable Radio Replacement

A motion to Approve was made by Ruth Larson, the motion result was Passed.
AYES: 4 NAYS: 0 ABSTAIN: 0 ABSENT: 1
Ayes: Hipple, Icenhour Jr, Larson, McGlennon
Absent: Sadler

Fire Chief Ryan Ashe addressed the Board referencing the Contract Award resolution before it. He noted these devices were used by both the Fire and Police Departments. He further noted the current equipment was purchased in 2003-2004 as part of the regional radio system upgrade. Chief Ashe noted difficulty in obtaining parts in addition to the units were at their end-of-life stage. He further noted the replacements would be for Fire, Police, Sheriff's Office, and Emergency Communications. Chief Ashe noted enhanced technological features on the units. He further noted originally this was funded as a cash purchase, but with COVID-19 and the current financial climate and after discussion with Ms. Sharon Day, Director of Financial and Management Services, and staff, it was determined a lease-purchase option was the best route. Chief Ashe noted the resolution in the Agenda Packet allowed the County Administrator to enter into the contract and transfer money from the Capital Improvements Program Fund to the Debt Service Fund for the initial payment with the four additional payments to be included in future budgets.

Ms. Larson noted it was impressive the units had lasted the duration, particularly with technological advances. She inquired about the lifespan on the new models.

Chief Ashe noted 12-15 years was the expectation. He credited personnel for taking care of their equipment as well as the maintenance program, but noted the department was excited about the upgraded units.

Ms. Larson noted those technological advances were very important in connecting first responders with the Call Center, both for the first responders and the citizens.

Mr. Icenhour noted Item No. 3, 2021 Legislative Agenda items would be moved to the end of the Board Discussions.

3. Contract Award-JCC Marina Improvements

A motion to Approve was made by Ruth Larson, the motion result was Passed.
AYES: 4 NAYS: 0 ABSTAIN: 0 ABSENT: 1
Ayes: Hipple, Icenhour Jr, Larson, McGlennon
Absent: Sadler

Mr. John Carnifax, Director of Parks and Recreation, addressed the Board noting the Agenda Packet contained a memorandum and resolution for a contract award for Phase One of the Marina. He noted last year only one bid had been received, but three bids had been received this year. Mr. Carnifax further noted Carolina Marine Structures, Inc. received the bid, adding the company was currently working on the shoreline stabilization project at Chickahominy Riverfront Park. He noted several site modifications due to budget constraints. Mr. Carnifax further noted evaluation upon completion of Phase One to adjust Phase Two, which is slated for 2023, in hopes of bringing some amenities back at that time.

Ms. Larson thanked Mr. Carnifax and staff for their work. She noted the Marina definitely needed some work and attention and as the County owned it, she was appreciative it was being addressed.

Mr. McGlennon asked about the anticipated completion date.

Mr. Carnifax noted as part of the negotiated price, the project was extended from 180 to 220 days. He further noted late spring was the anticipated timeline, but added it could extend to June 2021.

4. Board Appropriation - Settlement at Powhatan Creek

A motion to Approve was made by Ruth Larson, the motion result was Passed.
AYES: 4 NAYS: 0 ABSTAIN: 0 ABSENT: 1
Ayes: Hipple, Icenhour Jr, Larson, McGlennon
Absent: Sadler

Ms. Toni Small, Director of Stormwater and Resource Protection, addressed the Board regarding an appropriation request of $137,200 from a held surety account to an escrow account. She noted the appropriation would address the remaining construction issues associated with Phase Two of the Settlement at Powhatan Creek. Ms. Small noted any unused funds would return to the financial institution once the project was complete.

Mr. Icenhour inquired what the remaining work entailed. He asked if Best Management Practices (BMPs) were part of the work.

Ms. Small noted BMPs were part of it, adding the Phase Two punch list addressed specific areas of work. She further noted stabilization, several sinkholes, and other elements were also part of that work.

Mr. McGlennon asked if a contractor was lined up pending the Board's action for approval of the appropriation.

Ms. Small noted coordination with Mr. Barry Moses, Capital Projects Engineer. She further noted he was ready to move on the project pending setup of the appropriation. Ms. Small noted December-January was the anticipated start date.

Mr. McGlennon asked if she anticipated completion of the project in early 2021.

Ms. Small confirmed yes.

5. FY2021 First Quarter Financial Update

Ms. Day addressed the Board regarding the County's AAA bond rating and recent good news. Ms. Day further noted the three bond rating agencies (Moody's, Fitch, and Standard & Poor's) periodically performed 'surveillance' as part of their due diligence in which they request financial information and operational updates. She noted Fitch had contacted her requesting this information, particularly how the County had been impacted by the COVID-19 Pandemic and the County's response to it. Ms. Day further noted they were particularly interested in how the County ended last fiscal year and if any Fund Balance had been used to balance last year's books or to balance this year's budget. She noted she was proud to respond that Fiscal Year 2020 (FY 2020) ended with a surplus, all due to expenditure savings despite the revenue shortfall in addition to balancing the FY 2021 budget without the use of any Fund Balance. Ms. Day noted the budget had been built in anticipation of reduced spending. She further stated on October 26, 2020, she received notification that there would be no change to the County's rating or its positive outlook and that the County's AAA rating was upheld. Ms. Day noted this positive note spoke highly of both the Board's leadership and that of Mr. Stevens. She further noted it reinforced the team effort and that the departments played a crucial role in response to the pandemic with curtailed spending without a drastic cut

to services. Ms. Day noted collaboration with County partners, in particular the Williamsburg-James City County (WJCC) School Division. She further noted difficulties and sustainability, but added that it seemed to point toward the right direction in the current circumstances.

The Board thanked Ms. Day.

Ms. Day noted the County's General Fund or Operating Revenues on a cash basis as well as an accrual basis in a PowerPoint presentation. She further noted the cash basis reflected actual cash received so far this year. Ms. Day noted the revenue downfall was about 7.8% or $2.4 million. She further noted the budget reflected a 10% reduction so currently the County was trending slightly better than budget. Ms. Day continued the PowerPoint presentation highlighting the accrual basis, which she noted are figures that will be audited and rolled into the County's General Fund. Ms. Day noted in the presentation assumptions on the timeline for the hardest hits in revenue as well as the slow recovery timeline. She further noted the importance of the updates to monitor the 10% reduction and time to react and adjust if needed. Ms. Day noted the biggest contributors to the variances in the budget and the actual results are the other local taxes and charges for services. She further noted a more detailed look at the other local taxes as that represented the category most impacted by tourism revenue. She added that the charges for services were impacted by reduction in medic transport fees and Parks and Recreation fees from membership, camps, and programs. Ms. Day noted in the presentation a cash comparison from the same time period from last year compared to the current year. She further noted the local taxes were comprised of the sales, lodging, and meals and those were impacted the most by the loss of tourism revenue. Ms. Day continued the presentation noting tax collection as remitted on the state and local levels. She noted local sales tax were down about 15%. She further noted the volatility associated with collection of the Historic Triangle 1% Sales Tax with the amounts up and down across different months. Ms. Day noted FMS did not have details on the businesses impacting this, but guessed late payments from businesses could be a factor. She further noted though tax revenue was lower than last year, and the sales tax was doing better than the reduced revenue budget. She added the lodging and meal taxes were taking a harder hit.

Mr. McGlennon asked if the cash basis and accrual basis numbers were related to the overall decline in revenue.

Ms. Day confirmed yes.

Mr. McGlennon asked if this was where it was all happening.

Ms. Day confirmed yes. She noted a significant decline in personal property tax had not been seen, but added only one of the two collections had been made to date.

Mr. McGlennon referenced a previous slide on state and local funding and questioned if the balance reflected any Coronavirus Aid, Relief, and Economic Security (CARES) Act money.

Ms. Day noted the CARES Act money was in a different fund and had not been co-mingled with the General Operation numbers.

Mr. Icenhour inquired if the June to August deferral on the personal property payment had affected the accrual rate. He asked if the deferral had not been made would the revenue be closer to the 10% mark.

Ms. Day confirmed yes. She cited an accrual change from 45 days to 60 days in the revenue collection. She noted a significant one-time refund to a business was the primary reason for the lower amount. Ms. Day continued the presentation highlighting trend data showing monthly breakdowns for the respective taxes from the current year compared to last year. She noted

the next part of the presentation addressed the spending side of the budget. Ms. Day further noted the top expense was 54% for the School Division followed by County payroll. She continued the PowerPoint presentation detailing each department's spending as well as payments to outside services, which are done at the beginning of the year. Ms. Day noted the restriction on expenditures remained in place due to the uncertainty surrounding the COVID-19 Pandemic.

Ms. Larson asked if a specific benchmark was used when departmental budget requests were made.

Ms. Day confirmed yes.

Ms. Larson asked if the benchmarks were being checked before moving forward with the next year's budget.

Mr. Stevens noted if specific items are benchmarked, then yes that can be monitored. He further noted the items included departmental salaries, projects and reports, and service. Mr. Stevens noted tracking service to the community adding Parks and Recreation did that very well regarding camps and various programs as well as General Services and the convenience centers.

Ms. Larson thanked Ms. Day for the financial updates. Ms. Larson noted a recent promotional piece from Busch Gardens and inquired if there was any update.

Mr. Stevens noted a recent conversation with Mr. Kevin Lembke, Park President, Busch Gardens Williamsburg, regarding some programming that would take place through December. He further noted Mr. Lembke's comment on some progress on capacity, but not a significant increase. Mr. Stevens further noted Mr. Lembke was pleased with any increase as it would be helpful to the park and was awaiting news on the possibility.

6. 2021 Legislative Agenda

Mr. Kinsman addressed the Board regarding the compilation of items for the 2021 Legislative Agenda to be presented to the General Assembly. He noted a review of the Board's previous legislation and what actions had occurred with it. Mr. Kinsman noted the first item focused on the distribution of online sales tax by physical address not zip code for account reconciliation. He further noted that item had not been picked up by any legislator. Mr. Kinsman noted the second item involved designation of Special Conservators of the Peace in the definition of criminal justice agency. He further noted this allowed County Park Rangers access to Virginia Criminal Information Network (VCIN). Mr. Kinsman noted no legislator had picked up that item, but he would try another direction. He further noted the next item addressed a County Code amendment to prohibit e-cigarette store locations within 1,000 feet of a public school. He added that item had not been picked up either. Mr. Kinsman noted the fourth item addressed a County Code amendment to allow taxation on amusement machines that take payment in forms other than coins. He added that would not be one to potentially pursue in light of other items. He further noted the next item addressed amendment of the Virginia Code regarding requirement of absentee voting record by precinct if more than 25 votes were cast. Mr. Kinsman noted this item was supported by Delegate Amanda Batten and had made it to a House of Representatives' subcommittee where it remained on the table. He further noted the County's General Registrar, Dianna Moorman, had strong opposition to this item.

Mr. McGlennon noted he did not understand the objection as he felt the information was already in the record. He further noted the information would need to be reported, but collection would already be done.

Mr. Kinsman asked the Board's thoughts on the online sales tax, e-cigarette store locations, and absentee voting special reports.

Mr. Icenhour asked if any of the legislators would be willing to pick up any or all of the three items.

Ms. Larson noted the General Registrar's opposition to the Board's request to move forward on the absentee voting.

Mr. Kinsman noted he would talk with Ms. Moorman.

Discussion ensued on the point.

Mr. Kinsman noted he would retain that point and have Ms. Moorman join him at the next meeting to discuss it. He further noted the additional legislative items to be considered for the General Assembly's 2021 agenda included an item Mr. Hipple requested for a provision to add an increased litter tax. Mr. Kinsman noted the tax, which was on retailers, wholesalers, and manufacturers, is collected by the Commonwealth, but 95% of it is delivered back to localities.

Mr. McGlennon noted the action would be a request to the state to raise the tax.

Mr. Kinsman confirmed yes. He noted it was taxation at the source of the trash and not at the individual(s) who distributes it on the roads, but added the funding would hopefully help clean up the County. He further noted Mr. Hipple requested a provision that localities require sprinkler systems in residential houses. Mr. Kinsman noted James City County was not the first County to consider this and he had researched it. He further noted this point generally fell under housing standards within the Commonwealth's Department of Housing and Community Development. Mr. Kinsman provided background and update on this requirement elsewhere in the state.

Mr. Hipple noted jurisdictional authority, not a statewide one. He further noted there were some provisions that should be statewide, but also allowed for some decision flexibility at the local level too.

Mr. Kinsman noted he would review the County Code. He further noted this would be a unique section of the Code in terms of directing construction outside of the Uniform Statewide Building Code.

Discussion ensued.

Mr. Kinsman noted the next item was requested by Ms. Larson. He further noted it addressed imposition of stiffer penalties for violation of motor vehicle with loose loads on highways. Mr. Kinsman added this involved a mandate that such loads be covered. He noted the penalty was a Class IV misdemeanor which is a fine of not more than $250. He further noted Class III was $500, Class II was $1,000 with the possibility of jail, and Class I was up to $2,500.

Ms. Larson felt this was both a litter and a safety issue.

Mr. Kinsman asked if she had a magical number to assign to this request.

Ms. Larson noted $2,000 to $500.

Mr. Kinsman noted the next item was also at Ms. Larson's request and it addressed an

increased assessment for Air BnB properties. He further noted discussion with Mr. Jon Fountain, Director of Real Estate Assessments. Mr. Kinsman noted the assessment is based on the highest and best use theory and if the assessment were switched from residential based to commercial based, the potential for reduced tax revenue would be the result unless the property owner made a large amount of money for the Air BnB use. He further noted he and Mr. Fountain 'ran the numbers' and determined the property or properties would need to be rented almost daily and at a high charge to see the net taxable income exceed the charge as use as a residential home.

Ms. Larson asked if this meant no double dipping was allowed in terms of how the house was used.

Mr. Kinsman confirmed yes.

Discussion ensued on properties with Special Use Permits for rental, commercial use, and tax collection.

Mr. Kinsman noted a section of the Virginia Code allowed localities to operate an Air BnB registry. He further noted James City County did not have a registry, but it could have one if desired. Mr. Kinsman noted if an Air BnB was operating and not on the registry, a fee could be imposed on the unregistered unit.

Discussion ensued on establishing a registry and monitoring legal versus illegal Air BnBs within the County.

Ms. Larson noted she would talk with Mr. Stevens to address some of these points and review options.

Mr. Kinsman noted the next item, also requested by Ms. Larson, addressed increased assessments for residences that are unfinished for an extended period of time. He further noted, after conferring with Mr. Fountain, that unfinished homes are assessed on the stage of the last approved construction regardless of the length of that stage. Mr. Kinsman noted that adding a penalty for the extra time would be difficult in keeping everything fair and equitable. He further noted Mr. Fountain would review the unfinished homes and check the status for assessments.

Ms. Larson questioned fair and equitable assessments of the neighboring homes to the unfinished homes. She noted the impact on home value when a home sat unfinished for as many as 27 years.

Mr. Kinsman noted there were possible provisions in the Uniform Statewide Building Code where this point could be addressed. He further noted the County was doing that and had filed a case to test that law.

Mr. Hipple noted some localities charged for Certificate of Occupancy (CO). He further noted if a home was incomplete, a temporary CO could be granted and a fee would be charged incrementally until completion. Mr. Hipple questioned a state law that addressed this fee.

Mr. Kinsman noted it was probably a fee charged every three months or so to renew the temporary CO. He further noted that was something he would review.

Mr. Hipple noted the incremental fee might motivate people to finish building.

Mr. Kinsman noted the next item was requested by Mr. Icenhour. He further noted it addressed amendment of the Virginia Code to explicitly give Board of Supervisors the ability

to impose sunset clauses on use permits. Mr. Kinsman noted the State Code explicitly stated Boards of Zoning Appeals had the ability, but not specifically Boards of Supervisors.

Mr. Icenhour requested Mr. Kinsman pursue that item.

Mr. Kinsman noted the next item was requested by Ms. Sadler and addressed a change to the State Code which allowed the Commissioner of the Revenue to release the names of all businesses in the County. He further noted a high level of exclusions to which the Commissioner was held, adding this was currently not one of them.

Mr. McGlennon asked in this case could the Board request the Commissioner communicate its particular message to those businesses.

Mr. Kinsman noted he had not thought of it that way.

Mr. McGlennon noted it would not require changing the law, but instead use the Commissioner of the Revenue to convey the message.

Mr. Kinsman noted he would speak with Mr. Richard Bradshaw, Commissioner of the Revenue. He further noted Items No. 8-10 were probably page 2 positions rather than direct legislation. Mr. Kinsman noted Item No. 8 addressed a request to the General Assembly for additional 9-1-1 funding or to additional funding to offset the Next Gen 911. He further noted Item No. 9 was a request from Ms. Larson for General Assembly funding for the General Registrar's Office.

Ms. Larson noted the number of laws regarding voting, but added it was unfunded mandates. She further noted the General Registrar's salary was set by the state and the County needed some relief in that area.

Mr. McGlennon noted citizens were pleased with these changes and would likely continue to use them more.

Discussion ensued on funding assistance, space limitations, and other factors.

Mr. Kinsman noted the last item was requested by Ms. Moorman. He further noted she requested the Board take the position that the General Assembly should not approve the proposed change to extend polling place hours on Election Day. He detailed the proposed change and referenced senior citizen poll workers and the extended time for them.

Ms. Larson questioned poll worker participation as once you start work, you stay.

Mr. Kinsman confirmed yes.

Ms. Larson noted the poor lighting at many of the elementary school polling places due to limited nighttime events.

Discussion ensued regarding polling hours.

Mr. Kinsman noted the remaining 2020 items were the same as previously. He further noted some wording changes to the Eastern State Hospital surplus property item. Mr. Kinsman noted the next steps for preparing the 2021 Legislative Agenda and the timeline. He further noted that at the November Work Session, the items would be presented to the legislators to see who would carry which items.Discussion ensued on the legislative deadline, average daily membership in schools, and other points.

D. BOARD REQUESTS AND DIRECTIVES

Mr. McGlennon noted the passing of one of his constituents, Mr. Roy Hock, of COVID on October 25, 2020. He extended his condolences.

Ms. Larson noted she, Mr. Stevens, and representatives from Economic Development recently attended the groundbreaking ceremony for The Maine, an event venue across from Governor's Land. She further noted The Maine anticipated opening next year. She noted the Burlington Plantation, an event venue on Route 5 in Charles City County, was booked every weekend of the year. She further noted it was an outdoor venue, adding she felt The Maine would also do quite well. Ms. Larson welcomed them to the County and the Berkeley District. She noted she had a Virginia Peninsula Jail meeting which addressed how well the Superintendent and staff handled any COVID-19 cases there. Ms. Larson reminded her fellow Board members of the upcoming Finance meeting with the Tourism Council and welcomed any to attend the open meeting. She noted the recent joint meeting of the Board of Supervisors, the City of Williamsburg, and the WJCC School Board. Ms. Larson further noted in the current uncertain times, the County and its citizens were to be commended for its contribution to education. She noted the County was one of 46 localities that exceed the 100% mark in this area with the County at 115%. Ms. Larson further noted the continued work of the three entities moving forward.

Mr. Hipple noted updates to the various Transportation groups, as well as the Finance and Budget meetings. He further noted a Bond Letting of $600 million through the Hampton Roads Traffic Advisory Committee, which secures another part of the Hampton Roads Bridge Tunnel. Mr. Hipple noted the amazing amount of money it takes to do transportation projects. He further noted the next Bond Letting schedule for 2021 would be approximately $1.3 billion.

Mr. Icenhour noted the recent Mayors and Chairs virtual meeting with James City County serving as the host. He further noted the group was always looking for items that could be worked on collectively. Mr. Icenhour noted the boat trail and indicated Mr. Stevens would address that point. He further noted the Board's invitation to the Hampton Roads Utility and Heavy Contractors Association's social event.

Mr. Stevens noted he had no County Administrator's report, but wanted to follow up on the boat trail of the birthplace of America. He further noted it had been part of a previous study which linked bicycle and pedestrian paths that connect to the Capital Trail and down to Fort Monroe and the City of Hampton. Mr. Stevens noted the County Administration Officers as well as the Mayors and Chairs of the different localities were discussing the pieces along the route. He further noted the City of Newport News was working on incorporation of a part as well as James City County and other localities. Mr. Stevens noted the collaborative efforts for funding to assist with the project.

E. CLOSED SESSION

None.

F. ADJOURNMENT

1. Adjourn until 5 p.m. on November 10, 2020 for the Regular Meeting

A motion to Adjourn was made by Michael Hipple, the motion result was Passed.
AYES: 4 NAYS: 0 ABSTAIN: 0 ABSENT: 1
Ayes: Hipple, Icenhour Jr, Larson, McGlennon
Absent: Sadler

At approximately 7:16 p.m., Mr. Icenhour adjourned the Board of Supervisors.

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Deputy Clerk

AGENDA ITEM NO. E.3.

ITEM SUMMARY

DATE: 1/6/2021

TO: The Planning Commission

FROM: Thomas Wysong, Senior Planner

SUBJECT: Development Review Committee Action Item: C-20-0079 Forest Heights Phase III

The applicant has submitted a conceptual plan for the development of the property.

Reason for DRC Review: Proffer B.1, approved by the Board of Supervisors on December 10, 2019 as part of Z-19-0012, requires development of the property to be as generally shown on the amended master plan. The currently proposed application for these 46 affordable townhouses includes several changes from what is shown on the adopted Master Plan, including changes to parking locations and counts, the location of several townhouse units, and the scale and size of stormwater management facilities.

Link to the Agenda and Staff Report:
https://jamescity.novusagenda.com/AgendaPublic/CoverSheet.aspx?ItemID=5954&MeetingID=1127

On October 21, 2020, the DRC voted 5-0 to find the proposed revisions consistent with the adopted Master Plan with the condition that the applicant shall work with staff to replace/add back at least 50% of the lost 17 parking spaces.

REVIEWERS:

Department	Reviewer	Action	Date
Planning Commission	Holt, Paul	Approved	12/22/2020 - 11:31 AM
Planning Commission	Holt, Paul	Approved	12/22/2020 - 11:31 AM
Publication Management	Burcham, Nan	Approved	12/22/2020 - 11:39 AM
Planning Commission	Holt, Paul	Approved	12/22/2020 - 11:40 AM

AGENDA ITEM NO. F.1.

ITEM SUMMARY

DATE: 1/6/2021

TO: The Planning Commission

FROM: Tori Haynes, Senior Planner

SUBJECT: Z-19-0013/MP-19-0011. Colonial Heritage Deer Lake Rezoning and Master Plan Amendment

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ATTACHMENTS:

	Description	Type
🗋	Staff Report	Staff Report
🗋	Attachment 1. Location Map	Exhibit
🗋	Attachment 2. Proposed Master Plan	Backup Material
🗋	Attachment 3. Proposed Proffers	Backup Material
🗋	Attachment 4. Community Impact Statement	Backup Material
🗋	Attachment 5. Deer Lake Estates Conceptual Layout Plan	Backup Material
🗋	Attachment 6. Traffic Impact Analysis	Backup Material
🗋	Attachment 6a. Traffic Impact Analysis Exhibit - Commercial Ground Fit Exhibit	Backup Material
🗋	Attachment 6b. Traffic Impact Analysis Exhibit - Residential Ground Fit Exhibit	Backup Material
🗋	Attachment 7. Fiscal Impact Sheets	Backup Material
🗋	Attachment 8. 2004 Colonial Heritage Proffers	Backup Material
🗋	Attachment 9. 2004 Colonial Heritage Master Plan	Backup Material
🗋	Attachment 10. Deer Lake Rural Cluster SUP Resolution	Backup Material
🗋	Attachment 11. Deer Lake Rural Cluster SUP Master Plan	Backup Material
🗋	Attachment 12. Deer Lake Rural Cluster Subdivision Construction Plan	Backup Material
🗋	Attachment 13. Applicant Letter Addressing Construction Phasing	Backup Material
🗋	Attachment 14. Applicant Statement on 1,850 Units for Phasing Purposes	Backup Material
🗋	Attachment 15. Colonial Heritage Land Use Approval History	Backup Material
🗋	Attachment 16. Public Comment Received 12-22-20	Backup Material

REVIEWERS:

Department	Reviewer	Action	Date
Planning Commission	Holt, Paul	Approved	12/23/2020 - 3:12 PM
Planning Commission	Holt, Paul	Approved	12/23/2020 - 3:13 PM
Publication Management	Daniel, Martha	Approved	12/23/2020 - 3:17 PM
Planning Commission	Holt, Paul	Approved	12/23/2020 - 3:18 PM

SUMMARY FACTS

Applicant:	Mr. Gregory Davis, Kaufman & Canoles, P.C. on behalf of Lennar Corporation
Land Owners:	Colonial Heritage, LLC and Colonial Heritage Homeowners Association
Proposal:	Rezoning of a ±220-acre portion of 499 Jolly Pond Road (currently known as Deer Lake Estates) from A-1, General Agricultural, with Proffers and Rural Cluster Special Use Permit (SUP), to MU, Mixed Use, with Proffers to incorporate 150 age-restricted single-family detached units into the Colonial Heritage Master Plan area, with associated amendments to the existing Master Plan and Proffers.
Location:	499 Jolly Pond Road
Tax Map/Parcel No.:	2240100007
Project Acreage:	±220 acres
Current Zoning:	A-1, with Proffers and Rural Cluster SUP
Proposed Zoning:	MU, with Proffers
Comprehensive Plan:	Deer Lake Estates, Low Density Residential Colonial Heritage Master Plan area, split-designated Low Density Residential and MU
Primary Service Area:	Inside
Staff Contact:	Tori Haynes, Senior Planner

PUBLIC HEARING DATES

Planning Commission: January 6, 2021, 6:00 p.m.

Board of Supervisors: February 9, 2021, 5:00 p.m. (Tentative)

FACTORS FAVORABLE

1. Existing proffers for Colonial Heritage will apply to the proposed Deer Lake Estates land bay.

2. Additional mitigation has been proffered for traffic impacts on Richmond Road that were identified in the updated traffic study.

3. There are no changes to the existing caps of 2,000 residential units and 425,000 square feet (SF) of commercial building area.

4. Approximately 100 acres of the Deer Lake Estates property is proposed for conservation easement.

5. Staff finds that nonconforming aspects of the existing Master Plan have been brought into conformance with current Ordinance requirements, including density, mix of use distribution, and construction phasing.

6. Staff finds that the proposal continues to meet Parks and Recreation's Development Guidelines, and will dedicate an 8-acre parcel to the Colonial Heritage Homeowners Association (HOA) for additional amenities.

7. Pursuant to the submitted fiscal impact sheets, the proposal is expected to have a positive fiscal impact, as this proposal is not anticipated to add school children per Colonial Heritage's age restriction, and the existing caps for residential units and commercial square footage remain the same as previously approved.

8. Staff finds the proposed rezoning to be consistent with the Comprehensive Plan's recommendations for areas designated Low Density Residential.

9. Staff finds the overall Master Plan area to be consistent with the Comprehensive Plan's recommendations for areas designated Low Density Residential and MU.

FACTORS UNFAVORABLE

1. While the current proposal meets Ordinance requirements for addressing construction phasing, staff finds that the proposal is not fully consistent with the Board of Supervisors' MU Construction Phasing Policy. However, it is important to note that the development of Colonial Heritage, to date, has been in accordance with the master plan and rezoning approval which occurred prior to the adoption of the current construction phasing policy. The applicant has provided additional information regarding construction phasing; see Attachment Nos. 13 and 14.

SUMMARY STAFF RECOMMENDATION

Staff recommends that the Planning Commission recommend approval of the application and acceptance of the voluntary proffers to the Board of Supervisors.

PLANNING AND ZONING HISTORY

CASE NO. Z-0004-2000/MP-0001-2001

On November 27, 2001, the Board of Supervisors approved rezoning and master plan applications for a 2,000-unit gated and age-restricted community known as Colonial Heritage at Williamsburg. The applications rezoned ±777 acres from A-1, General Agricultural, and M-1, Limited Business/Industrial, to MU, Mixed Use with Proffers. The master plan included 425,000 SF of commercial development fronting on Richmond Road.

CASE NO. Z-0003-2002/Z-0004-2002/MP-0001-2002/SUP-0021-2004

On December 14, 2004, the Board of Supervisors approved rezoning and master plan amendment applications to incorporate the neighboring ±731-acre Boy Scouts of America (BSA) property into the Colonial Heritage development. At that time, the western two-thirds of the BSA property (±503 acres) were located outside the Primary Service Area (PSA), zoned A-1, and designated Rural Lands. The eastern one-third (±229 acres) was located inside the PSA, zoned A-1, and designated Low Density Residential.

The applicant received approval to rezone the eastern 229-acre portion from A-1, General Agricultural, to MU, Mixed Use, with Proffers, with no increase to the existing 2,000-unit cap. This 229-acre portion joined the Colonial Heritage HOA as part of its age-restricted community.

The applicant also applied to rezone the 503-acre portion from A-1, General Agricultural, to A-1, General Agricultural, with Proffers. The 503-acre portion would be subject to the amended Proffers but would not be subject to the amended master plan.

An SUP was approved concurrently to develop the 503-acre portion as a Rural Cluster not to exceed 50 lots, to be known as Deer Lake Estates. Deer Lake Estates would be adjacent to Colonial Heritage and subject to existing Proffers such as the overall 2,000-unit cap, but would otherwise function as its own non-age-restricted neighborhood, with a separate HOA and dedicated access from Jolly Pond Road. Of the 503 acres, the SUP required that ± 282 acres be placed under conservation easement. The Rural Cluster would be developed on the remaining ±220 acres surrounding Deer Lake. Since the Rural Cluster

was located outside of the PSA, the SUP also required a central well system.

CASE NO. LU-0015-2008

On November 24, 2009, the Board of Supervisors denied a land use application that would have extended the PSA to include Deer Lake Estates and redesignated it from Rural Lands to Low Density Residential.

CASE NO. Z-0001-2009/MP-0001-2009

Roughly concurrent with the land use application, a rezoning and master plan amendment application was submitted to rezone Deer Lake Estates from A-1, General Agricultural, with Proffers and Rural Cluster SUP, to MU, Mixed Use, with Proffers. The application proposed 50 lots and would have incorporated the rezoned Deer Lake development into the Colonial Heritage HOA as part of its age-restricted community. This application was subsequently deferred by the applicant and eventually withdrawn.

CASE NO. LU-0003-2014

On June 23, 2015, the Board of Supervisors approved a land use application to extend the PSA and redesignate Deer Lake Estates from Rural Lands to Low Density Residential, which would allow for public water/sewer connections to the Deer Lake Rural Cluster. There was no associated rezoning request.

CASE NO. SUP-0003-2015

On November 10, 2015, the Board of Supervisors approved an amendment to the Rural Cluster SUP to remove the central well requirement and allow for public water/sewer connections. Other conditions of the Rural Cluster SUP generally remained the same. There were no substantive changes to Deer Lake Estates' original 50-lot Rural Cluster proposal or the ±282-acre conservation easement, which was recorded in 2017.

Condition 5.a of the SUP required that construction of public utilities commence within 36 months of the date of approval, or the SUP would become void. This expiration date was extended automatically to July 1, 2020, by Virginia Code § 15.2-2209.1 and further granted the Board of Supervisors the authority to extend the deadline "for a longer period as agreed to by the locality." In June 2020 the applicant requested a deadline extension pursuant to § 15.2-2209.1, as construction of public utilities had not yet commenced. On June 9, 2020, the Board of Supervisors extended the expiration date of the SUP to October 1, 2021.

CASE NO. S-0046-2015

On May 6, 2020, the Planning Commission issued Preliminary Approval for the subdivision construction plan of the Deer Lake Estates 50-lot Rural Cluster. The construction plan received stamped approval by staff on May 14, 2020, but the associated plat has not been submitted for review at this time.

PROJECT DESCRIPTION

Rezoning

This application proposes to rezone a ±220-acre portion of the ±577.5-acre parcel located at 499 Jolly Pond Road from A-1, General Agricultural, with Proffers and Rural Cluster SUP, to MU, Mixed Use, with Proffers. The rezoning request proposes 150 single-family age-restricted units which would become part of the Colonial Heritage Master Plan area and would join the Colonial Heritage HOA as part of its age-restricted community.

Of the ±220 acres proposed to be rezoned, ±100 acres on the northern side of the property directly surrounding Deer Lake would be placed

under conservation easement. The proposal also includes an 8-acre parcel to be dedicated to the Colonial Heritage HOA for recreational purposes. Access to the 150 units is through Colonial Heritage's internal private road system; there will be no permanent direct access to Jolly Pond Road.

Master Plan Amendment

Associated amendments to the existing Colonial Heritage Master Plan are also proposed as part of the rezoning request. The amendments will incorporate the proposed Deer Lake Estates property into the Colonial Heritage Master Plan as newly created Land Bay X. Additionally, the amendments will bring the Colonial Heritage Master Plan into conformance with current Ordinance requirements which did not exist at the time of the previous approval in 2004. The overall caps of 2,000 residential units and 425,000 SF of commercial building area within Land Bay VI remain the same.

Amendments proposed for compliance with current Ordinance requirements include:

- A new non-contiguous land bay has been created (Land Bay IX) to delineate the golf course acreage and designate it for commercial use. This is to achieve a minimum of 20% non-residential use as designated on the master plan. While golf courses are typically designated as recreational for master plan purposes, staff has determined that commercial use can apply in this situation because the Colonial Heritage golf course is open to the public. See additional discussion of the "80/20" requirement on page 8.

- Revisions to the density tables have been made to reflect changes in acreage of existing residential land bays due to the impact of creating Land Bay IX, as well as some unit adjustments within individual land bays to keep densities in conformance with current Zoning Ordinance requirements.

- An entrance has been designated for a potential right in/out entrance into commercial Land Bay VI. Staff notes that a right in/out entrance was accounted for in the original and updated traffic studies, as well as the 2004 Proffers, but was never shown on the master plan. It is now shown for consistency with the existing documents.

Proffer Amendment

The applicant has proposed to amend and restate the existing 2004 Proffers such that they will apply to both the existing Colonial Heritage Master Plan area as well as the proposed Deer Lake Estates property. The applicant has also proffered new conditions to assure:

- Additional traffic improvements to mitigate impacts from the commercial land bay (Land Bay VI) identified in the updated traffic study submitted as part of this application (discussed in further detail on page 7).

- Conveyance of the ±8-acre parcel to the HOA for additional amenities.

- Conveyance of the ±100-acre conservation easement to the County.

- The overall maximum residential cap of 2,000 units.

- Mixed use construction phasing plan as required by the Zoning Ordinance for Mixed Use Districts (discussed in further detail on page 8).

Comparison

[See Table on Following Page]

	Existing Deer Lake Rural Cluster	Proposed Deer Lake Rezoning	Existing Colonial Heritage Master Plan and/or Proffers	Proposed Colonial Heritage Master Plan and/or Proffers
Area	±220 acres.	±220 acres.	±1,006 acres.	±1,223 acres.
Conservation Easement	±282 acres, recorded 2017 (located directly west of cluster).	±100 acres (in addition to existing ± 282 acres).	-	±100 acres included as new proffer.
Residential Units	50 single-family detached units, not age-restricted.	150 single-family detached units, age-restricted.	2,000 units overall, including Deer Lake Rural Cluster.	2,000 units overall, including proposed Deer Lake rezoning.
Commercial Uses/Square Footage	-	-	425,000 SF located in Land Bay VI.	425,000 SF located in Land Bay VI.
Utilities	Served by public water/sewer as specified in the Rural Cluster's SUP conditions (SUP-0003-2015).	To be served by public water/sewer, but would no longer be subject to the Rural Cluster's SUP conditions.	Served by public water/sewer (no changes).	Served by public water/sewer (no changes).
Access	• Dedicated single point of access located on Jolly Pond Road. • No direct connection to Colonial Heritage proper.	• Access gained through Colonial Heritage's internal private road system. • Dedicated access from Jolly Pond Road has been eliminated, except for minor use as a construction/ emergency entrance.	• Residential access gained through existing gated entrances on Richmond Road and Centerville Road. • Commercial access gained through existing entrance to Land Bay VI from Richmond Road.	• No substantive changes to existing entrances. • An entrance into commercial Land Bay VI has been added to the MP to accommodate a future commercial right in/out entrance, as discussed on page 4.

	Existing Deer Lake Rural Cluster	Proposed Deer Lake Rezoning	Existing Colonial Heritage Master Plan and/or Proffers	Proposed Colonial Heritage Master Plan and/or Proffers
Traffic	Impacts mitigated via traffic-related proffers approved in 2004.	• An updated traffic study was submitted as part of this application. • Traffic study found that the proposed residential units would not significantly impact existing road infrastructure. • The County's traffic consultant concurred that the residential units would not cause impacts that require additional mitigation.	• Original traffic study was submitted as part of the original rezoning in 2001, with a revised addendum added for the 2004 rezoning. • Impacts identified in the original study were mitigated through the 2004 Proffers, including intersection improvements along Richmond Road and Centerville Road.	• An updated traffic study has been submitted as part of this application. • Although no impacts are anticipated from the residential development, newly identified impacts on Richmond Road at the intersection of commercial Land Bay VI called for additional mitigation. • The applicant has proffered mitigation for the impacts identified in the newest traffic study, which are discussed in further detail after this table.
Construction Phasing	Zoning is A-1 and therefore not subject to regulations regarding construction phasing.	Subject to MU construction phasing Ordinance requirement and policy if rezoned to MU and added to the Colonial Heritage Master Plan.	The MU construction phasing Ordinance requirement and policy were not adopted at the time of previous approval in 2004. As currently approved, Colonial Heritage is not subject to the regulations regarding construction phasing.	The rezoning request and associated amendments to the master plan require conformance with current Ordinance requirements and policies. This application must comply with Section 24-515(a)(2) and has triggered the MU Construction Phasing Policy, adopted in 2012, which is discussed in further detail after this table.

Traffic

The updated traffic study submitted as part of this application has been reviewed by the Virginia Department of Transportation (VDOT) and a third party consultant, Timmons Group, to assess any impacts requiring mitigation. It was found that the residential units proposed for Deer Lake would not produce impacts that require additional mitigation; however, it was noted that the impacts of 425,000 SF of commercial space within Land Bay VI would prompt the need for additional mitigation at the intersection known as the East Crossover/Williamsburg Pottery West, which is the primary entrance into Land Bay VI. This intersection is currently signalized. Generally, the inbound receiving lanes entering Land Bay VI were deemed too short to safely accommodate the potential traffic that would queue at the two existing westbound left-turn lanes on Richmond Road. VDOT also identified that the second westbound left-turn signal and lane from Richmond Road should be temporarily removed until warranted.

Ultimately, the following items were identified as recommendations for additional mitigation:

- Extension of the inbound merge lane entering Land Bay VI to better accommodate the safe merging of two lanes of left-turn traffic entering from Richmond Road.

- Temporary discontinued use of the second westbound left-turn lane on Richmond Road at the East Crossover/Williamsburg Pottery West intersection by removing the signal head and striping the corresponding lane. Removal of this lane leaves one functional left-turn lane into Land Bay VI and removes the need to merge two lanes of traffic using inbound lanes that are too short. Staff notes that VDOT and the traffic consultant suggested this as a temporary safety measure until such time that commercial development warrants the need for both left-turn lanes, and the inbound merge lane is extended, as noted above.

- Extension of existing westbound left-turn lanes on Richmond Road to accommodate 425,000 SF of commercial development in Land Bay VI. Staff notes that the traffic consultant determined that this lane extension may not be warranted if commercial development does not exceed approximately 350,000 SF.

The applicant has proffered the following to address the above recommendations (staff comments in *italics*):

- Condition No. 8.A removes the second left-turn signal and stripes out the corresponding lane on Richmond Road prior to the issuance of any Certificate of Occupancy within Land Bay VI, or January 1, 2023, whichever occurs first.

  Staff finds this to be consistent with VDOT's recommendation for the temporary removal of this turn lane/signal until such time that it is warranted and the inbound lanes are extended. This reduces potential left-turn traffic from westbound Richmond Road to one lane, thus eliminating safety issues related to merging when entering the commercial parcels. The traffic consultant clarified that the second left-turn lane would not be needed until the commercial parcels are more fully developed and a certain amount of trips are generated.

- Condition No. 8.B requires the submittal of trip generation rates and a cumulative tally of those rates with each site plan submittal for commercial uses within Land Bay VI. Prior to issuance of a building permit for uses that would exceed 395 total PM peak hour trips, the applicant has proffered to replace/restore the second left-turn signal and turn lane, as well as extend the inbound and outbound lanes into Land Bay VI to 200 feet. These improvements are to be completed simultaneously.

  Staff finds that extending the inbound lanes to 200 feet addresses concerns regarding the inbound merge lane length. Simultaneous completion of the improvements specified in Condition No. 8.B.1-3 will prevent the second left-turn lane from being active prior to

the extension of the inbound lanes. The traffic consultant confirmed that the trigger of 395 total PM peak hour trips is appropriate for these improvements.

- Condition No. 8.C requires the submittal of an additional traffic study to identify the need for any additional improvements should commercial development within Land Bay VI exceed:

  - 150,000 SF of shopping center;
  - 60 beds assisted living;
  - 180 beds nursing home; and/or
  - Uses generating equivalent trip generation (i.e., PM peak hour entering and exiting traffic total exceeding 790 vehicles per hour).

  Further, completion or bonding of any improvements identified must occur prior to issuance of building permits for uses exceeding the specifications above.

  The traffic consultant noted that additional mitigation along Richmond Road may not be needed if total commercial development within Land Bay VI does not reach the maximum cap of 425,000 SF; however, unless the maximum commercial cap is formally reduced for Land Bay VI, then mitigation to 425,000 SF should be assumed. The traffic consultant confirmed that the triggers proposed in Condition No. 8.C.1-4 adequately address this concern by assuring further study and completion/bonding of additional improvements when/if commercial development exceeds the amounts specified above.

Density and the "80/20" Requirement in MU Districts

Per Section 24-519(d) of the Zoning Ordinance, MU Districts require a mix of uses such that no single use or use category exceeds 80% of the developable land area, as delineated on the master plan. Staff notes that when the existing Colonial Heritage Master Plan was approved in 2004, this Ordinance requirement was not yet adopted. As delineated on the existing master plan, greater than 80% of the developable land is designated for residential use, which represents a nonconformity with the current Ordinance.

Staff subsequently determined that the golf course, which is open to both residents and the public, can be considered commercial for the purposes of 80/20. To fully meet the Ordinance requirement, a new non-contiguous land bay (IX) was created on the Master Plan to delineate the golf course's total acreage and formally designate it for commercial use as part of this application.

As a result of the creation of Land Bay IX for the golf course, which redistributed acreage from existing land bays, there were impacts to the density calculations of residential land bays. This resulted in nonconforming densities that were in conflict with Section 24-519(a) of the Zoning Ordinance. To clarify and correct these nonconformities, adjustments were made to certain unit totals within individual land bays, while maintaining the overall 2,000-unit cap for the entire master plan area.

Following these revisions for the golf course and residential density, the Colonial Heritage Master Plan is now in conformance with the Ordinance for the purposes of 80/20 and residential density.

Mixed Use Construction Phasing Policy

A related but separate requirement of MU Districts is construction phasing. The Board's MU Construction Phasing Policy and associated Zoning Ordinance requirement are intended to ensure that substantial residential development does not occur prior to substantial commercial/industrial development within MU Districts.

Unlike the "80/20" considerations, which are relative to the total developable area of a master plan, construction phasing is relative to

the commercial building area designated on the master plan. The master plan currently has a maximum of 425,000 SF of commercial building area approved for Land Bay VI. No other commercial building area is currently proposed.

Staff notes that when the existing Colonial Heritage Master Plan and Proffers were approved in 2004, construction phasing was not adopted as an Ordinance requirement or policy. To date, commercial development within Land Bay VI has not commenced, while greater than 50% of residential units have been completed. Although this would not meet today's construction phasing policy, the existing development pattern is in accordance with the existing approvals.

The current application triggers new requirements to address construction phasing. To meet the Zoning Ordinance requirement, the application must provide assurances for a projected build-out schedule, in accordance with the Board of Supervisors' MU Construction Phasing Policy. Staff finds that Proffer No. 7 meets the Zoning Ordinance requirement of addressing construction phasing by providing assurances for a projected build-out schedule. To be considered fully consistent with the Construction Phasing policy, the proposed construction phasing plan must meet the sequencing requirements outlined in the policy.

Staff has taken into consideration the existing development of Colonial Heritage, and recognizes that Nos. 1 and 2 of the Policy cannot be met. Currently, approximately 1,250 residential Certificates of Occupancy have been issued, out of a possible 2,000. Staff does find that No. 3 of the Policy is achievable (see following table); however, as referenced earlier, these existing units have been developed pursuant to the master plan and rezoning approval which occurred prior to the adoption of the phasing policy.

	Commercial Completed…		**…Prior to X Residential Building Permits Issued**	
	%	**Total SF (out of 425,000 SF)**	**%**	**X Total Units (out of 2,000)**
1	0%	0	10%	200
2	25%	106,250 SF	50%	1,000
3	80%	340,000 SF	Final 20%	1,600

As proposed, the applicant has assured Certificates of Occupancy for 340,000 SF of commercial building area prior to the 1,850th residential building permit. The applicant has provided additional information regarding the construction phasing in Attachment Nos. 13 and 14.

PUBLIC IMPACTS

Impacts/Potentially Unfavorable Conditions	**Status** *(No Mitigation Required/Mitigated/Not Fully Mitigated)*	**Considerations/Proposed Mitigation of Potentially Unfavorable Conditions**
Public Transportation: Vehicular	Mitigated	- See discussion on page 7 regarding traffic mitigation.
Public Transportation: Pedestrian/Bicycle	Mitigated	- Provisions for pedestrian/bicycle accommodations are addressed in the existing proffers, which are to apply to Deer Lake. - Current Zoning Ordinance requirements under Section 24-35 further require pedestrian/bicycle accommodations for all site plans and major subdivisions in the event that the proffers do not cover a particular facility and/or location.
Public Safety	Mitigated	- Cash contributions for EMS equipment/signalization are addressed in the existing proffers, which are to apply to Deer Lake. - The proposal is not anticipated to generate impacts that require additional mitigation to the County's emergency services or facilities.
Public Schools	No Mitigation Required	- The proposal is not anticipated to generate school children.
Public Parks and Recreation	Mitigated	- Existing recreational facilities (golf course, pools, tennis courts, trails, etc.) are in keeping with Parks and Recreation's Development Guidelines and will be accessible to the proposed Deer Lake units. - An additional ±8.0-acre parcel will be dedicated to the HOA for recreational purposes.
Public Libraries and Cultural Centers	Mitigated	- Cash contributions for capital improvements are addressed in the existing proffers, which are to apply to Deer Lake. - The proposal is not anticipated to generate impacts that require additional mitigation to public libraries or cultural centers.
Groundwater and Drinking Water Resources	Mitigated	- Cash contributions for water sources are included in the existing proffers, which are to apply to Deer Lake. - The proposal is not anticipated to generate impacts that require additional mitigation to groundwater or drinking water resources.

Impacts/Potentially Unfavorable Conditions	**Status** *(No Mitigation Required/Mitigated/Not Fully Mitigated)*	**Considerations/Proposed Mitigation of Potentially Unfavorable Conditions**
Watersheds, Streams, and Reservoirs	Mitigated	- A ±100-acre conservation easement has been proffered. - An environmental inventory has been submitted per the existing proffers and an endangered species conservation area has been identified and noted on the master plan. - The Stormwater and Resource Protection Division has reviewed this application and has no further comments on the proposed amendments, subject to future development plan review.
Cultural/Historic	Mitigated	- Archaeological mitigation is addressed in the existing proffers, which will apply to Deer Lake. - An archaeology study has been submitted, which identified Site 44JC1319 for avoidance or further Phase II study, in keeping with the County's current Ordinance and policy requirements.
Nearby and Surrounding Properties	No Mitigation Required	- The proposed area to be developed as Deer Lake Estates will be residential in nature and age-restricted; impacts related to nuisances such as noise and light are not anticipated. - The proposed area to be developed as Deer Lake Estates will be bounded by a ±282-acre conservation easement to the west, a ±100-acre conservation easement to the north, and a ±150-foot buffer along Jolly Pond Road to the south. The area to the east of Deer Lake contains additional residential development within Colonial Heritage.
Community Character	Mitigated	- Jolly Pond Road is not designated as a Community Character Corridor; however, specifications for a 150-foot buffer between any residential lot and the Jolly Pond Road right-of-way are addressed in the existing proffers, which are to apply to Deer Lake. - The 150-foot buffer is delineated on the proposed master plan along the entire frontage of Jolly Pond Road. - Design guidelines for the commercial land bay have been approved, which will apply to all future commercial development along Richmond Road.

SURROUNDING ZONING AND DEVELOPMENT

North: The land to the north/northwest is zoned A-1, General Agricultural, designated Rural Lands in the Comprehensive Plan, and is located outside of the PSA.

To the north/northeast are the neighborhoods of Kristiansand, zoned R-2, General Residential, and Williamsburg Village at Norge, zoned MU, Mixed Use. Both neighborhoods are designated Low Density Residential in the Comprehensive Plan and are located inside the PSA.

East: East of the proposed Deer Lake rezoning is the existing Colonial Heritage Master Plan area, zoned MU, Mixed Use, with Proffers and split-designated Low Density Residential/Mixed Use in the Comprehensive Plan.

East of the existing Colonial Heritage Master Plan area is Williamsburg Pottery, zoned M-1, Limited Business/ Industrial, and several individual parcels zoned A-1, General Agricultural, and B-1, General Business. Land use designations to the east include Community Commercial, Mixed Use, and Economic Opportunity.

South: Land to the south of Deer Lake Estates and the Colonial Heritage Master Plan includes undeveloped wooded parcels and individual residential parcels zoned A-1, General Agricultural, as well as residential neighborhoods (Adams Hunt, zoned R-1, Limited Residential; Camelot, zoned R-8, Rural Residential; Marston's Mobile Home Park, zoned A-1, General Agricultural; Heath's Mobile Home Park, zoned A-1, General Agricultural; Mobile Estates Mobile Home Park, zoned A-1, General Agricultural; Briarwood Park, zoned A-1, General Agricultural). These areas are designated Rural Lands, Low Density Residential, and Moderate Density Residential in the Comprehensive Plan.

West: Directly west of the proposed Deer Lake rezoning is the ±282-acre conservation easement recorded per the conditions of the Rural Cluster SUP. West of the easement includes lands zoned A-1, General Agricultural and designated Rural Lands in the Comprehensive Plan. There is also a parcel used for school bus maintenance that is zoned PL, Public Lands and designated Federal, State, and County Land.

West of the Colonial Heritage Master Plan area is the proposed Deer Lake rezoning.

COMPREHENSIVE PLAN

The ±220 acres proposed to be rezoned are currently designated Low Density Residential in the Comprehensive Plan and located inside the PSA. Recommended uses for areas designated Low Density Residential include single-family and multifamily units, accessory units, cluster housing, and recreation areas, with a recommended density of 1-4 dwelling units per acre (DUA). The proposed rezoning of the Deer Lake property (represented as Land Bay X on the Master Plan) includes single-family units at a density of ±1.3 DUA.

The overall Colonial Heritage Master Plan is split-designated Low Density Residential and MU. Recommended uses for areas designated MU that have residential components include commercial or office uses that complement those residences, with a maximum residential gross density of 18 DUA. The overall master plan area has a density of ±1.8 DUA and there will be a gated connection from the residential community to the commercial land bay on Colonial Heritage Boulevard.

STAFF RECOMMENDATION

Staff finds that the proposed rezoning for 150 residential age-restricted units will not generate impacts requiring additional mitigation and is consistent with the Comprehensive Plan. Traffic impacts related to the commercial land bay per the updated traffic study have been

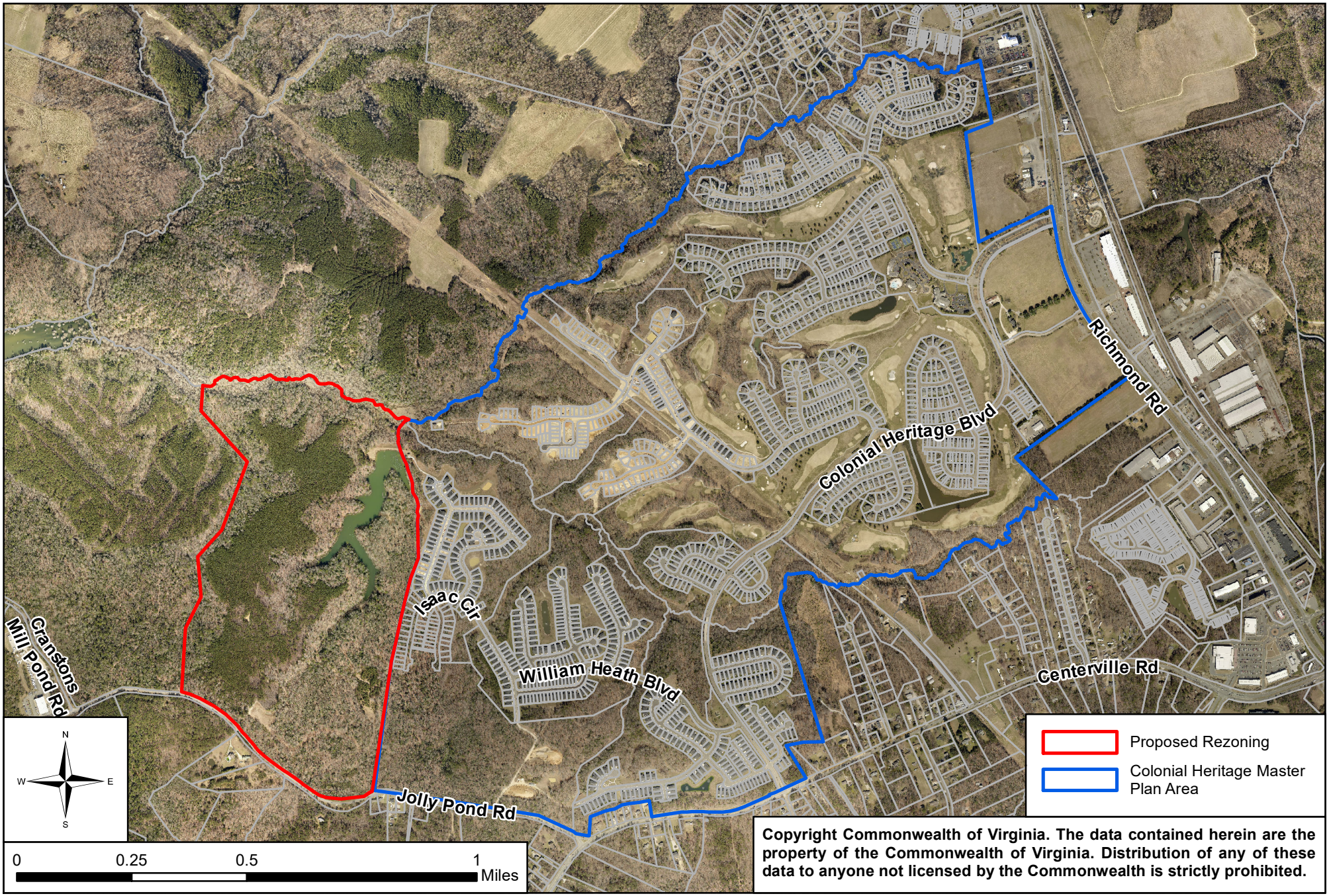
adequately mitigated through the proposed proffers. Staff also finds that the amendments to the master plan result in a more conforming development overall.

Staff recommends that the Planning Commission recommend approval of the application and acceptance of the voluntary proffers to the Board of Supervisors.

TH/nb
RZ19-13-MP19-11CHDeerLk

Attachments:
1. Location Map
2. Proposed Master Plan
3. Proposed Proffers
4. Community Impact Statement
5. Deer Lake Estates Conceptual Layout Plan
6. Traffic Impact Analysis and Exhibits
7. Fiscal Impact Sheets
8. 2004 Colonial Heritage Proffers
9. 2004 Colonial Heritage Master Plan
10. Deer Lake Rural Cluster SUP Resolution
11. Deer Lake Rural Cluster Master Plan
12. Deer Lake Rural Cluster Subdivision Construction Plan
13. Applicant Letter Addressing Construction Phasing
14. Applicant Statement on 1,850 Units for Phasing Purposes
15. Colonial Heritage Land Use Approval History
16. Public Comment Received 12/22/20

JCC Z-19-0013/MP-19-0011
Colonial Heritage Deer Lake Rezoning



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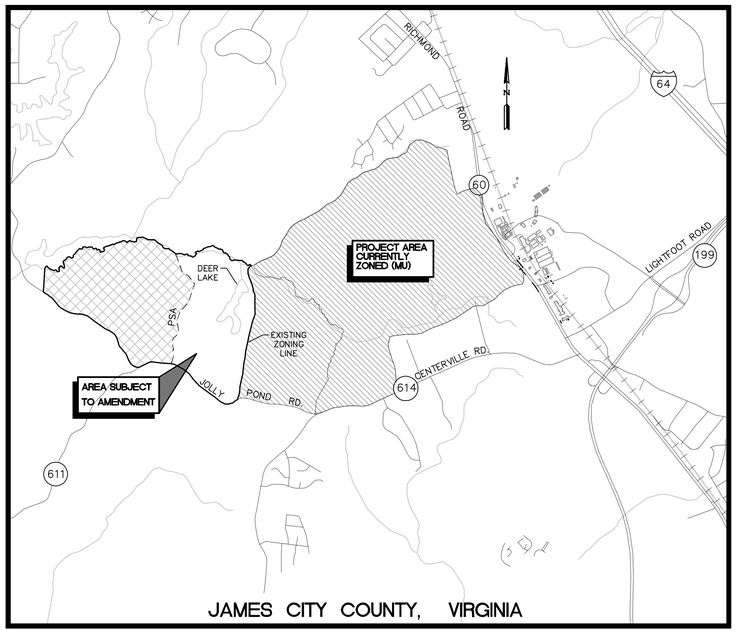
MASTER PLAN AMENDMENT

OF

Colonial Heritage

WILLIAMSBURG, VIRGINIA

LENNAR®



VICINITY MAP

(APROX. SCALE 1"=2000')

INDEX OF SHEETS

SHEET NUMBER	DESCRIPTION
1	COVER SHEET
2	MASTER DEVELOPMENT PLAN
3	AMENDED SEWER MASTER PLAN
4	AMENDED WATER DISTRIBUTION MASTER PLAN
5	STORMWATER CONCEPT PLAN & ENVIRONMENTAL RESOURCE INVENTORY

JUNE 21, 2002
REVISED: JULY 1, 2004
REVISED: SEPT. 24, 2004
REVISED: DEC. 3, 2004
REVISED: MAR. 5, 2009
REVISED: FEB. 24, 2010
AMENDED: APR. 20, 2010
AMENDED: JAN. 31, 2020
AMENDED: OCT. 27, 2020

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AES Project # 8881-03A

S:\JOB\8881\03\14 Rezoning\Planning\Master Plan Amendment\8881 Cover Sheet.dwg, 12/13/2020 11:05:46 AM, kwiedorn

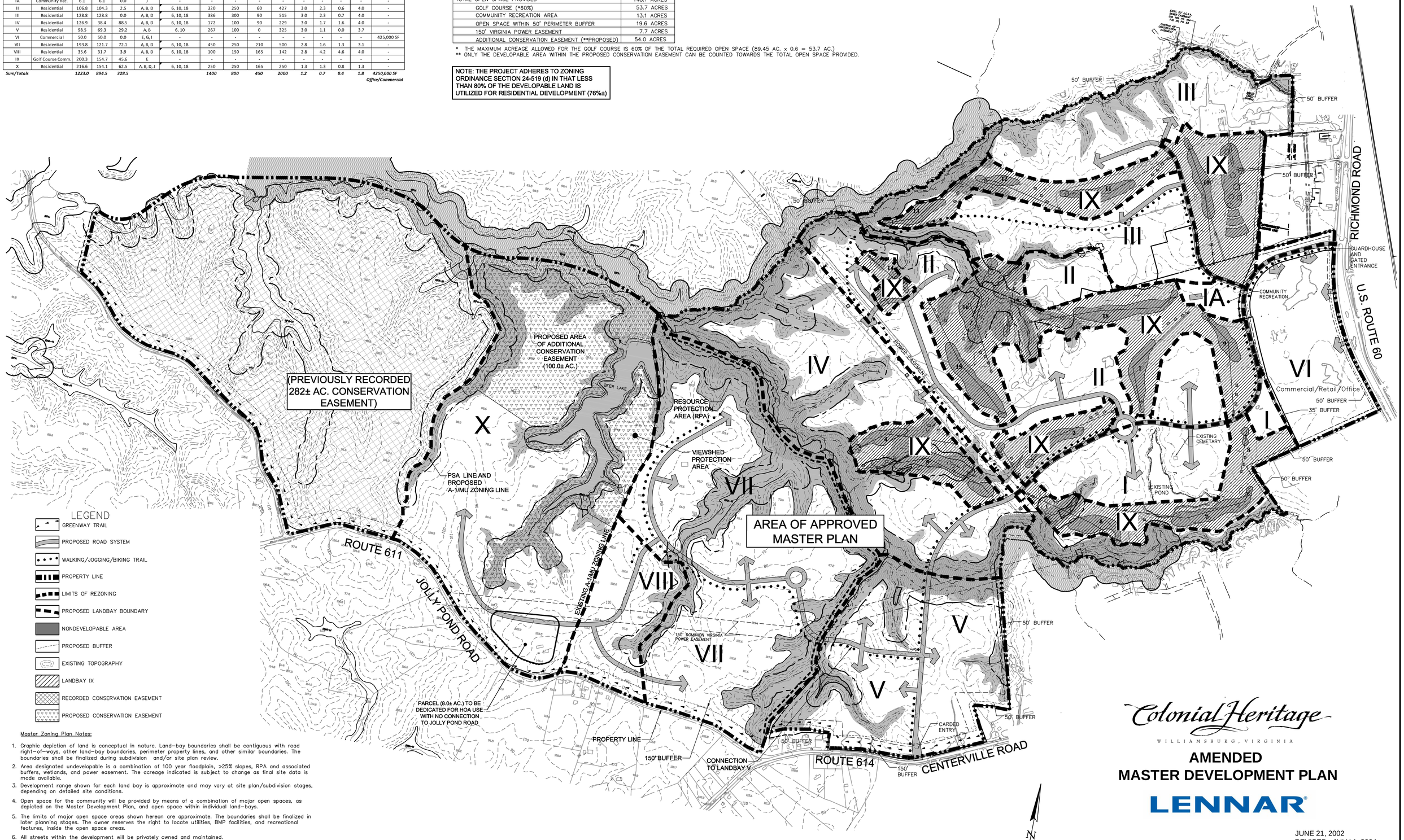
LAND USE BY LAND BAY – APPROVED MASTER PLAN (ADJUSTED PER ADDITION OF LAND BAYS IX AND X)

Land Bay	Description	Total Acreage	Dev. Acreage	Non-Dev. Acreage	Land Use Designation	Maximum Density per Land Use Designation	Max Permitted Type A	Max Permitted Type B	Max Permitted Type D	Total Permitted Units	Max Density Type A	Max Density Type B	Max Density Type D	Gross Density DUA	Maximum Office/ Commercial Uses
I	Residential	59.6	35.4	24.2	A, B, D	6, 10, 18	132	221	120	177	3.0	5.0	2.7	4.0	-
IA	Community Rec.	6.1	6.1	0.0	J	-	-	-	-	-	-	-	-	-	-
II	Residential	106.8	104.3	2.5	A, B, D	6, 10, 18	320	250	60	427	3.0	2.3	0.6	4.0	-
III	Residential	128.8	128.8	0.0	A, B, D	6, 10, 18	386	300	90	515	3.0	2.3	0.7	4.0	-
IV	Residential	126.9	38.4	88.5	A, B, D	6, 10, 18	172	100	90	229	3.0	1.7	1.6	4.0	-
V	Residential	98.5	69.3	29.2	A, B	6, 10	267	100	0	325	3.0	1.1	0.0	3.7	-
VI	Commercial	50.0	50.0	0.0	E, G, I	-	-	-	-	-	-	-	-	-	425,000 SF
VII	Residential	193.8	121.7	72.1	A, B, D	6, 10, 18	450	250	210	500	2.8	1.6	1.3	3.1	-
VIII	Residential	35.6	31.7	3.9	A, B, D	6, 10, 18	100	150	165	142	2.8	4.2	4.6	4.0	-
IX	Golf Course Comm.	200.3	154.7	45.6	E	-	-	-	-	-	-	-	-	-	-
X	Residential	216.6	154.1	62.5	A, B, D, J	6, 10, 18	250	250	165	250	1.3	1.3	0.8	1.3	-
Sum/Totals		***1223.0***	***894.5***	***328.5***			***1400***	***800***	***450***	***2000***	***1.2***	***0.7***	***0.4***	***1.8***	***4250,000 SF Office/Commercial***

OPEN SPACE	
TOTAL AREA	1,223.0 ACRES
DEVELOPABLE AREA	894.5 ACRES
10% REQUIRED OPEN SPACE	89.45 ACRES
TOTAL OPEN SPACE PROVIDED	148.1 ACRES
GOLF COURSE (*60%)	53.7 ACRES
COMMUNITY RECREATION AREA	13.1 ACRES
OPEN SPACE WITHIN 50' PERIMETER BUFFER	19.6 ACRES
150' VIRGINIA POWER EASEMENT	7.7 ACRES
ADDITIONAL CONSERVATION EASEMENT (**PROPOSED)	54.0 ACRES

* THE MAXIMUM ACREAGE ALLOWED FOR THE GOLF COURSE IS 60% OF THE TOTAL REQUIRED OPEN SPACE (89.45 AC. x 0.6 = 53.7 AC.)
** ONLY THE DEVELOPABLE AREA WITHIN THE PROPOSED CONSERVATION EASEMENT CAN BE COUNTED TOWARDS THE TOTAL OPEN SPACE PROVIDED.

NOTE: THE PROJECT ADHERES TO ZONING ORDINANCE SECTION 24-519 (d) IN THAT LESS THAN 80% OF THE DEVELOPABLE LAND IS UTILIZED FOR RESIDENTIAL DEVELOPMENT (76%±)



LEGEND

- GREENWAY TRAIL
- PROPOSED ROAD SYSTEM
- WALKING/JOGGING/BIKING TRAIL
- PROPERTY LINE
- LIMITS OF REZONING
- PROPOSED LANDBAY BOUNDARY
- NONDEVELOPABLE AREA
- PROPOSED BUFFER
- EXISTING TOPOGRAPHY
- LANDBAY IX
- RECORDED CONSERVATION EASEMENT
- PROPOSED CONSERVATION EASEMENT

Master Zoning Plan Notes:

1. Graphic depiction of land is conceptual in nature. Land–bay boundaries shall be contiguous with road right–of–ways, other land–bay boundaries, perimeter property lines, and other similar boundaries. The boundaries shall be finalized during subdivision and/or site plan review.
2. Area designated undevelopable is a combination of 100 year floodplain, >25% slopes, RPA and associated buffers, wetlands, and power easement. The acreage indicated is subject to change as final site data is made available.
3. Development range shown for each land bay is approximate and may vary at site plan/subdivision stages, depending on detailed site conditions.
4. Open space for the community will be provided by means of a combination of major open spaces, as depicted on the Master Development Plan, and open space within individual land–bays.
5. The limits of major open space areas shown hereon are approximate. The boundaries shall be finalized in later planning stages. The owner reserves the right to locate utilities, BMP facilities, and recreational features, inside the open space areas.
6. All streets within the development will be privately owned and maintained.
7. Due to potential changes to the stormwater plan, the number of residential units in any particular land–bay cannot be guaranteed. The final SWM plan shall meet current JCC point requirements and criteria.
8. Landscaping within the 150' buffer along Centerville Road right–of–way non–wooded areas will consist of a minimum of three trees per 400 square feet, with a minimum of 50 percent of the trees being evergreen.
9. The 50' buffer along Richmond Road will be exclusive of transportation projects (but not exclusive of utilities).
10. Unless otherwise approved by the Planning Director, Phasing of the development shall correspond to the Land–bay numbering.
11. No wetland or environmental permitting is given with the approval of this Master Plan.
12. This property is part of Tax Map No. (24–3)(01–32), (31–1)(01–11), (23–4)(01–21), (23–4)(01–23), and (22–4)(01–7).
13. Connectivity for pedestrian traffic shall be established between the residential and nonresidential land bays. The pedestrian trail system shall be finalized during subdivision and/or site plan review.

GRAPHIC SCALE
400' 0' 400' 800'
SCALE: 1" = 400'

Colonial Heritage
WILLIAMSBURG, VIRGINIA

AMENDED MASTER DEVELOPMENT PLAN

LENNAR

JUNE 21, 2002
REVISED: JULY 1, 2004
REVISED: SEPT. 24, 2004
REVISED: DEC. 3, 2004
REVISED: MAR. 5, 2009
REVISED: FEB. 24, 2010
AMENDED: APR. 20, 2010
AMENDED: JAN. 31, 2020
AMENDED: SEPT. 4, 2020
AMENDED: OCT. 27, 2020

SHEET 2
AES JOB: 8881-3A

AES CONSULTING ENGINEERS
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S:\JOB\8881B\01A Rezoning\Planning\Master Plans\Amendment\2 Master Development Plan LB-IX.dwg, 10/1/2020 3:33:20 PM, kpeterkort

JCSA L.S. 6-5 DEMOLISHED

EXISTING JCSA L.S. 9-9
PUMP CAPACITY = 2,400 GPM
FLOW (ADF) = 1,134,000 GPD
UNITS SERVED = 4,112 ERC
F.F. = 34.0
INV. = 9.0

(PREVIOUSLY RECORDED 282± AC. CONSERVATION EASEMENT)

AREA OF APPROVED MASTER PLAN

AREA 1-1

AREA 1-2

AREA 1-3

AREA 1-4

AREA 1-5

AREA 1-6

AREA 1-7

JCSA L.S. 6-3 DEMOLISHED

ROUTE 632

CRANSTON'S MILL POND ROAD

ROUTE 611

JOLLY POND ROAD

RICHMOND ROAD

U.S. ROUTE 60

ROUTE 614

CENTERVILLE ROAD

UTILITY BRIDGE

DEER LAKE

PSA LINE

ZONING LINE

PROPERTY LINE

150' BUFFER

ENDANGERED SPECIES CONSERVATION AREA

ENDANGERED SPECIES CONSERVATION AREA

RIM=51.5 INV=45.0
RIM=52.8 INV=43.4
RIM=32.0 INV=27.4
RIM=23.4 INV=17.8
RIM=18.9 INV=13.6
RIM=16.8 INV=11.4
RIM=80.0 INV=65.0
RIM=68.0 INV=60.8
RIM=23.0 INV=15.9
RIM=30.3 INV=21.6
RIM=24.8 INV=16.8
RIM=27.7 INV=20.6
RIM=26.8 INV=22.3
RIM=94.0 INV=66.5
RIM=67.0 INV=62.0
RIM=80.0 INV=64.8
RIM=38.9 INV=33.8
RIM=41.3 INV=34.7
RIM=59.2 INV=45.6
RIM=70.0 INV=64.0
RIM=81.7 INV=76.2
RIM=30.4 INV=23.0
RIM=31.2 INV=24.4
RIM=89.4 INV=74.1
RIM=95.0 INV=89.0
RIM=104.0 INV=96.0
RIM=93.0 INV=79.7
RIM=73.8 INV=64.9
RIM=118.0 INV=110.0
RIM=109.0 INV=101.0
RIM=43.0 INV=33.2
RIM=55.5 INV=46.0
RIM=33.0 INV=26.3

LEGEND

- GRAVITY SEWER MAIN
- PROPOSED ROAD SYSTEM
- PROPERTY LINE
- LANDBAYS
- SANITARY SEWER SERVICE AREA BOUNDARY
- PROPOSED BUFFER
- RESOURCE PROTECTION AREA
- PSA LINE
- SURVEYED WETLANDS LIMIT

N

GRAPHIC SCALE
400' 0' 400' 800'
SCALE: 1" = 400'

Colonial Heritage
WILLIAMSBURG, VIRGINIA

AMENDED SEWER MASTER PLAN

LENNAR

JUNE 21, 2002
REVISED: JULY 1, 2004
REVISED: SEPT. 24, 2004
REVISED: DEC. 3, 2004
REVISED: MAR. 5, 2009
REVISED: FEB. 24, 2010
AMENDED: APR. 20, 2010
AMENDED: JAN. 31, 2020
AMENDED: OCT. 27, 2020

SHEET 3
AES JOB: 8881-3A

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ROUTE 632

CRANSTON'S MILL POND ROAD

ROUTE 611

JOLLY POND ROAD

RICHMOND ROAD

U.S. ROUTE 60

ROUTE 614

CENTERVILLE ROAD

(PREVIOUSLY RECORDED 282± AC. CONSERVATION EASEMENT)

AREA OF APPROVED MASTER PLAN

SANITARY BRIDGE

DEER LAKE

PSA LINE

ZONING LINE

PROPERTY LINE

150' BUFFER

ENDANGERED SPECIES CONSERVATION AREA

ENDANGERED SPECIES CONSERVATION AREA

8" WM

12" WM

EX. 16" WM

EX. 12" WM

12" x 8" WET TAP

16" x 12" WET TAP

12" x 12" WET TAP

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

LEGEND

- PROPOSED ROAD SYSTEM
- PROPERTY LINE
- LANDBAYS
- PROPOSED WATER MAIN
- PROPOSED BUFFER
- RESOURCE PROTECTION AREA
- PSA LINE
- SURVEYED WETLANDS LIMIT

N

GRAPHIC SCALE

400' 0' 400' 800'

SCALE: 1" = 400'

Colonial Heritage

WILLIAMSBURG, VIRGINIA

AMENDED
WATER DISTRIBUTION MASTER PLAN

LENNAR

JUNE 21, 2002
REVISED: JULY 1, 2004
REVISED: SEPT. 24, 2004
REVISED: DEC. 3, 2004
REVISED: MAR. 5, 2009
REVISED: FEB. 24, 2010
AMENDED: APR. 20, 2010
AMENDED: JAN. 31, 2020
AMENDED: OCT. 27, 2020

SHEET 4
AES JOB: 8881-3A

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OPEN SPACE SUMMARY:

RPA BUFFER (NO WETLANDS) (190.05 ACRES)

WETLANDS (116.40 ACRES)

OPEN SPACE ADJACENT TO WETLAND/WATERS/RPA (356.65 ACRES)

NATURAL OPEN SPACE (34.41 ACRES)

CRANSTON'S MILL POND

(PREVIOUSLY RECORDED 282± AC. CONSERVATION EASEMENT)

DEER LAKE

PSA LINE

WATERSHED DIVIDE LINE BETWEEN SUBWATERSHED 105 AND THE NON-TIDAL MAINSTEM

WATERSHED DIVIDE LINE BETWEEN SUBWATERSHED 104 AND 105

ZONING LINE

PROJECT BOUNDARY

AREA OF APPROVED MASTER PLAN

Pond #16 YC-046 DA=175.67 AC

LID FORE-BAY DA=8.77 AC

Pond #23 YC-052 DA=12.78 AC

Pond #25 DA=4.66 AC

Pond #15 YC-042 DA=8.28 AC

Pond #27 DA=7.81 AC

Pond #17 YC-043 DA=10.48 AC

LID FORE-BAY DA=3.16 AC

Pond #12 YC-030 DA=9.1 AC

Pond #10 YC-028 DA=18.7 AC

Pond #1 YC-029 DA=11.5 AC

Pond #9 YC-026 DA=60.6 AC

Pond #13 YC-031 DA=6.9 AC

Pond #3 YC-027 DA=48.2 AC

Pond #2A YC-032 DA=38.4 AC

LID FORE-BAY DA=7.55 AC

Pond #18 YC-047 DA=35.33 AC

Pond #2 YC-048 DA=8.54 AC

Pond #19 YC-044 DA=5.96 AC

Pond #5 YC-025 DA=160.1 AC

LID FORE-BAY DA=4.63 AC

Pond #4 YC-033 DA=12.88 AC

Pond #20 YC-045 DA=5.11 AC

Pond #14 YC-041 DA=18.73 AC

Pond #6 YC-038 DA=17.65 AC

Pond #7 YC-039 DA=28.92 AC

Pond #22 YC-054 DA=12.28 AC

Pond #24 YC-053 DA=11.82 AC

Pond #1 YC-037 DA=3.16 AC

Pond #8 YC-040 DA=8.86 AC

FORE-BAY DA=7.41 AC

* FORE-BAY DA=20.31 AC

LID FORE-BAY DA=9.96 AC

* USED FOR DEER LAKE COMPLIANCE (NOT ADDED IN LID AC.)

THIS PROJECT IS SITUATED IN SUBWATERSHEDS 104 & 105 AND THE LOWER SUBWATERSHEDS - NONTIDAL MAINSTEM YARMOUTH CREEK.

LEGEND

- SURVEYED WETLAND LIMITS
- EXISTING POND
- SURVEYED STREAM CHANNEL/OPEN WATER LIMITS
- RPA BUFFER LINE
- BMP/POND
- PRETREATMENT FOREBAY
- AREA OF STEEP SLOPES (> 25%)
- PROPOSED ROAD SYSTEM
- PROPERTY LINE
- PROPOSED LANDBAY BOUNDARY
- PROPOSED BUFFER

N

GRAPHIC SCALE

400' 0' 400' 800'

SCALE: 1" = 400'

AMENDED STORMWATER CONCEPT PLAN AND ENVIRONMENTAL RESOURCE INVENTORY

AES CONSULTING ENGINEERS

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JUNE 21, 2002
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AMENDED: JAN. 31, 2020
AMENDED: OCT. 27, 2020

SHEET 5
AES JOB: 8881-3A

S:\JOBS\8881\03-4 Planning\Planning\Master Plan Amendment\MP2 Stormwater Concept Plan.dwg, 12/3/2020 11:57:13 AM, kwieland

AMENDED AND

RESTATED PROFFERS

COLONIAL HERITAGE AT WILLIAMSBURG

THESE AMENDED AND RESTATED PROFFERS are made this ____ day of _____, 2020, by and among:

COLONIAL HERITAGE LLC, a Virginia limited liability company ("Colonial Heritage"), COLONIAL HERITAGE HOMEOWNERS ASSOCIATION, INC., a Virginia corporation ("HOA") (to be indexed as grantors) and

THE COUNTY OF JAMES CITY, VIRGINIA ("County") (to be indexed as grantee), provides as follows:

RECITALS

R-1. Colonial Heritage is a wholly-owned subsidiary of and is managed by U.S. Home Corporation, a Delaware corporation ("U.S. Home").

R-2. Colonial Heritage has developed certain real property, known as Colonial Heritage, located in the County of James City, Virginia, more particularly described on **Exhibit A** attached hereto and made a part hereof. The property described on Exhibit A is referred to herein as the "Colonial Heritage Property." Colonial Heritage is the owner of certain property adjacent to Colonial Heritage Property currently zoned A-1 and surrounding Deer Lake (the "Deer Lake Estates Property"). The Deer Lake Estates Property is more particularly described on **Exhibit B**.

R-3. In 2004, Colonial Heritage received approval from the James City County Board of Supervisors rezoning a portion of the Colonial Heritage Property as Mixed-Use ("MU") and approving a master plan (the "Master Plan") in connection with the development of the Colonial Heritage age-restricted active adult community (Z-3-02/MP-1-02, Z-4-02 and SUP-21-04) (collectively, the "2004 Rezoning").

R-4. The 2004 Rezoning was approved subject to certain Amended and Restated Proffers dated December 2, 2004 and recorded as Instrument No. 050000448 in the Office of the Clerk of the Circuit Court for the City of Williamsburg and County of James City, Virginia (the "2004 Proffers").

R-5. The HOA now holds title to certain lands within the Colonial Heritage development housing recreation amenities and open space shown on the Master Plan.

R-6. Colonial Heritage has filed applications under County case numbers MP-19-0011 and Z-19-0013 (the "Applications for Amendment") to (i) implement an amended master plan for the Colonial Heritage Property (the "Amended Master Plan") and (ii) rezone the Deer Lake Estates Property, from A-1 to MU, incorporating the Deer Lake Estates Property into the Colonial Heritage age-restricted community.

R-7. In furtherance of its applications, Colonial Heritage and the HOA desire to make the 2004 Proffers applicable to the Deer Lake Estates Property proposed to be rezoned from A-1 to MU, and to incorporate the Deer Lake Estates Property into the Amended Master Plan. Colonial Heritage also desires to proffer certain additional conditions, set forth herein, for the protection, enhancement, and development of the Colonial Heritage Property.

NOW, THEREFORE, for and in consideration of the approval by the County of the rezoning of the property as described in the application submitted under County file number Z-19-0013, and pursuant to Section 15.2-2303.4(D) of the Virginia Code, Section 24-16 of the County's Zoning Ordinance and County Ordinance No. 31A-346, Colonial Heritage agrees to the following conditions and proffers as indicated in developing the Colonial Heritage Property and the Deer Lake Estates Property:

PROFFERS

1. A portion of the Deer Lake Estates Property containing 8.0 ± acres as shown on the Amended Master Plan fronting Route 611 (Jolly Pond Road), shall be conveyed without condition to the HOA for additional amenities as determined and constructed by the HOA. The conveyance shall be made to the HOA before issuance of a building permit for any Residential Unit on the Deer Lake Estates Property.

2. The entrance to the Deer Lake Estates Property from State Route 611 (Jolly Pond Road) shown on the Master Plan shall be eliminated, except for temporary access during construction, and an emergency entrance from Jolly Pond Road.

3. An additional open space and conservation area consisting of approximately 100 acres within the Deer Lake Estates Property shall be established by easement conveyed to the County encumbering land shown on the Amended Master Plan as "Proposed Area of Additional Conservation Easement".

A. This open space and conservation easement shall be in addition to the 282± acres conveyed under the 2004 Proffers and shall be subject to the same terms, conditions, and prohibitions as set forth in Section, II, No. 18 of the 2004 Proffers.

B. Specifically, the additional open space and conservation area shall be available to Colonial Heritage which shall retain the right to utilize the open space and conservation area for stormwater management pollutant removal credit, required opened space, required impervious/pervious cover percentages, watershed protection measures, placement of water and sewer lines and appurtenances serving the Deer Lake Estates Property, and other passive recreational uses benefitting or facilitating development of the Deer Lake Estate Property and the Colonial Heritage Property.

C. The conveyance shall be made by deed in form acceptable to the County Attorney and shall be duly executed and delivered to the County before County approval of a land disturbing permit for development of any portion of the Deer Lake Estates Property.

4. At or before transition to HOA control of the Deer Lake Estates Property in accordance with the Declaration of Restrictions for Colonial Heritage, Colonial Heritage shall convey Deer Lake itself to the HOA.

5. As shown on the Amended Master Plan, the area between the portion of the Deer Lake Estates Property zoned MU in 2004 and the eastern boundary of Deer Lake shall not be developed, in order to protect view-sheds of currently existing Colonial Heritage parcels and dwellings.

6. No more than two thousand (2,000) Residential Units shall be developed upon the Colonial Heritage Property and the Deer Lake Estates Property combined, as provided by Section II, Paragraph 2(A) of the 2004 Proffers.

7. No building permit for Residential Units exceeding 1,850 in number shall be issued prior to such date as Certificate(s) of Occupancy have been issued by the County for 340,000 square feet of commercial uses within Land Bay VI shown on the Amended Master Plan.

8. A. Prior to the issuance of any certificate of occupancy within Land Bay VI as shown on the Amended Master Plan, or by January 1, 2023, whichever first occurs, the developer shall make the following improvements to the westbound dual left turn lanes on Rt. 60 westbound at the Williamsburg Pottery West Entrance crossover and signal:

1. Remove second signal head, and
2. Stripe out second left turn lane.

B. Any site plan submitted to the County for development in Land Bay VI shall include a tabulation of cumulative trip generation for the proposed and all previously approved development in that Land Bay VI. Prior to issuance of a building permit for construction of uses which will produce more than one half (1/2) of trip generation described in subparagraph C below (i.e. 395 entering and exiting total PM peak hour trips) within Land Bay VI as shown on the Amended Master Plan, the following traffic improvement measures shall be completed or bonded so that the measures below are completed simultaneously:

1. Replace second signal head and signal at Rt. 60 westbound at the Williamsburg Pottery West Entrance crossover,

2. Restore/resurface second left turn lane at Rt. 60 westbound at Williamsburg Pottery West Entrance crossover and signal, and

3. Construct Land Bay VI property entrance with:

   a. 200-foot throat length (measured perpendicular from Rt. 60 from face of curb to first curb cut per VDOT requirements for three (3) exit lanes on an entrance)

   b. Two (2) inbound lanes and three outbound lanes for the length of the entrance throat.

Trip generation projections for proposed uses and cumulative trip generation by Land Bay VI uses shall be submitted as a requirement of site plan approvals for future development within Land Bay VI.

C. A traffic study must be prepared and approved by the County and VDOT and completion or bonding made for any additional construction required to accommodate access capacity in addition to those improvements in subparagraph B above prior to issuance of a building

permit for cumulative construction in Land Bay VI as shown on the Amended Master Plan of more than:

1. 150,000 square feet of shopping center,

2. 60 beds assisted living,

3. 180 beds nursing home, and/or

4. uses generating equivalent trip generation (i.e, PM peak hour entering and exiting traffic total exceeding 790 vehicles per hour.)

9. The 2004 Proffers shall remain in full force and effect as if fully incorporated herein, and shall be applicable to any portion of the Colonial Heritage Property now owned by Colonial Heritage or the HOA (reflected by the GPIN numbers shown on Exhibit C) and to the Deer Lake Estates Property zoned as MU under the Applications for Amendment. To the extent a conflict exists between the 2004 Proffers and these Amended and Restated Proffers, these Amended and Restated Proffers shall control. Terms defined in the 2004 Proffers shall have the same meaning when utilized in this document.

10. The HOA joins in and executes these Proffers as owner of Land Bay IX, a portion of the property depicted on the Amended Master Plan, for purposes of consenting to adoption of the Amended Master Plan and the content of these Proffers.

11. In the event that the requested rezoning of the Deer Lake Estates Property and the Amended and Restated Proffers and Amended Master Plan are not approved by the County, these Amended and Restated Proffers shall be null and void, but the 2004 Proffers, the master plan and rezoning approval by the County in 2004 in Case Nos. Z-3-02/Z-4-02/MP-1-02 and SUP-21-04 shall remain in full force and effect, unaffected hereby.

COLONIAL HERITAGE, LLC, a Virginia limited liability company

By: U.S. Home Corporation, a Delaware corporation, Manager

By: _____
Name: _____
Title: _____

STATE OF _____
CITY/COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ____ day of _____, 2020, by _____, _____, of U.S. Home Corporation, Manager of COLONIAL HERITAGE, LLC, a Virginia limited liability company, on its behalf.

_____
Notary Public

My Commission Expires: _____

COLONIAL HERITAGE HOMEOWNERS ASSOCIATION, INC., a Virginia corporation

By: _____
Name: _____
Title: _____

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ____ day of _____, 2020, by _____, _____, of COLONIAL HERITAGE HOMEOWNERS ASSOCIATION, INC., a Virginia corporation, on its behalf.

_____
Notary Public

My Commission Expires: _____

APPROVED AS TO FORM:

_____

County Attorney

Exhibit A

Colonial Heritage Property

All those certain tracts, pieces or parcels of land situate in James City County, Virginia more particularly described as Land Bays I through IX on that certain plan entitled: "COLONIAL HERITAGE, WILLIAMSBURG VIRGINIA, AMENDED MASTER DEVELOPMENT PLAN, LENNAR" made by AES Consulting Engineers, last revised October 27, 2020, which said plan is of record in the Community Development Office of James City County, Virginia as part of its files numbered Z-19-0013/MP-19-0011 under the case title Colonial Heritage Deer Lake Estates Rezoning.

Exhibit B

Deer Lake Estate Property

All those certain tracts, pieces or parcels of land situate in James City County, Virginia more particularly described as Land Bay X on that certain plan entitled: "COLONIAL HERITAGE, WILLIAMSBURG VIRGINIA, AMENDED MASTER DEVELOPMENT PLAN, LENNAR" made by AES Consulting Engineers, last revised October 27, 2020, which said plan is of record in the Community Development Office of James City County, Virginia as part of its files numbered Z-19-0013/MP-19-0011 under the case title Colonial Heritage Deer Lake Estates Rezoning.

Exhibit C

James City County GPIN numbers of property owned by Colonial Heritage LLC and Colonial Heritage Homeowners Association, Inc. as of the date of these Proffers:

Colonial Heritage LLC Properties

Parcel ID/GPIN	Street Address
2240100007	499 JOLLY POND ROAD
2330600001	4300 HARRINGTON COMMONS
2330600002	4304 HARRINGTON COMMONS
2330600003	4308 HARRINGTON COMMONS
2330600004	4312 HARRINGTON COMMONS
2330600024	4392 HARRINGTON COMMONS
2330600057	4500 KINGSTON COURT
2330600058	4504 KINGSTON COURT
2330600059	4508 KINGSTON COURT
2330600060	4512 KINGSTON COURT
2330600062	4520 KINGSTON COURT
2330600064	4528 KINGSTON COURT
2330600065	4532 KINGSTON COURT
2330600066	4536 KINGSTON COURT
2330600068	6500 WESTBROOK DRIVE
2330600069	6504 WESTBROOK DRIVE
2330600070	6508 WESTBROOK DRIVE
2330600071	6512 WESTBROOK DRIVE
2330600072	6516 WESTBROOK DRIVE
2330600073	6520 WESTBROOK DRIVE
2330600074	6524 WESTBROOK DRIVE
2330600075	6528 WESTBROOK DRIVE
2330600076	6532 WESTBROOK DRIVE
2330600077	6536 WESTBROOK DRIVE
2330600078	6540 WESTBROOK DRIVE
2330600079	6544 WESTBROOK DRIVE
2330600080	6548 WESTBROOK DRIVE
2330600081	6552 WESTBROOK DRIVE
2330600082	6556 WESTBROOK DRIVE
2330600083	6560 WESTBROOK DRIVE
2330600088	6592 WESTBROOK DRIVE
2330600093	6559 WESTBROOK DRIVE
2330600094	6555 WESTBROOK DRIVE
2330600095	6551 WESTBROOK DRIVE
2330600096	4300 EVERETT LANE
2330600097	4304 EVERETT LANE
2330600098	4308 EVERETT LANE
2330600099	4312 EVERETT LANE

2330600102	4264 SIENNA LANE
2330600120	6509 WESTBROOK DRIVE
2330600121	6505 WESTBROOK DRIVE
2330600122	6501 WESTBROOK DRIVE
2330600123	4100 WHITLEY TERRACE
2330600124	4104 WHITLEY TERRACE
2330600125	4108 WHITLEY TERRACE
2330600126	4112 WHITLEY TERRACE
2330600127	4116 WHITLEY TERRACE
2330600128	4120 WHITLEY TERRACE
2330600129	4124 WHITLEY TERRACE
2330600130	4135 WHITLEY TERRACE
2330600131	4131 WHITLEY TERRACE
2330600132	4127 WHITLEY TERRACE
2330600133	4123 WHITLEY TERRACE
2330600134	4119 WHITLEY TERRACE
2330600135	4115 WHITLEY TERRACE
2330600136	6454 ROCKWELL ROAD
2330600137	6458 ROCKWELL ROAD
2330600138	6462 ROCKWELL ROAD
2330600140	6471 ROCKWELL ROAD
2330600141	6463 ROCKWELL ROAD
2330600142	6459 ROCKWELL ROAD
2330600143	6455 ROCKWELL ROAD
2330600144	6451 ROCKWELL ROAD
2330600145	6447 ROCKWELL ROAD
2330600146	6443 ROCKWELL ROAD
2330600147	6439 ROCKWELL ROAD
2330600148	6435 ROCKWELL ROAD
2330600149	6431 ROCKWELL ROAD
2330600150	6427 ROCKWELL ROAD
2330600151	6423 ROCKWELL ROAD
2330600152	6419 ROCKWELL ROAD
2330600153	6415 ROCKWELL ROAD
2330600154	6411 ROCKWELL ROAD
2330600155	6407 ROCKWELL ROAD
2330600156	6403 ROCKWELL ROAD
2330700015	6401 YARMOUTH RUN
2330700016	6405 YARMOUTH RUN
2330700017	6409 YARMOUTH RUN
2330700018	6413 YARMOUTH RUN
2330700019	6417 YARMOUTH RUN
2330700020	6421 YARMOUTH RUN
2330700021	6425 YARMOUTH RUN
2330700022	6429 YARMOUTH RUN
2330700023	6433 YARMOUTH RUN

2330700024	6448 YARMOUTH RUN
2330700025	6444 YARMOUTH RUN
2330700026	6440 YARMOUTH RUN
2330700027	6436 YARMOUTH RUN
2330700028	6432 YARMOUTH RUN
2330700029	6428 YARMOUTH RUN
2330700030	6424 YARMOUTH RUN
2330700031	6420 YARMOUTH RUN
2330700032	6416 YARMOUTH RUN
2330700033	6412 YARMOUTH RUN
2330700034	6408 YARMOUTH RUN
2330700035	6404 YARMOUTH RUN
2330700036	6400 YARMOUTH RUN
2330700083	3966 ISAAC CIRCLE
2330700084	3962 ISAAC CIRCLE
2330700085	3958 ISAAC CIRCLE
2330700086	3954 ISAAC CIRCLE
2330700087	3950 ISAAC CIRCLE
2330700088	3946 ISAAC CIRCLE
2330700089	3942 ISAAC CIRCLE
2330700090	3938 ISAAC CIRCLE
2330700091	3934 ISAAC CIRCLE
2330700092	3930 ISAAC CIRCLE
2330700093	3926 ISAAC CIRCLE
2330700094	3922 ISAAC CIRCLE
2330700095	3918 ISAAC CIRCLE
2330700096	3914 ISAAC CIRCLE
2330700097	3910 ISAAC CIRCLE
2340600001	7001 STATESMEN
2340600001G	
2340600001H	
2340600002	7005 STATESMEN
2340600003	7009 STATESMEN
2340600004	7015 STATESMEN
2340600016	4805 HOUSE OF LORDS
2340600016A	4801 HOUSE OF LORDS
2340600017	4809 HOUSE OF LORDS
2340600017A	4807 HOUSE OF LORDS
2340600018	4815 HOUSE OF LORDS
2340600019	4819 HOUSE OF LORDS
2340600024	7016 ADAMS
2340600027	4812 HOUSE OF LORDS
2340600028	4808 HOUSE OF LORDS
2340600029	4804 HOUSE OF LORDS
2430100032B	6895 RICHMOND ROAD

Colonial Heritage Homeowners Association, Inc.

2320900001A	
2320900001B	
2320900001C	
2330300001A	
2330300001B	
2330300005A	6390 CORDELIA ROAD
2330300006A	3855 ISAAC CIRCLE
2330300008A	6416 ISABELLA DRIVE
2330400001A	3803 WOODRUFF ROAD
2330400001B	6430 BRIGHTWELL COURT
2330500004	4200 COLONIAL HERITAGE BLVD
2330600001A	6711 WESTBROOK DRIVE
2330600001B	4418 HARRINGTON COMMONS
2330600001C	4305 EVERETT LANE
2330600001G	6564 WESTBROOK DRIVE
2330600001H	6401 ROCKWELL ROAD
2340100023	4351 POND STREET
2340600001A	5000 COLONIAL HERITAGE BLVD
2340600001B	
2340600001C	
2340600001D	
2340600001E	
2340600001F	6501 ARTHUR HILLS DRIVE
2340800001A	
2340800001B	
2340900001A	4101 WIFFET WAY
2340900001B	
2341000001A	
2341000001B	
2341000001C	
2341000001D	
2341100001A	
2341100001B	
2341100001C	
2341200001A	
2341200001B	
2341300001A	
2341300001B	
2341400001A	
2341400001B	
2341500001A	
2341500001B	
2341600001A	6929 GLORY LANE
2341600001B	

2341800001	6600 ARTHUR HILLS DRIVE
2341800002	6525 ARTHUR HILLS DR
2341800003	4300 COLONIAL HERITAGE BLVD
2341800005	4285 COLONIAL HERITAGE BLVD
2341900001A	4150 WINTHROP CIRCLE
2341900001B	4103 WINTHROP CIRCLE
2430600001D	6600 WILTSHIRE ROAD
2430600001E	6600 A WILTSHIRE ROAD
2430700001A	
3120600001A	4212 WEDGEWOOD DRIVE
3120600001B	4201 WEDGEWOOD DRIVE
3120600001C	4250 WEDGEWOOD DRIVE
3120700001A	
3120700001B	

Community Impact Statement

For

Rezoning of Colonial Heritage Adjacent to Deer Lake

Prepared For

Colonial Heritage, LLC
14280 Park Meadow Drive, Suite 105
Chantilly, VA 20151

Original: September 25, 2019
Revised: February 3, 2020
Revised: July 1, 2020
Revised: October 27, 2020
Revised: December 10, 2020

AES Project Number W09625-03

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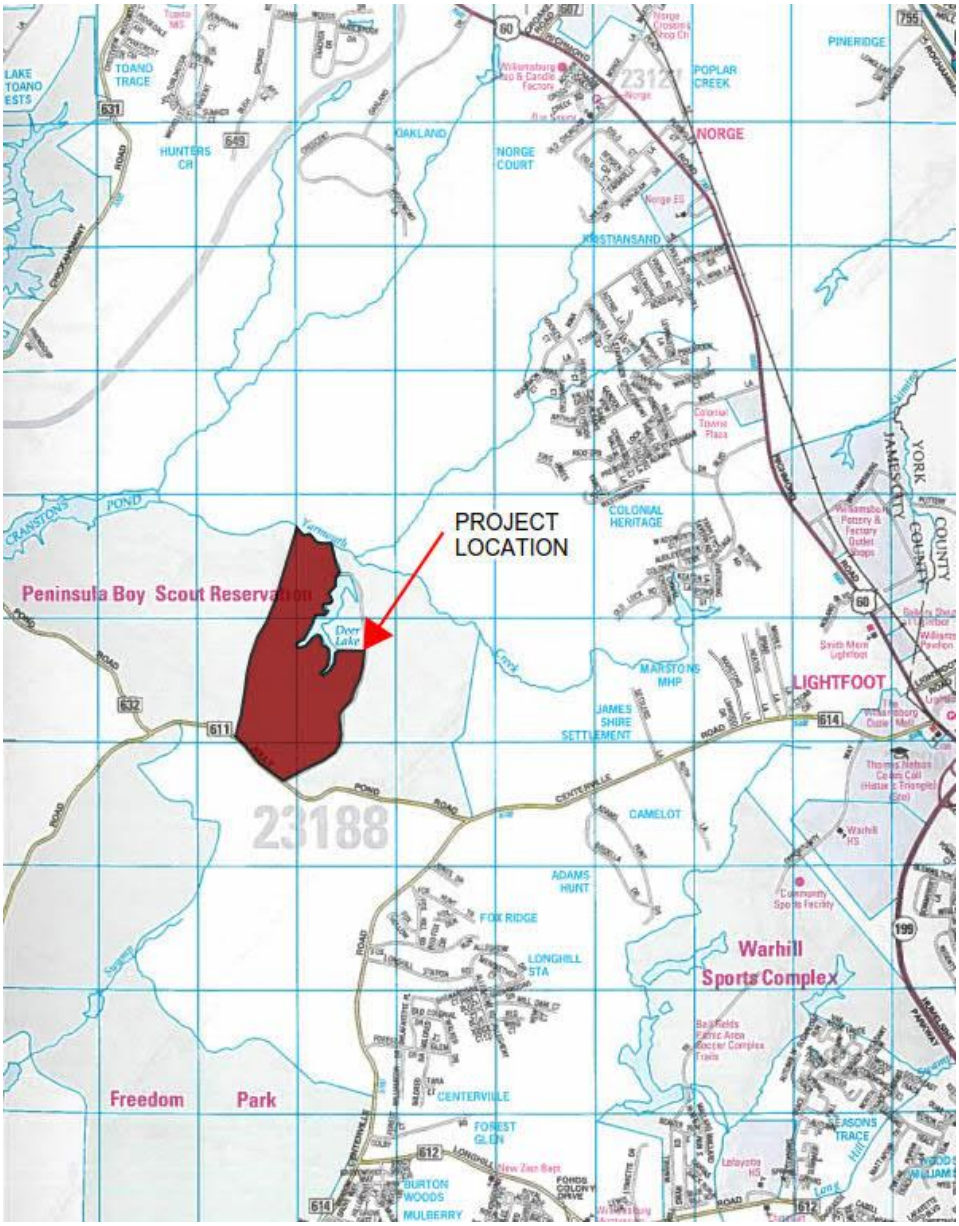
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APPROXIMATE SCALE 1"=2000'

VICINITY MAP

for

Colonial Heritage

(Rezoning Adjacent to Deer Lake)

Williamsburg, Virginia

I. INTRODUCTION

Colonial Heritage, LLC proposes a rezoning of the A1 cluster development adjacent to Deer Lake. This area currently zoned as A1 would be rezoned to Mixed Use (MU), the same as the remainder of the Colonial Heritage development, with the Colonial Heritage Master Plan amended to incorporate the rezoned land into the Colonial Heritage age-restricted development. The proposed development associated with this rezoning would include a maximum of 150 single family detached units and approximately 100 acres of additional conservation area. The proposed units would still place the total number of units within Colonial Heritage well below the cap of 2,000 noted on the Master Plan.

The property is located in the Stonehouse District within the existing Colonial Heritage subdivision (vicinity map included on page 3). The purpose of this Community Impact Statement is to summarize and organize information about the proposed development into a report, which identifies pertinent planning issues.

II. THE PROJECT TEAM

The organizations that participated in the preparation of the information provided with this rezoning submission are as follows:

- Developer - Colonial Heritage, LLC
- Civil Engineering - AES Consulting Engineers
- Attorney - Kaufman & Canoles, P.C.

Key components of this Community Impact Assessment are:

- Existing Conditions
- Project Description
- Planning Considerations
- Analysis of Impacts to Public Facilities and Services
- Analysis of Environmental Impacts
- Analysis of Storm Water Management
- Traffic Impact Analysis
- Fiscal Impact Study
- Conclusions

III. EXISTING CONDITIONS

Site Location - See Figure 1, Vicinity Map, page 3

A pre-development site analysis for this property (not the entire Colonial Heritage subdivision) revealed the following results:

RPA Wetland areas:	*24.6 acres*
Non-RPA Wetland areas:	*0.2 acres*
Areas of 25% or greater slopes:	*41.6 acres*
Total Non-Developable Area:	***66.4 acres***
Net Developable Area:	***153.9 acres***

IV. PLANNING CONSIDERATIONS

A. Summary

The proposed Conceptual Plan on the property within Colonial Heritage adjacent to Deer Lake shows approximately 150 age restricted (active adult) single family detached lots. These lots fall within the Primary Service Area in land zoned A1. The proposed Conceptual Plan would require the land to be rezoned from A1 to Mixed Use (similar to the adjacent lots within Colonial Heritage). This proposal would also require an amendment to the Colonial Heritage Master Plan and corresponding Proffers.

Though the proposed lot count in this area would increase from 50 lots to 150 lots, the overall development would still be well below the 2,000-unit cap for Colonial Heritage. The Conceptual Plan shows an approximate configuration of these lots, with roughly 100 additional acres of conservation area provided and therefore less impact to Yarmouth Creek. The 150-lot layout also proposes the same disturbed area as the 50-lot layout.

A parcel designated for the Colonial Heritage HOA to use as a recreational amenity is included which totals approximately 8.0 acres. This layout would also eliminate the proposed Jolly Pond Road entrance as the development would tie into an existing private road system within Colonial Heritage. In addition, these proposed residential lots would now be considered age restricted and not provide a burden on James City County schools.

B. Construction Phasing

In accordance with James City County's construction phasing policy for Mixed Use developments, adequate commercial construction must occur prior to certain thresholds of residential units obtaining Certificate of Occupancy (CO). To date, there have been approximately 1,250 residential COs issued within Colonial Heritage with approximately 750 remaining (based on the 2,000 unit maximum associated with the development). Prior to the issuance of the 1,850th residential CO, there shall be at least 340,000 SF of commercial construction (80% of the 425,000 SF cap noted on the Master Plan) in place within Land Bay VI.

C. Environmental

Watershed protection surrounding Yarmouth Creek played an important role when originally planning this Master Plan development. Approximately 100 acres adjacent to Deer Lake shall be dedicated as Natural Open Space and the required RPA buffers have been acknowledged. The proposed Conceptual Plan was laid out to adhere to the Stormwater Master Plan, provide substantial Natural Open Space in excess of the Master Plan and limit disturbance to the existing RPA buffer and wetlands.

D. Historic and Archeological

In July of 2013, Circa~ Cultural Resource Management, LLC conducted a Phase II archaeological survey of the potentially (upland) developable areas of the property adjacent to Deer Lake. During the course of this survey, archaeologists found one site which shall be avoided during development. Through avoidance of the site, there is no requirement for any additional archaeological surveys or studies.

E. Parks and Recreation

The proposed development within the rezoned portion of Colonial Heritage will be incorporated into the existing Homeowner's Association (HOA) and therefore have access to the numerous amenities available to residents. Some of the amenities include a clubhouse, two pools (one indoor and one outdoor), 18-hole golf course, approximately 6 miles of walking paths, a wild flower meadow, numerous pocket parks and five tennis/pickle ball courts.

Per Appendix F of the James City County Recreational Facility Development Guidelines, Colonial Heritage exceeds the recreational requirements noted except for providing a playground. As noted in the Guidelines however, for age-restricted communities the playground can be substituted for the various items noted above.
In addition, the approximately 8-acre recreation area proposed with this rezoning shall provide additional amenities which could include a dog park and second exercise facility for the community. All recreation facilities located within the development are funded by Colonial Heritage and not James City County.

V. ANALYSIS OF IMPACTS TO PUBLIC FACILITIES AND SERVICES

The subject property is located within the Primary Service Area (PSA) of James City County. Parcels and subsequent land development activities within the PSA are conventionally provided water and sanitary sewer service by the James City Service Authority (JCSA).

A. Public Water Facilities

Public water shall be provided by the JCSA system. The water system shall be looped from the existing water main along Jolly Pond Road to the existing water system within Colonial Heritage.

Flow test data was previously provided by JCSA and will be incorporated into the existing water model for the entire development and will be completed and submitted prior to or with the final site plan. The model will examine volume and pressures throughout the immediate water system area, however based on the information provided and coordination with JCSA, there should be adequate availability for the proposed facility.

B. Public Sewer Facilities

Sanitary sewer service is provided to the site by a proposed on-site gravity sewer collection system which will convey wastewater flows to an existing JCSA gravity sewer system located within the existing Colonial Heritage development. This existing sewer system was designed for flows associated with this Conceptual Plan and will therefore be adequately handled.
All system components shall be designed to JCSA standards for acceptance into the JCSA gravity system. Please find "Table 1" which shows the anticipated sewage flows for the project.

Table 1 – Projected Wastewater Flows

Type of Development	No. of Units	Flow (GPD/Unit)	Average Daily Flow (GPD)	Duration (hrs)	Avg. Flow (GPM)	Peak Flow (GPM)
RESIDENTIAL						
Single Family Detached Units	150	225**	33,750	24	23.4	70.2
TOTAL			**33,750**		**23.4**	**70.2**

** A value of 225 GPD/Unit is utilized for Colonial Heritage per prior agreement with JCSA based on reduced flows associated with the age restricted community.

C. Fire Protection and Emergency Services

There are currently five (5) fire stations providing fire protection and Emergency Medical Services (EMS) services to James City County. The property falls nearly halfway between its two closest fire stations, located on Olde Towne Road and Forge Road. From these stations, an estimated response time would be less than five minutes. Additionally, the proximity of the site to all five fire stations affords the future residents of the project more than adequate response to potential emergencies.

D. Solid Waste

The proposed development on the subject property will generate solid wastes that will require collection and disposal to promote a safe and healthy environment. Individual trash and recycled material collection will be provided to each lot and then deposited into the appropriate vehicle for transport of both materials to a solid waste transfer station.

E. Utility Service Providers

Virginia Natural Gas, Dominion Virginia Power and Cox Communications provide, respectively, natural gas, electricity, cable TV service, and telephone service to this area. The current policy of these utility service providers is to extend service to the development at no cost to the developer when positive revenue is identified; plus, with new land development, these utility service providers are required to place all new utility service underground.

F. Schools

Because the proposed development will be age restricted, there will be no school age children residing within this development and subsequently there will be no direct impacts on the local school system.

VI. ANALYSIS OF ENVIRONMENTAL IMPACTS

A. Preliminary Wetland Determination and Resource Protection Areas

Investigations were conducted by Kerr Environmental Services Corp. during the original Master Plan for the entire Colonial Heritage property. The located wetlands and associated RPA buffers are shown on the Concept Plan. Per coordination with the Stormwater department at James City County throughout the development of Colonial Heritage, the RPA buffer configurations are still valid and no further RPA buffer delineation is required.

B. Plant Species

A Natural Resource Inventory was conducted during the original Master Plan for the entire Colonial Heritage property in order to determine if any protected species existed on site. This study noted numerous Small Whorled Pogonia locations throughout the development. Careful consideration has been given to these locations and development has been designed to avoid these protected species throughout Colonial Heritage. The Master Plan will designate a buffer which prevents development which might impact the known Small Whorled Pogonia location on the subject property.

C. Soils

The USDA Web Soil Survey shows several soil types within the property boundary. This property is predominantly situated on Emporia Fine Sandy Loam & Craven-Uchee Complex soils.

VII. ANALYSIS OF STORMWATER MANAGEMENT

A. Water Quality

The goals of the stormwater management plan are to adhere to local and State stormwater requirements using Best Management Practices (BMPs) that provide the maximum coverage while minimizing environmental impacts. Stormwater management for this site seeks to manage the quality and quantity of the stormwater runoff. This development was approved under the previous stormwater management regulations, which in James City County was a 10-point BMP method required to demonstrate compliance with the County's Chesapeake Bay Preservation Ordinance (CBPO). The methodology allocates open space credit for land that is not developed and provides credit for all segments of the site that drain and are controlled by an adequately sized structural BMP. The 10-point plan is no longer the standard method by which stormwater management is achieved, therefore the applicant will seek grandfathered status similar to the rest of the Colonial Heritage development.

This project will utilize a highly efficient wet pond BMP (Deer Lake) to treat all of the proposed impervious cover associated with the development. Additional Natural Open Space will also be dedicated to James City County (in addition to the previously dedicated 282 acres adjacent to the PSA line) which will push the overall points for Colonial Heritage well over the 10 points that are required. The Stormwater Master Plan (SWMP) for Colonial Heritage is routinely updated throughout the development of each phase within the development. The SWMP has been reviewed considering this proposed concept layout and the water quality requirements are still exceeded with the additional open space that will be dedicated and the treatment provided by Deer Lake. To further enhance the water quality of this section of development, additional Low Impact Development (LID) measures will be utilized.

B. Water Quantity

Water quantity control is required to ensure that the post construction stormwater runoff is controlled to a point that is either at or below the existing condition in terms of flow rates. This quantity of stormwater can be reduced by storing the increased stormwater runoff for a period of time before releasing it back into the downstream waterway. The wet pond (Deer Lake) as previously used for water quality control will also be used to store the stormwater to reduce the flow. Appropriate measures will be taken to ensure that the 1, 2, 10, and 100-year storms are properly contained within the pond and discharges the stormwater over time with appropriate flows to maintain or better the existing condition. Development adjacent to steep slopes will be monitored closely and layout adjustments may be necessitated in order to avoid areas where there is risk of erosion.

C. Storm Sewer System

The proposed storm sewer system shall be comprised mainly of curb inlets and reinforced concrete pipe that are placed throughout the site at critical locations. This system shall be used to convey the stormwater runoff into the existing BMP (Deer Lake) for treatment. The Concept Plan shows the proposed development in relation to Deer Lake. During final design, storm pipe and structures will be located accordingly, and calculations will be provided.

D. Special Stormwater Criteria

The proposed development is located within the Yarmouth Creek Watershed and is therefore subject to the corresponding Yarmouth Creek Management Plan. This plan was put in place to help prevent any degradation of the ecosystem and waterways downstream of Yarmouth. Once the disturbed area is determined for this development, the required number of Special Stormwater Criteria (SSC) measures will be provided. The exact methods to be utilized will be determined at the site plan stage.

VIII. ANALYSIS OF IMPACTS TO TRAFFIC

An updated traffic study has been conducted by DRW Consultants, LLC and is included under separate cover.

IX. FISCAL IMPACT STUDY

The Fiscal Impact Analysis has been completed based on the documents provided by James City County and the required information is provided under separate cover.

X. CONCLUSIONS

This proposed development adjacent to Deer Lake within Colonial Heritage meets the intent of the Comprehensive Plan with assurances for the provision of ample open space and its efficient use. It also represents an appropriate use of the land and will act as a logical inclusion into the existing Colonial Heritage development and Homeowner's Association with no impact to traffic despite the increase in number of homes. The 150 age-restricted homes still allow for the development to stay well below the 2,000-unit density capacity noted on the Master Plan. Additionally, the project population of residents will not burden area schools.

The minimal impact to traffic based on the proposed use shows that this project will not burden the existing area road system now and into the future.

There are adequate public utilities with capacity to serve this project. Fire and life safety issues have been considered and will be further coordinated with the Fire Marshall during the design process. The site lies in an area that provides quick response times from all nearby fire stations.

Finally, the careful planning of this project with regard to open space, buffers, stormwater management systems and limits on impervious surfaces assures the County that the Yarmouth Creek Watershed will be protected.

GRAPHIC SCALE
200' 0' 200' 400'
SCALE: 1" = 200'

SITE DATA	
27 (50' PRODUCT)	22.0%
90 (40' PRODUCT)	60.0%
33 (30' PRODUCT	18.0%
150 TOTAL UNITS	100.0%

NOTE:
TOTAL REPRESENTS NUMBER OF UNITS AFTER LOSS OF TWO UNITS WITHIN COLONIAL HERITAGE 6-2.

UNDISTURBED NATURAL OPEN SPACE (DEDICATED EASEMENT)

150' DOMINION POWER EASEMENT

ALTERNATE EMERGENCY ACCESS FROM JOLLY POND ROAD

ARCHAEOLOGICAL SITE (44JC1319)

PROPOSED CONSERVATION AREA (100± ACRES)

ENGINEERED DRIPFIELD CONSERVATION AREA

PARCEL TO BE DEDICATED FOR HOA USE 8.0 AC.±

DEER LAKE

MU/A ZONING LINE

ISAAC CIRCLE 50' PRIVATE R/W

SECTION 6-2

SECTION 6-1

THRUSHLEIGH ROAD 50' PUBLIC/PRIVATE R/W

Rev.	Date	Description	Revised By

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PRELIMINARY PLAN
SINGLE FAMILY DETACHED UNITS
DEER LAKE
ADJACENT TO COLONIAL HERITAGE
STONEHOUSE DISTRICT JAMES CITY COUNTY VIRGINIA

Project Contacts:	HWP/TRS
Project Number:	9625-03
Scale: 1"=200'	Date: 09-10-2020

Sheet Title:
PRELIMINARY LOT LAYOUT-ALT 6

Sheet Number
1 OF 1

S:\JOB\1996\2920\Client Lake 2017\Planning\Concepts\4 Preliminary\9596291001-Layout 2018-09-21_130 lots.dwg, 11/1/2020 11:51:17 AM, tyweisbrod

Traffic Analysis For Proposed Amendment To Colonial Heritage Master Plan

JAMES CITY COUNTY, VIRGINIA

For:
AES Consulting Engineers

By:
DRW Consultants, LLC
Midlothian, VA

October 23, 2020

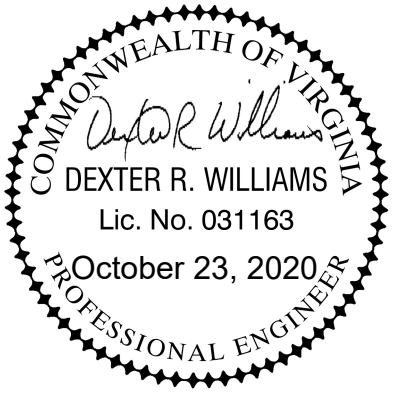
Traffic Analysis For Proposed Amendment To Colonial Heritage Master Plan

JAMES CITY COUNTY, VIRGINIA

For:
AES Consulting Engineers

By:
DRW Consultants, LLC
Midlothian, VA

October 23, 2020



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REPORT
TEXT

INTRODUCTION

This traffic study has been prepared to address traffic conditions for a change to the master plan and proffers for Colonial Heritage (see Exhibit 1). This change involves the Deer Lake Estates property and master planned residential units as follows:

1. The existing master plan for Colonial Heritage has:
    a. Deer Lake with 50 single family housing units
    b. Deer Lake access on Jolly Pond Road
    c. 1950 senior housing units in the balance of Colonial Heritage with gated access via Colonial Heritage Boulevard (private road) at Rt. 60 Richmond Road and Rt. 614 Centerville Road.
    d. 2,000 total housing units.

2. The proposed master plan for Colonial Heritage has:
    a. Deer Lake property incorporated into Colonial Heritage senior housing.
    b. All access via Colonial Heritage Boulevard at Rt. 60 Richmond Road and Rt. 614 Centerville Road.
    c. Jolly Pond access to be emergency access only if approved by JCC.
    d. 2,000 total units senior housing.

Because the existing master plan for Colonial Heritage is over five years old, JCC policy requires a traffic study update for the entire master plan area. The Colonial Heritage master plan also includes 45 acres of commercial frontage on Rt. 60. As shown on Exhibit 1, Colonial Heritage, LLC (dba US Home) retains ownership of 22 acres of the commercial area and 23 acres has been sold to Virginia Health Systems (VHS).

This traffic study includes updated traffic forecasts and analysis for the existing master plan and for the proposed master plan. Realistic assessments of the likely build out of Colonial Heritage have shown that master plan build out in terms of residential units and commercial square footage are not likely to be met. Therefore, a forecast and analysis for likely ground fit (referred to as planned build out in this report) of Colonial Heritage is also included in this traffic study.

TRAFFIC STUDY SCOPE

A previous traffic study for the planned build out of Colonial Heritage dated June 10, 2020 was reviewed by VDOT and an independent JCC consultant. This study incorporates revisions based on those reviews as well as providing new forecast and analysis for the existing master plan and the proposed master plan.

The study includes four intersections for forecast and analysis:

1. Rt. 60 Richmond Road/Colonial Heritage Boulevard. This is an exceptionally long and wide unsignalized crossover built for access to Colonial Heritage. VDOT has restriped this crossover to provide two step crossing of the median to and from Colonial Heritage Boulevard. The VDOT design functions as four separate intersection points of traffic control. SimTraffic vehicle delay per vehicle is used at this intersection to calculate traffic level of service (LOS) for the four intersection control points at this crossover because Synchro unsignalized software does not adequately reflect all traffic operations.
2. Rt. 60 Richmond Road/East Crossover/Williamsburg Pottery (WP) West Signal. This crossover was originally built by Colonial Heritage (planning name: East Crossover) for access to the 45-acre commercial property. Since then, WP built the WP west entrance and installed a traffic signal at this crossover (Colonial Heritage, LLC split the cost of traffic signal installation). Synchro HCM software is used for LOS calculation. The east crossover leg of the intersection will be reconstructed from existing conditions as necessary with Colonial Heritage master planned commercial development.
3. Rt. 60 Richmond Road/WP East Signal. This crossover and signal were built by WP since construction of the two aforementioned crossovers by Colonial Heritage. Synchro HCM software is used for LOS calculation.
4. Rt. 614 Centerville Road/Colonial Heritage Boulevard/Adams Hunt Drive. This is a two-way stop-controlled intersection with access to Colonial Heritage. Synchro HCM6 TWSC software is used for LOS calculation.

All intersection analysis incorporates:

1. % heavy vehicles based on traffic counts for each turning movement. For Colonial Heritage commercial traffic (new addition to network), 2% trucks used.
2. Peak Hour Factor (PHF) for overall intersection used for each turning movement. PHF is 0.92 or higher based on count.
3. Intersection storage length used for analysis is length of full width turn lane plus one half taper with zero taper recorded.
4. Calculated storage using SimTraffic Maximum Queue results.

U-turns on southbound Rt. 60 at Colonial Heritage Boulevard and on northbound Rt. 60 at WP

East have been included. At the Rt. 60/Colonial Heritage Boulevard crossover, upstream link volumes between intersection control points are adjusted as needed to prohibit software-induced artificial U-turns.

AM and PM peak hour traffic counts at Rt. 60/Colonial Heritage Boulevard and at Centerville Road/Colonial Heritage Boulevard/Adams Hunt Drive were done in 2017 pursuant to zoning proffers that require periodic verification of actual trip generation for the residential development in Colonial Heritage. AM and PM peak hour traffic counts were done at the Rt. 60 WP West and East signals in 2019 to include the Colonial Heritage, LLC commercial area with previous residential traffic study.

2026 is the anticipated build out date for Colonial Heritage. A 2026 forecast year is used for all analysis of the three scenarios.

BACKGROUND TRAFFIC GROWTH RATES

VDOT Average Annual Daily Traffic Counts and a trend forecast are shown on Exhibit 2a for Rt. 60 Richmond Road between Croaker Road and Centerville Road. Traffic counts for this study were done on Rt. 60 in 2017 for Colonial Heritage Boulevard and in 2019 for the WP West and East Entrances. Project build out is anticipated for 2026. Background traffic growth factors are shown for 2017 to 2026, 2017 to 2019 and 2019 to 2026.

VDOT Average Annual Daily Traffic Counts and a trend forecast are shown on Exhibit 2b for Rt. 614 Centerville Road between Adams Hunt Road and Rt. 60. Traffic counts for this study were done on Rt. 614 in 2017 for Colonial Heritage Boulevard. Project build out is anticipated for 2026. Background traffic growth factors are shown for 2017 to 2026, 2017 to 2019 and 2019 to 2026.

COLONIAL HERITAGE RESIDENTIAL TRIP GENERATION RATES

A July 21, 2017 traffic study was performed pursuant to proffer requirements and included a determination of actual trip generation rates for Colonial Heritage residential traffic at the time of the 2017 counts (see Appendix Exhibits A and D for 2017 AM and PM peak hour counts). Exhibit 3a is an update of that 2017 residential trip generation derivation:

- Table 1: Trip generation printed in October 23, 2000 traffic study using Trip Generation 6th Edition (TG6). The 2000 study used conventional residential trip generation without accounting for age restriction. This is the trip generation provided with the original zoning and master plan in 2000 and is the benchmark for relative measurement.
- Table 2: TG6 values for existing, occupied homes: 797 single family units (detached homes) and 235 apartments (attached homes). There were 797 detached and 235 attached occupied single-family units at the time of the 2017 counts. Applying the original study trip generation rates provides a measure of comparison for current, age-restricted trip generation vs. original trip generation rate assumptions.
- Table 3: 2017 peak hour traffic counts for 797 detached and 235 attached single-family units and the relative percentage of Table 2 TG6 trip generation values (same trip rates as 2000 study). Actual 2017 two-way peak hour traffic is no more than 42% of the trip generation rates assumed in the 2000 study. Actual trip generation rates are far below the 2000 land use and trip rate assumptions.
- Table 4: Trip Generation Manual, 10th Edition (TGM10) senior housing values for 2017 occupied homes and the 2017 counts relative percentage of TGM10 senior housing values. Relative to TGM10 senior housing trip generation rates, 2017 two-way peak hour traffic is 20% lower in the AM peak hour and 15% higher in the PM peak hour.
- Table 5: 2017 total peak hour counts with entering/exiting splits by housing type based on splits for TGM10 values. This table splits 2017 trips between senior attached and detached housing in proportion to the TGM10 senior attached and detached proportions in Table 4. For the AM peak hour, the calculated trip generation in Table 4 is proportionately reduced to 72 trips entering and 125 trips exiting in Table 5. For the PM peak hour, the calculated trip generation in Table 4 is proportionately reduced to 193 trips entering and 157 trips exiting in Table 5.
- Table 6: 2017 trip rates based on 2017 counts and TGM10 splits. 2017 trip rates are calculated from the proportional trips in Table 5.
- Table 7: 2017 trip rates applied to 1,458 units in Colonial Heritage at time of 2019 counts. Also shown are growth rates to apply to 2017 counts to calibrate to 2019 conditions.

COLONIAL HERITAGE TRIP GENERATION AND DISTRIBUTION

Exhibit 3b shows residential trip generation for 2026 build out of three development scenarios as follows:

- Table 1: Existing Master Plan 1950 Senior Housing Units using the 2017 trip generation rates from Exhibit 3a, Table 6.
- Table 2: Existing Master Plan 50 single family units in Deer Lake using TGM10 trip generation.
- Table 3: Existing Master Plan Total Trip Generation (sum of Tables 1 and 2)
- Table 4: Proposed Master Plan 2000 Unit Senior Housing using the 2017 trip generation rates.
- Table 5: Planned Residential Build Out 1738 Unit Senior Housing using the 2017 trip generation rates. This is the planned build out based on ground fit prepared by AES Consulting Engineers with land bays depicted on Oct. 21, 2020 exhibit: "Residential Land Bays Developable Areas For Planned Build Out Based On Ground Fit".

Exhibit 3c shows trip generation and distribution for 425,000 sq. ft. of commercial space (existing master plan and proposed master plan) as follows:

- Table 1: Trip generation for Master Plan 425,000 square feet of retail using Trip Generation 6th Edition (TG6) as was used in the 2000 study. (Note: the October 23, 2000 traffic study used 350,000 sq. ft. of shopping center for the 45-acre commercial tract.)
- Table 2: TGM 10 trip generation for the commercial acreage. This will be used for Existing Master Plan and Proposed Master Plan scenarios. There is some decrease in trip generation from the TG6 values.
- Table 3: WP PM peak hour traffic and distribution.
- Table 4: Trip distribution percentages for commercial property derived from WP PM peak hour trip distribution.
- Table 5: Colonial Heritage commercial trip distribution.

Exhibit 3d shows trip generation and distribution for the planned build out as follows:

- Table 1: Trip generation for Master Plan 425,000 square feet of retail using Trip Generation 6th Edition (TG6) as was used in the 2000 study.
- Table 2: TGM10 trip generation for 425,000 sq. ft.
- Table 3: Trip Generation Manual, 10th Edition (TGM10) values for planned buildout based on ground fit of the 45-acre commercial property (AES exhibit "Magnolia Grove At Colonial Heritage Planned Buildout Based On Ground Fit", October 21, 2020) as follows:
    - 60 assisted living beds and 180 nursing home beds for the VHS facility. This is double the current anticipated units to account for additional available land with the overall assisted living parcel. This amounts to 204,090 sq. ft. of

building area.
    - 150,000 square feet of shopping center on the VHS 11 remaining acres and the Colonial Heritage, LLC 22 acres. Shopping center use is assumed as a high side trip generation because that was the 2000 assumption and because no other specific use is proposed at this time.
    - Total buildout commercial square footage: 354,090.
- Table 4: Trip generation for the Colonial Heritage, LLC 100,000 sq. ft. share of assumed development.
- Table 5: Trip generation for all the VHS property (including 50,000 sq. ft. assumed shopping center).
- Table 6: Trip distribution percentages based on WP trip distribution.
- Table 7: Colonial Heritage, LLC commercial trip distribution based on WP trip distribution.
- Table 8: VHS commercial trip distribution based on WP trip distribution.

TRAFFIC FORECAST

The future traffic forecast follows a basic procedure of:

1. Separating traffic counts into Colonial Heritage traffic vs. other traffic in the counts. This is more complicated with Rt. 60 given two different years for count sources and differentiating Colonial Heritage at the two WP crossover and signals.
2. Applying a trend growth factor to non-Colonial Heritage traffic to create 2026 background traffic.
3. Applying different growth factors for existing master plan, proposed master plan and planned build out to Colonial Heritage residential site traffic for build out of the residential component.
4. Distributing existing and proposed master plan commercial development traffic and planned build out development traffic (VHS and Colonial Heritage residue) with trip generation based on TGM10 trip generation rates.

For the Rt. 60 corridor, the following steps in the traffic forecast are presented on the Exhibit 4 series for the AM peak hour and the Exhibit 5 series for the PM peak hour as follows:

1. Exhibit 4 AM and Exhibit 5 PM – Deer Park existing master plan
    a. Trip Distribution Deer Park with 50 single family units with access on Jolly Pond Road. Trip distribution from 2017 Colonial Heritage traffic counts as shown in table on exhibit. Most traffic assigned north on Centerville Road. Assignments to Rt. 60 are based on Colonial Heritage trip distribution to Rt. 60 North.
2. Exhibit 4a AM and Exhibit 5a PM – 2017 Counts & 2017/2019 Site Traffic
    a. Top row: 2017 counts at Colonial Heritage Boulevard.
    b. Middle row: 2017 Colonial Heritage residential only with assignment through the WP West and East crossovers and signals.
    c. Bottom row: 2019 residential traffic on corridor factor from 2017/2019 trip generation ratio.
3. Exhibit 4b AM and Exhibit 5b PM – 2019 Counts & 2017/2019 background traffic
    a. Top row: 2019 counts at WP West and East crossovers.
    b. Middle row: 2019 counts without 2019 Colonial Heritage traffic.
    c. Bottom row: 2017 background counts increased with 1.02 growth factor and balanced with 2019 counts (2017 background traffic was higher than 2019).
4. Exhibit 4c AM and Exhibit 5c PM – existing master plan site traffic
    a. Top row: Colonial Heritage existing master plan 1950-unit senior housing traffic (growth factors applied to 2017 Colonial Heritage residential traffic).
    b. Middle row: Trip assignment for Deer Lake 50 single family units.
    c. Bottom row: Trip assignment for 425,000 sq. feet retail.
5. Exhibit 4d AM and Exhibit 5d PM – existing master plan 2026 forecast
    a. Top row: 2026 background traffic (1.06 2019 to 2016 growth factor applied to

2019 background traffic).
   b. Middle row: Sum of all existing master plan traffic traffic: Colonial Heritage residential and commercial.
   c. Bottom row: 2026 total traffic forecast for existing master plan.
6. Exhibit 4e AM and Exhibit 5e PM – proposed master plan site traffic
   a. Top row: Colonial Heritage proposed master plan 2000-unit senior housing traffic (growth factors applied to 2017 Colonial Heritage residential traffic).
   b. Bottom row: Trip assignment for 425,000 sq. feet retail.
7. Exhibit 4f AM and Exhibit 5f PM – proposed master plan 2026 forecast
   a. Top row: 2026 background traffic (1.06 2019 to 2016 growth factor applied to 2019 background traffic).
   b. Middle row: Sum of all build out traffic: Colonial Heritage residential and commercial.
   c. Bottom row: 2026 total traffic forecast for proposed master plan.
8. Exhibit 4g AM and Exhibit 5g PM – planned build out site traffic
   a. Top row: Colonial Heritage planned build out 1738-unit senior housing traffic (growth factors applied to 2017 Colonial Heritage residential traffic).
   b. Middle row: Trip assignment for Colonial Heritage, LLC 22 acre commercial.
   c. Bottom row: Trip assignment for VHS property.
9. Exhibit 4h AM and Exhibit 5h PM – planned build out 2026 forecast
   a. Top row: 2026 background traffic (1.06 2019 to 2016 growth factor applied to 2019 background traffic).
   b. Middle row: Sum of all planned build out traffic: Colonial Heritage residential and commercial and all VHS site.
   c. Bottom row: 2026 total traffic forecast for planned build out.

Exhibit 6a shows the existing master plan AM and PM peak hour traffic forecast for Centerville Road/Colonial Heritage Boulevard as follows:

1. Top row: 2017 counts
2. Second row: 2026 background traffic (1.17 growth factor applied to background traffic counts).
3. Third row: Existing master plan for Colonial Heritage residential (buildout growth factor applied to site traffic plus Deer Lake trips).
4. Fourth row: 2026 total traffic for existing master plan.

Exhibit 6b shows the proposed master plan AM and PM peak hour traffic forecast for Centerville Road/Colonial Heritage Boulevard as follows:

1. Top row: 2017 counts
2. Second row: 2026 background traffic (1.17 growth factor applied to background traffic counts).

3. Third row: Proposed master plan for Colonial Heritage residential (buildout growth factor applied to site traffic plus Deer Lake trips).
4. Fourth row: 2026 total traffic for proposed master plan.

Exhibit 6c shows the planned build out AM and PM peak hour traffic forecast for Centerville Road/Colonial Heritage Boulevard as follows:

1. Top row: 2017 counts
2. Second row: 2026 background traffic (1.17 growth factor applied to background traffic counts).
3. Third row: Planned build out for Colonial Heritage residential (buildout growth factor applied to site traffic plus Deer Lake trips).
4. Fourth row: 2026 total traffic for planned build out.

2026 INTERSECTION CONFIGURATIONS FOR TRAFFIC ANALYSIS

The existing lane configuration at Rt. 60/Colonial Heritage Boulevard is generally described as follows:

- Southbound Rt. 60: two through lanes, one right turn lane
- Northbound Rt. 60: one left turn lane, two through lanes
- Eastbound Colonial Heritage Boulevard: one left turn lane, one right turn lane, stop sign controlled

(Note: in previous studies Rt. 60 was designated east/west and is designated north/south in this study due to traffic count orientation).

Figures 1 and 2 below show the Rt. 60 Richmond Road/Colonial Heritage Boulevard general intersection configuration and the four separate traffic control measures at the intersection. Because of the generally wide nature of the Rt. 60 and Colonial Heritage Boulevard medians, VDOT has striped out a traffic square in the crossover median with four separate intersection traffic control measures and these four separate traffic control intersections incorporated in the traffic analysis (Synchro and SimTraffic). Following is explanation of each traffic control intersection and coding used in Synchro:

1. Eastbound stop control coded as through movement.
2. Eastbound left turn coded as yield.
3. Northbound left turn coded as free movement.
4. Westbound through movement coded as yield.



Figure 1 Rt. 60/Col. Her. Blvd. General Intersection

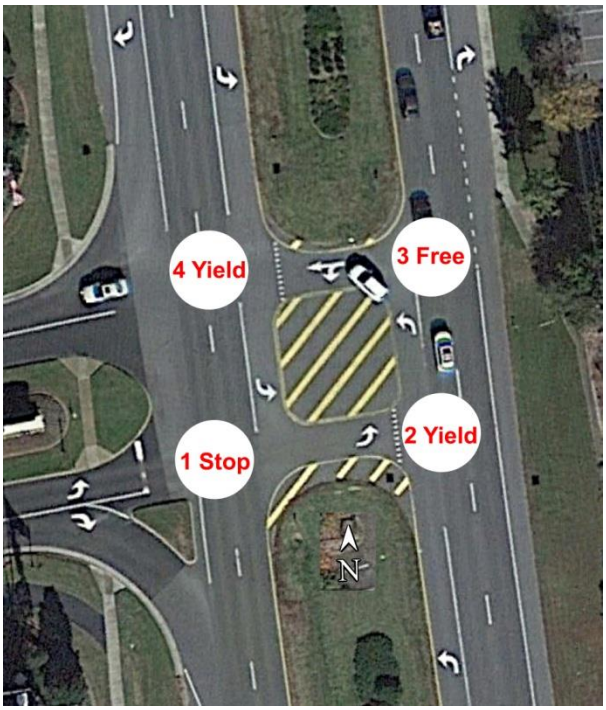


Figure 2 Intersection Traffic Control

The Rt. 60 signalized crossovers at the WP entrances have the lane configurations for analysis as shown on the Exhibit 4 and 5 series. For the WP West entrance to Colonial Heritage commercial property, the two inbound lanes and three outbound lanes include lengthening for master plan and planned build out conditions.

The Centerville Road/Colonial Heritage Boulevard/Adams Hunt intersection has the lane configuration shown on Exhibit 6 series.

TRAFFIC ANALYSIS FOR EXISTING MASTER PLAN

Synchro HCM LOS reports for Colonial Heritage buildout at signalized intersections are shown on Appendix Exhibits J1 and J2 for the AM and PM peak hours, respectively. Synchro queueing reports for Colonial Heritage buildout at signalized intersections are shown on Appendix Exhibits K1 and K2 for the AM and PM peak hours, respectively. Synchro HCM LOS reports for Colonial Heritage buildout at unsignalized intersections are shown on Appendix Exhibits L1 and L2 for the AM and PM peak hours, respectively. SimTraffic queuing reports are shown on Appendix Exhibits M1 and M2. SimTraffic delay per vehicle reports are shown on Appendix Exhibits N1 and N2.

The following table shows LOS (based on SimTraffic delay per vehicle reports) and maximum queuing in 2026 with Colonial Heritage existing master plan for Rt. 60/Colonial Heritage Boulevard:

TABLE 1-1 Rt. 60 Richmond Road/Col. Her. Blvd. Existing Master Plan

Traffic LOS And Seconds Delay By Lane Group*					Maximum Queue		
	AM		PM		Storage Length	SimTraffic Q&B	
						AM	PM
1 EBT	B	11.8	C	20.9		58	96
1 EBR	A	6.0	B	11.2		80	128
1 SBT	A	0.3	A	0.4			
2 EBL	A	5.1	A	6.4	45	32	39
2 NBT	A	0.4	A	0.7		31	73
3 NBL	A	1.3	A	7.2	45	57	55
3 NBT	A	0.1	A	0.1			
4 WBT	A	5.4	A	9.7	45	70	56
4 SBT	A	0.5	A	0.7		3	
4 SBR		0.0	A	0.1			

* SimTraffic Performance Report For Sec. Delay/Veh. Used For LOS

All movements at the four control traffic intersections at Rt. 60/Colonial Heritage Boulevard have LOS C or better. The 45-foot queue storage length is only for each side of the painted square. For the westbound through at location four and the northbound left at three, there is additional upstream queuing storage on the northbound left turn lane.

The following table shows LOS and queuing in 2026 with Colonial Heritage existing master plan for Rt. 60/WP West:

TABLE 1-2 Rt. 60 Richmond Road/WP West - Existing Master Plan							
Traffic LOS And Seconds Delay By Lane Group					Maximum Queue		
	AM		PM		Storage	SimTraffic Q&B	
Overall	B	18.1	D	41.0	Length	AM	PM
EBL	D	40.5	D	43.0	200	24	170
EBL/T	D	40.6	D	43.1		67	656
EBR	D	39.6	D	37.2	200	72	200
WBL			D	41.9	225		6
WBL/T	D	46.1	D	42.3	225	26	68
WBR	D	43.6	D	40.7	225	23	23
NBL	C	33.1	D	42.2	270	152	270
NBT	A	8.1	B	16.9		121	662
NTR	A	6.1	A	9.4	300	6	22
SBL	D	45.4	D	46.6	300	10	27
SBT	B	19.6	E	66.8		217	385
SBR	B	12.5	B	18.6	275	38	274

VDOT existing signal timing for this intersection is shown in Appendix Exhibit X1. Current AM signal timing runs on night-time default values, which is understandable because there is so little minor street traffic in the AM peak hour. For the forecast 2026 AM conditions, there will be AM minor street traffic and existing PM peak hour signal timing is used as a starting point for both peak hours.

There is overall LOS B in the AM peak hour and overall LOS D in the PM peak hour with existing timing. The AM peak hour works well with LOS B overall and no turning movement less than LOS D. The PM peak has a problem with northbound traffic under existing signal timing: the heavy northbound left turn forces an LOS E for the southbound through and northbound left and through queuing is maxed out. This PM peak hour northbound queuing spills back through the WP eastern signal.

The following table shows LOS and maximum queuing in 2026 with Colonial Heritage existing master plan for Rt. 60/WP East:

TABLE 1-3 Rt. 60 Richmond Road/WP East - Existing Master Plan							
Traffic LOS And Seconds Delay By Lane Group					Maximum Queue		
	AM		PM			SimTraffic Q&B	
	A	0.4	A	7.7	Storage Length	AM	PM
WBL			D	42.7	160		34
WBR			D	42.3			29
NBU	D	48.4		54.9	290	32	290
NBT	A	0.2	A	8.0			708
NBR			A	2.9	320		128
SBL			E	68.4	300		17
SBT	A	0.4	A	6.7		87	189

VDOT existing signal timing for this intersection is shown in Appendix Exhibit X2. There is overall LOS A for both peak hours, but there is spill back queuing from the WP West intersection in the northbound U-turn and through lanes in the PM peak hour.

To provide better LOS and to ameliorate queuing spill back, traffic signal timing has been optimized and storage lanes extended for the PM peak hour condition for the existing master plan (see Appendix Exhibit J2A for Synchro LOS report and Exhibit M2A for SimTraffic queuing and blocking report). The following tables show LOS and maximum queuing results with the modified timing and turn lane queues:

TABLE 1-2A Rt. 60 Richmond Road/WP West - Existing Master Plan							
Traffic LOS And Seconds Delay By Lane Group					Maximum Queue		
	AM		PM			SimTraffic Q&B	
Overall			C	32.2	Storage Length	AM	PM
EBL			E	61.8	300		202
EBL/T			E	62.7			242
EBR			C	33.6			359
WBL			D	47.4	225		
WBL/T			D	48.0	225		73
WBR			D	45.9	225		24
NBL			D	35.3	500		482
NBT			A	8.8			564
NTR			A	7.8	300		22
SBL			E	55.3	300		190
SBT			D	48.8			391
SBR			B	19.0	275		274

TABLE 1-3A Rt. 60 Richmond Road/WP East - Existing Master Plan							
Traffic LOS And Seconds Delay By Lane Group					Maximum Queue		
	AM		PM			SimTraffic Q&B	
			A	5.7	Storage Length	AM	PM
WBL			D	47.8	160		42
WBR			D	47.3			24
NBU				51.5	290		202
NBT			A	7.0			477
NBR			A	2.5	320		11
SBL			D	47.1	300		11
SBT			A	3.7			104

Better overall LOS C is achieved at WP West with LOS E on some turning movements. Queuing is reduced but there is still some spill back effect from northbound movements at WP West to WP East.

The following table shows LOS and maximum queuing in 2026 with Colonial Heritage existing master plan at Centerville Road/Colonial Heritage Boulevard/Adams Hunt Drive:

TABLE 1-4 Centerville /Col. Her. Blvd./Adams Hunt - Existing Master Plan							
Traffic LOS And Seconds Delay By Lane Group					Maximum Queue		
	AM		PM		Storage Length	SimTraffic Q&B	
						AM	PM
EBL	A	8.0	A	9.0	300	16	32
WBL	A	8.8	A	8.6	150	30	35
NBL/T/R	C	16.1	C	17.3		74	70
SBL/T	D	28.7	F	61.2		68	115
SBR	B	10.2	B	12.4	250	27	27

At Centerville Road/Colonial Heritage Boulevard/Adams Hunt Drive, there is a LOS F for the southbound left/through in the PM peak hour (Colonial Heritage Boulevard approach).

TRAFFIC ANALYSIS FOR PROPOSED MASTER PLAN

Synchro HCM LOS reports for Colonial Heritage existing master plan at signalized intersections are shown on Appendix Exhibits J3 and J4 for the AM and PM peak hours, respectively. Synchro queueing reports for Colonial Heritage proposed master plan at signalized intersections are shown on Appendix Exhibits K3 and K4 for the AM and PM peak hours, respectively. Synchro HCM LOS reports for Colonial Heritage proposed master plan at unsignalized intersections are shown on Appendix Exhibits L3 and L4 for the AM and PM peak hours, respectively. SimTraffic queuing reports are shown on Appendix Exhibits M3 and M4. SimTraffic delay per vehicle reports are shown on Appendix Exhibits N3 and N4.

The following table shows LOS and maximum queuing in 2026 with Colonial Heritage proposed master plan for Rt. 60/Colonial Heritage Boulevard:

TABLE 2-1 Rt. 60 Richmond Road/Col. Her. Blvd. Proposed Master Plan

Traffic LOS And Seconds Delay By Lane Group*					Maximum Queue		
	AM		PM		Storage Length	SimTraffic Q&B	
						AM	PM
1 EBT	B	11.6	C	20.4		58	86
1 EBR	A	6.4	A	9.5		108	104
1 SBL			A	2.0			6
1 SBT	A	0.3	A	0.4			
2 EBL	A	4.9	A	7.7	45	32	43
2 NBT	A	0.5	A	1.1		28	128
3 NBL	A	1.6	A	8.4	45	60	57
3 NBT	A	0.1	A	0.1			11
4 WBT	A	5.9	B	10.1	45	67	57
4 SBT	A	0.4	A	0.7		4	4
4 SBR		0.0	A	0.1			

* SimTraffic Performance Report For Sec. Delay/Veh. Used For LOS

All movements at the four control traffic intersections at Rt. 60/Colonial Heritage Boulevard have LOS C or better. The 45-foot queue storage length is only for each side of the painted square. For the westbound through at location four and the northbound left at three, there is additional upstream queuing storage on the northbound left turn lane. There is little change from existing master plan conditions.

The following table shows LOS and maximum queuing in 2026 with Colonial Heritage proposed master plan for Rt. 60/WP West:

TABLE 2-2 Rt. 60 Richmond Road/WP West - Proposed Master Plan							
Traffic LOS And Seconds Delay By Lane Group					Maximum Queue		
	AM		PM		Storage Length	SimTraffic Q&B	
Overall	B	18.1	D	40.4		AM	PM
EBL	D	40.5	D	43.0	200	24	177
EBL/T	D	40.6	D	43.1		65	661
EBR	D	39.6	D	37.2	200	64	200
WBL			D	41.9	225		21
WBL/T	D	46.1	D	42.3	225	30	75
WBR	D	43.6	D	40.7	225	22	24
NBL	C	33.1	D	42.1	270	152	270
NBT	A	8.1	B	16.9		113	637
NTR	A	6.1	A	9.4	300	5	24
SBL	D	45.4	D	46.6	300	26	81
SBT	B	19.6	E	65.3		237	388
SBR	B	12.5	B	18.6	275	48	230

Conditions are nearly identical to the existing master plan: there is overall LOS B in the AM peak hour and overall LOS D in the PM peak hour with existing timing, and PM peak hour northbound queuing spills back through the WP eastern signal.

The following table shows LOS and maximum queuing in 2026 with Colonial Heritage proposed master plan for Rt. 60/WP East:

TABLE 2-3 Rt. 60 Richmond Road/WP East - Proposed Master Plan							
Traffic LOS And Seconds Delay By Lane Group					Maximum Queue		
	AM		PM			SimTraffic Q&B	
	A	0.4	A	7.7	Storage Length	AM	PM
WBL			D	42.7	160		42
WBR			D	42.3			28
NBU	D	48.4		54.9	290	26	290
NBT	A	0.2	A	8.0			702
NBR			A	2.9	320		68
SBL			E	68.4	300		23
SBT	A	0.4	A	6.7		68	181

There is overall LOS A but with the same overall queuing problem as with the existing master plan. As demonstrated for the existing master plan above, signal timing and extended turn lanes can ameliorate some of the LOS and queuing problems.

The following table shows LOS and maximum queuing in 2026 with Colonial Heritage proposed master plan at Centerville Road/Colonial Heritage Boulevard/Adams Hunt Drive:

TABLE 2-4 Centerville /Col. Her. Blvd./Adams Hunt - Proposed Master Plan							
Traffic LOS And Seconds Delay By Lane Group					Maximum Queue		
	AM		PM			SimTraffic Q&B	
					Storage Length	AM	PM
EBL	A	8.0	A	8.9	300	27	44
WBL	A	8.7	A	8.5	150	30	35
WBR							8
NBL/T/R	C	15.5	C	17.2		56	48
SBL/T	D	26.7	F	54.1		57	99
SBR	B	10.1	B	12.1	250	27	34

At Centerville Road/Colonial Heritage Boulevard/Adams Hunt Drive, there is a LOS F for the southbound left/through in the PM peak hour. The seconds delay for the southbound left/through (Colonial Heritage Boulevard approach) has decreased seven seconds from existing master plan conditions.

TRAFFIC ANALYSIS FOR PLANNED BUILD OUT

Synchro HCM LOS reports for Colonial Heritage buildout at signalized intersections are shown on Appendix Exhibits J5 and J6 for the AM and PM peak hours, respectively. Synchro queueing reports for Colonial Heritage buildout at signalized intersections are shown on Appendix Exhibits K5 and K6 for the AM and PM peak hours, respectively. Synchro HCM LOS reports for Colonial Heritage buildout at unsignalized intersections are shown on Appendix Exhibits L5 and L6 for the AM and PM peak hours, respectively. SimTraffic queuing reports are shown on Appendix Exhibits M5 and M6. SimTraffic delay per vehicle reports are shown on Appendix Exhibits N5 and N6.

The following table shows LOS and maximum queuing in 2026 with Colonial Heritage build out for Rt. 60/Colonial Heritage Boulevard:

TABLE 3-1 Rt. 60 Richmond Road/Col. Her. Blvd. Planned Build Out

Traffic LOS And Seconds Delay By Lane Group*					Maximum Queue		
	AM		PM		Storage Length	SimTraffic Q&B	
						AM	PM
1 EBT	B	11.9	C	19.7		48	70
1 EBR	A	5.4	A	7.5		78	112
1 SBL				0.0			
1 SBT	A	0.3	A	0.4			
2 EBL	A	4.4	B	10.7	45	32	43
2 NBT	A	0.4	A	0.8		29	77
3 NBL	A	1.1	A	5.1	45	55	55
3 NBT	A	0.1	A	0.1			
4 WBT	A	5.5	A	8.3	45	64	54
4 SBT	A	0.4	A	0.6		7	
4 SBR		0.0	A	0.1			

* SimTraffic Performance Report For Sec. Delay/Veh. Used For LOS

All movements at the four control traffic intersections at Rt. 60/Colonial Heritage Boulevard have LOS C or better. Queues are generally reduced from master plan conditions.

The following table shows LOS and maximum queuing in 2026 with Colonial Heritage build out for Rt. 60/WP West:

TABLE 3-2 Rt. 60 Richmond Road/WP West - Planned Build Out							
Traffic LOS And Seconds Delay By Lane Group					Maximum Queue		
	AM		PM		Storage Length	SimTraffic Q&B	
Overall	B	16.8	C	24.3		AM	PM
EBL	D	40.3	D	39.0	200	24	46
EBL/T	D	40.4	D	39.0		63	141
EBR	D	39.7	D	37.4	200	56	157
WBL			D	44.2	225		
WBL/T	D	45.4	D	44.1	225	26	41
WBR	D	43.6	D	42.2	225	18	18
NBL	C	33.4	C	32.1	270	167	174
NBT	A	7.9	B	13.4		113	216
NTR	A	6.0	A	8.0	300	5	13
SBL	D	45.4	D	46.6	300	27	20
SBT	B	18.3	C	29.9		214	341
SBR	B	12.0	B	16.1	275	47	234

There is overall LOS B and C with only LOS D or better for all movements. Queuing in the PM is greatly reduced from master plan conditions without spill back queues to WP East.

The following table shows LOS and maximum queuing in 2026 with Colonial Heritage build out for Rt. 60/WP East:

TABLE 3-3 Rt. 60 Richmond Road/WP East - Planned Build Out							
Traffic LOS And Seconds Delay By Lane Group					Maximum Queue		
	AM		PM			SimTraffic Q&B	
	A	0.4	A	5.9	Storage Length	AM	PM
WBL			D	42.7	160		41
WBR			D	42.3			24
NBU	D	48.4		54.9	290	27	50
NBT	A	0.2	A	6.3		91	160
NBR			A	2.9	320		10
SBL			E	73.9	300		29
SBT	A	0.3	A	4.6			113

There is overall LOS A without queuing spill back from WP West.

The following table shows LOS and maximum queuing in 2026 with Colonial Heritage build out at Centerville Road/Colonial Heritage Boulevard/Adams Hunt Drive:

TABLE 3-4 Centerville /Col. Her. Blvd./Adams Hunt - Planned Build Out							
Traffic LOS And Seconds Delay By Lane Group					Maximum Queue		
	AM		PM			SimTraffic Q&B	
					Storage Length	AM	PM
EBL	A	7.9	A	8.9	300	10	44
WBL	A	8.7	A	8.5	150	25	35
WBR							8
NBL/T/R	C	15.4	C	16.9		53	48
SBL/T	D	25.3	E	48.0		49	99
SBR	B	10.1	B	12.1	250	25	34

At Centerville Road/Colonial Heritage Boulevard/Adams Hunt Drive, there is a LOS E for the southbound left/through for the PM peak hour.

CONCLUSIONS

The proposed master plan for Colonial Heritage yields a net decrease in trip generation from the existing master plan as follows:

TABLE 4: Existing & Proposed Master Plan Trip Generation (Residential)

	AM Peak Hour	PM Peak Hour
Existing Master Plan (1950 Senior and 50 Single Family Units)	420	724
Proposed Master Plan (2000 Senior Units)	390	689
Change	-30	-35

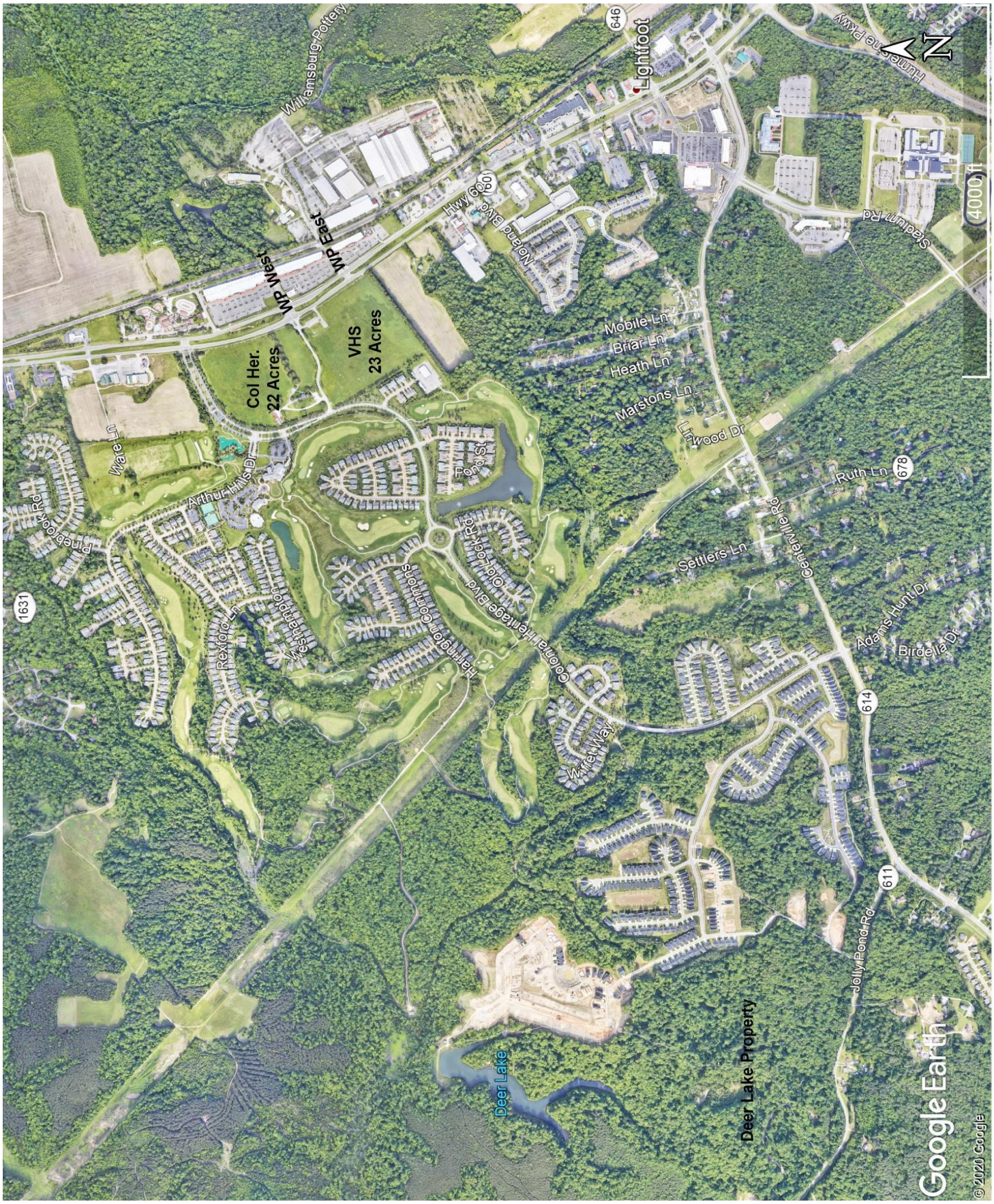
Under either master plan, residential trip generation is substantially reduced from the 2000 study because actual trip generation rates are well below the 2000 assumptions. The proposed master plan does not change commercial square footage/trip generation from the existing master plan.

The proposed master produces better traffic LOS and reduced delay for stop-controlled traffic at the Centerville Road/Colonial Heritage Boulevard/Adam Hunt Drive intersection than the existing master plan. Delay for Colonial Heritage traffic at the Rt. 60/Colonial Heritage Boulevard increases somewhat overall with the proposed master plan (unweighted sum of delays), with increases and decreases for different movements but with LOS C or better for all movements for both scenarios.

At the WP West and WP East traffic signals, the proposed master plan has a slight reduction in PM peak hour overall intersection delay, but overall traffic operations are not appreciably different between the existing and proposed master plan. 425,000 sq. ft. of shopping center use requires optimized signal timing for best traffic LOS and extended turn lanes to accommodate queues for either master plan.

Planned build out based on realistic ground fit has fewer residential units and less commercial square footage than either master plan, and thus has better LOS results. Most notably the commercial area does not have the queuing problem at the WP West signalized intersection as do the master plan scenarios. Existing signal timing and turn lanes accommodate planned build out commercial traffic.

REPORT EXHIBITS



COLONIAL HERITAGE

DRW Consultants, LLC
804-794-7312

Exhibit 1

Year	DAILY COUNTS
2010	20,000
2011	20,000
2012	20,000
2013	18,000
2014	18,000
2015	18,000
2016	21,000
2017	21,000
2018	21,000
2019	21,000

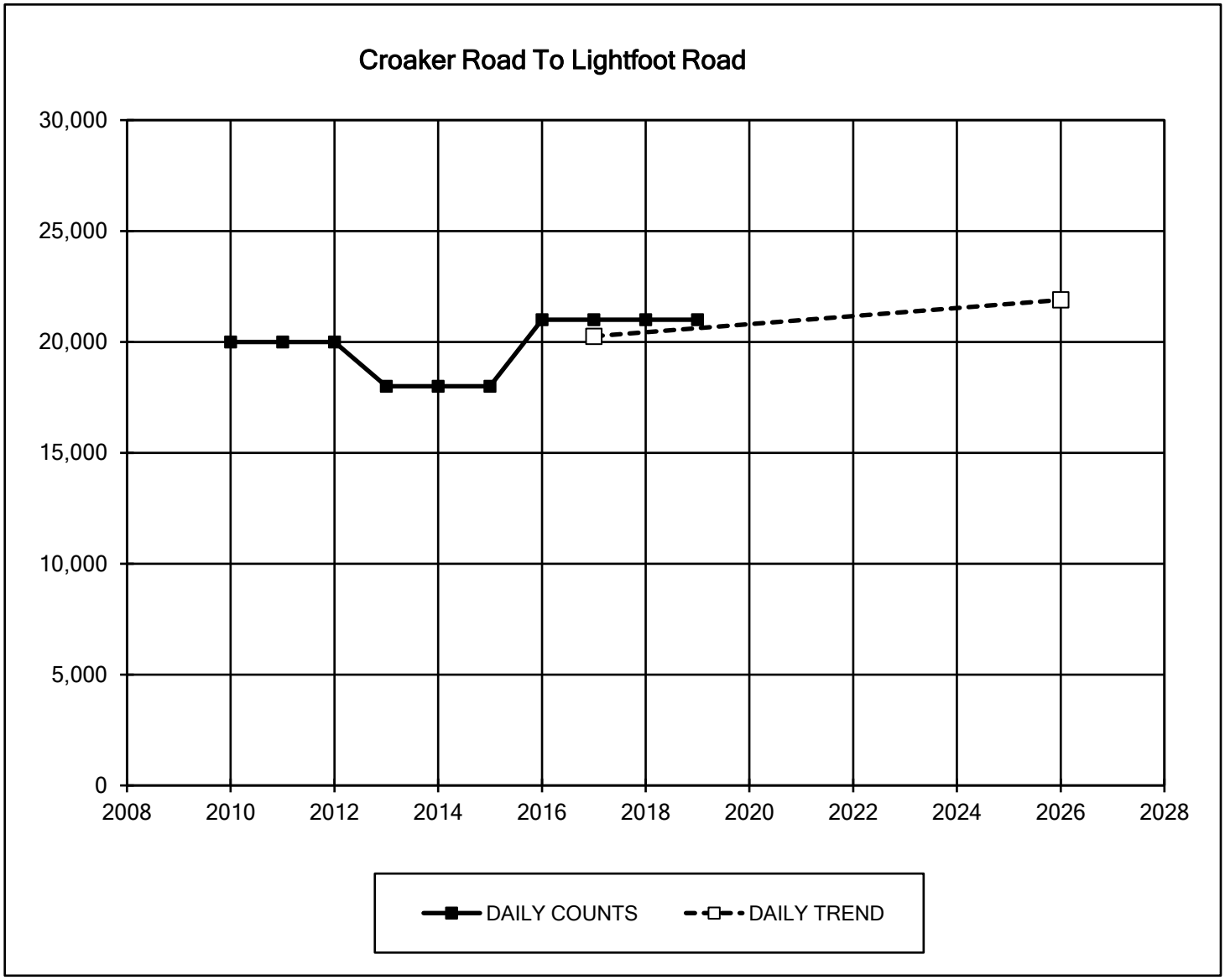
Year	DAILY TREND	
2017	20,255	Δ17
2026	21,891	1.08

Street: Richmond Road, Rt. 60
From: Croaker Road
To: Centerville Road

Year	DAILY TREND	
2017	20,255	Δ17
2019	20,618	1.02

Year	DAILY COUNTS
2010	20,000
2011	20,000
2012	20,000
2013	18,000
2014	18,000
2015	18,000
2016	21,000
2017	21,000
2018	21,000
2019	21,000

Year	DAILY TREND	
2019	20,618	Δ19
2026	21,891	1.06



RT. 60 RICHMOND ROAD
DAILY COUNTS AND TRAFFIC TRENDS

DRW Consultants, LLC
804-794-7312

Exhibit 2a

Year	DAILY COUNTS
2010	9,700
2011	9,700
2012	9,500
2013	9,500
2014	9,100
2015	9,300
2016	11,000
2017	11,000
2018	11,000
2019	11,000

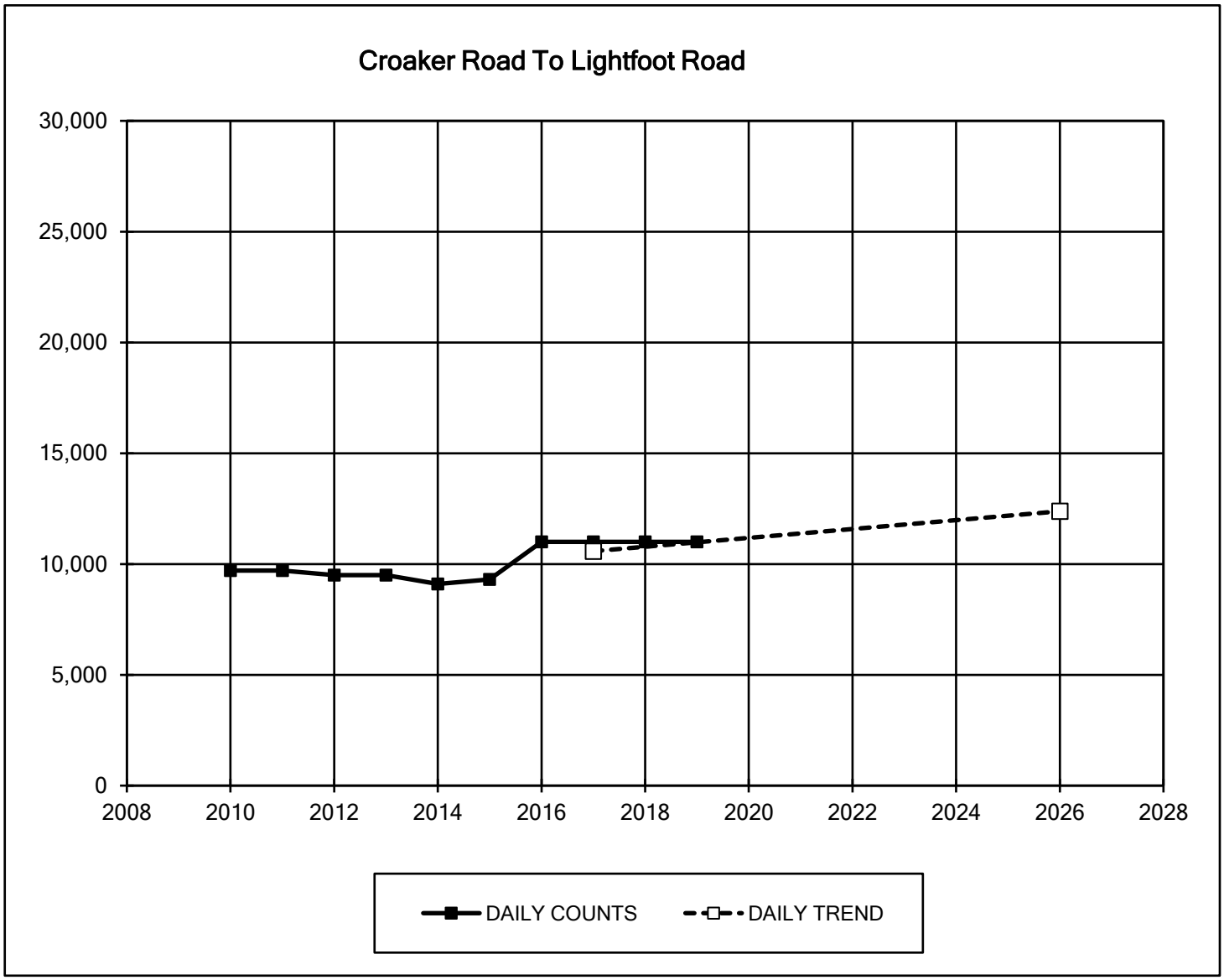
Year	DAILY TREND	
2017	10,580	Δ17
2026	12,380	1.17

Street: Centerville Road, Rt. 614
From: Adams Hunt Drive
To: Richmond Road

Year	DAILY TREND	
2017	10,580	Δ17
2019	10,980	1.04

Year	DAILY COUNTS
2010	9,700
2011	9,700
2012	9,500
2013	9,500
2014	9,100
2015	9,300
2016	11,000
2017	11,000
2018	11,000
2019	11,000

Year	DAILY TREND	
2019	10,980	Δ19
2026	12,380	1.13



RT. 614 CENTERVILLE ROAD
DAILY COUNTS AND TRAFFIC TRENDS

DRW Consultants, LLC
804-794-7312

Exhibit 2b

		LAND USE	SQ.FT., OTHER UNITS	WEEKDAY TRIP GENERATION						
				AM PEAK HOUR			PM PEAK HOUR			
VALUE	LAND USE	CODE		Enter	Exit	Total	Enter	Exit	Total	DAILY
TABLE 1 - RESIDENTIAL TRIP GENERATION - OCTOBER 23, 2000 (TG6)										
A	Single-Family	210	1,200 units	212	637	849	645	362	1007	10197
C	Apartment	220	600 units	48	258	306	250	122	372	3978
D	Apartment	220	200 units	16	86	102	84	40	124	1326
			RESIDENTIAL TOTAL:	276	981	1257	979	524	1503	15501
TABLE 2 - TG6 (2000 STUDY) VALUES FOR APRIL 2017 DEVELOPMENT										
	Single-Family	210	797 units	141	426	567	447	250	697	6998
	Apartment	220	235 units	19	101	120	98	48	146	1558
		TOTAL:	1,032 units	160	527	687	545	298	843	8556
TABLE 3 - APRIL 26, 2017 TRAFFIC COUNTS AND TRIP GENERATION										
	Detached Homes		797 units							
	Attached Homes		235 units							
		TOTAL:	1,032 units	72	125	197	193	157	350	
			2017 COUNT PERCENT OF TG6 VALUES:	45%	24%	29%	35%	53%	42%	
TABLE 4 - TGM10 SENIOR HOUSING VALUES FOR EXISTING DEVELOPMENT										
eq.-adj. st.	Sr. Adult Detached	251	797 units	65	133	198	148	95	243	3495
rate.-adj. st.	Sr. Adult Attached	252	235 units	16	31	47	34	27	61	870
		TOTAL:	1,032 units	81	164	245	182	122	304	4365
			2017 COUNT PERCENT OF TGM10 VALUES:	89%	76%	80%	106%	129%	115%	
TABLE 5 - APRIL 26, 2017 TRAFFIC COUNTS WITH TGM10-BASED SPLIT FOR HOUSING TYPES										
	Detached Homes		797 units	58	101	159	157	122	279	
	Attached Homes		235 units	14	24	38	36	35	71	
		TOTAL:	1,032 units	72	125	197	193	157	350	
TABLE 6 - APRIL 26, 2017 TRIP RATES (TG10-BASED SPLIT FOR HOUSING TYPES)										
	Detached Homes		797 units	0.073	0.127	0.199	0.197	0.153	0.350	
	Attached Homes		235 units	0.060	0.102	0.162	0.153	0.149	0.302	
TABLE 7 - 1458 UNIT BUILDOUT IN DEC 2019 - 2017 TRIP GENERATION RATES										
	Detached Homes		1,223 units	89	155	244	241	187	428	
	Attached Homes		235 units	14	24	38	36	35	71	
			RESIDENTIAL TOTAL:	103	179	282	277	222	499	
			% OCTOBER 2000 TRIP GENERATION:	37%	18%	22%	28%	42%	33%	
			GROWTH FACTOR:	1.43	1.43	1.43	1.44	1.41	1.43	

Trip generation rates from Trip Generation 6th Edition (TG6) & Trip Generation Manual, 10th Edition (TGM10) by the Institute of Transportation Engineers (ITE)

DERIVATION OF TRIP GENERATION FOR
COLONIAL HERITAGE SENIOR RESIDENTIAL UNITS

DRW Consultants, LLC
804-794-7312

Exhibit 3a

VALUE	LAND USE	LAND USE CODE	SQ.FT., OTHER UNITS	WEEKDAY TRIP GENERATION AM PEAK HOUR Enter	AM PEAK HOUR Exit	AM PEAK HOUR Total	PM PEAK HOUR Enter	PM PEAK HOUR Exit	PM PEAK HOUR Total	DAILY
TABLE 1 - EXISTING MASTER PLAN 1950 UNIT SENIOR HOUSING - 2017 TRIP GENERATION RATES										
	Detached Homes		1,715 units	125	217	342	338	263	601	
	Attached Homes		235 units	14	24	38	36	35	71	
	SENIOR RESIDENTIAL TOTAL:		1,950 units	139	241	380	374	298	672	
			GROWTH FACTOR:	1.93	1.93	1.93	1.94	1.90	1.92	
TABLE 2 - EXISTING MASTER PLAN 50 SINGLE FAMILY UNIT DEER LAKE - TGM10										
eq.-adj. st.	Single-Family	210	50 units	10	30	40	33	19	52	550
TABLE 3 - EXISTING MASTER PLAN 2000 RESIDENTIAL UNITS (SENIOR AND SINGLE FAMILY)										
			2000 units	149	271	420	407	317	724	
			% OCTOBER 2000 TRIP GENERATION:	54%	28%	33%	42%	60%	48%	
TABLE 4 - PROPOSED MASTER PLAN 2000 UNIT SENIOR HOUSING - 2017 TRIP GENERATION RATES										
	Detached Homes		1,765 units	128	224	352	348	270	618	
	Attached Homes		235 units	14	24	38	36	35	71	
	SENIOR RESIDENTIAL TOTAL:		2,000 units	142	248	390	384	305	689	
			% OCTOBER 2000 TRIP GENERATION:	51%	25%	31%	39%	58%	46%	
			GROWTH FACTOR:	1.97	1.98	1.98	1.99	1.94	1.97	
TABLE 5 - PLANNED RESIDENTIAL BUILD OUT 1738 UNIT SENIOR HOUSING - 2017 TRIP GENERATION RATES										
	Detached Homes		1,503 units	109	190	299	296	230	526	
	Attached Homes		235 units	14	24	38	36	35	71	
	SENIOR RESIDENTIAL TOTAL:		1,738 units	123	214	337	332	265	597	
			% OCTOBER 2000 TRIP GENERATION:	45%	22%	27%	34%	51%	40%	
			GROWTH FACTOR:	1.71	1.71	1.71	1.72	1.69	1.71	

COLONIAL HERITAGE RESIDENTIAL TRIP GENERATION
EXISTING MASTER PLAN, PROPOSED MASTER PLAN
AND PLANNED BUILD OUT
2017 TRIP GENERATION RATES

DRW Consultants, LLC
804-794-7312

Exhibit 3b

		LAND USE		WEEKDAY TRIP GENERATION						
			SQ.FT.,	AM PEAK HOUR			PM PEAK HOUR			
VALUE	LAND USE	CODE	OTHER UNITS	Enter	Exit	Total	Enter	Exit	Total	DAILY
TABLE 1 - COMMERCIAL TRIP GENERATION - MASTER PLAN PROFFERS (TG6)										
eq.-adj. st.	Shopping Center	820	425,000 sq. ft.	231	147	378	783	849	1632	17283

TABLE 2 - COMMERCIAL TRIP GENERATION - MASTER PLAN PROFFERS (TGM10)

eq.-adj. st.	Shopping Center	820	425,000 sq. ft.	226	138	364	761	824	1585	16081

TABLE 3 - COMMERCIAL DISTRIBUTION BASED ON POTTERY FACTORY PM TRIPS

	TRIPS	%
NORTH	15	27%
WEST	1	2%
SOUTH	40	71%
	56	

TABLE 6 - COLONIAL HERITAGE MASTER PLAN TRIP DISTRIBUTION (TGM10)

					226	138	364	761	824	1585
		AM Peak Hour						PM Peak Hour		
		Entering Traffic		Exiting Traffic				Entering Traffic		Exiting Traffic	
	Direction	% Dist.	Trips	% Dist.	Trips			% Dist.	Trips	% Dist.	Trips
	NORTH	26.8%	61	26.8%	37			26.8%	204	26.8%	221
	WEST	1.8%	4	1.8%	2			1.8%	14	1.8%	15
	SOUTH	71.4%	161	71.4%	99			71.4%	544	71.4%	589
		100%	226	100%	138			100%	762	100%	825

Trip generation rates from Trip Generation 6th Edition (TG6) & Trip Generation Manual, 10th Edition (TGM10) by the Institute of Transportation Engineers (ITE)

TRIP GENERATION AND DISTRIBUTION FOR
COLONIAL HERITAGE COMMERCIAL PROPERTY MASTER PLAN
425,000 SQUARE FEET

DRW Consultants, LLC
804-794-7312

Exhibit 3c

VALUE	LAND USE	LAND USE CODE	SQ.FT., OTHER UNITS	WEEKDAY TRIP GENERATION AM PEAK HOUR Enter	AM PEAK HOUR Exit	AM PEAK HOUR Total	PM PEAK HOUR Enter	PM PEAK HOUR Exit	PM PEAK HOUR Total	DAILY
TABLE 1 - COMMERCIAL TRIP GENERATION - MASTER PLAN PROFFERS (TG6)										
eq.-adj. st.	Shopping Center	820	425,000 sq. ft.	231	147	378	783	849	1632	17283
TABLE 2 - COMMERCIAL TRIP GENERATION - MASTER PLAN PROFFERS (TGM10)										
eq.-adj. st.	Shopping Center	820	425,000 sq. ft.	226	138	364	761	824	1585	16081
TABLE 2 - 45 ACRES COMMERCIAL FRONTAGE (TGM10)										
rate-adj. st.	Assisted Living	254	60 beds	7	4	11	6	10	16	156
rate/adj. st.	Nursing Home	620	180 beds	22	9	31	13	27	40	551
eq.-adj. st.	Shopping Center	820	150,000 sq. ft.	141	86	227	352	382	734	7921
				170	99	269	371	419	790	8628
BUILD OUT TRIP GEN PERCENT OF 2000 TGM6 VALUES:				74%	67%	71%	47%	49%	48%	50%
TABLE 3 - COLONIAL HERITAGE RESIDUAL (22 ACRES)										
eq.-adj. st.	Shopping Center	820	100,000 sq. ft.	94	57	151	235	255	489	5281
TABLE 4 - VHS WILLIAMSBURG (23 ACRES)										
rate-adj. st.	Assisted Living	254	60 occ. bed	7	4	11	6	10	16	156
rate/adj. st.	Nursing Home	620	180 beds	22	9	31	13	27	40	551
eq.-adj. st.	Shopping Center	820	50,000 sq. ft.	47	29	76	117	127	245	2640
			TOTAL:	76	42	118	136	164	301	3347
TOTAL CHECK:				170	99	269	371	419	790	8628

TABLE 5 - COMMERCIAL DISTRIBUTION BASED ON POTTERY FACTORY PM TRIPS

	TRIPS	%
NORTH	15	27%
WEST	1	2%
SOUTH	40	71%
	56	

TABLE 6 - COLONIAL HERITAGE RESIDUAL (22 ACRES) TRIP DISTRIBUTION

				94	57	151	235	255	489
	AM Peak Hour						PM Peak Hour		
	Entering Traffic		Exiting Traffic				Entering Traffic		Exiting Traffic	
Direction	% Dist.	Trips	% Dist.	Trips			% Dist.	Trips	% Dist.	Trips
NORTH	26.8%	25	26.8%	15			26.8%	63	26.8%	68
WEST	1.8%	2	1.8%	1			1.8%	4	1.8%	5
SOUTH	71.4%	67	71.4%	41			71.4%	168	71.4%	182
	100%	94	100%	57			100%	235	100%	255

TABLE 7 -VHS WILLIAMSBURG (23 ACRES) TRIP DISTRIBUTION

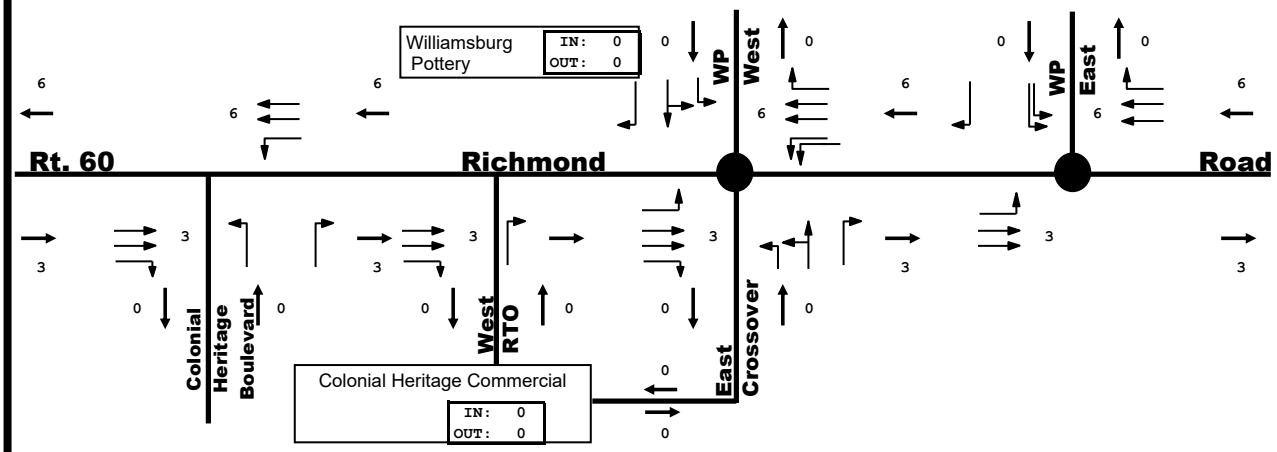
				76	42	118	136	164	301
	AM Peak Hour						PM Peak Hour		
	Entering Traffic		Exiting Traffic				Entering Traffic		Exiting Traffic	
Direction	% Dist.	Trips	% Dist.	Trips			% Dist.	Trips	% Dist.	Trips
NORTH	26.8%	20	26.8%	11			26.8%	36	26.8%	44
WEST	1.8%	1	1.8%	1			1.8%	2	1.8%	3
SOUTH	71.4%	55	71.4%	30			71.4%	98	71.4%	117
	100%	76	100%	42			100%	136	100%	164

Trip generation rates from Trip Generation 6th Edition (TG6) & Trip Generation Manual, 10th Edition (TGM10) by the Institute of Transportation Engineers (ITE)

TRIP GENERATION AND DISTRIBUTION FOR
COLONIAL HERITAGE COMMERCIAL PROPERTY
PLANNED BUILD OUT

DRW Consultants, LLC
804-794-7312

Exhibit 3d

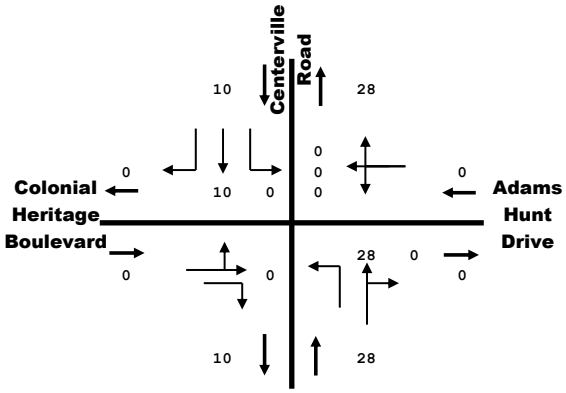


COLONIAL HERITAGE TRIP DISTRIBUTION

	IN	OUT
RT. 60 NORTH	25%	18%
RT. 60 SOUTH	61%	54%
CENTERVILLE ROAD EAST	10%	22%
CENTERVILLE ROAD WEST	4%	6%
	100%	100%

DEER PARK TRIP DISTRIBUTION

RT. 60 NORTH	25%	18%
CENTERVILLE ROAD EAST	96%	94%
CENTERVILLE ROAD WEST	4%	6%



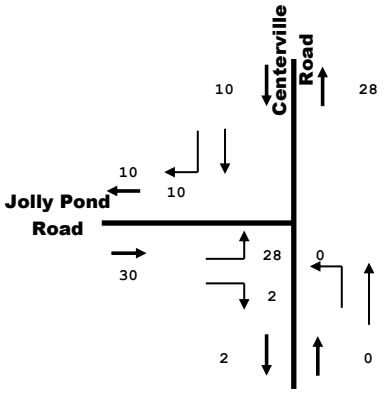


Exhibit Reference

LEGEND

Intersection Approach Lanes

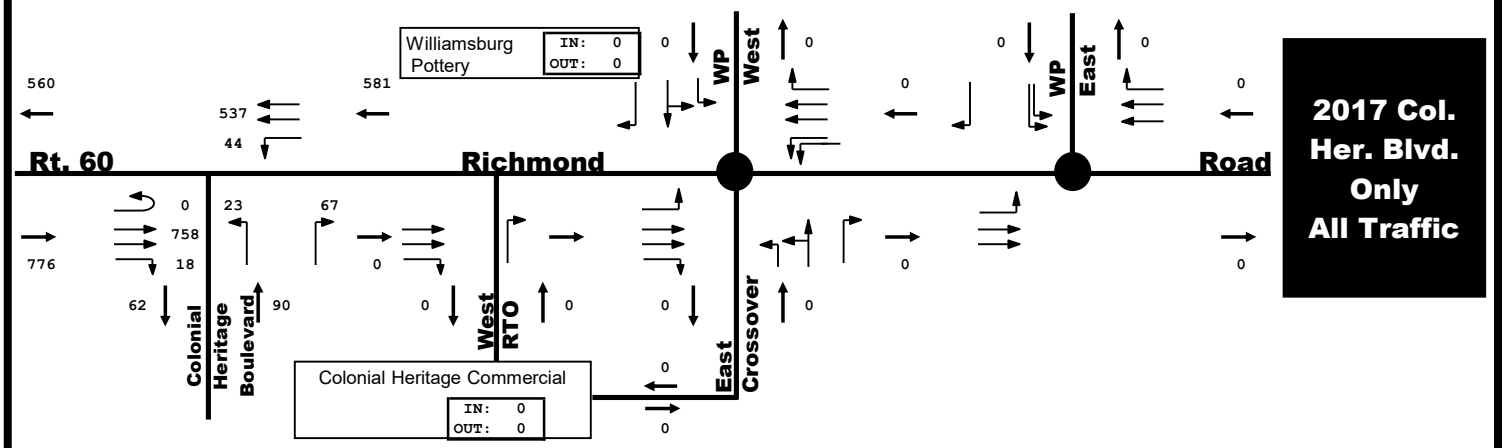
Traffic Signal

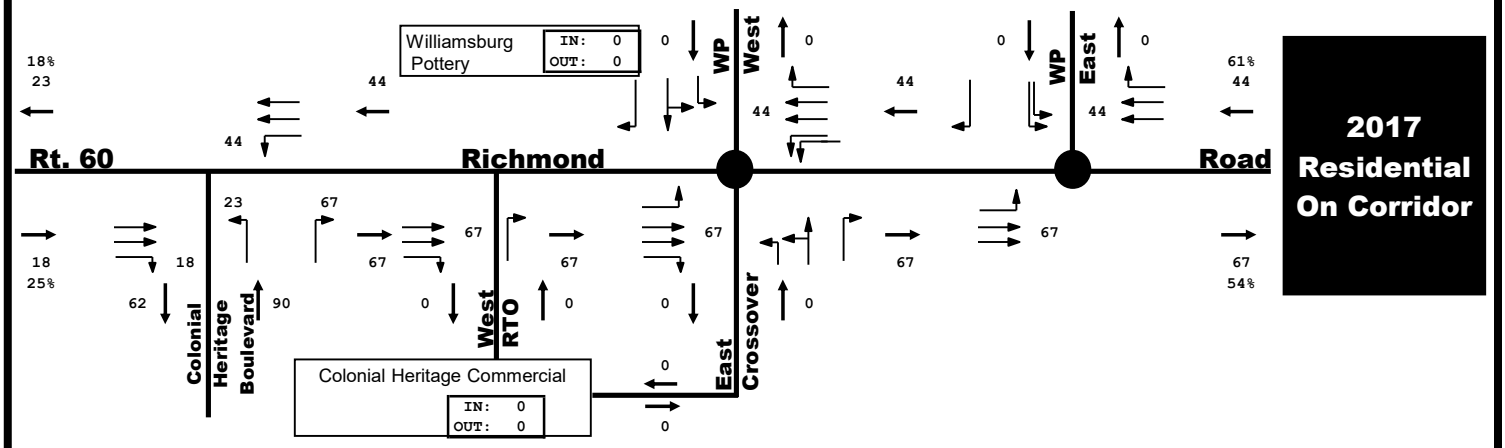
Link Volume

DEER PARK 50 SINGLE FAMILY UNIT TRIP DISTRIBUTION
AM PEAK HOUR

DRW Consultants, LLC
804-794-7312

Exhibit 4





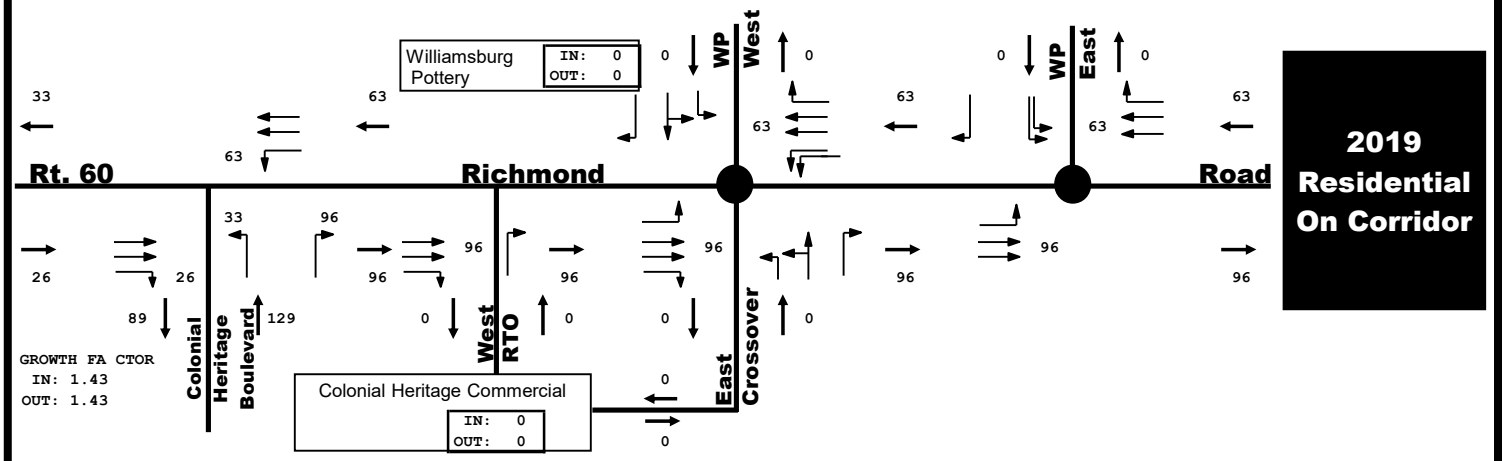


Exhibit Reference

LEGEND

Intersection Approach Lanes

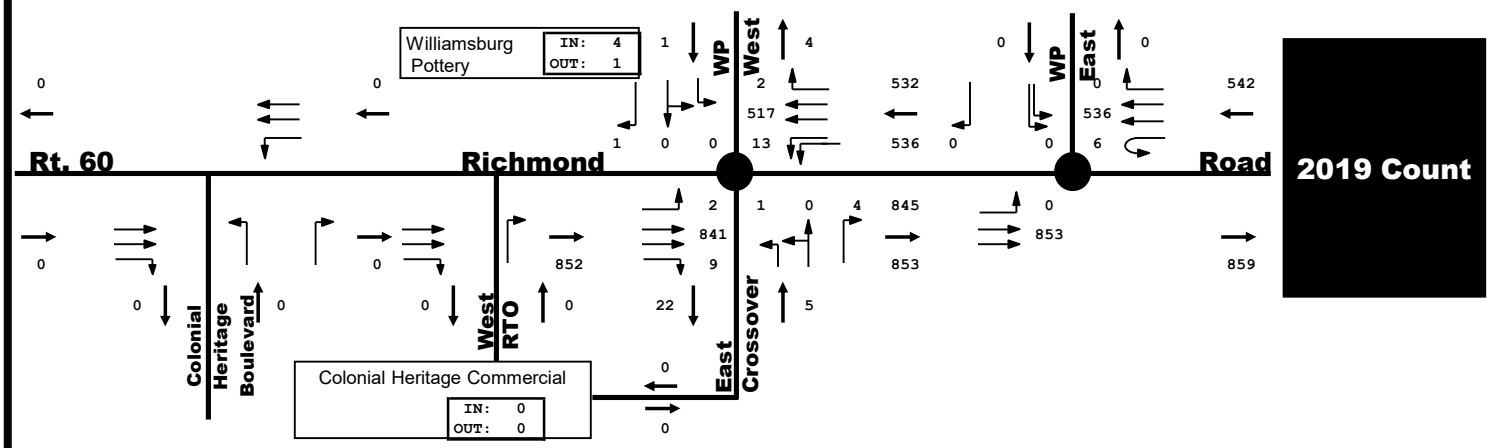
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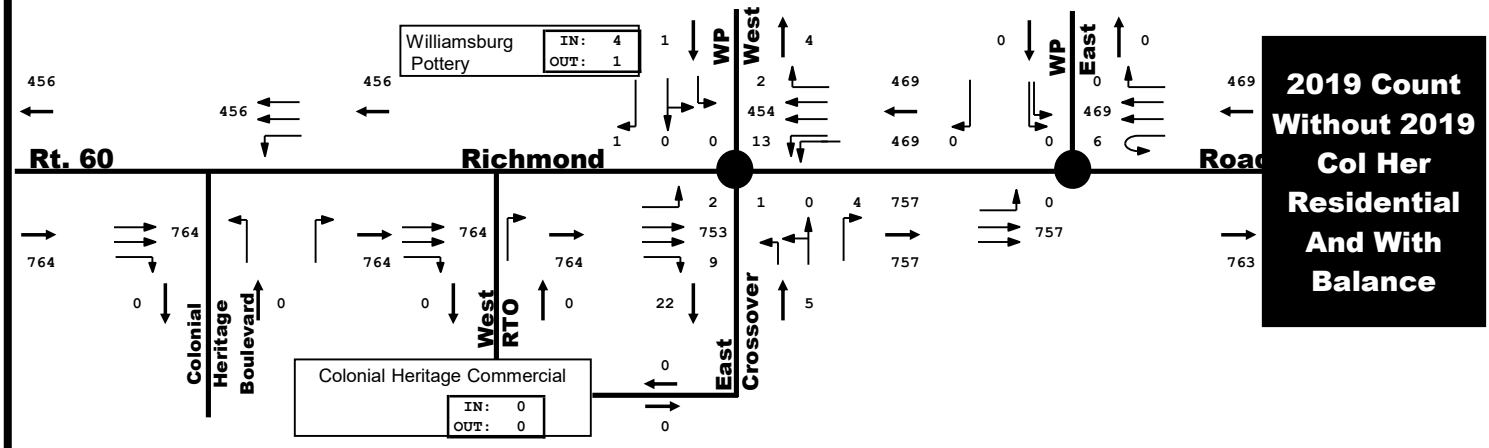
Link Volume

2017 COUNT - AM PEAK HOUR
2017 AND 2019 RESIDENTIAL TRAFFIC
RT. 60 CORRIDOR

DRW Consultants, LLC
804-794-7312

Exhibit 4a





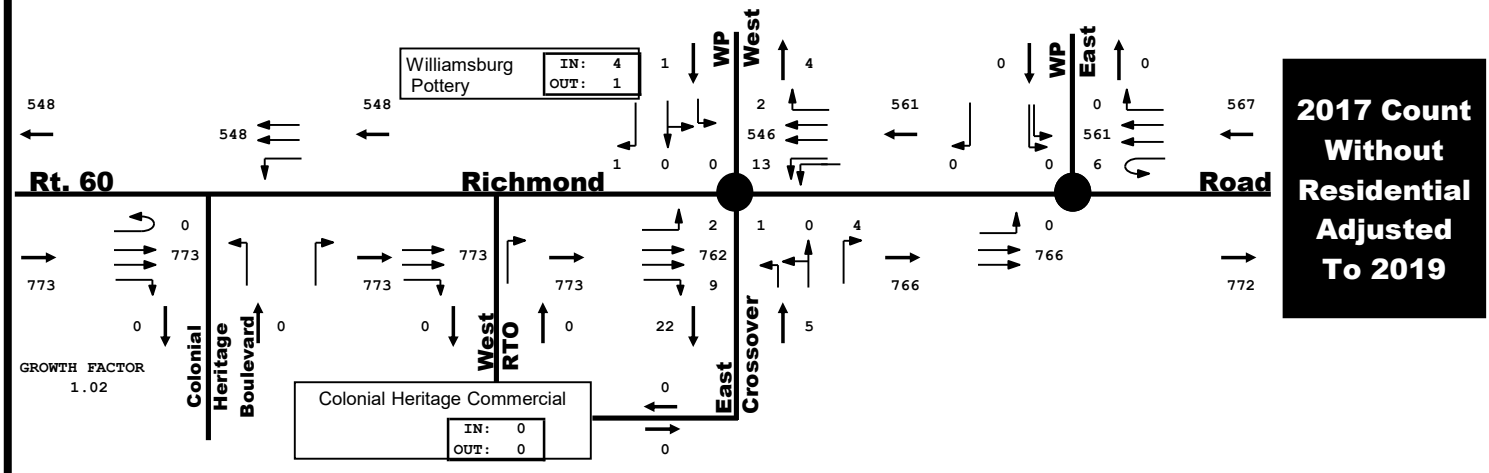


Exhibit Reference

LEGEND

Intersection Approach Lanes

Traffic Signal

Link Volume

2019 COUNT - AM PEAK HOUR
2019 COUNT WITHOUT 2019 RESIDENTIAL
2017 COUNT WITHOUT 2017 RESIDENTIAL ADJUSTED TO 2019
RT. 60 CORRIDOR

DRW Consultants, LLC
804-794-7312

Exhibit 4b

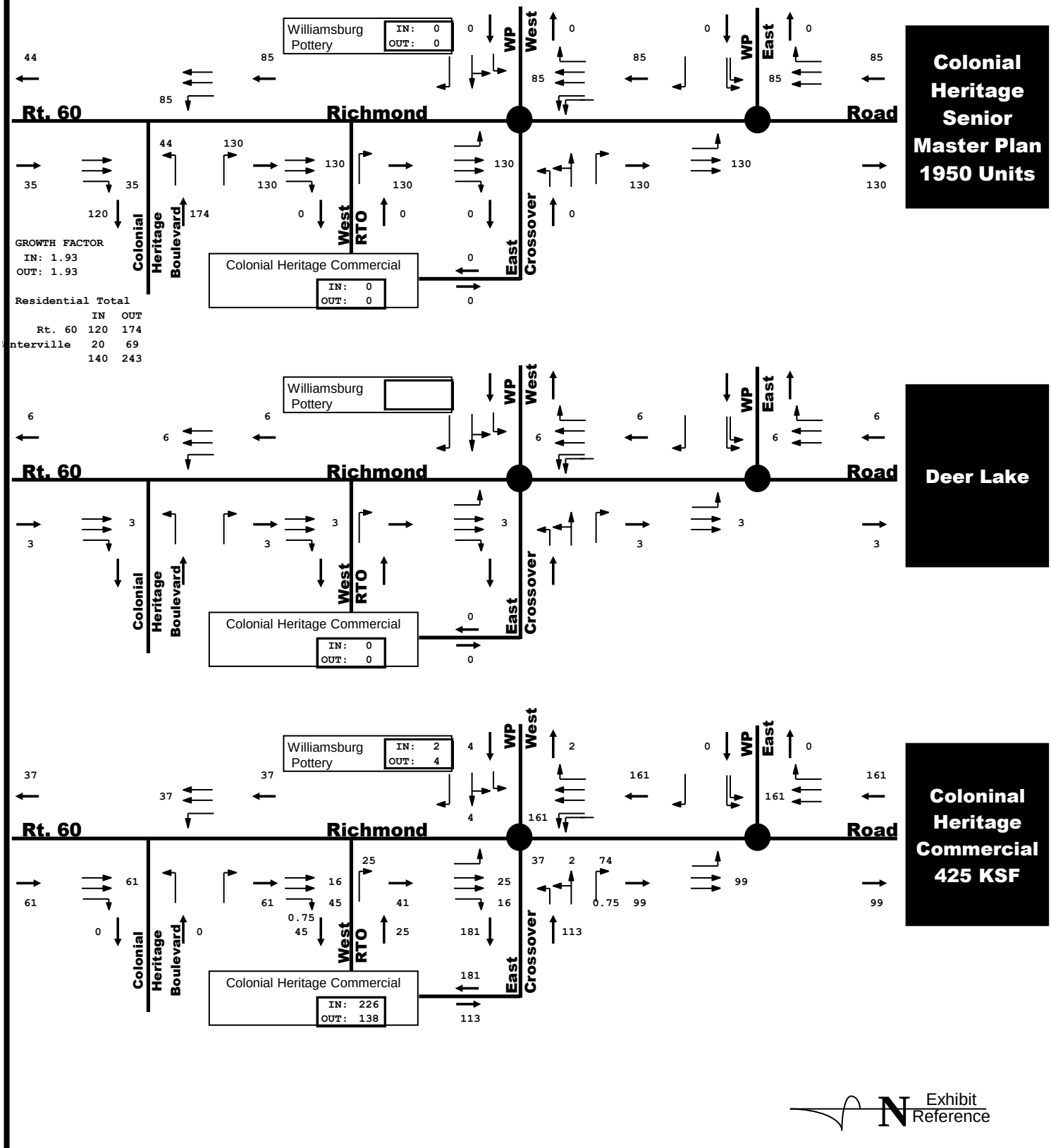


Exhibit Reference

LEGEND

Intersection Approach Lanes

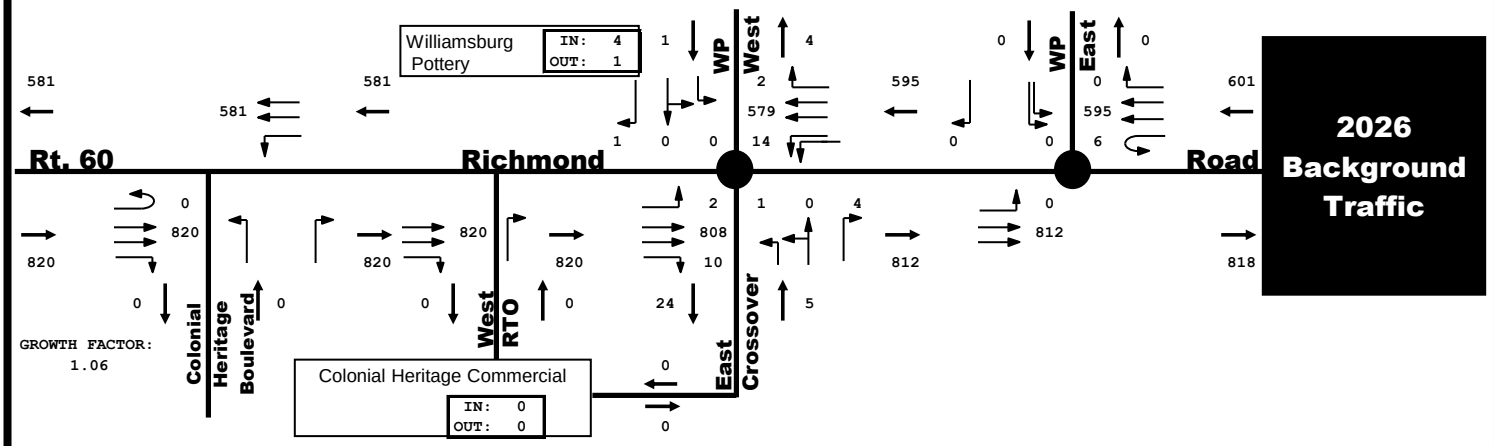
Traffic Signal

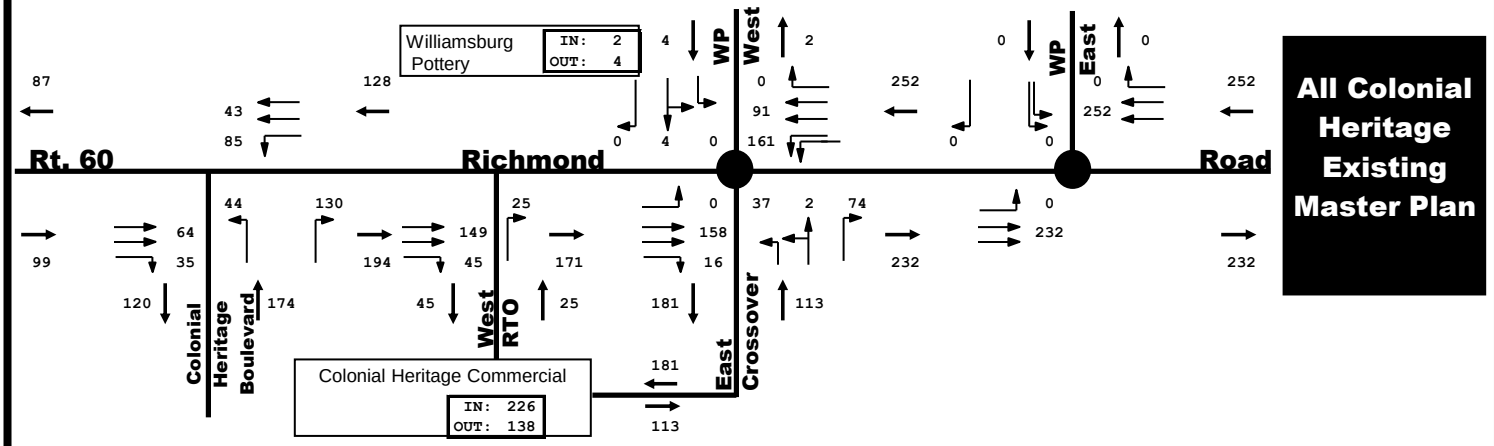
Link Volume

AM PEAK HOUR SITE TRAFFIC ASSIGNMENTS
COLONIAL HERITAGE EXISTING MASTER PLAN

DRW Consultants, LLC
804-794-7312

Exhibit 4c





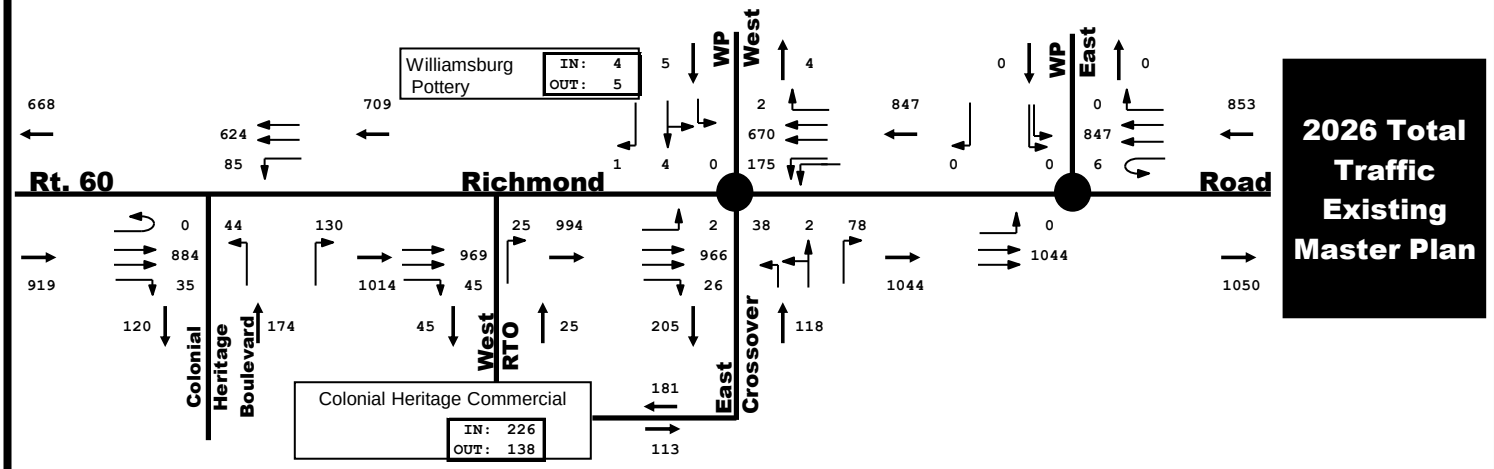


Exhibit Reference

LEGEND

Intersection Approach Lanes

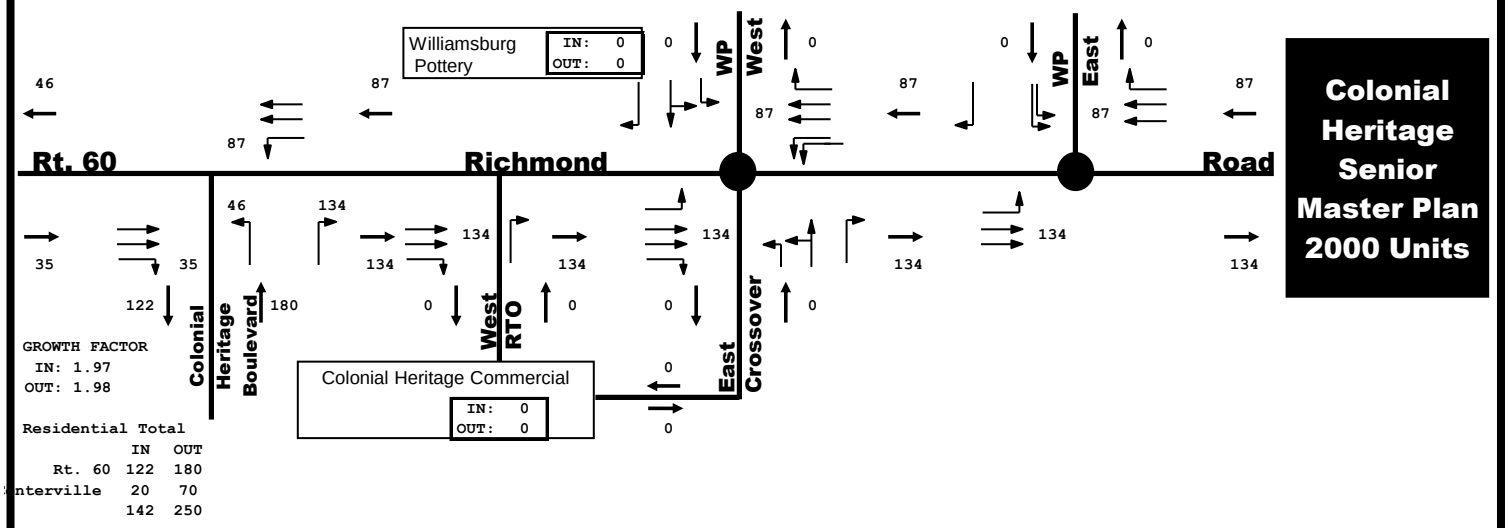
Traffic Signal

Link Volume

RT. 60 CORRIDOR 2026 AM PEAK HOUR TRAFFIC:
BACKGROUND, ALL SITE TRAFFIC, TOTAL
EXISTING MASTER PLAN

DRW Consultants, LLC
804-794-7312

Exhibit 4d



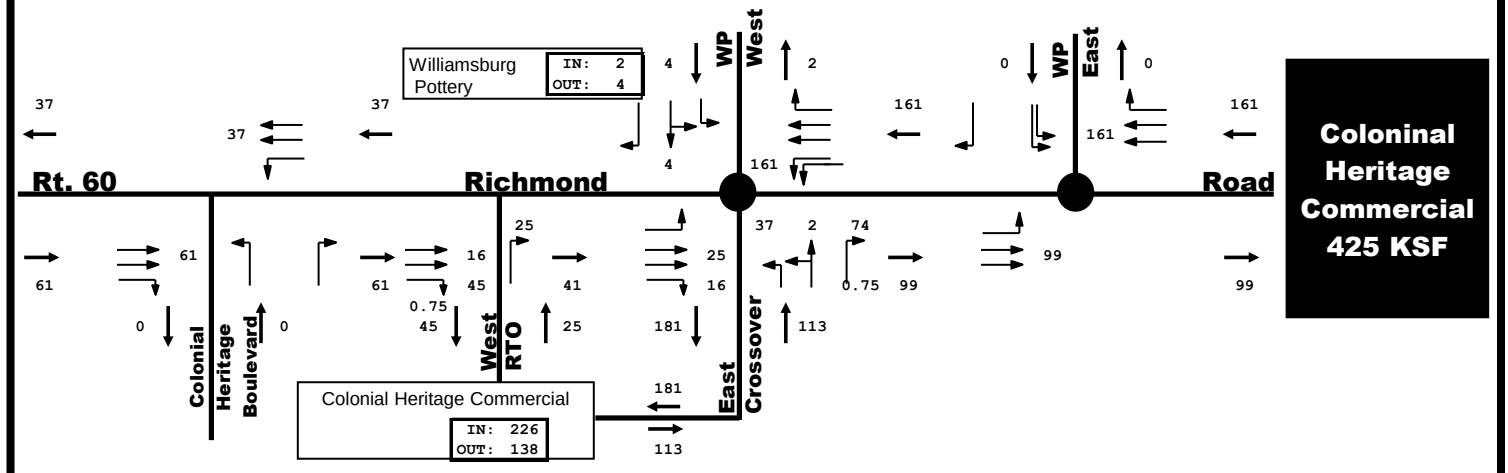


Exhibit Reference

LEGEND

Intersection Approach Lanes

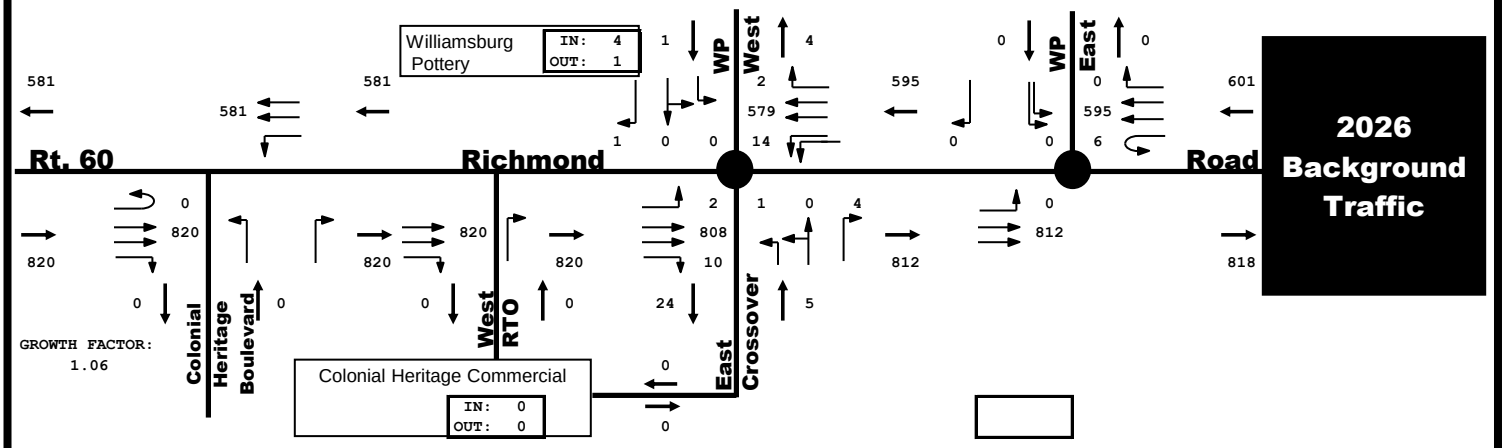
Traffic Signal

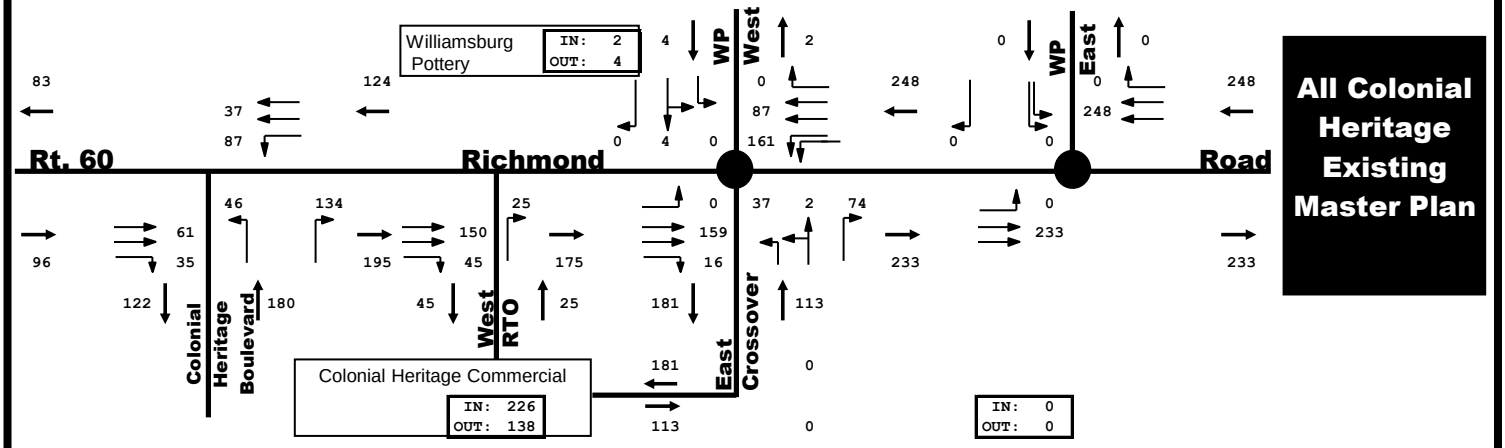
Link Volume

AM PEAK HOUR SITE TRAFFIC ASSIGNMENTS
COLONIAL HERITAGE RESIDENTIAL, COLONIAL HERITAGE COMMERCIAL
PROPOSED MASTER PLAN

DRW Consultants, LLC
804-794-7312

Exhibit 4e





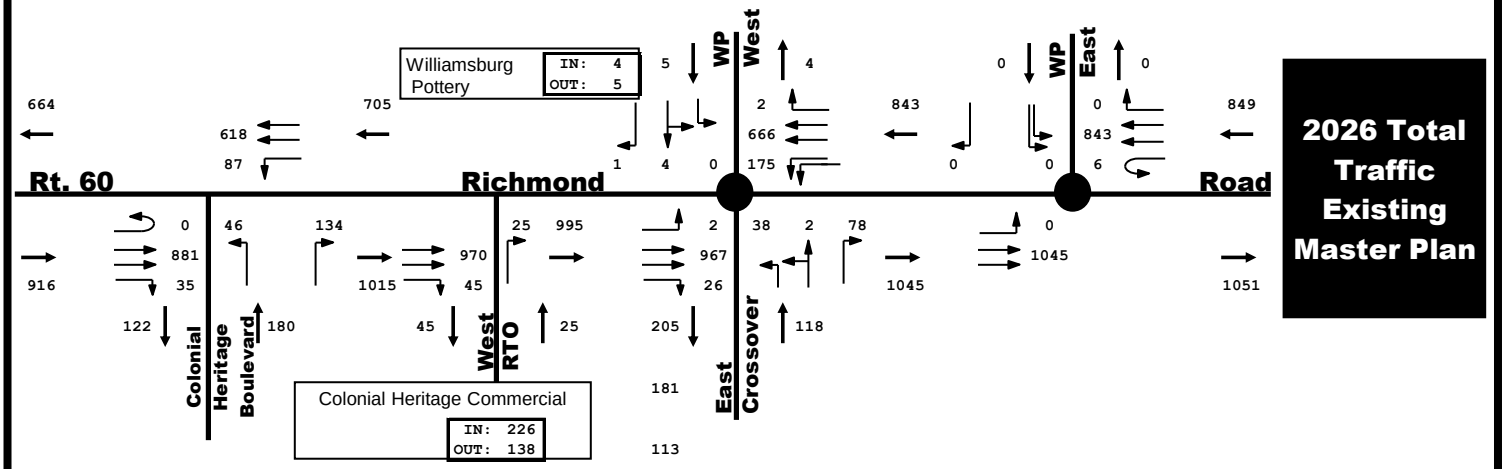


Exhibit Reference

LEGEND

Intersection Approach Lanes

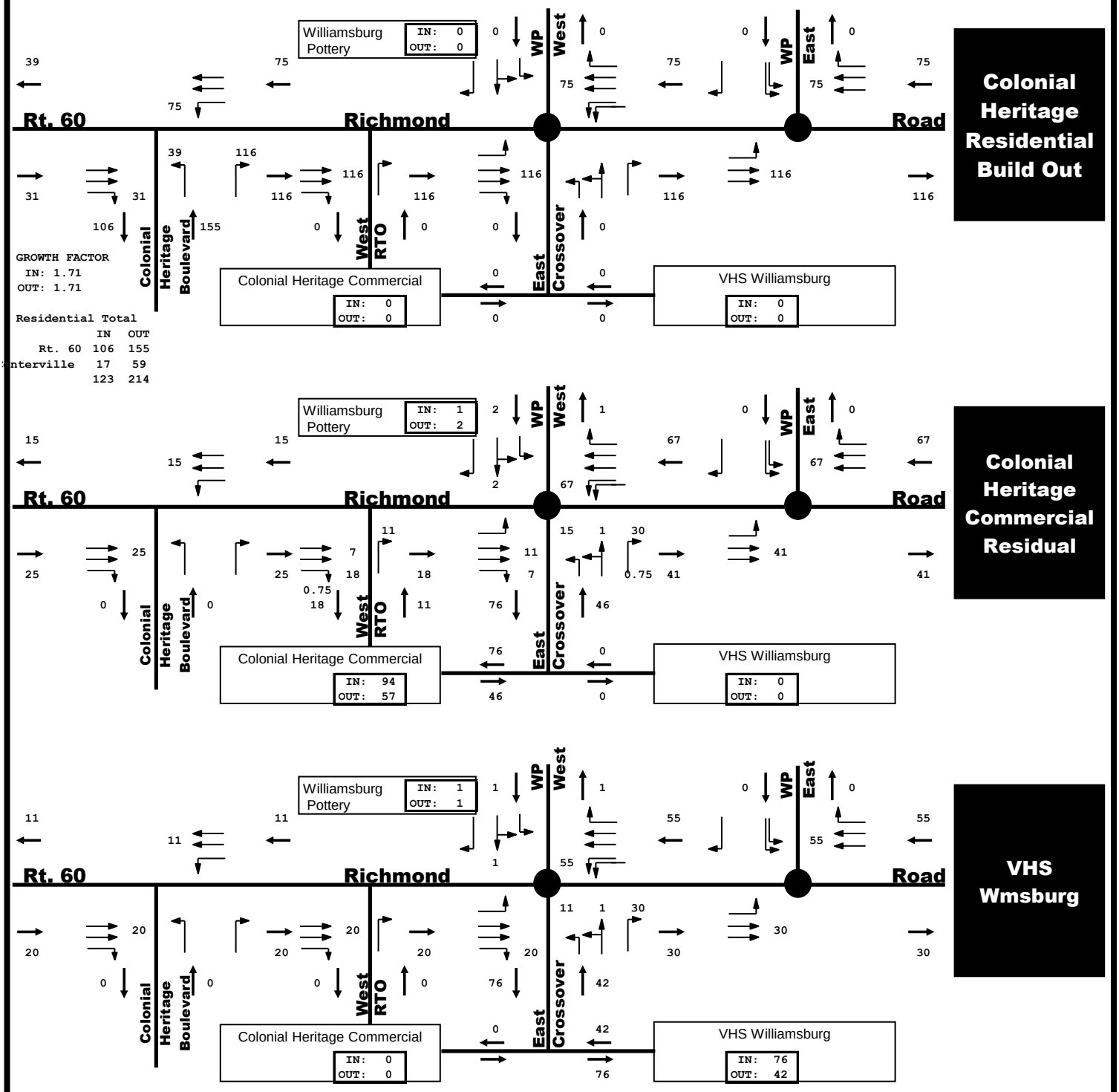
Traffic Signal

Link Volume

RT. 60 CORRIDOR 2026 AM PEAK HOUR TRAFFIC:
BACKGROUND, ALL SITE TRAFFIC, TOTAL
PROPOSED MASTER PLAN

DRW Consultants, LLC
804-794-7312

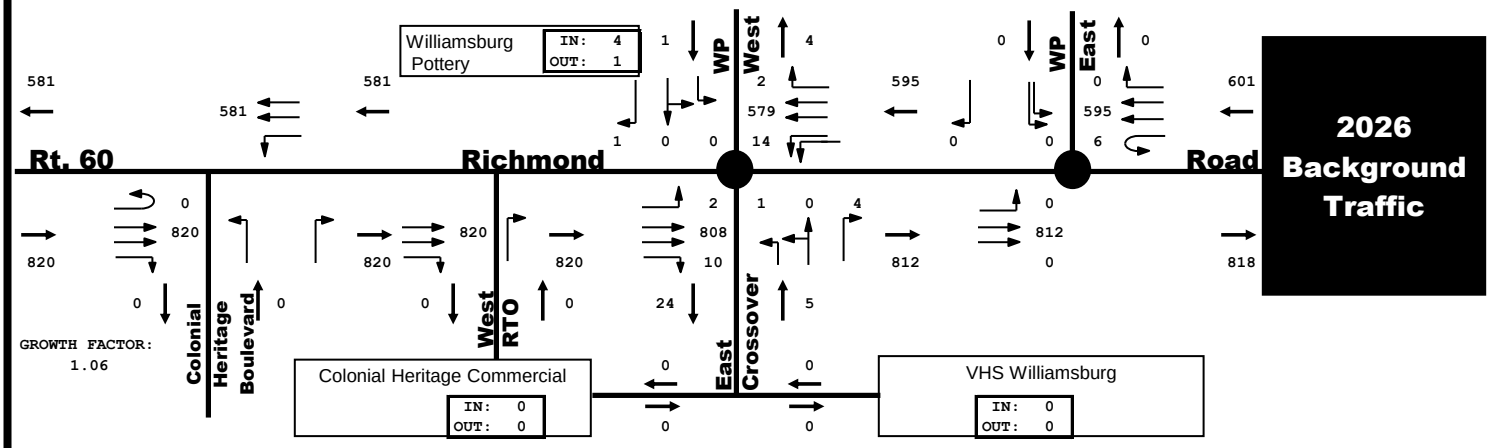
Exhibit 4f

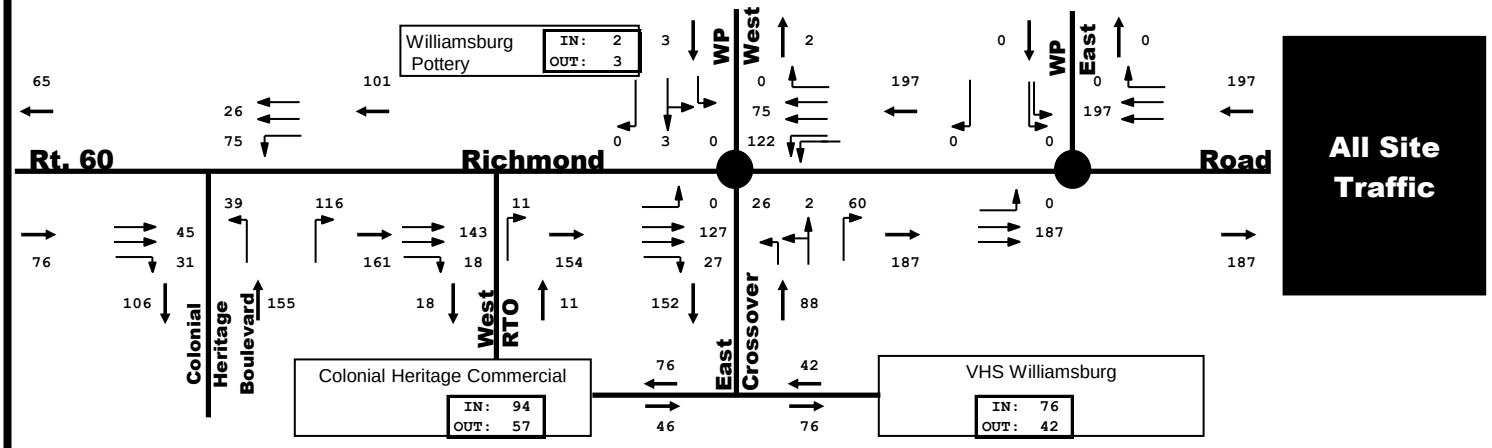


AM PEAK HOUR SITE TRAFFIC ASSIGNMENTS
COLONIAL HERITAGE RESIDENTIAL, COLONIAL HERITAGE COMMERCIAL
RESIDUAL AND VHS WILLIAMSBURG
PLANNED BUILD OUT

DRW Consultants, LLC
804-794-7312

Exhibit 4g





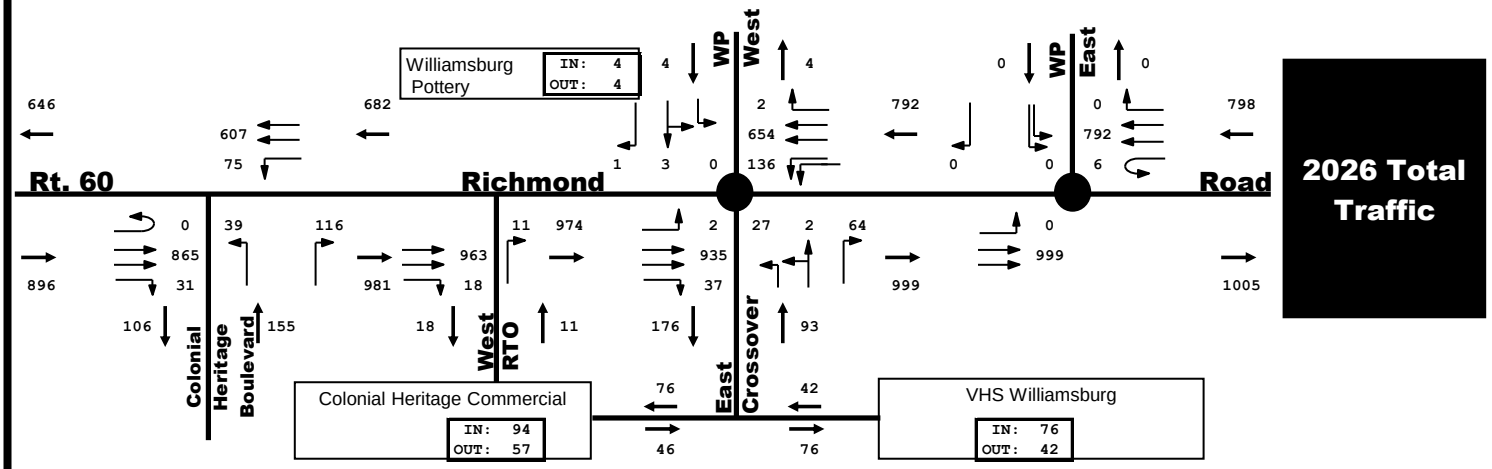


Exhibit Reference

LEGEND

Intersection Approach Lanes

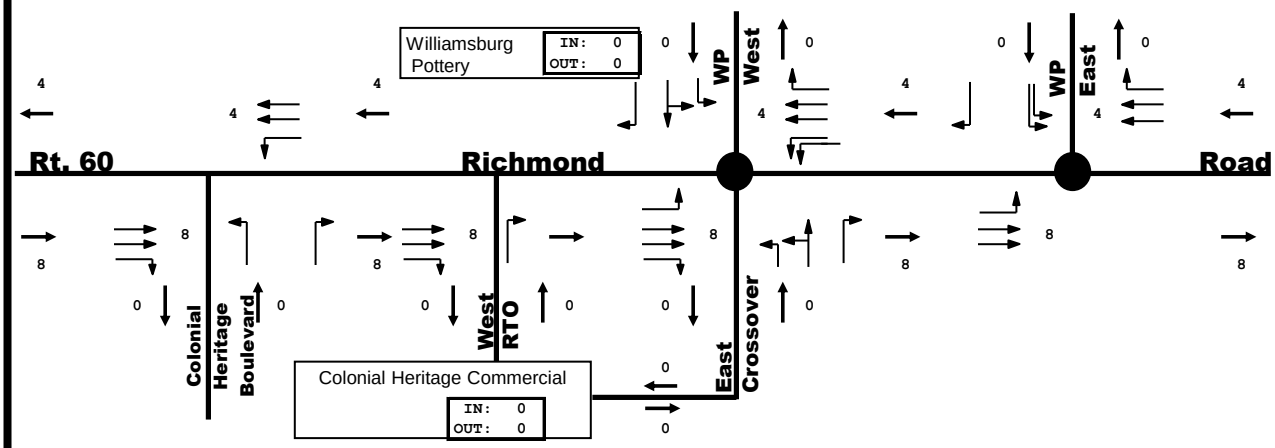
Traffic Signal

Link Volume

2026 AM PEAK HOUR TRAFFIC:
BACKGROUND, ALL SITE TRAFFIC, TOTAL
PLANNED BUILD OUT

DRW Consultants, LLC
804-794-7312

Exhibit 4h

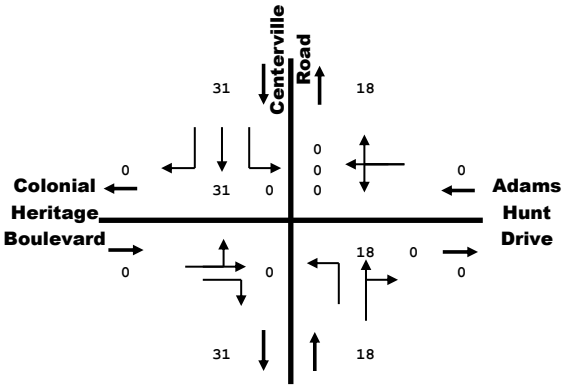


COLONIAL HERITAGE TRIP DISTRIBUTION

	IN	OUT
RT. 60 NORTH	23%	22%
RT. 60 SOUTH	48%	49%
CENTERVILLE ROAD EAST	22%	22%
CENTERVILLE ROAD WEST	7%	7%
	100%	100%

DEER PARK TRIP DISTRIBUTION

RT. 60 NORTH	23%	22%
CENTERVILLE ROAD EAST	93%	93%
CENTERVILLE ROAD WEST	7%	7%



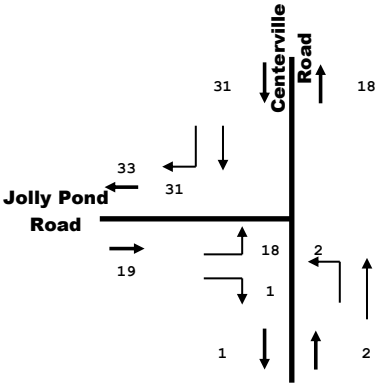


Exhibit Reference

LEGEND

Intersection Approach Lanes

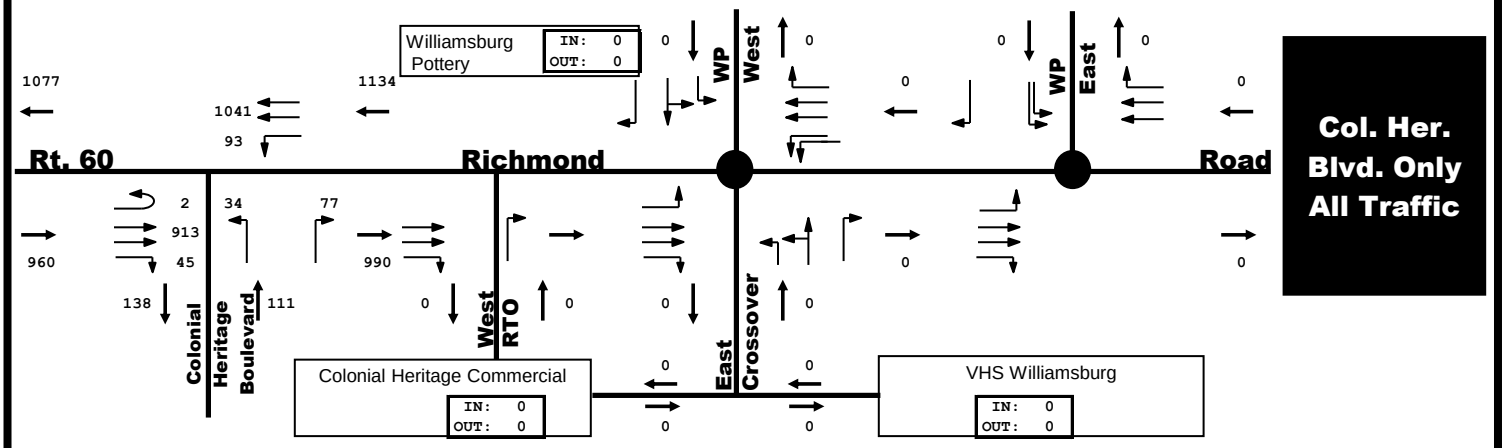
Traffic Signal

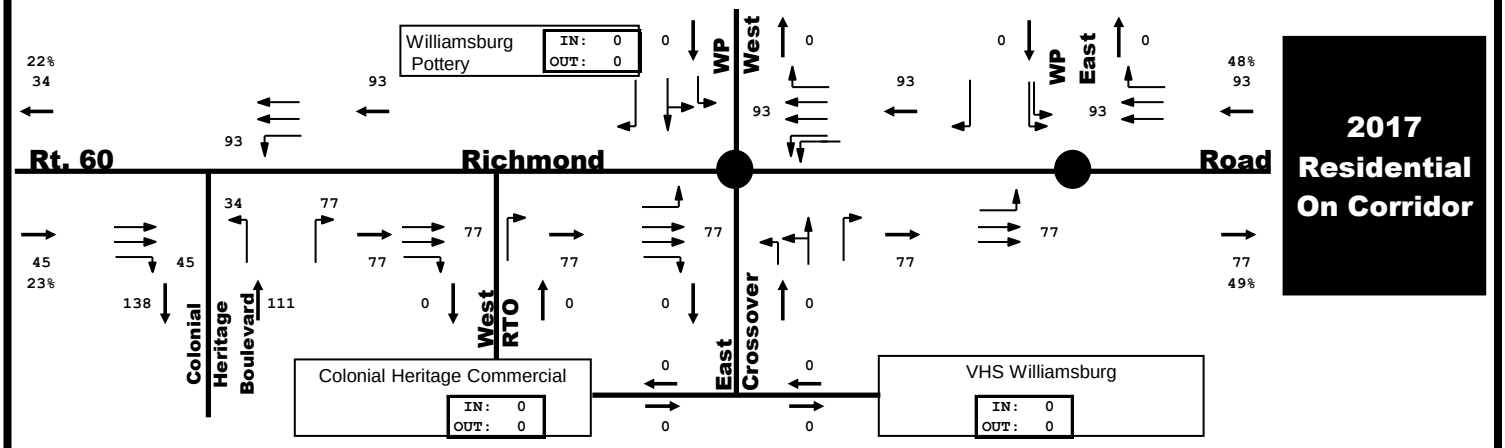
Link Volume

DEER PARK 50 SINGLE FAMILY UNIT TRIP DISTRIBUTION
PM PEAK HOUR

DRW Consultants, LLC
804-794-7312

Exhibit 5





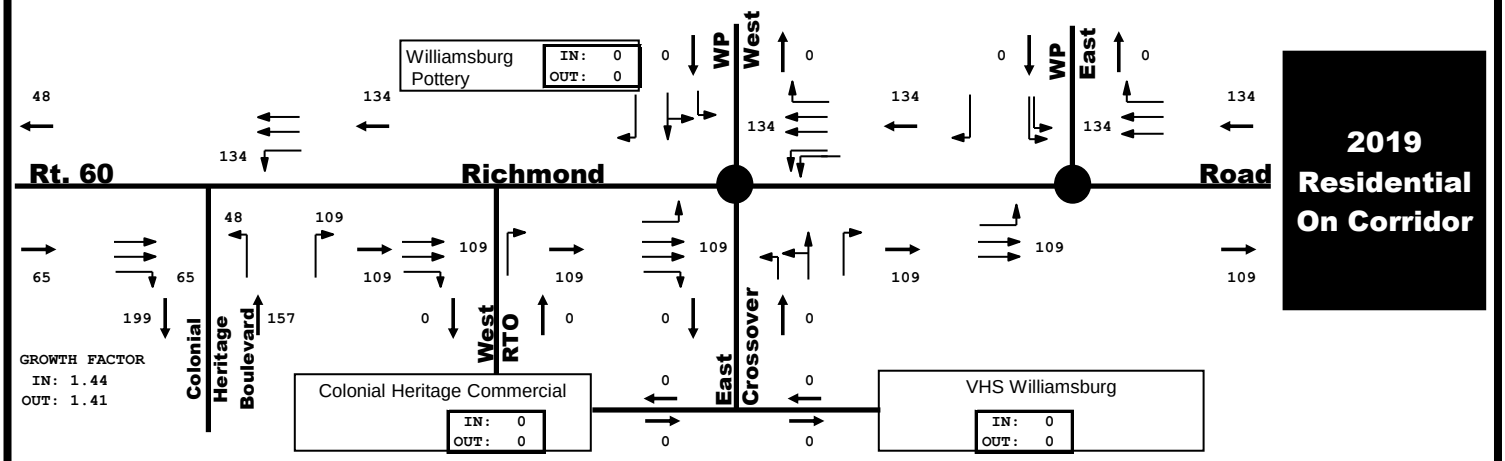


Exhibit Reference

LEGEND

Intersection Approach Lanes

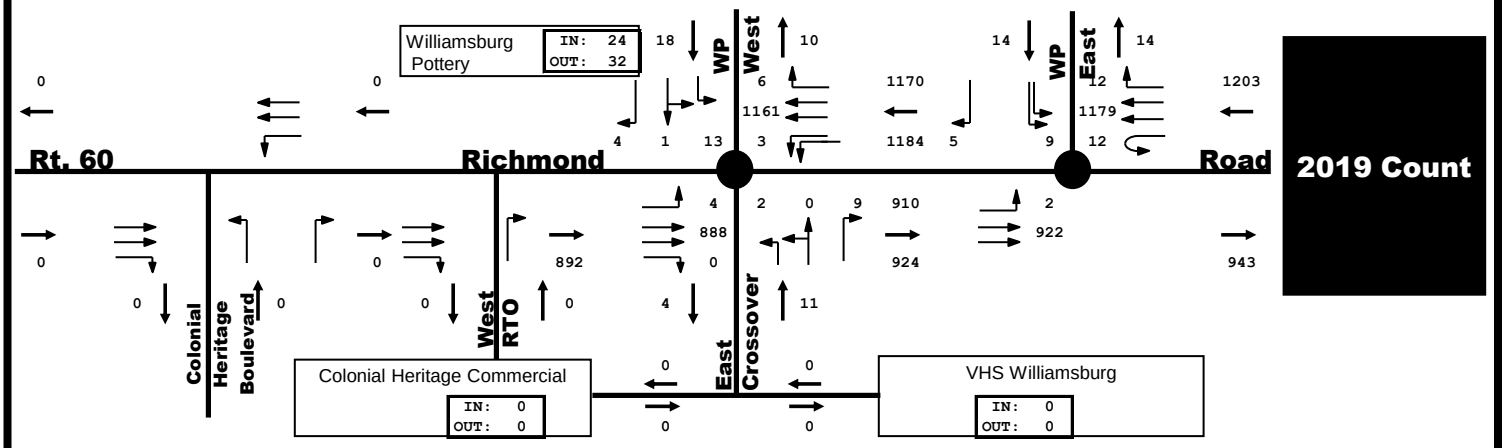
Traffic Signal

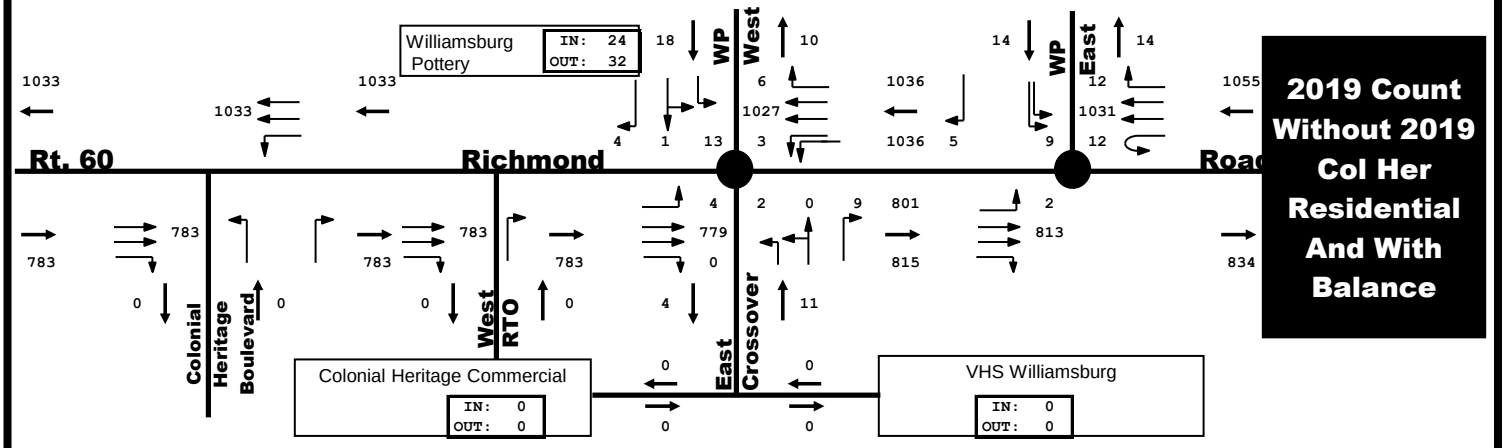
Link Volume

2017 COUNT - PM PEAK HOUR
2017 AND 2019 RESIDENTIAL TRAFFIC
RT. 60 CORRIDOR

DRW Consultants, LLC
804-794-7312

Exhibit 5a





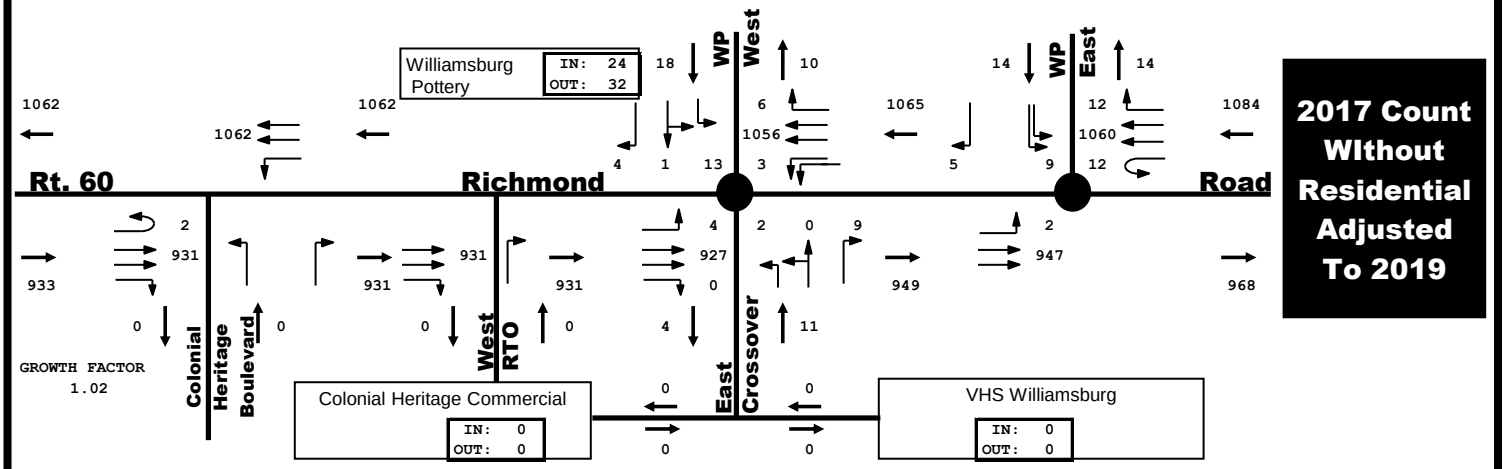


Exhibit Reference

LEGEND

Intersection Approach Lanes

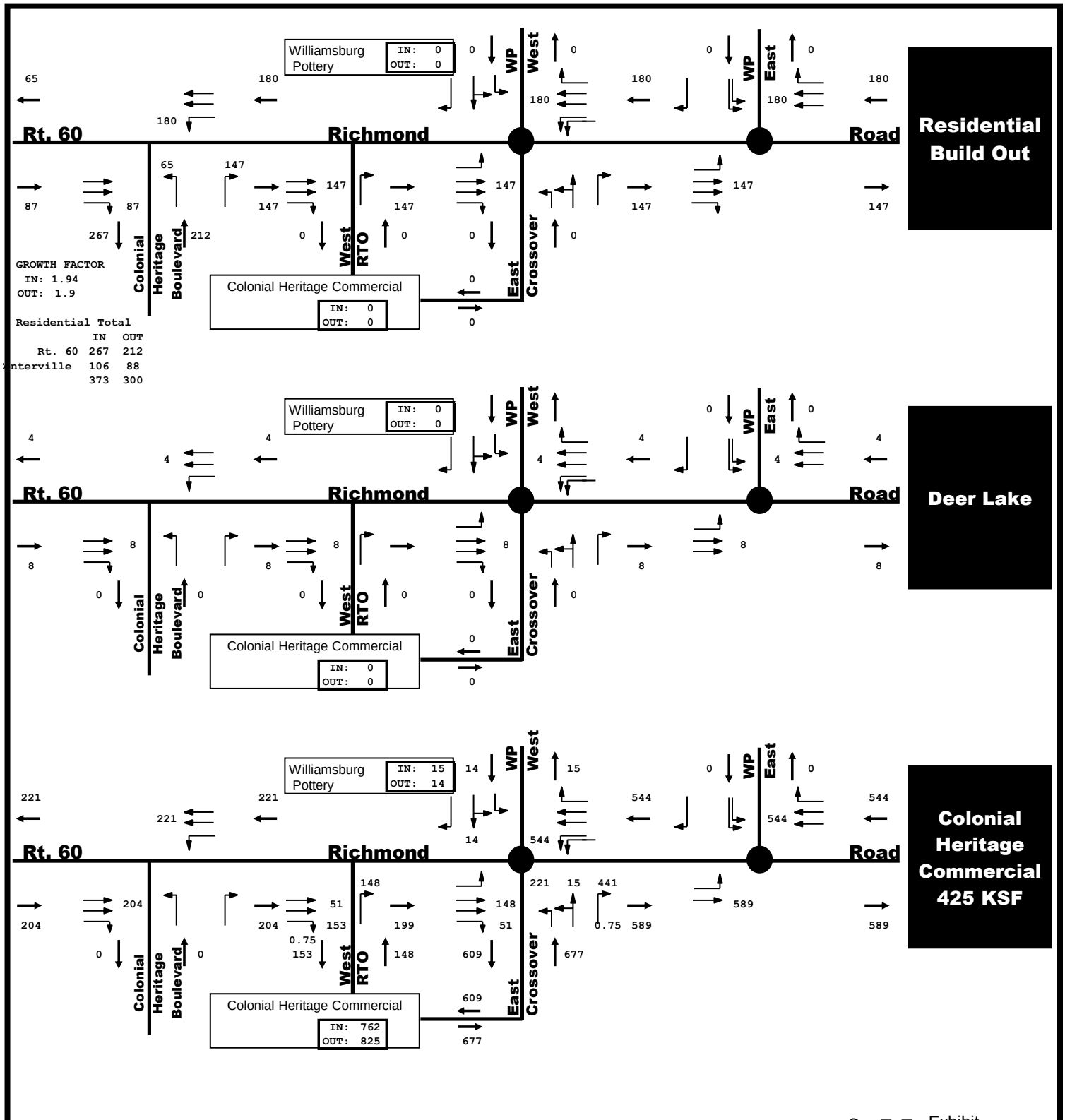
Traffic Signal

Link Volume

2019 COUNT - PM PEAK HOUR
2019 COUNT WITHOUT 2019 RESIDENTIAL
2017 COUNT WITHOUT 2017 RESIDENTIAL ADJUSTED TO 2019
RT. 60 CORRIDOR

DRW Consultants, LLC
804-794-7312

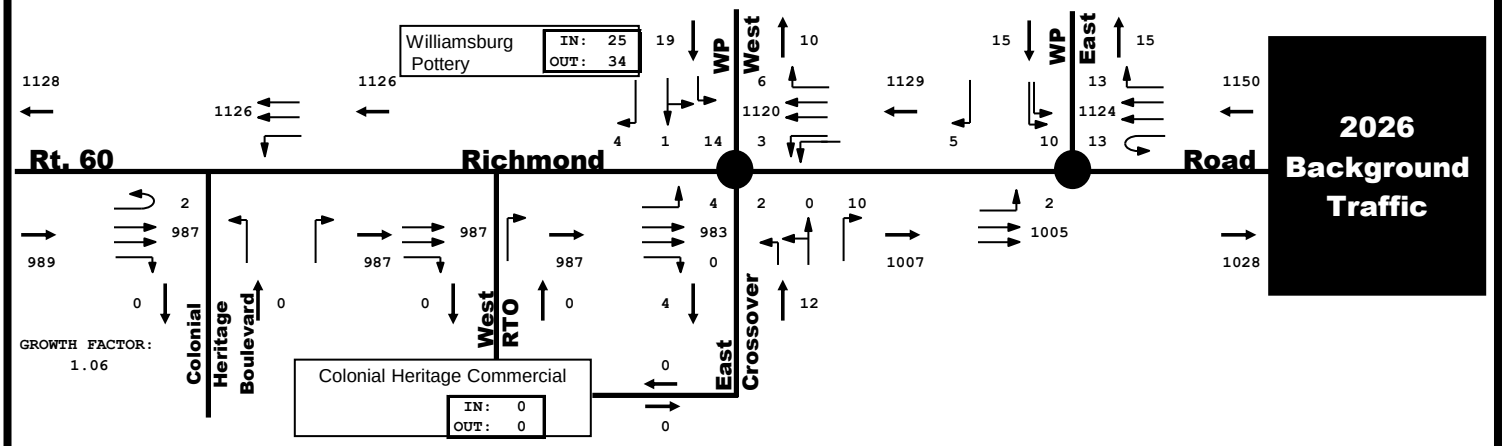
Exhibit 5b

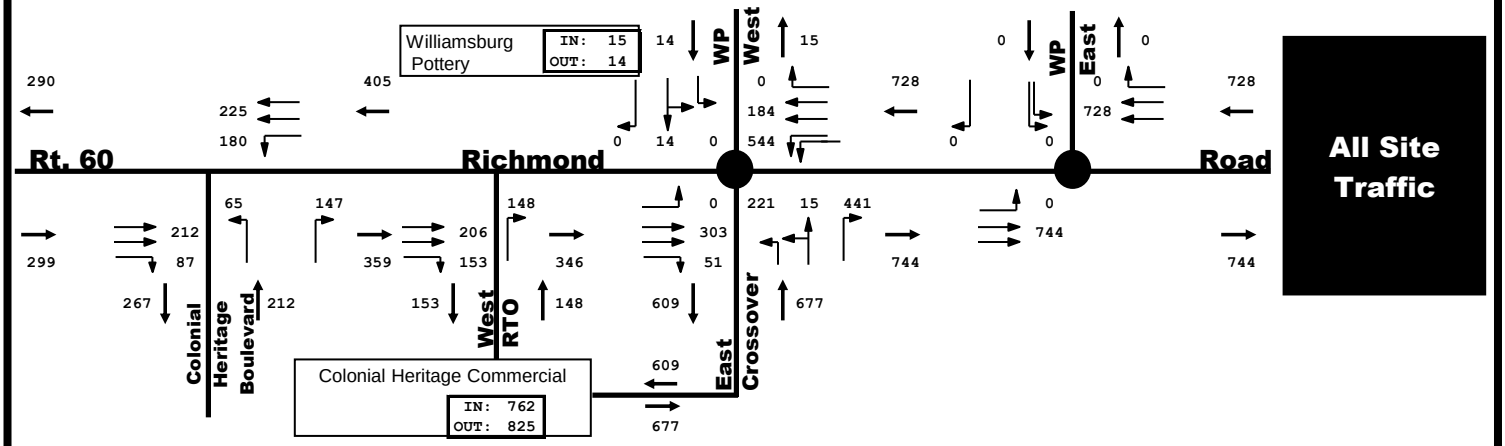


PM PEAK HOUR SITE TRAFFIC ASSIGNMENTS
COLONIAL HERITAGE RESIDENTIAL, COLONIAL HERITAGE COMMERCIAL
EXISTING MASTER PLAN

DRW Consultants, LLC
804-794-7312

Exhibit 5c





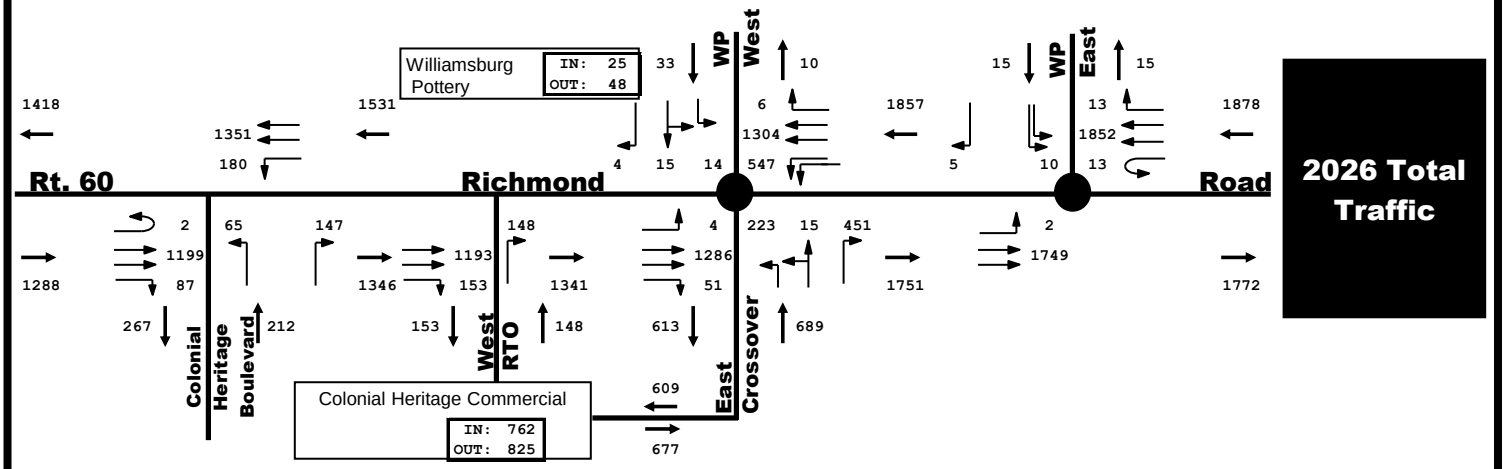


Exhibit Reference

LEGEND

Intersection Approach Lanes

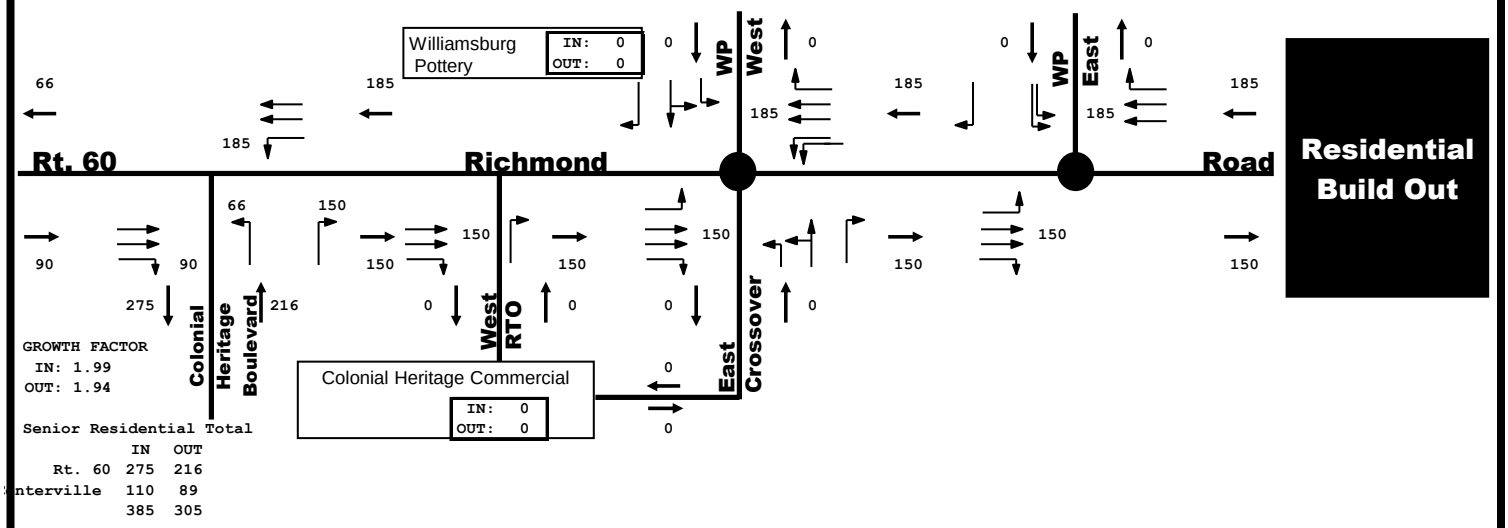
Traffic Signal

Link Volume

2026 PM PEAK HOUR TRAFFIC:
BACKGROUND, ALL SITE TRAFFIC, TOTAL
EXISTING MASTER PLAN

DRW Consultants, LLC
804-794-7312

Exhibit 5d



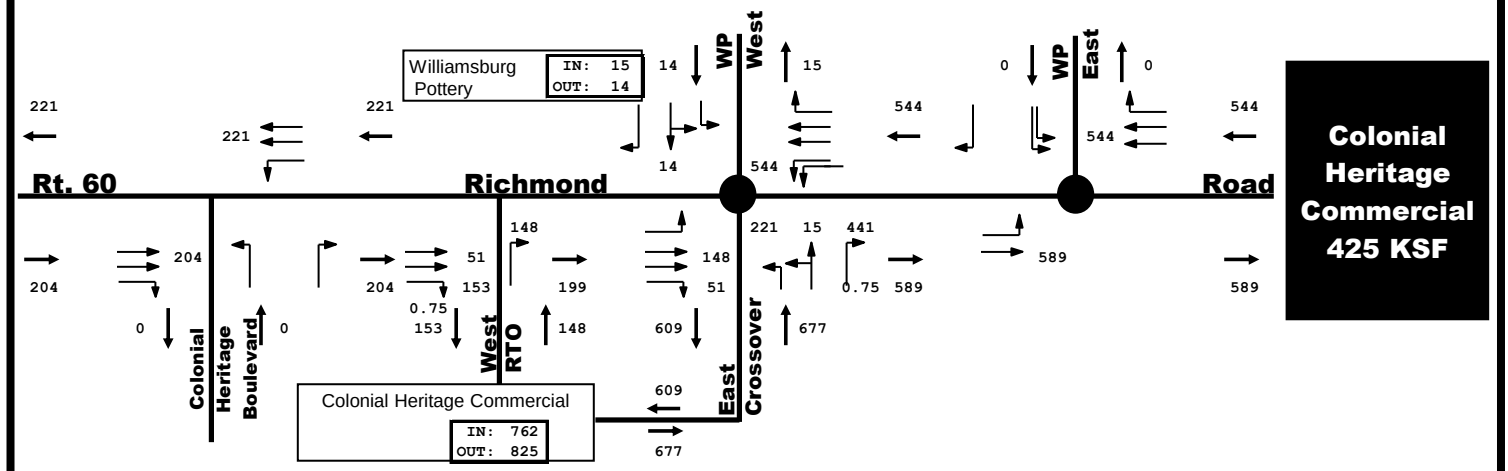


Exhibit Reference

LEGEND

Intersection Approach Lanes

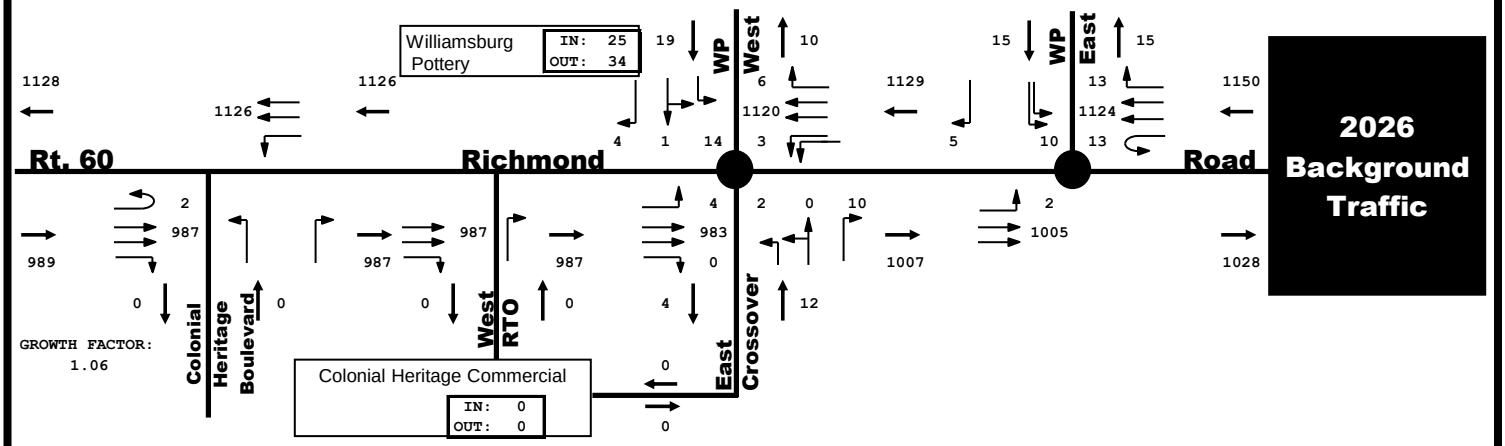
Traffic Signal

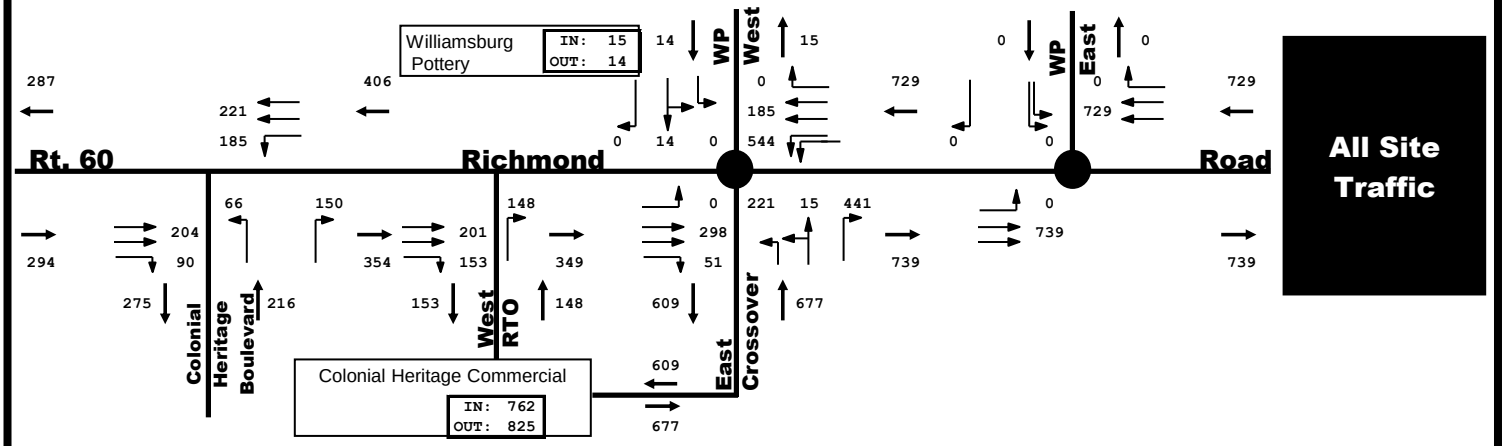
Link Volume

PM PEAK HOUR SITE TRAFFIC ASSIGNMENTS
COLONIAL HERITAGE RESIDENTIAL, COLONIAL HERITAGE COMMERCIAL
PROPOSED MASTER PLAN

DRW Consultants, LLC
804-794-7312

Exhibit 5e





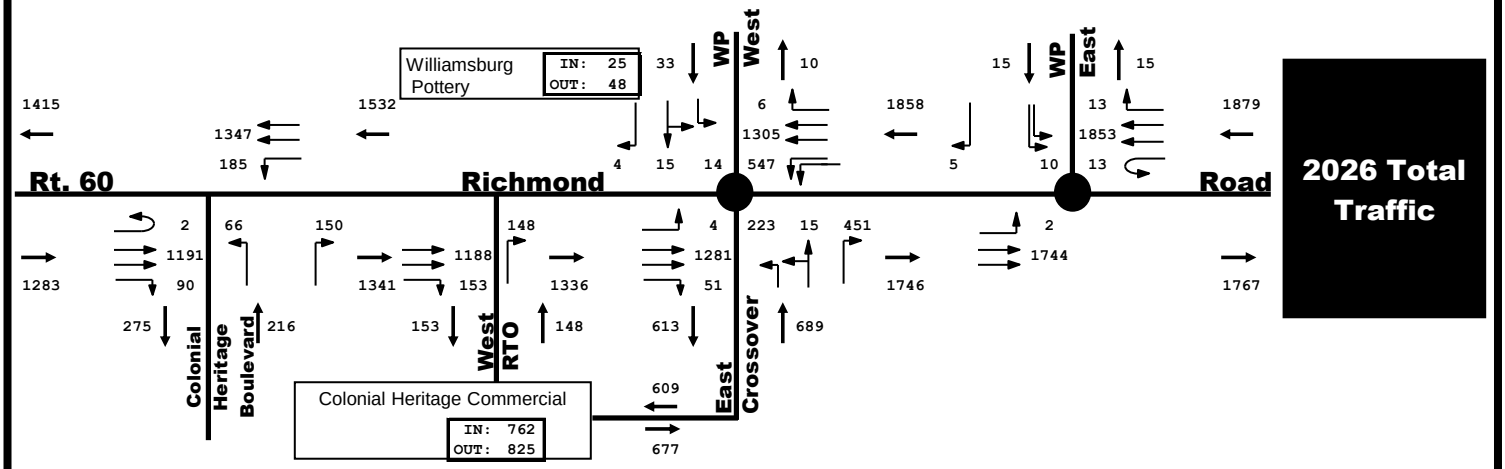


Exhibit Reference

LEGEND

Intersection Approach Lanes

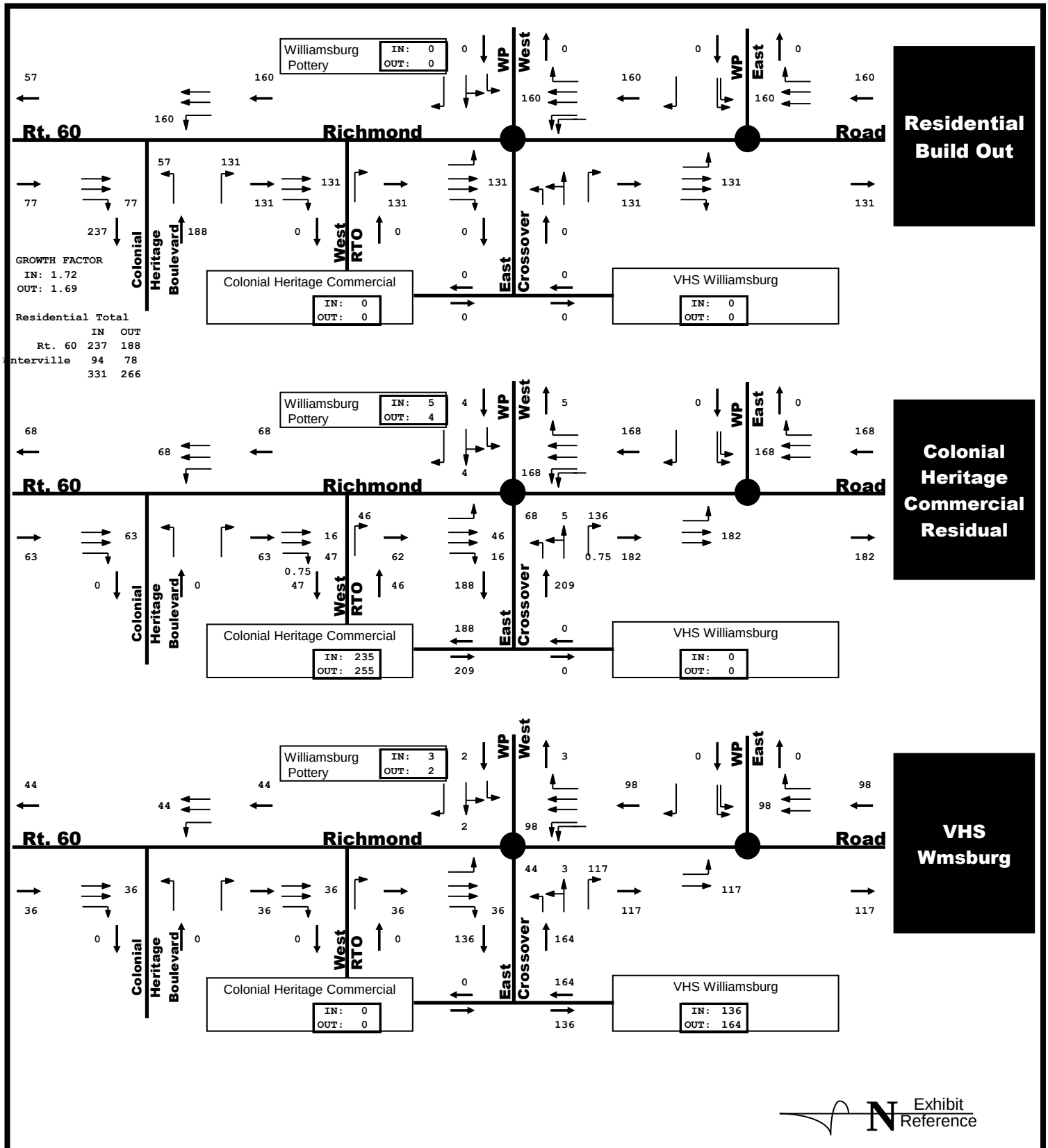
Traffic Signal

Link Volume

2026 PM PEAK HOUR TRAFFIC:
BACKGROUND, ALL SITE TRAFFIC, TOTAL
PROPOSED MASTER PLAN

DRW Consultants, LLC
804-794-7312

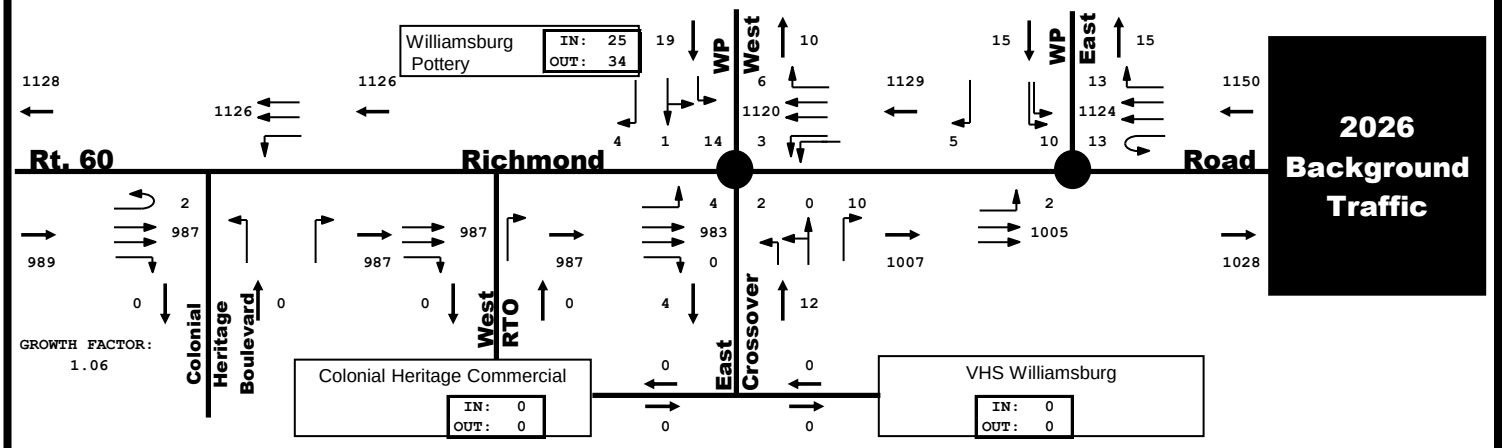
Exhibit 5f

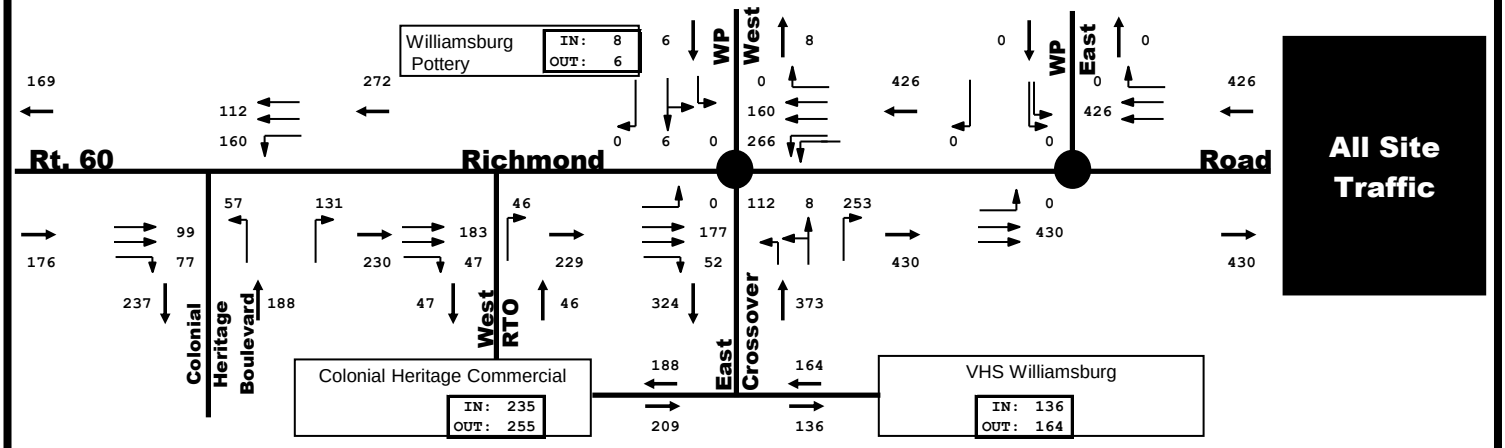


PM PEAK HOUR SITE TRAFFIC ASSIGNMENTS
COLONIAL HERITAGE RESIDENTIAL, COLONIAL HERITAGE COMMERCIAL
RESIDUAL AND VHS WILLIAMSBURG
PLANNED BUILD OUT

DRW Consultants, LLC
804-794-7312

Exhibit 5g





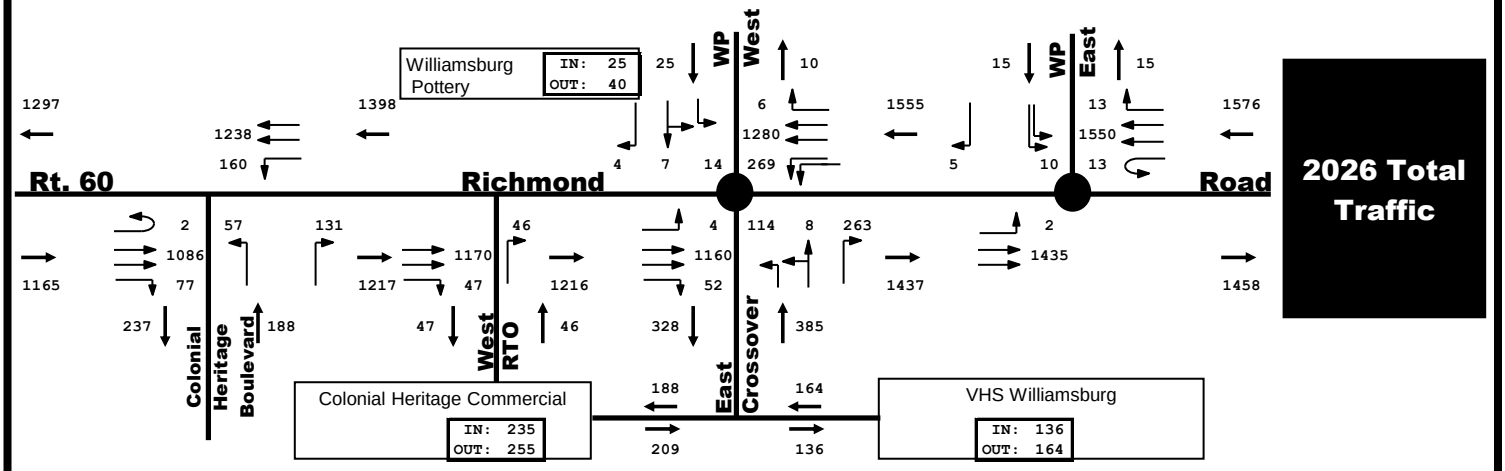


Exhibit Reference

LEGEND

Intersection Approach Lanes

Traffic Signal

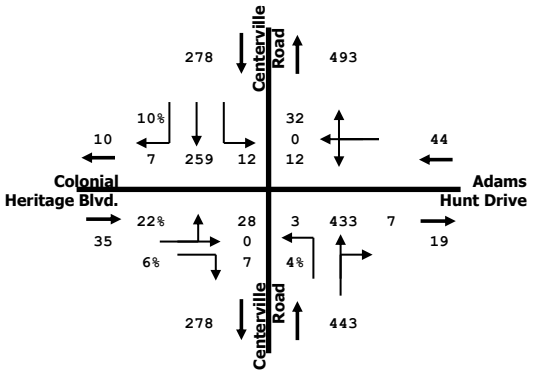
Link Volume

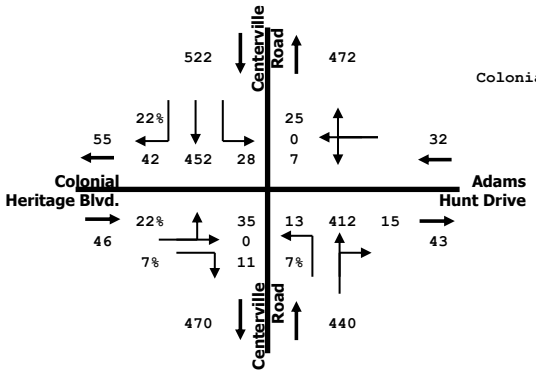
2026 PM PEAK HOUR TRAFFIC:
BACKGROUND, ALL SITE TRAFFIC, TOTAL
PLANNED BUILD OUT

DRW Consultants, LLC
804-794-7312

Exhibit 5h

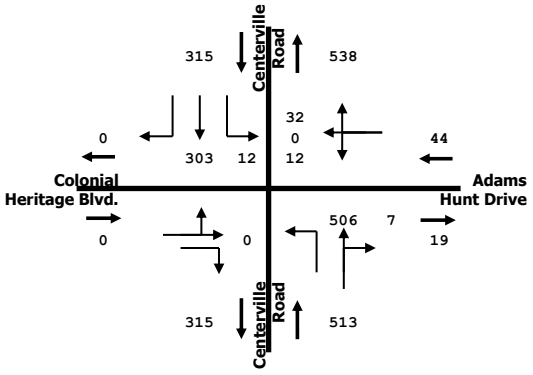
2017 Counts

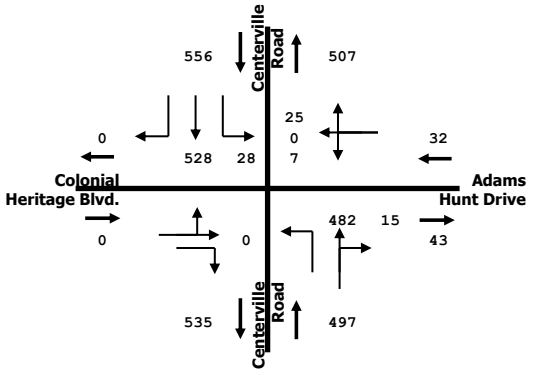




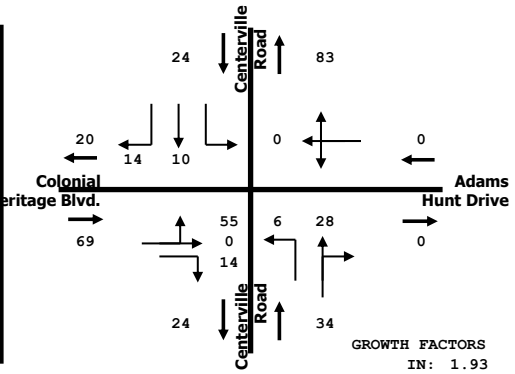
GROWTH FACTOR: 1.17

2026 Background

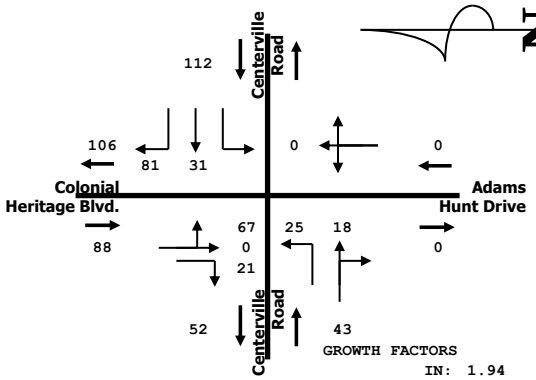




1950 Unit Site Traffic And Deer Lake



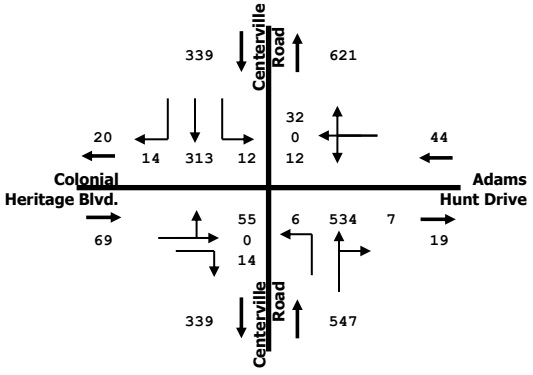
GROWTH FACTORS
IN: 1.93
OUT: 1.93

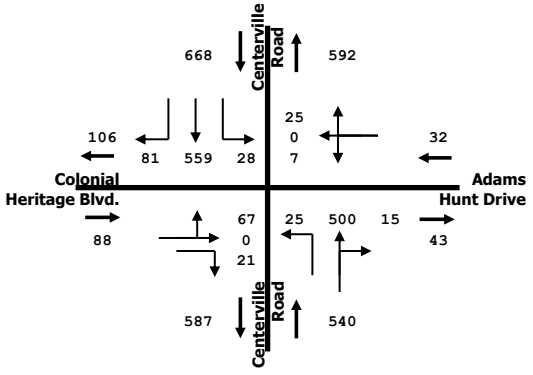


GROWTH FACTORS
IN: 1.94
OUT: 1.90

Exhibit Reference

2026 Total Traffic





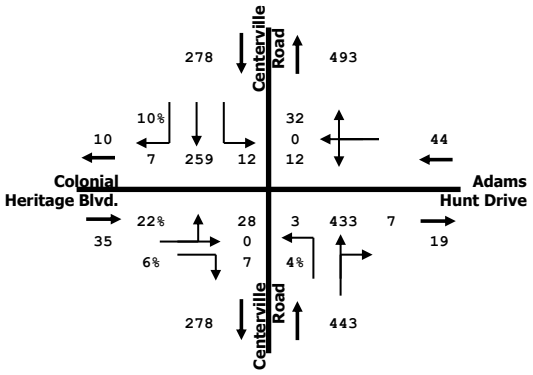
AM Peak Hour | **PM Peak Hour**

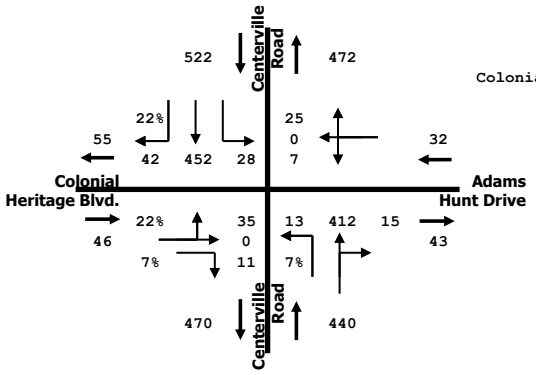
COLONIAL HERITAGE 2017 TRAFFIC COUNTS
AND 2026 FORECAST FOR EXISTING MASTER PLAN
1950 SENIOR HOUSING UNITS & 50 SINGLE FAMILY HOUSING UNITS
CENTERVILLE ROAD AT COLONIAL HERITAGE BLVD./ADAMS HUNT DR.

DRW Consultants, LLC
804-794-7312

Exhibit 6a

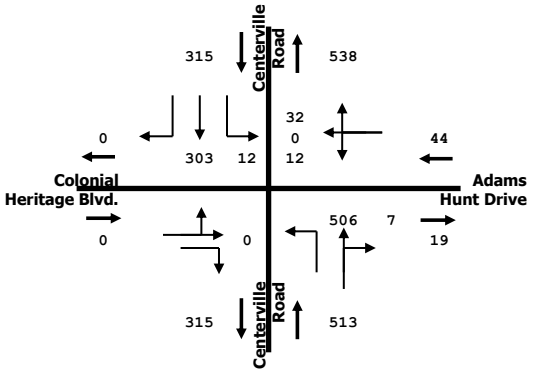
2017 Counts

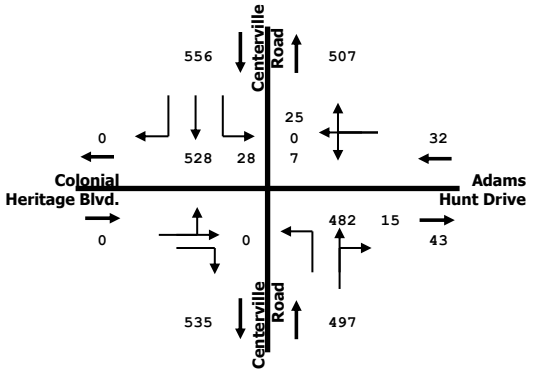




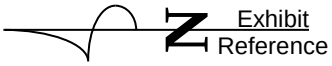
GROWTH FACTOR: 1.17

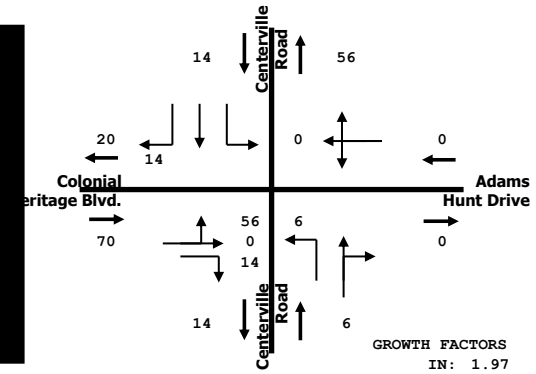
2026 Background



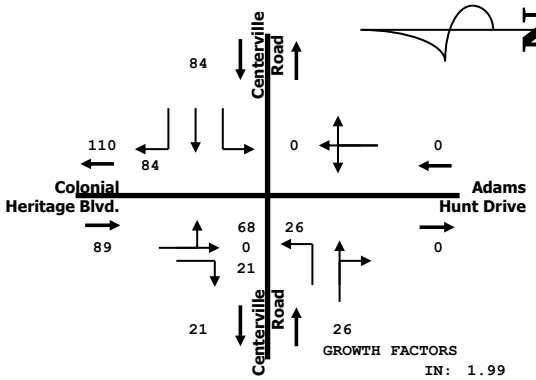


1950 Unit Site Traffic And Deer Lake



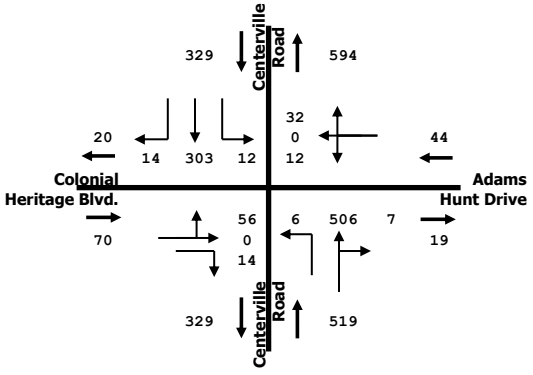


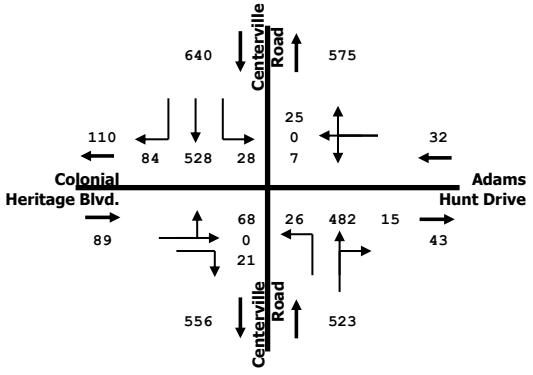
GROWTH FACTORS
IN: 1.97
OUT: 1.98



GROWTH FACTORS
IN: 1.99
OUT: 1.94

2026 Total Traffic





AM Peak Hour

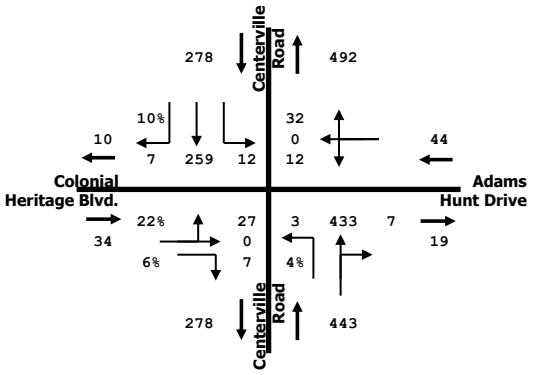
PM Peak Hour

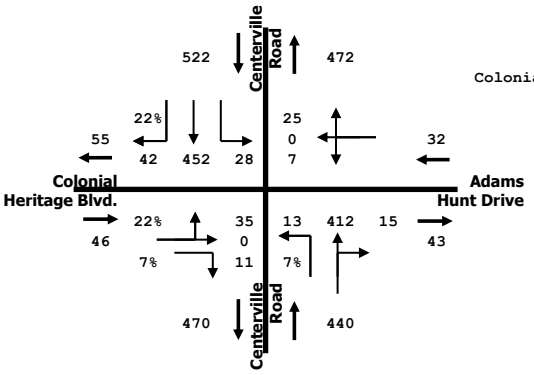
COLONIAL HERITAGE 2017 TRAFFIC COUNTS
AND 2026 FORECAST FOR PROPOSED MASTER PLAN
2000 SENIOR HOUSING UNITS
CENTERVILLE ROAD AT COLONIAL HERITAGE BLVD./ADAMS HUNT DR.

DRW Consultants, LLC
804-794-7312

Exhibit 6b

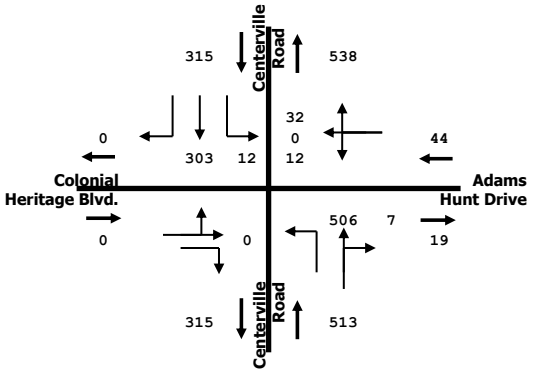
2017 Counts

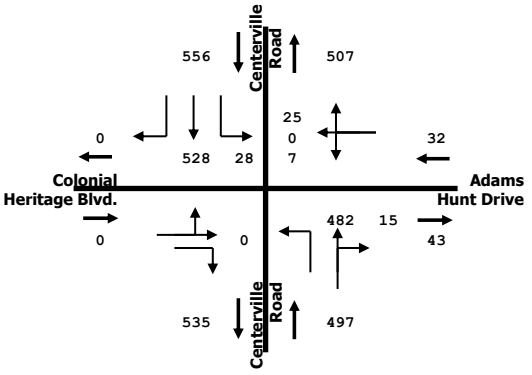




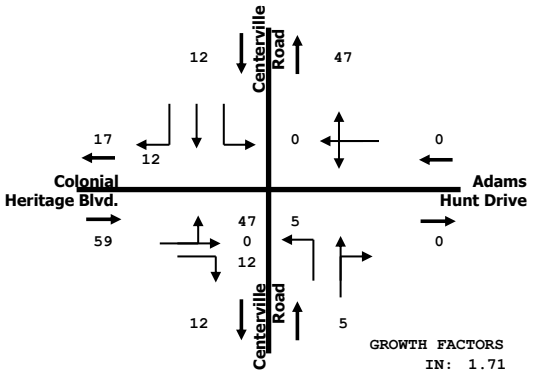
GROWTH FACTOR: 1.17

2026 Background





1738 Unit Site Traffic



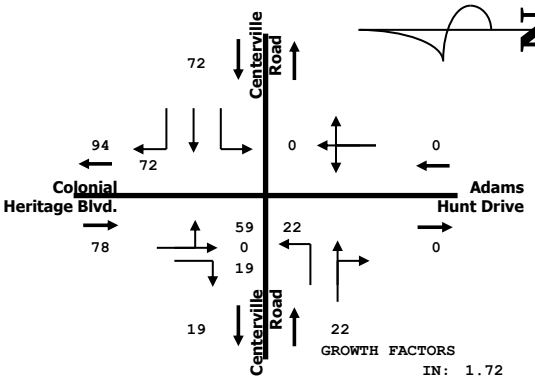
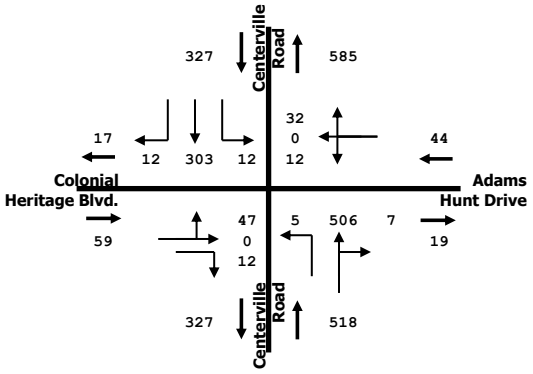
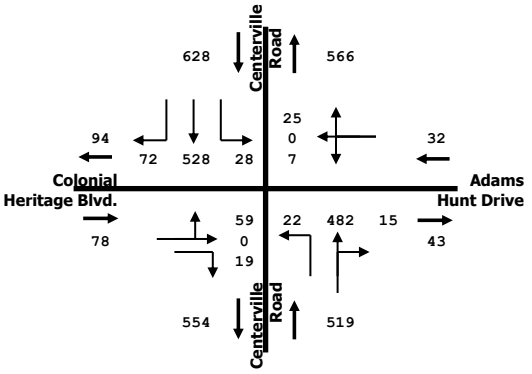


Exhibit Reference

2026 Total Traffic





AM Peak Hour

PM Peak Hour

COLONIAL HERITAGE
2017 TRAFFIC COUNTS AND 2026 FORECAST FOR EXISTING MASTER PLAN PLANNED BUILD OUT
CENTERVILLE ROAD AT COLONIAL HERITAGE BOULEVARD/ADAMS HUNT DRIVE

DRW Consultants, LLC
804-794-7312

Exhibit 6c

APPENDIX
EXHIBITS

APPENDIX TABLE OF CONTENTS

APPENDIX EXHIBITS	Number
Traffic Counts	**AM PM**
Rt. 60/Colonial Heritage Boulevard	A1 A2
Rt. 60/WP West/East Crossover	B1 B2
Rt. 60/WP East	C1 C2
Centerville Road/Colonial Heritage Boulevard/Adams Hunt Drive	D1 D2
HCM 2000 Signalized Intersection LOS	**AM PM**
2026 Existing Master Plan	J1 J2
Rt. 60/WP West/East Crossover	Page 1
Rt. 60/WP East	Page 2
2026 Existing Master Plan – Revised Signal Timing & Extended Turn Lanes	J2A
Rt. 60/WP West/East Crossover	Page 1
Rt. 60/WP East	Page 2
2026 Proposed Master Plan	J3 J4
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2026 Planned Build Out	J5 J6
Rt. 60/WP West/East Crossover	Page 1
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Synchro Queues	**AM PM**
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Rt. 60/WP West/East Crossover	Page 1
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2026 Proposed Master Plan	K3 K4
Rt. 60/WP West/East Crossover	Page 1
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2026 Planned Build Out	K5 K6
Rt. 60/WP West/East Crossover	Page 1
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Unsignalized LOS	**AM PM**
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2026 Planned Build Out	L5 L6
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SimTraffic Queuing & Blocking Report	**AM PM**
2026 Existing Master Plan	M1 M2
2026 Proposed Master Plan	M3 M4
2026 Planned Build Out	M5 M6
SimTraffic Performance Report Delay Per Vehicle	**AM PM**
2026 Existing Master Plan	N1 N2
2026 Proposed Master Plan	N3 N4
2026 Planned Build Out	N5 N6

File Name: R:\Jobs 2017\17-143.va_Colonial Heritage Blvd.-James City Co (Final-N
Start Date: 4/26/2017
Start Time: 7:00:00 AM
Site Code:
Comment 1:
Comment 2:
Comment 3:
Comment 4:

	Colonial Heritage Blvd			Route 60 Northbound			Route 60 Southbound				
Start Time	Left	Right	Peds	Left	Thru	Peds	Left	Thru	Right	Peds	TOTAL
07:00 AM	6	12	0	3	110	0	0	207	2	0	340
07:15 AM	9	12	0	7	137	0	0	173	1	0	339
07:30 AM	4	18	0	10	135	0	0	213	2	0	382
07:45 AM	6	16	0	14	136	0	0	200	9	0	381
08:00 AM	4	21	0	13	129	0	0	172	6	0	345
08:15 AM	6	15	1	15	111	0	1	176	8	0	333
08:30 AM	6	21	0	21	109	0	0	168	7	0	332
08:45 AM	4	16	0	18	144	0	1	161	5	0	349
PEAK TOTAL	23	67	0	44	537	0	0	758	18	0	1447
TRUCK %	0%	1%	#####	9%	5%	#####	#####	4%	6%	#####	
PHF											0.95

File Name: R:\Jobs 2017\17-143.va_Colonial Heritage Blvd.-James City Co (Final-N
Start Date: 4/26/2017
Start Time: 4:00:00 PM
Site Code:
Comment 1:
Comment 2:
Comment 3:
Comment 4:

	Colonial Heritage Blvd			Route 60 Northbound			Route 60 Southbound				
Start Time	Left	Right	Peds	Left	Thru	Peds	Left	Thru	Right	Peds	TOTAL
04:00 PM	2	15	0	19	250	0	2	261	16	0	565
04:15 PM	8	14	0	28	273	0	2	171	13	0	509
04:30 PM	2	16	0	20	220	0	1	188	9	0	456
04:45 PM	5	15	0	23	249	0	2	234	5	0	533
05:00 PM	10	26	0	24	249	0	0	234	13	0	556
05:15 PM	11	21	0	31	299	0	0	211	9	0	582
05:30 PM	8	15	0	15	244	0	0	234	18	0	534
05:45 PM	5	21	0	28	202	0	0	179	9	0	444
PEAK TOTAL	34	77	0	93	1041	0	2	913	45	0	2205
TRUCK %	0%	5%	#####	1%	1%	#####	0%	2%	0%	#####	
PHF											0.95

File Name: R:\Jobs 2019\19-447.va_Williamsburg Pottery TMC's\Processed Data\1-RT 60 & W
Start Date: 12/3/2019
Start Time: 7:00:00 AM
Site Code:
Comment 1:
Comment 2:
Comment 3:
Comment 4:

	Colonial Heritage Blvd Eastbound				West Ent Williamsburg Pottery				RT 60 Northbound				RT 60 Southbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	TOTAL
7:00:00 AM	0	0	0	1	0	0	0	0	3	128	1	0	0	251	0	0	384
7:15:00 AM	0	0	0	0	0	0	1	0	2	133	0	0	2	196	0	0	334
7:30:00 AM	0	0	3	0	0	0	0	0	3	126	1	0	0	185	2	0	320
7:45:00 AM	1	0	1	0	0	0	0	0	5	130	0	0	0	209	7	0	353
8:00:00 AM	0	0	1	0	1	0	2	0	7	136	4	0	1	192	4	0	348
8:15:00 AM	0	0	2	0	0	0	1	0	2	122	2	0	2	182	2	0	315
8:30:00 AM	0	0	2	0	0	0	1	0	3	156	1	0	2	188	0	0	353
8:45:00 AM	0	0	1	0	0	0	0	0	3	170	2	0	3	189	1	0	369
7 to 8	1	0	4	1	0	0	1	0	13	517	2	0	2	841	9	0	1391
%T	100%	####	50%	0%	####	####	0%	####	8%	4%	0%	####	0%	4%	0%		
PHF																	0.91

File Name: R:\Jobs 2019\19-447.va_Williamsburg Pottery TMC's\Processed Data\1-RT 60 & We
Start Date: 12/3/2019
Start Time: 4:00:00 PM
Site Code:
Comment 1:
Comment 2:
Comment 3:
Comment 4:

	Colonial Heritage Blvd Eastbound				West Ent Williamsburg Pottery				RT 60 Northbound				RT 60 Southbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	TOTAL
4:00:00 PM	1	0	1	1	2	0	0	0	1	271	1	0	1	243	0	0	522
4:15:00 PM	1	0	2	1	1	0	0	0	1	258	1	0	1	218	0	0	484
4:30:00 PM	0	0	3	0	1	1	1	0	0	296	1	0	0	221	0	0	524
4:45:00 PM	0	0	0	0	2	0	2	0	2	296	0	0	1	189	0	0	492
5:00:00 PM	2	0	2	0	5	0	0	0	1	274	3	0	1	244	0	0	532
5:15:00 PM	0	0	4	0	5	0	1	0	0	295	2	0	2	234	0	0	543
5:30:00 PM	0	0	2	0	3	0	0	0	2	250	0	0	0	211	0	0	468
5:45:00 PM	0	0	0	0	4	0	0	0	0	229	1	0	0	180	0	0	414
4:30 to 5:30	2	0	9	0	13	1	4	0	3	1161	6	0	4	888	0	0	2091
%T	0%	#####	0%	#####	0%	0%	0%	#####	0%	2%	0%	#####	0%	2%	#####	#####	
PHF																	0.96

EXHIBIT B2

File Name: R:\Jobs 2019\19-447.va_Williamsburg Pottery TMC's\Processed Data\2-RT 60 & East Ent Williams
Start Date: 12/3/2019
Start Time: 7:00:00 AM
Site Code:
Comment 1:
Comment 2:
Comment 3:
Comment 4:

	East Ent Williamsburg Pottery			RT 60 Northbound				RT 60 Southbound			
Start Time	Left	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Peds	TOTAL
7:00:00 AM	0	0	0	1	132	0	0	0	259	0	392
7:15:00 AM	0	0	0	2	144	0	0	0	195	0	341
7:30:00 AM	0	0	1	1	128	0	0	0	188	0	318
7:45:00 AM	0	0	0	2	132	0	0	0	211	0	345
8:00:00 AM	0	0	0	3	144	0	0	2	194	0	343
8:15:00 AM	0	0	0	3	122	1	0	0	186	0	312
8:30:00 AM	0	0	0	2	160	0	0	0	192	0	354
8:45:00 AM	0	0	0	0	173	0	0	0	191	0	364
7 to 8	0	0	1	6	536	0	0	0	853	0	1396
%T	#####	#####	0%	0%	4%	#####	#####	#####	4%	#####	
PHF											0.89

EXHIBIT C1

File Name: R:\Jobs 2019\19-447.va_Williamsburg Pottery TMC's\Processed Data\2-RT 60 & East Ent Williams
Start Date: 12/3/2019
Start Time: 4:00:00 PM
Site Code:
Comment 1:
Comment 2:
Comment 3:
Comment 4:

	East Ent Williamsburg Pottery			RT 60 Northbound				RT 60 Southbound			
Start Time	Left	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Peds	TOTAL
4:00:00 PM	5	0	0	2	276	5	0	0	240	0	528
4:15:00 PM	2	1	0	3	264	3	0	0	216	0	489
4:30:00 PM	4	4	0	1	297	2	0	0	230	0	538
4:45:00 PM	0	1	0	3	311	6	0	2	191	0	514
5:00:00 PM	3	0	0	3	273	3	0	0	251	0	533
5:15:00 PM	2	0	0	5	298	1	0	0	250	0	556
5:30:00 PM	2	0	0	5	251	0	0	0	216	0	474
5:45:00 PM	2	0	0	4	230	0	0	0	190	0	426
4:30 to 5:30	9	5	0	12	1179	12	0	2	922	0	2141
%T	0%	0%	#####	0%	2%	0%	#####	0%	2%	#####	
PHF											0.963

EXHIBIT C2

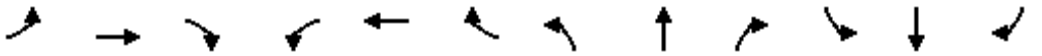
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Start Date: 4/26/2017
Start Time: 7:00:00 AM
Site Code:
Comment 1:
Comment 2:
Comment 3:
Comment 4:

	Centerville Rd NB Eastbound				Centerville Rd SB Westbound				Adams Hunt Rd Northbound				Colonial Heights Southbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	TOTAL
07:00 AM	0	115	0	1	0	55	1	0	1	1	5	0	6	1	1	0	187
07:15 AM	1	98	2	0	4	81	1	0	4	0	6	0	6	0	1	0	204
07:30 AM	0	120	3	0	2	82	3	0	4	0	12	0	8	0	1	0	235
07:45 AM	0	133	3	0	2	62	1	0	5	0	5	0	6	0	1	0	218
08:00 AM	2	102	0	1	5	59	2	1	0	0	10	0	8	0	4	0	194
08:15 AM	2	76	2	0	4	59	5	0	0	0	3	0	11	0	6	0	168
08:30 AM	0	80	0	0	4	55	5	0	1	0	8	0	10	0	5	0	168
08:45 AM	1	97	1	0	3	61	4	1	0	0	8	0	9	0	2	0	187
PEAK TOTAL	3	453	8	1	13	284	7	1	13	0	33	0	28	0	7	0	851
TRUCK %	0%	4%	13%	0%	8%	9%	0%	0%	8%	#####	3%	#####	0%	#####	0%	#####	
PHF																	0.91

File Name: R:\Jobs 2017\17-143.va_Colonial Heritage Blvd.-James City Co (Final-No TrafX)\Fin
Start Date: 4/26/2017
Start Time: 4:00:00 PM
Site Code:
Comment 1:
Comment 2:
Comment 3:
Comment 4:

	Centerville Rd Eastbound NB				Centerville Rd Westbound SB				Adams Hunt Rd Northbound				Colonial Heights Southbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	TOTAL
04:00 PM	3	102	3	0	6	104	19	0	0	0	1	0	11	0	3	0	252
04:15 PM	2	93	1	0	4	99	15	2	1	0	3	2	7	0	3	0	232
04:30 PM	2	114	2	0	7	91	12	0	0	0	2	0	12	1	3	0	246
04:45 PM	5	92	5	2	9	101	11	0	2	0	9	0	6	0	2	2	246
05:00 PM	1	107	4	0	4	129	11	0	4	0	7	0	9	0	2	0	278
05:15 PM	5	108	4	0	5	108	11	0	0	0	5	0	12	0	5	0	263
05:30 PM	2	105	2	1	10	114	9	0	1	0	4	0	8	0	2	1	259
05:45 PM	2	102	0	1	8	95	7	0	1	0	3	0	8	0	6	1	234
PEAK TOTAL	13	412	15	3	28	452	42	0	7	0	25	0	35	0	11	3	1046
TRUCK %	0%	2%	7%	0%	0%	3%	0%	#####	0%	#####	8%	#####	6%	#####	0%	0%	
PHF																	0.94

EXHIBIT D2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	2	78	0	4	1	175	670	2	2	966	26
Future Volume (vph)	38	2	78	0	4	1	175	670	2	2	966	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0	6.5	6.0	6.0	6.5	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00		0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1693	1583		1805	1615	3433	3471	1615	1805	3471	1583
Flt Permitted	0.95	0.96	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1693	1583		1805	1615	3433	3471	1615	1805	3471	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	2	85	0	4	1	190	728	2	2	1050	28
RTOR Reduction (vph)	0	0	79	0	0	1	0	0	1	0	0	15
Lane Group Flow (vph)	21	22	6	0	4	0	190	728	1	2	1050	13
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	2%	4%	0%	0%	4%	2%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases			3			4			2			6
Actuated Green, G (s)	6.0	6.0	6.0		1.4	1.4	15.3	56.9	56.9	1.2	42.8	42.8
Effective Green, g (s)	6.0	6.0	6.0		1.4	1.4	15.3	56.9	56.9	1.2	42.8	42.8
Actuated g/C Ratio	0.07	0.07	0.07		0.02	0.02	0.17	0.63	0.63	0.01	0.48	0.48
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0	6.5	6.0	6.0	6.5	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	112	112	105		28	25	583	2194	1021	24	1650	752
v/s Ratio Prot	0.01	c0.01			c0.00		0.06	c0.21		0.00	c0.30	
v/s Ratio Perm			0.00			0.00			0.00			0.01
v/c Ratio	0.19	0.20	0.05		0.14	0.00	0.33	0.33	0.00	0.08	0.64	0.02
Uniform Delay, d1	39.7	39.7	39.3		43.7	43.6	32.8	7.7	6.1	43.9	17.7	12.5
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	0.9	0.2		2.3	0.0	0.3	0.4	0.0	1.5	1.9	0.0
Delay (s)	40.5	40.6	39.6		46.1	43.6	33.1	8.1	6.1	45.4	19.6	12.5
Level of Service	D	D	D		D	D	C	A	A	D	B	B
Approach Delay (s)		39.9			45.6			13.3			19.5	
Approach LOS		D			D			B			B	

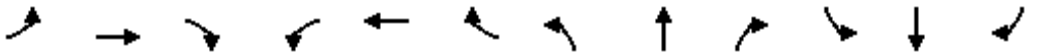
Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	24.5
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis



Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	0	0	6	847	0	0	1044
Future Volume (vph)	0	0	6	847	0	0	1044
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5	6.0			6.0
Lane Util. Factor			1.00	0.95			0.95
Frt			1.00	1.00			1.00
Flt Protected			0.95	1.00			1.00
Satd. Flow (prot)			1805	3471			3471
Flt Permitted			0.95	1.00			1.00
Satd. Flow (perm)			1805	3471			3471
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	6	882	0	0	1088
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	6	882	0	0	1088
Heavy Vehicles (%)	0%	0%	0%	4%	0%	0%	4%
Turn Type	Prot	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4		5	2		1	6
Permitted Phases		4			2		
Actuated Green, G (s)			1.3	90.0			78.2
Effective Green, g (s)			1.3	90.0			78.2
Actuated g/C Ratio			0.01	1.00			0.87
Clearance Time (s)			4.5	6.0			6.0
Vehicle Extension (s)			3.0	5.0			5.0
Lane Grp Cap (vph)			26	3471			3015
v/s Ratio Prot			0.00	c0.25			c0.31
v/s Ratio Perm							
v/c Ratio			0.23	0.25			0.36
Uniform Delay, d1			43.9	0.0			1.1
Progression Factor			1.00	1.00			0.05
Incremental Delay, d2			4.5	0.2			0.3
Delay (s)			48.4	0.2			0.4
Level of Service			D	A			A
Approach Delay (s)	0.0			0.5			0.4
Approach LOS	A			A			A

Intersection Summary			
HCM 2000 Control Delay	0.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	33.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	223	15	451	14	15	4	547	1304	6	4	1286	51
Future Volume (vph)	223	15	451	14	15	4	547	1304	6	4	1286	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.5	6.0	6.0	6.5	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1696	1583	1715	1795	1615	3433	3539	1615	1805	3539	1583
Flt Permitted	0.95	0.96	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1696	1583	1715	1795	1615	3433	3539	1615	1805	3539	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	232	16	470	15	16	4	570	1358	6	4	1340	53
RTOR Reduction (vph)	0	0	410	0	0	4	0	0	3	0	0	34
Lane Group Flow (vph)	123	125	60	13	18	0	570	1358	3	4	1340	19
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	2%	2%	0%	0%	2%	2%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases			3			4			2			6
Actuated Green, G (s)	10.8	10.8	10.8	4.4	4.4	4.4	17.7	49.0	49.0	1.3	32.6	32.6
Effective Green, g (s)	10.8	10.8	10.8	4.4	4.4	4.4	17.7	49.0	49.0	1.3	32.6	32.6
Actuated g/C Ratio	0.12	0.12	0.12	0.05	0.05	0.05	0.20	0.54	0.54	0.01	0.36	0.36
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.5	6.0	6.0	6.5	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	201	203	189	83	87	78	675	1926	879	26	1281	573
v/s Ratio Prot	0.07	c0.07		0.01	c0.01		c0.17	0.38		0.00	c0.38	
v/s Ratio Perm			0.04			0.00			0.00			0.01
v/c Ratio	0.61	0.62	0.32	0.16	0.21	0.00	0.84	0.71	0.00	0.15	1.05	0.03
Uniform Delay, d1	37.6	37.6	36.2	41.0	41.1	40.7	34.8	15.2	9.4	43.8	28.7	18.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.4	5.5	1.0	0.9	1.2	0.0	7.7	1.7	0.0	2.7	38.1	0.1
Delay (s)	43.0	43.1	37.2	41.9	42.3	40.7	42.2	16.9	9.4	46.6	66.8	18.6
Level of Service	D	D	D	D	D	D	D	B	A	D	E	B
Approach Delay (s)		39.2			42.0			24.3			64.9	
Approach LOS		D			D			C			E	

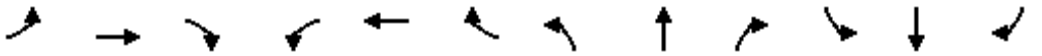
Intersection Summary			
HCM 2000 Control Delay	41.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	24.5
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis



Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	10	5	13	1852	13	2	1749
Future Volume (vph)	10	5	13	1852	13	2	1749
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.5	6.0	6.0	6.5	6.0
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3502	1615	1805	3539	1615	1805	3539
Flt Permitted	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3502	1615	1805	3539	1615	1805	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	10	5	14	1929	14	2	1822
RTOR Reduction (vph)	0	5	0	0	4	0	0
Lane Group Flow (vph)	10	0	14	1929	10	2	1822
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	2%
Turn Type	Prot	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4		5	2		1	6
Permitted Phases		4			2		
Actuated Green, G (s)	2.8	2.8	1.5	67.4	67.4	1.3	69.2
Effective Green, g (s)	2.8	2.8	1.5	67.4	67.4	1.3	69.2
Actuated g/C Ratio	0.03	0.03	0.02	0.75	0.75	0.01	0.77
Clearance Time (s)	6.0	6.0	4.5	6.0	6.0	6.5	6.0
Vehicle Extension (s)	3.0	3.0	3.0	5.0	5.0	3.5	5.0
Lane Grp Cap (vph)	108	50	30	2650	1209	26	2721
v/s Ratio Prot	c0.00		c0.01	c0.55		0.00	0.51
v/s Ratio Perm		0.00			0.01		
v/c Ratio	0.09	0.00	0.47	0.73	0.01	0.08	0.67
Uniform Delay, d1	42.4	42.2	43.9	6.2	2.9	43.8	5.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.54	1.22
Incremental Delay, d2	0.4	0.0	11.0	1.8	0.0	0.8	0.7
Delay (s)	42.7	42.3	54.9	8.0	2.9	68.4	6.7
Level of Service	D	D	D	A	A	E	A
Approach Delay (s)	42.6			8.3			6.8
Approach LOS	D			A			A

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



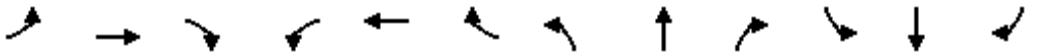
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	223	15	451	14	15	4	547	1304	6	4	1286	51
Future Volume (vph)	223	15	451	14	15	4	547	1304	6	4	1286	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1696	1583	1715	1795	1615	3433	3539	1615	1805	3539	1583
Flt Permitted	0.95	0.96	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1696	1583	1715	1795	1615	3433	3539	1615	1805	3539	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	232	16	470	15	16	4	570	1358	6	4	1340	53
RTOR Reduction (vph)	0	0	114	0	0	4	0	0	2	0	0	32
Lane Group Flow (vph)	123	125	356	13	18	0	570	1358	4	4	1340	21
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	2%	2%	0%	0%	2%	2%
Turn Type	Split	NA	pm+ov	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3	5	4	4		5	2		1	6	
Permitted Phases			3			4			2			6
Actuated Green, G (s)	9.7	9.7	32.4	4.2	4.2	4.2	22.7	60.6	60.6	1.0	38.9	38.9
Effective Green, g (s)	9.7	9.7	32.4	4.2	4.2	4.2	22.7	60.6	60.6	1.0	38.9	38.9
Actuated g/C Ratio	0.10	0.10	0.32	0.04	0.04	0.04	0.23	0.61	0.61	0.01	0.39	0.39
Clearance Time (s)	6.0	6.0	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	163	164	512	72	75	67	779	2144	978	18	1376	615
v/s Ratio Prot	0.07	c0.07	0.16	0.01	c0.01		c0.17	0.38		0.00	c0.38	
v/s Ratio Perm			0.07			0.00			0.00			0.01
v/c Ratio	0.75	0.76	0.69	0.18	0.24	0.00	0.73	0.63	0.00	0.22	0.97	0.03
Uniform Delay, d1	44.0	44.0	29.5	46.2	46.4	45.9	35.8	12.6	7.8	49.1	30.0	18.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.61	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.8	18.7	4.1	1.2	1.7	0.0	2.9	1.2	0.0	6.2	18.8	0.1
Delay (s)	61.8	62.7	33.6	47.4	48.0	45.9	35.3	8.8	7.8	55.3	48.8	19.0
Level of Service	E	E	C	D	D	D	D	A	A	E	D	B
Approach Delay (s)		43.5			47.6			16.6			47.7	
Approach LOS		D			D			B			D	

Intersection Summary			
HCM 2000 Control Delay	32.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	24.5
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	10	5	13	1852	13	2	1749
Future Volume (vph)	10	5	13	1852	13	2	1749
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.5	6.0	6.0	6.5	6.0
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3502	1615	1805	3539	1615	1805	3539
Flt Permitted	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3502	1615	1805	3539	1615	1805	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	10	5	14	1929	14	2	1822
RTOR Reduction (vph)	0	5	0	0	3	0	0
Lane Group Flow (vph)	10	0	14	1929	11	2	1822
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	2%
Turn Type	Prot	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4		5	2		1	6
Permitted Phases		4			2		
Actuated Green, G (s)	2.8	2.8	2.6	77.7	77.7	1.0	78.1
Effective Green, g (s)	2.8	2.8	2.6	77.7	77.7	1.0	78.1
Actuated g/C Ratio	0.03	0.03	0.03	0.78	0.78	0.01	0.78
Clearance Time (s)	6.0	6.0	4.5	6.0	6.0	6.5	6.0
Vehicle Extension (s)	3.0	3.0	3.0	5.0	5.0	3.5	5.0
Lane Grp Cap (vph)	98	45	46	2749	1254	18	2763
v/s Ratio Prot	c0.00		c0.01	c0.55		0.00	0.51
v/s Ratio Perm		0.00			0.01		
v/c Ratio	0.10	0.00	0.30	0.70	0.01	0.11	0.66
Uniform Delay, d1	47.4	47.2	47.8	5.5	2.5	49.1	4.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	0.92	0.60
Incremental Delay, d2	0.5	0.0	3.7	1.5	0.0	1.8	0.7
Delay (s)	47.8	47.3	51.5	7.0	2.5	47.1	3.7
Level of Service	D	D	D	A	A	D	A
Approach Delay (s)	47.6			7.3			3.7
Approach LOS	D			A			A

Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	2	78	0	4	1	175	666	2	2	967	26
Future Volume (vph)	38	2	78	0	4	1	175	666	2	2	967	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0	6.5	6.0	6.0	6.5	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00		0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1693	1583		1805	1615	3433	3471	1615	1805	3471	1583
Flt Permitted	0.95	0.96	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1693	1583		1805	1615	3433	3471	1615	1805	3471	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	2	85	0	4	1	190	724	2	2	1051	28
RTOR Reduction (vph)	0	0	79	0	0	1	0	0	1	0	0	15
Lane Group Flow (vph)	21	22	6	0	4	0	190	724	1	2	1051	13
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	2%	4%	0%	0%	4%	2%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases			3			4			2			6
Actuated Green, G (s)	6.0	6.0	6.0		1.4	1.4	15.3	56.9	56.9	1.2	42.8	42.8
Effective Green, g (s)	6.0	6.0	6.0		1.4	1.4	15.3	56.9	56.9	1.2	42.8	42.8
Actuated g/C Ratio	0.07	0.07	0.07		0.02	0.02	0.17	0.63	0.63	0.01	0.48	0.48
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0	6.5	6.0	6.0	6.5	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	112	112	105		28	25	583	2194	1021	24	1650	752
v/s Ratio Prot	0.01	c0.01			c0.00		0.06	c0.21		0.00	c0.30	
v/s Ratio Perm			0.00			0.00			0.00			0.01
v/c Ratio	0.19	0.20	0.05		0.14	0.00	0.33	0.33	0.00	0.08	0.64	0.02
Uniform Delay, d1	39.7	39.7	39.3		43.7	43.6	32.8	7.7	6.1	43.9	17.8	12.5
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	0.9	0.2		2.3	0.0	0.3	0.4	0.0	1.5	1.9	0.0
Delay (s)	40.5	40.6	39.6		46.1	43.6	33.1	8.1	6.1	45.4	19.6	12.5
Level of Service	D	D	D		D	D	C	A	A	D	B	B
Approach Delay (s)		39.9			45.6			13.3			19.5	
Approach LOS		D			D			B			B	

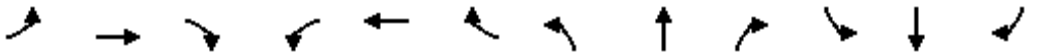
Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	24.5
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis



Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	0	0	6	843	0	0	1045
Future Volume (vph)	0	0	6	843	0	0	1045
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5	6.0			6.0
Lane Util. Factor			1.00	0.95			0.95
Frt			1.00	1.00			1.00
Flt Protected			0.95	1.00			1.00
Satd. Flow (prot)			1805	3471			3471
Flt Permitted			0.95	1.00			1.00
Satd. Flow (perm)			1805	3471			3471
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	6	878	0	0	1089
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	6	878	0	0	1089
Heavy Vehicles (%)	0%	0%	0%	4%	0%	0%	4%
Turn Type	Prot	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4		5	2		1	6
Permitted Phases		4			2		
Actuated Green, G (s)			1.3	90.0			78.2
Effective Green, g (s)			1.3	90.0			78.2
Actuated g/C Ratio			0.01	1.00			0.87
Clearance Time (s)			4.5	6.0			6.0
Vehicle Extension (s)			3.0	5.0			5.0
Lane Grp Cap (vph)			26	3471			3015
v/s Ratio Prot			0.00	c0.25			c0.31
v/s Ratio Perm							
v/c Ratio			0.23	0.25			0.36
Uniform Delay, d1			43.9	0.0			1.1
Progression Factor			1.00	1.00			0.05
Incremental Delay, d2			4.5	0.2			0.3
Delay (s)			48.4	0.2			0.4
Level of Service			D	A			A
Approach Delay (s)	0.0			0.5			0.4
Approach LOS	A			A			A

Intersection Summary			
HCM 2000 Control Delay	0.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	33.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	223	15	451	14	15	4	547	1305	6	4	1281	51
Future Volume (vph)	223	15	451	14	15	4	547	1305	6	4	1281	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.5	6.0	6.0	6.5	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1696	1583	1715	1795	1615	3433	3539	1615	1805	3539	1583
Flt Permitted	0.95	0.96	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1696	1583	1715	1795	1615	3433	3539	1615	1805	3539	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	232	16	470	15	16	4	570	1359	6	4	1334	53
RTOR Reduction (vph)	0	0	410	0	0	4	0	0	3	0	0	34
Lane Group Flow (vph)	123	125	60	13	18	0	570	1359	3	4	1334	19
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	2%	2%	0%	0%	2%	2%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases			3			4			2			6
Actuated Green, G (s)	10.8	10.8	10.8	4.4	4.4	4.4	17.7	49.0	49.0	1.3	32.6	32.6
Effective Green, g (s)	10.8	10.8	10.8	4.4	4.4	4.4	17.7	49.0	49.0	1.3	32.6	32.6
Actuated g/C Ratio	0.12	0.12	0.12	0.05	0.05	0.05	0.20	0.54	0.54	0.01	0.36	0.36
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.5	6.0	6.0	6.5	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	201	203	189	83	87	78	675	1926	879	26	1281	573
v/s Ratio Prot	0.07	c0.07		0.01	c0.01		c0.17	0.38		0.00	c0.38	
v/s Ratio Perm			0.04			0.00			0.00			0.01
v/c Ratio	0.61	0.62	0.32	0.16	0.21	0.00	0.84	0.71	0.00	0.15	1.04	0.03
Uniform Delay, d1	37.6	37.6	36.2	41.0	41.1	40.7	34.8	15.2	9.4	43.8	28.7	18.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.4	5.5	1.0	0.9	1.2	0.0	7.7	1.7	0.0	2.7	36.6	0.1
Delay (s)	43.0	43.1	37.2	41.9	42.3	40.7	42.1	16.9	9.4	46.6	65.3	18.6
Level of Service	D	D	D	D	D	D	D	B	A	D	E	B
Approach Delay (s)		39.2			42.0			24.3			63.5	
Approach LOS		D			D			C			E	

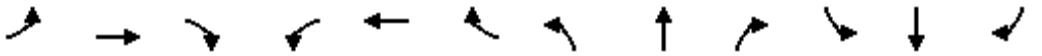
Intersection Summary			
HCM 2000 Control Delay	40.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	24.5
Intersection Capacity Utilization	84.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis



Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	10	5	13	1853	13	2	1744
Future Volume (vph)	10	5	13	1853	13	2	1744
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.5	6.0	6.0	6.5	6.0
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3502	1615	1805	3539	1615	1805	3539
Flt Permitted	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3502	1615	1805	3539	1615	1805	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	10	5	14	1930	14	2	1817
RTOR Reduction (vph)	0	5	0	0	4	0	0
Lane Group Flow (vph)	10	0	14	1930	10	2	1817
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	2%
Turn Type	Prot	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4		5	2		1	6
Permitted Phases		4			2		
Actuated Green, G (s)	2.8	2.8	1.5	67.4	67.4	1.3	69.2
Effective Green, g (s)	2.8	2.8	1.5	67.4	67.4	1.3	69.2
Actuated g/C Ratio	0.03	0.03	0.02	0.75	0.75	0.01	0.77
Clearance Time (s)	6.0	6.0	4.5	6.0	6.0	6.5	6.0
Vehicle Extension (s)	3.0	3.0	3.0	5.0	5.0	3.5	5.0
Lane Grp Cap (vph)	108	50	30	2650	1209	26	2721
v/s Ratio Prot	c0.00		c0.01	c0.55		0.00	0.51
v/s Ratio Perm		0.00			0.01		
v/c Ratio	0.09	0.00	0.47	0.73	0.01	0.08	0.67
Uniform Delay, d1	42.4	42.2	43.9	6.2	2.9	43.8	4.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.54	1.21
Incremental Delay, d2	0.4	0.0	11.0	1.8	0.0	0.8	0.7
Delay (s)	42.7	42.3	54.9	8.0	2.9	68.4	6.7
Level of Service	D	D	D	A	A	E	A
Approach Delay (s)	42.6			8.3			6.8
Approach LOS	D			A			A

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	2	64	0	3	1	136	654	2	2	935	37
Future Volume (vph)	27	2	64	0	3	1	136	654	2	2	935	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0	6.5	6.0	6.0	6.5	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00		0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1695	1583		1805	1615	3433	3471	1615	1805	3471	1583
Flt Permitted	0.95	0.96	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1695	1583		1805	1615	3433	3471	1615	1805	3471	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	29	2	70	0	3	1	148	711	2	2	1016	40
RTOR Reduction (vph)	0	0	65	0	0	1	0	0	1	0	0	20
Lane Group Flow (vph)	15	16	5	0	3	0	148	711	1	2	1016	20
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	2%	4%	0%	0%	4%	2%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases			3			4			2			6
Actuated Green, G (s)	5.8	5.8	5.8		1.4	1.4	14.4	57.1	57.1	1.2	43.9	43.9
Effective Green, g (s)	5.8	5.8	5.8		1.4	1.4	14.4	57.1	57.1	1.2	43.9	43.9
Actuated g/C Ratio	0.06	0.06	0.06		0.02	0.02	0.16	0.63	0.63	0.01	0.49	0.49
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0	6.5	6.0	6.0	6.5	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	108	109	102		28	25	549	2202	1024	24	1693	772
v/s Ratio Prot	0.01	c0.01			c0.00		0.04	c0.20		0.00	c0.29	
v/s Ratio Perm			0.00			0.00			0.00			0.01
v/c Ratio	0.14	0.15	0.04		0.11	0.00	0.27	0.32	0.00	0.08	0.60	0.03
Uniform Delay, d1	39.7	39.8	39.5		43.7	43.6	33.2	7.6	6.0	43.9	16.7	12.0
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.6	0.2		1.7	0.0	0.3	0.4	0.0	1.5	1.6	0.1
Delay (s)	40.3	40.4	39.7		45.4	43.6	33.4	7.9	6.0	45.4	18.3	12.0
Level of Service	D	D	D		D	D	C	A	A	D	B	B
Approach Delay (s)		39.9			44.9			12.3			18.1	
Approach LOS		D			D			B			B	

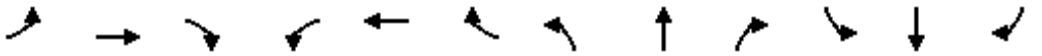
Intersection Summary			
HCM 2000 Control Delay	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	24.5
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis



Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	0	0	6	792	0	0	999
Future Volume (vph)	0	0	6	792	0	0	999
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5	6.0			6.0
Lane Util. Factor			1.00	0.95			0.95
Frt			1.00	1.00			1.00
Flt Protected			0.95	1.00			1.00
Satd. Flow (prot)			1805	3471			3471
Flt Permitted			0.95	1.00			1.00
Satd. Flow (perm)			1805	3471			3471
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	6	825	0	0	1041
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	6	825	0	0	1041
Heavy Vehicles (%)	0%	0%	0%	4%	0%	0%	4%
Turn Type	Prot	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4		5	2		1	6
Permitted Phases		4			2		
Actuated Green, G (s)			1.3	90.0			78.2
Effective Green, g (s)			1.3	90.0			78.2
Actuated g/C Ratio			0.01	1.00			0.87
Clearance Time (s)			4.5	6.0			6.0
Vehicle Extension (s)			3.0	5.0			5.0
Lane Grp Cap (vph)			26	3471			3015
v/s Ratio Prot			0.00	c0.24			c0.30
v/s Ratio Perm							
v/c Ratio			0.23	0.24			0.35
Uniform Delay, d1			43.9	0.0			1.1
Progression Factor			1.00	1.00			0.04
Incremental Delay, d2			4.5	0.2			0.3
Delay (s)			48.4	0.2			0.3
Level of Service			D	A			A
Approach Delay (s)	0.0			0.5			0.3
Approach LOS	A			A			A

Intersection Summary			
HCM 2000 Control Delay	0.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	32.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	114	8	263	14	7	4	269	1280	6	4	1160	52
Future Volume (vph)	114	8	263	14	7	4	269	1280	6	4	1160	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.5	6.0	6.0	6.5	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1695	1583	1715	1773	1615	3433	3539	1615	1805	3539	1583
Flt Permitted	0.95	0.96	1.00	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1695	1583	1715	1773	1615	3433	3539	1615	1805	3539	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	119	8	274	15	7	4	280	1333	6	4	1208	54
RTOR Reduction (vph)	0	0	246	0	0	4	0	0	3	0	0	32
Lane Group Flow (vph)	63	64	28	11	11	0	280	1333	3	4	1208	22
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	2%	2%	0%	0%	2%	2%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases			3			4			2			6
Actuated Green, G (s)	9.2	9.2	9.2	2.9	2.9	2.9	16.7	52.1	52.1	1.3	36.7	36.7
Effective Green, g (s)	9.2	9.2	9.2	2.9	2.9	2.9	16.7	52.1	52.1	1.3	36.7	36.7
Actuated g/C Ratio	0.10	0.10	0.10	0.03	0.03	0.03	0.19	0.58	0.58	0.01	0.41	0.41
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.5	6.0	6.0	6.5	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	171	173	161	55	57	52	637	2048	934	26	1443	645
v/s Ratio Prot	0.04	c0.04		c0.01	0.01		0.08	c0.38		0.00	c0.34	
v/s Ratio Perm			0.02			0.00			0.00			0.01
v/c Ratio	0.37	0.37	0.17	0.20	0.19	0.00	0.44	0.65	0.00	0.15	0.84	0.03
Uniform Delay, d1	37.7	37.7	36.9	42.4	42.4	42.2	32.5	12.8	8.0	43.8	24.0	16.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.98	0.94	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	1.3	0.5	1.8	1.7	0.0	0.4	1.4	0.0	2.7	5.9	0.1
Delay (s)	39.0	39.0	37.4	44.2	44.1	42.2	32.1	13.4	8.0	46.6	29.9	16.1
Level of Service	D	D	D	D	D	D	C	B	A	D	C	B
Approach Delay (s)		37.9			43.8			16.6			29.4	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	24.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	24.5
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis



Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	10	5	13	1550	13	2	1435
Future Volume (vph)	10	5	13	1550	13	2	1435
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.5	6.0	6.0	6.5	6.0
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3502	1615	1805	3539	1615	1805	3539
Flt Permitted	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3502	1615	1805	3539	1615	1805	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	10	5	14	1615	14	2	1495
RTOR Reduction (vph)	0	5	0	0	4	0	0
Lane Group Flow (vph)	10	0	14	1615	10	2	1495
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	2%
Turn Type	Prot	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4		5	2		1	6
Permitted Phases		4			2		
Actuated Green, G (s)	2.8	2.8	1.5	67.4	67.4	1.3	69.2
Effective Green, g (s)	2.8	2.8	1.5	67.4	67.4	1.3	69.2
Actuated g/C Ratio	0.03	0.03	0.02	0.75	0.75	0.01	0.77
Clearance Time (s)	6.0	6.0	4.5	6.0	6.0	6.5	6.0
Vehicle Extension (s)	3.0	3.0	3.0	5.0	5.0	3.5	5.0
Lane Grp Cap (vph)	108	50	30	2650	1209	26	2721
v/s Ratio Prot	c0.00		c0.01	c0.46		0.00	0.42
v/s Ratio Perm		0.00			0.01		
v/c Ratio	0.09	0.00	0.47	0.61	0.01	0.08	0.55
Uniform Delay, d1	42.4	42.2	43.9	5.2	2.9	43.8	4.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.66	0.94
Incremental Delay, d2	0.4	0.0	11.0	1.1	0.0	1.1	0.6
Delay (s)	42.7	42.3	54.9	6.3	2.9	73.9	4.5
Level of Service	D	D	D	A	A	E	A
Approach Delay (s)	42.6			6.7			4.6
Approach LOS	D			A			A

Intersection Summary			
HCM 2000 Control Delay	5.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Queues



Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	21	22	85	4	1	190	728	2	2	1050	28
v/c Ratio	0.15	0.16	0.23	0.03	0.00	0.49	0.27	0.00	0.02	0.50	0.03
Control Delay	40.8	40.9	1.4	39.0	0.0	41.5	6.0	0.0	39.5	13.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.8	40.9	1.4	39.0	0.0	41.5	6.0	0.0	39.5	13.7	0.0
Queue Length 50th (ft)	11	12	0	2	0	53	43	0	1	164	0
Queue Length 95th (ft)	35	36	0	13	0	84	180	m0	8	331	0
Internal Link Dist (ft)		655		605			625			369	
Turn Bay Length (ft)	200		200		225	270		300	300		275
Base Capacity (vph)	224	225	442	180	401	476	2672	1286	190	2081	1024
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.10	0.19	0.02	0.00	0.40	0.27	0.00	0.01	0.50	0.03

Intersection Summary

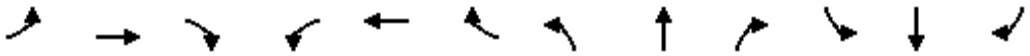
m Volume for 95th percentile queue is metered by upstream signal.

Queues

Lane Group	NBU	NBT	SBT
Lane Group Flow (vph)	6	882	1088
v/c Ratio	0.05	0.25	0.33
Control Delay	40.0	0.2	0.3
Queue Delay	0.0	0.0	0.0
Total Delay	40.0	0.2	0.3
Queue Length 50th (ft)	3	0	0
Queue Length 95th (ft)	15	0	4
Internal Link Dist (ft)		618	625
Turn Bay Length (ft)	290		
Base Capacity (vph)	250	3471	3338
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.02	0.25	0.33

Intersection Summary

Queues



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	123	125	470	13	18	4	570	1358	6	4	1340	53
v/c Ratio	0.61	0.61	0.78	0.09	0.13	0.01	1.20	0.61	0.01	0.03	0.85	0.07
Control Delay	50.6	50.7	14.4	39.8	40.4	0.0	139.8	14.4	0.0	40.0	31.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.6	50.7	14.4	39.8	40.4	0.0	139.8	14.4	0.0	40.0	31.2	0.2
Queue Length 50th (ft)	69	71	2	7	10	0	~204	250	0	2	~395	0
Queue Length 95th (ft)	129	130	#112	26	32	0	#304	#400	m0	13	#566	0
Internal Link Dist (ft)		655			605			625			369	
Turn Bay Length (ft)	200		200	225		225	270		300	300		275
Base Capacity (vph)	224	226	614	171	179	401	476	2225	1085	190	1579	810
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.55	0.77	0.08	0.10	0.01	1.20	0.61	0.01	0.02	0.85	0.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues



Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	10	5	14	1929	14	2	1822
v/c Ratio	0.04	0.04	0.11	0.61	0.01	0.02	0.58
Control Delay	38.8	24.6	40.7	5.8	2.3	60.5	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	24.6	40.7	5.8	2.3	60.5	5.6
Queue Length 50th (ft)	2	0	8	0	0	2	57
Queue Length 95th (ft)	10	11	26	521	6	m0	623
Internal Link Dist (ft)	501			618			625
Turn Bay Length (ft)	160		290		320	300	
Base Capacity (vph)	739	344	250	3137	1433	210	3145
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.01	0.06	0.61	0.01	0.01	0.58

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues



Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	21	22	85	4	1	190	724	2	2	1051	28
v/c Ratio	0.15	0.16	0.23	0.03	0.00	0.49	0.27	0.00	0.02	0.51	0.03
Control Delay	40.8	40.9	1.4	39.0	0.0	41.5	6.0	0.0	39.5	13.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.8	40.9	1.4	39.0	0.0	41.5	6.0	0.0	39.5	13.7	0.0
Queue Length 50th (ft)	11	12	0	2	0	53	43	0	1	164	0
Queue Length 95th (ft)	35	36	0	13	0	84	179	m0	8	332	0
Internal Link Dist (ft)		655		605			625			369	
Turn Bay Length (ft)	200		200		225	270		300	300		275
Base Capacity (vph)	224	225	442	180	401	476	2672	1286	190	2081	1024
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.10	0.19	0.02	0.00	0.40	0.27	0.00	0.01	0.51	0.03

Intersection Summary

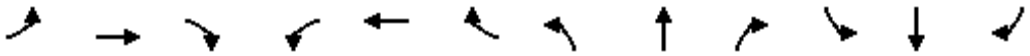
m Volume for 95th percentile queue is metered by upstream signal.

Queues

Lane Group	NBU	NBT	SBT
Lane Group Flow (vph)	6	878	1089
v/c Ratio	0.05	0.25	0.33
Control Delay	40.0	0.2	0.3
Queue Delay	0.0	0.0	0.0
Total Delay	40.0	0.2	0.3
Queue Length 50th (ft)	3	0	0
Queue Length 95th (ft)	15	0	4
Internal Link Dist (ft)		618	625
Turn Bay Length (ft)	290		
Base Capacity (vph)	250	3471	3338
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.02	0.25	0.33

Intersection Summary

Queues



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	123	125	470	13	18	4	570	1359	6	4	1334	53
v/c Ratio	0.61	0.61	0.78	0.09	0.13	0.01	1.20	0.61	0.01	0.03	0.84	0.07
Control Delay	50.6	50.7	14.4	39.8	40.4	0.0	139.8	14.4	0.0	40.0	31.0	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.6	50.7	14.4	39.8	40.4	0.0	139.8	14.4	0.0	40.0	31.0	0.2
Queue Length 50th (ft)	69	71	2	7	10	0	~204	250	0	2	391	0
Queue Length 95th (ft)	129	130	#112	26	32	0	#304	#403	m0	13	#562	0
Internal Link Dist (ft)		655			605			625			369	
Turn Bay Length (ft)	200		200	225		225	270		300	300		275
Base Capacity (vph)	224	226	614	171	179	401	476	2225	1085	190	1579	810
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.55	0.77	0.08	0.10	0.01	1.20	0.61	0.01	0.02	0.84	0.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	10	5	14	1930	14	2	1817
v/c Ratio	0.04	0.04	0.11	0.62	0.01	0.02	0.58
Control Delay	38.8	24.6	40.7	5.8	2.3	60.5	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	24.6	40.7	5.8	2.3	60.5	5.6
Queue Length 50th (ft)	2	0	8	0	0	2	56
Queue Length 95th (ft)	10	11	26	521	6	m0	622
Internal Link Dist (ft)	501			618			625
Turn Bay Length (ft)	160		290		320	300	
Base Capacity (vph)	739	344	250	3137	1433	210	3145
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.01	0.06	0.62	0.01	0.01	0.58

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues



Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	15	16	70	3	1	148	711	2	2	1016	40
v/c Ratio	0.11	0.12	0.19	0.02	0.00	0.42	0.27	0.00	0.02	0.48	0.04
Control Delay	40.4	40.5	1.1	38.7	0.0	41.2	5.8	0.0	39.5	12.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.4	40.5	1.1	38.7	0.0	41.2	5.8	0.0	39.5	12.6	0.1
Queue Length 50th (ft)	8	9	0	2	0	41	42	0	1	151	0
Queue Length 95th (ft)	28	29	0	10	0	69	172	m0	8	307	0
Internal Link Dist (ft)		655		605			625			369	
Turn Bay Length (ft)	200		200		225	270		300	300		275
Base Capacity (vph)	224	226	442	180	401	476	2680	1289	190	2125	1042
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.07	0.16	0.02	0.00	0.31	0.27	0.00	0.01	0.48	0.04

Intersection Summary

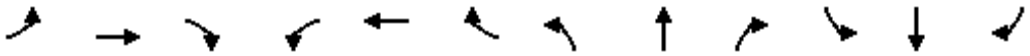
m Volume for 95th percentile queue is metered by upstream signal.

Queues

Lane Group	NBU	NBT	SBT
Lane Group Flow (vph)	6	825	1041
v/c Ratio	0.05	0.24	0.31
Control Delay	40.0	0.2	0.2
Queue Delay	0.0	0.0	0.0
Total Delay	40.0	0.2	0.2
Queue Length 50th (ft)	3	0	0
Queue Length 95th (ft)	15	0	3
Internal Link Dist (ft)		618	625
Turn Bay Length (ft)	290		
Base Capacity (vph)	250	3471	3338
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.02	0.24	0.31

Intersection Summary

Queues



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	63	64	274	11	11	4	280	1333	6	4	1208	54
v/c Ratio	0.37	0.37	0.67	0.08	0.08	0.01	0.64	0.56	0.01	0.03	0.68	0.06
Control Delay	43.0	43.0	13.7	39.9	39.8	0.0	42.4	11.1	0.0	40.0	21.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	43.0	13.7	39.9	39.8	0.0	42.4	11.1	0.0	40.0	21.8	0.1
Queue Length 50th (ft)	35	36	0	6	6	0	77	115	0	2	225	0
Queue Length 95th (ft)	74	75	70	23	23	0	105	258	m0	13	#473	0
Internal Link Dist (ft)		655			605			625			369	
Turn Bay Length (ft)	200		200	225		225	270		300	300		275
Base Capacity (vph)	224	226	448	171	177	401	476	2394	1153	190	1788	892
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.28	0.61	0.06	0.06	0.01	0.59	0.56	0.01	0.02	0.68	0.06

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Queues



Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	10	5	14	1615	14	2	1495
v/c Ratio	0.04	0.04	0.11	0.51	0.01	0.02	0.48
Control Delay	38.8	24.6	40.7	4.5	2.3	65.0	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	24.6	40.7	4.5	2.3	65.0	3.6
Queue Length 50th (ft)	2	0	8	0	0	1	16
Queue Length 95th (ft)	10	11	26	361	6	m2	517
Internal Link Dist (ft)	501			618			625
Turn Bay Length (ft)	160		290		320	300	
Base Capacity (vph)	739	344	250	3137	1433	210	3145
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.01	0.06	0.51	0.01	0.01	0.48

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱							↰	↑↑	
Traffic Vol, veh/h	0	44	130	0	0	0	0	0	0	0	884	0
Future Vol, veh/h	0	44	130	0	0	0	0	0	0	0	884	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	16983	-	-	16983	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	1	0	0	0	0	0	0	0	4	0
Mvmt Flow	0	46	137	0	0	0	0	0	0	0	931	0

Major/Minor	Minor2						Major2		
Conflicting Flow All	-	931	466				0	0	0
Stage 1	-	931	-				-	-	-
Stage 2	-	0	-				-	-	-
Critical Hdwy	-	6.5	6.92				4.1	-	-
Critical Hdwy Stg 1	-	5.5	-				-	-	-
Critical Hdwy Stg 2	-	-	-				-	-	-
Follow-up Hdwy	-	4	3.31				2.2	-	-
Pot Cap-1 Maneuver	0	269	546				-	-	0
Stage 1	0	348	-				-	-	0
Stage 2	0	-	-				-	-	0
Platoon blocked, %								-	
Mov Cap-1 Maneuver	-	0	546				-	-	-
Mov Cap-2 Maneuver	-	0	-				-	-	-
Stage 1	-	0	-				-	-	-
Stage 2	-	0	-				-	-	-

Approach	EB	SB
HCM Control Delay, s		0
HCM LOS	-	

Minor Lane/Major Mvmt	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	546	-	-
HCM Lane V/C Ratio	-	0.251	-	-
HCM Control Delay (s)	-	13.8	0	-
HCM Lane LOS	-	B	A	-
HCM 95th %tile Q(veh)	-	1	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	534	7	12	313	14	12	0	32	55	0	14
Future Vol, veh/h	6	534	7	12	313	14	12	0	32	55	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	150	-	250	-	-	-	-	-	250
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	4	13	8	9	0	8	0	3	0	0	0
Mvmt Flow	7	580	8	13	340	15	13	0	35	60	0	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	355	0	0	588	0	0	979	979	584	982	968	340
Stage 1	-	-	-	-	-	-	598	598	-	366	366	-
Stage 2	-	-	-	-	-	-	381	381	-	616	602	-
Critical Hdwy	4.1	-	-	4.18	-	-	7.18	6.5	6.23	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.18	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.18	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.272	-	-	3.572	4	3.327	3.5	4	3.3
Pot Cap-1 Maneuver	1215	-	-	958	-	-	224	252	510	230	256	707
Stage 1	-	-	-	-	-	-	479	494	-	657	626	-
Stage 2	-	-	-	-	-	-	629	617	-	481	492	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1215	-	-	958	-	-	216	247	510	211	251	707
Mov Cap-2 Maneuver	-	-	-	-	-	-	216	247	-	211	251	-
Stage 1	-	-	-	-	-	-	476	491	-	653	617	-
Stage 2	-	-	-	-	-	-	607	608	-	446	489	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	16.1	24.9
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	372	1215	-	-	958	-	-	211	707
HCM Lane V/C Ratio	0.129	0.005	-	-	0.014	-	-	0.283	0.022
HCM Control Delay (s)	16.1	8	-	-	8.8	-	-	28.7	10.2
HCM Lane LOS	C	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	1.1	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱							↰	↑↑	
Traffic Vol, veh/h	0	65	147	0	0	0	0	0	0	2	1199	0
Future Vol, veh/h	0	65	147	0	0	0	0	0	0	2	1199	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	16983	-	-	16983	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	5	0	0	0	0	0	0	0	2	0
Mvmt Flow	0	68	155	0	0	0	0	0	0	2	1262	0

Major/Minor	Minor2								Major2		
Conflicting Flow All	-	1266	631						0	0	0
Stage 1	-	1266	-						-	-	-
Stage 2	-	0	-						-	-	-
Critical Hdwy	-	6.5	7						4.1	-	-
Critical Hdwy Stg 1	-	5.5	-						-	-	-
Critical Hdwy Stg 2	-	-	-						-	-	-
Follow-up Hdwy	-	4	3.35						2.2	-	-
Pot Cap-1 Maneuver	0	171	417						-	-	0
Stage 1	0	242	-						-	-	0
Stage 2	0	-	-						-	-	0
Platoon blocked, %										-	
Mov Cap-1 Maneuver	-	0	417						-	-	-
Mov Cap-2 Maneuver	-	0	-						-	-	-
Stage 1	-	0	-						-	-	-
Stage 2	-	0	-						-	-	-

Approach	EB	SB
HCM Control Delay, s		
HCM LOS	-	

Minor Lane/Major Mvmt	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	417	-	-
HCM Lane V/C Ratio	-	0.371	-	-
HCM Control Delay (s)	-	18.6	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	1.7	-	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	500	15	28	559	81	7	0	25	67	0	21
Future Vol, veh/h	25	500	15	28	559	81	7	0	25	67	0	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	150	-	250	-	-	-	-	-	250
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	2	7	0	3	0	0	0	8	6	0	0
Mvmt Flow	27	532	16	30	595	86	7	0	27	71	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	681	0	0	548	0	0	1303	1335	540	1263	1257	595
Stage 1	-	-	-	-	-	-	594	594	-	655	655	-
Stage 2	-	-	-	-	-	-	709	741	-	608	602	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.28	7.16	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.16	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.16	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.372	3.554	4	3.3
Pot Cap-1 Maneuver	921	-	-	1032	-	-	139	155	530	144	173	508
Stage 1	-	-	-	-	-	-	495	496	-	448	466	-
Stage 2	-	-	-	-	-	-	428	426	-	476	492	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	921	-	-	1032	-	-	127	146	530	131	163	508
Mov Cap-2 Maneuver	-	-	-	-	-	-	127	146	-	131	163	-
Stage 1	-	-	-	-	-	-	481	482	-	435	452	-
Stage 2	-	-	-	-	-	-	397	414	-	439	478	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.4	17.9	49.6
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	313	921	-	-	1032	-	-	131	508
HCM Lane V/C Ratio	0.109	0.029	-	-	0.029	-	-	0.544	0.044
HCM Control Delay (s)	17.9	9	-	-	8.6	-	-	61.2	12.4
HCM Lane LOS	C	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0.1	-	-	2.6	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱							↰	↑↑	
Traffic Vol, veh/h	0	46	134	0	0	0	0	0	0	0	881	0
Future Vol, veh/h	0	46	134	0	0	0	0	0	0	0	881	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	1	0	0	0	0	0	0	0	4	0
Mvmt Flow	0	48	141	0	0	0	0	0	0	0	927	0

Major/Minor	Minor2								Major2		
Conflicting Flow All	-	927	464						0	0	0
Stage 1	-	927	-						-	-	-
Stage 2	-	0	-						-	-	-
Critical Hdwy	-	6.5	6.92						4.1	-	-
Critical Hdwy Stg 1	-	5.5	-						-	-	-
Critical Hdwy Stg 2	-	-	-						-	-	-
Follow-up Hdwy	-	4	3.31						2.2	-	-
Pot Cap-1 Maneuver	0	270	548						-	-	0
Stage 1	0	350	-						-	-	0
Stage 2	0	-	-						-	-	0
Platoon blocked, %										-	
Mov Cap-1 Maneuver	-	0	548						-	-	-
Mov Cap-2 Maneuver	-	0	-						-	-	-
Stage 1	-	0	-						-	-	-
Stage 2	-	0	-						-	-	-

Approach	EB	SB
HCM Control Delay, s		0
HCM LOS	-	

Minor Lane/Major Mvmt	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	548	-	-
HCM Lane V/C Ratio	-	0.257	-	-
HCM Control Delay (s)	-	13.8	0	-
HCM Lane LOS	-	B	A	-
HCM 95th %tile Q(veh)	-	1	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	506	7	12	303	14	12	0	32	56	0	14
Future Vol, veh/h	6	506	7	12	303	14	12	0	32	56	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	150	-	250	-	-	-	-	-	250
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	4	13	8	9	0	8	0	3	0	0	0
Mvmt Flow	7	550	8	13	329	15	13	0	35	61	0	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	344	0	0	558	0	0	938	938	554	941	927	329
Stage 1	-	-	-	-	-	-	568	568	-	355	355	-
Stage 2	-	-	-	-	-	-	370	370	-	586	572	-
Critical Hdwy	4.1	-	-	4.18	-	-	7.18	6.5	6.23	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.18	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.18	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.272	-	-	3.572	4	3.327	3.5	4	3.3
Pot Cap-1 Maneuver	1226	-	-	983	-	-	238	266	530	245	270	717
Stage 1	-	-	-	-	-	-	497	510	-	666	633	-
Stage 2	-	-	-	-	-	-	638	624	-	500	508	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1226	-	-	983	-	-	230	261	530	226	265	717
Mov Cap-2 Maneuver	-	-	-	-	-	-	230	261	-	226	265	-
Stage 1	-	-	-	-	-	-	494	507	-	662	625	-
Stage 2	-	-	-	-	-	-	616	616	-	465	505	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	15.5	23.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	391	1226	-	-	983	-	-	226	717
HCM Lane V/C Ratio	0.122	0.005	-	-	0.013	-	-	0.269	0.021
HCM Control Delay (s)	15.5	8	-	-	8.7	-	-	26.7	10.1
HCM Lane LOS	C	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	1.1	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱							↰	↑↑	
Traffic Vol, veh/h	0	66	150	0	0	0	0	0	0	2	1191	0
Future Vol, veh/h	0	66	150	0	0	0	0	0	0	2	1191	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	16983	-	-	16983	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	5	0	0	0	0	0	0	0	2	0
Mvmt Flow	0	69	158	0	0	0	0	0	0	2	1254	0

Major/Minor	Minor2								Major2		
Conflicting Flow All	-	1258	627						0	0	0
Stage 1	-	1258	-						-	-	-
Stage 2	-	0	-						-	-	-
Critical Hdwy	-	6.5	7						4.1	-	-
Critical Hdwy Stg 1	-	5.5	-						-	-	-
Critical Hdwy Stg 2	-	-	-						-	-	-
Follow-up Hdwy	-	4	3.35						2.2	-	-
Pot Cap-1 Maneuver	0	172	419						-	-	0
Stage 1	0	245	-						-	-	0
Stage 2	0	-	-						-	-	0
Platoon blocked, %										-	
Mov Cap-1 Maneuver	-	0	419						-	-	-
Mov Cap-2 Maneuver	-	0	-						-	-	-
Stage 1	-	0	-						-	-	-
Stage 2	-	0	-						-	-	-

Approach	EB	SB
HCM Control Delay, s		
HCM LOS	-	

Minor Lane/Major Mvmt	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	419	-	-
HCM Lane V/C Ratio	-	0.377	-	-
HCM Control Delay (s)	-	18.7	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	1.7	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	482	15	28	528	84	7	0	25	68	0	21
Future Vol, veh/h	26	482	15	28	528	84	7	0	25	68	0	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	150	-	250	-	-	-	-	-	250
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	2	7	0	3	0	0	0	8	6	0	0
Mvmt Flow	28	513	16	30	562	89	7	0	27	72	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	651	0	0	529	0	0	1255	1288	521	1213	1207	562
Stage 1	-	-	-	-	-	-	577	577	-	622	622	-
Stage 2	-	-	-	-	-	-	678	711	-	591	585	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.28	7.16	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.16	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.16	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.372	3.554	4	3.3
Pot Cap-1 Maneuver	945	-	-	1048	-	-	150	165	544	156	185	530
Stage 1	-	-	-	-	-	-	506	505	-	468	482	-
Stage 2	-	-	-	-	-	-	445	439	-	486	501	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	945	-	-	1048	-	-	137	155	544	142	174	530
Mov Cap-2 Maneuver	-	-	-	-	-	-	137	155	-	142	174	-
Stage 1	-	-	-	-	-	-	491	490	-	454	468	-
Stage 2	-	-	-	-	-	-	414	426	-	449	486	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.4	17.2	44.2
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	330	945	-	-	1048	-	-	142	530
HCM Lane V/C Ratio	0.103	0.029	-	-	0.028	-	-	0.509	0.042
HCM Control Delay (s)	17.2	8.9	-	-	8.5	-	-	54.1	12.1
HCM Lane LOS	C	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-	-	2.4	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱							↰	↑↑	
Traffic Vol, veh/h	0	39	116	0	0	0	0	0	0	0	865	0
Future Vol, veh/h	0	39	116	0	0	0	0	0	0	0	865	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	16983	-	-	16983	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	1	0	0	0	0	0	0	0	4	0
Mvmt Flow	0	41	122	0	0	0	0	0	0	0	911	0

Major/Minor	Minor2						Major2		
Conflicting Flow All	-	911	456				0	0	0
Stage 1	-	911	-				-	-	-
Stage 2	-	0	-				-	-	-
Critical Hdwy	-	6.5	6.92				4.1	-	-
Critical Hdwy Stg 1	-	5.5	-				-	-	-
Critical Hdwy Stg 2	-	-	-				-	-	-
Follow-up Hdwy	-	4	3.31				2.2	-	-
Pot Cap-1 Maneuver	0	276	554				-	-	0
Stage 1	0	356	-				-	-	0
Stage 2	0	-	-				-	-	0
Platoon blocked, %								-	
Mov Cap-1 Maneuver	-	0	554				-	-	-
Mov Cap-2 Maneuver	-	0	-				-	-	-
Stage 1	-	0	-				-	-	-
Stage 2	-	0	-				-	-	-

Approach	EB	SB
HCM Control Delay, s		0
HCM LOS	-	

Minor Lane/Major Mvmt	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	554	-	-
HCM Lane V/C Ratio	-	0.22	-	-
HCM Control Delay (s)	-	13.3	0	-
HCM Lane LOS	-	B	A	-
HCM 95th %tile Q(veh)	-	0.8	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	506	7	12	303	12	12	0	32	47	0	12
Future Vol, veh/h	5	506	7	12	303	12	12	0	32	47	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	150	-	250	-	-	-	-	-	250
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	4	13	8	9	0	8	0	3	0	0	0
Mvmt Flow	5	550	8	13	329	13	13	0	35	51	0	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	342	0	0	558	0	0	932	932	554	937	923	329
Stage 1	-	-	-	-	-	-	564	564	-	355	355	-
Stage 2	-	-	-	-	-	-	368	368	-	582	568	-
Critical Hdwy	4.1	-	-	4.18	-	-	7.18	6.5	6.23	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.18	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.18	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.272	-	-	3.572	4	3.327	3.5	4	3.3
Pot Cap-1 Maneuver	1228	-	-	983	-	-	241	269	530	247	272	717
Stage 1	-	-	-	-	-	-	500	512	-	666	633	-
Stage 2	-	-	-	-	-	-	640	625	-	502	510	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1228	-	-	983	-	-	234	264	530	228	267	717
Mov Cap-2 Maneuver	-	-	-	-	-	-	234	264	-	228	267	-
Stage 1	-	-	-	-	-	-	498	510	-	663	625	-
Stage 2	-	-	-	-	-	-	620	617	-	467	508	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	15.4	22.2
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	394	1228	-	-	983	-	-	228	717
HCM Lane V/C Ratio	0.121	0.004	-	-	0.013	-	-	0.224	0.018
HCM Control Delay (s)	15.4	7.9	-	-	8.7	-	-	25.3	10.1
HCM Lane LOS	C	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.8	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱							↰	↑↑	
Traffic Vol, veh/h	0	57	131	0	0	0	0	0	0	2	1086	0
Future Vol, veh/h	0	57	131	0	0	0	0	0	0	2	1086	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	5	0	0	0	0	0	0	0	2	0
Mvmt Flow	0	60	138	0	0	0	0	0	0	2	1143	0

Major/Minor	Minor2						Major2		
Conflicting Flow All	-	1147	572				0	0	0
Stage 1	-	1147	-				-	-	-
Stage 2	-	0	-				-	-	-
Critical Hdwy	-	6.5	7				4.1	-	-
Critical Hdwy Stg 1	-	5.5	-				-	-	-
Critical Hdwy Stg 2	-	-	-				-	-	-
Follow-up Hdwy	-	4	3.35				2.2	-	-
Pot Cap-1 Maneuver	0	201	456				-	-	0
Stage 1	0	276	-				-	-	0
Stage 2	0	-	-				-	-	0
Platoon blocked, %								-	
Mov Cap-1 Maneuver	-	0	456				-	-	-
Mov Cap-2 Maneuver	-	0	-				-	-	-
Stage 1	-	0	-				-	-	-
Stage 2	-	0	-				-	-	-

Approach	EB	SB
HCM Control Delay, s		
HCM LOS	-	

Minor Lane/Major Mvmt	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	456	-	-
HCM Lane V/C Ratio	-	0.302	-	-
HCM Control Delay (s)	-	16.3	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	1.3	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	482	15	28	528	72	7	0	25	59	0	19
Future Vol, veh/h	22	482	15	28	528	72	7	0	25	59	0	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	150	-	250	-	-	-	-	-	250
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	2	7	0	3	0	0	0	8	6	0	0
Mvmt Flow	23	513	16	30	562	77	7	0	27	63	0	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	639	0	0	529	0	0	1238	1266	521	1203	1197	562
Stage 1	-	-	-	-	-	-	567	567	-	622	622	-
Stage 2	-	-	-	-	-	-	671	699	-	581	575	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.28	7.16	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.16	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.16	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.372	3.554	4	3.3
Pot Cap-1 Maneuver	955	-	-	1048	-	-	154	171	544	158	187	530
Stage 1	-	-	-	-	-	-	512	510	-	468	482	-
Stage 2	-	-	-	-	-	-	449	445	-	493	506	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	955	-	-	1048	-	-	142	162	544	144	177	530
Mov Cap-2 Maneuver	-	-	-	-	-	-	142	162	-	144	177	-
Stage 1	-	-	-	-	-	-	500	498	-	457	468	-
Stage 2	-	-	-	-	-	-	420	432	-	458	494	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.4	16.9	39.3
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	336	955	-	-	1048	-	-	144	530
HCM Lane V/C Ratio	0.101	0.025	-	-	0.028	-	-	0.436	0.038
HCM Control Delay (s)	16.9	8.9	-	-	8.5	-	-	48	12.1
HCM Lane LOS	C	A	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-	-	1.9	0.1

Intersection: 1: EB Col Her Blvd & SB Rt. 60

Movement	EB	EB
Directions Served	T	R
Maximum Queue (ft)	58	80
Average Queue (ft)	25	40
95th Queue (ft)	50	66
Link Distance (ft)	625	625
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: NB Rt. 60

Movement	EB	NB	NB
Directions Served	L	T	T
Maximum Queue (ft)	32	31	7
Average Queue (ft)	16	1	0
95th Queue (ft)	41	17	5
Link Distance (ft)	32	215	215
Upstream Blk Time (%)	3		
Queuing Penalty (veh)	1		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: NB Rt. 60

Movement	NB
Directions Served	L
Maximum Queue (ft)	57
Average Queue (ft)	10
95th Queue (ft)	37
Link Distance (ft)	49
Upstream Blk Time (%)	1
Queuing Penalty (veh)	1
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: SB Rt. 60 & WB Col Her Blvd

Movement	WB	SB
Directions Served	T	T
Maximum Queue (ft)	70	3
Average Queue (ft)	32	0
95th Queue (ft)	56	3
Link Distance (ft)	33	216
Upstream Blk Time (%)	11	
Queuing Penalty (veh)	9	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Adams Hunt Dr/Col Her Blvd & Centerville Road

Movement	EB	WB	NB	SB	SB
Directions Served	L	L	LTR	LT	R
Maximum Queue (ft)	16	30	74	68	27
Average Queue (ft)	1	3	31	29	11
95th Queue (ft)	8	19	60	55	32
Link Distance (ft)			537	696	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	300	150			250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Richmond Road & Col Her. East Crossover/WP West

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	LT	R	LT	R	L	L	T	T	R	L	T
Maximum Queue (ft)	24	67	72	26	23	131	152	121	101	6	10	215
Average Queue (ft)	4	22	24	3	1	50	88	37	21	0	0	114
95th Queue (ft)	18	52	50	16	10	114	140	93	68	5	5	195
Link Distance (ft)		629		572				616	616			373
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200		200		225	270	270			300	300	
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 6: Richmond Road & Col Her. East Crossover/WP West

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	217	38
Average Queue (ft)	112	6
95th Queue (ft)	191	26
Link Distance (ft)	373	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		275
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Richmond Road & WP East

Movement	NB	SB	SB
Directions Served	U	T	T
Maximum Queue (ft)	32	69	87
Average Queue (ft)	7	4	7
95th Queue (ft)	26	34	49
Link Distance (ft)		616	616
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	290		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: West RTO

Movement	EB
Directions Served	R
Maximum Queue (ft)	67
Average Queue (ft)	19
95th Queue (ft)	51
Link Distance (ft)	352
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 18: Richmond Road

Movement	SE
Directions Served	R
Maximum Queue (ft)	11
Average Queue (ft)	0
95th Queue (ft)	8
Link Distance (ft)	163
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 12

Intersection: 1: EB Col Her Blvd & SB Rt. 60

Movement	EB	EB
Directions Served	T	R
Maximum Queue (ft)	96	128
Average Queue (ft)	38	52
95th Queue (ft)	71	101
Link Distance (ft)	625	625
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: NB Rt. 60

Movement	EB	NB
Directions Served	L	T
Maximum Queue (ft)	39	73
Average Queue (ft)	19	12
95th Queue (ft)	44	48
Link Distance (ft)	32	215
Upstream Blk Time (%)	8	
Queuing Penalty (veh)	5	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: NB Rt. 60

Movement	NB
Directions Served	L
Maximum Queue (ft)	55
Average Queue (ft)	35
95th Queue (ft)	68
Link Distance (ft)	49
Upstream Blk Time (%)	7
Queuing Penalty (veh)	38
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: SB Rt. 60 & WB Col Her Blvd

Movement	WB
Directions Served	T
Maximum Queue (ft)	56
Average Queue (ft)	36
95th Queue (ft)	54
Link Distance (ft)	33
Upstream Blk Time (%)	29
Queuing Penalty (veh)	52
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Adams Hunt Dr/Col Her Blvd & Centerville Road

Movement	EB	WB	WB	NB	SB	SB
Directions Served	L	L	T	LTR	LT	R
Maximum Queue (ft)	32	35	8	70	115	27
Average Queue (ft)	11	11	0	23	39	12
95th Queue (ft)	34	34	4	55	80	32
Link Distance (ft)			888	537	696	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	300	150				250
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: Richmond Road & Col Her. East Crossover/WP West

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	LT	R	L	LT	R	L	L	T	T	R	L
Maximum Queue (ft)	170	656	200	6	68	23	266	270	635	662	22	27
Average Queue (ft)	55	408	189	0	24	3	260	269	623	291	1	3
95th Queue (ft)	131	757	234	4	53	15	268	270	633	683	8	17
Link Distance (ft)		629			572				616	616		
Upstream Blk Time (%)		19							46	4		
Queuing Penalty (veh)		0							431	35		
Storage Bay Dist (ft)	200		200	225		225	270	270			300	300
Storage Blk Time (%)		22	37				3	50	54	1		
Queuing Penalty (veh)		126	88				18	323	297	0		

Intersection: 6: Richmond Road & Col Her. East Crossover/WP West

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	385	373	274
Average Queue (ft)	269	266	50
95th Queue (ft)	394	394	196
Link Distance (ft)	373	373	
Upstream Blk Time (%)	2	2	
Queuing Penalty (veh)	12	12	
Storage Bay Dist (ft)			275
Storage Blk Time (%)	7	8	0
Queuing Penalty (veh)	0	4	1

Intersection: 7: Richmond Road & WP East

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	U	T	T	R	L	T	T
Maximum Queue (ft)	34	29	290	708	683	128	17	171	189
Average Queue (ft)	10	3	74	664	647	6	1	31	38
95th Queue (ft)	32	18	274	736	750	80	11	99	111
Link Distance (ft)		488		647	647			616	616
Upstream Blk Time (%)				85	23				
Queuing Penalty (veh)				0	0				
Storage Bay Dist (ft)	160		290			320	300		
Storage Blk Time (%)			0	86	7	0			
Queuing Penalty (veh)			1	11	1	0			

Intersection: 8: West RTO

Movement	EB	SB	SB
Directions Served	R	L	L
Maximum Queue (ft)	152	16	11
Average Queue (ft)	67	1	1
95th Queue (ft)	123	9	11
Link Distance (ft)	352	348	348
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 18: Richmond Road

Movement	SE	SE
Directions Served	R	R
Maximum Queue (ft)	122	121
Average Queue (ft)	16	16
95th Queue (ft)	77	72
Link Distance (ft)	163	163
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 1458

Intersection: 1: EB Col Her Blvd & SB Rt. 60

Movement	EB	EB	SB
Directions Served	T	R	L
Maximum Queue (ft)	92	139	18
Average Queue (ft)	41	55	1
95th Queue (ft)	76	103	9
Link Distance (ft)	625	625	44
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: NB Rt. 60

Movement	EB	NB
Directions Served	L	T
Maximum Queue (ft)	46	126
Average Queue (ft)	27	19
95th Queue (ft)	49	77
Link Distance (ft)	32	215
Upstream Blk Time (%)	21	0
Queuing Penalty (veh)	14	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: NB Rt. 60

Movement	NB
Directions Served	L
Maximum Queue (ft)	55
Average Queue (ft)	35
95th Queue (ft)	68
Link Distance (ft)	49
Upstream Blk Time (%)	11
Queuing Penalty (veh)	59
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: SB Rt. 60 & WB Col Her Blvd

Movement	WB	SB
Directions Served	T	R
Maximum Queue (ft)	52	4
Average Queue (ft)	41	0
95th Queue (ft)	56	3
Link Distance (ft)	33	
Upstream Blk Time (%)	38	
Queuing Penalty (veh)	68	
Storage Bay Dist (ft)		200
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Adams Hunt Dr/Col Her Blvd & Centerville Road

Movement	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	L	T	R	LTR	LT	R
Maximum Queue (ft)	45	34	4	4	70	106	35
Average Queue (ft)	11	9	0	0	25	39	14
95th Queue (ft)	35	32	3	3	53	79	36
Link Distance (ft)			888		537	696	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	300	150		250			250
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 6: Richmond Road & Col Her. East Crossover/WP West

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	LT	R	LT	R	L	L	T	T	R	L	T
Maximum Queue (ft)	202	242	359	73	24	467	482	564	463	22	190	384
Average Queue (ft)	75	125	188	22	3	374	398	286	161	1	9	259
95th Queue (ft)	174	206	310	55	15	543	556	671	436	9	79	370
Link Distance (ft)		629	629	572				616	616			373
Upstream Blk Time (%)								6	0			1
Queuing Penalty (veh)								56	2			4
Storage Bay Dist (ft)	300				225	500	500			300	300	
Storage Blk Time (%)		0				1	10	7	0		0	4
Queuing Penalty (veh)		0				7	63	38	0		0	0

Intersection: 6: Richmond Road & Col Her. East Crossover/WP West

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	391	274
Average Queue (ft)	261	45
95th Queue (ft)	378	172
Link Distance (ft)	373	
Upstream Blk Time (%)	1	
Queuing Penalty (veh)	5	
Storage Bay Dist (ft)		275
Storage Blk Time (%)	6	0
Queuing Penalty (veh)	3	1

Intersection: 7: Richmond Road & WP East

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	U	T	T	R	L	T	T
Maximum Queue (ft)	42	24	202	477	432	11	11	104	101
Average Queue (ft)	10	3	19	144	102	1	1	25	30
95th Queue (ft)	33	17	89	505	441	7	9	78	83
Link Distance (ft)		488		647	647			616	616
Upstream Blk Time (%)				7	2				
Queuing Penalty (veh)				0	0				
Storage Bay Dist (ft)	160		290			320	300		
Storage Blk Time (%)			0	9	1				
Queuing Penalty (veh)			0	1	0				

Intersection: 8: West RTO

Movement	EB	SB
Directions Served	R	L
Maximum Queue (ft)	164	11
Average Queue (ft)	64	0
95th Queue (ft)	118	8
Link Distance (ft)	352	348
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: Richmond Road

Movement	SE	SE
Directions Served	R	R
Maximum Queue (ft)	93	140
Average Queue (ft)	6	8
95th Queue (ft)	42	55
Link Distance (ft)	163	163
Upstream Blk Time (%)		0
Queuing Penalty (veh)		1
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 321

Intersection: 1: EB Col Her Blvd & SB Rt. 60

Movement	EB	EB
Directions Served	T	R
Maximum Queue (ft)	58	108
Average Queue (ft)	26	43
95th Queue (ft)	52	77
Link Distance (ft)	625	625
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: NB Rt. 60

Movement	EB	NB	NB
Directions Served	L	T	T
Maximum Queue (ft)	32	28	14
Average Queue (ft)	14	1	0
95th Queue (ft)	38	16	8
Link Distance (ft)	32	215	215
Upstream Blk Time (%)	3		
Queuing Penalty (veh)	1		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: NB Rt. 60

Movement	NB
Directions Served	L
Maximum Queue (ft)	60
Average Queue (ft)	12
95th Queue (ft)	44
Link Distance (ft)	49
Upstream Blk Time (%)	1
Queuing Penalty (veh)	2
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: SB Rt. 60 & WB Col Her Blvd

Movement	WB	SB
Directions Served	T	T
Maximum Queue (ft)	67	4
Average Queue (ft)	33	0
95th Queue (ft)	59	3
Link Distance (ft)	33	216
Upstream Blk Time (%)	12	
Queuing Penalty (veh)	10	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Adams Hunt Dr/Col Her Blvd & Centerville Road

Movement	EB	WB	NB	SB	SB
Directions Served	L	L	LTR	LT	R
Maximum Queue (ft)	22	35	70	67	27
Average Queue (ft)	1	5	28	31	11
95th Queue (ft)	11	23	60	59	32
Link Distance (ft)			537	696	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	300	150			250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Richmond Road & Col Her. East Crossover/WP West

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	LT	R	LT	R	L	L	T	T	R	L	T
Maximum Queue (ft)	24	65	64	30	22	116	152	113	82	5	26	232
Average Queue (ft)	4	21	25	3	1	44	81	37	15	0	2	111
95th Queue (ft)	18	51	50	18	9	105	131	91	53	4	11	192
Link Distance (ft)		629		572				616	616			373
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200		200		225	270	270			300	300	
Storage Blk Time (%)												0
Queuing Penalty (veh)												0

Intersection: 6: Richmond Road & Col Her. East Crossover/WP West

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	237	48
Average Queue (ft)	114	7
95th Queue (ft)	196	29
Link Distance (ft)	373	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		275
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 7: Richmond Road & WP East

Movement	NB	SB	SB
Directions Served	U	T	T
Maximum Queue (ft)	26	50	68
Average Queue (ft)	5	3	4
95th Queue (ft)	21	25	35
Link Distance (ft)		616	616
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	290		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: West RTO

Movement	EB	SB
Directions Served	R	L
Maximum Queue (ft)	58	11
Average Queue (ft)	19	0
95th Queue (ft)	47	8
Link Distance (ft)	352	348
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: Richmond Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 14

Intersection: 1: EB Col Her Blvd & SB Rt. 60

Movement	EB	EB	SB
Directions Served	T	R	L
Maximum Queue (ft)	86	104	6
Average Queue (ft)	37	53	0
95th Queue (ft)	66	88	4
Link Distance (ft)	625	625	44
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: NB Rt. 60

Movement	EB	NB
Directions Served	L	T
Maximum Queue (ft)	43	128
Average Queue (ft)	22	22
95th Queue (ft)	47	82
Link Distance (ft)	32	215
Upstream Blk Time (%)	11	0
Queuing Penalty (veh)	7	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: NB Rt. 60

Movement	NB	NB
Directions Served	L	T
Maximum Queue (ft)	57	11
Average Queue (ft)	35	0
95th Queue (ft)	70	8
Link Distance (ft)	49	49
Upstream Blk Time (%)	11	0
Queuing Penalty (veh)	58	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: SB Rt. 60 & WB Col Her Blvd

Movement	WB	SB
Directions Served	T	T
Maximum Queue (ft)	57	4
Average Queue (ft)	38	0
95th Queue (ft)	55	3
Link Distance (ft)	33	216
Upstream Blk Time (%)	33	
Queuing Penalty (veh)	62	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Adams Hunt Dr/Col Her Blvd & Centerville Road

Movement	EB	WB	WB	NB	SB	SB
Directions Served	L	L	R	LTR	LT	R
Maximum Queue (ft)	31	44	8	62	120	27
Average Queue (ft)	11	11	0	23	39	12
95th Queue (ft)	33	36	4	52	81	32
Link Distance (ft)				537	696	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	300	150	250			250
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: Richmond Road & Col Her. East Crossover/WP West

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	LT	R	L	LT	R	L	L	T	T	R	L
Maximum Queue (ft)	177	661	200	21	75	24	266	270	637	641	24	81
Average Queue (ft)	58	476	194	1	23	3	259	269	624	287	1	4
95th Queue (ft)	131	777	225	8	55	14	267	271	634	674	9	46
Link Distance (ft)		629			572				616	616		
Upstream Blk Time (%)		24							48	4		
Queuing Penalty (veh)		0							442	34		
Storage Bay Dist (ft)	200		200	225		225	270	270			300	300
Storage Blk Time (%)	0	31	46				3	48	51	0		0
Queuing Penalty (veh)	0	177	109				20	310	277	0		0

Intersection: 6: Richmond Road & Col Her. East Crossover/WP West

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	385	388	230
Average Queue (ft)	255	251	38
95th Queue (ft)	362	366	151
Link Distance (ft)	373	373	
Upstream Blk Time (%)	1	1	
Queuing Penalty (veh)	4	4	
Storage Bay Dist (ft)			275
Storage Blk Time (%)	4	5	0
Queuing Penalty (veh)	0	3	0

Intersection: 7: Richmond Road & WP East

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	U	T	T	R	L	T	T
Maximum Queue (ft)	42	28	290	702	696	68	23	151	181
Average Queue (ft)	8	3	57	670	659	2	2	27	34
95th Queue (ft)	29	17	237	689	689	45	12	90	108
Link Distance (ft)		488		647	647			616	616
Upstream Blk Time (%)				88	22				
Queuing Penalty (veh)				0	0				
Storage Bay Dist (ft)	160		290			320	300		
Storage Blk Time (%)			0	86	9	0			
Queuing Penalty (veh)			1	11	1	0			

Intersection: 8: West RTO

Movement	EB	SB
Directions Served	R	L
Maximum Queue (ft)	128	11
Average Queue (ft)	58	0
95th Queue (ft)	104	8
Link Distance (ft)	352	348
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: Richmond Road

Movement	SE	SE
Directions Served	R	R
Maximum Queue (ft)	77	96
Average Queue (ft)	5	7
95th Queue (ft)	37	44
Link Distance (ft)	163	163
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 1521

Intersection: 1: EB Col Her Blvd & SB Rt. 60

Movement	EB	EB
Directions Served	T	R
Maximum Queue (ft)	48	78
Average Queue (ft)	23	37
95th Queue (ft)	49	61
Link Distance (ft)	625	625
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: NB Rt. 60

Movement	EB	NB
Directions Served	L	T
Maximum Queue (ft)	32	29
Average Queue (ft)	13	2
95th Queue (ft)	38	19
Link Distance (ft)	32	215
Upstream Blk Time (%)	2	
Queuing Penalty (veh)	1	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: NB Rt. 60

Movement	NB
Directions Served	L
Maximum Queue (ft)	55
Average Queue (ft)	6
95th Queue (ft)	31
Link Distance (ft)	49
Upstream Blk Time (%)	1
Queuing Penalty (veh)	1
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: SB Rt. 60 & WB Col Her Blvd

Movement	WB	SB
Directions Served	T	T
Maximum Queue (ft)	64	7
Average Queue (ft)	29	0
95th Queue (ft)	56	4
Link Distance (ft)	33	216
Upstream Blk Time (%)	10	
Queuing Penalty (veh)	7	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Adams Hunt Dr/Col Her Blvd & Centerville Road

Movement	EB	WB	NB	SB	SB
Directions Served	L	L	LTR	LT	R
Maximum Queue (ft)	27	30	56	57	27
Average Queue (ft)	1	6	27	26	7
95th Queue (ft)	10	25	53	49	25
Link Distance (ft)			537	696	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	300	150			250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Richmond Road & Col Her. East Crossover/WP West

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	LT	R	LT	R	L	L	T	T	R	L	T
Maximum Queue (ft)	24	63	56	26	18	156	167	113	87	5	27	214
Average Queue (ft)	3	15	18	3	1	37	72	27	13	0	3	88
95th Queue (ft)	15	43	39	15	7	107	132	81	50	3	16	170
Link Distance (ft)		629		572				616	616			373
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200		200		225	270	270			300	300	
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 6: Richmond Road & Col Her. East Crossover/WP West

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	204	47
Average Queue (ft)	91	9
95th Queue (ft)	177	32
Link Distance (ft)	373	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		275
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 7: Richmond Road & WP East

Movement	NB	SB	SB
Directions Served	U	T	T
Maximum Queue (ft)	27	61	91
Average Queue (ft)	5	3	5
95th Queue (ft)	22	25	38
Link Distance (ft)		616	616
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	290		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: West RTO

Movement	EB	SB
Directions Served	R	L
Maximum Queue (ft)	35	11
Average Queue (ft)	10	0
95th Queue (ft)	33	8
Link Distance (ft)	352	348
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: Richmond Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 9

Intersection: 1: EB Col Her Blvd & SB Rt. 60

Movement	EB	EB
Directions Served	T	R
Maximum Queue (ft)	70	112
Average Queue (ft)	34	47
95th Queue (ft)	64	87
Link Distance (ft)	625	625
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: NB Rt. 60

Movement	EB	NB
Directions Served	L	T
Maximum Queue (ft)	43	77
Average Queue (ft)	24	8
95th Queue (ft)	46	44
Link Distance (ft)	32	215
Upstream Blk Time (%)	13	
Queuing Penalty (veh)	8	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: NB Rt. 60

Movement	NB
Directions Served	L
Maximum Queue (ft)	55
Average Queue (ft)	26
95th Queue (ft)	63
Link Distance (ft)	49
Upstream Blk Time (%)	6
Queuing Penalty (veh)	27
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: SB Rt. 60 & WB Col Her Blvd

Movement	WB
Directions Served	T
Maximum Queue (ft)	54
Average Queue (ft)	36
95th Queue (ft)	53
Link Distance (ft)	33
Upstream Blk Time (%)	28
Queuing Penalty (veh)	44
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Adams Hunt Dr/Col Her Blvd & Centerville Road

Movement	EB	WB	WB	NB	SB	SB
Directions Served	L	L	R	LTR	LT	R
Maximum Queue (ft)	44	35	8	48	99	34
Average Queue (ft)	10	10	0	20	38	12
95th Queue (ft)	33	34	4	45	74	34
Link Distance (ft)				537	696	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	300	150	250			250
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: Richmond Road & Col Her. East Crossover/WP West

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	LT	R	LT	R	L	L	T	T	R	L	T
Maximum Queue (ft)	66	202	189	52	24	154	223	270	216	30	31	334
Average Queue (ft)	13	62	88	15	4	71	107	122	91	2	4	198
95th Queue (ft)	46	141	157	41	18	141	174	216	184	13	20	303
Link Distance (ft)		629		572				616	616			373
Upstream Blk Time (%)												0
Queuing Penalty (veh)												1
Storage Bay Dist (ft)	200		200		225	270	270			300	300	
Storage Blk Time (%)		0	0				0	0				1
Queuing Penalty (veh)		0	1				0	0				0

Intersection: 6: Richmond Road & Col Her. East Crossover/WP West

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	341	234
Average Queue (ft)	196	31
95th Queue (ft)	307	129
Link Distance (ft)	373	
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		275
Storage Blk Time (%)	2	0
Queuing Penalty (veh)	1	0

Intersection: 7: Richmond Road & WP East

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	U	T	T	R	L	T	T
Maximum Queue (ft)	41	24	50	160	91	10	29	113	133
Average Queue (ft)	10	3	11	35	19	0	2	12	23
95th Queue (ft)	31	16	38	117	67	6	14	58	81
Link Distance (ft)		488		647	647			616	616
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	160		290			320	300		
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 8: West RTO

Movement	EB	SB
Directions Served	R	L
Maximum Queue (ft)	81	15
Average Queue (ft)	29	0
95th Queue (ft)	58	10
Link Distance (ft)	352	348
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: Richmond Road

Movement	SE	SE
Directions Served	R	R
Maximum Queue (ft)	6	10
Average Queue (ft)	0	1
95th Queue (ft)	4	8
Link Distance (ft)	163	163
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 82

1: EB Col Her Blvd & SB Rt. 60 Performance by movement

Movement	EBT	EBR	SBT	All
Denied Del/Veh (s)	0.1	0.2	0.0	0.0
Total Del/Veh (s)	11.8	6.0	0.3	1.5

2: NB Rt. 60 Performance by movement

Movement	EBL	NBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	5.1	0.4	0.7

3: NB Rt. 60 Performance by movement

Movement	NBL	NBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	1.3	0.1	0.2

4: SB Rt. 60 & WB Col Her Blvd Performance by movement

Movement	WBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.4	0.5	0.0	0.8

5: Adams Hunt Dr/Col Her Blvd & Centerville Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	3.3	0.4	0.4	3.2	0.4	3.6	0.2	0.1	0.2	4.1	0.5
Total Del/Veh (s)	2.8	0.9	0.7	3.2	0.5	0.1	14.0	6.7	11.4	3.6	1.8

6: Richmond Road & Col Her. East Crossover/WP West Performance by movement

Movement	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.7	0.2	4.0	0.1	3.8	0.0	0.0	0.0		0.0	0.0	0.2
Total Del/Veh (s)	43.3	46.9	8.8	60.2	4.0	39.6	2.7	1.1		8.8	2.8	10.3

7: Richmond Road & WP East Performance by movement

Movement	NBU	NBT	SBT	All
Denied Del/Veh (s)	3.1	0.2	0.0	0.1
Total Del/Veh (s)	46.7	0.4	3.3	2.2

8: West RTO Performance by movement

Movement	EBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.0
Total Del/Veh (s)	8.0	1.0	1.3	0.6	1.1

18: Richmond Road Performance by movement

Movement	NBT	SER	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.9	0.6	0.7

Total Network Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	10.8

1: EB Col Her Blvd & SB Rt. 60 Performance by movement

Movement	EBT	EBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.0
Total Del/Veh (s)	20.9	11.2	0.0	0.4	2.5

2: NB Rt. 60 Performance by movement

Movement	EBL	NBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	6.4	0.7	1.0

3: NB Rt. 60 Performance by movement

Movement	NBL	NBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	7.2	0.1	0.8

4: SB Rt. 60 & WB Col Her Blvd Performance by movement

Movement	WBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	9.7	0.7	0.1	1.5

5: Adams Hunt Dr/Col Her Blvd & Centerville Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	3.1	0.5	0.6	2.9	0.8	3.3	0.1	0.1	0.2	3.9	0.9
Total Del/Veh (s)	5.5	1.1	0.7	4.8	1.1	0.5	12.9	7.0	21.0	5.0	2.4

6: Richmond Road & Col Her. East Crossover/WP West Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	9.4	9.9	10.7	0.1	0.1	4.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	78.4	88.9	79.5	47.9	46.9	10.2	242.7	24.1	5.6	50.1	27.2	8.2

6: Richmond Road & Col Her. East Crossover/WP West Performance by movement

Movement	All
Denied Del/Veh (s)	2.0
Total Del/Veh (s)	63.5

7: Richmond Road & WP East Performance by movement

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	4.4	0.1	371.5	404.4	382.1	0.0	0.0	208.8
Total Del/Veh (s)	42.1	17.7	135.2	71.8	9.7	58.5	6.9	36.3

8: West RTO Performance by movement

Movement	EBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.0
Total Del/Veh (s)	21.6	1.4	1.5	1.0	3.4

18: Richmond Road Performance by movement

Movement	NBT	SER	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	2.4	1.3	1.9

Total Network Performance

Denied Del/Veh (s)	137.1
Total Del/Veh (s)	69.2

1: EB Col Her Blvd & SB Rt. 60 Performance by movement

Movement	EBT	EBR	SBT	All
Denied Del/Veh (s)	0.1	0.2	0.0	0.0
Total Del/Veh (s)	11.6	6.4	0.3	1.5

2: NB Rt. 60 Performance by movement

Movement	EBL	NBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	4.9	0.5	0.7

3: NB Rt. 60 Performance by movement

Movement	NBL	NBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	1.6	0.1	0.3

4: SB Rt. 60 & WB Col Her Blvd Performance by movement

Movement	WBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.9	0.4	0.0	0.9

5: Adams Hunt Dr/Col Her Blvd & Centerville Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	3.1	0.4	0.3	3.6	0.3	3.8	0.1	0.1	0.2	4.2	0.5
Total Del/Veh (s)	2.8	0.9	0.4	4.6	0.5	0.2	11.7	6.8	13.0	4.1	1.9

6: Richmond Road & Col Her. East Crossover/WP West Performance by movement

Movement	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.8	0.7	4.0	0.1	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	40.6	44.0	9.2	51.8	4.1	37.6	2.7	0.3	64.6	9.0	3.0	10.2

7: Richmond Road & WP East Performance by movement

Movement	NBU	NBT	SBT	All
Denied Del/Veh (s)	3.0	0.2	0.0	0.1
Total Del/Veh (s)	35.1	0.4	3.3	2.1

8: West RTO Performance by movement

Movement	EBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.0
Total Del/Veh (s)	7.3	1.0	1.3	0.5	1.2

18: Richmond Road Performance by movement

Movement	NBT	SER	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.9	0.7	0.8

Total Network Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	10.9

1: EB Col Her Blvd & SB Rt. 60 Performance by movement

Movement	EBT	EBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.0
Total Del/Veh (s)	20.4	9.5	2.0	0.4	2.4

2: NB Rt. 60 Performance by movement

Movement	EBL	NBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	7.7	1.1	1.5

3: NB Rt. 60 Performance by movement

Movement	NBL	NBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	8.4	0.1	1.1

4: SB Rt. 60 & WB Col Her Blvd Performance by movement

Movement	WBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	10.1	0.7	0.1	1.6

5: Adams Hunt Dr/Col Her Blvd & Centerville Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	3.4	0.4	0.5	3.2	0.7	3.2	0.1	0.1	0.2	4.1	0.9
Total Del/Veh (s)	4.9	1.0	0.6	4.3	1.0	0.5	16.4	6.1	20.8	5.4	2.4

6: Richmond Road & Col Her. East Crossover/WP West Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	16.4	12.8	18.8	0.2	0.1	3.8	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	86.5	84.8	89.3	50.5	44.4	6.7	239.0	24.0	9.5	47.2	24.9	7.3

6: Richmond Road & Col Her. East Crossover/WP West Performance by movement

Movement	All
Denied Del/Veh (s)	3.6
Total Del/Veh (s)	64.3

7: Richmond Road & WP East Performance by movement

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	4.4	0.1	368.6	403.8	364.1	0.0	0.0	206.5
Total Del/Veh (s)	55.4	16.5	137.8	73.6	10.0	86.7	6.5	37.0

8: West RTO Performance by movement

Movement	EBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.0
Total Del/Veh (s)	16.7	1.4	1.4	1.0	2.8

18: Richmond Road Performance by movement

Movement	NBT	SER	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	2.4	1.0	1.7

Total Network Performance

Denied Del/Veh (s)	137.7
Total Del/Veh (s)	71.1

1: EB Col Her Blvd & SB Rt. 60 Performance by movement

Movement	EBT	EBR	SBT	All
Denied Del/Veh (s)	0.2	0.2	0.0	0.0
Total Del/Veh (s)	11.9	5.4	0.3	1.3

2: NB Rt. 60 Performance by movement

Movement	EBL	NBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	4.4	0.4	0.6

3: NB Rt. 60 Performance by movement

Movement	NBL	NBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	1.1	0.1	0.2

4: SB Rt. 60 & WB Col Her Blvd Performance by movement

Movement	WBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.5	0.4	0.0	0.8

5: Adams Hunt Dr/Col Her Blvd & Centerville Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	3.5	0.4	0.4	3.7	0.3	3.6	0.1	0.1	0.1	3.8	0.5
Total Del/Veh (s)	3.4	0.9	0.7	4.8	0.5	0.2	9.8	6.3	12.0	4.1	1.7

6: Richmond Road & Col Her. East Crossover/WP West Performance by movement

Movement	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.7	0.1	4.1	0.1	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	39.8	25.2	8.0	51.4	6.9	40.9	2.1	0.5	42.1	7.0	2.7	8.3

7: Richmond Road & WP East Performance by movement

Movement	NBU	NBT	SBT	All
Denied Del/Veh (s)	2.8	0.2	0.0	0.1
Total Del/Veh (s)	37.0	0.4	2.8	1.9

8: West RTO Performance by movement

Movement	EBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.0
Total Del/Veh (s)	7.1	1.0	1.5	0.4	1.0

18: Richmond Road Performance by movement

Movement	NBT	SER	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.7	0.6	0.7

Total Network Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	9.3

1: EB Col Her Blvd & SB Rt. 60 Performance by movement

Movement	EBT	EBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.0
Total Del/Veh (s)	19.7	7.5	0.0	0.4	2.0

2: NB Rt. 60 Performance by movement

Movement	EBL	NBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	10.7	0.8	1.2

3: NB Rt. 60 Performance by movement

Movement	NBL	NBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	5.1	0.1	0.6

4: SB Rt. 60 & WB Col Her Blvd Performance by movement

Movement	WBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	8.3	0.6	0.1	1.4

5: Adams Hunt Dr/Col Her Blvd & Centerville Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	3.1	0.5	0.4	3.1	0.7	3.3	0.1	0.1	0.2	4.1	0.9
Total Del/Veh (s)	4.6	1.0	0.6	4.1	1.0	0.6	11.2	5.5	20.5	5.0	2.2

6: Richmond Road & Col Her. East Crossover/WP West Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.2	0.8	3.6	0.1	0.1	3.9	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	41.3	33.9	19.3	47.7	47.5	12.5	41.8	8.4	2.2	55.7	18.8	5.6

6: Richmond Road & Col Her. East Crossover/WP West Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	17.4

7: Richmond Road & WP East Performance by movement

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	4.0	0.1	2.1	0.4	2.0	0.0	0.0	0.3
Total Del/Veh (s)	46.0	6.1	44.7	2.3	0.7	53.3	5.7	4.3

8: West RTO Performance by movement

Movement	EBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0
Total Del/Veh (s)	11.9	1.2	1.4	0.7	1.6

18: Richmond Road Performance by movement

Movement	NBT	SER	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	2.3	0.8	1.6

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	18.9

Programmed EPAC Data

3/25/2020
7:41:50AM

Intersection Name: 05 RT 60 AT POTTERY WEST **Intersection Alias: 095045**

Access Code: 9999 Channel: Address: 5 Revision: 3.34g
IP:

Access Data
:1200 Baud
:9600 Baud

Phase Data

Vehical Basic Timings

Phase	Min_Grn	Passage	Max1	Max2	Yellow	All Red
1	5	3.0	8	0	3.5	3.0
2	15	5.0	35	0	4.5	1.5
3	7	3.0	25	0	3.0	3.0
4	7	3.0	24	0	3.0	3.0
5	5	3.0	20	0	3.5	3.0
6	15	5.0	35	0	4.5	1.5
7	0	0.0	0	0	3.0	0.0
8	0	0.0	0	0	3.0	0.0

Vehical Density Timings

Added Initial	Max_Initial	Time B4 Reduction	Cars Before	Time To Reduce	Min_Gap
0.0	0	0	0	0	0.0
2.0	25	15	0	10	3.5
0.0	0	0	0	0	0.0
0.0	0	0	0	0	0.0
0.0	0	0	0	0	0.0
2.0	25	15	0	10	3.5
0.0	0	0	0	0	0.0
0.0	0	0	0	0	0.0

Pedestrian Timing

Phase	Walk	Ped Clear	Flashing Walk	Extended Actuated Ped Clear	Rest in Walk
1	0	0	No	0	No
2	0	0	No	0	No
3	0	0	No	0	No
4	7	17	No	1	No
5	0	0	No	0	No
6	7	24	No	0	Yes
7	0	0	No	0	No
8	0	0	No	0	No

General Control

Initialize	Non-Act Response	Veh Recall	Ped Recall	Recall Delay
Inactive	None	None	None	0
Yellow	None	Min	None	0
Inactive	None	None	None	0
Inactive	None	None	None	0
Inactive	None	None	None	0
Yellow	None	Min	None	0
Inactive	None	None	None	0
Inactive	None	None	None	0

Miscellaneous

Non Lock	Dual Entry	Last Car Passage	Conditional Service	No Simultaneous Gap Out
Yes	No	No	No	No
No	No	Yes	No	No
Yes	No	No	No	No
Yes	No	No	No	No
Yes	No	No	No	No
No	No	Yes	No	No
Yes	No	No	No	No
Yes	No	No	No	No

Special Sequence

Default Data

Vehical Detector Phase Assignment

Assigned Phase	Mode	Switched Phase	Extend	Delay

Default Data

Pedestrian Detector

Default Data

Special Detector Phase Assignment

Assign Phase	Mode	Switched Phase	Extend	Delay

:

Default Data

Unit Data

General Control

Startup Time: 5sec Startup State: Flash Red Revert: 2.0sec
Auto Ped Clear: No Stop Time Reset: No Alternate Sequence: 0
Aux Switch Func: 0:NoFunction
ABC connector Input Modes: 0
ABC connector Output Modes: 0
D connector Input Modes: 0
D connector Output Modes: 0

Ring	Input Response	Output Selection
1	Ring 1	Ring 1
2	Ring 2	Ring 2
3	None	None
4	None	None

Remote Flash

Test A = Flash No

Phase	Flash Entry Phase	Flash Exit Phase
2	No	Yes
4	Yes	No
6	No	Yes

Channel	Flash Color	Flash Alternat

Default Data - No Flash

Overlaps

Overlaps

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Phase(s)																

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yellow	3.0	0.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Stop Grn/Yel Phase	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Strat Green Phase	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring

Phase	Ring	Next Phase
1	1	2
2	1	3
3	1	4
4	1	1
5	2	6
6	2	7

Phase(s)

Concurrent Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	1	2	3	4	1	1	3	3	9	10	11	12	13	14	15	16
	5	5	7	7	2	2	4	4								
	6	6	8	8	5	6	7	8								

Alternate Sequences

`

Alternate Sequences

Phase Pair(s)	1	2	3
1	**5 6**	**5 6**	**1 2**
2	**3 4**	**0 0**	**0 0**

Port 1 Data

BIU Addr	Port Status	Message 40

Default Data

Control	Channel	Hardware Pins	Control	Channel	Hardware Pins
1 - Veh Phase 1	**1**	1 - Phase 1 RYG	2 - Veh Phase 2	**2**	2 - Phase 2 RYG
3 - Veh Phase 3	**3**	3 - Phase 3 RYG	4 - Veh Phase 4	**4**	4 - Phase 4 RYG
5 - Veh Phase 5	**5**	5 - Phase 5 RYG	6 - Veh Phase 6	**6**	6 - Phase 6 RYG
7 - Veh Phase 7	**7**	7 - Phase 7 RYG	8 - Veh Phase 8	**8**	8 - Phase 8 RYG
18 - Ped Phase 2	**9**	10 - Phase 2 DPW	20 - Ped Phase 4	**10**	12 - Phase 4 DPW
22 - Ped Phase 6	**11**	14 - Phase 6 DPW	24 - Ped Phase 8	**12**	16 - Phase 8 DPW
33 - Overlap A	**13**	17 - Overlap A RYG	34 - Overlap B	**14**	18 - Overlap B RYG
35 - Overlap C	**15**	19 - Overlap C RYG	36 - Overlap D	**16**	20 - Overlap D RYG
17 - Ped Phase 1	**17**	9 - Phase 1 DPW	19 - Ped Phase 3	**18**	11 - Phase 3 DPW
21 - Ped Phase 5	**19**	13 - Phase 5 DPW	23 - Ped Phase 7	**20**	15 - Phase 7 DPW

Coordination Data

General Coordination Data

Operation Mode: 1=Auto

Coordination Mode: 2=Permissive

Maximun Mode: 0=Inhibit

Correction Mode: 2=Short Way

Offset Mode: 0=Beg Grn

Force Mode: 1=Cycle

Max Dwell Time: 15

Yield Period: 5

Manual Dial: 2

Manual Split: 1

Manual Offset: 1

Dial/Split	Cycle
1/1	110
1/2	84
2/1	90
2/2	90
3/1	95
4/1	110

Split Times and Phase Mode

Dial 1 / Split 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	14	0=Actuated	2	48	1=Coordinate	3	24	0=Actuated	4	24	0=Actuated
5	20	0=Actuated	6	42	1=Coordinate						

Dial 1 / Split 2

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	16	3=Max Recall	2	32	1=Coordinate	3	16	3=Max Recall	4	20	3=Max Recall
5	13	3=Max Recall	6	35	1=Coordinate						

Dial 2 / Split 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	16	0=Actuated	2	41	1=Coordinate	3	18	0=Actuated	4	15	0=Actuated
5	19	0=Actuated	6	38	1=Coordinate						

Dial 2 / Split 2

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	19	0=Actuated	2	33	1=Coordinate	3	21	0=Actuated	4	17	0=Actuated
5	19	0=Actuated	6	33	1=Coordinate						

Dial 3 / Split 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	20	0=Actuated	2	40	1=Coordinate	3	15	0=Actuated	4	20	0=Actuated
5	20	0=Actuated	6	40	1=Coordinate						

Dial 4 / Split 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	14	0=Actuated	2	48	1=Coordinate	3	24	0=Actuated	4	24	0=Actuated
5	20	0=Actuated	6	42	1=Coordinate						

Traffic Plan Data

Plan: **1/2/1**	Offset Time: 31	Alt. Sequence: 1	Mode: 1=Permissive	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: **2/1/1**	Offset Time: 0	Alt. Sequence: 2	Mode: 3=Permissive Yield	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: **2/2/1**	Offset Time: 10	Alt. Sequence: 3	Mode: 1=Permissive	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0

Local TBC Data

Start of Daylight Saving Month: 3 Week: 2 Cycle Zero ReferenceHours: 24 Min: 0

End of Daylight Saving Month: 11 Week: 1

Source Day	Equate Days 1	2	3	4	5	6	7
1	2	3	4	5	6	7	0

Traffic Data

Event	Day	Time	D/S/O	flash	PHASE FUNCTION 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	8:45	2/1/1		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
2	1	22:0	0/0/4		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

AUX. Events

Event	Program Day	Hour	Min.	Aux Ouputs 1	2	3	Det. Diag. D1	Det. Rpt. D2	Det. Mult100 D3	Dimming	Special Function Outputs 1	2	3	4	5	6	7	8
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Default Data - No Special Day(s) or Week(s) Programmed

Special Functions

Function	SF1	SF2	SF3	SF4	SF5	SF6	SF7	SF8
Special Function 1	X							
Special Function 2		X						
Special Function 3			X					
Special Function 4				X				
Special Function 5					X			
Special Function 6						X		
Special Function 7							X	
Special Function 8								X

Phase Function

Phase Function Map	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
Phase 1 Max2	X															
Phase 2 Max2		X														
Phase 3 Max2			X													
Phase 4 Max2				X												
Phase 5 Max2					X											
Phase 6 Max2						X										
Phase 7 Max2							X									
Phase 8 Max2								X								
Phase 1 Phase Omit									X							
Phase 2 Phase Omit										X						
Phase 3 Phase Omit											X					
Phase 4 Phase Omit												X				
Phase 5 Phase Omit													X			
Phase 6 Phase Omit														X		
Phase 7 Phase Omit															X	
Phase 8 Phase Omit																X

Dimming Data

Channel	Red	Yellow	Green	Alternate

Default Data - No Dimming Programmed

Preemption Data

General Preemption Data

Flash = Preempt 1, Preepmt 1 = Preempt 2, Preepmt 2 = Preempt 3, Preepmt 3 = Preempt 4, Preepmt 4 = Preempt 5, Preepmt 5 = Preempt 6

Ring 1 Min GRN/WLK = 5 Ring 2 Min GRN/WLK = 5 Ring 3 Min GRN/WLK = 0 Ring 4 Min GRN/WLK = 0

Preempt Timers

Preempt	Non-Locking	Link to Prmpt	Delay	Extend	Duration	MaxCall	Lck-Out	GateExt	Debounce	Select: Ped Clr	Select: Yel	Select: Red	Track: Grn	Track: Ped	Track: Yel	Track: Red	Dwell Grn	Return: Ped Clr	Return: Yel	Return: Red
1	No	0	0	0	0	300	0	0	0.0	0	30	0	0	0	30	0	0	0	30	0
2	No	0	0	0	0	300	0	0	0.0	0	30	0	0	0	30	0	0	0	30	0
3	No	0	0	0	0	300	0	0	0.0	0	30	0	0	0	30	0	0	0	30	0
4	No	0	0	0	0	300	0	0	0.0	0	30	0	0	0	30	0	0	0	30	0
5	No	0	0	0	0	0	0	0	0.0	0	30	0	0	0	30	0	0	0	30	0
6	No	0	0	0	0	0	0	0	0.0	0	30	0	0	0	30	0	0	0	30	0
1	No	0	0	0	0	300	0	0	0.0	0	30	0	0	0	30	0	5	0	45	15
2	No	0	0	0	0	300	0	0	0.0	0	30	0	0	0	30	0	5	0	45	15
3	No	0	0	0	0	300	0	0	0.0	0	30	0	0	0	30	0	5	0	45	15
4	No	0	0	0	0	300	0	0	0.0	0	30	0	0	0	30	0	5	0	45	15
5	No	0	0	0	0	0	0	0	0.0	0	30	0	0	0	30	0	5	0	45	15
6	No	0	0	0	0	0	0	0	0.0	0	30	0	0	0	30	0	5	0	45	15

Preempt 1

Phase	Exit Phase	Exit Calls
6	Yes	No

Preempt 2

Phase	Exit Phase	Exit Calls
2	Yes	No

Preempt 3

Phase	Exit Phase	Exit Calls
3	Yes	No

Preempt 4

Phase	Exit Phase	Exit Calls
4	Yes	No

Preempt 5

Phase	Exit Phase	Exit Calls

Preempt 6

Phase	Exit Phase	Exit Calls

Priority Timers

Priority	Non-Locking	Delay	Extend	Duration	Dwell	Max_Call	Lock-Out	Skip Phases
1	No	0	0	0	0	0	0	0=Do not Skip Phases
2	No	0	0	0	0	0	0	0=Do not Skip Phases
3	No	0	0	0	0	0	0	0=Do not Skip Phases
4	No	0	0	0	0	0	0	0=Do not Skip Phases
5	No	0	0	0	0	0	0	0=Do not Skip Phases
6	No	0	0	0	0	0	0	0=Do not Skip Phases

Priority 1

Phase	Exit Phase	Exit Calls

Priority 2

Phase	Exit Phase	Exit Calls

Priority 3

Phase	Exit Phase	Exit Calls

Priority 4

Phase	Exit Phase	Exit Calls

Priority 5

Phase	Exit Phase	Exit Calls

Priority 6

Phase	Exit Phase	Exit Calls

Preempt 1

Vehical Phases

Ph.	Track	Dwell	Cycle
1	Red	Green	No
2	Red	Red	No
3	Red	Red	No
4	Red	Red	No
5	Red	Red	No
6	Red	Green	No
7	Red	Red	No
8	Red	Red	No
9	Red	Red	No
10	Red	Red	No
11	Red	Red	No
12	Red	Red	No
13	Red	Red	No
14	Red	Red	No
15	Red	Red	No
16	Red	Red	No

Pedestrian Phases

Ph	Track	Dwell	Cycle
1	Don't Walk	Don't Walk	No
2	Don't Walk	Don't Walk	No
3	Don't Walk	Don't Walk	No
4	Don't Walk	Don't Walk	No
5	Don't Walk	Don't Walk	No
6	Don't Walk	Don't Walk	No
7	Don't Walk	Don't Walk	No
8	Don't Walk	Don't Walk	No
9	Don't Walk	Don't Walk	No
10	Don't Walk	Don't Walk	No
11	Don't Walk	Don't Walk	No
12	Don't Walk	Don't Walk	No
13	Don't Walk	Don't Walk	No
14	Don't Walk	Don't Walk	No
15	Don't Walk	Don't Walk	No
16	Don't Walk	Don't Walk	No

Overlaps

Ovlp	Track	Dwell	Cycle
A	Red	Red	No
B	Red	Red	No
C	Red	Red	No
D	Red	Red	No
E	Red	Red	No
F	Red	Red	No
G	Red	Red	No
H	Red	Red	No
I	Red	Red	No
J	Red	Red	No
K	Red	Red	No
L	Red	Red	No
M	Red	Red	No
N	Red	Red	No
O	Red	Red	No
P	Red	Red	No

Preempt 2

Vehical Phases

Ph.	Track	Dwell	Cycle
1	Red	Red	No
2	Red	Green	No
3	Red	Red	No
4	Red	Red	No
5	Red	Green	No
6	Red	Red	No
7	Red	Red	No
8	Red	Red	No
9	Red	Red	No
10	Red	Red	No
11	Red	Red	No
12	Red	Red	No
13	Red	Red	No
14	Red	Red	No
15	Red	Red	No
16	Red	Red	No

Pedestrian Phases

Ph.	Track	Dwell	Cycle
1	Don't Walk	Don't Walk	No
2	Don't Walk	Don't Walk	No
3	Don't Walk	Don't Walk	No
4	Don't Walk	Don't Walk	No
5	Don't Walk	Don't Walk	No
6	Don't Walk	Don't Walk	No
7	Don't Walk	Don't Walk	No
8	Don't Walk	Don't Walk	No
9	Don't Walk	Don't Walk	No
10	Don't Walk	Don't Walk	No
11	Don't Walk	Don't Walk	No
12	Don't Walk	Don't Walk	No
13	Don't Walk	Don't Walk	No
14	Don't Walk	Don't Walk	No
15	Don't Walk	Don't Walk	No
16	Don't Walk	Don't Walk	No

Overlaps

Ovlp.	Track	Dwell	Cycle
A	Red	Red	No
B	Red	Red	No
C	Red	Red	No
D	Red	Red	No
E	Red	Red	No
F	Red	Red	No
G	Red	Red	No
H	Red	Red	No
I	Red	Red	No
J	Red	Red	No
K	Red	Red	No
L	Red	Red	No
M	Red	Red	No
N	Red	Red	No
O	Red	Red	No
P	Red	Red	No

Preempt 3

Vehical Phases

Ph.	Track	Dwell	Cycle
1	Red	Red	No
2	Red	Red	No
3	Red	Green	No
4	Red	Red	No
5	Red	Red	No
6	Red	Red	No
7	Red	Red	No
8	Red	Red	No
9	Red	Red	No
10	Red	Red	No
11	Red	Red	No
12	Red	Red	No
13	Red	Red	No
14	Red	Red	No
15	Red	Red	No
16	Red	Red	No

Pedestrian Phases

Ph.	Track	Dwell	Cycle
1	Don't Walk	Don't Walk	No
2	Don't Walk	Don't Walk	No
3	Don't Walk	Don't Walk	No
4	Don't Walk	Don't Walk	No
5	Don't Walk	Don't Walk	No
6	Don't Walk	Don't Walk	No
7	Don't Walk	Don't Walk	No
8	Don't Walk	Don't Walk	No
9	Don't Walk	Don't Walk	No
10	Don't Walk	Don't Walk	No
11	Don't Walk	Don't Walk	No
12	Don't Walk	Don't Walk	No
13	Don't Walk	Don't Walk	No
14	Don't Walk	Don't Walk	No
15	Don't Walk	Don't Walk	No
16	Don't Walk	Don't Walk	No

Overlaps

Ovlp.	Track	Dwell	Cycle
A	Red	Red	No
B	Red	Red	No
C	Red	Red	No
D	Red	Red	No
E	Red	Red	No
F	Red	Red	No
G	Red	Red	No
H	Red	Red	No
I	Red	Red	No
J	Red	Red	No
K	Red	Red	No
L	Red	Red	No
M	Red	Red	No
N	Red	Red	No
O	Red	Red	No
P	Red	Red	No

Preempt 4

Vehical Phases

Ph.	Track	Dwell	Cycle
1	Red	Red	No
2	Red	Red	No
3	Red	Red	No
4	Red	Green	No
5	Red	Red	No
6	Red	Red	No
7	Red	Red	No
8	Red	Red	No
9	Red	Red	No
10	Red	Red	No
11	Red	Red	No
12	Red	Red	No
13	Red	Red	No
14	Red	Red	No
15	Red	Red	No
16	Red	Red	No

Pedestrian Phases

Ph.	Track	Dwell	Cycle
1	Don't Walk	Don't Walk	No
2	Don't Walk	Don't Walk	No
3	Don't Walk	Don't Walk	No
4	Don't Walk	Don't Walk	No
5	Don't Walk	Don't Walk	No
6	Don't Walk	Don't Walk	No
7	Don't Walk	Don't Walk	No
8	Don't Walk	Don't Walk	No
9	Don't Walk	Don't Walk	No
10	Don't Walk	Don't Walk	No
11	Don't Walk	Don't Walk	No
12	Don't Walk	Don't Walk	No
13	Don't Walk	Don't Walk	No
14	Don't Walk	Don't Walk	No
15	Don't Walk	Don't Walk	No
16	Don't Walk	Don't Walk	No

Overlaps

Ovlp.	Track	Dwell	Cycle
A	Red	Red	No
B	Red	Red	No
C	Red	Red	No
D	Red	Red	No
E	Red	Red	No
F	Red	Red	No
G	Red	Red	No
H	Red	Red	No
I	Red	Red	No
J	Red	Red	No
K	Red	Red	No
L	Red	Red	No
M	Red	Red	No
N	Red	Red	No
O	Red	Red	No
P	Red	Red	No

Preempt 5

Vehical Phases

Ph.	Track	Dwell	Cycle
1	Red	Red	No
2	Red	Red	No
3	Red	Red	No
4	Red	Red	No
5	Red	Red	No
6	Red	Red	No
7	Red	Red	No
8	Red	Red	No
9	Red	Red	No
10	Red	Red	No
11	Red	Red	No
12	Red	Red	No
13	Red	Red	No
14	Red	Red	No
15	Red	Red	No
16	Red	Red	No

Pedestrian Phases

Ph.	Track	Dwell	Cycle
1	Don't Walk	Don't Walk	No
2	Don't Walk	Don't Walk	No
3	Don't Walk	Don't Walk	No
4	Don't Walk	Don't Walk	No
5	Don't Walk	Don't Walk	No
6	Don't Walk	Don't Walk	No
7	Don't Walk	Don't Walk	No
8	Don't Walk	Don't Walk	No
9	Don't Walk	Don't Walk	No
10	Don't Walk	Don't Walk	No
11	Don't Walk	Don't Walk	No
12	Don't Walk	Don't Walk	No
13	Don't Walk	Don't Walk	No
14	Don't Walk	Don't Walk	No
15	Don't Walk	Don't Walk	No
16	Don't Walk	Don't Walk	No

Overlaps

Ovlp.	Track	Dwell	Cycle
A	Red	Red	No
B	Red	Red	No
C	Red	Red	No
D	Red	Red	No
E	Red	Red	No
F	Red	Red	No
G	Red	Red	No
H	Red	Red	No
I	Red	Red	No
J	Red	Red	No
K	Red	Red	No
L	Red	Red	No
M	Red	Red	No
N	Red	Red	No
O	Red	Red	No
P	Red	Red	No

Preempt 6

Vehical Phases

Ph.	Track	Dwell	Cycle
1	Red	Red	No
2	Red	Red	No
3	Red	Red	No
4	Red	Red	No
5	Red	Red	No
6	Red	Red	No
7	Red	Red	No
8	Red	Red	No
9	Red	Red	No
10	Red	Red	No
11	Red	Red	No
12	Red	Red	No
13	Red	Red	No
14	Red	Red	No
15	Red	Red	No
16	Red	Red	No

Pedestrian Phases

Ph.	Track	Dwell	Cycle
1	Don't Walk	Don't Walk	No
2	Don't Walk	Don't Walk	No
3	Don't Walk	Don't Walk	No
4	Don't Walk	Don't Walk	No
5	Don't Walk	Don't Walk	No
6	Don't Walk	Don't Walk	No
7	Don't Walk	Don't Walk	No
8	Don't Walk	Don't Walk	No
9	Don't Walk	Don't Walk	No
10	Don't Walk	Don't Walk	No
11	Don't Walk	Don't Walk	No
12	Don't Walk	Don't Walk	No
13	Don't Walk	Don't Walk	No
14	Don't Walk	Don't Walk	No
15	Don't Walk	Don't Walk	No
16	Don't Walk	Don't Walk	No

Overlaps

Ovlp.	Track	Dwell	Cycle
A	Red	Red	No
B	Red	Red	No
C	Red	Red	No
D	Red	Red	No
E	Red	Red	No
F	Red	Red	No
G	Red	Red	No
H	Red	Red	No
I	Red	Red	No
J	Red	Red	No
K	Red	Red	No
L	Red	Red	No
M	Red	Red	No
N	Red	Red	No
O	Red	Red	No
P	Red	Red	No

System/Detectors Data

Local Critical Alarms

Revert to Backup: 15

1st Phone:

2nd Phone:

Cycle Failure: No
Local Free: No
Coord Failure: No
Conflict Flash: No
Remote Flash: No

Local Fash: No
Cycle Fault: No
Coord Fault: No
Premption: No
Voltage Monitor: No

Special Status 1: No
Special Status 2: No
Special Status 3: No
Special Status 4: No
Special Status 5: No
Special Status 6: No

Traffic Responsive

System Detector	Detector Channel	Veh/Hr	Average Time(mins)	Occupancy Correction/10	Min Volume %	Queue 1 Detectors	System Detectors	Weight Factor	Queue 2 Detectors	System Detectors	Weight Factor

Default Data
Sample Interval:

Default Data
Queue: 1 Input Selection: 0=Average
Detector Failed Level : 0
Queue: 2 Input Selection: 0=Average
Detector Failed Level : 0

Default Data
Queue:

Level	Enter	Leave	Dial / Split / Offset
			/ /

Default Data

Vehical Detector
Diagnostic Value 0

Detector	Max Presence	No Activity	Erratic Count

Default Data - Diag 0 Values

Vehical Detector
Diagnostic Value 1

Detector	Max Presence	No Activity	Erratic Count

Default Data - No Diag 1 Values

Special Detector
Diagnostic Value 0

Detector	Max Presence	No Activity	Erratic Count

Default Data - No Diag 0 Valu

Pedestrian Detector

Diagnostic Value 0

Detector	Max Presence	No Activity	Erratic Count

Default Data - No Diag 0 Values

Pedestrian Detector

Diagnostic Value 1

Detector	Max Presence	No Activity	Erratic Count

Default Data - No Diag 1 Values

Special Detector

Diagnostic Value 1

Detector	Max Presence	No Activity	Erratic Count

Default Data - No Diag 1 Values

Speed Trap Data

Speed Trap:

Measurement:

Detector 1	Detector_2	Distance :

Speed Trap Low Treshold	Speed Trap High Treshold

Dial/Split/Offset

//

Default Data

Default Data

Volume Detector Data

Report Interval	0
	60

Volume Detector Number	Controller Detector Channel
1	65
2	2
3	67
4	68
5	69
6	6
9	76
10	78

Programmed EPAC Data

3/23/2020
2:35:38PM

Intersection Name: 04 RT 60 AT POTTERY EAST **Intersection Alias: 095044**

Access Code: 9999 Channel: Address: 4 Revision: 3.34g
IP:

Access Data
:1200 Baud
:9600 Baud

Phase Data

Vehical Basic Timings

Phase	Min_Grn	Passage	Max1	Max2	Yellow	All Red
1	5	3.5	20	0	3.5	3.0
2	15	5.0	40	0	4.5	1.5
4	7	3.0	25	0	3.0	3.0
5	5	3.5	25	0	3.5	3.0
6	15	5.0	40	0	4.5	1.5

Vehical Density Timings

Added Initial	Max_Initial	Time B4 Reduction	Cars Before	Time To Reduce	Min_Gap
0.0	0	0	0	0	0.0
2.0	25	20	0	15	3.5
0.0	0	0	0	0	0.0
0.0	0	0	0	0	0.0
2.0	25	20	0	15	3.5

Pedestrian Timing

Phase	Walk	Ped Clear	Flashing Walk	Extended Ped Clear	Actuated Rest in Walk
1	0	0	No	0	No
2	0	0	No	0	No
4	0	0	No	0	No
5	0	0	No	0	No
6	0	0	No	0	No

General Control

Initialize	Non-Act Response	Veh Recall	Ped Recall	Recall Delay
Inactive	None	None	None	0
Yellow	None	Min	None	0
Inactive	None	None	None	0
Inactive	None	None	None	0
Yellow	None	Min	None	0

Miscellaneous

Non Lock	Dual Entry	Last Car Passage	Conditional Service	No Simultaneous Gap Out
Yes	No	No	No	No
No	No	Yes	No	No
Yes	No	No	No	No
Yes	No	No	No	No
No	No	Yes	No	No

Special Sequence

Default Data

Vehical Detector Phase Assignment

Assigned Phase	Mode	Switched Phase	Extend	Delay

Default Data

Pedestrian Detector

Default Data

Special Detector Phase Assignment

Assign Phase	Mode	Switched Phase	Extend	Delay

:

Default Data

Unit Data

General Control

Startup Time: 5sec Startup State: Flash Red Revert: 2.0sec
Auto Ped Clear: No Stop Time Reset: No Alternate Sequence: 0

Aux Switch Func: 0:NoFunction
ABC connector Input Modes: 0
ABC connector Output Modes: 0
D connector Input Modes: 0
D connector Output Modes: 0

Ring	Input Response	Output Selection
1	Ring 1	Ring 1
2	Ring 2	Ring 2
3	None	None
4	None	None

Remote Flash

Test A = Flash No

Phase	Flash Entry Phase	Flash Exit Phase
2	No	Yes
4	Yes	No
6	No	Yes

Channel	Flash Color	Flash Alternat

Default Data - No Flash

Overlaps

Overlaps

Phase(s)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yellow	4.0	2.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Red	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Stop Grn/Yel Phase	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Strat Green Phase	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring

Phase	Ring	Next Phase
1	1	2
2	1	3
4	1	1
5	2	6
6	2	7

Phase(s)

Concurrent Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	1	2	3	4	1	1	3	3	9	10	11	12	13	14	15	16
	5	5	7	7	2	2	4	4								
	6	6	8	8	5	6	7	8								

Alternate Sequences

Alternate Sequences

Phase Pair(s)		3
	1	**1 2**

Port 1 Data

BIU Addr	Port Status	Message 40

Default Data

Control	Channel	Hardware Pins	Control	Channel	Hardware Pins
1 - Veh Phase 1	**1**	1 - Phase 1 RYG	2 - Veh Phase 2	**2**	2 - Phase 2 RYG
3 - Veh Phase 3	**3**	3 - Phase 3 RYG	4 - Veh Phase 4	**4**	4 - Phase 4 RYG
5 - Veh Phase 5	**5**	5 - Phase 5 RYG	6 - Veh Phase 6	**6**	6 - Phase 6 RYG
7 - Veh Phase 7	**7**	7 - Phase 7 RYG	8 - Veh Phase 8	**8**	8 - Phase 8 RYG
18 - Ped Phase 2	**9**	10 - Phase 2 DPW	20 - Ped Phase 4	**10**	12 - Phase 4 DPW
22 - Ped Phase 6	**11**	14 - Phase 6 DPW	24 - Ped Phase 8	**12**	16 - Phase 8 DPW
33 - Overlap A	**13**	17 - Overlap A RYG	34 - Overlap B	**14**	18 - Overlap B RYG
35 - Overlap C	**15**	19 - Overlap C RYG	36 - Overlap D	**16**	20 - Overlap D RYG
17 - Ped Phase 1	**17**	9 - Phase 1 DPW	19 - Ped Phase 3	**18**	11 - Phase 3 DPW
21 - Ped Phase 5	**19**	13 - Phase 5 DPW	23 - Ped Phase 7	**20**	15 - Phase 7 DPW

Coordination Data

General Coordination Data

Operation Mode: 1=Auto

Coordination Mode: 1=Yield

Maximun Mode: 0=Inhibit

Correction Mode: 2=Short Way

Offset Mode: 0=Beg Grn

Force Mode: 0=Plan

Max Dwell Time: 15

Yield Period: 5

Manual Dial: 2

Manual Split: 2

Manual Offset: 1

Dial/Split	Cycle
1/1	70
2/1	90
2/2	90
3/1	80
4/1	110

Split Times and Phase Mode

Dial 1 / Split 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	15	0=Actuated	2	40	1=Coordinate	4	15	0=Actuated	5	15	0=Actuated
6	40	1=Coordinate									

Dial 2 / Split 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	17	0=Actuated	2	48	1=Coordinate	4	25	0=Actuated	5	17	0=Actuated
6	48	1=Coordinate									

Dial 2 / Split 2

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	21	0=Actuated	2	39	1=Coordinate	4	30	0=Actuated	5	21	0=Actuated
6	39	1=Coordinate									

Dial 3 / Split 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	16	0=Actuated	2	44	1=Coordinate	4	20	0=Actuated	5	13	0=Actuated
6	47	1=Coordinate									

Dial 4 / Split 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	20	0=Actuated	2	64	1=Coordinate	4	26	0=Actuated	5	20	0=Actuated
6	64	1=Coordinate									

Traffic Plan Data

Plan: **1/1/1**	Offset Time: 37	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: **2/2/1**	Offset Time: 0	Alt. Sequence: 3	Mode: 1=Permissive	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Plan: **3/1/1**	Offset Time: 35	Alt. Sequence: 0	Mode: 0=Normal	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0

Local TBC Data

Start of Daylight Saving Month: 3 Week: 2 Cycle Zero ReferenceHours: 24 Min: 0

End of Daylight Saving Month: 11 Week: 1

Source Day	Equate Days 1	2	3	4	5	6	7
1	2	3	4	5	6	7	0

Traffic Data

Event	Day	Time	D/S/O	flash	PHASE FUNCTION 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	8:45	2/1/1		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
2	1	22:0	0/0/4		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

AUX. Events

Event	Program Day	Hour	Min.	Aux Ouputs 1	2	3	Det. Diag. D1	Det. Rpt. D2	Det. Mult100 D3	Dimming	Special Function Outputs 1	2	3	4	5	6	7	8
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Default Data - No Special Day(s) or Week(s) Programmed

Special Functions

Function	SF1	SF2	SF3	SF4	SF5	SF6	SF7	SF8
Special Function 1	X							
Special Function 2		X						
Special Function 3			X					
Special Function 4				X				
Special Function 5					X			
Special Function 6						X		
Special Function 7							X	
Special Function 8								X

Phase Function

Phase Function Map	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16

Dimming Data

Channel	Red	Yellow	Green	Alternate

Default Data - No Dimming Programmed

Preemption Data

General Preemption Data

Flash = Preempt 1, Preepmt 1 = Preempt 2, Preepmt 2 = Preempt 3, Preepmt 3 = Preempt 4, Preepmt 4 = Preempt 5, Preepmt 5 = Preempt 6

Ring 1 Min GRN/WLK = 5 Ring 2 Min GRN/WLK = 5 Ring 3 Min GRN/WLK = 0 Ring 4 Min GRN/WLK = 0

Preempt Timers

Preempt	Non-Locking	Link to Prmpt	Delay	Extend	Duration	MaxCall	Lck-Out	GateExt	Debounce	Select			Track				D well	Return		
										Ped Clr	Yel	Red	Grn	Ped	Yel	Red	Grn	Ped Clr	Yel	Red
1	No	0	0	0	0	300	0	0	0.0	0	40	0	0	0	40	0	5	0	45	15
2	No	0	0	0	0	300	0	0	0.0	0	40	0	0	0	40	0	5	0	45	15
3	No	0	0	0	0	0	0	0	0.0	0	40	0	0	0	40	0	5	0	45	15
4	No	0	0	0	0	300	0	0	0.0	0	40	0	0	0	40	0	5	0	45	15
5	No	0	0	0	0	0	0	0	0.0	0	40	0	0	0	40	0	5	0	45	15
6	No	0	0	0	0	0	0	0	0.0	0	40	0	0	0	40	0	5	0	45	15
1	No	0	0	0	0	300	0	0	0.0	0	40	0	0	0	40	0	10	0	45	15
2	No	0	0	0	0	300	0	0	0.0	0	40	0	0	0	40	0	10	0	45	15
3	No	0	0	0	0	0	0	0	0.0	0	40	0	0	0	40	0	10	0	45	15
4	No	0	0	0	0	300	0	0	0.0	0	40	0	0	0	40	0	10	0	45	15
5	No	0	0	0	0	0	0	0	0.0	0	40	0	0	0	40	0	10	0	45	15
6	No	0	0	0	0	0	0	0	0.0	0	40	0	0	0	40	0	10	0	45	15
1	No	0	0	0	0	300	0	0	0.0	0	40	20	0	0	40	20	0	0	40	20
2	No	0	0	0	0	300	0	0	0.0	0	40	20	0	0	40	20	0	0	40	20
3	No	0	0	0	0	0	0	0	0.0	0	40	20	0	0	40	20	0	0	40	20
4	No	0	0	0	0	300	0	0	0.0	0	40	20	0	0	40	20	0	0	40	20
5	No	0	0	0	0	0	0	0	0.0	0	40	20	0	0	40	20	0	0	40	20
6	No	0	0	0	0	0	0	0	0.0	0	40	20	0	0	40	20	0	0	40	20

Preempt 1			Preempt 2			Preempt 3			Preempt 4			Preempt 5			Preempt 6		
Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls
2	Yes	No	6	Yes	No				4	Yes	No						

Priority Timers

Priority	Non-Locking	Delay	Extend	Duration	Dwell	Max_Call	Lock-Out	Skip Phases
1	No	0	0	0	0	0	0	0=Do not Skip Phases
2	No	0	0	0	0	0	0	0=Do not Skip Phases
3	No	0	0	0	0	0	0	0=Do not Skip Phases
4	No	0	0	0	0	0	0	0=Do not Skip Phases
5	No	0	0	0	0	0	0	0=Do not Skip Phases
6	No	0	0	0	0	0	0	0=Do not Skip Phases

Priority 1			Priority 2			Priority 3			Priority 4			Priority 5			Priority 6		
Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls

Preempt 1

Vehical Phases

Ph.	Track	Dwell	Cycle
1	Red	Green	No
2	Red	Red	No
3	Red	Red	No
4	Red	Red	No
5	Red	Red	No
6	Red	Green	No
7	Red	Red	No
8	Red	Red	No
9	Red	Red	No
10	Red	Red	No
11	Red	Red	No
12	Red	Red	No
13	Red	Red	No
14	Red	Red	No
15	Red	Red	No
16	Red	Red	No

Pedestrian Phases

Ph	Track	Dwell	Cycle
1	Don't Walk	Don't Walk	No
2	Don't Walk	Don't Walk	No
3	Don't Walk	Don't Walk	No
4	Don't Walk	Don't Walk	No
5	Don't Walk	Don't Walk	No
6	Don't Walk	Don't Walk	No
7	Don't Walk	Don't Walk	No
8	Don't Walk	Don't Walk	No
9	Don't Walk	Don't Walk	No
10	Don't Walk	Don't Walk	No
11	Don't Walk	Don't Walk	No
12	Don't Walk	Don't Walk	No
13	Don't Walk	Don't Walk	No
14	Don't Walk	Don't Walk	No
15	Don't Walk	Don't Walk	No
16	Don't Walk	Don't Walk	No

Overlaps

Ovlp	Track	Dwell	Cycle
A	Red	Red	No
B	Red	Red	No
C	Red	Red	No
D	Red	Red	No
E	Red	Red	No
F	Red	Red	No
G	Red	Red	No
H	Red	Red	No
I	Red	Red	No
J	Red	Red	No
K	Red	Red	No
L	Red	Red	No
M	Red	Red	No
N	Red	Red	No
O	Red	Red	No
P	Red	Red	No

Preempt 2

Vehical Phases

Ph.	Track	Dwell	Cycle
1	Red	Red	No
2	Red	Green	No
3	Red	Red	No
4	Red	Red	No
5	Red	Green	No
6	Red	Red	No
7	Red	Red	No
8	Red	Red	No
9	Red	Red	No
10	Red	Red	No
11	Red	Red	No
12	Red	Red	No
13	Red	Red	No
14	Red	Red	No
15	Red	Red	No
16	Red	Red	No

Pedestrian Phases

Ph.	Track	Dwell	Cycle
1	Don't Walk	Don't Walk	No
2	Don't Walk	Don't Walk	No
3	Don't Walk	Don't Walk	No
4	Don't Walk	Don't Walk	No
5	Don't Walk	Don't Walk	No
6	Don't Walk	Don't Walk	No
7	Don't Walk	Don't Walk	No
8	Don't Walk	Don't Walk	No
9	Don't Walk	Don't Walk	No
10	Don't Walk	Don't Walk	No
11	Don't Walk	Don't Walk	No
12	Don't Walk	Don't Walk	No
13	Don't Walk	Don't Walk	No
14	Don't Walk	Don't Walk	No
15	Don't Walk	Don't Walk	No
16	Don't Walk	Don't Walk	No

Overlaps

Ovlp.	Track	Dwell	Cycle
A	Red	Red	No
B	Red	Red	No
C	Red	Red	No
D	Red	Red	No
E	Red	Red	No
F	Red	Red	No
G	Red	Red	No
H	Red	Red	No
I	Red	Red	No
J	Red	Red	No
K	Red	Red	No
L	Red	Red	No
M	Red	Red	No
N	Red	Red	No
O	Red	Red	No
P	Red	Red	No

Preempt 3

Vehical Phases

Ph.	Track	Dwell	Cycle
1	Red	Red	No
2	Red	Red	No
3	Red	Red	No
4	Red	Red	No
5	Red	Red	No
6	Red	Red	No
7	Red	Red	No
8	Red	Red	No
9	Red	Red	No
10	Red	Red	No
11	Red	Red	No
12	Red	Red	No
13	Red	Red	No
14	Red	Red	No
15	Red	Red	No
16	Red	Red	No

Pedestrian Phases

Ph.	Track	Dwell	Cycle
1	Don't Walk	Don't Walk	No
2	Don't Walk	Don't Walk	No
3	Don't Walk	Don't Walk	No
4	Don't Walk	Don't Walk	No
5	Don't Walk	Don't Walk	No
6	Don't Walk	Don't Walk	No
7	Don't Walk	Don't Walk	No
8	Don't Walk	Don't Walk	No
9	Don't Walk	Don't Walk	No
10	Don't Walk	Don't Walk	No
11	Don't Walk	Don't Walk	No
12	Don't Walk	Don't Walk	No
13	Don't Walk	Don't Walk	No
14	Don't Walk	Don't Walk	No
15	Don't Walk	Don't Walk	No
16	Don't Walk	Don't Walk	No

Overlaps

Ovlp.	Track	Dwell	Cycle
A	Red	Red	No
B	Red	Red	No
C	Red	Red	No
D	Red	Red	No
E	Red	Red	No
F	Red	Red	No
G	Red	Red	No
H	Red	Red	No
I	Red	Red	No
J	Red	Red	No
K	Red	Red	No
L	Red	Red	No
M	Red	Red	No
N	Red	Red	No
O	Red	Red	No
P	Red	Red	No

Preempt 4

Vehical Phases

Ph.	Track	Dwell	Cycle
1	Red	Red	No
2	Red	Red	No
3	Red	Red	No
4	Red	Green	No
5	Red	Red	No
6	Red	Red	No
7	Red	Red	No
8	Red	Red	No
9	Red	Red	No
10	Red	Red	No
11	Red	Red	No
12	Red	Red	No
13	Red	Red	No
14	Red	Red	No
15	Red	Red	No
16	Red	Red	No

Pedestrian Phases

Ph.	Track	Dwell	Cycle
1	Don't Walk	Don't Walk	No
2	Don't Walk	Don't Walk	No
3	Don't Walk	Don't Walk	No
4	Don't Walk	Don't Walk	No
5	Don't Walk	Don't Walk	No
6	Don't Walk	Don't Walk	No
7	Don't Walk	Don't Walk	No
8	Don't Walk	Don't Walk	No
9	Don't Walk	Don't Walk	No
10	Don't Walk	Don't Walk	No
11	Don't Walk	Don't Walk	No
12	Don't Walk	Don't Walk	No
13	Don't Walk	Don't Walk	No
14	Don't Walk	Don't Walk	No
15	Don't Walk	Don't Walk	No
16	Don't Walk	Don't Walk	No

Overlaps

Ovlp.	Track	Dwell	Cycle
A	Red	Red	No
B	Red	Red	No
C	Red	Red	No
D	Red	Red	No
E	Red	Red	No
F	Red	Red	No
G	Red	Red	No
H	Red	Red	No
I	Red	Red	No
J	Red	Red	No
K	Red	Red	No
L	Red	Red	No
M	Red	Red	No
N	Red	Red	No
O	Red	Red	No
P	Red	Red	No

Preempt 5

Vehical Phases

Ph.	Track	Dwell	Cycle
1	Red	Red	No
2	Red	Red	No
3	Red	Red	No
4	Red	Red	No
5	Red	Red	No
6	Red	Red	No
7	Red	Red	No
8	Red	Red	No
9	Red	Red	No
10	Red	Red	No
11	Red	Red	No
12	Red	Red	No
13	Red	Red	No
14	Red	Red	No
15	Red	Red	No
16	Red	Red	No

Pedestrian Phases

Ph.	Track	Dwell	Cycle
1	Don't Walk	Don't Walk	No
2	Don't Walk	Don't Walk	No
3	Don't Walk	Don't Walk	No
4	Don't Walk	Don't Walk	No
5	Don't Walk	Don't Walk	No
6	Don't Walk	Don't Walk	No
7	Don't Walk	Don't Walk	No
8	Don't Walk	Don't Walk	No
9	Don't Walk	Don't Walk	No
10	Don't Walk	Don't Walk	No
11	Don't Walk	Don't Walk	No
12	Don't Walk	Don't Walk	No
13	Don't Walk	Don't Walk	No
14	Don't Walk	Don't Walk	No
15	Don't Walk	Don't Walk	No
16	Don't Walk	Don't Walk	No

Overlaps

Ovlp.	Track	Dwell	Cycle
A	Red	Red	No
B	Red	Red	No
C	Red	Red	No
D	Red	Red	No
E	Red	Red	No
F	Red	Red	No
G	Red	Red	No
H	Red	Red	No
I	Red	Red	No
J	Red	Red	No
K	Red	Red	No
L	Red	Red	No
M	Red	Red	No
N	Red	Red	No
O	Red	Red	No
P	Red	Red	No

Preempt 6

Vehical Phases

Ph.	Track	Dwell	Cycle
1	Red	Red	No
2	Red	Red	No
3	Red	Red	No
4	Red	Red	No
5	Red	Red	No
6	Red	Red	No
7	Red	Red	No
8	Red	Red	No
9	Red	Red	No
10	Red	Red	No
11	Red	Red	No
12	Red	Red	No
13	Red	Red	No
14	Red	Red	No
15	Red	Red	No
16	Red	Red	No

Pedestrian Phases

Ph.	Track	Dwell	Cycle
1	Don't Walk	Don't Walk	No
2	Don't Walk	Don't Walk	No
3	Don't Walk	Don't Walk	No
4	Don't Walk	Don't Walk	No
5	Don't Walk	Don't Walk	No
6	Don't Walk	Don't Walk	No
7	Don't Walk	Don't Walk	No
8	Don't Walk	Don't Walk	No
9	Don't Walk	Don't Walk	No
10	Don't Walk	Don't Walk	No
11	Don't Walk	Don't Walk	No
12	Don't Walk	Don't Walk	No
13	Don't Walk	Don't Walk	No
14	Don't Walk	Don't Walk	No
15	Don't Walk	Don't Walk	No
16	Don't Walk	Don't Walk	No

Overlaps

Ovlp.	Track	Dwell	Cycle
A	Red	Red	No
B	Red	Red	No
C	Red	Red	No
D	Red	Red	No
E	Red	Red	No
F	Red	Red	No
G	Red	Red	No
H	Red	Red	No
I	Red	Red	No
J	Red	Red	No
K	Red	Red	No
L	Red	Red	No
M	Red	Red	No
N	Red	Red	No
O	Red	Red	No
P	Red	Red	No

System/Detectors Data

Local Critical Alarms

Revert to Backup: 15

1st Phone:

2nd Phone:

Cycle Failure: No
Local Free: No
Coord Failure: No
Conflict Flash: No
Remote Flash: No

Local Fash: No
Cycle Fault: No
Coord Fault: No
Premption: No
Voltage Monitor: No

Special Status 1: No
Special Status 2: No
Special Status 3: No
Special Status 4: No
Special Status 5: No
Special Status 6: No

Traffic Responsive

System Detector	Detector Channel	Veh/Hr	Average Time(mins)	Occupancy Correction/10	Min Volume %	Queue 1 Detectors	System Detectors	Weight Factor	Queue 2 Detectors	System Detectors	Weight Factor

Default Data
Sample Interval:

Default Data
Queue: 1 Input Selection: 0=Average
Detector Failed Level : 0
Queue: 2 Input Selection: 0=Average
Detector Failed Level : 0

Default Data
Queue:

Level	Enter	Leave	Dial / Split / Offset
			/ /

Default Data

Vehical Detector
Diagnostic Value 0

Detector	Max Presence	No Activity	Erratic Count

Default Data - Diag 0 Values

Vehical Detector
Diagnostic Value 1

Detector	Max Presence	No Activity	Erratic Count

Default Data - No Diag 1 Values

Special Detector
Diagnostic Value 0

Detector	Max Presence	No Activity	Erratic Count

Default Data - No Diag 0 Valu

Pedestrian Detector
Diagnostic Value 0

Detector	Max Presence	No Activity	Erratic Count

Default Data - No Diag 0 Values

Pedestrian Detector
Diagnostic Value 1

Detector	Max Presence	No Activity	Erratic Count

Default Data - No Diag 1 Values

Special Detector
Diagnostic Value 1

Detector	Max Presence	No Activity	Erratic Count

Default Data - No Diag 1 Values

Speed Trap Data

Speed Trap:

Measurement:

Detector 1	Detector_2	Distance :

Default Data

Dial/Split/Offset
//

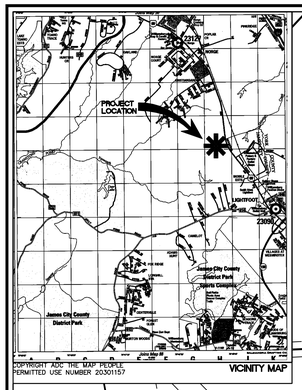
Default Data

Speed Trap Low Treshold	Speed Trap High Treshold

Volume Detector Data

Report Interval	0
	60

Volume Detector Number	Controller Detector Channel
1	65
2	2
4	68
5	69
6	6



COMMERCIAL AREA SUMMARY

	S.F.
PARCEL A–1	
CCRC – COMMITED	102,045
CCRC – FUTURE EXPANSION	102,045
SUB–TOTAL PARCEL A–1	204,090
PARCEL A–2	
NEIGHBORHOOD COMMERCIAL/RETAIL	49,250
GROCERY	38,400
RESTAURANT	5,000
BANK	4,200
CONVENIENCE STORE	3,150
SUB–TOTAL PARCEL A–2	100,000
PARCEL A–3	
FUTURE COMMERCIAL	50,000
TOTAL COMMERCIAL AREA	354,090

30' DRAINAGE & EXCLUSIVE JCSA UTILITY EASEMENT

COLONIAL HERITAGE COMMON OPEN SPACE #1A & 50' BUFFER

N25°48'58"W 270.31'

N21°04'39"W 364.62'

S64°09'26"W 16.12'

N35°38'18"W 969.56'

BREAKAWAY GATE FOR EMERGENCY ACCESS ONLY

20' PRIVATE DRAINAGE EASEMENT

PARCEL A–1

PARCEL A–2

PARCEL A–3

VIRGINIA HEALTH SERVICES CCRC 102,045 SF

PROPOSED ACCESS POINT

GROCERY 38,400 SF

RETAIL 8,400 SF

COLONIAL HERITAGE GUARDHOUSE

3,000 SF

3,000 SF

3,000 SF

NEIGHBORHOOD COMMERCIAL / RETAIL 22,150 SF

4,050 SF

4,200 SF

4,900 SF

PROPOSED CROSSOVER

PROPOSED ACCESS POINT

BANK 4,200 SF

REST. 5,000 SF

NEIGHBORHOOD COMMERCIAL / RETAIL 18,700 SF

3,500 SF

6,400 SF

8,800 SF

CONV. STORE 3,150 SF

S54°21'42"W 1008.53'

N63°34'37"E 428.84'

COLONIAL HERITAGE BOULEVARD

S06°58'10"E 46.29'

S38°34'10"E 581.82'

WILLIAMSBURG POTTERY FACTORY TAX MAP PARCEL #(24–3)(1–33) D.B. 24, PG. 810

TO WILLIAMSBURG

FUTURE TRAFFIC LIGHT

U.S. ROUTE 60 (RICHMOND RD.)

TO NORGE & TOANO

GRAPHIC SCALE
60' 0' 60' 120'
SCALE: 1" = 60'

PROMENADE AT WILLIAMSBURG POTTERY

FUTURE TRAFFIC LIGHT

Rev.	Date	Description	Revised By

AES CONSULTING ENGINEERS
5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188
Phone: (757) 253-0040
www.aesva.com
Hampton Roads | Central Virginia | Middle Peninsula

MAGNOLIA GROVE

AT COLONIAL HERITAGE

PLANNED BUILDOUT BASED ON GROUNDFIT

STONEHOUSE DISTRICT JAMES CITY COUNTY VIRGINIA

Project Contacts:	TRS
Project Number:	8881-24B
Scale: 1"=60'	Date: 10/21/2020
Sheet Number	1

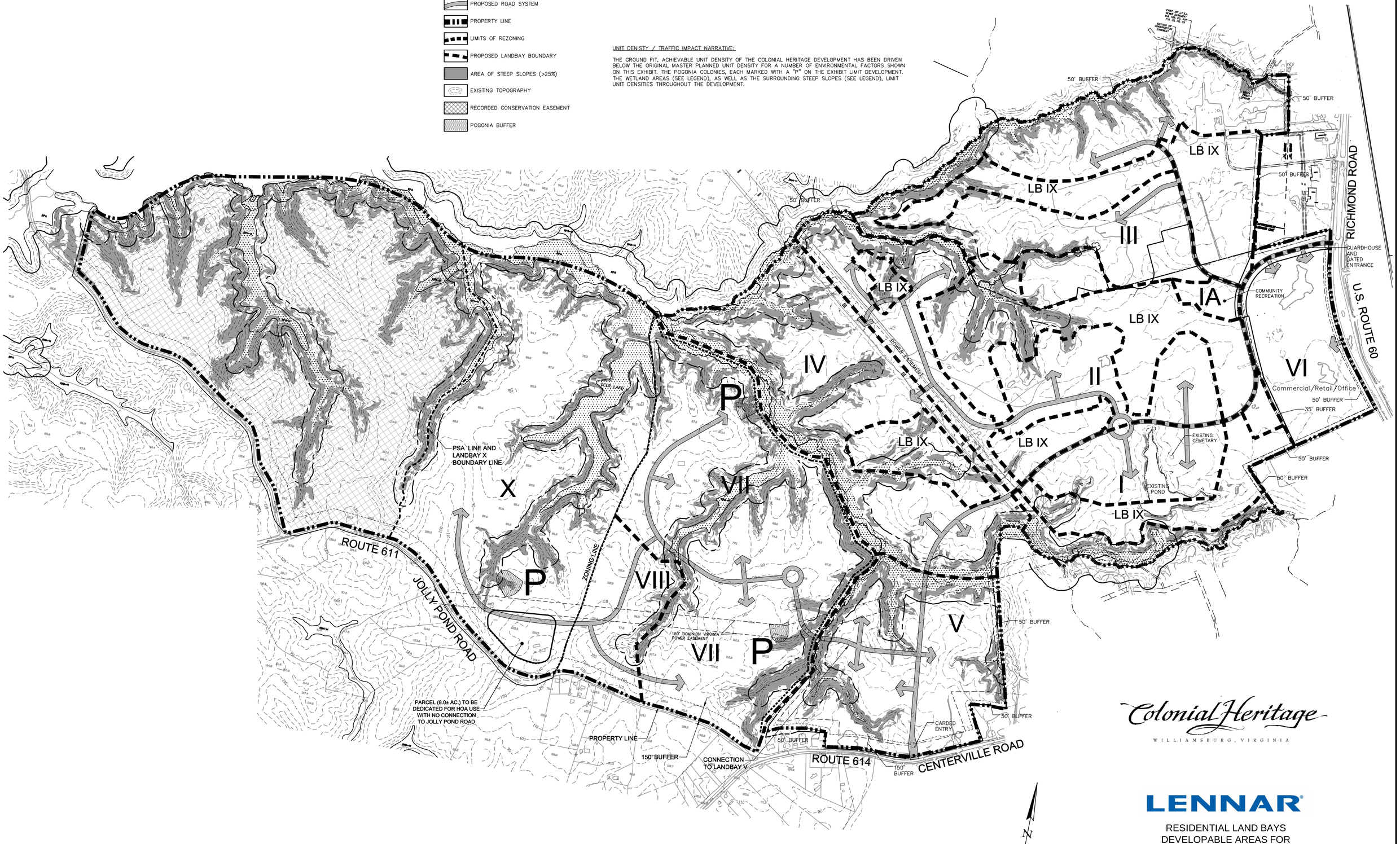
S:\JOBS\8881\24B Commercial Rebrand\eng\PVC\Conceptual 3 Preliminary\8881-24B Conceptual Master Plan for Traffic Exhibit (2020-10-21).dwg, 10/21/2020 3:45:01 PM, bwerbrouck

LEGEND

- SURVEYED WETLAND LIMITS
- PROPOSED ROAD SYSTEM
- PROPERTY LINE
- LIMITS OF REZONING
- PROPOSED LANDBAY BOUNDARY
- AREA OF STEEP SLOPES (>25%)
- EXISTING TOPOGRAPHY
- RECORDED CONSERVATION EASEMENT
- POGONIA BUFFER

UNIT DENISITY / TRAFFIC IMPACT NARRATIVE:

THE GROUND FIT, ACHIEVABLE UNIT DENSITY OF THE COLONIAL HERITAGE DEVELOPMENT HAS BEEN DRIVEN BELOW THE ORIGINAL MASTER PLANNED UNIT DENSITY FOR A NUMBER OF ENVIRONMENTAL FACTORS SHOWN ON THIS EXHIBIT. THE POGONIA COLONIES, EACH MARKED WITH A "P" ON THE EXHIBIT LIMIT DEVELOPMENT. THE WETLAND AREAS (SEE LEGEND), AS WELL AS THE SURROUNDING STEEP SLOPES (SEE LEGEND), LIMIT UNIT DENSITIES THROUGHOUT THE DEVELOPMENT.



Colonial Heritage
WILLIAMSBURG, VIRGINIA

LENNAR

RESIDENTIAL LAND BAYS
DEVELOPABLE AREAS FOR
PLANNED BUILD OUT BASED
ON GROUND FIT

N

GRAPHIC SCALE
400' 0' 400' 800'
SCALE: 1" = 400'

AES CONSULTING ENGINEERS
5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188
Phone: (757) 253-0040
Fax: (757) 220-8994
www.aesva.com
Hampton Roads | Central Virginia | Middle Peninsula

OCT. 21, 2020

TRAFFIC IMPACT EXHIBIT
AES JOB: 8881-3A

S:\JOB\8881\03-4 Arborist\Planning\Master Planning\2020 MP Amendment Documents\Traffic Impact Exhibit.dwg, 10/21/2020 3:40:25 PM, bwickland

Fiscal Impact Analysis Worksheet - Current Land Use

This Excel file will assist you in calculating the fiscal impact of current land usage. Please skip irrelevant questions.
Use the numbers in this program to fill in the identical section on the worksheet.

Please enter the information requested in the relevant yellow highlighted cells

4a) How many dwelling units exist on-site? What types?

Single Family Detached	0
Townhome/Condominium/Multifamily	0
Apartment	0
Mobile Home Park Unit	0
Total	0

Residential Expenses - School Expenses

4b) How many students exist?

	Student Generation Rate	Students Generated
Single Family Detached	0.4	0
Townhome/Condominium/Multifamily	0.17	0
Apartment	0.31	0
Mobile Home Park Unit	0.46	0
Total		0

4c) What are the current school expenses?

Total Students	0
Per Student School Cost	$ 16,633.00
Total School Fiscal Impact	$ -

Residential Expenses - Non-School Expenses

4d) What is the current population?

Total Units	0
Average Household Size	2.45
Total Population Generated	0

4e) What are the current non-school expenses?

Total Population Generated	0
Per-Capita Non School Expenses	1,309.00
Total Non-School Expenses	$ -

4f) What are the total current residential expenses?

Total School Expenses	0
Total Non-School Expenses	0
Total Residential Expenses	$ -

Residential Revenues

4g) What are the current assessed values of residential properties?

Property Address	**Assessment Value (Land and Improvements)**
499 Jolly Pond Road (2240100007)	$ 6,378,000.00
	$ -
Total Current Assessed Residential Property Value	$ 6,378,000.00

4h) What are the current real estate taxes paid?

Total Current Assessed Residential Property Value	$ 6,378,000.00
Real Estate Tax Rate	0.0084
Total Real Estate Tax Revenue	$ 53,575.20

4i) What are the current personal property taxes paid?

Total Real Estate Tax Revenue	$	53,575.20
Personal Property Tax Revenue (as % of real estate taxes paid)		0.15
Total Personal Property Tax Revenue	$	8,036.28

4j) What is the total sales and meals tax revenue?

Total Real Estate Tax Revenue	$	53,575.20
Sales and Meals Tax Revenue (as % of real estate taxes paid)		0.09
Total Personal Property Tax Revenue	$	4,821.77

4k) What is the total residential tax revenue?	$	66,433.25
4l) What is the current residential fiscal impact?	$	66,433.25
4m) What is the final residential impact?	$	277,469.25

Current Commercial Expenses

5a) How many businesses exist on site? (Include all businesses that rent or lease space)

Total Number of Current Businesses	0

5b) What are the commercial per-business expenses?

Total Commercial Real Estate Taxes Paid	$	-
Per-Business Commercial Expense Rate		0.00468
Total Commercial Expenses	$	-

Current Commercial Revenues

5c) What are the current commercial real estate taxes paid for each proposal property?

	Business Properties	Assessment Value
1		
2		
3		
4		
5		
6		
	Total Commercial Real Estate Assesment Value	$ -
	Real Estate Tax Rate	0.0084
	Total Commercial Real Estate Taxes Paid	$ -

5d) What is the business personal property tax revenue?

	Business Name(s)	Initial Capital Investment	
1		$ -	$ -
2		$ -	$ -
3		$ -	$ -
4		$ -	$ -
5		$ -	$ -
6		$ -	$ -
	Total Business Personal Property Taxes Paid		$ -

5e) What is the business tools tax paid on manufacturing equipment (for manufacturers only)?

	Business Name(s)	Initial Capital Investment	
1			$ -
2		$ -	$ -
3		$ -	$ -

4	$ -		$ -
5	$ -		$ -
6	$ -		$ -
Total Business Personal Property Taxes Paid			$ -

5f) What are other current sales-based taxes paid? (if any)

	Business Name(s)	Estimated Retail Sales	Estimated Prepared Meals Sales	Estimated Hotel/Motel/Condo Room Sales	
1	0		$ -	$ -	$ -
2	0	$ -	$ -	$ -	$ -
3		$ -	$ -	$ -	$ -
4		$ -	$ -	$ -	$ -
5		$ -	$ -	$ -	$ -
6		$ -	$ -	$ -	$ -
	Total	$ -	$ -	$ -	$ -
	Total Business Sales Tax Revenue				$ -

5g) What are the current annual business license fees paid?

	Current Business Name(s)	Business Type	Estimated Sales	License Fee Rate	
1		Contractors		0.0016	$ -
2		Manufacturers	$ -	0	$ -
3		Other Services	$ -	0.0036	$ -
4		Professional Servic	$ -	0.0058	$ -
5		Retail Sales	$ -	0.002	$ -
6		Wholesalers	$ -	0.0005	$ -
	Total Business License Revenue				$ -

5h) What are the total current commercial revenues?	$ -
5i) What is the current commercial fiscal impact?	$ -
5j) What is the final commercial fiscal impact?	$ -
5k) What is the final fiscal impact?	$ (277,469.25)

Please return to the previous worksheet. Click the "Proposed" worksheet tab below.

Fiscal Impact Analysis Worksheet - Version 2018 - Proposed Land Use (Last Updated on 7/16/2019)

This Excel file will assist you with most of the Fiscal Impact Worksheet's calculations. Please skip inapplicable questions.
Use the numbers in this program to fill in the identical section on the worksheet.

Please enter the information requested in the relevant yellow highlighted cells

2a) How many residential units are proposed? What types?

Single Family Detached (Age Restricted)	150
Townhome/Condominium/Multifamily	
Apartment	
Manufactured Home Park Unit	
Total	150
Are any units affordable? If yes, how many?	

Residential Expenses - School Expenses

2b) How many students are generated?

	Student Generation Rate	Students Generated
Single Family Detached	0.4	0
Townhome/Condominium/Multifamily	0.17	0
Apartment	0.31	0
Manufactured Home Park Unit	0.46	0
Total		0

2c) What is the schools expenses?

Total Students	0
Per Student Operating Costs	$9,225.00
Per Student Capital Costs	$7,408.00
Per Student School Costs	$16,633.00
Total School Fiscal Impact	$ -

Residential Expenses - Non-School Expenses

2d) What is the total population generated?

Total Units	150
Average Household Size	2.45
Total Population Generated	367.5

2e) What are the total non-school expenses?

Total Population Generated	367.5
Per-Capita Non School Costs	$ 1,309.00
Total Non-School Costs	$ 481,057.50

2f) What is the total residential expenses?

Total School Expenses	$ -
Total Non-School Expenses	$ 481,057.50
Total Residential Expenses	$ 481,057.50

Residential Revenues

2g) What is the average expected market value for each type of unit sold?

	Unit Type	Number of Type	Price for Each Unit Type
Single Family Detached	Age Restricted Home	150	$ 400,000.00
		0	$ -
		0	$ -
		0	$ -
Townhome/Condominium/Multifamily		0	$ -
		0	$ -
		0	$ -
Apartment (Value of Apartment Complex (Total))			
Manufactured Home Park Unit (Value of Park Property (Total))		0	
Total Expected Real Estate Sales Amount			$ 60,000,000.00

2h) What are the total real estate taxes paid?

Total Expected Real Estate Sales Amount	60000000

Real Estate Tax Rate		0.0084
Total Real Estate Tax Revenue	$	504,000.00

2i) What is are total personal property taxes paid?

Total Real Estate Tax Revenue		504000
Personal property Tax Revenue (as % of Real Estate Taxes Paid)		0.15
Total Personal Property Tax Revenue	$	75,600.00

2j) What are the total sales and meals taxes paid?

Total Real Estate Tax Revenue		504000
Sales and Meals Tax Revenue (as % of real estate taxes paid)		0.09
Total Personal Property Tax Revenue	$	45,360.00

2k) What are total conservation easement taxes paid? (If any)

Total Acreage in Conservation Easement		100
Conservation Easement Real Estate Tax Rate		2000
Total Conservation Easement Tax Revenue	$	200,000.00

2l) What are the total HOA taxes paid (for property rentable to non-HOA members, if any)?

Total Market Value of any HOA Property Rentable to non-HOA Members		0
Real Estate Tax Rate		0.0084
Total Rentable HOA Property Tax Revenue	$	-

2m) What is the total residential tax revenue? $ 824,960.00

Residential Fiscal Impact

2n) What is the residential fiscal impact? $ 343,902.50

Commercial Expenses

3a) How many new businesses are proposed? (Include all businesses that will rent or lease space)

Total Number of New Businesses	0

3b) What is the expected real estate market value for each business property (at buildout)?

	Business Property	Expected Market Value
1		
2		
3		
4		
5		
6		
Total Commercial Real Estate Expected Market Value		$ -

3c) What are the commercial expenses?

Total Commercial Real Estate Taxes Paid		0
Per-Business Commercial Expense Rate		0.00468
Total Commercial Expenses	$	-

Commercial Revenues

3d) What are the commercial real estate taxes paid?

Total Commercial Real Estate Assessment Value		0
Real Estate Tax Rate		0.0084
Total Commercial Real Estate Taxes Paid	$	-

3e) What are the business personal property taxes paid?

Proposed Businesses Name (s)	Initial Capital Investment

1			$ -
2		$ -	$ -
3		$ -	$ -
4		$ -	$ -
5		$ -	$ -
6		$ -	$ -
	Total Business Personal Property Taxes Paid		$ -

3f) What are the business machinery and tools taxes paid (for manufacturers only)?

	Proposed Businesses Name(s)	Initial Capital Investment	
1		$ -	$ -
2		$ -	$ -
3		$ -	$ -
4		$ -	$ -
5		$ -	$ -
6		$ -	$ -
	Total Business Personal Property Taxes Paid		$ -

3g) What are retail sales-based taxes paid? (if any)

	Proposed Business Name(s)	Estimated Retail Sales	Estimated Prepared Meals Sales	Estimated Hotel/Motel/Condo Room Sales	
1		$ -	$ -	$ -	$ -
2		$ -	$ -	$ -	$ -
3		$ -	$ -	$ -	$ -
4		$ -	$ -	$ -	$ -
5		$ -	$ -	$ -	$ -
6		$ -	$ -	$ -	$ -
	Total Sales-Based Tax Paid	$ -	$ -	$ -	$ -
	Total Business Sales Tax Revenue				$ -

3h) What are the proposed annual business license fees paid?

	Proposed Business Name(s)	Business Type	Estimated Sales	License Fee Rate	
1		Contractors	$ -	0.0016	$ -
2		Manufacturers	$ -	0	$ -
3		Other Services	$ -	0.0036	$ -
4		Professional Services	$ -	0.0058	$ -
5		Retail Sales	$ -	0.002	$ -
6		Wholesalers	$ -	0.0005	$ -
	Total Business License Revenue				$ -

3i) What are the total commercial revenues? $ -

Commercial Fiscal Impact

3j) What is the net commercial fiscal impact? $ -

3k) What is the proposed fiscal impact? $ 343,902.50

You will now estimate the current conditions of the proposal property.

What is the final fiscal impact? $ 277,469.25

Phasing - Residential Phasing

6a) When will proposed residential units be built?

Total Units Proposed 150

	Year 1	Year 2	Year 3	Year 4	Year 5	Buildout
Homes Built	30	30	30	30	30	150

Total Res Exp	$ 481,057.50	$	481,057.50	$	481,057.50	$	481,057.50	$	481,057.50	
Per Unit Exp	$ 3,207.05	$	3,207.05	$	3,207.05	$	3,207.05	$	3,207.05	$ 3,207.05
Total Res Exp	$ 96,211.50	$	96,211.50	$	96,211.50	$	96,211.50	$	96,211.50	$ 481,057.50
Total Res Rev	$ 824,960.00	$	824,960.00	$	824,960.00	$	824,960.00	$	824,960.00	
Per Unit Rev	$ 5,499.73	$	5,499.73	$	5,499.73	$	5,499.73	$	5,499.73	$ 5,499.73
Total Res Rev	$ 164,992.00	$	164,992.00	$	164,992.00	$	164,992.00	$	164,992.00	$ 824,960.00
Per Unit Impact	$ (2,292.68)	$	(2,292.68)	$	(2,292.68)	$	(2,292.68)	$	(2,292.68)	$ (2,292.68)
Res Impact	$ (55,493.85)	$	(110,987.70)	$	(166,481.55)	$	(221,975.40)	$	(277,469.25)	$ 277,469.25

Phasing - Commercial Phasing

6b) When will proposed commercial units be built?

	Total New Businesses		0
	Year 1	**Year 2**	**Buildout**
Bus Built	0	0	0
Bus Exp	$ -	$ -	
Per Bus Exp	#DIV/0!	#DIV/0!	
Year Bus Exp	#DIV/0!	#DIV/0!	
Bus Rev	$ -	$ -	
Per Bus Rev	#DIV/0!	#DIV/0!	
Year Bus Rev	#DIV/0!	#DIV/0!	
Bus Impact	#DIV/0!	#DIV/0!	

6c) What is the final phasing projection?

	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Buildout**
Res Impact	$ (55,493.85)	$ (110,987.70)	$ (166,481.55)	$ (221,975.40)	$ (277,469.25)	$ (277,469.25)
Bus Impact	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
Final Impact	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	

Employment

7a) How many fill-time equivalent jobs (FTE)will be generated from the proposal? What will be the average payroll?

	Business	**FTE Jobs Generated**	**Average Payroll**
1			
2			$ -
3			$ -
4			$ -
5			$ -
6			$ -

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AMENDED AND RESTATED

PROFFERS

COLONIAL HERITAGE AT WILLIAMSBURG

December, 2004

AMENDED AND RESTATED
PROFFERS
COLONIAL HERITAGE AT WILLIAMSBURG

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AMENDED AND RESTATED

PROFFERS

COLONIAL HERITAGE AT WILLIAMSBURG

THESE AMENDED AND RESTATED PROFFERS are made this 2nd day of December, 2004, by and among:

COLONIAL HERITAGE LLC, a Virginia limited liability company ("Colonial Heritage") (to be indexed as grantor) and

THE COUNTY OF JAMES CITY, VIRGINIA ("County") (to be indexed as grantee), provides as follows:

RECITALS:

R-1. Colonial Heritage is a wholly-owned subsidiary of and is managed by U.S. Home Corporation, a Delaware corporation ("U.S. Home").

R-2. Colonial Heritage is the owner of certain real property located in the County of James City, Virginia, more particularly described on **Exhibit A** attached hereto and made a part hereof. The property described on Exhibit A is referred to herein as the "Colonial Heritage Property."

R-3 Colonial Heritage is likewise the owner of certain real properly located in the County of James City, Virginia containing 740.2 ± acres, formerly owned by the Colonial

Prepared by: Kaufman & Canoles, P.C.
P.O. Box 6000
Williamsburg, VA 23188

Virginia Council of Boy Scouts of America, Inc., more particularly described on **Exhibit B**, attached hereto and made a part hereof (the "Boy Scout Property").

R-4. Colonial Heritage is the developer of an age-restricted active adult community known as Colonial Heritage, located on the Colonial Heritage Property, pursuant to certain Proffers dated November 7, 2001 which are recorded in the Office of the Clerk of the Circuit Court for the City of Williamsburg and County of James City as Instrument No. 010022082 (the "Proffers"), and a master plan of development which is incorporated by reference and made a part of the Proffers.

R-5. A portion of the Boy Scout Property described on **Exhibit C** is located outside the Primary Service Area defined on the James City County Comprehensive Plan and Zoning Map as in effect on the date hereof ("PSA") (the "Non-PSA Boy Scout Property").

R-6. All real property which is described on Exhibits A and B inclusive and which is located inside the PSA shall be referred to collectively herein as the "Property".

R-7. Colonial Heritage, its successors and assigns who own record title to the Property and subsequent purchasers of Residential Units (as hereinafter defined) and non-residential areas are referred to collectively herein as the "Owners". The term "Residential Unit(s)" as used herein shall be defined as any residential dwelling, house, condominium or other unit.

R-8. The Owners and/or their predecessors in title have filed applications under County file numbers Z-3-02/Z-4-02/MP-1-02 (the "Applications for Amendment") to (i) rezone the Boy Scout Property, and (ii) to amend the previously approved master plan and the Proffers

in connection with incorporating portions of the Boy Scout Property into Colonial Heritage but without any increase whatsoever in the number of permitted Residential Units, and (iii) to rezone the Non-PSA Boy Scout Property from A-1 to A-1 with a special use permit (referenced in R-10 below) allowing a residential cluster development.

R-9. Colonial Heritage has filed an application for a special use permit ("SUP") under County file number SUP-21-04 to establish not more than fifty (50) residential lots on the Non-PSA Boy Scout Property, which application and SUP will impose certain conditions upon the Non-PSA Boy Scout Property.

R-10. The provisions of the Zoning Ordinance, Section 24-1, *et seq.* possibly may be deemed inadequate for protecting and enhancing orderly development of the Property in accordance with the County Comprehensive Plan. The Owners, in furtherance of the Application, desire to proffer certain conditions which, among other things, provide for some of the types of benefits specified in the low density residential provisions of the comprehensive plan and in the Cluster Development Standards and density bonus provisions of the Zoning Ordinance applicable to R-1, R-2 and R-5 districts that should be provided for densities greater than one dwelling unit per acre. These conditions are specifically limited solely to those set forth herein in addition to the regulations provided for by the Zoning Ordinance for the protection and enhancement of the development of the Property, in accordance with the provisions of Section 15.2-2296 *et seq.* of the Code of Virginia (1950), as amended (the "Virginia Code"), and Section 24-16 of the Zoning Ordinance.

R-11. The County constitutes a high-growth locality as defined by Section 15.2-2298 of the Virginia Code.

R-12. Phase I, II and III Archaeological Studies have been performed on the Colonial Heritage Property as described in that document entitled: An Archeological Assessment of the Massie and Ware Tracts, James City County, Virginia dated October, 2000 prepared by Cultural Resources, Inc. The referenced studies with treatment plans required pursuant to paragraph 2 below have been approved by the County Director of Planning.

R-13. Copies of each of the studies referenced in Recital paragraph R-13 and paragraph 2 below are on file in the office of the County Director of Planning.

R-14. A Community Impact Statement made by AES Consulting Engineers, with update dated June 24, 2002 has been submitted to the County Director of Planning for review and approval by the County in connection with both the Application and the Applications for Amendment, and those statements are on file in the office of the County Director of Planning.

NOW, THEREFORE, for and in consideration of the approval by the County of the rezoning of the Property, and pursuant to Section 15.2-2296 of the Virginia Code and Section 24-16 of the Zoning Ordinance, Colonial Heritage agrees that the Owners shall meet and comply with the following conditions and proffers as indicated in developing the Property.

PROFFERS:

SECTION I. Proffers Applicable to All Property.

1. Binding Master Plan. The Property shall be developed generally in accordance with an Amended Master Plan of Development pursuant to Section 24-515(b) of the Zoning Ordinance entitled "Amended Master Development Plan of Colonial Heritage at Williamsburg" made by AES Consulting Engineers and Land Design, Inc. and Williamsburg Environmental Group, Inc., dated June 21, 2002, and revised July 2, 2004, which is incorporated by reference (the "Master Plan"). The Master Plan provides only for the general location of proposed streets, the general location of proposed areas of open space, buffer areas, recreation facilities, densities, and types of land use, and the general location of proposed areas for golf fairways, greens, drainage facilities, pedestrian connectivity, greenways and other amenities. Development plans may deviate from the Master Plan if the Planning Commission concludes after reviewing written comments from the Planning Director that the plan does not significantly alter the character of land uses or other features or conflict with any conditions placed on the approval of the rezoning. The County hereby acknowledges that the Master Plan described above has been submitted to and is on file in the office of the County Director of Planning. Prior to or concurrent with submission of development plans for each land bay shown on the Master Plan within the Property ("Land Bays"), the Owners shall receive approval from the County's Director of Planning of more detailed master plan(s) for each Land Bay which more detailed master plans shall describe the dwelling unit and commercial land use types and layout for each Land Bay.

2. Archaeological Study. If not previously submitted and approved, a Phase I Archaeological Study for each Land Bay shall be submitted to the Director of Planning for his review and approval prior to issuance of a land disturbing permit for any soil disturbing activity in such Land Bay. A treatment plan shall be submitted to, and approved by, the Director of Planning for all sites in the Phase I study that are recommended for a Phase II evaluation, and/or identified as being eligible for inclusion on the National Register of Historic Places. If a Phase II study is undertaken, such a study shall be approved by the Director of Planning and a treatment plan for said sites shall be submitted to, and approved by, the Director of Planning for sites that are determined to be eligible for inclusion on the National Register of Historic Places and/or those sites that require a Phase III study. If in the Phase II study, a site is determined eligible for nomination to the National Register of Historic Places and said site is to be preserved in place, the treatment plan shall include nomination of the site to the National Register of Historic Places. If a Phase III study is undertaken for said sites, such studies shall be approved by the Director of Planning prior to land disturbance within the study area. All Phase I, Phase II and Phase III studies shall meet the Virginia Department of Historic Resources' Guidelines for Preparing Archaeological Resource Management Reports and the Secretary of the Interior's Standard and Guidelines for Archaeological Documentation, as applicable, and shall be conducted under the supervision of a qualified archaeologist who meets the qualifications set forth in the Secretary of the Interior's Professional Qualification Standards. All approved treatment plans shall be incorporated into the plan of development for each Land Bay and shall be adhered to during the clearing, grading and construction activities thereon.

3. Traffic.

A. U.S. Home has submitted to the Office of the County Director of Planning and the Virginia Department of Transportation ("VDOT") a traffic analysis dated October 23, 2000 entitled: "Traffic Analysis for U.S. Homes Site on Richmond Road" prepared by DRW Consultants, Inc. as updated by supplements dated June 18, 2002 and July 28, 2004 (the "Traffic Study"). The Traffic Study is on file with the County Department of Planning.

B. The following entrance and road improvements ("West Crossover Improvements") shall be installed to VDOT standards and specifications:

(1) A traffic signal at the west crossover as shown and defined in the Traffic Study (hereinafter "West Crossover").

(2) Modification on and/or improvement of the single left turn lane on westbound Richmond Road at the West Crossover, if, as and when required by VDOT.

(3) Construction of a right-turn lane on eastbound Richmond Road at the West Crossover.

(4) Construction of two (2) exit lanes and two (2) entrance lanes at the site entrance at the West Crossover.

(5) Construction of a left-turn lane on eastbound Richmond Road at the West Crossover as necessary to accommodate the traffic signal described above.

(6) Modifications to crossover pavement to accommodate improvements listed herein.

C. In addition, the following entrance and road improvements ("East Crossover Improvements") shall be installed to VDOT standards and specifications:

(1) A traffic signal at the east crossover as shown on the Traffic Study (hereinafter "East Crossover").

(2) Construction of double left turn lanes on westbound Richmond Road at the East Crossover.

(3) Construction of a right turn lane on eastbound Richmond Road at the East Crossover.

(4) Construction of three (3) exit lanes and two (2) entrance lanes at the site entrance at the East Crossover.

(5) Construction of an eastbound left turn lane at the East Crossover as necessary to accommodate a traffic signal.

(6) Construction of East Crossover pavement to accommodate improvements listed herein.

(7) If commercial component or Nonresidential Use (as defined below) development precedes residential development and commercial component or Nonresidential access to the West Crossover is requested, then the West Crossover

improvements cited above shall be required as a condition of the Nonresidential development approval upon determination of necessity by the County Director of Planning and approval by VDOT.

D. (1) The East Crossover and West Crossover Improvements cited above may be phased in accordance with a commercial phasing plan. Any phasing of East Crossover and West Crossover Improvements must be approved by VDOT and the County Director of Planning as a condition of the site plan approval for the commercial phase.

(2) After approval of the first phase of road improvements identified above and within 30 days of a request from VDOT, the Owners shall pay to VDOT a pro rata share (pro rata share based on the number of signals provided by the Owner divided by the total number of signals included) of any VDOT U.S. Route 60 (Richmond Road) signal coordination project that includes either or both of the East and West Crossovers committed for construction by the earlier of December 31, 2020 or the date of completion of development of the Property (defined below).

(3) For purposes of this paragraph, the date of completion of development of the Property shall be defined as the later of such date on which preliminary site plan or preliminary subdivision plan approval has been granted by the County for all portions of the Property devoted to both residential and commercial use.

(4) The cost for a signal coordination project may include traffic signal equipment at intersections on Richmond Road and may include any necessary utility relocation

within available right of way and easements to accommodate traffic signal equipment, but will not include any right of way acquisition expense(s) or road construction changes.

E. For any right turn in/right turn out driveway on eastbound Richmond Road to provide access to the Nonresidential areas of the Property, a right turn lane on eastbound Richmond Road shall be installed to VDOT standards and specifications prior to the issuance of any temporary or permanent Certificate of Occupancy for buildings shown on the associated site plan.

F. In addition, the following entrance and road improvements shall be installed to VDOT standards and specifications:

(1) Construction of a left turn lane on northbound Centerville Road at the point of access.

(2) Construction of a right turn lane on southbound Centerville Road at the point of access.

(3) Construction of two (2) exit lanes and one (1) entrance lane at the point of access.

(4) A traffic signal shall be installed on Centerville Road at the point of access.

G. Plantings approved in advance by the County Director of Planning and VDOT, if necessary, shall be placed in the median of Richmond Road along those portions of Richmond Road which abut the Property.

H. Except as otherwise provided herein, the entrance and road improvements described in subparagraphs B and C above shall be completed prior to approval of any final subdivision plat or final site plan for any lot, section or phase housing a Residential Unit within the Property. Construction of the clubhouse, golf course or other neighborhood recreation facilities, roads and amenities within Colonial Heritage may begin and may be completed prior to completion of such road improvements.

I. The road improvements to Centerville Road described in subparagraph F above shall be completed or bonded prior to approval of any subdivision plat or final site plan for any lot, section or phase containing Residential Units within Land Bay V, VII or VIII as shown on the Master Plan. The entrance and road improvements for Centerville Road described in subparagraph F above and the connection of the main road shown on the Master Plan connecting State Route 614 (Centerville Road) to U.S. Route 60 (Richmond Road) shall be completed or bonded prior to approval of any final subdivision plat or site plan for any lot, section or phase creating a cumulative total of 1,200 Residential Units within the Property. No Residential Units beyond 1200 shall be approved by the County until said improvements and connection have been completed or bonded. If said improvements and connection to Centerville Road have not then been completed, then the Owner shall provide an additional traffic impact analysis (reviewed and approved by the County Director of Planning and VDOT) to include:

(1) A count of actual traffic using the U.S. Route 60 (Richmond Road) access during the AM and PM peak hours.

(2) A determination of the actual trip generation rates of the existing Residential Units during the AM and PM peak hours.

(3) A forecast for the then remaining Residential Units on the Property to be built to determine if the sum of the traffic from said remaining Residential Units at actual trip generation rates without the State Route 614 (Centerville Road) connection added to the actual trips exiting and entering the Property at U.S. Route 60 (Richmond Road) is less than or greater than the Residential Unit traffic assigned to U.S. Route 60 (Richmond Road) in the Traffic Study.

(4) If it is determined that the sum of said remaining Residential Unit traffic at actual trip generation rates without the State Route 614 (Centerville Road) connection added to the actual trips exiting and entering the Property at U.S. Route 60 (Richmond Road) is greater than the Residential Unit traffic assigned to U.S. Route 60 (Richmond Road) in the Traffic Study, then the additional traffic impact analysis will determine either:

(a.) That the traffic from said remaining Residential Units based on actual trip generation rates will not change the levels of service (letter grade) presented in the Traffic Study in which event subdivision and/or final site plan approval may proceed beyond the 1,200 units described above, or

(b.) Additional road improvements identified by the Traffic Study and needed on U.S. Route 60 (Richmond Road) to provide the levels of service (letter grade) presented in the Traffic Study for the remaining Residential Units at actual trip generation rates will be provided by the Owner.

(5) The improvements identified in 3(I)(4)(b) above, if any, shall be installed or bonded as described below prior to final site plan or subdivision approval for any Residential Units beyond 1200. Except as provided to the contrary above, the Owner may obtain final plat or site plan approval by bonding the completion of the required improvements.

J. Furthermore, the following additional measures shall be undertaken:

(1) Prior to issuance of a building permit for the 600th Residential Unit on the Property, a trip generation study of the residential development of the Property shall be conducted and submitted to the County Director of Planning and VDOT for review and approval. The trip generation study shall conduct counts (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.) and document actual two-way A.M. and P.M. peak hour trip generation for Residential Units for which a certificate of occupancy has been issued by the County as of the date of the study, but such counts shall be limited to entering and exiting counts at all residential points of access to the Property.

(a.) In the event that such actual two-way A.M. and/or P.M. peak hour trip generation for Residential Units for which a certificate of occupancy has been issued is greater than the residential trip generation rates projected in the Traffic Study,

additional steps shall be taken as described in subparagraph 4 below to mitigate traffic impacts upon Richmond Road and/or Centerville Road.

(b.) In the event that actual trip generation rates are equal to or less than those projected in the Traffic Study, development of Residential Units may proceed pending additional traffic studies as described below.

(c.) The trip generation study shall also include an assessment of the need for the second left turn lane westbound on Route 60 at the west crossover and the second left turn lane northbound on Centerville Road, Route 614 at the west crossover for construction of 600 to 1200 residential units. If needed, either or both turn lanes shall be constructed or bonded prior to approval of the number of units determined in the study to require either or both turn lanes.

(2) Prior to issuance of a building permit for the 1,200th Residential Unit on the Property, a trip generation study of the residential development of the Property shall be conducted and submitted to the County Director of Planning and VDOT for review and approval. The trip generation study shall conduct counts (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.) and document actual two-way A.M. and P.M. peak hour trip generation for Residential Units for which a certificate of occupancy has been issued by the County as of the date of the study, but such counts shall be limited to entering and exiting counts at all residential points of access to the Property.

(a.) In the event that the actual two-way A.M. and/or P.M. peak hour trip generation for Residential Units for which a certificate of occupancy has been issued is

greater than the residential trip generation rates projected in the Traffic Study, additional steps shall be taken as described in subparagraph 4 below to mitigate traffic impacts upon Richmond Road and/or Centerville Road.

(b.) In the event that actual trip generation rates are equal to or less than those projected in the Traffic Study, development of Residential Units may proceed pending additional traffic studies as described below.

(c.) The trip generation study shall also include an assessment of the need for the second left turn lane westbound on Route 60 at the west crossover and the second left turn lane northbound on Centerville Road, Route 614 at the west crossover for construction of 1200 to 1600 residential units. If needed, either or both turn lanes shall be constructed or bonded prior to approval of the number of units determined in the study to require either or both turn lanes.

(3) Prior to issuance of a building permit for the 1,600th Residential Unit on the Property, a trip generation study of the residential development of the Property shall be conducted and submitted to the County Director of Planning and VDOT for review and approval. The trip generation study shall conduct counts (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.) and document actual two-way A.M. and P.M. peak hour trip generation for Residential Units for which a certificate of occupancy has been issued by the County as of the date of the study, but such counts shall be limited to entering and exiting counts at all residential points of access to the Property.

(a.) In the event that the actual two-way A.M. and/or P.M. peak hour trip generation for Residential Units for which a certificate of occupancy has been issued is greater than the residential trip generation rates projected in the Traffic Study, additional steps shall be taken as described in subparagraph 4 below to mitigate traffic impacts upon Richmond Road and/or Centerville Road.

(b.) In the event that actual trip generation rates are equal to or less than those projected in the Traffic Study, development of Residential Units may proceed.

(c.) The trip generation study shall also include an assessment of the need for the second left turn lane westbound on Route 60 at the west crossover and the second left turn lane northbound on Centerville Road, Route 614 at the west crossover for construction of 1600 to 2000 residential units. If needed, either or both turn lanes shall be constructed or bonded prior to approval of the number of units determined in the study to require either or both turn lanes.

(4) In the event that such actual trip generation rates as determined above produced by Residential Units on the Property exceed those projected by the Traffic Study, additional roadway improvements shall be made after each trip generation study or, at the option of the County, cash payment(s) may be made to the County after each trip generation study in order to fund road improvements, additional signal coordination, capacity improvements on Richmond Road or Centerville Road, or other capacity needs generated by development of the Property as may be determined appropriate and approved in advance by the County Director of Planning; provided, however, that the aggregate cost of improvements and/or cash payment(s)

described herein during the entire development of the Property shall not exceed a total of Five Hundred Thousand and No/100 Dollars ($500,000.00).

K. The Owners shall make a contribution to the County in the amount of $40,250.00 for a portion of the costs of intersection improvements at the Centerville/Jolly Pond intersection as described by the Traffic Study. This payment shall be made on or before January 1, 2006.

L. Traffic signals described in and required by this paragraph 3 shall be constructed at such time as warrants, need or traffic thresholds established by VDOT are met (referred to herein as "warranted"). Prior to the issuance of final site plan or subdivision plat approval for the 1500th Residential Unit on the Property, any traffic signal required by this paragraph which has not been warranted shall be guaranteed in accordance with the following procedure:

(1) A cash deposit in the amount of ONE HUNDRED FIFTY THOUSAND AND NO/100 DOLLARS ($150,000.00) per traffic signal shall be made with the County.

(2) The deposit(s) referenced above shall be held for a period of five (5) years (the "Deposit Term") from the date on which said deposits are made.

(a.) Should any traffic signal(s) not be warranted during the Deposit Term, the deposit for each of such lights shall be returned to the depositor or its assigns.

(b.) In the case of traffic signal(s) which are warranted during the Deposit Term, the deposit for such signal(s) shall be retained by the County in full satisfaction of the obligations created by these proffers to provide the subject signal(s).

4. Underground Utilities. All existing and new utilities, including electrical and telephone wires, conduits and all sewer and water pipes within the Property (but outside of the easements currently held by, or area currently dedicated to transmission lines for Dominion Virginia Electric & Power, Dominion Virginia Natural Gas and the City of Newport News) shall be underground, except as approved by the County Director of Planning.

5. Bus/Transit Facilities. A bus pull-off area and bus stop shelter shall be constructed on both Richmond Road and Centerville Road adjacent to the Property prior to issuance of a Certificate of Occupancy for any permanent building in Land Bay I. Design and location of the pull-off and shelter shall be approved in advance by the County Transit Administrator. The timing of completion of construction of the facilities required by this subparagraph may be deferred by approval of the County Transit Administrator.

6. Natural Resources.

A. The Owners shall commission a natural resource inventory of each of the portions of the Colonial Heritage Property to be disturbed, before each such portion is disturbed, which will map and describe unique and sensitive habitats for known threatened and/or endangered species, as well as rare species of concern ("Natural Heritage Resources") which are now listed by the Virginia Department of Conservation and Recreation's Division of Natural Heritage ("DCR/DNH"). These investigations will be conducted by personnel who are qualified

to conduct such studies and be submitted to and approved by the County Director of Planning prior to issuance of a preliminary site plan or subdivision plan approval for any portion of the development of the Property occupied by a Natural Heritage Resource. If the natural resource inventory confirms that a Natural Heritage Resource exists on a particular portion of the Property to be disturbed, a conservation management plan will be prepared, submitted, and approved by the County Director of Planning, as well as other agencies responsible for the protection/conservation of the specific species inventoried, prior to issuance of any land disturbance permit for the affected portion of the Property. All inventories and conservation management plans shall meet or exceed DCR/DNH standards. All approved conservation management plans shall be incorporated into the development plan of the portion of the Property affected and if unavoidable impacts will occur as a result of clearing, grading or construction, an appropriate mitigation plan will be developed by the Owners and approved by the County Director of Planning and the appropriate regulatory agency prior to issuance of a land disturbance permit for the portion of the development of the Property occupied by any Natural Heritage Resource. Such an inventory shall be completed and the terms above met for any portion of the property which is the subject of a land disturbance permit application before issuance of that permit. The provisions of this paragraph shall be in addition to and not in lieu of any environmental inventory otherwise required by the County Code.

B. The Owners shall commission a natural resource inventory for all of the Boy Scout Property within the PSA prior to County approval of any final site plan or subdivision plat for development on said property. Such inventory will map and describe unique and sensitive habitats for any known threatened and/or endangered species, as well as any rare

species of concern ("Natural Heritage Resources") which are listed by the Virginia Department of Conservation and Recreation's Division of Natural Heritage ("DCR/DNH"). These investigations will be conducted by personnel who are qualified to conduct such studies and be submitted to and approved by the County Director of Planning prior to preliminary site plan or subdivision plan approval for any portion of the development of the Property occupied by any Natural Heritage Resource. If the natural resource inventory confirms that a Natural Heritage Resource exists on a particular portion of the Property to be disturbed, a conservation management plan will be prepared, submitted, and approved by the County Director of Planning, as well as any other agency responsible for the protection/conservation of the specific species inventoried, prior to issuance of any land disturbance permit for the affected portion of the Property. All inventories and conservation management plans shall meet or exceed DCR/DNH standards. All approved conservation management plans shall be incorporated into the development plan of the portion of the Property affected and if unavoidable impacts will occur as a result of clearing, grading or construction, an appropriate mitigation plan will be developed by the Owners and approved by the County Director of Planning and the appropriate regulatory agency prior to issuance of a land disturbance permit for the portion of the development of the Property occupied by any Natural Heritage Resource.

7. Sidewalks. Sidewalks shall be constructed on one side of the road along those portions of Richmond Road and Centerville Road which abut the Property. These sidewalks shall be constructed prior to issuance of a building permit by the County for the 250th Residential Unit within the Property. Should VDOT or other permitting issues delay completion of the

sidewalks described in this paragraph, the Owners may be issued building permits beyond 250 Residential Units after bonding compliance with this paragraph.

8. Cash Proffer in Lieu of Public Use Site.

A. In order to mitigate impacts upon the County of development of the Property and its use as described herein, a contribution shall be made to the County in the amount of ONE MILLION FIVE HUNDRED THOUSAND AND NO/100 DOLLARS ($1,500,000.00). The County may make these monies available for any project in the County's capital improvement plan, the need for which is generated by the physical development and/or physical operation of the Property.

B. The cash contribution described in this paragraph shall be paid to the County on or before such date as is sixty (60) days after the date of final approval of both the Applications for Amendment and the SUP described above. For purposes of these proffers, final approval shall be defined as such date which is sixty (60) days after action of the Board of Supervisors approving the Applications for Amendment, no appeal or challenge to such action having been noted or filed by any person or party, or, in the event of such appeal or challenge, the date on which a final non-appealable order has been entered resolving any such appeal or challenge.

C. The cash proffer described in this paragraph shall be in lieu of and shall supersede any obligation described in the Proffers to convey or dedicate land for a public use site, including without limitation, Public Use Site A or Public Use Site B as described in the Proffers.

SECTION II. Proffers Applicable to Residential Property

1. Age Restriction. Occupancy of Residential Units developed upon the Property shall be age restricted to persons fifty-five (55) years of age or older in accordance with the following parameters:

A. It is the intent of the parties that Residential Units shall be occupied by persons fifty-five (55) years of age or older and that no Residential Unit shall be occupied by a person under the age of eighteen (18). In some instances, persons under the age of fifty-five (55) but over the age of eighteen (18) shall be entitled to occupy Residential Units, subject, at all times, to the laws and regulations governing age fifty-five (55) and over restricted housing as more particularly set forth and described in subparagraph B below.

B. Each Residential Unit within the Property shall have a master bedroom and bath on the main floor of such unit and shall be developed and operated in compliance with applicable federal and state laws and regulations regarding housing intended for occupancy by persons fifty five (55) years of age or older, including but not limited to: the Fair Housing Act, 42 U.S.C. §3601 *et seq.* and the exemption therefrom provided by 42 U.S.C. §3607(b)(2)(C) regarding discrimination based on familial status; the Housing for Older Persons Act of 1995, 46 U.S.C. §3601 *et seq.*; the Virginia Fair Housing Law Va. Code §36-96.1 *et seq.*; any regulations adopted pursuant to the foregoing; any judicial decisions arising thereunder; any exemptions and/or qualifications thereunder; and any amendments to the foregoing as now or may hereafter exist. Specific provisions of the age restriction described above and provisions for enforcement

of same shall be set forth in a declaration of restrictive covenants and property owners' association documents described in Section II, paragraph 8 below.

2. Density.

A. No more than two thousand (2,000) Residential Units shall be developed upon the Property. Any Residential Units developed on the Non-PSA Boy Scout Property shall be subject to this limitation on total Residential Units.

B. The maximum number of Residential Units for which building permits may be issued both on the Property and the Non-PSA Boy Scout Property shall not exceed a total of two thousand (2,000). Any development of Residential Units on the Non-PSA Boy Scout Property shall otherwise comply with all applicable provisions of the Zoning Ordinance in effect from time to time.

3. Water Source: Cash Contribution. A contribution shall be made to the County in the amount of Seven Hundred Fifty and No/100 Dollars ($750.00) for each Residential Unit developed on the Property (the "Per Unit Contribution"). The County shall make these monies available for development of water supply alternatives. Such contributions shall be payable for each of the Residential Units developed within the Property upon the earlier of the time of final subdivision plat or final site plan approval by the County for the particular Residential Unit or grouping, phase or section of Residential Units.

4. Neighborhood Recreation Facilities. The following recreation facilities shall be provided, open to all residents of the Property, maintained and regulated by the Association (defined below):

A. Park land which meets or exceeds the Guidelines (defined below) shall be established by Colonial Heritage. Included shall be an eighteen (18) hole golf course, an approximately 10 acre clubhouse site with a clubhouse facility of at least 15,000 square feet and related amenities. Clubhouse amenities shall include a room for library use which shall accommodate a cooperative program between the Williamsburg Regional Library (or successor public library) and the Association (defined in Section II, paragraph 8 below). Clubhouse amenities shall also include an aerobic exercise room and locker rooms.

B. Tennis courts numbering not fewer than three (3).

C. An indoor and an outdoor swimming pool with an aggregate area of all pools (whether one or more, indoor, outdoor or both) not less than twenty-five (25) meters by twenty-five (25) meters.

D. The clubhouse, swimming pool(s) and tennis courts shall be completed before issuance of the Certificate of Occupancy for the 450th Residential Unit within the Property.

E. (1) The Owners shall construct and convey to the County public greenways generally as shown on the Master Plan. Such greenways shall be in the location(s) as generally shown on the Master Plan and shall not exceed 30 feet in width.

(2) The greenways described herein shall be (a) conveyed subject to restrictive covenants prohibiting all motorized vehicles from operating thereon, and further prohibiting all buildings or structures thereon, (b) constructed with soft, pervious surfaces in accordance with the County Greenway Master Plan approved June 25, 2002, and (c) constructed not less than eight (8) feet in width unless a lesser width is approved by the County Director of Planning.

(3) The general location of greenways within the Property shall be described in advertising, promotional and disclosure materials published by the Owners.

(4) Greenways located inside the PSA shall be constructed and conveyed in segments, with each section or segment constructed and conveyed prior to issuance by the County of a building permit for any structure in any section or tract adjacent to a particular segment of greenway.

(5) Greenways located outside the PSA shall be dedicated as shown on the Master Plan prior to final approval of any subdivision plat establishing lots on the Boy Scout Property outside the PSA. The Owners shall not be required to clear or construct those greenways which are located outside the PSA.

5. Transitional Screening.

A. A landscape area shall be established between all commercial and residential use areas within the Property. Such landscape area shall be thirty-five (35) feet in width, and shall contain plantings which meet or exceed the landscape area standards of

Section 24-94 of the Zoning Ordinance. This landscape area may be located on areas within the Property which are designated for commercial or residential uses, or partly on both, but no portion of said landscape area shall be part of any individual lot designated for a Residential Unit. Landscape areas compliant with this subparagraph shall be established and planted adjacent to areas of Nonresidential Use (defined below) prior to issuance of a Certificate of Occupancy by the County for such Nonresidential Use.

B. A buffer of one hundred fifty (150) feet shall be maintained between any lot and the Centerville Road right-of-way as it exists on the date hereof. In areas of this buffer which are not presently wooded, a minimum of three (3) trees per four hundred (400) square feet of buffer area shall be planted; not less than fifty percent (50%) of such trees shall be evergreen species.

(1) The buffer described in this subparagraph may, with the approval of the Planning Director, include entrance/exit roads, directional signage, underground utilities, underground and above ground drainage facilities, bus stops, curbs, gutters, sidewalks, fences and signs.

(2) The buffer described in this subparagraph shall be planted, or the planting of such buffer shall be bonded, prior to final approval of any subdivision plat for any Residential Unit(s) in the Land Bay(s) adjacent to said buffer.

C. A buffer of one hundred fifty (150) feet shall be maintained between any residential lot (exclusive of any well lot) and the Jolly Pond Road right-of-way as it exists on the date hereof. In the event that clearing is undertaken to provide sight lines for any entrance or

driveway providing access to Jolly Pond Road, the buffer described here shall be maintained from the limits of such clearing to any adjacent lot. The buffer described in this subparagraph may, with the approval of the Planning Director, include entrance/exit roads, directional signage, underground utilities, underground and above ground drainage facilities, bus stops, curbs, gutters, sidewalks, fences and signs.

6. Golf Course Water Usage. Unless otherwise specifically approved by the Board of Directors of the James City Service Authority, no groundwater or water supplied by a public water system as defined in the Zoning Ordinance shall be used for irrigation purposes upon the golf course developed upon the Property. The term "groundwater" as used in this paragraph shall not include surface water, surface water runoff, stormwater, water from stormwater management facilities (including those facilities commonly known as or defined by the County Code, Virginia Code or applicable regulations, best management practices or BMPs), water from ponds, lakes or other impoundments not supplied by wells. Water from Deer Lake and other lakes, ponds or impoundments on the Property or the Non-PSA Boy Scout Property shall constitute surface water, and irrigation with such water shall not be prohibited by this proffer. Design features, including the use of drought tolerant grasses and plantings, a water conservation plan, and drought management plan shall be implemented to reduce the total irrigated area of the golf course in order to accomplish the limitation on use of public water and groundwater contained within this paragraph.

7. Additional Water Conservation.

A. The Owners and the Association shall be responsible for developing water conservation standards to be submitted to and approved by the James City Service Authority.

The Association shall be responsible for enforcing these standards. The standards shall address such water conservation measures as limitations on the installation and use of irrigation systems, the use of approved landscaping materials, and the use of water conserving fixtures and appliances to promote water conservation and minimize the use of public water resources. The standards shall be approved by the James City Service Authority prior to the first subdivision plat approval for a Residential Unit within the Property.

B. No irrigation well(s) shall be established or utilized for any Residential Unit within the Property.

C. Existing wells located on the Property shall be capped/abandoned in accordance with applicable Commonwealth of Virginia and/or County regulations and ordinances, if, as and when the Owners determine in their discretion that such wells are not necessary or to be utilized in the future.

8. Property Owners Association. A residential property owners' association ("Association") shall be established in accordance with the Virginia Property Owners' Association Act, §55-508 *et seq.* of the Virginia Code, in which all owners of Residential Units within the portions of the Property currently lying inside the PSA shall be members by virtue of their property ownership. The articles of incorporation or organization and bylaws of the Association and declaration of restrictive covenants enforceable by the Association shall be submitted to and reviewed by the County Attorney for consistency with this proffer. Such governing documents shall require or provide for, *inter alia* the following:

A. The Association shall adopt an annual maintenance budget and assess all members for the maintenance of all properties owned and/or maintained by the Association, including private roads.

B. The Association shall be granted the right to adopt and enforce rules and regulations with respect to the use of common areas and with respect to other areas of responsibility of the Association.

C. The Association shall have the power to assess its members in order to provide for the budget described above, and shall further have the power to levy special assessments, and to have a lien upon property owned by its members for collection and enforcement of such assessments, and for the cost of remedying violations of the rules and regulations established by the Association. Separate owners' associations may be established for individual sections within the Property, and impose supplemental restrictive covenants on individual sections or areas of the Property.

D. The Association shall have the power and shall enforce the age restrictions described above, including without limitation the application of such restrictions upon sale and/or resale of any Residential Unit.

E. The Association shall administer the Automatic External Defibrillator program described in Section II, paragraph 14 below.

F. The Association shall be charged with the obligation to provide for not less than one (1) uniformed security guard to be continuously stationed at the main entrance to

the Property from Richmond Road. Such security guard need not be, but may be at the discretion of the Association (subject to appointment procedures established by law), (i) a special police officer(s) and/or conservator(s) of the peace, and/or (ii) armed.

G. The Association shall conduct or facilitate a golf instructional program for children of low income families residing in the County, so as to expose children to the game of golf. Such instructional program shall be conducted no less frequently than two (2) times per calendar year.

H. The Association shall enforce the water conservation standards described in paragraph 7 above.

I. The Association shall enforce restrictions designed to preserve natural open space adjacent to Residential Units or residential lots subdivided within those portion of the Property currently within the PSA.

J. The Association shall maintain the median plantings described in Section I paragraph 3(G) above, by replacing dead or diseased plantings.

9. Private Streets. All streets (as defined by the County Code) within the residential portions of the Property shall be private and shall conform to VDOT construction standards. All private streets shall be certified to the satisfaction of the County engineer as required by Section 19-49 of the County Code. Curb and gutter shall be constructed on any streets on which a Residential Unit fronts.

10. Deed Provisions. Every deed by which any lot or parcel created for a Residential Unit is first conveyed to any owner by the Owners shall contain reference to the age restriction provisions of Section II, paragraph 1 above.

11. Streetscapes. Any and all residential development within the Property shall be in conformity with the County Streetscape Guidelines Policy as in effect on the date hereof. No Residential Unit(s) shall front on any portion of Colonial Heritage Boulevard shown on the Master Plan running from U.S. Route 60 (Richmond Road) to State Route 614 (Centerville Road).

12. Sidewalks/Pedestrian and Bicycle Trails.

A. (1) Sidewalks shall be constructed on at least one (1) side of every internal street or road constructed within the Property, and sidewalk construction shall be completed or bonded not later than the date on which construction of the adjacent road is completed (including final asphalt topcoating).

(2) Sidewalks (or a combination of sidewalks and the pedestrian trails described in subparagraph B below) shall be constructed on both sides of any internal street on which multiple family or two-family (as defined in the County Code) Residential Units front. Such sidewalks and/or trails shall be completed or bonded not later than the date on which construction of the adjacent road is completed (including final asphalt topcoating).

(3) At any point where sidewalks or pedestrian trails described herein cross and connect to another sidewalk or trail across the main arterial street shown on the Master

Plan connecting U.S. Route 60 (Richmond Road) with State Route 614 (Centerville Road), striping, signage, and pavement texturing shall be designed and implemented to assure the visibility of such crossing. All such measures shall be subject to the approval of the County Director of Planning.

B. A system of pedestrian and bicycle trails shall be constructed or bonded in connection with and simultaneously with development of each phase, section or Land Bay shown on the Master Plan (which trail system shall include the sidewalks described above) conforming to the following design guidelines:

(1) All pedestrian trails shall be not less than four (4) feet in width and all bicycle trails shall be not less than eight (8) feet in width.

(2) Access to abutting Land Bays shown on the Master Plan and connection of cul-de-sacs shall be established where practical as determined by Colonial Heritage and approved by the County Planning Director.

(3) Interconnectivity for pedestrian traffic between the commercial or Non-Residential Use (defined below) areas of the Property shall be established as a part of pedestrian trail and/or sidewalk systems created pursuant to this paragraph.

(4) Trails shall avoid lands with greater than twenty-five percent (25%) slopes, environmentally sensitive areas and areas designated as resource protection areas where practical as determined by the County Chesapeake Bay Administrator.

(5) Paved surfaces shall be provided, except as limited by environmentally sensitive areas, wherein pervious, soft surfaces underlaid with filter cloth shall be employed, as determined by the County Director of Planning.

(6) One and one-half (1.5) miles of trail shall be provided for each 590 Residential Units constructed within the Property and all construction of such trails shall be assured by agreement with the County and by furnishing to the County a certified check, bond with surety or letter of credit satisfactory to the County as set forth in Section 19-72 of the County Code.

(7) Except as provided or contradicted above, the trails shall be designed to meet or exceed the standards of the County Comprehensive Parks and Recreation Plan proffer guidelines, as in effect on the date hereof ("Guidelines").

(8) Pedestrian and bicycle trails may, but shall not be required to be located within the buffers established pursuant to Section II, paragraphs 5(A), (B) and (C).

C. All sidewalks constructed within the Property shall meet or exceed the standards of Section 24-35 of the County Code.

13. EMS Equipment/Signalization: Cash Contribution.

A. A contribution shall be made to the County in the amount of Seventy Thousand and No/100 Dollars ($70,000.00) for fire and rescue equipment replacement and supply and traffic signal preemption equipment. This payment shall be made at the rate of Seventy and No/100 Dollars ($70.00) per Residential Unit (the "Per Unit Contribution") for the

first one thousand (1,000) Residential Units within the Property, and shall be payable upon the earlier of the time of final subdivision plat or final site plan approval by the County of each said Residential Unit or grouping, phase or section of Residential Units or, in the case of signal preemption equipment, when said equipment is installed.

B. A contribution shall be made to the County in the amount of Fifty Thousand and No/100 Dollars ($50,000.00) for application to the purchase of a new paramedic/first aid vehicle or unit. These funds may be, at the discretion of the Board of Supervisors of the County, applied to other capital needs of the County Emergency Medical Services deemed by the County to be generated by development of the Property. This payment shall be made prior to final site plan or subdivision plat approval for any Residential Units beyond 400 within the Property.

14. Automatic External Defibrillator ("AED") Program. An AED program shall be established for administration by the Association within the Property which shall comply with Section 32.1-111.14:1 *et seq.* of the Code of Virginia, as written on the date hereof, and Virginia State Board of Health regulations promulgated pursuant thereto. Not less than one defibrillator per building to be used as a part of the AED program shall be supplied by the Owner for use in this AED program for every building constructed for public occupancy on the Property of the Association (exclusive of golf course maintenance buildings, equipment sheds, pump houses, storage buildings, Residential Units and other outbuildings of less than 2,000 square feet. The existence of such AED program and an implementation schedule shall be confirmed by the County Fire Chief prior to any final site plan or subdivision plat approval.

15. INTENTIONALLY OMITTED.

16. Cash Contributions For Additional Community Impacts.

A. An additional contribution shall be made to the County in the amount of Four Hundred Thirty-Eight and No/100 Dollars ($438.00) for each of the first one thousand (1,000) Residential Units developed on the Property (the "Per Unit Contribution"), in order to mitigate additional impacts on the County arising from the physical development and/or physical operation of the Property. The County may make these monies available for any project in the County's capital improvement plan, the need for which is generated by the physical development and/or physical operation of the Property.

B. The contributions described above, unless otherwise specified, shall be payable for each of the Residential Units developed within the Property at the time of final subdivision plat or final site plan approval by the County for the particular Residential Unit or grouping, phase or section of Residential Units.

17. Slope Protection. For lots subdivided or developed on large, contiguous areas of steep slopes (steep being defined as slopes of twenty-five percent (25%) or greater grade) ("Steep Slope(s)") the following separation or setbacks shall be maintained:

A. Fifteen (15) feet between the top of any Steep Slope and any structure

B. Ten (10) feet between the top of any Steep Slope and the limits of lot or other clearing.

The separation or setback described in this paragraph may be reduced upon approval of the County Environmental Director in order to provide flexibility in the application of this provision, and so as to assure that this provision does not unreasonably restrict the developable acreage within the Property.

18. Open Space/Conservation Area. An open space and conservation area consisting of not less than 282± acres shall be established by easement conveyed to the County encumbering land shown on the Master Plan as "Area Not Subject of Master Plan" and more particularly described on that plan entitled "SPECIAL USE PERMIT PLAN – ALTERNATE 1, COLONIAL HERITAGE BSA PROPERTY" dated 7/9/04, revised 7/29/04, made by AES, Consulting Engineers, submitted with the SUP application SUP-21-04 referenced above, which plan is incorporated by reference. The open space and conservation area easement shall prohibit construction of any Residential Unit or other building, provide for protection of open space, wetlands, trees and tree canopy. The open space and conservation area shall be available, and the Owners shall retain the right to utilize the open space and conservation area for stormwater management structures and facilities, required open space, required impervious/pervious cover percentages, watershed protection measures and other uses benefiting or facilitating development of the Property and/or the Non-PSA Boy Scout Property.

SECTION III. Proffers Applicable to Commercial Property

1. Area of Nonresidential Uses. A portion of the Property as shown on the Master Plan shall be developed for Nonresidential Uses defined in Section 24-521 and/or Section 24-522 of the Zoning Ordinance as written on the date hereof ("Nonresidential Use").

2. Development Plans. Design review standards for Nonresidential Use development shall be established by Colonial Heritage or successor owner(s) of Nonresidential Use areas of the Property, and provided to the County Director of Planning for approval. Thereafter, conceptual plans and conceptual elevations for development shall be approved prior to site plan approval for any Nonresidential building by the County Development Review Committee of the Planning Commission with a procedure generally as provided by Section 24-142 *et seq.* of the Zoning Ordinance so as to assure conformity with such design review standards, including but not limited to the following:

(a) location and uses of buildings,

(b) building orientation,

(c) landscaping, open space and buffers,

(d) location and number of entrances,

(e) pedestrian and vehicular connections,

(f) building height, and size of any single building

(g) architectural design,

(h) setbacks from adjacent properties or roadways,

(i) signs.

Such approval shall be designed to address the uniformity, appearance and quality of Nonresidential Use of the Property, and shall not be unreasonably withheld.

3. Homeowners' Association Not to Control Commercial Property. The Association shall not control any of the Property developed for Nonresidential Uses. This provision shall not be read to preclude establishment of a separate association created in connection with development of areas of Nonresidential Use within the Property.

4. Strip Shopping Center(s) Prohibited. No retail construction/development or nonresidential use shall be undertaken in Land Bay VI that consists of a row or line of building fronts or separately occupied businesses which are one (1) unit deep, parallel or principally oriented to Richmond Road. A majority of the parking spaces provided shall not be located between the buildings and Richmond Road but shall instead be located beside and/or behind the buildings. Street frontage along Richmond Road shall primarily consist of buildings and open space. At least two pedestrian connections shall be provided from U.S. Route 60 (Richmond Road), one shall be provided from the main spine road, and one from Land Bay I. All pedestrian connections shall be paved and be at least four feet wide. All commercial uses within Land Bay VI shall be interconnected for both pedestrian and motor vehicular access. It is the intent of this proffer to prohibit development commonly known as "strip commercial development." Development plans for Land Bay VI shall be approved by the Planning Director as to their compliance with these proffers.

5. Richmond Road Buffer. A buffer of fifty (50) feet shall be maintained between any parcel, lot or property line within the Property and the Richmond Road right-of-way as it exists on the date hereof. The buffer proffered in this Section III, paragraph 5 may, with the approval of the Planning Director, include entrance/exit roads, directional signage, underground utilities, underground and above ground drainage facilities, bus stops, curbs, gutters, sidewalks, fences and signs.

6. Preservation of Magnolia Trees. The trees comprising a double row of mature Magnolia trees existing within Land Bay VI as of the date hereof shall not be completely destroyed to create a building site, parking area or other improvements. Destruction or elimination of some trees shall be permitted to allow for streets, roads and vehicular or pedestrian connections perpendicular to such rows of Magnolia trees, the placement of utilities, or other purposes approved by the County Planning Director. This proffer is not to be read to require reimbursement of existing trees which are destroyed by natural causes.

IV. Miscellaneous Provisions

1. Headings. All section and subheadings of these Proffers are for convenience only and shall not be read as a part of these Amended and Restated Proffers or utilized in interpretation thereof.

2. Severability. In the event that any clause, sentence, paragraph, section or subsection of these Proffers shall be adjudged by any court of competent jurisdiction to be invalid or unenforceable for any reason, including a declaration that it is contrary to the Constitution of the Commonwealth of Virginia or of the United States, or if the application thereof to any owner of any portion of the Property or to any government agency is held invalid, such judgment or holding shall be confined in its operation to the clause, sentence, paragraph, section or subsection hereof, or the specific application thereof directly involved in the controversy in which the judgment or holding shall have been rendered or made, and shall not in any way affect the validity of any other clause, sentence, paragraph, section or provision hereof.

3. Conflicts. In the event that there is any conflict between these Amended and Restated Proffers and the Zoning Ordinance, the conflict shall be resolved by the County's Zoning Administrator subject to the appeal process to the Board of Supervisors and the Courts as otherwise provided by law.

4. Successors and Assigns. This Amended and Restated Proffer Agreement shall be binding upon and shall inure to the benefit of the parties hereto, and their respective heirs, successors and/or assigns.

5. Amended and Restated Proffers Void if Rezoning not Approved. In the event that the requested rezoning of the Boy Scout Property and the Proffer amendments and Master Plan amendments sought by the Applications for Amendment are not approved by the County, these Amended and Restated Proffers shall be null and void, but the Proffers, the master plan and the rezoning approval by the County in Case No. Z-4-00/MP-01-01 shall remain in full force and effect, unaffected hereby.

6. Effect of Accepted Amended and Restated Proffers. If these Amended and Restated Proffers are accepted by the County and the Applications for Amendment are simultaneously approved by the County, upon the expiration of thirty (30) days from said acceptance and approval with no appeal being duly noted, these Amended and Restated Proffers, and the Master Plan and associated documents filed with the Applications for Amendment shall amend, supersede and restate in their entirety the Proffers and all the associated documents, effective upon the date of such acceptance and approval.

7. INTENTIONALLY OMITTED.

8. Cash Proffer Disposition. In the event that any cash payment(s) or real property conveyed as required under the terms of these Amended and Restated Proffers are not used by the County for the purpose(s) designated within twenty (20) years from the date of receipt by the County, the amounts or Property not used shall be used at the discretion of the Board of Supervisors of the County for any other project in the County's capital improvement plan, the need for which is generated by the development of the Property.

9. Inflation Adjustment of Cash Proffered. Beginning as of January 1, 2003, the payments and/or Per Unit Contribution described in Section I paragraphs 3(J)(4), 3(K) and 3(L), and Section II, paragraph 3, paragraphs 13(A) and (B) and paragraph 16 above shall be inflation adjusted to reflect changes in the Consumer Price Index, U.S. City Average, All Urban Consumers (CPI-U) All Items (1982-84=100) (the "CPI") prepared and reported by the U.S. Bureau of Labor Statistics of the United States Department of Labor.

A. The adjustment shall be made by increasing or decreasing the payment (or any portion thereof) due by the percentage change in CPI from (i.) January 1, 2003 through (ii) the last day of the month most recently preceding the date on which the cash payment is due, payable or paid (or the most recent date on which CPI is available).

B. In no event shall the unadjusted proffered cash payment(s) or Per Unit Contribution(s) be adjusted to a sum less than the amount specified in the particular paragraphs described herein.

C. In the event that the CPI is not available, a reliable government or other independent publication evaluating information heretofore used in determining the CPI (approved in advance by the County Manager of Financial Management Services) shall be relied upon in establishing an inflationary factor for purposes of adjusting proffered cash payments to approximate the rate of inflation in the County after January 1, 2003. In the event that substantial change is made in the method of establishing the CPI, then the adjustment(s) described in this paragraph shall be based upon the figure that would have resulted had no change occurred in the manner of computing CPI.

10. Signature by County. The County's Director of Planning has executed these Amended and Restated Proffers solely for purposes of confirming the filings and submissions described in the Recitals section above, and confirming approval by the County Board of Supervisors of the rezoning of the Property with these Amended and Restated Proffers and the Applications for Amendment by a resolution dated December 14, 2004.

#6010116 v39

COLONIAL HERITAGE LLC, a Virginia limited liability company

By: U.S. Home Corporation, a Delaware corporation, Manager

By: _____
Name: DONALD C. FINK
Title: EXECUTIVE VP

COMMONWEALTH OF VIRGINIA
AT LARGE, to-wit:

The foregoing instrument was acknowledged before me this 2 day of December, 2004, by Donald C. Fink, Executive VP, of U.S. Home Corporation, Manager of COLONIAL HERITAGE LLC, a Virginia limited liability company, on its behalf.

_____
Notary Public

My commission expires: June 30 2007

BRITTANY L. MANGOLD
Notary Public
Commonwealth of Virginia
My Commission Exps. June 30, 2007

THE COUNTY OF JAMES CITY,
VIRGINIA

By:_____
Name: O. Marvin Sowers
Title: Director of Planning

APPROVED AS TO FORM:



County Attorney

EXHIBIT A

(Colonial Heritage Property)

All those certain lots, pieces or parcels of land, together with buildings and improvements thereon, and appurtenances thereunto belonging, located in James City County, Virginia, being known and designated as "PARCEL 'A' (INCLUDES CEMETERY PARCEL)", "PARCEL 'B' and "PARCEL 'C'" as shown on that subdivision plat entitled "PLAT OF SUBDIVISION AND BOUNDARY LINE ADJUSTMENT BETWEEN THE PROPERTIES OWNED BY THE MASSIE CORPORATION, VAJACK, L.L.C., AND DAVID W. WARE MARITAL TRUST STONEHOUSE DISTRICT JAMES CITY COUNTY VIRGINIA," dated 10/24/02, and recorded in the Clerk's Office of the Circuit Court of the City of Williamsburg and County of James City, Virginia in Plat Book 89, at pages 10-12; together with all rights whatsoever, including riparian, oil, gas and mineral rights, privileges, easements, interests and appurtenances, thereto or thereto belonging.

All that certain lot, piece or parcel of land situate in Powhatan District, James City County, Virginia containing 181.547 acres ± (but sold in gross and not by the acre) shown and designated as "PARCEL E" on Sheets 2 and 3 of a plat (the 'Plat") entitled "PLAT OF SUBDIVISION AND BOUNDARY LIEN ADJUSTMENT BETWEEN THE PROPERTIES OWNED BY THE MASSIE CORPORATION, VAJACK, L.L.C., AND DAVID W. WARE MARITAL TRUST, STONEHOUSE DISTRICT, JAMES CITY COUNTY, VIRGINIA," dated 10/24/02, revised 12/12/02 and made by AES Consulting Engineers, a copy of which is recorded in the Clerk's Office of the Circuit Court of the City of Williamsburg and County of James City, Virginia in Plat Book 89, pages 10-12 to which Plat reference is hereby made; together with all rights whatsoever, including riparian, oil, gas and mineral right, privileges, easements, interests and appurtenances thereto.

EXHIBIT B

(Boy Scout Property)

Parcel I

All of that certain tract of land in James City County, State of Virginia, formerly located in Jamestown Magisterial District, containing 617.2 acres, more or less, as shown by Plat of Survey dated May 10, 1938, made by G. L. Evans, Certified Surveyor, and of record in the Clerk's Office of the Circuit Court of James City County, Virginia, in Plat Book 7, Page 43, together with all improvements thereon, rights, privileges and appurtenances thereunto belonging, described as follows, to-wit:

Beginning at a Cedar Stob being the intersection of the Southeast corner of Piggott's Estate and the Southwest corner of R. L. Henley's Estate, thence North 80 degrees 10' W. 200 feet to a point in the center line of the county road; thence with the center line of said road North 61 degrees 10' W. 534 feet; thence North 75 degrees 00' W. 800 feet; thence North 71 degrees 00' W. 922 feet to a point; thence leaving said road South 67 degrees 20' W. 500 feet to a point; thence North 66 degrees 30' W. 130 feet to a point in the center of said county road; thence continuing with the center line of said road North 46 degrees 00' W. 1100 feet; thence North 33 degrees 20' W. 700 feet; thence North 59 degrees 30' W. 551 feet; thence North 77 degrees 00' W. 600 feet; thence South 75 degrees 20' W. 533 feet; thence North 58 degrees 40' W. 200 feet; thence North 16 degrees 30' W. 410 feet; thence North 35 degrees 30' W. 282 feet to a point; thence leaving said county road; thence North 86 degrees 00' E. 562 feet to an iron axle; thence North 4 degrees 10' E. 100 feet; thence North 0' 30' W. 140 feet; thence North 36 degrees 50' E. 100 feet; thence North 13 degrees 30' E. 100 feet; thence North 0 degrees 30' E. 184 feet; thence North 30 degrees 00' E. 100 feet; thence North 22 degrees 20' E. 123 feet; thence North 4 degrees 50' E. 255 feet; thence North 69 degrees 10' W. 100 feet; thence North 22 degrees 45' W. 300 feet; thence North 43 degrees 15' W. 100 feet; thence North 27 degrees 45' W. 300 feet; thence North 74 degrees 30' W. 100 feet; thence North 49 degrees 00' W. 158 feet; thence North 43 degrees 30' W. 400 feet; thence North 9 degrees 00' W. 254 feet; thence North 37 degrees 45' W. 200 feet; thence North 19 degrees 10' E. 300 feet; thence North 21 degrees 30' W. 359 feet to the South shore of Cranston's Mill Pond; thence continuing across said pond; North 33 degrees 00' E. 530 feet to the North shore of said mill pond; thence re-crossing said mill pond South 57 degrees 45' E. 666 feet; thence South 41 degrees 20' E. 85 feet; thence South 67 degrees 45' E. 200 feet; thence South 83 degrees 30' E. 400 feet; thence South 81 degrees 30' E. 100 feet; thence South 43 degrees 30' E. 200 feet; thence South 54 degrees 45' E. 200 feet; thence North 62 degrees 10' E. 131 feet; thence South 82 degrees 30' E. 100 feet; thence South 56 degrees 15' E. 200 feet; thence South 66 degrees 10' E. 94 feet; thence South 76 degrees 15' E. 600 feet; thence North 62 degrees 40' E. 555 feet; thence South 50 degrees 10' E. 200 feet; thence South 48 degrees 10' E. 500 feet; thence South 55 degrees 00' E. 409 feet; thence South 78 degrees 15' E. 400 feet; thence South 24 degrees 40' E. 300 feet; thence South 39 degrees 00' E. 200 feet; thence South 79 degrees 40' E. 300 feet; thence South 81 degrees 15' E. 393 feet; thence South 29 degrees 50' E. 200 feet; thence South 18 degrees 45' E. 139 feet; thence South 27 degrees 30'

E. 400 feet; thence South 47 degrees 20' E. 300 feet; thence South 84 degrees 45' E. 400 feet; thence South 39 degrees 00' E. 200 feet; thence South 81 degrees 00' E. 107 feet; thence South 18 degrees 30' E. 300 feet; thence South 16 degrees 40' E. 400 feet; thence South 49 degrees 30' E. 500 feet; thence South 24 degrees 10' W. 275 feet; thence South 68 degrees 45' W. 200 feet thence South 29 degrees 20' W. 505 feet; thence South 22 degrees 30' W. 500 feet; thence South 12 degrees 30' E. 200 feet to Cedar Stob; thence South 37 degrees 50' W. 584 feet to a White Oak Stump; thence South 33 degrees 20' W. 260 feet to a White Oak Stump; thence South 12 degrees 00' W. 347 to the point of beginning.

Parcel II

All of that certain tract of land in James City County, State of Virginia, formerly in Jamestown Magisterial District, containing 117.8 acres, more or less, as shown by Plat of Survey dated May 10, 1938, made by G. L. Evans, Certified Surveyor, and of record in the Clerk's Office of the Circuit Court of James City County, Virginia, in Plat Book 7, Page 43, together with all improvements thereon, rights, privileges and appurtenances thereunto belonging, described as follows: to-wit:

Beginning at an iron pipe in a Pine stump located at the intersection of County Roads Nos. 626 and 603; thence North 8 degrees 20' E. 49 feet; thence North 7 degrees 40' W. 323 feet; thence North 21 degrees 40' W. 100 feet; thence North 53 degrees 00' W. 393 feet; thence North 47 degrees 30' W. 765 feet; thence North 77 degrees 10' W. 400 feet; thence North 64 degrees 00' W. 275 feet; thence North 48 degrees 10' W. 235 feet; thence North 26 degrees 40' W. 312 feet; thence North 30 degrees 45' W. 141 feet; thence North 50 degrees 10' W. 245 feet; thence up the center line of an old road North 41 degrees 50' W. 132 feet; thence North 20 degrees 10' W. 100 feet; thence North 4 degrees 50' W. 200 feet; thence North 13 degrees 00' W. 180 feet; thence North 32 degrees 50' E. 104 feet; thence leaving old road South 17 degrees 15' E. 158 feet; thence South 62 degrees 20' E. 104 feet to a Beech; thence North 10 degrees 45' E. 253 feet to a Cedar; thence North 36 degrees 00' E. 75 feet to a Beech; thence South 55 degrees 10' E. 76 feet to a point on the Southwest shore of Cranston's Mill Pond; thence North 71 degrees 50' E. 714 feet; thence North 71 degrees 30' E. 238 feet to a point on the Southern shore of said mill pond; thence crossing said mill pond North 26 degrees 45' E. 640 feet to a point on the northern shore of said mill pond; thence re-crossing said mill pond South 58 degrees 45' E. 870 feet to a point on the Southern shore of said mill pond; thence South 21 degrees 30' E. 359 feet; thence South 19 degrees 10' W. 300 feet; thence South 37 degrees 45' E. 200 feet; thence South 9 degrees 00' E. 254 feet; thence South 43 degrees 30' E. 400 feet; thence South 49 degrees 00' E. 158 feet; thence South 74 degrees 30' E. 100 feet; thence South 27 degrees 45' W. 300 feet (shown on Plat as South 27 degrees 45' E.); thence South 43 degrees 15' E. 100 feet; thence South 22 degrees 45' E. 300 feet; hence South 69 degrees 10' E. 100 feet; thence South 4 degrees 50' W. 255 feet; thence South 22 degrees 20' W. 123 feet; thence South 30 degrees 00' W. 100 feet; thence South 0 degrees 30' W. 184 feet; thence South 13 degrees 30' W. 100 feet; thence South 36 degrees 50' W. 100 feet; thence South 0 degrees 30' E. 140 feet; thence South 4 degrees 10' W. 100 feet to an iron axle, thence South 86 degrees 00' W. 562 feet to the point of beginning.

LESS AND EXCEPT all that certain portion of property lying north of the water's edge on the southern side of Bush's Mill or Cranston's Mill Pond as conveyed by Peninsula Council, Boy Scouts of America, a Virginia corporation, by Quitclaim Deed to Toano Fishing and Hunting Club, Incorporated, dated September 10, 1969, recorded September 25, 1969 in the aforesaid Clerk's Office in Deed Book 123, Page 392.

LESS AND EXCEPT all that certain tract, piece or parcel of land as granted to the Commonwealth Transportation Commissioner of Virginia, by Certificate of Take dated January 29, 1990, recorded in the aforesaid Clerk's Office in Deed Book 465, Page 109.

BEING the same property conveyed to Colonial Heritage LLC, A Virginia corporation, by Deed from Colonial Virginia Council of Boy Scouts of America, Inc., a Virginia corporation, dated September 29, 2004, recorded September 30, 2004, in the Clerk's Office of the Circuit Court, James City County, Virginia, as Instrument No. 040024552.

EXHIBIT C

(Non-PSA Boy Scout Property)

All that certain piece or parcel of land situated in James City County, Virginia, containing 506 acres ±, shown and described as "AREA NOT SUBJECT OF MASTER PLAN SEE ACCOMPANYING SUP APPLICATION" on that certain Master Plan entitled: "COLONIAL HERITAGE, WILLIAMSBURG, VIRGINIA, AMENDED MASTER DEVELOPMENT PLAN" dated July 1, 2004, made by Land Design, and by AES Consulting Engineers, which said plat is incorporated herein by reference for a more particular description of the subject property.

#6010116 v41

VIRGINIA: CITY OF WILLIAMSBURG & COUNTY OF JAMES CITY
This document was admitted to record on 10 Jan. 05
at 9:22 AM/PM. The taxes imposed by Virginia Code
Section 58.1-801, 58.1-802 & 58.1-814 have been paid.

STATE TAX	LOCAL TAX	ADDITIONAL TAX
$ —	$ —	$ —

TESTE: BETSY B. WOOLRIDGE, CLERK
BY: Betsy B. Woolridge Clerk

EXHIBIT C

(Non-PSA Boy Scout Property)

All that certain piece or parcel of land situated in James City County, Virginia, containing 506 acres ±, shown and described as "AREA NOT SUBJECT OF MASTER PLAN SEE ACCOMPANYING SUP APPLICATION" on that certain Master Plan entitled: "COLONIAL HERITAGE, WILLIAMSBURG, VIRGINIA, AMENDED MASTER DEVELOPMENT PLAN" dated July 1, 2004, made by Land Design, and by AES Consulting Engineers, which said plat is incorporated herein by reference for a more particular description of the subject property.

#6010116 v41

VIRGINIA: CITY OF WILLIAMSBURG & COUNTY OF JAMES CITY
This document was admitted to record on 10 Jan. 09
at 9:22 AM/PM. The taxes imposed by Virginia Code
Section 58.1-801, 58.1-802 & 58.1-814 have been paid.

STATE TAX	LOCAL TAX	ADDITIONAL TAX
$ —	$ —	$ —

TESTE: BETSY B. WOOLRIDGE, CLERK
BY: Betsy B. Woolridge Clerk

E8

COMMONWEALTH OF VIRGINIA

OFFICIAL RECEIPT
WILLIAMSBURG/JAMES CITY COUNTY CIRCUIT
DEED RECEIPT

DATE: 01/10/05 TIME: 09:24:03 ACCOUNT: B30CLR050000448 RECEIPT: 0500000075
CASHIER: CHB REG: WD45 TYPE: OTHER PAYMENT: FULL PAYMENT
INSTRUMENT : 050000448 BOOK: PAGE: RECORDED: 01/10/05 AT 09:22
GRANTOR: COLONIAL HERITAGE LLC EX: N LOC: CO
GRANTEE: COUNTY OF JAMES CITY EX: N PCT: 100%
AND ADDRESS :
RECEIVED OF : JCCO DATE OF DEED: 12/02/04
CHECK : $50.00
DESCRIPTION 1: COLONIAL HERITAGE AT WILLIAMSBURG PROFFERS PAGES: 54
2: NAMES: 0
CONSIDERATION: .00 ASSUME/VAL: .00 MAP:

CODE	DESCRIPTION	PAID	CODE	DESCRIPTION	PAID
301	DEEDS	48.50	145	VSLF	1.50

TENDERED : 50.00
AMOUNT PAID: 50.00
CHANGE AMT : .00

CLERK OF COURT: BETSY B. WOOLRIDGE

DC-18 (10/00)

MASTER PLAN AMENDMENT

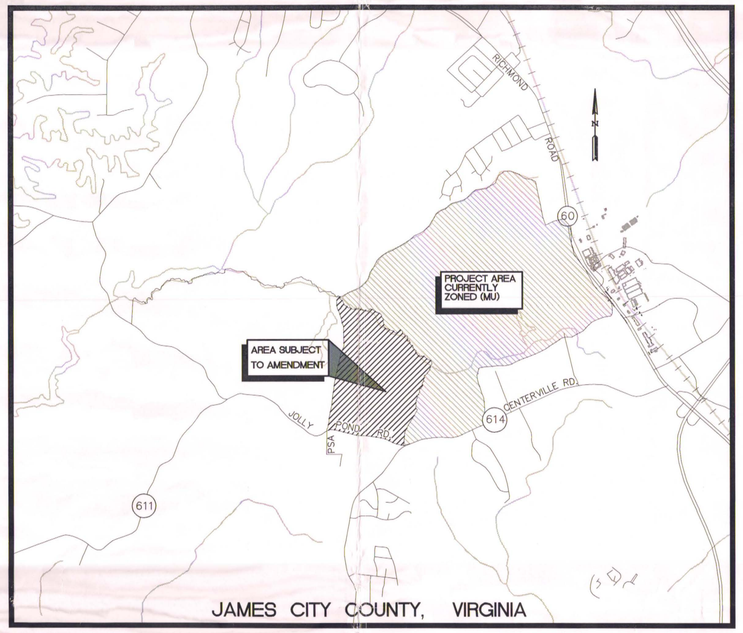
OF

Colonial Heritage at Williamsburg

A U.S. Home Community

US·HOME

10230 NEW HAMPSHIRE AVENUE, SUITE 300
SILVER SPRING, MD 20903



JAMES CITY COUNTY, VIRGINIA

VICINITY MAP

(APROX. SCALE 1"=2000')

INDEX OF SHEETS

SHEET NUMBER	DESCRIPTION
1	COVER SHEET
2	MASTER DEVELOPMENT PLAN
3	AMENDED SEWER MASTER PLAN
4	AMENDED WATER DISTRIBUTION MASTER PLAN
5	STORMWATER CONCEPT PLAN & ENVIRONMENTAL RESOURCE INVENTORY

June 21, 2002
Revised: July 1, 2004
Revised: September 24, 2004
Revised: December 3, 2004

Z-3-02
Z-4-02
MP-1-02

DEC 2004 RECEIVED PLANNING DEPARTMENT

AES CONSULTING ENGINEERS
5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188
(757) 253-0040
Fax (757) 220-8994

AES PROJECT NO. 8881–3A

LandDesign
1414 Prince Street, Suite 400
Alexandria, VA 22314
Phone: 703.549.7784
Fax: 703.549.4974
Landscape Architecture
Land Planning
Urban Design

EG WILLIAMSBURG ENVIRONMENTAL GROUP, INC.
Environmental Consultants
616-B South Henry Street, Williamsburg, Virginia 23185 (757) 220-5069

Master Plan Amendment
for
Colonial Heritage
WILLIAMSBURG VIRGINIA
A US Home Community

AES Project # 8881-03A

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LAND USE BY LAND BAY – APPROVED MASTER PLAN

Land Bay	Gross Area	Developable Area	Land Use Designation	Density Range of Land Use	Allowed Maximum Density	Proposed Maximum Gross Density	Density per Developable Area		Residential Landuse Type "A"	Residential Landuse Type "B"	Residential Landuse Type "D"	Maximum Units Per Land Bay	Maximum Office/ Commercial Uses
I	95.7	78.1	A,B,D	6,10,18	18 DUA	5.0	5.8	DUA	0–350	0–250	0–120	500	
IA	10.0	10.0	J										
II	194.7	163.5	A,B,D	6,10,18	18 DUA	2.7	3.3	DUA	0–450	0–250	0–60	500	
III	182.6	143.5	A,B,D	6,10,18	18 DUA	3.1	4.2	DUA	0–400	0–300	0–90	550	
IV	146.5	72.6	A,B,D	6,10,18	18 DUA	2.2	4.5	DUA	0–300	0–100	0–90	300	
V	97.5	69.3	A,B	6,10	10 DUA	3.5	4.8	DUA	0–325	0–3.0	0	325	
VI	50.0	50.0	E,G,I										425,000 SF
Total Area	777.0	587.0					Total Maximum Allowable Units		1400	800	240	2000	
							Total Overall Maximum Proposed Density					2.6 DUA	and 425,000 SF Office/Commercial
							Total Density per Developable Area					3.4 DUA	and 425,000 SF Office/Commercial

APPROVED MASTER PLAN OPEN SPACE

OPEN SPACE

DEVELOPABLE AREA	587.0 ACRES
TOTAL OPEN SPACE REQUIRED	58.7 ACRES (10%)
TOTAL OPEN SPACE PROVIDED	58.9 ACRES (10%)
OPEN SPACE INCLUDES	
GOLF COURSE (58.70 ac.×60%)	35.2 ACRES
COMMUNITY RECREATION AREA	10.0 ACRES
OPEN SPACE WITHIN 50' PERIMETER BUFFER	13.7 ACRES

PROPOSED AMENDMENT OPEN SPACE

OPEN SPACE

DEVELOPABLE AREA	153.2 ACRES
TOTAL OPEN SPACE REQUIRED	74.02 ACRES (10%)
587.0 ACRES (MASSIE/WARE) + 153.2 ACRES (BSA)=740.2 X 10%= 74.02 ACRES REQUIRED	
TOTAL OPEN SPACE PROVIDED	75.6 ACRES (10.2%)
62.0 ACRES (MASSIE/WARE) + 13.6 ACRES (BSA)= 75.6 ACRES (10.2%) PROVIDED	
OPEN SPACE (MASSIE/ WARE) INCLUDES:	
GOLF COURSE (58.70 ac.×60%)	35.2 ACRES
COMMUNITY RECREATION AREA	13.1 ACRES
OPEN SPACE WITHIN 50' PERIMETER BUFFER	13.7 ACRES
TOTAL	62.0 ACRES
OPEN SPACE (BSA) INCLUDES:	
150' VIRGINIA POWER EASEMENT	7.7 ACRES
OPEN SPACE WITHIN 50' PERIMETER BUFFER	5.9 ACRES
TOTAL	13.6 ACRES

LAND USE BY LAND BAY – LANDBAY VII AND VIII HAVE BEEN ADDED AND ARE THE SUBJECT OF THIS APPLICATION

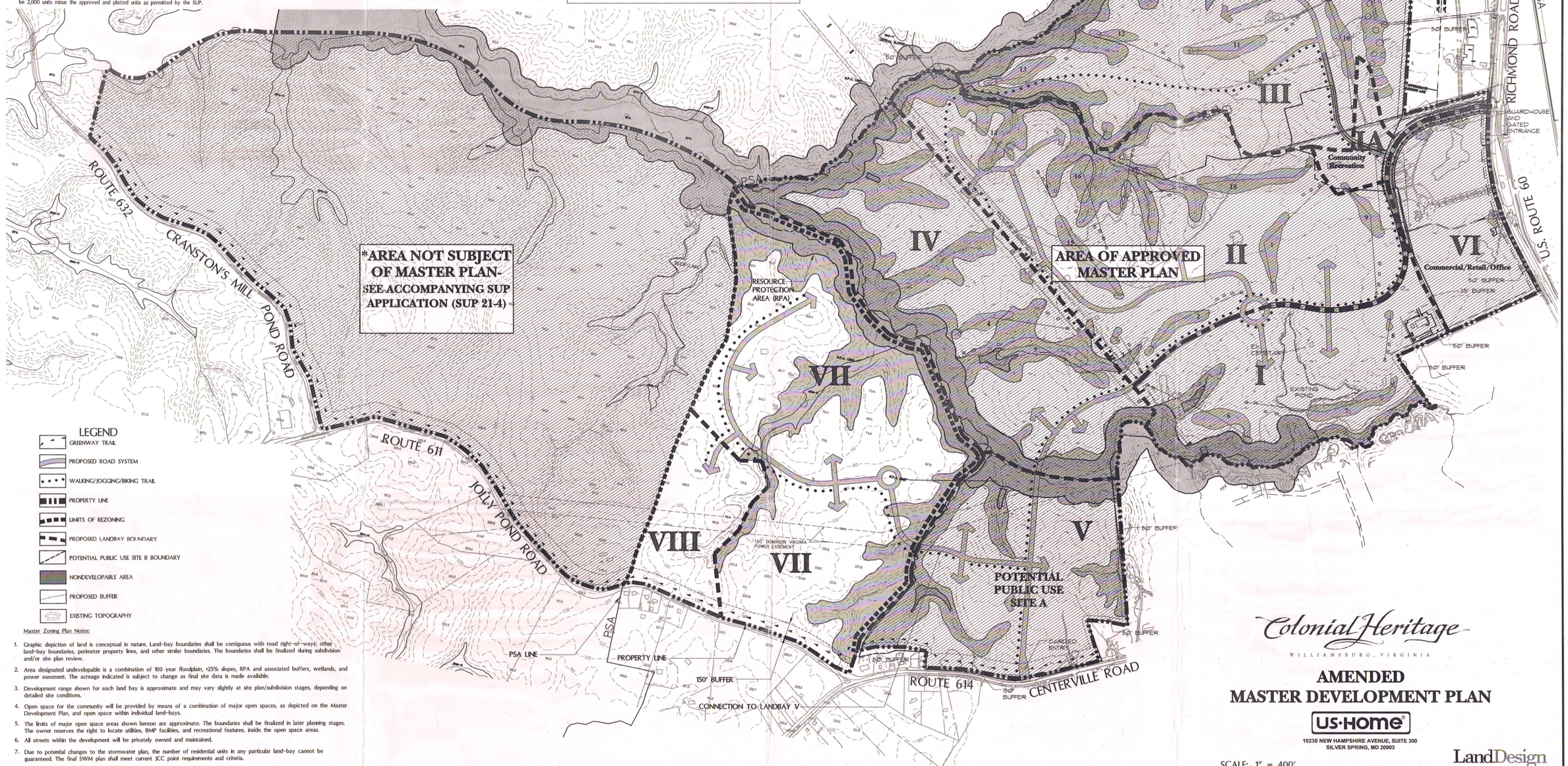
Land Bay	Gross Area	Developable Area	Land Use Designation	Density Range of Land Use	Allowed Maximum Density	Proposed Maximum Gross Density	Density per Developable Area		Residential Landuse Type "A"	Residential Landuse Type "B"	Residential Landuse Type "D"	Maximum Units Per Land Bay	Maximum Office/ Commercial Uses
VII	193.8	121.7	A,B,D	6,10,18	18 DUA	2.8	4.5	DUA	0–450	0–250	0–210	500	
VIII	35.4	31.5	A,B,D	6,10,18	18 DUA	5.8	6.4	DUA	0–400	0–150	0–165	250	
Subtotal Area	229.2	153.2					Total Maximum Allowable Units		850	400	375	750	
Project Total Area	1006.2	740.2					Total Maximum Allowable Units		1400	800	450	*2000	
							Total Overall Maximum Proposed Density					2.0 DUA	
							Total Density per Developable Area					2.7 DUA	

* The proposed units associated with the SUP Application (SUP 21-4) shall be included in the 2,000 unit cap for the overall project. Therefore, the density for the Mixed Use Master Plan shall be 2,000 units minus the approved and platted units as permitted by the SUP.

AMENDED MASTER PLAN OPEN SPACE

OPEN SPACE

DEVELOPABLE AREA	587.0 ACRES
TOTAL OPEN SPACE REQUIRED	58.7 ACRES (10%)
TOTAL OPEN SPACE PROVIDED	62.0 ACRES (10.6%)
OPEN SPACE (MASSIE/ WARE) INCLUDES:	
GOLF COURSE (58.70 ac.×60%)	35.2 ACRES
COMMUNITY RECREATION AREA	13.1 ACRES
OPEN SPACE WITHIN 50' PERIMETER BUFFER	13.7 ACRES



LEGEND

- GREENWAY TRAIL
- PROPOSED ROAD SYSTEM
- WALKING/JOGGING/BIKING TRAIL
- PROPERTY LINE
- LIMITS OF REZONING
- PROPOSED LANDBAY BOUNDARY
- POTENTIAL PUBLIC USE SITE B BOUNDARY
- NONDEVELOPABLE AREA
- PROPOSED BUFFER
- EXISTING TOPOGRAPHY

Master Zoning Plan Notes:

1. Graphic depiction of land is conceptual in nature. Land-bay boundaries shall be contiguous with road right-of-ways; other land-bay boundaries, perimeter property lines, and other similar boundaries. The boundaries shall be finalized during subdivision and/or site plan review.
2. Area designated undevelopable is a combination of 100 year floodplain, >25% slopes, RPA and associated buffers, wetlands, and power easement. The acreage indicated is subject to change as final site data is made available.
3. Development range shown for each land bay is approximate and may vary slightly at site plan/subdivision stages, depending on detailed site conditions.
4. Open space for the community will be provided by means of a combination of major open spaces, as depicted on the Master Development Plan, and open space within individual land-bays.
5. The limits of major open space areas shown hereon are approximate. The boundaries shall be finalized in later planning stages. The owner reserves the right to locate utilities, BMP facilities, and recreational features, inside the open space areas.
6. All streets within the development will be privately owned and maintained.
7. Due to potential changes to the stormwater plan, the number of residential units in any particular land-bay cannot be guaranteed. The final SWM plan shall meet current JCC point requirements and criteria.
8. Landscaping within the 150' buffer along Centerville Road right-of-way non-wooded areas will consist of a minimum of three trees per 400 square feet, with a minimum of 50 percent of the trees being evergreen.
9. The 50' buffer along Richmond Road will be exclusive of transportation projects (but not exclusive of utilities).
10. Unless otherwise approved by the Planning Director, Phasing of the development shall correspond to the Land-bay numbering.
11. No wetland or environmental permitting is given with the approval of this Master Plan.
12. This property is part of Tax Map No. (24-3)(01-32), (31-1)(01-11), (23-4)(01-21), (23-4)(01-23), and (22-4)(01-7).
13. Connectivity for pedestrian traffic shall be established between the residential and nonresidential land bays. The pedestrian trail system shall be finalized during subdivision and/or site plan review.
14. The open space/conservation area (as graphically identified on SUP 21-04) shall be available, and the owners shall retain the right to utilize the open space for stormwater management structures and facilities, required open space (for the purpose of meeting the mixed use ordinance requirements), required natural open space (for the purpose of meeting the Chesapeake Bay preservation ordinance requirements), required impervious/pervious cover percentages, watershed protection measures, and other uses benefiting or facilitating the development of the property and/or the Non-PSA Boy Scout property.

Colonial Heritage
WILLIAMSBURG, VIRGINIA

AMENDED MASTER DEVELOPMENT PLAN

US·HOME
10230 NEW HAMPSHIRE AVENUE, SUITE 300
SILVER SPRING, MD 20903

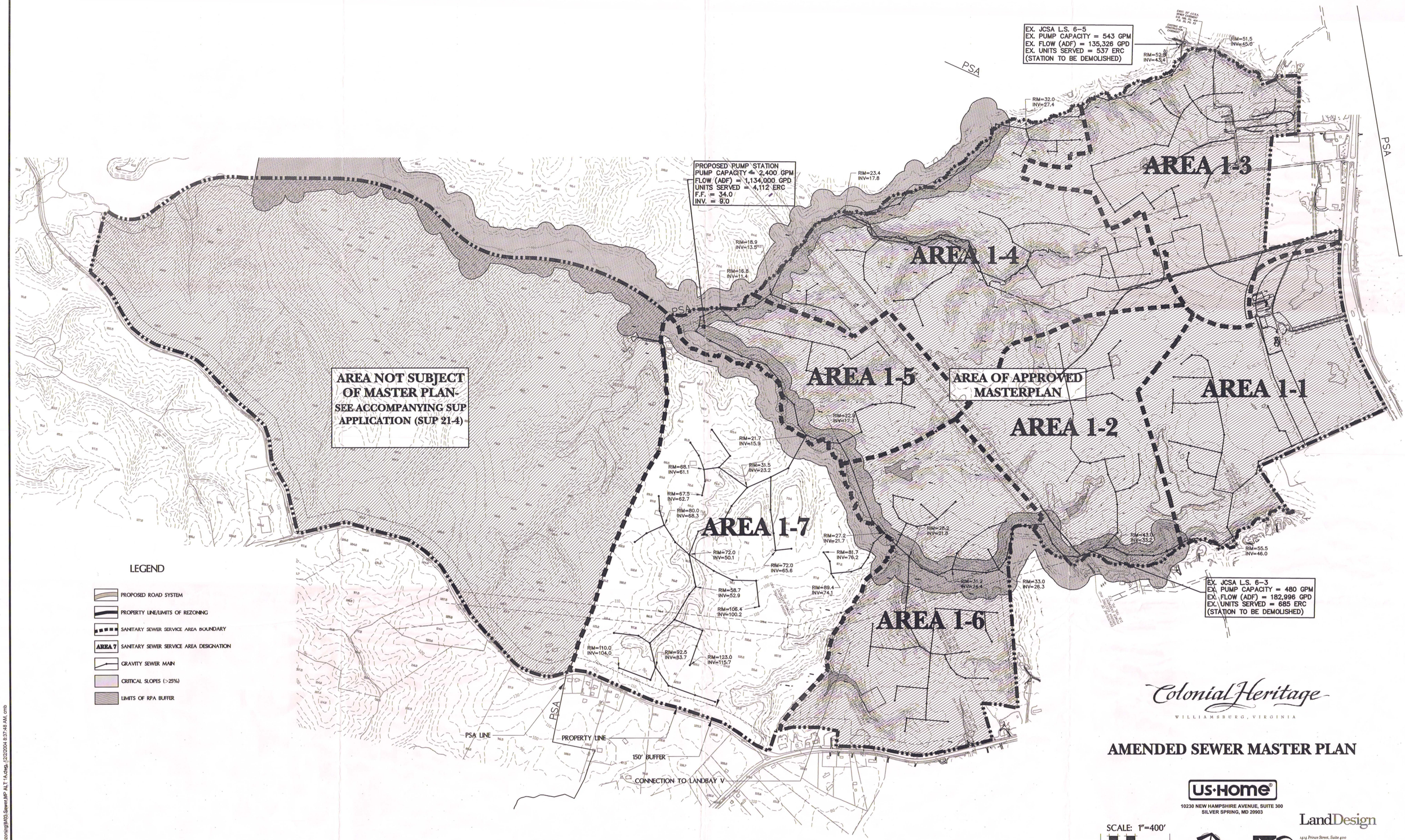
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NORTH

JUNE 21, 2002
REVISED: JULY 1, 2004
REVISED: SEPT. 24, 2004
REVISED: DEC. 3, 2004

LandDesign
1414 Prince Street, Suite 400
Alexandria, VA 22314
Phone: 703.549.7784
Fax: 703.549.4084
Landscape Architecture
Land Planning
Urban Design
LDI #2001118

AES CONSULTING ENGINEERS
5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188
(757) 253-0040
Fax (757) 220-8994
AES JOB# 8881-3A

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Colonial Heritage
WILLIAMSBURG, VIRGINIA

AMENDED SEWER MASTER PLAN

US·HOME®
10230 NEW HAMPSHIRE AVENUE, SUITE 300
SILVER SPRING, MD 20903

SCALE: 1"=400'

0 200 400 800

NORTH

LandDesign
1414 Prince Street, Suite 400
Alexandria, VA 22314
Phone: 703.549.7784
Fax: 703.549.4964
Landscape Architecture
Land Planning
Urban Design

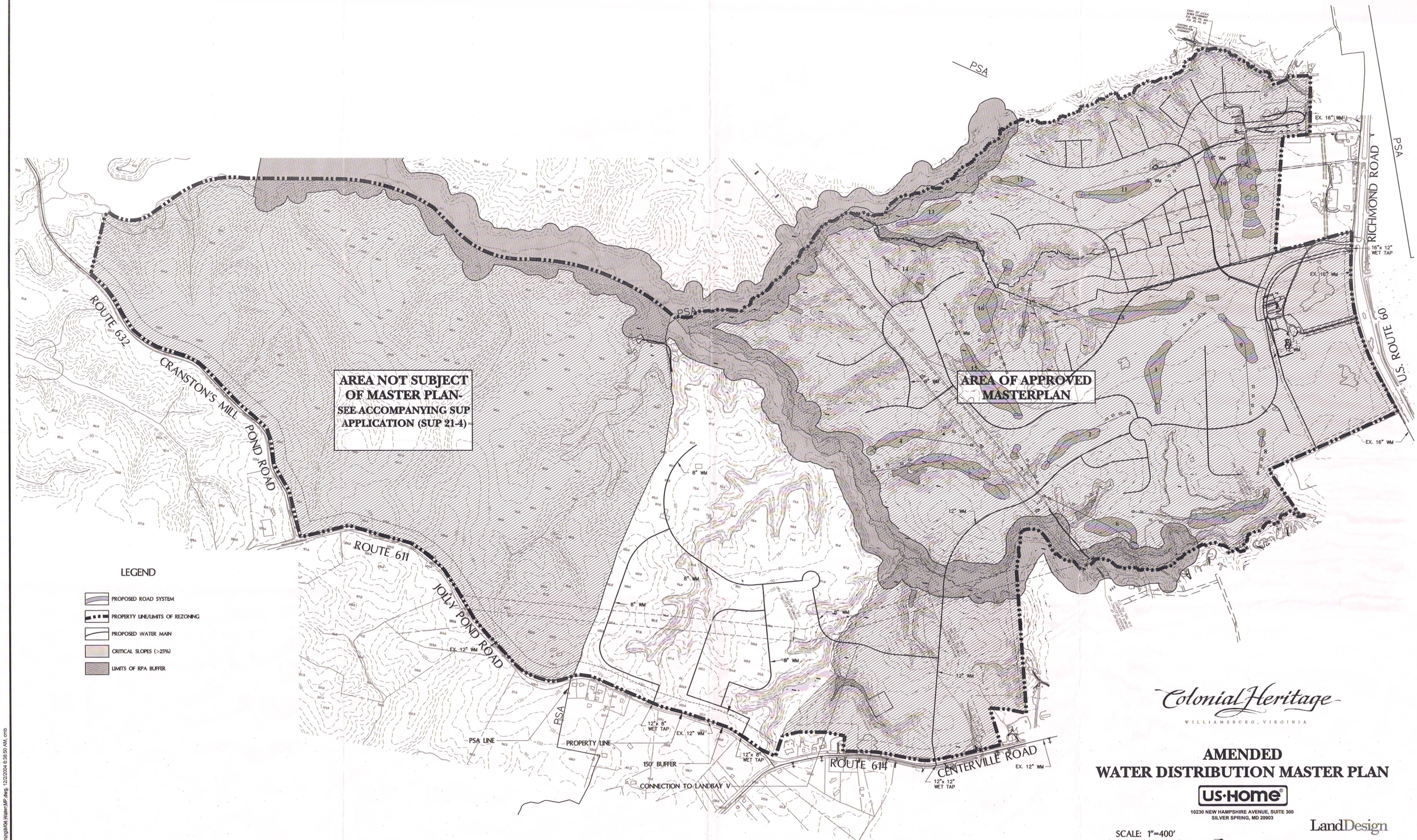
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REVISED: SEPT. 24, 2004
REVISED: DEC. 3, 2004

LDI #2001118

AES CONSULTING ENGINEERS
5248 Olde Towne Road, Suite 1
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(757) 253-0040
Fax (757) 220-8994

AES JOB# 8881-3A

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Colonial Heritage
WILLIAMSBURG, VIRGINIA

AMENDED WATER DISTRIBUTION MASTER PLAN

US·HOME®
10230 NEW HAMPSHIRE AVENUE, SUITE 300
SILVER SPRING, MD 20903

SCALE: 1"=400'
0 200 400 800
NORTH

LandDesign
1414 Prince Street, Suite 400
Alexandria, VA 22314
Phone: 703.549.7784
Fax: 703.549.4565
Landscape Architecture
Land Planning
Urban Design

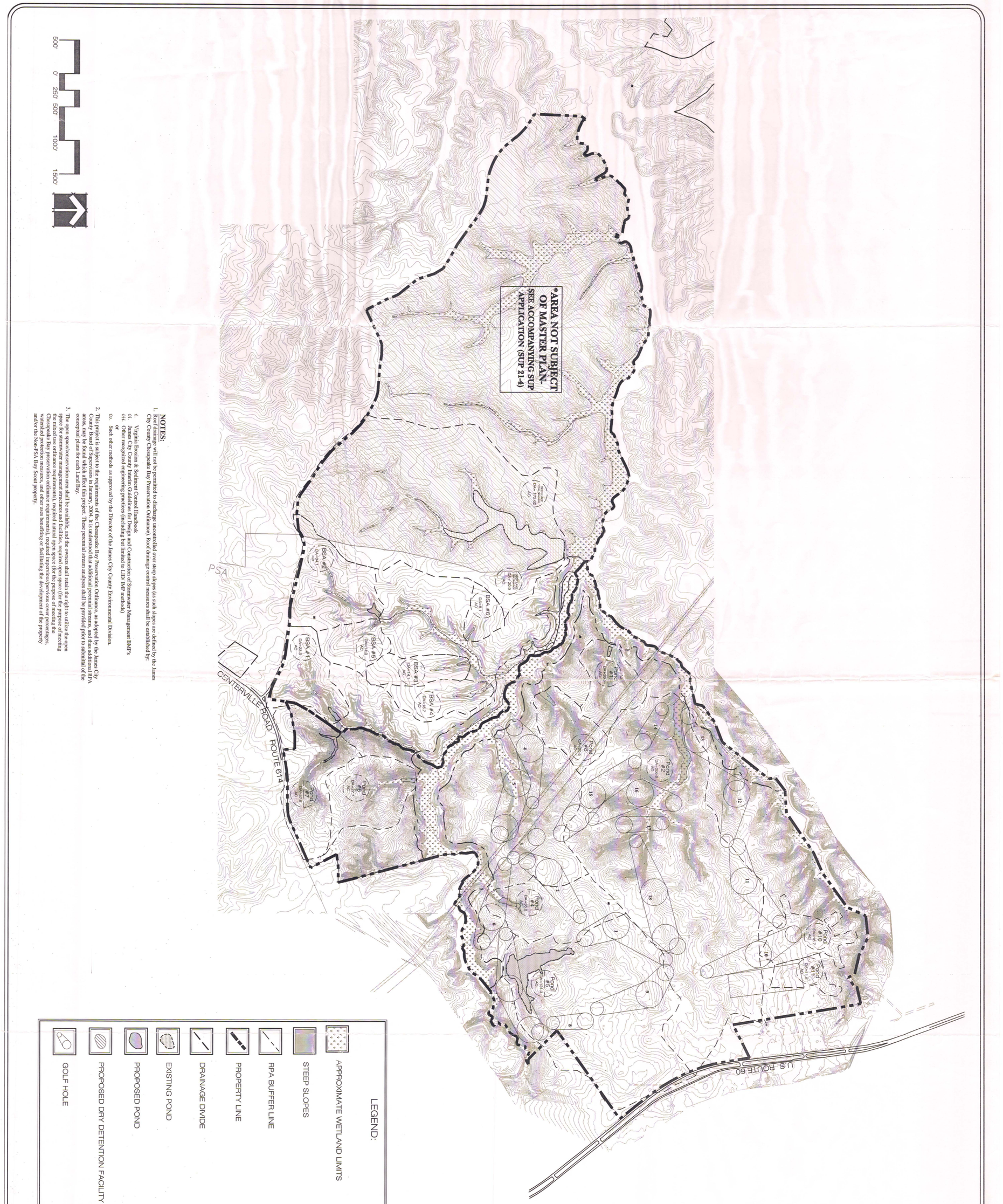
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REVISED: SEPT. 24, 2004
REVISED: DEC. 3, 2004

LDI #2001118

AES CONSULTING ENGINEERS
5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188
(757) 253-0040
Fax (757) 220-8994
AES JOB# 8881-3A

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500' 0 250' 500' 1000' 1500'

NOTES:

1. Roof drainage, will not be permitted to discharge uncontrolled over steep slopes (as such slopes are defined by the James City County Chesapeake Bay Preservation Ordinance). Roof drainage control measures shall be established by:
   i. Virginia Erosion & Sediment Control Handbook
   ii. James City County Interim Guidelines for Design and Construction of Stormwater Management BMPs
   iii. Other recognized engineering practices (including but limited to LID/ IMP methods)
   iv. Such other methods as approved by the Director of the James City County Environmental Division.
2. This project is subject to the requirements of the Chesapeake Bay Preservation Ordinance, as adopted by the James City County Board of Supervisors in January, 2004. It is understood that additional perennial streams, and thus additional RPA areas, may be found which affect this project. These perennial stream analyses shall be provided prior to submittal of the conceptual plans for each Land Bay.
3. The open space/conservation area shall be available, and the owners shall retain the right to utilize the open space for stormwater management structures and facilities, required open space (for the purpose of meeting the mixed use ordinance requirements), required natural open space (for the purpose of meeting the Chesapeake Bay preservation ordinance requirements), required impervious/pervious cover percentages, watershed protection measures, and other uses benefiting or facilitating the development of the property and/or the Non-PSA Busy Scout property.

STORMWATER CONCEPT PLAN AND ENVIRONMENTAL RESOURCE INVENTORY
COLONIAL HERITAGE AT WILLIAMSBURG
JAMES CITY COUNTY, VIRGINIA

SHEET: 5
JOB # 1186

DRAWN BY: BOB
DESIGNED BY: TBS/BOB
DATE: 10/18/02
CHECKED BY: TEBS

REVISIONS
DATE
12/2/04 AMENDED PER JCC/ENVIRO. REV. PER COMMENTS

WILLIAMSBURG ENVIRONMENTAL GROUP, INC.
3000 Easter Circle
Williamsburg, Virginia 23188
(757) 220-6869
7325 Beaufont Springs Drive, Suite 100
Richmond, Virginia 23225
(804) 267-3474
46030 Manekin Plaza, Suite 160
Sterling, Virginia 20166
(703) 406-1390
Environmental Consulta

RESOLUTION

CASE NO. SUP-0003-2015. COLONIAL HERITAGE DEER LAKE ESTATES UTILITY

EXTENSION: AMENDMENT AND RESTATEMENT OF CASE NO. SUP-0021-2004

WHEREAS, the Board of Supervisors of James City County, Virginia (the "Board") has adopted by Ordinance specific land uses that shall be subjected to a Special Use Permit (SUP) process; and

WHEREAS, Mr. William Holt, of Kaufman and Canoles (the "Applicant"), on behalf of Colonial Heritage LLC (the "Owner"), has applied to extend public utilities to a ±228 acre portion of land associated with the Colonial Heritage Deer Lake SUP 0021-2004; and

WHEREAS, the subject property is located at 499 Jolly Pond Road on land zoned A-1, General Agricultural, with proffers, and can be further identified as James City County Real Estate Tax Map Parcel No. 2240100007 (the "Property"), as shown on the exhibit titled "Deer Lake Estates Utility Extension-Water/Sewer SUP Exhibit" dated September 17, 2015 ("the Exhibit"), prepared by AES Consulting Engineers; and

WHEREAS, on December 14, 2004, the Board approved SUP 0021-2004 permitting a 50-lot rural cluster development ("Deer Lake Estates") on the Property and prohibiting the extension of utilities to the Property; and

WHEREAS, as part of SUP-0003-2015, the Owner seeks to amend and restate conditions associated with SUP-0021-2004 to allow the 50-lot rural cluster to connect to public utilities; and

WHEREAS, the subject ±228 acres of the Deer Lake Estates development was included in the Primary Service Area on the adopted 2035 Comprehensive Plan Land Use Map; and

WHEREAS, a public hearing was advertised, adjoining property owners notified and a hearing conducted on Case SUP-0003-2015; and

WHEREAS, the Planning Commission, following its public hearing on October 7, 2015, recommended approval of this application by a vote of 7-0.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of James City County, Virginia, after consideration of the factors in Section 24-9 of the James City County Code, does hereby approve the issuance of SUP 0003-2015 as described herein with the following conditions.

BE IT FURTHER RESOLVED that the Board of Supervisors of James City County, Virginia, upon application by the Owner, and after consideration of the factors in Section 24-9 of the James City County Code, does hereby amend and restate the conditions of James City County Case No. SUP-0021-2004 with the following conditions:

1. *Development Limitation.* No more than 50 residential lots shall be platted on the 50-lot rural cluster portion of the Boy Scout of America property (known as "Deer Lake Estates"), as shown on the Exhibit. Any residential lots developed on the Property shall be subject to the 2,000-residential-unit density cap.

2. *Conservation Easement.* The conservation easement of ±282 acres (the "Conservation Easement") shall be dedicated to James City County or an agency acceptable to the County and recorded prior to final subdivision approval by the County for any lot within Deer Lake Estates, as shown on the Exhibit. The area within the Conservation Easement shall be available and the Owner shall retain the right to utilize the open space and conservation area for stormwater management structures and facilities, required open space, required impervious/pervious cover calculations and watershed protection measures for the Colonial Heritage development and Deer Lake Estates. The Conservation Easement shall clearly state that no clearing, land disturbing or development shall occur on the ± 282 acres unless otherwise approved by the Planning Director.

3. *Buffers.* A minimum 150-foot buffer shall be maintained along Jolly Pond Road and Cranston's Mill Pond Road (the "Buffers"). The Buffers shall remain undisturbed with the exception of breaks for any entrance road, pedestrian connections, utilities, walking, hiking and biking trails, any *required* clearing necessary to create adequate sight distance and other uses specifically approved by the Planning Director. The Planning Director shall approve the design of such features located within the Buffers.

4. *Vehicular Access.* Access to the Deer Lake Estates development shall be from a single entrance road onto Jolly Pond Road unless a second entrance road is approved by the Planning Commission following the review of the Development Review Committee.

5. *Public Utilities.* Construction and operation of public utilities shall be subject to the following conditions:

   a. *Commencement:* Construction on this project shall commence within 36 months from the date of approval of this SUP or this permit shall be void.

   b. *Construction Management:*
      i. Construction, operation and maintenance of the water and sewer extensions shall comply with all local, state and federal requirements.
      ii. Adequate dust and siltation control measures, as determined by the Director of Engineering and Resource Protection, shall be taken to prevent adverse effects the adjacent properties.
      iii. All construction activity on the water and sewer extensions shall occur between 7 a.m. and 5 p.m., Monday through Friday.

   c. *Regulatory Requirements:* All state and local permits and easements shall be acquired prior to the issuance of a land disturbing permit for any lot within the previously approved 50-lot rural *cluster* known as Deer Lake Estates.

   d. *Erosion and Sediment Control:* The project shall comply with all Virginia erosion and *sediment* control regulations as specified in the 1992 Virginia Erosion and Sediment Control Handbook as amended.

e. *Construction Access:* Vehicular access to all residences along the affected rights-of-way, including Jolly Pond Road and Cranston's Mill Pond Road, shall be maintained at all times.

f. *Vegetation Protection:* The applicant shall avoid removing trees and bushes within the 150 feet Jolly Pond Road vegetative buffer and along the water and sewer extension corridors, except as shown on the approved site plan. Trees and bushes damaged during construction shall be replaced with a tree or bush of equal type as approved by the Planning Director or his designee.

6. *Water Conservation.* The Water Conservation Regulations for Residential properties applicable to the Colonial Heritage development shall be implemented and enforced for the Deer Lake Estates development.

7. *Archaeology.* Prior to issuance of a land-disturbing permit for any portion of the Property, the *applicant* shall provide written evidence to the Planning Director which demonstrates that the recommendations of a professional archaeologist have been implemented in a manner consistent with the preservation objectives of the Board of Supervisors Archaeological Policy, as determined by the Planning Director or his designee.

8. *Master Stormwater Plan.* A Master Stormwater Plan shall be submitted with the development plan for the alternative which is submitted for review and approval by the Director of Engineering and Resource Protection. The Master Stormwater Plan should specifically address how Deer Lake will be utilized as a primary Best Management Practices (by use of drawings/narratives), whether additional onsite structural or non-structural practices are necessary and whether there is a better site design/low-impact development component proposed for stormwater compliance.

9. *Steep Slopes.* Any plan of development for Deer Lake Estates shall maintain a separation of at least 35 feet between the top of 25% and steeper slopes and any structure and a 20-foot separation from the limits of grading to the top of 25% and steeper slopes. This is intended to apply to the larger, contiguous areas of steep slopes, not isolated areas, as determined by the Director of Engineering and Resource Protection. The Director of Engineering and Resource Protection shall have the ability to grant variances from this criteria to provide flexibility in application of this condition.

10. *RPA/Perennial Stream.* The applicant shall conduct a perennial stream evaluation which shall receive approval from the Director of Engineering and Resource Protection prior to preliminary approval being granted for any plan of development for Deer Lake Estates. If perennial streams are present on the site, a 100-foot buffer shall be required around them and any wetlands contiguous to and connected by surface flow to the stream. Any plan of development for Deer Lake Estates shall also maintain a structural separation of 35 feet from any Resource Protection Area on the property.

11. *Pedestrian Accommodations.* In accordance with the adopted Pedestrian Accommodations Master and Regional Bicycle Facilities plans, sidewalk and a shoulder bike lane shall be provided along the Property's Jolly Pond Road frontage. This requirement may be waived by the Planning Director should the Owner

demonstrate that existing pavement width or section, drainage or other engineering constraints would restrict the ability of the Owner to install the bike lane or sidewalk in a manner that would meet Virginia Department of Transportation requirements. Such analysis shall be submitted prior to or concurrent with the initial site plan submission. If a bike lane and/or can be installed, it shall be completed prior to the issuance of a Certificate of Occupancy for any of the 50 lots approved under James City County Case No. SUP-21-04, unless otherwise approved by the Planning Director. In the event that the Planning Director disapproves the waiver, the applicant may appeal the decision to the Development Review Committee, which shall forward a recommendation to the Planning Commission.

12. *Severability.* This SUP is not severable. Invalidation of any word, phrase, clause, sentence or paragraph shall invalidate the remainder.

Michael J. Hippie
Chairman, Board of Supervisors

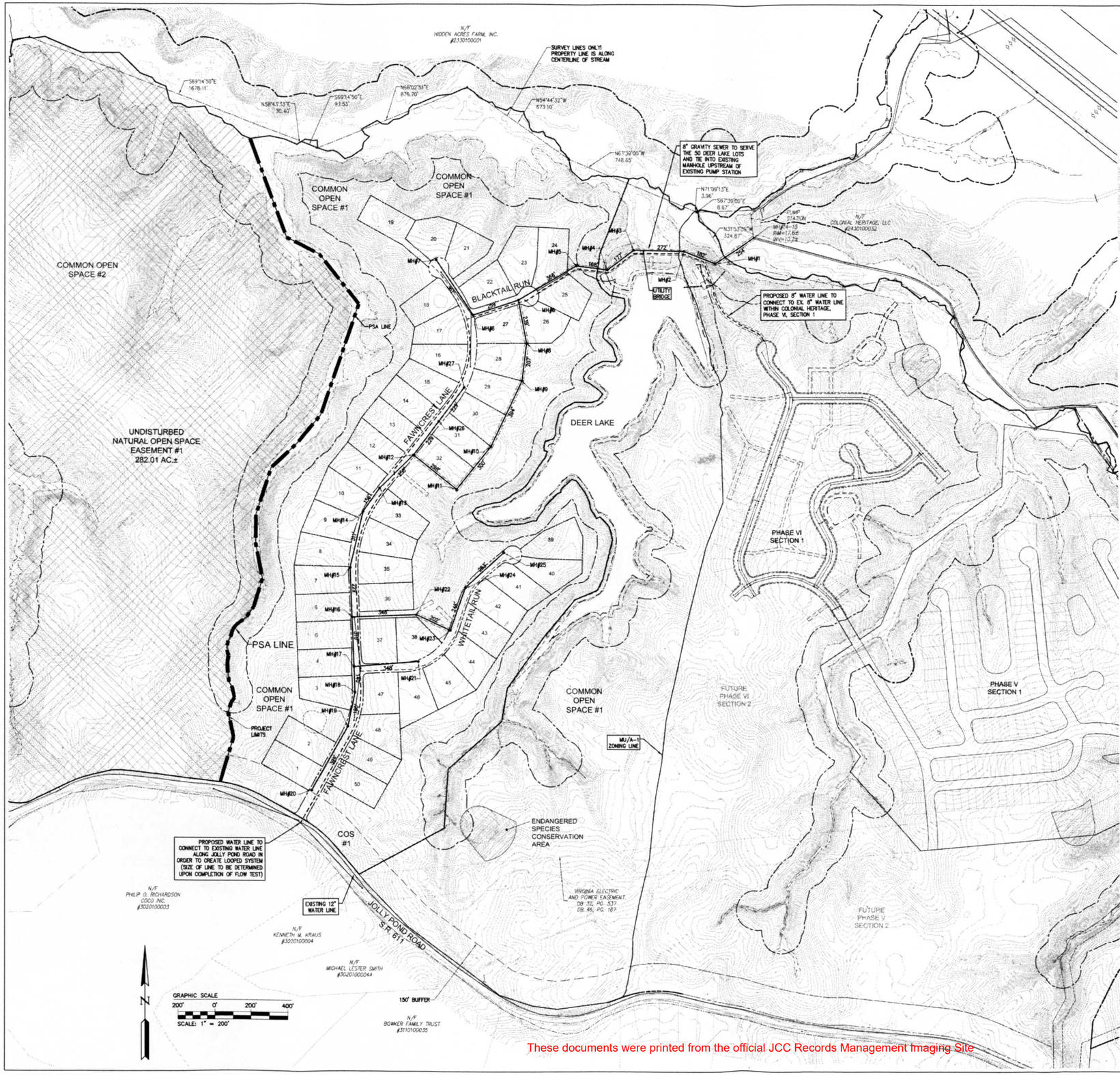
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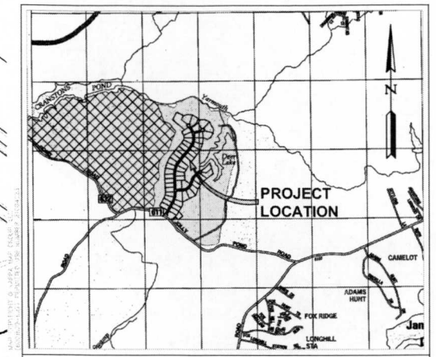
Bryan J. Hill
Clerk to the Board

	VOTES		
	AYE	NAY	ABSTAIN
JONES	✓		
MCGLENNON		✓	
ONIZUK	✓		
KENNEDY	✓		
HIPPLE	✓		

Adopted by the Board of Supervisors of James City County, Virginia, this 10th day of November, 2015.

SUP03-2015DeerLakeEstates-res





VICINITY MAP
(Approximate Scale: 1"=2000')

Stonehouse District James City County Virginia

JCC Case No.: SUP-0003-2015

OWNER/DEVELOPER INFORMATION:

COLONIAL HERITAGE, LLC
CONTACT: MR. BRYAN HURST
COLONIAL HERITAGE, LLC
7591 COPPERMINE DRIVE
MANASSAS, VIRGINIA 20109
TELEPHONE NO.: (703) 961-0130

GENERAL NOTES:

1. PROPERTY AS SHOWN IS A PORTION OF TAX MAP PARCEL ID#2240100007. INSTRUMENT #040024552.
2. PROPERTY ADDRESS: 499 JOLLY POND ROAD, WILLIAMSBURG, VA 23188.
3. TAX MAP PARCEL ID#2240100007 IS CURRENTLY ZONED 'MU' - MIXED USE WITH PROFFERS.
4. THIS CASE AMENDS THE ADOPTED CONDITIONS OF JCC CASE NO SUP-0021-2004. PLEASE REFER TO JCC CASE NO. Z-03-02/Z-04-02 AS WELL AS LU-03-14 FOR ADDITIONAL INFORMATION.
5. THE MAXIMUM ALLOWABLE UNITS IS 2,000 PER THE COLONIAL HERITAGE MASTER PLAN PROFFERS Z-03-02/Z-04-02.
6. ACTUAL ROUTES FOR THE WATER AND SEWER UTILITIES ARE SUBJECT TO CHANGE BASED ON VERIFICATION OF FIELD CONDITIONS, HOWEVER ANY ALIGNMENT WHICH SIGNIFICANTLY VARIES FROM THE LOCATION SHOWN ON THIS PLAN MAY BE SUBJECT TO ADDITIONAL LEGISLATIVE APPROVAL.
7. TOTAL WATER LINE PROPOSED: 6,662 L.F. ±

   TOTAL SANITARY SEWER PROPOSED: 7,497 L.F.±

AES CONSULTING ENGINEERS
5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188
Phone: (757) 253-0040
Fax: (757) 220-8994
www.aesva.com
Hampton Roads | Central Virginia | Middle Peninsula

DEER LAKE ESTATES
UTILITY EXTENSION
OWNER/DEVELOPER: COLONIAL HERITAGE L.L.C.
STONEHOUSE DISTRICT JAMES CITY COUNTY VIRGINIA

Project Contact: HWP/TRS
Project Number: 9625-03
Scale: 1"=200'
Date: 09/17/15
Sheet Title: WATER / SEWER SUP EXHIBIT

Sheet Number
1 of 1

These documents were printed from the official JCC Records Management Imaging Site

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SUBDIVISION PLAN

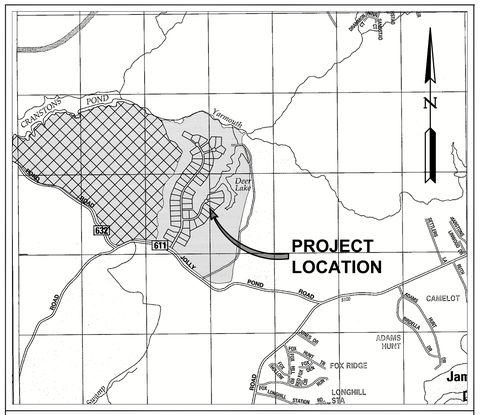
FOR

DEER LAKE ESTATES

STONEHOUSE DISTRICT JAMES CITY COUNTY VIRGINIA

GENERAL NOTES

1. ALL PROPOSED UTILITIES SHOWN ARE TO BE PLACED UNDERGROUND AS PER THE CURRENT JAMES CITY COUNTY SUBDIVISION ORDINANCE SECTION 19-33.
2. ALL RESIDENTIAL SUBDIVISION SIGNS SHALL BE IN ACCORDANCE WITH ARTICLE II, DIVISION 3 OF THE JAMES CITY COUNTY ZONING ORDINANCE.
3. ALL NEW STREET SIGNS SHALL BE INSTALLED PER SECTION 19-55 OF THE JAMES CITY COUNTY SUBDIVISION ORDINANCE.
4. ALL PROPOSED ROADS SHALL BE 25 MPH. JOLLY POND ROAD, RT. 661, HAS A DESIGN/POSTED SPEED LIMIT OF 45 MPH.
5. STORM SEWER PIPE SHALL BE CLASS III RCP OR SMOOTH WALL INTERIOR HDPE PIPE UNLESS OTHERWISE DESIGNATED. PRIOR TO THE RELEASE OF THE BOND AND SURETY IT SHALL BE SHOWN THAT INSTALLATION OF HDPE STORM SEWER PIPE WAS CONDUCTED WITH COMPLIANCE TO ASTM D-2321, THE SEALING AREA OF THE BELL SHALL BE REINFORCED TO PROVIDE JOINT INTEGRITY AND TOLERANCE CONTROL. HDPE PIPE AND FITTING JOINTS ARE TO COMPLY WITH ASTM F477 FOR WATERTIGHT GASKETS. HDPE PIPE IS TO BE USED IN LIEU OF CLASS III RCP PIPE ONLY; WHERE CLASS IV RCP OR HIGHER IS REQUIRED THE CONTRACTOR SHALL USE RCP PIPE ONLY.
6. STORM STRUCTURES, SEWER AND BEDDING SHALL CONFORM TO THE VDOT ROAD AND BRIDGE STANDARDS AND VDOT SPECIFICATIONS. ALL WEEP HOLES INSTALLED FOR DI-7/YARD DRAIN INLETS SHALL BE PLUGGED UPON STABILIZATION OF SURROUNDING AREAS. ALL PIPE BEDDING SHALL BE IN ACCORDANCE WITH PB-1 AND MANUFACTURER SPECS. AND GUIDELINES. AND STORM SEWER MANHOLES DEEPER THAN 4 FEET SHALL HAVE STEPS (ST-1). ALL STORM PIPE WITHIN A VDOT R.O.W. SHALL BE REINFORCED CONCRETE PIPE (RCP) AND SHALL BE CLASS III UNLESS OTHERWISE NOTED. STORM PIPE OUTSIDE OF A VDOT R.O.W. CAN BE HIGH DENSITY POLYETHYLENE (HDPE), UNLESS OTHER WISE NOTED ALL DI-3 STRUCTURES TO USE TYPE A NOSE. VDOT STANDARD IS-1 SHAPING TO BE USED IN ALL STORM STRUCTURES.
7. RESEARCH HAS SHOWN NO EVIDENCE OF ENVIRONMENTAL OR HEALTH HAZARDS ON THIS SITE.
8. A LAND DISTURBING PERMIT AND SILTATION AGREEMENT, WITH SURETY ARE REQUIRED FOR THIS PROJECT.
9. CONSTRUCTION OF STORMWATER CONVEYANCE SYSTEMS WITHIN THIS DEVELOPMENT OUTSIDE OF THE VDOT RIGHT-OF-WAY SHALL COMPLY WITH THE CURRENT JAMES CITY COUNTY GUIDELINES FOR DESIGN AND CONSTRUCTION OF STORMWATER MANAGEMENT BMP'S AND THE ENVIRONMENTAL DIVISION STORMWATER DRAINAGE CONVEYANCE SYSTEMS (NON-BMP RELATED) GENERAL DESIGN AND CONSTRUCTION GUIDELINES.
10. A PRECONSTRUCTION CONFERENCE SHALL BE HELD ON-SITE BETWEEN THE COUNTY, THE PROJECT ENGINEERS AND THE CONTRACTOR PRIOR TO ISSUANCE OF A LAND DISTURBING PERMIT.
11. ALL ROADS SHALL BE PUBLIC RIGHT-OF-WAYS AND SHALL BE MAINTAINED BY THE VIRGINIA DEPARTMENT OF TRANSPORTATION.
12. UNLESS OTHERWISE NOTED, ALL DRAINAGE EASEMENTS SHALL REMAIN PRIVATE.
13. ALL NEW PROPERTY MONUMENTS SHALL BE SET IN ACCORDANCE WITH SECTIONS 19-34 THROUGH 19-36 OF THE JAMES CITY COUNTY SUBDIVISION ORDINANCE
14. NO BUILDING OR STRUCTURE CAN EXCEED 60' IN HEIGHT WITHOUT A HEIGHT WAIVER FROM JAMES CITY COUNTY,
15. IN ACCORDANCE WITH SECTION 19-29(H) OF THE JAMES CITY COUNTY SUBDIVISION ORDINANCE, THE NATURAL OPEN SPACE EASEMENTS SHALL REMAIN IN A NATURAL UNDISTURBED STATE EXCEPT FOR THOSE ACTIVITIES REFERENCED IN THE DEED OF EASEMENT.
16. IN ACCORDANCE WITH SECTION 19-29(G) OF THE JAMES CITY COUNTY SUBDIVISION ORDINANCE, WETLANDS AND LAND WITHIN RESOURCE PROTECTION AREAS SHALL REMAIN IN A NATURAL UNDISTURBED STATE EXCEPT FOR THOSE ACTIVITIES PERMITTED BY SECTION 23-7(C)(1) OF THE JAMES CITY COUNTY CODE.
17. PER THE PROFFERS, NO IRRIGATION WELLS SHALL BE ESTABLISHED OR UTILIZED FOR ANY RESIDENTIAL UNIT.
18. THE CONTRACTOR IS REQUIRED TO SECURE ALL NECESSARY PERMITS FOR THE ABANDONMENT OR DEMOLITION OF ALL EXISTING WELLS/WATERLINES AND SEPTIC FIELDS IN ACCORDANCE WITH JAMES CITY COUNTY AND VIRGINIA DEPARTMENT OF HEALTH REGULATIONS. CONTACT VIRGINIA DEPARTMENT OF HEALTH AT 1-757-253-4813
19. THE CONTRACTOR IS REQUIRED TO SECURE ANY DEMOLITION PERMITS FOR EXISTING STRUCTURES INDICATED ON THE PLAN. CONTACT CODE COMPLIANCE AT 1-757-253-6626.
20. ALL LOTS TO BE SERVED BY PUBLIC WATER AND SEWER.
21. ALL ERRORS OR DISCREPANCIES WITH THE PLANS OR EXISTING SITE CONDITIONS SHALL BE REPORTED TO THE ENGINEER OR SURVEYOR OF RECORD BEFORE PROCEEDING WITH THE WORK.
22. CONTOUR INTERVAL IS 2 FOOT.
23. ANY EXISTING, UNUSED WELLS SHALL BE ABANDONED IN ACCORDANCE WITH THE VIRGINIA PRIVATE WELL REGULATIONS AND JAMES CITY COUNTY CODE.
24. SOLID WASTE DISPOSAL SHALL BE PROVIDED BY A PRIVATE HAULER.
25. ROADWAY AND DITCH CONSTRUCTION SHALL CONFORM TO THE VDOT ROAD AND BRIDGE STANDARDS AND VDOT SPECIFICATIONS.
26. A VDOT LAND USE PERMIT IS REQUIRED FOR ALL WORK WITHIN THE VDOT RIGHT-OF-WAY. THE CONTRACTOR SHALL NOTIFY VDOT IN WRITING 48 HOURS PRIOR TO COMMENCEMENT OF ANY WORK WITHIN THE VDOT RIGHT-OF-WAY. THE GENERAL CONTRACTOR SHALL SECURE THIS PERMIT.
27. ALL COMPONENTS OF THE WATER DISTRIBUTION AND SANITARY SEWER SYSTEM SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH THE LATEST EDITION OF THE JAMES CITY SERVICE AUTHORITY DESIGN AND ACCEPTANCE CRITERIA FOR WATER DISTRIBUTION AND SANITARY SEWER SYSTEMS, THE HRPDC REGIONAL STANDARDS, AND THE COMMONWEALTH OF VIRGINIA WATERWORKS AND SEWERAGE REGULATIONS.
28. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND NOTIFY JAMES CITY SERVICE AUTHORITY PRIOR TO ANY EXCAVATION OR DEMOLITION WITHIN UTILITY CORRIDORS.
29. THE CONTRACTOR SHALL MAINTAIN A COMPLETE SET OF THE APPROVED PLANS AT THE PROJECT SITE AT ALL TIMES DURING CONSTRUCTION.
30. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING MISS UTILITY (1-800-552-7001) FOR EXISTING UTILITY LOCATIONS AT LEAST 3 WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION, AND A PRIVATE UTILITY LOCATOR FOR THE LOCATING OF PRIVATE UTILITIES.
31. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN ON THE DRAWINGS AND FOR EXCAVATION STOCKPILES, STAGING AREAS, MOBILIZATION SITES, BEDDING/BACKFILL STOCKPILES AND OTHER LAND DISTURBANCES NOT SPECIFICALLY ADDRESSED IN THE DRAWINGS OR CONTRACT DOCUMENTS. EROSION AND SEDIMENT CONTROL MEASURES SHALL MEET OR EXCEED THE MINIMUM STANDARDS OF THE "VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK" (LATEST PUBLICATION) AND THE REQUIREMENTS OF THE LOCAL GOVERNING AUTHORITY.
32. THE CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO ALL OWNERS AND RESIDENTS OF PROPERTY ADJACENT TO THE PROJECT 30 DAYS PRIOR TO THE COMMENCEMENT OF WORK, UNLESS OTHERWISE DIRECTED BY THE OWNER, CONSTRUCTION WITHIN EASEMENTS OR ON PUBLIC RIGHT-OF-WAY NECESSITATES NOTICE WHETHER ADJACENT TO OR LOCATED ON THE ADJOINING PROPERTY. FAILURE TO PROVIDE THE MINIMUM NOTIFICATION TIME WILL RESULT IN SUSPENSION OF WORK.
33. THE ABSENCE OF THE OWNER OR THE ENGINEER AT THE JOB SITE DOES NOT, IN ANY WAY, RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO PERFORM THE WORK IN ACCORDANCE WITH THE DRAWINGS, CONTRACT DOCUMENTS, ADDENDA, AND WRITTEN AUTHORIZED PLAN REVISIONS.
34. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS, ORDINANCES, RULES, REGULATIONS, AND ORDERS OF ANYBODY HAVING JURISDICTION. THE CONTRACTOR SHALL ERECT AND MAINTAIN, AS REQUIRED BY THE CONDITIONS AND PROGRESS OF THE WORK, ALL NECESSARY SAFEGUARDS FOR SAFETY AND PROTECTION.
35. ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM WITH THE CURRENT JAMES CITY COUNTY STANDARDS AND SPECIFICATIONS, VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE STANDARDS AND SPECIFICATIONS, VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS, AND ANY OTHER APPLICABLE CITY OR STATE ORDINANCES, CODES, AND LAWS PRIOR TO ANY CONSTRUCTION ACTIVITY.
36. THE CONTRACTOR SHALL AT ALL TIMES POSSESS AND MAINTAIN A CURRENT COPY OF THE JAMES CITY SERVICE AUTHORITY STANDARDS AND SPECIFICATIONS, WATER DISTRIBUTION AND SANITARY SEWER SYSTEMS AND A COPY OF THE HAMPTON ROADS PLANNING DISTRICT COMMISSION (HRPDC) REGIONAL STANDARDS AT THE JOB SITE AND READILY AVAILABLE FOR IMMEDIATE REFERENCE.
37. THE CONTRACTOR SHALL USE ONLY NEW MATERIALS, PARTS AND PRODUCTS ON ALL PROJECTS. ALL MATERIALS SHALL BE STORED SO AS TO ASSURE THE PRESERVATION OF THEIR QUALITY AND FITNESS FOR THE WORK. A COPY OF THE JCSA STANDARDS AND REGIONAL STANDARDS MUST BE KEPT ON-SITE BY THE CONTRACTOR DURING THE FULL TIME OF INSTALLING, TESTING, AND CONVEYING THE FACILITIES TO JCSA.
38. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS PRIOR TO COMMENCEMENT OF WORK INCLUDING, BUT NOT LIMITED TO, LAND DISTURBING, BUILDING, RIGHT-OF-WAY, AND UTILITY PERMITS.
39. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF CONSTRUCTION EFFORTS WITH THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT), LOCAL EMERGENCY SERVICES, AND ALL NECESSARY UTILITY COMPANIES INCLUDING, BUT NOT LIMITED TO, ELECTRICITY, NATURAL GAS, TELECOMMUNICATIONS, CABLE TELEVISION, WATER, SEWER, PRIVATE LIGHTING, AND OTHERS THAT MAY BE REQUIRED.
40. THE CONTRACTOR SHALL SATISFY HIMSELF AS TO ALL SITE CONDITIONS PRIOR TO CONSTRUCTION. EXISTING UTILITY LOCATIONS INDICATED ARE APPROXIMATE. FIELD VERIFY PRIOR TO COMMENCING THE WORK.
41. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF ALL SITE IMPROVEMENTS, INCLUDING LANDSCAPING, AS SHOWN ON THE APPROVED PLAN.
42. THE CONTRACTOR SHALL REMOVE ALL EXCESS MATERIAL, INCLUDING SOIL AND DEBRIS, FROM THE SITE.
43. THE CONTRACTOR WILL IMMEDIATELY REPAIR OR REPLACE CHANNEL STABILIZATION BLANKETS AND EROSION CONTROL MATTINGS IF SITEWORK OR ASSOCIATED UTILITY OPERATIONS SUCH AS CABLE, ELECTRIC, GAS, PHONE, SEWER, WATER, ETC. DAMAGE THEIR FUNCTIONAL INTENT.
44. THE CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF THE VIRGINIA UNDERGROUND UTILITY DAMAGE PREVENTION ACT (SECTION 56-265.14 ET. SEQ. CODE OF VIRGINIA, 1950, AS AMENDED) AND HEREBY AGREES TO HOLD THE DEVELOPER AND THE ENGINEER HARMLESS AGAINST ANY LOSS, DAMAGE, OR CLAIMS OF ANY NATURE WHATSOEVER ARISING OUT OF THE CONTRACTOR'S FAILURE TO COMPLY WITH THE REQUIREMENTS OF SAID ACT.
45. THE CONTRACTOR IS REQUIRED TO COMPLY WITH THE VIRGINIA OVERHEAD HIGH VOLTAGE LINE SAFETY ACT (SECTIONS 59.1-406 THROUGH 59.1-414, CODE OF VIRGINIA, 1950, AS AMENDED). THE CONTRACTOR IS REQUIRED TO VISIT THE SITE AND NOTE THE POSITION OF OVERHEAD CABLES PRIOR TO CONSTRUCTION.
46. ALL UTILITY AND SURVEY DATA SHOWN ON THE DRAWINGS HAVE BEEN PROVIDED BY AES CONSULTING ENGINEERS. INFORMATION HAS BEEN OBTAINED FROM THE BEST AVAILABLE SOURCES AT THE TIME OF THE SURVEY BUT IS NOT REPRESENTED AS BEING COMPLETE AND ACCURATE, IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND PROTECT EXISTING UTILITIES AND UNDERGROUND STRUCTURES. DAMAGE TO EXISTING UTILITIES AND UNDERGROUND STRUCTURES SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE DEVELOPER.
47. HORIZONTAL DATUM - NAD83 (1192) VIRGINIA STATE PLAIN COORDINATE SYSTEM SOUTH ZONE
VERTICAL DATUM - NGVD29 VIRGINIA STATE PLAIN COORDINATE SYSTEM SOUTH ZONE.
48. PRIVATELY OWNED UTILITIES (EG WATER & SEWER LINES, FIRE MAINS) SHOWN ON THIS PLAN ARE REGULATED BY THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE AND ENFORCED BY THE BUILDING SAFETY AND PERMITS DIVISION. THESE PRIVATELY OWNED UTILITIES MUST COMPLY FULLY WITH THE INTERNATIONAL PLUMBING CODE, THE NATIONAL FIRE PREVENTION ASSOCIATION STANDARD 24 AND THE INTERNATIONAL FIRE CODE. CONTRACTORS WORKING FROM THIS SITE PLAN ARE CAUTIONED NOT TO INSTALL OR CONCEAL PRIVATELY OWNED SITE UTILITIES WITHOUT OBTAINING REQUIRED PERMITS AND INSPECTIONS.
49. EASEMENTS DENOTED AS "JCSA UTILITY EASEMENTS" ARE FOR THE EXCLUSIVE USE OF THE JAMES CITY SERVICE AUTHORITY AND THE PROPERTY OWNER. OTHER UTILITY SERVICE PROVIDERS DESIRING TO USE THESE EASEMENTS WITH THE EXCEPTION OF PERPENDICULAR UTILITY CROSSINGS MUST OBTAIN AUTHORIZATION FOR ACCESS AND USE FROM JCSA AND THE PROPERTY OWNER. ADDITIONALLY, JCSA SHALL NOT BE HELD RESPONSIBLE FOR ANY DAMAGE TO IMPROVEMENTS WITHIN THIS EASEMENT, FROM ANY CAUSE.
50. ANY STORM STRUCTURES OVER 12' IN DEPTH SHALL BE INSTALLED WITH A SAFETY SLAB AS REQUIRED BY VDOT.
51. THE PROPOSED CUL-DE-SACS ARE IN ACCORDANCE WITH SECTION 19-54 OF THE SUBDIVISION ORDINANCE.



VICINITY MAP
(Approximate Scale: 1"=2000')
Copyright ADC The Map People permitted use number 21004223

SUP NO.: SUP-0003-2015
COUNTY PROJECT NO.: S-0046-2015
ORIGINAL SUBMITTAL DATE: NOVEMBER 16, 2015

(THIS PROJECT IS SUBJECT TO THE REQUIREMENTS OF Z-0003-2002/Z-0004-2002)



1. **CONTRACTORS SHALL NOTIFY MISS UTILITY @ 811 OR (800) 552-7001 PRIOR TO STARTING CONSTRUCTION.**
2. **CONTRACTOR IS RESPONSIBLE FOR LOCATING AND DETERMINING SIZES OF ALL UTILITIES PRIOR TO CONSTRUCTION.**
3. **IF CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLANS, CONTACT THE CONSTRUCTION MANGER BEFORE PROCEEDING.**
4. **GOVERNMENT WILL MARK ALL GOVERNMENT-OWNED UTILITIES.**

VSMP PERMIT DATA:

EXISTING PERMIT COVERAGE #:

SITE LOCATED IN CHESAPEAKE BAY PRESERVATION AREA: Yes☒ No☐

LOCATION OF OFF-SITE ACTIVITY:	JOLLY POND ROAD (S.R. 611) (RIGHT-OF-WAY IMPROVEMENTS) PARCEL ID #2330400001A & #2330600001G (UTILITY CONNECTIONS TO COLONIAL HERITAGE)
STATUS OF ACTIVITY:	☐Federal ☐ State☐Public☒Private
NATURE OF CONSTRUCTION ACTIVITY:	☐Commercial ☒ Residential☐Industrial ☐Other
NAME OF RECEIVING WATER(S):	SUB-WATERSHED 105 OF THE YARMOUTH CREEK WATERSHED
NAME OF IMPAIRED WATER(S):	YARMOUTH CREEK
HYDROLOGIC UNIT CODE (HUC):	HUC JL-28
MUNICIPAL STORM SEWER SYSTEM (MS-4):	JAMES CITY COUNTY
COMMON PLAN OF DEVELOPMENT:	Yes ☒ No☐

INDEX OF SHEETS

SHEET NO.	SHEET DESCRIPTION
1	COVER SHEET
2	ENVIRONMENTAL INVENTORY PLAN
3	OVERALL PLAN OF DEVELOPMENT
4	PRELIMINARY PLAT
5	PHASE I E&S PLAN
6	OVERALL SITE AND UTILITY PLAN
6A	BIKE LANE SITE, GRADING, DRAINAGE, AND PHASE II E&S PLAN
7	ROAD, UTILITY, GRADING, DRAINAGE, AND PHASE II E&S PLAN
8	ROAD, UTILITY, GRADING, DRAINAGE, AND PHASE II E&S PLAN
9	ROAD, UTILITY, GRADING, DRAINAGE, AND PHASE II E&S PLAN
9A	ROAD, UTILITY, GRADING, DRAINAGE, AND PHASE II E&S PLAN
10	ROAD, UTILITY, GRADING, DRAINAGE, AND PHASE II E&S PLAN
11	ROAD AND UTILITY PROFILE
12	ROAD AND UTILITY PROFILE
13	ROAD AND UTILITY PROFILE
14	OFFSITE WATER & SANITARY #1 PLAN, PROFILE, AND PHASE II E&S
15	OFFSITE SANITARY #2 PLAN, PROFILE, AND PHASE II E&S
16	OFFSITE SANITARY #3 PLAN, PROFILE, AND PHASE II E&S
17	E&S NOTES & DETAILS
17A	E&S NOTES & DETAILS
18	SITE AND VDOT NOTES & DETAILS
19	VDOT NOTES & DETAILS
L1	LANDSCAPE PLAN
L2	LIGHTING PLAN

OWNER/DEVELOPER INFORMATION:

COLONIAL HERITAGE, LLC
CONTACT: MR. TIM BATES
COLONIAL HERITAGE, LLC
14280 PARK MEADOW DRIVE, SUITE 105
CHANTILLY, VIRGINIA 20151
TELEPHONE NO.: (703) 449-6538

CERTIFIED RESPONSIBLE LAND DISTURBER:

JOSEPH ROQUE
CERTIFICATE #RLD04567
EXPIRATION DATE: 07/13/2022
COLONIAL HERITAGE, LLC
7015 STATESMAN
WILLIAMSBURG, VIRGINIA 23188
TELEPHONE NO.: (757) 748-3969
FAX NO.: (757) 257-8356

SITE DATA:

SITE ADDRESS:	499 JOLLY POND ROAD WILLIAMSBURG, VA 23188
ZONING:	A1 CLUSTER WITH SPECIAL USE PERMIT NO. SUP-0021-2004/SUP-0003-2015 AND PROFFERS Z-0003-2002 / Z-0004-2002
PROPOSED PROJECT LIMITS:	5,905,196 S.F.±, 135.56 AC.±
PROPOSED RIGHT OF WAY AREA:	259,541 S.F.±, 5.96 AC.±
PROPOSED IMPERVIOUS AREA:	454,934 S.F.±, 10.44 AC.±
TOTAL DISTURBED AREA:	2,015,709 S.F.±, 46.27 AC.±
FLOOD HAZARD MAP:	THIS PROPERTY IS IN FLOOD ZONE X AS SHOWN ON PANELS 0106D & 0108D, FOR COMMUNITY NUMBER 510201, DATED 12/16/2015 OF THE FLOOD INSURANCE RATE MAPS FOR JAMES CITY COUNTY, VIRGINIA. ZONE X IS DEFINED AS AREAS OUTSIDE THE 500 YEAR FLOOD PLAIN.

NATURAL RESOURCE INVENTORY

"THIS SITE PLAN (OR SUBDIVISION PLAN) HAS BEEN REVIEWED AGAINST THE NATURAL RESOURCE INVENTORY APPROVED ON FEBRUARY 7, 2003 BY THE DIRECTOR OF PLANNING, IN ACCORDANCE WITH THE COLONIAL HERITAGE PROFFER #6 DATED NOVEMBER 7, 2001, AND THE NATURAL RESOURCE INVENTORY RECOMMENDATIONS HAVE BEEN INCORPORATED INTO THESE DEVELOPMENT PLANS"

NOTE:
ALL WORK SHALL BE OBSERVED BY A QUALIFIED LICENSED PROFESSIONAL. PRIOR TO THE RELEASE OF RELATED POSTED BONDS AND SURETY, RECORD DRAWINGS AND CONSTRUCTION CERIFICATIONS MUST BE PROVIDED TO, AND APPROVED BY THE JAMES CITY COUNTY ENGINEERING AND RESOURCE PROTECTION DIVISION AND SHALL BE CONSISTENT WITH THE STORMWATER MANAGEMENT/BMP FACILITIES RECORD DRAWING AND CONSTRUCTION CERTIFICATION FORMS.

Rev.	Date	Description	Revised By
3	11/14/19	REVISED PER JAMES CITY COUNTY COMMENTS	TRS
2	08/09/19	REVISED PER JAMES CITY COUNTY COMMENTS	TRS
1	03/15/19	REVISED PER JAMES CITY COUNTY COMMENTS	TRS

COMMONWEALTH OF VIRGINIA
TIMOTHY RYAN STEPHENSON
Lic. No. 044405
PROFESSIONAL ENGINEER
11/15/2019

AES CONSULTING ENGINEERS
5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188
Phone: (757) 253-0040
Fax: (757) 220-8994
www.aesva.com
Middle Peninsula | Central Virginia | Hampton Roads

SUBDIVISION PLAN
FOR
DEER LAKE ESTATES
OWNER/DEVELOPER: COLONIAL HERITAGE L.L.C.
STONEHOUSE DISTRICT JAMES CITY COUNTY VIRGINIA

Project Contacts:	HWP/TRS
Project Number:	9625-03
Scale: AS NOTED	Date: 11/16/15
Sheet Title:	COVER SHEET
Sheet Number	1

Rev.	Date	Description	Revised By
3	11/16/19	REVISED PER JAMES CITY COUNTY COMMENTS	TRS
2	08/09/19	REVISED PER JAMES CITY COUNTY COMMENTS	TRS
1	03/15/19	REVISED PER JAMES CITY COUNTY COMMENTS	TRS

N/F
HIDDEN ACRES FARM, INC.
#2330100001

N/F
COLONIAL HERITAGE, LLC
#2430100032

N/F
PHILIP O. RICHARDSON
COCO INC.
#3020100003

N/F
KENNETH M. KRAUS
#3020100004

N/F
MICHAEL LESTER SMITH
#3020100004A

N/F
BOWKER FAMILY TRUST
#3110100035

N/F
VIRGINIA ELECTRIC
AND POWER EASEMENT
DB 32, PG. 537
DB 46, PG. 167

N76°05'02"E
722.69'

S76°21'30"W
270.70'

S70°42'43"E
429.60'

N60°26'41"E
589.04'

S69°14'50"E
1678.11'

N60°43'52"E
528.34'

N36°23'56"E
362.92'

S66°29'46"E
441.72'

S26°26'14"W
209.81'

INSET #1 (SEE BELOW)

N58°43'33"E
30.40'

S69°14'50"E
93.53'

N68°02'51"E
876.70'

SURVEY LINES ONLY!
PROPERTY LINE IS ALONG
CENTERLINE OF STREAM

N54°44'32"W
673.10'

INSET #2 (SEE BELOW)

N67°39'00"W
748.65'

N31°53'09"W
324.87'

DEER LAKE BOUNDARY/
NEW PSA LINE

EXISTING UNDISTURBED
NATURAL OPEN SPACE
EASEMENT
282 AC.±
(INSTR. #170018261)

COMMON OPEN
SPACE #1

UNDISTURBED
NATURAL
OPEN SPACE
EASEMENT #8

UNDISTURBED
NATURAL OPEN SPACE
EASEMENT #6

UNDISTURBED
NATURAL
OPEN SPACE
EASEMENT #5

UNDISTURBED
NATURAL OPEN SPACE
EASEMENT #1

UNDISTURBED
NATURAL OPEN SPACE
EASEMENT #2

UNDISTURBED
NATURAL OPEN SPACE
EASEMENT #3

UNDISTURBED
NATURAL OPEN SPACE
EASEMENT #4

UNDISTURBED
NATURAL
OPEN SPACE
EASEMENT #7

BLACKTAIL RUN

FAWNCREST LANE

SEDIMENT
FOREBAY
#1

SEDIMENT
FOREBAY
#2

SEDIMENT
FOREBAY #3

DEER LAKE

PHASE VI
SECTION 1

FUTURE
PHASE VI
SECTION 2

PRESERVATION
AREA BUFFER

ARCHEOLOGICAL SITE 44JC1319
(TO BE SURROUNDED BY SAFETY
FENCE DURING CONSTRUCTION)

PROJECT
LIMITS

100' RPA
BUFFER

LIMITS OF
WETLANDS

DEER LAKE
BOUNDARY

MU/A-1
ZONING LINE

ENDANGERED SPECIES
CONSERVATION AREA

150' BUFFER

JOLLY POND ROAD
SR 611
(2687 ADT)

EXISTING
NATURAL
OPEN SPACE
REMOVED

UNDISTURBED
NATURAL
OPEN SPACE
DEDICATED
AS MITIGATION

LINE TABLE		
LINE	BEARING	LENGTH
L1	S16°36'47"W	253.93'
L2	S11°55'01"E	136.38'
L3	S14°53'04"W	57.18'
L4	S35°39'40"W	32.38'
L5	S12°08'26"E	56.36'
L6	S29°05'49"E	35.61'
L7	S6°12'38"E	72.54'
L8	S0°41'41"W	38.65'
L9	S11°07'38"W	31.71'
L10	S21°18'55"E	20.09'
L11	S1°34'35"W	49.13'
L12	S24°14'22"W	44.84'
L13	S15°01'59"W	32.84'
L14	S37°32'43"W	32.07'
L15	S56°02'32"W	65.33'
L16	S35°42'28"W	75.80'
L17	S17°27'49"W	160.97'
L18	S10°46'53"E	189.39'
L19	S0°19'11"W	162.10'
L20	S18°05'19"W	268.65'
L21	S46°44'13"W	189.13'
L22	S40°17'57"W	204.49'
L23	S18°53'59"W	638.94'
L24	S38°21'38"E	344.57'
L25	S63°42'22"E	200.49'
L26	S20°17'12"E	572.70'
L27	N21°07'48"E	435.84'
L28	N7°54'16"E	133.69'
L29	N27°42'41"W	56.37'
L30	N46°50'30"W	62.92'
L31	N78°26'44"W	79.40'
L32	N6°02'14"W	42.26'
L33	N12°51'48"E	27.39'
L34	N51°03'50"E	93.94'
L35	N40°35'41"E	51.61'
L36	N8°45'09"E	45.15'

LINE TABLE		
LINE	BEARING	LENGTH
L37	N45°29'53"W	64.20'
L38	N31°36'34"W	21.49'
L39	N12°12'48"W	31.63'
L40	N22°54'05"W	25.66'
L41	N24°13'42"E	16.61'
L42	S86°42'38"E	66.15'
L43	N64°19'03"E	48.74'
L44	N55°27'37"E	40.94'
L45	N35°18'21"E	47.76'
L46	N13°53'17"W	28.76'
L47	N70°48'42"W	25.46'
L48	N53°46'05"W	67.80'
L49	N41°38'23"W	26.15'
L50	N35°33'44"E	39.07'
L51	N72°14'59"E	44.12'
L52	S89°15'29"E	86.85'
L53	N60°30'34"E	64.76'
L54	N43°38'28"E	41.29'
L55	N13°25'09"E	78.10'
L56	N0°22'22"E	40.98'
L57	N32°41'46"E	24.65'
L58	N72°53'16"E	43.82'
L59	N13°15'15"E	30.58'
L60	N2°07'22"W	20.49'
L61	N65°47'28"W	17.39'
L62	N20°02'58"E	35.93'
L63	N36°53'25"E	42.90'
L64	N32°41'22"E	128.92'
L65	N46°22'49"E	44.38'
L66	N62°31'27"E	53.08'
L67	N48°01'23"E	25.48'
L68	N63°46'10"E	37.23'
L69	N59°05'28"E	16.80'
L70	N82°11'55"E	28.75'
L71	N78°08'10"E	54.95'
L72	N70°04'51"E	53.68'

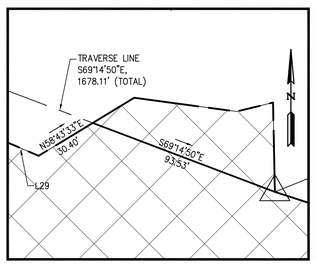
LINE TABLE		
LINE	BEARING	LENGTH
L73	N38°43'26"E	32.68'
L74	N28°22'24"W	34.64'
L75	N60°05'32"W	76.78'
L76	N82°52'11"W	33.44'
L77	S86°03'30"W	80.82'
L78	S66°52'25"W	14.82'
L79	N88°43'18"W	24.92'
L80	S85°39'32"W	43.75'
L81	S71°26'01"W	49.01'
L82	S89°04'41"W	22.52'
L83	S23°16'25"W	19.84'
L84	S37°13'40"W	58.14'
L85	S12°38'24"W	14.13'
L86	S43°47'00"W	98.12'
L87	S71°40'10"W	18.91'
L88	S3°31'25"W	16.28'
L89	S47°18'57"W	79.32'
L90	N76°06'50"W	24.24'
L91	N36°44'08"W	78.46'
L92	N24°52'12"W	57.27'
L93	N10°07'30"W	40.51'
L94	N31°40'58"W	59.35'
L95	S66°28'03"W	20.90'
L96	N43°08'56"W	73.04'
L97	N13°17'57"W	72.67'
L98	N13°38'50"E	221.03'
L99	N26°05'05"E	65.78'
L100	N66°26'37"E	133.84'
L101	N39°53'57"E	253.17'
L102	N35°28'13"E	351.97'
L103	N9°34'17"E	181.04'
L104	N48°12'05"E	391.81'
L105	N3°57'27"E	321.52'
L106	N61°21'48"E	524.73'

LAND USE SUMMARY TABLE FOR DEER LAKE

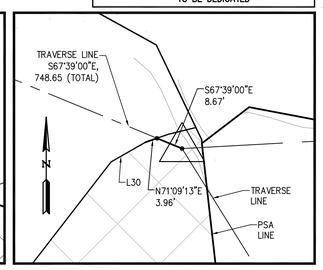
	S.F.	AC.	%
AREA OF RESIDENTIAL LOTS	2,312,325	53.084	39%
AREA OF RIGHT-OF-WAY	259,541	5.958	4%
AREA OF COMMON OPEN SPACE #1	3,333,330	76.523	56%
DEER LAKE PROJECT AREA	5,905,196	135.565	100%
EXISTING NATURAL OPEN SPACE EASEMENT REMOVED	12,145	0.279	
NATURAL OPEN SPACE EASEMENT DEDICATED AS MITIGATION	24,041	0.552	
UNDISTURBED NATURAL OPEN SPACE EASEMENT #1	61,705	1.417	
UNDISTURBED NATURAL OPEN SPACE EASEMENT #2	799,797	18.361	
UNDISTURBED NATURAL OPEN SPACE EASEMENT #3	20,829	0.478	
UNDISTURBED NATURAL OPEN SPACE EASEMENT #4	18,543	0.425	
UNDISTURBED NATURAL OPEN SPACE EASEMENT #5	20,851	0.479	
UNDISTURBED NATURAL OPEN SPACE EASEMENT #6	10,097	0.232	
UNDISTURBED NATURAL OPEN SPACE EASEMENT #7	23,462	0.538	
UNDISTURBED NATURAL OPEN SPACE EASEMENT #8	2,003,744	46.000	
TOTAL	2,959,028	67.930	
NUMBER OF LOTS (SFD)	50		
SMALLEST LOT (LOTS 31 AND 32)	43,575 S.F.	1.000 AC.	
LARGEST LOT (LOT 23)	55,574 S.F.	1.276 AC.	
AVERAGE LOT SIZE	45,034 S.F.	1.034 AC.	
GROSS DENSITY	0.12 LOTS/ACRE		
IMPERVIOUS AREA	9.328 AC./406,317 S.F.		

LEGEND

- EXISTING NATURAL OPEN SPACE EASEMENT TO BE REMOVED
- NATURAL OPEN SPACE EASEMENT TO BE DEDICATED AS MITIGATION
- UNDISTURBED NATURAL OPEN SPACE EASEMENT AND CONSERVATION AREA TO BE DEDICATED



INSET #1 SCALE: 1"=30'



INSET #2 SCALE: 1"=20'

GRAPHIC SCALE
200' 0' 200' 400'
SCALE: 1" = 200'

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Hampton Roads | Central Virginia | Middle Peninsula

SUBDIVISION PLAN
FOR
DEER LAKE ESTATES
OWNER/DEVELOPER: COLONIAL HERITAGE L.L.C.
STONEHOUSE DISTRICT JAMES CITY COUNTY VIRGINIA

COMMONWEALTH OF VIRGINIA
THOMAS RYAN SHEPPARD
Lic. No. 044405
PROFESSIONAL ENGINEER
11/15/2019

Project Contacts:	HWP/TRS
Project Number:	9625-03
Scale:	Date:
1"=200'	11/16/15

Sheet Title:
OVERALL
PLAN OF
DEVELOPMENT

Sheet Number
3

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Gregory R. Davis
(757) 259.3820
grdavis@kaufcan.com

December 10, 2020

VIA E-MAIL

Tori Haynes, Senior Planner
James City County
Community Development
PO Box 8784
Williamsburg, VA 23187

Re: My client: Colonial Heritage
Deer Lake Estates Rezoning
Z-19-0013/MP-19-0011

Dear Tori:

Thank you for your comment letter of December 1, 2020. In response I submitted on December 8, 2020 revised version of the proffers proposed for the captioned matter. These proffers respond to staff and County Attorney comments on the prior draft.

You will note the revision of former proffer number 7 to a new proffer number 7 capping residential development at 1,850 units until commercial construction in Land Bay VI fronting Richmond Road is complete. Some background is provided below on the revision of this proffer addressing James City County's mixed use district construction phasing policy.

Colonial Heritage History

Colonial Heritage was originally rezoned in 2001, with a second rezoning in 2004 accomplished to incorporate the former Boy Scout campground property into the development. 20 years ago when preliminary discussions regarding Colonial Heritage property were held with John Horne and county administration, the County pushed for commercial development of Land Bay VI fronting on Richmond Road adjacent to the Colonial Heritage age-restricted community. The County viewed the land on Richmond Road as among the last undeveloped property on that major artery, and it sought to preserve the potential for taxes, revenue and services to county residents which would be generated by commercial development along Richmond Road. The County predicted that commercial development would be lost if residential development resulted in Land Bay VI.

My client accommodated this request, which drove the decision to apply for MU zoning for the portion of Colonial Heritage inside the primary service area.

In the 16 years since the 2004 Colonial Heritage rezoning was approved, the County adopted revisions to the MU zoning ordinance requiring construction phasing which was not required when the County pushed for commercial development in Land Bay VI or when the ultimate Colonial Heritage rezoning was approved in 2004. Over this same time period, my client Colonial Heritage LLC has seen little demand for commercial development in Land Bay VI fronting Richmond Road.

Colonial Heritage LLC and its parent company US Home/Lennar is not in the business of commercial development, and has actively marketed the commercial area for approximately 19 years. Only in the last 12 months has a buyer come forward for a portion of that commercial area. My client has no incentive to retain the commercial area, and in fact carrying the undeveloped land on its books is disadvantageous to my client. Demand for commercial land has simply not materialized.

Phasing Policy

The construction phasing ordinance and policy adopted by the County's Board of Supervisors after 2010 establishes guidelines for MU projects, in order to assure that MU zoning is not utilized purely for residential purposes based on specious promises of commercial development as a part of the mix of uses. As Colonial Heritage LLC seeks to incorporate Deer Lake Estates into the age-restricted Colonial Heritage community, it has encountered difficulty making staff comfortable that the project planned in 2001 can comply with the current policy. This should be of surprise to no one, as the Colonial Heritage project was not designed with phasing requirements or proffers in place. The mix of uses and set aside of commercial area was done at County request. Because of the age-restriction in Colonial Heritage, the project generates no school children and thus at its original rezoning presented a very positive fiscal impact to the County without relying upon projected tax revenue from business uses in Land Bay VI. There we no specious promises of tax revenue from Land Bay Vi needed to paint a positive picture of fiscal impacts of Colonial Heritage in 2001.

Initial efforts have been made to fit Colonial Heritage into the current phasing policy. The County and the applicant have been unable to agree, however, that certain public facilities within Colonial Heritage, like the public golf course and clubhouse, satisfy staff's interpretation of the commercial square footage requirements in the phasing policy. It is clear, however, that today a combination of residential and commercial development exists within the Colonial Heritage. To date, there have been approximately 1,250 residences constructed, with approximately 750 remaining (based on the 2,000 unit maximum associated with the development). Commercial development by Virginia Health Services is underway in Land Bay VI (along the Richmond Road frontage) and currently exists throughout the Colonial Heritage Golf Course and accompanying clubhouse, restaurant and pro shop. In accordance with Section 24-519(d) of the Zoning Ordinance, less than 80% of the developable land throughout Colonial Heritage is utilized for residential development

Applicant's Position

Colonial Heritage LLC is eager to develop the Deer Lake Estates property in accordance with current development standards. At the same time, the Board's phasing policy should be read in a way which is flexible enough to allow the attractive elements of the Deer Lake Estates rezoning to benefit the County without being blocked by a technical reading of MU phasing requirements.

Currently the Deer Lakes Estates development is approved for 50 large lots served by public water and sewer. The 50 lots will access Jolly Pond Road from a separate entranceway. The incorporation of

Deer Lake Estates into Colonial Heritage will result in 150 single family detached residences on the property as compared to the 50 now permitted. In spite of the increased number of residences, however, the total unit count for Colonial Heritage would remain capped at 2,000. These additional residences are to be age restricted, and thus the small increase in the number of units in Colonial Heritage improves the fiscal impact of the development upon the County because of the absence of school age children residing around Deer Lake. Further, the change of owner profile means that traffic impacts from the development remain unchanged or slightly improved when compared to development of the 50 units now approved.

The incorporation of Deer Lake into the MU Colonial Heritage project also carries with it a number of proffers by the developer which should be viewed as extremely attractive to James City County and the Colonial Heritage homeowners, including:

- Dedication of 100 additional acres of conservation area. This preserved open space is adjacent to and in addition to the 282 acres of conservation area established under the 2004 Colonial Heritage proffers. The land is adjacent to the Cranston's Mill Pond site within the Yarmouth Creek watershed, and contributes significantly to the preserved tree canopy, bird and wildlife habitat and species preservation associated with conservation areas.

- 8 acres fronting on Jolly Pond Road will be dedicated to the homeowners association for its future use and amenities.

- Deer Lake itself will be conveyed to the Colonial Heritage Homeowners Association.

- The Deer Lake Estates entrance onto Jolly Pond Road will be eliminated as houses around Deer Lake would accessed from the Colonial Heritage internal road system.

- Traffic improvements for the Route 60 intersection serving the Land Bay VI commercial area will be made.

Conclusion

Although the County implemented in 2010 a construction phasing policy with understandable goals, Colonial Heritage was approved years earlier without taking into account phasing requirements. Today, the Deer Lake Estates annexation into Colonial Heritage offers significant advantages to the County and the Colonial Heritage homeowners. The mix of uses in place and emerging in Colonial Heritage meet the spirit and intent of construction phasing requirements. The position of the applicant is that the construction phasing policy should not be the basis for denial of the application; such a reading of the flexible policy would impose a rule without a reason.

The applicant and I would be glad to discuss the issue and answer questions whenever necessary. Thank you for your kind consideration to the matter.

Very truly yours,

Gregory R. Davis

GRD:kl

cc: Colonial Heritage, LLC attn.: Joseph Roque

From: Davis, Gregory R. <grdavis@kaufcan.com>
Sent: Wednesday, December 16, 2020 8:01 AM
To: Tori Haynes
Cc: Stephenson, Ryan; Joseph Roque; Wesley Dollins
Subject: [External] Colonial Heritage build out projections

Good morning Tori-
As we discuss the MU phasing proffer for Colonial Heritage as part of the Deer Lake rezoning/MP amendment, I thought it might be useful for you to know some of the maximum density projections which the applicant and its engineers have made.

Lennar is seeing in the market a demand for residential units which are smaller and require less maintenance. My client attributes some of this demand to folks who seek to leave cities and urban settings, a significant market trend across the US today. These former city dwellers are accustomed to smaller units and higher density. This buyer profile may increase the demand for condominiums in Colonial Heritage, and my client has on the drawing board a design for a 40 unit condominium (Type D) product. In other cases, existing Colonial Heritage residents are looking to down size within the community as they age in place. A villa product with smaller homes on smaller lots is being planned for those desiring smaller single family housing. Both of these market factors may well produce more density in the development.

AES has examined the developable acreage remaining, including the Deer Lake Estates land which would be incorporated into Colonial Heritage as part of the present application. It has factored in topography, water pressures and sewer flows, and advises my client that 2,110 units are possible on the remaining land.

That said, I would quickly add that my client is well aware of and will, of course, honor the 2,000 unit cap dating back to 2001 proffers, which would remain in place even after the requested incorporation of Deer Lake Estates into Colonial Heritage. In addition, the applicant is committed to limiting the Deer Lake property to 150 units.

The point here is that there is market demand and development capacity which would steer Colonial Heritage LLC to build above the 1,850 unit limit established in the phasing proffer. That 1,850 unit cap is a meaningful limitation imposed in an effort to address the intent of the County's MU phasing policy. Please let me know if you have questions about this information. Greg

Gregory R. Davis
Kaufman & Canoles, P.C.
4801 Courthouse Street, Suite 300
Williamsburg, VA 23188

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grdavis@kaufcan.com
www.kaufCAN.com

Colonial Heritage Land Use Approval History

2001 Case Nos. Z-0004-2000 and MP-0001-2001 (approved 11/27/01)
The Board of Supervisors approved rezoning and master plan applications for a 2,000-unit gated and age-restricted community known as Colonial Heritage at Williamsburg. The applications rezoned ±777 acres from A-1, General Agricultural, and M-1, Limited Business/Industrial, to MU, Mixed Use with Proffers. The master plan included 425,000 square feet of commercial development fronting on Richmond Road.

2004 Case Nos. Z-0003-2002, Z-0004-2002, MP-0001-2002, and SUP-0021-2004 (approved 12/14/04)
The applicant filed rezoning and master plan amendment applications to incorporate the neighboring ±731-acre Boy Scouts of America (BSA) property into the Colonial Heritage development. At that time, the western 2/3 of the BSA property (±503 acres) was located outside the Primary Service Area (PSA), zoned A-1, and designated Rural Lands. The eastern 1/3 (± 229 acres) was located inside the PSA, zoned A-1, and designated Low Density Residential.

The applicant received approval to rezone the eastern 229-acre portion from A-1, General Agricultural, to MU, Mixed Use, with Proffers, with no increase to the existing 2,000-unit cap. This 229-acre portion joined the Colonial Heritage HOA as part of its age-restricted community. The applicant also applied to rezone the 503-acre portion from A-1, General Agricultural, to A-1, General Agricultural, with Proffers. The 503-acre portion would be subject to the amended Proffers but would not be subject to the amended master plan.

An SUP was approved concurrently to develop the 503-acre portion as a Rural Cluster not to exceed 50 lots, to be known as Deer Lake Estates. Deer Lake Estates would be adjacent to Colonial Heritage and subject to existing Proffers such as the overall 2,000 unit cap, but would otherwise function as its own non-age-restricted neighborhood, with a separate HOA and dedicated access from Jolly Pond Road. Of the 503 acres, the SUP required that ±282 acres be placed under conservation easement. The Rural Cluster would be developed on the remaining ±220 acres surrounding Deer Lake. Since the Rural Cluster was located outside of the PSA, the SUP also required a central well system.

2009 Case No. LU-0015-2008 (denied 11/24/09)
As part of the Comprehensive Plan update process, and in conjunction with a new rezoning/master plan amendment application, the applicant requested that the ±220-acre Deer Lake Estates property be redesignated from Rural Lands to Low Density Residential (LDR). They also requested a PSA extension to allow Deer Lakes Estates to connect to public water/sewer.

Staff recommended denial, citing concerns that the LDR designation inside the PSA could allow for upzoning the property to permit more intensive development. Extension of the PSA could set a precedent for similarly situated properties, weakening the effectiveness of the PSA as a growth management tool. The Comprehensive Plan Steering Committee echoed these concerns. The Board of Supervisors denied the requests, and the property remained outside the PSA and designated Rural Lands.

2010 Case Nos. Z-0001-2009, MP-0001-2009, and SUP-0007-2010 (deferred indefinitely 8/2/10; withdrawn 2014)
In conjunction with the land use application, the applicant applied to rezone ±130 acres of the ±220-acre Deer Lake Estates property from A-1, General Agricultural, with Proffers and Rural Cluster SUP, to MU, Mixed Use, with amended Proffers and SUP for the extension of public utilities outside the PSA. The remaining ±90 acres would be placed under conservation easement.

Of the 130 acres proposed to be MU, ±66 acres would be rolled into Colonial Heritage land bays 7 and 8 with a proposed density of 4.6 units per acre (versus the recommended 0.33 units per acre for the existing designation of Rural Lands outside the PSA, and the approved rural cluster development potential of 0.226 units per acre). The remaining ±64 acres would be developed as a newly designed 50-lot non-rural cluster-like development, which would have been achievable in MU without the need for a cluster overlay SUP.

Staff recommended denial, citing that the Board of Supervisors had already denied the requested land use changes, thus the proposal to rezone to MU and extend public utilities for residential growth outside the PSA was in conflict with the adopted policies of the Comprehensive Plan and with the PSA as a growth management tool. While the proposal added 90 acres of contiguous conservation land, staff did not find a distinct environmental benefit compared to the approved rural cluster.

The Board of Supervisors cited similar concerns, prompting the applicant to defer the case indefinitely. The case was formally withdrawn in 2014.

2015 Case No. LU-0003-2014 (approved 6/23/15)

As part of the Comprehensive Plan update process, the applicant again filed a request to change the land use designation of the Deer Lake Estates Rural Cluster from Rural Lands to Low Density Residential, and to extend the PSA so that it could be served by public water/sewer rather than a central well system. Unlike the previous land use application, this request was not associated with a proposal to rezone or amend the master plan to increase units or density.

Staff recommended denial, citing the same concerns with potential upzoning and weakening of the PSA as a growth management tool. The Board of Supervisors also expressed specific concern that a designation of Low Density Residential inside the PSA could open the door for a future application to rezone and increase the number of units or density, and asked that the applicant confirm that they would not bring forth additional requests to rezone or otherwise increase the number of units beyond 50. The applicant confirmed that Lennar was pursuing the PSA change for the sole purpose of serving the approved rural cluster, thus eliminating the need for a central well and septic systems.

With the understanding that the applicant did not intend to propose additional units in the future, the requested land use designation and PSA boundary changes were adopted by the Board of Supervisors as part of the 2035 Comprehensive Plan Land Use Map.

Case No. SUP-0003-2015 (approved 11/10/15)

The applicant then applied for an amendment to the Rural Cluster SUP to formally eliminate the central well requirement and allow for public water/sewer connections. The other SUP conditions generally remained the same with minor updates, and a new condition was added to install pedestrian/bicycle accommodations. There were no substantive changes to Deer Lake Estate's original 50-lot Rural Cluster proposal or the ±282-acre conservation easement, which was recorded in 2017.

2020 Extension of SUP-0003-2015 (approved 6/9/20)

Condition 5(a) of the SUP required that construction of public utilities commence within 36 months of the date of approval, or the SUP would become void. This expiration date was extended automatically to July 1, 2020 by Virginia Code Section 15.2-2209.1. Section 15.2-2209.1 further granted the Board of Supervisors the authority to extend the deadline "for a longer period as agreed to by the locality." In June 2020 the applicant requested a deadline extension pursuant to Section 15.2-2209.1, as construction of public utilities had not yet commenced. On June 9, 2020, the Board of Supervisors extended the expiration date of the SUP to October 1, 2021.

Case No. S-0046-2015 (received Preliminary Approval 5/5/20, stamped approval 5/14/20)

On May 6, 2020, the Planning Commission issued Preliminary Approval for the subdivision construction plan of the Deer Lake Estates 50-lot Rural Cluster. The construction plan received stamped approval by staff on May 14, 2020. The associated plat has not yet been submitted for review.

James City County
Planning Commission
101 Mount Bay Road
Building A
Williamsburg, Va. 23185
Attn: Paul Holt

December 17, 2020

Dear Mr. Holt,

I moved to Colonial Heritage in July of 2013. My husband and I picked the Williamsburg area for our retirement. We chose the Colonial Heritage Community because it is a friendly, active, and a wonderful community with residents from all four corners of the United States - a perfect environment for retirees.

Colonial Heritage is advertised as an "Active Adult Community" and lives up to this by offering its residents the opportunity to play golf, tennis, pickleball, join Clubs and Interest Groups for recreation or provides the ability to volunteer and help the surrounding community. Many residents say that you can be as busy as you wish, there is always something to do.

Lennar is requesting to add additional land around Deer Lake to Colonial Heritage. I am currently a Resident Director on Colonial Heritage's HOA Board of Directors and I completely endorse Lennar's request. The addition of this area will provide Colonial Heritage with the ability to increase outside activities, add additional facilities, and provide an efficiently means to water the golf course. The Colonial Heritage Golf Couse is open to the public and has been voted "Coastal Virginia Magazine's Best Golf Course in the 757". This provides the surrounding Community the ability to attract golfers from other states and increase tourism. In order to continue to win recognition it is imperative that Colonial Heritage has the ability to continue to use the water in Deer Lake to maintain the pristine fairways and greens.

The additional housing will provide James City County with an increase in their tax base. The surrounding Communities will also benefit by the additional need for services, eating establishments, shopping, etc. I believe that adding the Deer Lake acreage to Colonial Heritage will be a win for all parties.

Sincerely,

Sharon A. Whit

Sharon A. Whit
Resident Board Director
6935 Chancery Lane
Williamsburg, Va. 23188

AGENDA ITEM NO. F.2.

ITEM SUMMARY

DATE: 1/6/2021

TO: The Planning Commission

FROM: Tori Haynes, Senior Planner

SUBJECT: Z-20-0005. Powhatan Terrace Proffer Amendment

ATTACHMENTS:

	Description	Type
🗋	Staff Report	Staff Report
🗋	Attachment 1. Location Map	Exhibit
🗋	Attachment 2. Proposed Proffers	Backup Material
🗋	Attachment 3. Adopted Proffers, dated February 13, 2008	Backup Material
🗋	Attachment 4. Adopted Amendment to Proffers, dated November 28, 2017	Backup Material
🗋	Attachment 5. Adopted Amendment to Proffers, dated January 23, 2019	Backup Material
🗋	Attachment 6. Applicant Statement on Energy Star Multifamily New Construction Program	Backup Material
🗋	Attachment 7. DEQ Closing Letter, dated September 27, 2020	Backup Material
🗋	Attachment 8. Post Characterization Site Monitoring Report, dated September 16, 2020	Backup Material
🗋	Attachment 9. Low Income Housing Tax Credit Program Information	Backup Material
🗋	Attachment 10. Housing Opportunities Policy	Backup Material

REVIEWERS:

Department	Reviewer	Action	Date
Planning Commission	Holt, Paul	Approved	12/23/2020 - 1:54 PM
Planning Commission	Holt, Paul	Approved	12/23/2020 - 1:54 PM
Publication Management	Burcham, Nan	Approved	12/23/2020 - 1:56 PM
Planning Commission	Holt, Paul	Approved	12/23/2020 - 2:06 PM

REZONING-20-0005. Powhatan Terrace Proffer Amendment

Staff Report for the January 6, 2021, Planning Commission Public Hearing

SUMMARY FACTS

Applicant:	Ms. Brandie Weiler, Housing Partnerships, Inc.
Land Owner:	JTR Properties, LLC
Proposal:	Applicant proposes proffer amendments to clarify obligations and responsibilities of the property owner while in a rental situation, reduce cash proffers in accordance with the Housing Opportunities Policy, change the green building standard to the Energy Star Program, clarify future monitoring and mitigation requirements related to on-site petroleum contamination, and clarify affordable housing assurances for a 30-year period.
Locations:	1676 Jamestown Road 1678 Jamestown Road 180 Red Oak Landing Road
Tax Map/Parcel Nos.:	4730100036 4730100037 4730100039
Project Acreage:	±16.51 acres
Zoning:	R-2, General Residential, with Proffers, with Cluster Overlay
Comprehensive Plan:	Low Density Residential
Primary Service Area:	Inside
Staff Contact:	Tori Haynes, Senior Planner

PUBLIC HEARING DATES

Planning Commission: January 6, 2021, 6:00 p.m.

Board of Supervisors: February 9, 2021, 5:00 p.m. (Tentative)

FACTORS FAVORABLE

1. Staff finds that the proposed revisions to Conditions No. 2 and 8 clarify maintenance and reserve funding obligations for both rental and for sale situations, and achieve the intent of the original condition.

2. Staff finds that the cash proffer reductions proposed in Condition No. 4 are in keeping with the Housing Opportunities Policy and appropriate for the Powhatan Terrace development under the Low Income Housing Tax Credit (LIHTC) Program.

3. Staff finds that the proposed revisions to Condition No. 13 to change the green building standard from EarthCraft House to the Energy Star Program achieves the intent of green building construction for this development, and can be considered an equivalent standard to what is currently proffered.

4. Staff finds that the proposed revisions to Condition No. 15 clarify obligations for nutrient management plans for both rental and for sale situations, and achieve the intent of the original condition.

5. Staff finds that the proposed revisions to Condition No. 17 strengthen the enforcement of site mitigation related to on-site petroleum contamination, and provide more specificity than the original proffer language for future monitoring and mitigation.

6. Staff finds that the revisions to Condition No. 19 more clearly assure a commitment for all units to be targeted to households at the lowest Average Median Income (AMI) range of 30-60% for a 30-year period under the LIHTC Program.

7. The proposal is consistent with the recommendations of the Comprehensive Plan.

FACTORS UNFAVORABLE

Staff finds no unfavorable factors.

SUMMARY STAFF RECOMMENDATION

Approval and acceptance of the amended Proffers.

PROJECT DESCRIPTION

Ms. Brandie Weiler of Housing Partnerships, Inc. has submitted a request to amend the following proffered conditions:

- Condition No. 2, Owners Association: This condition has been amended to clarify maintenance responsibilities of the property owner prior to the creation of an owners association.

  Currently, Condition No. 2 establishes procedures for the creation of an owners association for a traditional subdivided townhome development. It also specifies the association's maintenance responsibilities, such as stormwater management, recreation areas, private roads, and parking areas, along with reserve funding requirements.

  The revised language now includes an equivalent standard for maintenance and funding responsibilities while under single ownership with units for rent, prior to a subdivision or condominium declaration. This is to better align with the previously approved proffer amendments which allow for the rental of units through the LIHTC Program. Specifications for an owners association remain, in the event that a subdivision or condominium declaration ever occurs in the future.

  Staff finds that Condition No. 2 effectively covers maintenance obligations while under a rental or for sale situation, versus a for sale situation alone.

- Condition No. 4, Cash Contributions for Community Impacts: This condition has been amended to reflect the cash proffer reduction incentive as specified in No. 3 of the Housing Opportunities Policy (HOP), which allows for reduced expectations of cash proffers for units targeted at households meeting 30-120% of AMI. Specifically, units targeted to households meeting 30-60% AMI are eligible for a cash proffer reduction of 100% per unit. These reductions apply to contributions associated with impacts to schools, water/sewer, and other public infrastructure capital improvements program items.

  As all units within Powhatan Terrace are proposed to meet the 30-60% AMI range through LIHTC, the following cash proffers are proposed for 100% reduction in accordance with HOP (staff notes that the below amounts are to be adjusted each year per the Marshall and Swift Building Costs Index):

  - A contribution of $844 per dwelling unit, made to James City Service Authority for water/sewer infrastructure.
  - A contribution of $4,870 per dwelling unit, made to the County for public schools.
  - A contribution of $1,000 per dwelling unit, made to the County for capital improvements.

  Staff finds that the proposed reductions are in keeping with HOP and appropriate for the Powhatan Terrace development under the LIHTC Program. Additional revisions proposed under Condition No. 19 further strengthen the application's adherence to other requirements of HOP and confirm eligibility for cash proffer reductions.

Staff notes that an additional cash contribution of $300 per dwelling unit, made to the County for off-site stream restoration in the Powhatan Creek watershed, remains in Condition No. 4. Staff finds that this contribution is not associated with an impact specified in HOP and is therefore not eligible for the reduction incentive.

- Condition No. 8, Private Drives: Similar to Condition No. 2, this amendment clarifies maintenance and reserve funding obligations while under single ownership, prior to a subdivision or condominium declaration. There are no proposed changes to the private drive development standards.

  Staff finds that the revised language maintains a standard that is equivalent to the existing proffer and further clarifies obligations while under a rental situation.

- Condition No. 13, Green Building: Per the applicant, the currently proffered EarthCraft House certification program has become obsolete in Virginia. The applicant now proposes to achieve a green building standard through the Energy Star Multifamily New Construction Program (Energy Star), and will incorporate all items required to meet the baseline energy performance standards established by the Residential Energy Services Network (RESNET). The revised proffer language includes requirements to submit all program specifications prior to site plan approval and to submit Energy Star certification prior to issuance of Certificates of Occupancy.

  Staff finds that certification under the Energy Star Program and RESNET rating achieves the intent of green building construction for this development, and can be considered an equivalent standard to what is currently proffered.

- Condition No. 15, Nutrient Management Plan: This condition has been amended to clarify that the property owner is responsible for the development, submittal, and implementation of nutrient management plans until such time that an owners association is established. The language has also been revised to reflect the current appropriate agency for assistance in developing the plans (Colonial Soil and Water Conservation District).

  The Stormwater and Resource Protection Division reviewed this amendment and has no further comments. Staff finds that the proposed revisions are consistent with the existing standards and achieve the intent of the original condition.

- Condition No. 17, Underground Storage Tanks: The original language of this condition remains, requiring the removal of underground storage tanks (USTs). New language has been added to further require compliance with: 1) the requirements of the Virginia Department of Environmental Quality (DEQ) closing letter dated September 27, 2020 (FAC#5012852); and 2) the recommendations set forth in Section 6.0 of the Post Characterization Site Monitoring Report dated September 16, 2020 and prepared by Bay Environmental, Inc. Both of these documents are on file.

  It is staff's understanding that the tank removal has already occurred, and it was found that petroleum contamination was identified in the soils on-site. DEQ subsequently required additional site testing and mitigation, and monitored these activities until satisfied that no further action was needed at this time. DEQ issued a closing letter stating:

  - Should future environmental problems occur which the DEQ determines are related to a petroleum release at this location, additional investigation and corrective action may be required in accordance with state law.

  - If persons developing or otherwise working on this property excavate soil or withdraw groundwater, such media must be properly sampled, analyzed, managed, and disposed of in

accordance with applicable solid waste and hazardous waste regulations.

DEQ's determination was based on the findings of the environmental consultant, Bay Environmental, Inc., who oversaw the site testing and mitigation. The final report by Bay Environmental includes a summary of the actions taken to date and recommendations for mitigation of future site work. These recommendations include:

- Perform environmental monitoring during any excavation greater than five feet deep to be completed within the impacted area. Disturbed soils that show signs of impacts should be segregated and transported off-site for proper disposal. Impacted soils should not be returned to the excavation or used elsewhere on the site.

- Re-route any utility corridor that will intersect with the impacted area. Currently there is a proposed water line that runs very close to the former UST locations. In the event the utility corridor cannot be moved, the above mentioned environmental monitoring and soil management should be implemented in addition to any engineering controls that can be set forth to protect the utility line from impacted soil and groundwater.

- Evaluate the installation of vapor barriers on the proposed row of townhomes located to the southwest of the former tank locations. Plans should be reviewed by an environmental engineer or equivalent with experience in sub-slab engineering controls.

Staff finds that proffering compliance with the above items strengthens the enforcement of site mitigation related to the petroleum contamination, and provides more specificity than the original proffer language for future monitoring of the contamination situation.

- Condition No. 19: This condition has been amended to reflect that all units will be offered for rent at the 30-60% AMI range for a period of at least 30 years in compliance with the LIHTC Program and as specified in HOP for cash proffer reduction eligibility.

  Staff finds that this revision more clearly assures a commitment for all units to be targeted to households at the lowest AMI range of 30-60%, which exceeds the recommended distribution in HOP. It further maintains adherence to the LIHTC Program, which has formal procedures and requirements for inclusion.

  See additional discussion on HOP below.

HOUSING OPPORTUNITIES POLICY

The Housing Opportunities Policy identifies criteria for the provision of affordable and workforce housing under both rental and ownership situations. The following outlines HOP's specifications compared to the application's conformance with these standards.

Provision and Integration of Housing Opportunity Dwelling Units

At least 20% of a development's proposed dwelling units should be offered for sale or made available for rent at prices that are targeted at households earning 30-120% AMI. Of that 20% minimum, there should be a distribution of units among the lowest range (30-60% AMI), middle range (60-80% AMI), and highest range (80-120% AMI).

The table on the next page shows HOP's minimum requirements for targeted unit distribution compared to the proposed distribution under LIHTC and per the proposed proffers. While the higher AMI ranges will not be addressed under the LIHTC Program, staff finds that the proposal exceeds the minimum requirements of HOP by offering 100% of units at the lowest AMI range.

Minimum % of Units Offered at 30-120% AMI per HOP	Minimum # of Units Required per HOP (out of 36 units)	Actual % of Units Offered at 30-120% AMI	Actual # of Units Proposed (out of 36 units)
20%	8	100%	36

Of the 20% required minimum, the units should be targeted at each AMI range as follows:

% AMI Range	% Unit Distribution per HOP	# Unit Distribution per HOP (out of 36 units)	Actual # of Units Proposed (out of 36 units)
30-60%	8%	3	36
60-80%	7%	3	-
80-120%%	5%	2	-

Applicability of Cash Proffers for Housing Opportunity Dwelling Units

Units targeted at households meeting 30-120% AMI will have reduced expectations for cash proffers related to schools, water/sewer improvements, and other public facility and infrastructure capital improvement program items. The following table shows eligible cash reductions per AMI range, and how they relate to this proposal. Staff finds that all 36 units are eligible for a cash proffer reduction of 100%.

% AMI Range	% Cash Proffer Reduction per HOP	# Units Eligible for Reduction (out of 36 units)
30-60%	100%	36
60-80%	60%	-
80-120%	30%	-

Retention of Housing Opportunity Units Over Time

Rental units must be made available at the targeted rents for a period of at least 30 years. Staff finds that this requirement has been met through Condition No. 19, which proffers compliance with the LIHTC Program for a minimum of 30 years.

Procedures

For rental units, the developer shall provide assurances in a form acceptable to the County Attorney that the development will provide a statement of rental prices demonstrating that they were within the specified affordable and workforce housing income range for the proffered units for each year of the 30-year term.

Condition No. 19 assures the submittal of rental rates to the Planning Director during the 30-year period under LIHTC. The County Attorney's Office has reviewed the proposed proffers and found them to be acceptable.

PLANNING AND ZONING HISTORY

- In 2008, the Board of Supervisors rezoned approximately 16.5 acres of land located at 1676 and 1678 Jamestown Road and 180 Red Oak Landing Road from LB, Limited Business, and R-2, General Residential, to R-2, General Residential, with Proffers, and with a Special Use Permit for a Cluster Overlay. Powhatan Terrace was approved for the construction of six two-story buildings containing a total of 36 townhouse units at a gross density of 2.18 units per acre. At that time, all units were intended to be offered for sale.

- In 2018, the Board of Supervisors approved a request to amend Condition No. 1 of the adopted Proffers to allow Powhatan Terrace to offer rental units.

- In 2019, the Board of Supervisors approved a request to amend Condition No. 19 of the adopted Proffers to allow for units to be offered for rent through the LIHTC Program.

SURROUNDING ZONING AND DEVELOPMENT

The subject property is across the street from Grace Covenant Presbyterian Church (zoned LB, Limited Business); adjacent to TK Antiques (zoned LB, Limited Business) and Cottages at Stone Haven (zoned R-2, General Residential) to the east; adjacent to Raleigh Square (split zoned R-5, Multifamily Residential and R-2, General Residential) to the west; and across Powhatan Creek from Landfall at Jamestown (zoned R-2, General Residential) to the south.

COMPREHENSIVE PLAN

The property is designated Low Density Residential on the Comprehensive Plan Land Use Map. Recommended uses include single-family homes, multifamily units, accessory units, cluster housing, and recreation areas. Staff finds the proposal to be consistent with these recommendations, and also finds that the following Goals, Strategies, and Actions are relevant to this proposal:

Housing Action H 2.5: Continue to support, through marketing, partnering or other means, private nonprofit groups such as Housing Partnerships, Inc., Habitat for Humanity, and the Community Action Agency.

Housing Action H 3.4: Continue to assist for profit and nonprofit developers in obtaining funds to finance affordable and workforce housing developments from programs such as the Affordable Housing Incentive Program. Continue to investigate the possibility of additional demonstration projects to illustrate the integration of financial incentive programs and modified land use policy to encourage least cost housing developments.

Housing Action H 3.5: Continue to utilize the Housing Opportunities Policy which states the County's definitions, goals and expectations for providing affordable and workforce housing in developments requiring legislative approval. Examine the policy in order to address issues, related to but not limited to homeowners association fees and infill development.

PUBLIC IMPACTS

The reduction in cash contributions provides less mitigation for previously approved impacts related to schools, water/sewer, and capital improvements; however, adhering to the specifications of HOP allows for this cash reduction incentive in exchange for the benefit of additional affordable housing.

As there are no other substantive changes to density, units, layout, or amenities, staff does not anticipate that this proposal will generate additional impacts requiring mitigation.

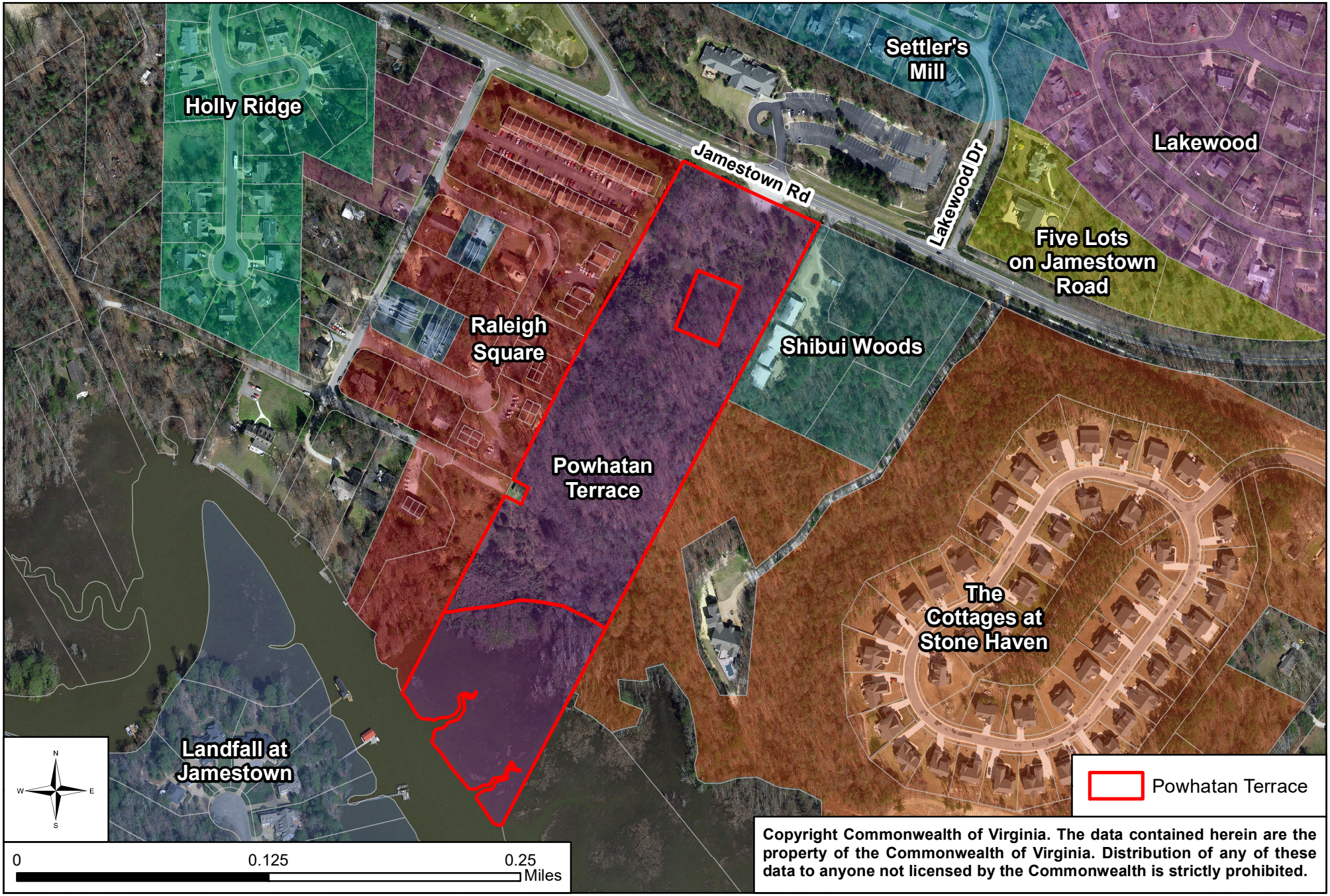
STAFF RECOMMENDATION

Staff finds the proposal to be compatible with surrounding development and consistent with the adopted Comprehensive Plan. Staff recommends that the Planning Commission recommend approval of this application and acceptance of the amended Proffers to the Board of Supervisors.

TH/md
RZ20-5PowhtnTr

Attachments:
1. Location Map
2. Proposed Proffers
3. Adopted Proffers, dated February 13, 2008
4. Adopted Amendment to Proffers, dated November 28, 2017
5. Adopted Amendment to Proffers, dated January 23, 2019
6. Applicant Statement on Energy Star Multifamily New Construction Program
7. DEQ closing letter, dated September 27, 2020 (FAC#5012852)
8. Post Characterization Site Monitoring Report, dated September 16, 2020
9. Low Income Housing Tax Credit Program Information
10. Housing Opportunities Policy

JCC Z-20-0005
Powhatan Terrace Proffer Amendment



Copyright Commonwealth of Virginia. The data contained herein are the property of the Commonwealth of Virginia. Distribution of any of these data to anyone not licensed by the Commonwealth is strictly prohibited.

Parcel Nos: 4730100036, 4730100037, 4730100039

Prepared by:
Andrew M. Franck (VSB #48293)
Geddy, Harris, Franck & Hickman, LLP
1177 Jamestown Road
Williamsburg, Virginia 23185

Return to:
James City County Attorney
101-D Mounts Bay Road
Williamsburg, Virginia 23185

THIRD AMENDMENT TO PROFFERS

THIS THIRD AMENDMENT TO PROFFERS is made this ____ day of _____, 2020 by JTR PROPERTIES LLC, a Virginia limited liability company (together with its successors and assigns, the "Owner"), to be indexed as "Grantor." JAMES CITY COUNTY, a political subdivision of the Commonwealth of Virginia (the "County"), to be indexed as "Grantee."

RECITALS

A. Owner is the owner of three contiguous tracts or parcels of land located in James City County, Virginia (the "Property"), now zoned R2 - General Residential, and subject to Proffers dated February 13, 2008, which Proffers are recorded in the Clerk's Office of the Circuit Court for the City of Williamsburg and County of James City as Instrument No. 080020381, as amended by First Amendment to Proffers dated November 28, 2017 recorded in the aforementioned Clerk's Office as Instrument No. 180002012 and further amended by Second Amendment to Proffers dated January 23, 2019 recorded in the aforementioned Clerk's Office as Instrument No. 190003588 (the "Existing Proffers"). The Property is more particularly described in the Existing Proffers.

B. Owner desires to amend certain Conditions of the Existing Proffers as set forth below. All capitalized terms used herein not otherwise defined shall have the definition set forth in the Existing Proffers.

AMENDMENTS TO CONDITIONS

1. Condition 2 (Owners Association) of the Existing Proffers is hereby amended to read in its entirety as follows:

"2. Owners Association.

(a) Prior to the first conveyance of any subdivided lot or condominium unit in the Property to an owner other than the owner at the time of subdivision or recording of the condominium declaration, there shall be organized an owner's association (the "Association") in accordance with Virginia law in which all lot or unit owners in the Property, by virtue of their property ownership, shall be members. The articles of incorporation, bylaws and declaration of restrictive covenants or declaration of condominium (together, the "Governing Documents") creating and governing the Association shall be submitted to and reviewed by the County Attorney for consistency with this Proffer. The Governing Documents shall require that the Association adopt an annual maintenance budget, which shall include a reserve for maintenance of stormwater management BMPs, recreation areas, private roads and parking areas, shall require each initial purchaser of a lot or unit to make a capital contribution to the Association for reserves in an amount equal to one-sixth of the annual general assessment applicable to the lot or unit (but no less than $100.00) and shall require that the Association (i) assess all members for the maintenance of all properties owned or maintained by the Association and (ii) file liens on members' lots or units for non-payment of such assessments. The Governing Documents shall grant the Association the power to file liens on members' properties for the cost of remedying violations of, or otherwise enforcing, the Governing Documents.

(b) During times prior to conveyance of any subdivided lot or condominium unit in the Property when the entire Property remains under common ownership, the Owner shall be responsible to fulfill any obligations otherwise imposed on the Association under these Proffers other than those related to administration of the Association which shall not apply until single ownership of the Property is severed. Commencing in the year in which a certificate of occupancy for any dwelling unit in the Property is issued and continuing until an Association is formed for the Property, Owner shall maintain and administer a maintenance, replacement and repair reserve fund for improvements at the Property including the Private Drives (as defined in Condition 8 below), stormwater management BMPs, recreation areas, and parking areas, and Owner shall contribute to such fund at least the sum of $300.00 per dwelling unit per year. At such time as an Association is established, the Owner shall transfer the balance of said reserve fund to the Association to be used in its reserve fund as described above. The County shall be provided evidence of the reserve fund at least annually during such period prior to an Association

being formed. For a period of thirty years commencing in the year in which a certificate of occupancy for any dwelling unit in the Property is issued, the Owner shall cause the reserve fund to be administered in accordance with the IRS Section 42 Low-Income Housing Tax Credit (LIHTC) Affordable Housing Program ("LIHTC Program") or funding sources associated therewith applicable to the Property."

2. Condition 4 (Cash Contributions for Community Impacts) of the Existing Proffers is hereby amended to read in its entirety as follows:

"4. <u>Cash Contributions for Community Impacts</u>. For each dwelling unit on the Property the one-time cash contribution set forth in this Section 4 shall be made.

(a) A contribution of $300.00 for each dwelling unit on the Property shall be made to the County for off-site stream restoration in the Powhatan Creek watershed.

(b) The contributions described above, unless otherwise specified, shall be payable for each dwelling unit on the Property after completion of the final inspection and prior to the time of issuance of a certificate of occupancy for such unit.

(c) The per unit contribution(s) paid pursuant to this Section 4 shall be adjusted annually beginning January 1, 2009 to reflect any increase or decrease for the preceding year in the Marshall and Swift Building Costs Index (the "Index"). In no event shall the per unit contribution be adjusted to a sum less than the amount set forth in paragraph (a) of this Section. The adjustment shall be made by multiplying the per unit contribution for the preceding year by a fraction, the numerator of which shall be the Index as of December 1 in the year preceding the calendar year most currently expired, and the denominator of which shall be the Index as of December 1 in the preceding year. In the event a substantial change is made in the method of establishing the Index, then the per unit contribution shall be adjusted based upon the figure that would have resulted had no change occurred in the manner of computing the Index. In the event that the Index is not available, a reliable government or other independent publication evaluating information heretofore used in determining the Index (approved in advance by the County Director of Financial & Management Services) shall be relied upon in establishing an inflationary factor for purposes of increasing the per unit contribution to approximate the rate of annual inflation in the County."

3. Condition 8 (Private Drives) of the Existing Proffers is hereby amended to read in its entirety as follows:

> **"8. <u>Private Drives</u>**. All entrance and interior roads, driveways, lanes or drive aisles connecting the parking areas on the Property (collectively, the "Private Drives") shall be private and shall be constructed in accordance with applicable County private street standards. The Private Drives shall be maintained by the Owner until such time as the Association is established, and thereafter by the Association. If, at the time an Association is established, the amount of the reserve fund to be transferred from the Owner to the Association pursuant to Condition 2 above is less than the amount equal to 150% of the maintenance fee that would be required for a public street of the same length as established by VDOT – Subdivision Street Requirements, the Owner shall contribute an additional amount to the Association for its reserves to make up such deficiency."

4. Condition 13 (Green Building; Earthcraft House Certification) of the Existing Proffers is hereby amended to read in its entirety as follows:

> **"13. <u>Green Building</u>**. The development will be designed to meet the criteria to achieve certification under the Energy Star Multifamily New Construction Program ("Energy Star") and incorporate all items required to meet the baseline energy performance standards established by the Residential Energy Services Network ("RESNET"). A copy of the Energy Star certification, or documentation of design elements utilized to meet certification criteria, shall be provided to the Director of Planning for the applicable dwelling units prior to issuance of the certificates of occupancy for such units. Prior to issuance of final site plan approval, the Owner shall submit for approval to the Director of Planning the program specifications for both Energy Star certification and RESNET baseline energy performance standards applicable to the project as well as design and construction documents for the project incorporating elements to meet those specifications and standards. The validation process for Energy Star certifications and RESNET standards shall be overseen by an appropriate accredited professional and approved by the Director of Planning or his designee."

5. Condition 15 (Nutrition Management Plan) of the Existing Proffers is hereby amended to read in its entirety as follows:

> **"15. <u>Nutrient Management Plan</u>**. The Owner shall be responsible for contacting an agent of the Colonial Soil and Water Conservation District ("CSWCD") or, if a CSWCD agent is unavailable, a soil scientist licensed in the Commonwealth of Virginia, or other qualified professional to conduct soil tests and to develop, based

upon the results of the soil tests, customized nutrient management plans (the "Plans") for all common areas within the Property. The Plans shall be submitted to the County's Director of Stormwater & Resource Protection for review and approval prior to the issuance of the building permits for more than 50% of the units shown on the Master Plan. Upon approval, the Owner, until such time as the Association is established and thereafter the Association, shall be responsible for ensuring that any nutrients applied to the common areas be applied in strict accordance with the Plan. If the Property is subdivided, (a) the Owner shall provide the Plans applicable to any individual lot to the initial purchaser thereof, and (b) within twelve (12) months after establishment of the Association and every three years thereafter, the Association shall cause a turf management information seminar to be conducted at the Property which shall be designed to acquaint residents with the tools, methods, and procedures necessary to maintain healthy turf and landscape plants. As used in this Section 15, the term "common areas" shall mean the landscaped portions of the Property."

6. Condition 17 (Underground Storage Tanks) of the Existing Proffers is hereby amended to read in its entirety as follows:

"**17. <u>Underground Storage Tanks</u>**. Any existing underground storage tanks on the Property shall be removed in accordance with applicable laws, regulations and ordinances prior to the issuance of any building permit for structures on the Property. In the course of disturbing land and constructing improvements on the Property, Owner shall comply with (a) the requirements of the Virginia Department of Environmental Quality closing letter dated September 27, 2020 (FAC#5012852); and (b) the recommendations set forth in Section 6.0 of the Post Characterization Site Monitoring Report dated September 16, 2020 and prepared by Bay Environmental, Inc."

7. Condition 19 (Price Restricted Units) of the Existing Proffers is hereby amended to read in its entirety as follows:

"**19. <u>Price Restricted Units</u>.** All units shall be reserved and offered for rent for a period of at least thirty years following issuance of a Certificate of Occupancy at a rental rate targeted to households at or below sixty percent (60%) of the Area Median Income (AMI) in compliance with the requirements (including but not limited to rent limits): (a) of the LIHTC Program; and (b) for 100% cash proffer reduction under the County's Housing Opportunities Policy adopted November 27, 2012. Rental rates shall be reported to the Director of Planning annually during the thirty-year period."

8. Except as specifically amended herein, the Existing Proffers remain unchanged and in full force and effect.

WITNESS the following signature and seal.

JTR PROPERTIES LLC

By:_____ (SEAL)

Title: _____

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged this _____ day of _____, 202___, by _____ the _____ of JTR Properties LLC, on behalf of the company.

_____
NOTARY PUBLIC

My commission expires: _____

COPY

080 020381

PROFFERS

THESE PROFFERS are made this 13th day of February, 2008 by INVESTMENT PROPERTIES OF VIRGINIA, LLC (together with its successors and assigns, the "Owner") and ASSOCIATED DEVELOPERS, INC., a Virginia corporation ("Buyer").

RECITALS

A. Owner is the owner of three contiguous tracts or parcels of land located in James City County, Virginia, one with an address of 1676 Jamestown Road, Williamsburg, Virginia and being Tax Parcel 4730100036, the second with an address of 1678 Jamestown Road, Williamsburg, Virginia and being Tax Parcel 4730100037, and the third with an address of 180 Red Oak Landing Road, Williamsburg, Virginia and being Tax Parcel 4730100039, being more particularly described on Exhibit A attached hereto (together, the "Property"). A portion of the Property is now zoned L-B and a portion is now zoned R-2.

B. Buyer has contracted to purchase the Property conditioned upon the rezoning of the Property.

C. Owner and Buyer have applied to rezone the Property from L-B and R-2 to R-2, , with proffers, and for a Special Use Permit to permit a residential cluster development of up to 36 townhouse units.

D. Buyer has submitted to the County a master plan entitled "Master Plan for Rezoning of Powhatan Terrace" prepared by AES Consulting Engineers dated June 1, 2007 (the "Master Plan") for the Property in accordance with the County Zoning Ordinance.

E. Owner and Buyer desire to offer to the County certain conditions on the development of the Property not generally applicable to land zoned R-2.

15

PLEASE RETURN TO:
COUNTY ATTORNEY
JCC - BLDG. C

NOW, THEREFORE, for and in consideration of the approval of the requested rezoning, and pursuant to Section 15.2-2298 of the Code of Virginia, 1950, as amended, and the County Zoning Ordinance, Owner agrees that it shall meet and comply with all of the following conditions in developing the Property. If the requested rezoning is not granted by the County, these Proffers shall be null and void.

CONDITION

1. **Master Plan.** The Property shall be developed generally as shown on the Master Plan, with only minor changes thereto that the Development Review Committee determines do not change the basic concept or character of the development. There shall be no more than 36 residential townhouse dwelling units on the Property. All residential dwelling units on the Property shall be offered for sale by the developer thereof.

2. **Owners Association.** There shall be organized an owner's association (the "Association") in accordance with Virginia law in which all unit owners in the Property, by virtue of their property ownership, shall be members. The articles of incorporation, bylaws and restrictive covenants (together, the "Governing Documents") creating and governing the Association shall be submitted to and reviewed by the County Attorney for consistency with this Proffer. The Governing Documents shall require that the Association adopt an annual maintenance budget, which shall include a reserve for maintenance of stormwater management BMPs, recreation areas, private roads and parking areas, shall require each initial purchaser of a unit to make a capital contribution to the Association for reserves in an amount equal to one-sixth of the annual general assessment applicable to the unit (but no less than $100.00) and shall require that the association (i) assess all members for the maintenance of all properties owned or

maintained by the association and (ii) file liens on members' properties for non-payment of such assessments. The Governing Documents shall grant the Association the power to file liens on members' properties for the cost of remedying violations of, or otherwise enforcing, the Governing Documents.

3. **Water Conservation.** (a) Water conservation standards shall be submitted to the James City Service Authority ("JCSA") as a part of the site plan or subdivision submittal for development on the Property and Owner and/or the Association shall be responsible for enforcing these standards. The standards shall address such water conservation measures as limitations on the installation and use of irrigation systems and irrigation wells, the use of approved landscaping materials and the use of water conserving fixtures and appliances to promote water conservation and minimize the use of public water resources. The standards shall be approved by JCSA prior to final subdivision or site plan approval.

(b) If the Owner desires to have outdoor watering it shall provide water for irrigation utilizing surface water collection from the surface water pond that is shown on the Master Plan or from rain barrels and shall not use JCSA water for irrigation purposes. This requirement prohibiting the use of well water may be waived or modified by the General Manager of JCSA if the Owner demonstrates to the JCSA General Manager that there is insufficient water for irrigation in the surface water impoundments, and the Owner may apply for a waiver for a shallow (less than 100 feet) well to supplement the surface water impoundment.

4. **Cash Contributions for Community Impacts.** For each dwelling unit on the Property the one time cash contributions set forth in this Section 4 shall be made.

(a) A contribution of $844.00 for each dwelling unit on the Property shall be made to the James City Service Authority ("JCSA") in order to mitigate impacts on the County from the

physical development and operation of the Property. The JCSA may use these funds for development of alternative water sources or any project related to improvements to the JCSA water system, the need for which is generated by the physical development and operation of the Property.

(b) A contribution of $4,870.00 for each dwelling unit on the Property shall be made to the County in order to mitigate impacts on the County from the physical development and operation of the Property. The County may use these funds solely for school use.

(c) A contribution of $1,000.00 for each dwelling unit on the Property shall be made to the County in order to mitigate impacts on the County from the physical development and operation of the Property. The County may use these funds for any project in the County's capital improvement plan, the need for which is generated by the physical development and operation of the Property, including, without limitation, for emergency services equipment replacement and supply, off-site road improvements, library uses, and public use sites.

(d) A contribution of $300.00 for each dwelling unit on the Property shall be made to the County for off-site stream restoration in the Powhatan Creek watershed..

(e) The contributions described above, unless otherwise specified, shall be payable for each dwelling unit on the Property at or prior to the final approval of the site plan or subdivision plat for such unit. In the event dwelling units, such as townhouse units, require both a site plan and subdivision plat, the contributions described above shall be payable for each such dwelling unit shall be paid at the time of final subdivision plat approval.

(f) The per unit contribution(s) paid pursuant to this Section shall be adjusted annually beginning January 1, 2009 to reflect any increase or decrease for the preceding year in the

Marshall and Swift Building Costs Index (the "Index"). In no event shall the per unit contribution be adjusted to a sum less than the amounts set forth in paragraphs (a) and (b) of this Section. The adjustment shall be made by multiplying the per unit contribution for the preceding year by a fraction, the numerator of which shall be the Index as of December 1 in the year preceding the calendar year most currently expired, and the denominator of which shall be the Index as of December 1 in the preceding year. In the event a substantial change is made in the method of establishing the Index, then the per unit contribution shall be adjusted based upon the figure that would have resulted had no change occurred in the manner of computing the Index. In the event that the Index is not available, a reliable government or other independent publication evaluating information heretofore used in determining the Index (approved in advance by the County Manager of Financial Management Services) shall be relied upon in establishing an inflationary factor for purposes of increasing the per unit contribution to approximate the rate of annual inflation in the County.

5. **Jamestown Road Buffer**. There shall be a minimum 150 foot buffer along the Jamestown Road frontage of the Property generally as shown on the Master Plan. The buffer shall be exclusive of any lots or units. The entrance as shown generally on the Master Plan, landscaping and berms, the trails, sidewalks and bike lanes as shown generally on the Master Plan, and with the approval of the Development Review Committee, utilities, lighting, entrance features and signs shall be permitted in the buffer. Dead, diseased and dying trees or shrubbery, and invasive or poisonous plants may be removed from the buffer area. A combination of preservation of existing trees, enhanced landscaping (defined as 125% of County Zoning Ordinance ("Ordinance") plant size requirements) and berms shall be provided within the buffer in accordance with a landscaping plan approved by the Director of Planning which shall, when

the landscaping has reached maturity, screen the adjacent units from the direct view of vehicles traveling on Jamestown Road. The perimeter buffers between the sides/backs of buildings and the adjacent properties shall contain enhanced landscaping (defined as 125% of Ordinance size requirements) in accordance with a landscaping plan approved by the Director of Planning. The buffers shall be planted or the planting bonded in an amount and form approved by the County Attorney prior to the County being obligated to issue building permits for dwelling units located on the Property.

6. **Entrances/Turn Lanes**. There shall be one entrance into the Property to and from Jamestown Road as generally shown on the Master Plan. A northbound left turn lane with a taper and transition and an southbound right turn taper on Jamestown Road shall be constructed at the entrance to the Property. The turn lane and tapers proffered hereby shall be constructed in accordance with Virginia Department of Transportation standards and shall be completed prior to the issuance of the first certificate of occupancy.

7. **Recreation**. Owner shall provide the park, playground and passive recreational area shown on the Master Plan before the County is obligated to grant certificates of occupancy for more than 18 dwelling units on the Property. Owner shall install a mulch trail generally in the location shown on the Master Plan with the design and exact location of the mulch trails subject to the approval of the Director of Planning. The exact locations of the facilities proffered hereby and the equipment to be provided at such facilities shall be subject to the approval of the Director of Planning.

8. **Private Drives**. All entrance roads, interior roads, driveways, lanes or drive aisles connecting the parking areas on the Property shall be private and shall be constructed in

accordance with applicable County private street standards. Private roads shall be maintained by the Association. Owner shall deposit into a maintenance reserve fund to be managed by the Association an amount equal to one hundred and fifty percent (150%) of the amount of the maintenance fee that would be required for a public street of the same length as established by VDOT - Subdivision Street Requirements. The County shall be provided evidence of the deposit of such maintenance fee at the time of final site plan or subdivision plat approval by the County for the particular phase or section which includes the relevant private street.

9. **Environmental Protections**. (a) Owner shall submit to the County a stormwater management plan for the Property consistent with the Conceptual Stormwater Management Plan prepared by AES Consulting Engineers dated June 1, 2007 ("Stormwater Plan") and included in the Master Plan set submitted herewith and on file with the County, including facilities and measures necessary to meet the County's 10 point stormwater management system requirements and the special stormwater criteria applicable in the Powhatan Creek watershed ("SSC") and, in addition, including features and measures over and above those necessary to meet the 10 point and SSC requirements, which shall include, without limitation, bio-retention basins, provision of as-built drawings for the entire stormwater system, enhanced slope stabilization on all cut and fill slope, enhanced outlet protection on BMP outfall, porous pavement, rain barrels and dry swales subject to the criteria and conditions set forth on the Stormwater Plan. The stormwater plan shall be approved by the Environmental Director or his designee prior to the submission of any development plans for the Property. The stormwater management plan may be revised and/or updated during the development of the Property based on on-site conditions discovered in the field with the prior written approval of the Environmental Director or his designee. The

approved stormwater management plan, as revised and/or updated, shall be implemented in all development plans for the Property.

(b) The owner of the Property shall cause a survey to be conducted of the Property for rare, threatened and endangered species prior to any land disturbing activity on the Property. The location of any rare, threatened and endangered species located on the Property shall be shown on all subdivision or other development plans of the Property. Before any land disturbing activity is allowed in the vicinity of any rare, threatened and endangered species identified, if any, on the Property, a conservation plan shall be prepared by the owner of the Property in accordance with state and federal laws applicable to the Property at the time of development of the conservation plan and said conservation plan shall be submitted for information purposes to the Director of Planning and shall be incorporated into the development plans for the Property and implemented in the development of the Property.

10. **Archaeology**. A Phase I Archaeological Study for the Property shall be submitted to the Director of Planning for his review and approval prior to land disturbance. A treatment plan shall be submitted to, and approved by, the Director of Planning for all sites in the Phase I study that are recommended for a Phase II evaluation, and/or identified as being eligible for inclusion on the National Register of Historic Places. If a Phase II study is undertaken, such a study shall be approved by the Director of Planning and a treatment plan for said sites shall be submitted to, and approved by, the Director of Planning for sites that are determined to be eligible for inclusion on the National Register of Historic Places and/or those sites that require a Phase III study. If in the Phase II study, a site is determined eligible for nomination to the National Register of Historic Places and said site is to be preserved in place, the treatment plan

shall include nomination of the site to the National Register of Historic Places. If a Phase III study is undertaken for said sites, such studies shall be approved by the Director of Planning prior to land disturbance within the study area. All Phase I, Phase II and Phase III studies shall meet the Virginia Department of Historic Resources' Guidelines for Preparing Archaeological Resource Management Reports and the Secretary of the Interior's Standard and Guidelines for Archaeological Documentation, as applicable, and shall be conducted under the supervision of a qualified archaeologist who meets the qualifications set forth in the Secretary of the Interior's Professional Qualification Standards. All approved treatment plans shall be incorporated into the plan of development for the site and shall be adhered to during the clearing, grading and construction activities thereon.

11. **Architectural Review.** Prior to the County being obligated to grant final development plan approval for any of the buildings shown on any development plan for any portion of the Property, there shall be prepared and submitted to the Director of Planning for approval architectural and landscaping plans, including architectural elevations, for the Director of Planning to review and approve for general consistency with the architectural styles depicted in the architectural renderings prepared by Guernsey Tingle Architects submitted with the rezoning application. The Director of Planning shall review and either approve or provide written comments settings forth changes necessary to obtain approval within 45 days of the date of submission of the plans in question. Final plans and completed buildings shall be consistent with the approved conceptual plans as determined by the Director of Planning.

12. **Preservation of Specimen Trees.** Owner shall submit a tree survey of the Property with the site plan for development of the Property and shall use its best efforts to preserve trees within the Jamestown Road buffer identified on the survey as specimen trees to be preserved. If

any of the specimen trees die prior to issuance of certificates of occupancy for all units on the Property, the dead tree shall be replaced with a new tree with at least a two and one-half inch caliper.

13. **Green Building; EarthCraft House Certification.** Each residential unit shall be certified under the EarthCraft House Virginia certification process and a copy of the certification shall be provided to the Director of Planning.

14. **Streetscape Guidelines.** The Owner shall provide and install streetscape improvements in accordance with the applicable provisions of the County's Streetscape Guidelines policy. The streetscape improvements shall be shown on development plans for that portion of the Property and submitted to the Director of Planning for approval during the site plan approval process. Streetscape improvements shall be either (i) installed within six months of the issuance of any certificate of occupancy for any residential units in adjacent structures or (ii) bonded in form and amount satisfactory to the County Attorney prior to the issuance of any certificate of occupancy for any residential units in adjacent structures.

15. **Nutrient Management Plan**. The Association shall be responsible for contacting an agent of the Virginia Cooperative Extension Office ("VCEO") or, if a VCEO agent is unavailable, a soil scientist licensed in the Commonwealth of Virginia, an agent of the Soil and Water Conservation District or other qualified professional to conduct soil tests and to develop, based upon the results of the soil tests, customized nutrient management plans (the "Plans") for all common areas within the Property and each individual lot shown on each subdivision plat of the Property. The Plans shall be submitted to the County's Environmental Director for his review and approval prior to the issuance of the building permits for more than 50% of the units

shown on the subdivision plat. Upon approval, the Owner so long as it controls the Association and thereafter the Association shall be responsible for ensuring that any nutrients applied to common areas which are controlled by the Association be applied in strict accordance with the Plan. The Owner shall provide a copy of the individual Plan for each lot to the initial purchaser thereof. Within 12 months after issuance of the Certificate of Occupancy for the final dwelling unit on the Property and every three years thereafter, a turf management information seminar shall be conducted on the site. The seminar shall be designed to acquaint residents with the tools, methods, and procedures necessary to maintain healthy turf and landscape plants.

16. Sidewalks. There shall be sidewalks five feet in width installed along one side of all streets within the Property generally as shown on the Master Plan. Owner shall install a sidewalk along the Jamestown Road frontage of the Property.

17. Underground Storage Tanks. The existing underground storage tanks on the Property shall be removed in accordance with applicable laws, regulations and ordinances prior to the issuance of any building permit for structures on the Property.

18. Curb and Gutter. Streets within the Property shall be constructed with curb and gutter provided, however, that this requirement may be waived or modified along those segments of street, including entrance roads, where structures are not planned.

19. Price Restricted Units. A minimum of three of the units shall be reserved and offered for sale at a sales price to buyer at or below $195,000 subject to adjustment as set forth herein ("Restricted Units"). The maximum price set forth herein shall be adjusted annually, or January 1st of each year, by increasing such prices by the cumulative rate of inflation as measured by the Index annual average change for the period from January 1, 2009 until January 1 of the year in question. The Director of Planning shall be provided with a copy of the

settlement statement for each sale of a Restricted Unit. The Governing Documents shall include a provision, approved by the County Attorney, providing that the Restricted Units must be occupied by the owner thereof or a family member of the owner. Short term rentals of these Restricted Unit by the owner thereof shall be permitted if the owner dies or is transferred out of the area and in similar situations.

WITNESS the following signature.

INVESTMENT PROPERTIES OF VIRGINIA, LLC

By: _____

Title: MANAGER

STATE OF VIRGINIA AT LARGE
CITY/COUNTY OF Williamsburg, to-wit:

The foregoing instrument was acknowledged this 17th day of March, 2008, by Michael C. Brown as Manager of Investment Properties of Virginia, LLC.

_____
NOTARY PUBLIC

My commission expires: 06/30/2011.
Registration No.: 284510

SUSAN G. WALTRIP NOTARY PUBLIC REG. #284510 MY COMMISSION EXPIRES 6-30-2011 COMMONWEALTH OF VIRGINIA

ASSOCIATED DEVELOPERS, INC.

By: _____

Title: president

STATE OF VIRGINIA AT LARGE
CITY/~~COUNTY~~ OF Williamsburg, to-wit:

The foregoing instrument was acknowledged this 14th day of March, 2008, by Henry Stephens President of Associated Developers, Inc.

_____
NOTARY PUBLIC

My commission expires: 2-28-2011.
Registration No.: 183223

JANICE M. THOMPSON
NOTARY PUBLIC
REG. #183223
MY COMMISSION EXPIRES
2-28-2011
COMMONWEALTH OF VIRGINIA

EXHIBIT A

PARCEL ONE

All that certain piece or parcel of land, with the buildings and improvements thereon, consisting of 10.00 acres, more or less, situate in Jamestown District, James City County, Virginia, bounded and described as follows: Beginning at an iron stake on the southerly side of the road leading from the Main and Ambler's Farms to Powell's Mill crossing Route 31 to Jamestown on the dividing line between the land hereby conveyed and that of Robinson; thence in a westerly direction along said road the distance of 400 feet to another iron stake; thence said lot extends back in a southerly direction between parallel lines the distance of 1050 feet, more or less, to iron stakes marking its corners; and being a portion of a tract of land containing 140.62 acres as shown by survey and plat recorded in James City Plat Book 2, page 19, and is a portion of the same property of which T. T. Nixon died seized and possessed, intestate; the said tract having been conveyed to him by J. N. Richardson by deed from Henry O. Wright and wife, dated April 15, 1929, and recorded in James City Deed Book 24, page 531; the undivided one-half interest of the said Richardson having been conveyed to the said T. T. Nixon by deed dated June 5, 1930, and recorded in James City Deed Book 25, pages 514-5.

PARCEL TWO

All that certain lot, piece or parcel of land, with the buildings and improvements thereon, situate in Jamestown Magisterial District, James City County, Virginia, lying on the southerly side of the 10.00+/- acre parcel of Nixon, consisting of 6.082 acres, more or less, and described as follows: commencing at an iron stake 1,050 feet from the road leading from Ambler's and the Main Farm to Five Forks and Powell's Mill Road running thence a distance of 200 feet more or less in a southerly direction in a straight line to the low water mark of Powhatan Creek; thence in a westerly direction along the low water mark of Powhatan Creek as it meanders a distance of 400 feet more or less to a point; thence in a northerly direction in a straight line a distance of 200 feet more or less to an iron stake, the corner to the property hereby conveyed and other lands of Nixon; thence in an easterly direction along the line of the property hereby conveyed and other lands of Nixon a distance of 400 feet, more or less, to an iron stake corner to the property hereby conveyed and other lands of Nixon, being the point of departure. Said property is bounded on the northerly side of other lands of Nixon; on the southerly side by Powhatan Creek; on the easterly side by the lands of Robinson; and on the westerly side by the remaining lands of Hess N. Hart and Harry Hart, her husband, Mary B. Norman and J. D. Norman, her husband, Dorothy N. Waltrip and G. K. Waltrip, her husband. Said property is a portion of the track of land containing 140.62 acres as shown by survey and plat recorded in James City Plat Book 2, page 19, and is a portion of the same property of which T. T. Nixon died seized and possessed intestate; the said tract having been conveyed to him and J. N. Richardson by deed from Henry O. Wright and wife, dated April 15, 1929, and recorded in James City County Deed Book 24, page 531, the undivided one-half interest of said Richardson having been conveyed to the said T. T. Nixon by deed dated June 5, 1930, and recorded in James City County Deed Book 25, page 514.

PARCEL THREE

ALL that certain lot, piece or parcel of land situate, lying and being in Jamestown District, James City County, Virginia, as shown on that certain plat entitled, "E. T. Nixon, Plat of Survey, Containing .43 Acres, Two Miles Southeast of Williamsburg, James City County, Virginia" dated February 8, 1960 made by R. B. Cartwright, Certified Land Surveyor, and recorded April 1, 1960 in the Clerk's Office of the Circuit Court of the City of Williamsburg and County of James City in Deed Book 74, page 100; and being more particularly described as follows: Beginning at an angle iron down a private lane leading South from State Route #31; thence South 69° 30' East 116.28 feet to an angle iron; thence South 20° 00' West 162.28 feet to an angle iron; thence North 69° 30' West 116.28 feet to an angle iron; thence North 20° 00' East 162.28 feet to an angle iron, the point of beginning.

VIRGINIA: CITY OF WILLIAMSBURG & COUNTY OF JAMES CITY
This document was admitted to record on 13 Aug 08
at 2:53 PM. The taxes imposed by Virginia Code
Section 58.1-801, 58.1-802 & 58.1-814 have been paid.

STATE TAX	LOCAL TAX	ADDITIONAL TAX
$	$	$

TESTE: BETSY B. WOOLRIDGE, CLERK
BY: Betsy B Woolridge Clerk

Parcel Nos: 4730100036, 4730100037, 4730100039

Prepared by:
Andrew M. Franck (VSB #48293)
Geddy, Harris, Franck & Hickman, LLP
1177 Jamestown Road
Williamsburg, Virginia 23185

Return to:
James City County Attorney
101-C Mounts Bay Road
Williamsburg, Virginia 23185

FIRST AMENDMENT TO PROFFERS

THIS FIRST AMENDMENT TO PROFFERS is made this 28th day of November, 2017 by JTR PROPERTIES LLC, a Virginia limited liability company (together with its successors and assigns, the "Owner"), to be indexed as "Grantor." JAMES CITY COUNTY, a political subdivision of the Commonwealth of Virginia, to be indexed as "Grantee."

RECITALS

A. Owner is the owner of three contiguous tracts or parcels of land located in James City County, Virginia (the "Property"), now zoned R2 - General Residential, and subject to Proffers dated February 13, 2008, which Proffers are recorded in the Clerk's Office of the Circuit Court for the City of Williamsburg and County of James City as Instrument No. 080020381 (the "Existing Proffers") . The Property is more particularly described in the Existing Proffers.

B. Owner desires to amend Condition 1 of the Existing Proffers as set forth below. All capitalized terms used herein not otherwise defined shall have the definition set forth in the Existing Proffers.

AMENDMENTS TO CONDITIONS

1. The last sentence of Condition 1 (Master Plan) of the Existing Proffers is hereby amended to read as follows: "All residential dwelling units on the Property shall be offered for sale or rental by the developer thereof."

Z-0004-2017 PR-107-A
Powhatan Terrace Proffer Amendment
Proffers Page 1 of 2

2. Except as specifically amended herein, the Existing Proffers remain unchanged and in full force and effect.

WITNESS the following signature and seal.

JTR PROPERTIES LLC

By: Sterling M Nichols (SEAL)

Title: owner



COMMONWEALTH OF VIRGINIA

CITY/COUNTY OF Williamsburg, to-wit:

The foregoing instrument was acknowledged this 28th day of November, 2017, by Sterling M. Nichols as owner of JTR Properties LLC.

Trittie Mountcastle
NOTARY PUBLIC

My commission expires: 1/31/19.
Registration No.: 7639488

INSTRUMENT 180002012
RECORDED IN THE CLERK'S OFFICE OF
WMSBG/JAMES CITY CIRCUIT ON
January 25, 2018 AT 10:21 AM
MONA A. FOLEY , CLERK
RECORDED BY: JLZ

Parcel Nos: 4730100036, 4730100037, 4730100039

Prepared by:
Andrew M. Franck (VSB #48293)
Geddy, Harris, Franck & Hickman, LLP
1177 Jamestown Road
Williamsburg, Virginia 23185

Return to:
James City County Attorney
101-C Mounts Bay Road
Williamsburg, Virginia 23185

SECOND AMENDMENT TO PROFFERS

THIS SECOND AMENDMENT TO PROFFERS is made this 23rd day of January, 2019 by JTR PROPERTIES LLC, a Virginia limited liability company (together with its successors and assigns, the "Owner"), to be indexed as "Grantor." JAMES CITY COUNTY, a political subdivision of the Commonwealth of Virginia, to be indexed as "Grantee."

RECITALS

A. Owner is the owner of three contiguous tracts or parcels of land located in James City County, Virginia (the "Property"), now zoned R2 - General Residential, and subject to Proffers dated February 13, 2008, which Proffers are recorded in the Clerk's Office of the Circuit Court for the City of Williamsburg and County of James City as Instrument No. 080020381, as amended by First Amendment to Proffers dated November 28, 2017 recorded in the aforementioned Clerk's Office as Instrument No. 180002012 (the "Existing Proffers"). The Property is more particularly described in the Existing Proffers.

B. Owner desires to amend Condition 19 of the Existing Proffers as set forth below. All capitalized terms used herein not otherwise defined shall have the definition set forth in the Existing Proffers.

AMENDMENTS TO CONDITIONS

1. Condition 19 (Price Restricted Units) of the Existing Proffers is hereby amended to read in its entirety as follows:

> **"19. Price Restricted Units.** A minimum of eight of the units shall be reserved and offered for rent for a period of at least thirty years following issuance of a Certificate of Occupancy at a rental rate targeted to households at or below sixty percent (60%) of the Area Median Income (AMI). Rent limits shall meet IRS Section 42 Low-Income Housing Tax Credit (LIHTC) Affordable Housing Program ("Program") guidelines for that year, and rental rates shall be adjusted annually according to Program requirements. Rental rates shall be reported to the Director of Planning annually during the thirty-year period."

2. Except as specifically amended herein, the Existing Proffers remain unchanged and in full force and effect.

WITNESS the following signature and seal.

JTR PROPERTIES LLC

By: _____ (SEAL)
Sterling M. Nichols, owner

COMMONWEALTH OF VIRGINIA
CITY/~~COUNTY~~ OF Williamsburg, to-wit:

The foregoing instrument was acknowledged this 11th day of ~~January~~ March, 2019, by Sterling M. Nichols as owner of JTR Properties LLC.

_____
NOTARY PUBLIC

My commission expires: 06/30/2019

Susan G. Waltrip
Commonwealth of Virginia
Notary Public
Commission ID: 284510
My Commission Expires 6-30-19

INSTRUMENT 190003588
RECORDED IN THE CLERK'S OFFICE OF
WMSBG/JAMES CITY CIRCUIT ON
MARCH 15, 2019 AT 10:56 AM
MONA A. FOLEY, CLERK
RECORDED BY: JLZ

This project can no longer be certified under the EarthCraft Virginia certification program, as this program has become obsolete since proffer approval in 2008. Additionally, current sustainable building standards significantly exceed the requirements of the program. Two local industry standard alternative measures of sustainability will be utilized – (1) certification under the ENERGY STAR Multifamily New Construction (MFNC) program; and (2) a minimum Home Energy Rating System (HERS) Index rating as calculated by a certified Residential Energy Services Network (RESNET) Rater. The strategies to achieve compliance will be incorporated into the construction documents either as part of the design, or as requirements for the Contractor to substantiate during the course of construction.

Both of these programs measure the efficiency of the development's following systems:

a. Heating and Cooling Equipment
b. Thermostats and Ductwork
c. Building Envelope, Windows, and Doors
d. Lighting, Appliances, and Plumbing Fixtures
e. Water Heating Equipment

ENERGY STAR Certification

The project will be designed to meet the criteria to achieve certification under the ENERGY STAR Multifamily New Construction (MFNC) program, launched in 2019. The certification process offers three paths to meet the performance target:

1. Prescriptive Path: The project will be designed to meet the prescriptive requirements set in the *ENERGY STAR Multifamily Reference Design* (these meet or exceed the performance standards set forth in the 2009 International Energy Conservation Code for Climate Zone 4).
2. Energy Rating Index (ERI) Path: Each unit will undergo energy modeling to demonstrate minimum performance requirements have been met as set forth in the *ENERGY STAR Multifamily Reference Design.* Modeling requirements must comply with the *ENERGY STAR Multifamily Simulation Guidelines.*
3. ASHRAE Path: The development will meet the ASHRAE performance target, which is dependent on the 2015 International Energy Conservation Code (Virginia's commercial state energy code) and the baseline chosen.

RESNET Rating

The design and construction will also incorporate all items required to meet the baseline performance standards established by the Residential Energy Services Network (RESNET). The Home Energy Rating System (HERS) Index is RESNET's system for calculating, inspecting, and verifying a home's energy performance. The HERS Index is officially recognized by the federal government for verification of building energy performance for such programs as the ENERGY STAR program and the U.S. Department of Energy's Building America Program.

Homes are rated for energy efficiency and issued with a HERS Index Score based on their energy performance. The rated home is compared to the HERS Reference Home to determine how energy efficient it is. The HERS Reference Home is modeled on an energy efficient home that conforms to the 2004/2006 International Energy Conservation Code (IECC) and has a HERS Index Score of 100. The lower a home's HERS Index Score, the more energy efficient it is.

An independent RESNET rater will review the design prior to construction, make inspections during construction, and provide an energy audit post-construction to determine the HERS rating of the project. At project completion, the RESNET rater will issue an affidavit that the project meets or exceeds the HERS Index Score of the reference home (has a score of 100 or less).

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
TIDEWATER REGIONAL OFFICE
5636 Southern Boulevard, Virginia Beach, Virginia 23462
(757) 518-2000 Fax (757) 518-2009
www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

Craig R. Nicol
Regional Director

September 27, 2020

JTR Properties LLC
ATTN: Scott Wise, Manager
5400 Discovery Park Blvd. Ste 102
Williamsburg, VA 23188

Via Email to: saw623@cox.net and jonathan@bay-environmental.com

Re: FAC#5012852 - JTR Former Handy Grocery, 1676 Jamestown Rd., Williamsburg, VA 23185
VDEQ Pollution Complaint File 2019-5144

Dear Mr. Wise:

Thank you for having your consultant provide the Site Characterization Report (SCR), Addendums and Post-SCR Monitoring reports (*Bay Environmental, Inc.*) for the referenced site to the Tidewater Regional Office (TRO) of the Department of Environmental Quality (DEQ). Based on the information you have provided regarding current site conditions, the State Water Control Board acting through the DEQ, as authorized by CODE § 62.1-44.34:8 through 9 and 9 VAC 25-580-10 et seq. believes that contamination levels at this site do not warrant further corrective action. This pollution complaint file is now closed Should future environmental problems occur which the DEQ determines are related to a petroleum release at this location, additional investigation and corrective action may be required in accordance with State Law. If persons developing or otherwise working on this property excavate soil or withdraw groundwater, such media must be properly sampled, analyzed, managed and disposed of in accordance with applicable solid waste and hazardous waste regulations

Virginia Law prohibits the payment of corrective action and third party liability reimbursement claims which are filed more than two years after DEQ closes a case. All claims for this release must be received by DEQ no later than September 27, 2020 in order to be eligible for reimbursement. If you have any questions, please contact me at (757) 518-2047 or at valerie.mcgee@deq.virginia.gov.

Sincerely,

Valerie D. McGee

Valerie D. McGee
Remediation Geologist Senior II
Petroleum (Tank) Remediation Program

Copy to PC File 2019-5144, and
bweiler@housingpartners.org
SRomeo@VHB.com

POST SITE CHARACTERIZATION MONITOIRING REPORT

(May – August 2020)
Sub-Phase 2

Former Handy Grocery
1676 Jamestown Road
Williamsburg, Virginia 23188

DEQ PC# 2019-5144
Facility ID# 5012852



By

Bay Environmental, Inc.
648 Independence Parkway, Suite 100
Chesapeake, VA 23320

For

JTR Properties LLC
5400 Discovery Park Blvd, Ste 102
Williamsburg, VA 23188

September 16, 2020

Jonathan W. Gantz
Project Manager

Christopher Kampfmueller
Environmental Scientist

SIGNATURE PAGE	
Preparers' Name	Jonathan W. Gantz Bay Environmental, Inc.
Preparers' Address	648 Independence Parkway, Suite 100 Chesapeake, VA 23320
Preparers' Telephone Number	757-436-5900
Preparers' Fax Number	757-436-5909
Responsible Party	JTR Properties LLC
Responsible Party Address	5400 Discovery Park Blvd, Ste 102 Williamsburg, VA 23188
Responsible Party Telephone Number	757-342-9986
Site Name	Former Handy Grocery
Site Address	1676 Jamestown Rd, Williamsburg, VA

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1.0 EXECUTIVE SUMMARY

Bay Environmental Inc., (Bay) was contacted by the property owner to provide environmental consulting services in response to suspect Underground Storage Tanks (USTs) located at 1676 Jamestown Road in Williamsburg, Virginia. Historical records indicated a former gas station and convenience store was located at the property. The property had been acquired by JTR Properties LLC of Williamsburg, Virginia (JTR) and the former UST operator could not be located. Therefore, JTR assumed the role of Responsible Party (RP). Bay was contracted by JTR to perform exploratory excavation to locate the USTs. Three (3) USTs were located. Tank registration records indicated each UST was 4,000 gallons in capacity and used to store gasoline. These records were confirmed upon excavation. A test well was installed on the downgradient side of the USTs. Liquid Phase Hydrocarbons (LPH) were measured in the test well. The release was reported to the Virginia Department of Environmental Quality (VA DEQ) Tidewater Regional Office (TRO) on January 30th, 2019. In response to the reported release, PC# 2019-5144 was issued by DEQ in a letter dated February 5, 2019. The letter requested an Initial Abatement Measures Report (IAMR) and Site Characterization Report (SCR). The USTs were properly abandoned via removal. In addition, 157.44 tons of impacted soil was excavated and transported offsite for proper disposal. Additional details regarding the UST discovery, release investigation, tank abatement, and soil excavation can be found in the IAM Report submitted to VA DEQ on March 12, 2019.

A SCR was submitted to VA DEQ on May 31, 2019 detailing the installation of six monitor wells surrounding the former UST Basin and associated soil / groundwater sampling. Elevated soil and groundwater concentrations were reported. DEQ responded in a letter dated June 21, 2019, requesting that an addendum to the SCR be submitted to include additional monitor wells in the downgradient direction to delineate the contaminant plume on the property.

A SCRA was submitted to VA DEQ on August 19, 2019. DEQ responded in a letter dated September 11, 2019 requesting additional delineation and remediation activities.

A SCRA #2 was submitted to VA DEQ on November 7, 2019. DEQ responded in a letter dated December 11, 2019 requesting additional delineation and remediation activities to be presented in a Post Site Characterization Monitoring Report (PSCMR).

A PSCMR Sub-Phase 1 was submitted to VA DEQ on April 17, 2020. DEQ responded in a letter dated April 27, 2020 requesting additional monitoring and remediation activities to be presented in a PSCMR Sub-Phase 2.

The following details the PSCMR Sub-Phase 2 activities that have taken place following the PSCMR Sub-Phase 1 submittal.

1.2 Summary of Current On-site Activities

As a part of the PSCMR Sub-Phase 2 activities, Bay Environmental gauged the wells for liquid levels and sampled groundwater from on-site monitoring wells. Additionally, the impacted area was treated with 240 pounds of Regenesis Oxygen Releasing Compound (ORC) in conjunction with three separate soil flushing events.

2.0 GENERAL SITE INFORMATION

The site is located at 1676 Jamestown Road in Williamsburg, Virginia. (***Figure 1, Appendix A***) The release occurred at the former UST pit located in the central portion of the property. A short run of product piping was discovered, however, it stopped just short of the wall of the UST basin. The location of a former dispenser island was not evident. Three (3) 4,000 gallon USTs were located. A site map depicting the location of the former USTs is included as ***Figure 2***, ***Appendix A***.

A review of the *Geologic Map and Generalized Cross Sections of the Coastal Plain and Adjacent Parts of the Piedmont, Virginia* (Mixon and Others, 1989) revealed that the site has been mapped as the Poquoson Member of the Shirley Formation, a middle Pleistocene Light- to dark-gray, bluish-gray and brown sand, gravel, silt, clay, and peat.

A review of the *Groundwater Map of Virginia* (Virginia Water Control Board, 1985) revealed that the site lies within the Coastal Plain Ground Water Area. This area is composed of unconsolidated sediments of Cretaceous to recent age overlying a bedrock basement. The sediments thicken eastward from a featheredge at the Fall Zone to 7,000 feet along the coastline. Sediments dip gently eastward and are subdivided into four major aquifers from the land surface downward. The Aquifers are separated by confining beds, which restrict but do not prevent vertical flow of groundwater.

A review of the Surry, Virginia Quadrangle (USGS, 2016) revealed that the topographically assumed groundwater flow is a south westerly direction towards Powhatan Creek, located approximately 1,200 feet to the south west.

3.0 SOIL FLUSHING

On May 22, June 12, and July 15, 2020, Bay Environmental personnel were on-site to perform soil-flushing events to include injection wells IW-1, IW-2, and monitoring wells MW-8, MW-11, and MW-14. Prior to the events, an Underground Injection Control (UIC) permit to inject the ORC / Carbon solution was approved by the United States Environmental Protection Agency (EPA). The UIC permit is included in ***Appendix C***.

A mid-level professional and a vacuum truck driver were on-site to perform the soil-flushing events. Prior to the start of the events, Bay used a one-inch PVC stinger to extract fluids from IW-1, IW-2, MW-8, MW-11, and MW-14. These wells were stripped to remove any residual ORC from the screened portion of the well; each well was stripped for approximately 15 minutes. A 275-gallon poly tote was then filled with 250 gallons of water and 80 pounds of ORC. Event specific details and tables can be viewed below.

May 22, 2020:

The approximate 5% ORC solution was gravity fed into MW-8, MW-11, and MW-14 while the vacuum truck was pulling on IW-1 and IW-2. Approximately 5 gallons of the solution was fed into MW-8. Approximately 9 gallons of the solution was fed into MW-11. Approximately 9 gallons of the solution was fed into MW-14. The ORC solution was then gravity fed into IW-2, MW-8, MW-11, and MW-14 while the vacuum truck was pulling on IW-1. Approximately 6 gallons of the solution was fed into IW-2. Approximately 0.5 gallons of the solution was fed into MW-8. Approximately 4 gallons of the solution was fed into MW-11. Approximately 4 gallons of the solution was fed into MW-14. The remaining ORC solution was then gravity fed into IW-1, IW-2,

MW-8, MW-11, and MW-14. Approximately 4 gallons of the solution was fed into IW-1. Approximately 3 gallons of the solution was fed into IW-2. Approximately 0.5 gallons of the solution was fed into MW-8. Approximately 2 gallons of the solution was fed into MW-11. Approximately 2 gallons of the solution was fed into MW-14. Based on the limited amount of solution that was able to be introduced into the two injection wells, MW-8, MW-11, and MW-14 were chosen as an injection points. MW-8, MW-11, and MW-14 are located in the center-line of the plume.

Soil Flushing Event – May 22, 2020		
Pulling on (Well IDs)	Gravity Fed Well ID	Amount of Solution Added (Gallons)
IW-1, IW-2	IW-1	4
	IW-2	9
	MW-8	6
	MW-11	15
	MW-14	15

At the conclusion of the event, a total of 105 gallons of contaminated fluids was measured in the vacuum truck. Liquid waste was transported to C&M Industries for proper disposal, and copies of the manifests are included in ***Appendix C.***

June 12, 2020:

The approximate 5% ORC solution was gravity fed into MW-8, MW-11, and MW-14 while the vacuum truck was pulling on IW-1 and IW-2. Approximately 3.5 gallons of the solution was fed into MW-8. Approximately 3.5 gallons of the solution was fed into MW-11. Approximately 3.5 gallons of the solution was fed into MW-14. The ORC solution was then gravity fed into IW-2, MW-8, MW-11, and MW-14 while the vacuum truck was pulling on IW-1. Approximately 7 gallons of the solution was fed into IW-2. Approximately 1.5 gallons of the solution was fed into MW-8. Approximately 5 gallons of the solution was fed into MW-11. Approximately 5 gallons of the solution was fed into MW-14. The remaining ORC solution was then gravity fed into IW-1, IW-2, MW-8, MW-11, and MW-14. Approximately 7 gallons of the solution was fed into IW-1. Approximately 4 gallons of the solution was fed into IW-2. Approximately 1.5 gallons of the solution was fed into MW-8. Approximately 4 gallons of the solution was fed into MW-11. Approximately 4 gallons of the solution was fed into MW-14. Based on the limited amount of solution that was able to be introduced into the two injection wells, MW-8, MW-11, and MW-14 were chosen as an injection points. MW-8, MW-11, and MW-14 are located in the center-line of the plume.

Soil Flushing Event – June 12, 2020		
Pulling on (Well IDs)	Gravity Fed Well ID	Amount of Solution Added (Gallons)
IW-1, IW-2	IW-1	7
	IW-2	11
	MW-8	6.5
	MW-11	12.5
	MW-14	12.5

At the conclusion of the event, a total of 80 gallons of contaminated fluids was measured in the vacuum truck. Liquid waste was transported to C&M Industries for proper disposal, and copies of the manifests are included in ***Appendix C.***

July 15, 2020:

The approximate 5% ORC solution was gravity fed into MW-8, MW-11, and MW-14 while the vacuum truck was pulling on IW-1 and IW-2. Approximately 5 gallons of the solution was fed into MW-8. Approximately 10 gallons of the solution was fed into MW-11. Approximately 10 gallons of the solution was fed into MW-14. The ORC solution was then gravity fed into IW-2, MW-8, MW-11, and MW-14 while the vacuum truck was pulling on IW-1. Approximately 5 gallons of the solution was fed into IW-2. Approximately 2 gallons of the solution was fed into MW-8. Approximately 5 gallons of the solution was fed into MW-11. Approximately 5 gallons of the solution was fed into MW-14. The remaining ORC solution was then gravity fed into IW-1, MW-11, and MW-14. Approximately 5 gallons of the solution was fed into IW-1. Approximately 1.5 gallons of the solution was fed into MW-11. Approximately 1.5 gallons of the solution was fed into MW-14. Based on the limited amount of solution that was able to be introduced into the two injection wells, MW-8, MW-11, and MW-14 were chosen as an injection points. MW-8, MW-11, and MW-14 are located in the center-line of the plume.

Soil Flushing Event – July 15, 2020		
Pulling on (Well IDs)	Gravity Fed Well ID	Amount of Solution Added (Gallons)
IW-1, IW-2	IW-1	5
	IW-2	5
	MW-8	7
	MW-11	16.5
	MW-14	16.5

At the conclusion of the event, a total of 105 gallons of contaminated fluids was measured in the vacuum truck. Liquid waste was transported to C&M Industries for proper disposal, and copies of the manifests are included in ***Appendix C.***

4.0 GROUNDWATER MONITORING

4.1 Free Product Monitoring

Bay Environmental conducted one monitoring event during this sub-phase. The event was conducted in conjunction with the August 13th groundwater sampling event Monitor wells were gauged using an electronic oil-water interface probe capable of measuring free product to the 0.01 of a foot. Free product was not detected in onsite monitoring wells during this period. Monitoring data is presented as ***Table 1, Appendix B***. The monitoring data from October 29, 2019 has been plotted to show the potentiometric surface elevations within the monitoring well network. A potentiometric surface map is included as ***Figure 4, Appendix A***.

4.2 Groundwater Sampling

Groundwater sampling was conducted on August 13, 2020, on monitoring wells MW-3, MW-4, MW-5, MW-7, MW-9, MW-10, MW-12, MW-13, and MW-15 through MW-21. Samples were submitted under standard chain of custody and quality assurance controls to Test America for Benzene, Toluene, Ethylbenzene, Xylene, Naphthalene, and Methyl tert-butyl ether (BTEXNM) and Total Petroleum Hydrocarbon – Gasoline Range Organics (TPH-GRO) analyses in accordance with EPA methods 8260B and 8015C. In addition, groundwater was analyzed for lead scavengers (Ethylene Di-bromide, 1,2-Dichloroethane, and 1,2-Dibromo-3-Chloropropane) by EPA method 8011. Please refer to ***Figure 3, Appendix A,*** for a map depicting well locations with corresponding lab results, and ***Table 3, Appendix B*** for a summary of lab results.

A comparison to the previous sampling events shows a declining trend across most of the monitoring wells on-site. MW-4 is currently exhibiting an increase in MTBE concentrations; however, the concentration is still well below the risk value. MW-5 is currently exhibiting an increase in GRO concentrations; however, the concentration remains negligible. Concentrations in MW-3, MW-7, MW-9, MW-10, MW-12 through MW-14, and MW-15 through MW-21 were reported as non-detect for all analyses.

A full copy of the laboratory analytical report is included in ***Appendix D.***

5.0 RECEPTOR SURVEY

The closest surface water body to the release is Powhatan Creek, located approximately 1,200 feet to the south west. The property is currently an empty lot. The adjacent properties have access to city water and city sewer. No potable wells have been identified on the property or in the area. Grace Covenant Presbyterian Church is located to the north east across Jamestown Road. Single family residential properties are located to the North West. A small commercial lot followed by multi-family residential structures are located to the south east. The Powhatan River is located approximately 1,200 feet to the south west. Potentiometric surface calculations confirm the groundwater flow as south west. The area down gradient from the former USTs is undeveloped land that is zoned residential. Previously it was a trailer park but has since been razed and not rebuilt. The lot is overgrown and wooded all the way to the River.

Suspect sensitive receptors include on-site construction workers and future use residential dwellings. The site is planned to be redeveloped as a town home community with slab on grade structures.

A declining trend in concentrations has been noted across the site. The laboratory data was compared to the VA DEQ Voluntary Remediation Program's (VRP) Tier III Groundwater Screening Levels for residential vapor intrusion and construction worker direct contact. Current data does not show any values above the VRP screening levels. MW-1, MW-2, and MW-6 were destroyed during the recent excavation activities. The smear zone of petroleum hydrocarbon contamination begins at approximately 5 feet below ground surface (bgs) near the downgradient side of the former excavation and gets slightly deeper toward the leading edge of the dissolved phase plume. Any excavation below 5 feet near the impacted areas would come into contact with contaminated soil and groundwater as well as any utility lines placed in the impacted area could act as conduits for the impacted groundwater.

Please refer to ***Figure 3, Appendix A*** for sample locations and analytical results. A summary of the sample results are included in ***Table 3, Appendix B***.

Full copies of the laboratory analytical reports are included as ***Appendix D***.

6.0 CONCLUSIONS AND RECOMMENDATIONS

As a part of the PSCMR sub-phase 2 activities, Bay Environmental gauged the wells for liquid levels, and sampled groundwater from on-site monitoring wells. Additionally, Bay treated the impacted area with 240 pounds of Regenesis Oxygen Releasing Compound (ORC) Advanced over three separate soil flushing events.

Based on the site history there are several suspect pathways to sensitive receptors, as mentioned in section 5.0. These pathways include:

- Residential vapor intrusion from petroleum hydrocarbon impacted groundwater beneath proposed town home units,

- Construction worker direct contact from petroleum hydrocarbon impacted soil and groundwater,

- Utility line corridors installed in petroleum hydrocarbon impacted groundwater could act as conduits for contaminant migration creating additional pathways for impacted groundwater as well as vapors.

However, current groundwater concentrations are low to non-detect and are well below risk thresholds. Bay recommends that PC# 2019-5144 be closed with the following engineering controls taken into consideration based on the fact that there may be some pockets of residual contamination at the site in uninvestigated areas:

- Perform environmental monitoring during any excavation greater than 5 feet deep to be completed within the impacted area. Disturbed soils that show signs of impacts should be segregated and transported off-site for proper disposal. Impacted soils should not be returned to the excavation or used elsewhere on the site.

- Re-route any utility corridor that will intersect with the impacted area. Currently there is a proposed water line that runs very close to the former UST locations. In the event the utility corridor cannot be moved the above mentioned environmental monitoring and soil management should be implemented in addition to any engineering controls that can be set forth to protect the utility line from impacted soil and groundwater.

- Evaluate the installation of vapor barriers on the proposed row of townhomes located to the southwest of the former tank locations. Plans should be reviewed by an environmental engineer or equivalent with experience in sub-slab engineering controls.

7.0 REFERENCES

DEQ, 2011, Guidance Document 01-2024D, 4th Edition, Storage Tank Program Technical Manual.

Mixon, R.B., Berquist, Jr., C.R., Newell, W.L., Johnson, G.H., Powars, D.S., Schindler, J.S., and Rader, E.K., 1989, Geologic Map and Generalized Cross Sections of the Coastal Plain and Adjacent Parts of the Piedmont, Virginia: U.S. Geological Survey Miscellaneous Investigations Series I-2033

Smith, P.J. and Ellison, R.P., 1985, Groundwater Map of Virginia: Virginia Water Control Board, Ground Water Program, Information Bulletin 560.

USGS Topographical Quadrangle Map, Surry, Virginia, 2016.

Appendix A: Figures



SOURCE: USGS TOPOGRAPHICAL QUADRANGLE MAP, SURRY, VIRGINIA, 2016.

NOT TO SCALE

DATE: 03/11/2019

BAY# 19-035

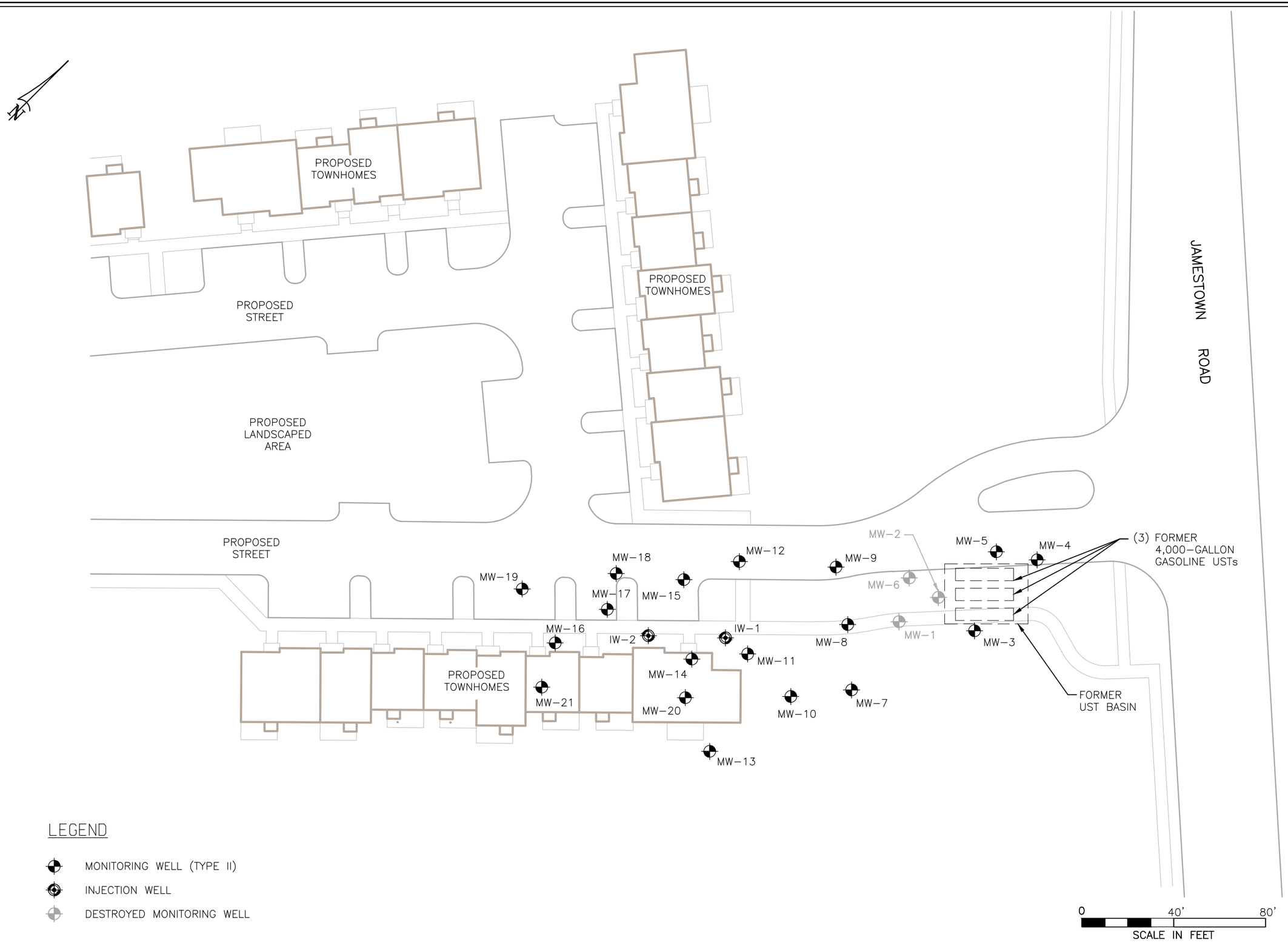
DRAWN BY: JWG

NORTH

FIGURE 1: VICINITY MAP

Former Handy Grocery
1676 Jamestown Road
Williamsburg, VA

BAY ENVIRONMENTAL, INC.
Environmental Consulting Services



LEGEND

- MONITORING WELL (TYPE II)
- INJECTION WELL
- DESTROYED MONITORING WELL

BAY ENVIRONMENTAL, INC.
Consulting and Contracting Services
648 Independence Parkway, Suite 100
Chesapeake, Virginia 23320
757-436-5900 fax 757-436-5909
www.bay-environmental.com

DATE	04-16-2020
SCALE	1" = 40'
REV. BY	JG
PREP. BY	JG
PROJECT NO.	19-035-03
CAD FILE	712-002.dwg

TITLE
FORMER HANDY GROCERY
SITE MAP
1676 JAMESTOWN ROAD
WILLIAMSBURG, VIRGINIA
VA DEQ PC #2019-5144

FIGURE NO.

2

SOURCE FILE: .
04/16/2020 8:57am - Admin - H:\712 - BAY\002 Former Handy Grocery\Former Handy Grocery_712-002_4-16-20.dwg

NOTE:
1. BOLDED VALUES EXCEED PUBLISHED VA DEQ RBSL.
2. (BDL) INDICATES VALUES BELOW DETECTION LIMITS.
3. (NS) NOT SAMPLED.

PROPOSED TOWNHOMES

PROPOSED TOWNHOMES

PROPOSED STREET

PROPOSED LANDSCAPED AREA

PROPOSED TOWNHOMES

JAMESTOWN ROAD

MW-5	mg/L	GROUNDWATER 08/13/2020
TPH GRO		0.230

MW-4	mg/L	GROUNDWATER 08/13/2020
MTBE		0.01

MW-19 (BDL)
MW-18 (BDL)
MW-17 (BDL)
MW-15 (BDL)
MW-12 (BDL)
MW-9 (BDL)
MW-2 (BDL)
MW-5
MW-4
MW-6 (BDL)
(3) FORMER 4,000-GALLON GASOLINE USTs
MW-16 (BDL)
IW-2
IW-1
MW-8 (NS)
MW-1 (BDL)
MW-3 (BDL)
MW-14 (NS)
MW-11 (NS)
PROPOSED TOWNHOMES
MW-21 (BDL)
MW-20 (BDL)
MW-10 (BDL)
MW-7 (BDL)
MW-13 (BDL)
FORMER UST BASIN

LEGEND

- MONITORING WELL (TYPE II)
- INJECTION WELL

0 40' 80'
SCALE IN FEET

BAY ENVIRONMENTAL, INC.
Consulting and Contracting Services

648 Independence Parkway, Suite 100
Chesapeake, Virginia 23320
757-436-5900 fax 757-436-5909
www.bay-environmental.com

PROJECT NO. 19-035-03
DATE 09-02-2020
SCALE 1" = 40'
REV. BY JG
PREP. BY JG

TITLE FORMER HANDY GROCERY
GROUNDWATER ANALYTICAL RESULTS MAP
1676 JAMESTOWN ROAD
WILLIAMSBURG, VIRGINIA
VA DEQ PC #2019-5144

CAD FILE 712-002.dwg

FIGURE NO.
3

SOURCE FILE: VHB - C-2.1 - 04-04-2019
09/02/2020 8:42am - Admin - H:\712 - BAY Environmental\002 Former Handy Grocery\Former Handy Grocery_712-002_09-02-20.dwg

SOURCE FILE: .

PROPOSED TOWNHOMES

PROPOSED TOWNHOMES

PROPOSED STREET

PROPOSED LANDSCAPED AREA

PROPOSED STREET

PROPOSED TOWNHOMES

JAMESTOWN ROAD

MW-19 (27.73)

MW-16 (27.92)

MW-18 (28.53)

MW-15 (28.67)

MW-17 (28.41)

MW-12 (28.22)

MW-9 (30.02)

MW-2

MW-5 (31.64)

MW-4 (31.89)

(3) FORMER 4,000-GALLON GASOLINE USTs

MW-6

IW-2

IW-1

MW-8

MW-1

MW-3 (31.00)

MW-11 (28.58)

MW-14 (29.24)

MW-10 (28.69)

MW-7 (29.87)

FORMER UST BASIN

MW-13 (28.75)

28

29

30

31

0 40' 80'

SCALE IN FEET

LEGEND

- MONITORING WELL (TYPE II)
- INJECTION WELL
- 30 — GROUNDWATER ELEVATION CONTOUR (ft.)
- (28.53) GROUNDWATER ELEVATION (ft.)
- INFERRED GROUNDWATER FLOW DIRECTION

11/20/2019 8:26am - SThompson - H:\712 - BAY\002 Former Handy Grocery\Former Handy Grocery_712-002_.dwg

BAY ENVIRONMENTAL, INC.
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www.bay-environmental.com

DATE	PROJECT NO.
11-15-2019	19-035-03

SCALE	REV. BY	PREP. BY
1" = 40'	JG	JG

TITLE
FORMER HANDY GROCERY
POTENTIOMETRIC SURFACE MAP
1676 JAMESTOWN ROAD
WILLIAMSBURG, VIRGINIA
VA DEQ PC #2019-5144

CAD FILE 712-002

FIGURE NO.

4

Appendix B: Tables

TABLE 1
GROUNDWATER GAUGING DATA

1676 JAMESTOWN ROAD
WILLIAMSBURG, VIRGINIA
PC# 2019-5144

Well ID	Screen Interval (feet)	DATE	Casing Elevation	Depth to Product (feet)	Depth to Groundwater (feet)	Product Thickness (feet)	Potentiometric Surface Elevation	Notes
TW	NA	1/29/2019	NS	8.10	8.15	0.05	NS	
		1/31/2019	NS	5.75	5.86	0.11	NS	*TW destroyed during excavation*
MW-1	5.00-20.20	4/2/2019	20.00	ND	4.03	ND	15.97	Sheen / odor
		4/17/2019	20.00	ND	2.64	ND	17.36	Sheen / odor
		5/3/2019	20.00	ND	4.43	ND	15.57	Sheen / odor
		6/25/2019	37.68	ND	5.13	ND	32.55	
		7/23/2019	37.68	ND	6.66	ND	31.02	
		9/13/2019	37.68	ND	7.02	ND	30.66	
		Destroyed during Excavation						
MW-2	5.00-19.90	4/2/2019	20.99	ND	4.73	ND	16.26	Sheen / odor
		4/17/2019	20.99	ND	3.43	ND	17.56	Sheen / odor
		5/3/2019	20.99	ND	5.05	ND	15.94	Sheen / odor
		6/25/2019	38.68	ND	6.10	ND	32.58	
		7/23/2019	38.68	ND	6.87	ND	31.81	
		9/13/2019	38.68	ND	6.87	ND	31.81	
		Destroyed during Excavation						
MW-3	3.00-17.80	4/2/2019	20.52	ND	3.90	ND	16.62	
		4/17/2019	20.52	ND	2.75	ND	17.77	
		5/3/2019	20.52	ND	4.35	ND	16.17	
		6/25/2019	38.28	ND	5.40	ND	32.88	
		7/23/2019	38.28	ND	6.58	ND	31.70	
		9/13/2019	38.28	ND	7.08	ND	31.20	
		10/29/2019	38.28	ND	7.28	ND	31.00	
		1/10/2020	38.28	ND	5.28	ND	33.00	
		4/3/2020	38.28	ND	4.07	ND	34.21	
		8/13/2020	38.28	ND	6.09	ND	32.19	
MW-4	3.00-17.95	4/2/2019	22.03	ND	4.80	ND	17.23	
		4/17/2019	22.03	ND	3.12	ND	18.91	
		5/3/2019	22.03	ND	4.60	ND	17.43	
		6/25/2019	39.76	ND	5.65	ND	34.11	
		7/23/2019	39.76	ND	7.12	ND	32.64	
		9/13/2019	39.76	ND	7.69	ND	32.07	
		10/29/2019	39.76	ND	7.87	ND	31.89	
		1/10/2020	39.76	ND	6.08	ND	33.68	
		4/3/2020	39.76	ND	4.78	ND	34.98	
		8/13/2020	39.76	ND	6.71	ND	33.05	

TABLE 1
GROUNDWATER GAUGING DATA

1676 JAMESTOWN ROAD
WILLIAMSBURG, VIRGINIA
PC# 2019-5144

Well ID	Screen Interval (feet)	DATE	Casing Elevation	Depth to Product (feet)	Depth to Groundwater (feet)	Product Thickness (feet)	Potentiometric Surface Elevation	Notes
MW-5	3.00-18.00	4/2/2019	21.76	ND	4.84	ND	16.92	
		4/17/2019	21.76	ND	3.14	ND	18.62	
		5/3/2019	21.76	ND	4.70	ND	17.06	
		6/25/2019	39.51	ND	5.68	ND	33.83	
		7/23/2019	39.51	ND	7.21	ND	32.30	
		9/13/2019	39.51	ND	7.78	ND	31.73	
		10/29/2019	39.51	ND	7.87	ND	31.64	
		1/10/2020	39.51	ND	5.97	ND	33.54	
		4/3/2020	39.51	ND	4.72	ND	34.79	
		8/13/2020	39.51	ND	6.72	ND	32.79	
MW-6	3.00-17.60	4/2/2019	20.07	3.95	3.96	0.01	16.12	Sheen / odor
		4/17/2019	20.07	ND	2.53	ND	17.54	Sheen / odor
		5/3/2019	20.07	ND	4.31	ND	15.76	Sheen / odor
		6/25/2019	37.72	ND	5.39	ND	32.33	
		7/23/2019	37.72	ND	6.56	ND	31.16	
		9/13/2019	37.72	ND	6.56	ND	31.16	
		Destroyed during Excavation						
MW-7	4.69-10.41	7/23/2019	37.60	ND	7.26	ND	30.34	
		9/13/2019	37.60	ND	7.59	ND	30.01	
		10/29/2019	37.60	ND	7.73	ND	29.87	
		1/10/2020	37.60	ND	5.81	ND	31.79	
		4/3/2020	37.60	ND	4.72	ND	32.88	
		8/13/2020	37.60	ND	6.76	ND	30.84	
MW-8	4.10-11.20	7/23/2019	39.54	ND	9.12	ND	30.42	
		9/13/2019	39.54	ND	9.50	ND	30.04	
		10/29/2019	39.54	ND	7.53	ND	32.01	injectate settled in scree
		1/10/2020	39.54	ND	7.27	ND	32.27	
		4/3/2020	39.54	ND	3.73	ND	35.81	
		8/13/2020	39.54	ND	6.05	ND	33.49	

TABLE 1
GROUNDWATER GAUGING DATA

1676 JAMESTOWN ROAD
WILLIAMSBURG, VIRGINIA
PC# 2019-5144

Well ID	Screen Interval (feet)	DATE	Casing Elevation	Depth to Product (feet)	Depth to Groundwater (feet)	Product Thickness (feet)	Potentiometric Surface Elevation	Notes
MW-9	3.9-10.41	7/23/2019	38.14	ND	7.87	ND	30.27	
		9/13/2019	38.14	ND	8.21	ND	29.93	
		10/29/2019	38.14	ND	8.12	ND	30.02	
		1/10/2020	38.14	ND	6.30	ND	31.84	
		4/3/2020	38.14	ND	5.13	ND	33.01	
		8/13/2020	38.14	ND	7.39	ND	30.75	
MW-10	2.89-9.61	7/23/2019	38.08	ND	8.95	ND	29.13	
		9/13/2019	38.08	ND	9.23	ND	28.85	
		10/29/2019	38.08	ND	9.39	ND	28.69	
		1/10/2020	38.08	ND	7.48	ND	30.60	
		4/3/2020	38.08	ND	6.48	ND	31.60	
		8/13/2020	38.08	ND	8.44	ND	29.64	
MW-11	3.22-9.54	7/23/2019	36.98	ND	8.16	ND	28.82	
		9/13/2019	36.98	ND	8.40	ND	28.58	
		10/29/2019	36.98	ND	8.40	ND	28.58	
		1/10/2020	36.98	ND	6.66	ND	30.32	
		4/3/2020	36.98	ND	5.27	ND	31.71	
		8/13/2020	36.98	ND	7.51	ND	29.47	
MW-12	2.91-10.49	7/23/2019	36.64	ND	8.16	ND	28.48	
		9/13/2019	36.64	ND	8.32	ND	28.32	
		10/29/2019	36.64	ND	8.42	ND	28.22	
		1/10/2020	36.64	ND	6.50	ND	30.14	
		4/3/2020	36.64	ND	5.31	ND	31.33	
		8/13/2020	36.64	ND	7.56	ND	29.08	
MW-13	2.03-10.15	7/23/2019	37.72	ND	8.62	ND	29.10	
		9/13/2019	37.72	ND	8.83	ND	28.89	
		10/29/2019	37.72	ND	8.97	ND	28.75	
		1/10/2020	37.72	ND	7.06	ND	30.66	
		4/3/2020	37.72	ND	5.74	ND	31.98	
		8/13/2020	37.72	ND	8.07	ND	29.65	

TABLE 1
GROUNDWATER GAUGING DATA

1676 JAMESTOWN ROAD
WILLIAMSBURG, VIRGINIA
PC# 2019-5144

Well ID	Screen Interval (feet)	DATE	Casing Elevation	Depth to Product (feet)	Depth to Groundwater (feet)	Product Thickness (feet)	Potentiometric Surface Elevation	Notes
MW-14	2.24-9.02	7/23/2019	37.65	ND	8.30	ND	29.35	
		9/13/2019	37.65	ND	8.20	ND	29.45	
		10/29/2019	37.65	ND	8.41	ND	29.24	
		1/10/2020	37.65	ND	6.66	ND	30.99	
		4/3/2020	37.65	ND	5.18	ND	32.47	
		8/13/2020	37.65	ND	7.59	ND	30.06	
MW-15	2.39-9.31	7/23/2019	36.68	ND	8.76	ND	27.92	
		9/13/2019	36.68	ND	7.92	ND	28.76	
		10/29/2019	36.68	ND	8.01	ND	28.67	
		1/10/2020	36.68	ND	6.07	ND	30.61	
		4/3/2020	36.68	ND	4.83	ND	31.85	
		8/13/2020	36.68	ND	7.08	ND	29.60	
MW-16	2.25 - 7.25	10/29/2019	34.72	ND	6.80	ND	27.92	
		1/10/2020	34.72	ND	4.86	ND	29.86	
		4/3/2020	34.72	ND	3.41	ND	31.31	
		8/13/2020	34.72	ND	5.93	ND	28.79	
MW-17	3.25 - 8.25	10/29/2019	35.33	ND	6.92	ND	28.41	
		1/10/2020	35.33	ND	4.83	ND	30.50	
		4/3/2020	35.33	ND	3.58	ND	31.75	
		8/13/2020	35.33	ND	6.05	ND	29.28	
MW-18	2.60 - 7.60	10/29/2019	35.27	ND	6.74	ND	28.53	
		1/10/2020	35.27	ND	4.98	ND	30.29	
		4/3/2020	35.27	ND	3.49	ND	31.78	
		8/13/2020	35.27	ND	5.95	ND	29.32	
MW-19	4.20 - 9.20	10/29/2019	35.21	ND	7.48	ND	27.73	
		1/10/2020	35.21	ND	5.59	ND	29.62	
		4/3/2020	35.21	ND	4.78	ND	30.43	
		8/13/2020	35.21	ND	6.57	ND	28.64	
MW-20		1/10/2020	NS	ND	6.06	ND	NS	
		4/3/2020	NS	ND	4.73	ND	NS	
		8/13/2020	NS	ND	7.29	ND	NS	
MW-21		1/10/2020	NS	ND	6.44	ND	NS	
		4/3/2020	NS	ND	5.11	ND	NS	
		8/13/2020	NS	ND	7.44	ND	NS	
IW-1	6.10 -9.10	10/29/2019	NS	ND	1.00	ND	NS	3.05 to injectate clog.
IW-2	5.72 - 8.72	10/29/2019	NS	ND	1.9	ND	NS	7.45 to injectate clog

1. NS = Not Surveyed
2. ND = Non Detect

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS

1676 JAMESTOWN ROAD
WILLIAMSBURG, VIRGINIA
PC# 2019-5144

Sample ID	Date	PID Readings (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Naphthalene (mg/kg)	MTBE (mg/kg)	TPH GRO (mg/kg)	NOTES
MW-1	12/14/2019	29.5	0.011	0.085	0.034	0.18	0.021	0.17	18	
MW-2	12/14/2019	2,336	**0.66**	6.9	3.3	16	**1.6**	< 0.34	120	
MW-3	12/14/2019	0.0	< 0.0063	< 0.0063	< 0.0063	< 0.013	< 0.0063	< 0.0063	< 0.12	
MW-4	12/14/2019	0.0	< 0.0062	< 0.0062	< 0.0062	< 0.012	< 0.0062	< 0.0062	< 0.11	
MW-5	12/14/2019	0.0	< 0.0057	< 0.0057	< 0.0057	< 0.011	< 0.0057	< 0.0057	0.57	
MW-6	12/14/2019	884	**0.11**	0.36	0.058	0.28	0.028	0.11	7.2	
MW-7	7/1/2019	0.0	< 0.0063	< 0.0063	< 0.0063	< 0.013	< 0.0063	< 0.0063	< 7.0	
MW-8	7/1/2019	65.8	**0.49**	< 0.36	0.95	< 0.73	< 0.36	0.54	< 6.8	
MW-9	7/1/2019	0.0	< 0.0061	< 0.0061	< 0.0061	< 0.012	< 0.0061	< 0.0061	< 7.2	
MW-10	7/1/2019	NA	< 0.0070	< 0.0070	< 0.0070	< 0.014	< 0.0070	< 0.0070	< 7.6	
MW-11	7/1/2019	82.5	**0.91**	< 0.39	1.2	0.85	< 0.39	0.54	< 7.5	
MW-12	7/1/2019	0.0	< 0.0072	< 0.0072	< 0.0072	< 0.014	< 0.0072	< 0.0072	< 8.2	
MW-13	7/1/2019	0.0	< 0.0069	< 0.0069	< 0.0069	< 0.014	< 0.0069	< 0.0069	< 7.4	
MW-14	7/1/2019	4.2	0.04	< 0.0065	< 0.0065	< 0.013	0.011	0.024	< 7.2	
MW-15	7/1/2019	0.0	< 0.0070	< 0.0070	< 0.0070	< 0.014	< 0.0070	< 0.0070	< 8.0	
MW-16	9/25/2019	NA	0.013	< 0.0064	< 0.0064	< 0.013	< 0.0064	< 0.0064	< 0.12	
MW-17	9/25/2019	NA	< 0.0062	< 0.0062	< 0.0062	< 0.012	< 0.0062	< 0.0062	0.14	
MW-18	9/25/2019	NA	< 0.0068	< 0.0068	< 0.0068	< 0.014	< 0.0068	< 0.0068	< 0.13	
MW-19	9/25/2019	NA	< 0.0058	< 0.0058	< 0.0058	< 0.012	< 0.0058	< 0.0058	< 0.11	
MW-20	1/10/2020	Analyzed Incorrectly								
MW-21	1/10/2020	Analyzed Incorrectly								
IW-1	9/25/2019	NA	0.015	< 0.0063	< 0.0063	< 0.013	< 0.0063	< 0.0063	0.69	
IW-2	9/25/2019	NA	**0.68**	< 0.46	< 0.46	< 0.92	< 0.46	< 0.46	1.5	
EX-1	10/7/2019	NA	NA	NA	NA	NA	NA	NA	220	
VRP Tier II Residential Soil Screening Levels (mg/kg)			**0.05113**	**13.82654**	**15.68169**	**58.00000**	**0.04013**	**0.63056**		

Notes:
1. mg/kg = milligrams per kilogram
2. BTEXMN samples analyzed by EPA Method 8260B.
3. TPH DRO samples analyzed by EPA Method 8015C.
4. < = analyte not above the method detection limit
5. J = Detection of analyte between method detection and reporting limits
6. NA = Not analyzed

TABLE 3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

1676 JAMESTOWN ROAD
WILLIAMSBURG, VIRGINIA
PC# 2019-5144

Sample ID	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	MTBE (mg/L)	Naphthalene (mg/L)	1,2-Dichloroethane (mg/L)	Ethylene Dibromide (mg/L)	1,2-Dibromo-3-Chloropropane (mg/L)	TPH GRO (mg/L)	Notes
MW-3	5/3/2019	0.005	0.029	0.0045	0.02	0.028	0.0026	< 0.001	< 0.000019	< 0.000029	0.23	
	7/29/2019	< 0.001	< 0.001	< 0.001	< 0.01	0.0015	< 0.001	< 0.001	< 0.000019	< 0.000029	< 0.1	
	11/7/2019	< 0.001	< 0.001	< 0.001	< 0.01	0.007	< 0.001	< 0.001	< 0.000020	< 0.000030	< 0.1	
	4/3/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000020	< 0.000031	< 0.1	
	8/13/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000020	< 0.000030	< 0.1	Non Detect
MW-4	5/3/2019	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000019	< 0.000029	< 0.1	
	7/29/2019	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000019	< 0.000029	< 0.1	
	11/7/2019	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000020	< 0.000030	< 0.1	
	4/3/2020	< 0.001	< 0.001	< 0.001	< 0.01	0.0016	< 0.001	< 0.001	< 0.000022	< 0.000033	< 0.1	
	8/13/2020	< 0.001	< 0.001	< 0.001	< 0.01	**0.01**	< 0.001	< 0.001	< 0.000020	< 0.000030	< 0.1	Stable / MTBE Increase
MW-5	5/3/2019	0.0035	0.0048	0.012	0.031	0.0026	0.0059	< 0.001	< 0.000019	< 0.000029	0.72	
	7/29/2019	0.0016	< 0.001	0.0032	< 0.01	< 0.001	0.001	< 0.001	< 0.000019	< 0.000028	0.33	
	11/7/2019	< 0.001	< 0.001	0.0025	< 0.01	< 0.001	0.0012	< 0.001	< 0.000020	< 0.000029	0.27	
	4/3/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000021	< 0.000031	< 0.1	
	8/13/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000019	< 0.000029	**0.230**	Stable / GRO Increase
MW-7	7/29/2019	0.014	0.046	0.0033	0.015	0.0028	0.001	< 0.001	< 0.000021	< 0.000031	0.18	
	11/7/2019	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000019	< 0.000029	< 0.1	
	4/3/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000021	< 0.000031	< 0.1	
	8/13/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000020	< 0.000029	< 0.1	Non-Detect
MW-8	7/29/2019	0.1	0.025	0.019	0.027	0.042	0.0032	< 0.001	< 0.000020	< 0.000030	0.59	
	11/7/2019	Not sampled due to injectate										
	4/3/2020	Not sampled due to injectate										
	8/13/2020	Not sampled due to injectate										
Tier III Residential Vapor Intrusion Groundwater Screening Level (mg/L)		**0.01366**	**1.91554**	**0.03414**	**0.03689**	**4.58365**	**0.01723**	**0.01513**				
Tier III Construction Direct Contact Groundwater (≤ 15 ft) Screening Level (mg/L)		**0.01416**	**0.94909**	**0.59135**	**0.08309**	**0.52363**	**0.00077**	**0.01468**				

TABLE 3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

1676 JAMESTOWN ROAD
WILLIAMSBURG, VIRGINIA
PC# 2019-5144

Sample ID	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	MTBE (mg/L)	Naphthalene (mg/L)	1,2-Dichloroethane (mg/L)	Ethylene Dibromide (mg/L)	1,2-Dibromo-3-Chloropropane (mg/L)	TPH GRO (mg/L)	Notes
MW-9	7/29/2019	0.003	0.0073	< 0.001	< 0.01	0.027	< 0.001	< 0.001	< 0.000020	< 0.000030	< 1.0	
	11/7/2019	< 0.001	< 0.001	< 0.001	< 0.01	0.0062	< 0.001	< 0.001	< 0.000019	< 0.000029	< 0.1	
	4/3/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000020	< 0.000031	< 0.1	
	8/13/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000020	< 0.000030	< 0.1	Non-Detect
MW-10	7/29/2019	0.0039	0.0043	< 0.001	< 0.01	0.056	< 0.001	< 0.001	< 0.000020	< 0.000030	0.19	
	11/7/2019	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000020	< 0.000031	< 0.1	
	4/3/2020	< 0.001	< 0.001	< 0.001	< 0.01	0.0032	< 0.001	< 0.001	< 0.000021	< 0.000031	< 0.1	
	8/13/2020	< 0.001	< 0.001	< 0.001	< 0.01	**< 0.001**	< 0.001	< 0.001	< 0.000020	< 0.000030	< 0.1	MTBE Decrease to Non-Detect
MW-11	7/29/2019	1.7	0.19	0.27	0.39	0.25	0.067	< 0.005	< 0.000020	< 0.000029	8.9	
	11/7/2019	2.6	0.19	0.27	0.57	0.55	0.049	< 0.02	< 0.000021	< 0.000031	5.1	
	4/3/2020	0.10	0.074	0.019	0.068	0.074	0.0034	< 0.001	< 0.000020	< 0.000030	0.59	
	8/13/2020	Not sampled due to injectate										
MW-12	7/29/2019	0.0025	0.0053	< 0.001	< 0.01	0.027	< 0.001	< 0.001	< 0.000020	< 0.000030	< 1.0	
	11/7/2019	< 0.001	< 0.001	< 0.001	< 0.01	0.0015	< 0.001	< 0.001	< 0.000021	< 0.000032	< 0.1	
	4/3/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000022	< 0.000033	< 0.1	
	8/13/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000021	< 0.000031	< 0.1	Non-Detect
MW-13	7/29/2019	0.0051	0.0037	< 0.001	< 0.01	0.0032	< 0.001	< 0.001	< 0.000019	< 0.000029	< 1.0	
	11/7/2019	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000021	< 0.000031	< 0.1	
	4/3/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000020	< 0.000030	< 0.1	
	8/13/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000021	< 0.000031	< 0.1	Non-Detect
MW-14	7/29/2019	0.68	0.0078	< 0.005	< 0.05	0.24	0.013	< 0.005	< 0.000020	< 0.000030	2.9	
	11/7/2019	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000021	< 0.000031	< 0.1	
	4/3/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000021	< 0.000032	< 0.1	
	8/13/2020	Not sampled due to injectate										
Tier III Residential Vapor Intrusion Groundwater Screening Level (mg/L)		**0.01366**	**1.91554**	**0.03414**	**0.03689**	**4.58365**	**0.01723**	**0.01513**				
Tier III Construction Direct Contact Groundwater (≤ 15 ft) Screening Level (mg/L)		**0.01416**	**0.94909**	**0.59135**	**0.08309**	**0.52363**	**0.00077**	**0.01468**				

TABLE 3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

1676 JAMESTOWN ROAD
WILLIAMSBURG, VIRGINIA
PC# 2019-5144

Sample ID	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	MTBE (mg/L)	Naphthalene (mg/L)	1,2-Dichloroethane (mg/L)	Ethylene Dibromide (mg/L)	1,2-Dibromo-3-Chloropropane (mg/L)	TPH GRO (mg/L)	Notes
MW-15	7/29/2019	0.0026	0.0041	< 0.001	< 0.01	0.011	< 0.001	< 0.001	< 0.000020	< 0.000030	< 1.0	
	11/7/2019	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000021	< 0.000031	< 0.1	
	4/3/2020	< 0.001	< 0.001	< 0.001	< 0.01	0.0088	< 0.001	< 0.001	< 0.000020	< 0.000030	< 0.1	
	8/13/2020	< 0.001	< 0.001	< 0.001	< 0.01	**< 0.001**	< 0.001	< 0.001	< 0.000023	< 0.000034	< 0.1	MTBE Decrease to Non-Detect
MW-16	9/27/2019	0.04	< 0.001	< 0.001	< 0.01	0.20	0.0011	< 0.001	< 0.000020	NA	0.39	
	11/7/2019	0.0017	< 0.001	< 0.001	< 0.01	0.16	< 0.001	< 0.001	< 0.000021	< 0.000031	< 0.1	
	4/3/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000022	< 0.000033	< 0.1	
	8/13/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000020	< 0.000031	< 0.1	Non-Detect
MW-17	9/27/2019	0.29	0.0024	< 0.002	< 0.02	0.058	< 0.002	< 0.002	0.000021	NA	1.6	
	11/7/2019	0.59	0.0018	< 0.001	< 0.01	0.014	< 0.001	< 0.001	< 0.000019	< 0.000029	0.49	
	4/3/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000020	< 0.000030	< 0.1	
	8/13/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000020	< 0.000030	< 0.1	Non-Detect
MW-18	9/27/2019	< 0.001	< 0.001	< 0.001	< 0.01	0.013	< 0.001	< 0.001	< 0.000020	NA	< 1.0	
	11/7/2019	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000020	< 0.000030	< 1.0	
	4/3/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000020	< 0.000030	< 0.1	
	8/13/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000020	< 0.000030	< 0.1	Non-Detect
MW-19	9/27/2019	0.0034	< 0.001	< 0.001	< 0.01	0.001	< 0.01	< 0.01	< 0.000020	NA	< 1.0	
	11/7/2019	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000020	< 0.000030	< 0.1	
	4/3/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000022	< 0.000032	< 0.1	
	8/13/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000022	< 0.000032	< 0.1	Non-Detect
Tier III Residential Vapor Intrusion Groundwater Screening Level (mg/L)		**0.01366**	**1.91554**	**0.03414**	**0.03689**	**4.58365**	**0.01723**	**0.01513**				
Tier III Construction Direct Contact Groundwater (≤ 15 ft) Screening Level (mg/L)		**0.01416**	**0.94909**	**0.59135**	**0.08309**	**0.52363**	**0.00077**	**0.01468**				

TABLE 3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

1676 JAMESTOWN ROAD
WILLIAMSBURG, VIRGINIA
PC# 2019-5144

Sample ID	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	MTBE (mg/L)	Naphthalene (mg/L)	1,2-Dichloroethane (mg/L)	Ethylene Dibromide (mg/L)	1,2-Dibromo-3-Chloropropane (mg/L)	TPH GRO (mg/L)	Notes
MW-20	4/3/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000020	< 0.000030	< 0.1	
	8/13/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000021	< 0.000031	< 0.1	Non-Detect
MW-21	4/3/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000021	< 0.000031	< 0.1	
	8/13/2020	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.000020	< 0.000030	< 0.1	Non-Detect
Tier III Residential Vapor Intrusion Groundwater Screening Level (mg/L)		**0.01366**	**1.91554**	**0.03414**	**0.03689**	**4.58365**	**0.01723**	**0.01513**				
Tier III Construction Direct Contact Groundwater (≤ 15 ft) Screening Level (mg/L)		**0.01416**	**0.94909**	**0.59135**	**0.08309**	**0.52363**	**0.00077**	**0.01468**				

Notes:
1. mg/L = milligrams per liter
2. BTEXN samples analyzed by EPA Method 8260B.
3. TPH GRO samples analyzed by EPA Method 8015C.
4. < = analyte not above the method detection limit
5. J = Detection of analyte between method detection and reporting limits
6. NA = Not analyzed
7. LPH = Liquid Phase Hydrocarbons in monitoring well

Appendix C: Manifests

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

GENERATOR

5. Generator's Name and Mailing Address

1676 Jamestown Rd
James City County, VA

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name: Bay Environmental, Inc. — U.S. EPA ID Number: VAR000533836

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address — U.S. EPA ID Number

C&M Industries, Inc.
739 E End Avenue
Norfolk, VA 23504 US

Facility's Phone: 757-625-1141

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1	recyclable oil & water	LVT-3	T	105	G	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

vac monitor wells

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: David Massenburg Agent — Signature — Month 5 Day 22 Year 2020

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name — Signature — Month 5 Day 22 Year 2020

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

C&M

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: J. Dyer — Signature: J. Dyer — Month 5 Day 22 Year 20

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DESIGNATED FACILITY'S COPY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

GENERATOR

5. Generator's Name and Mailing Address

1676 Jamestown Rd
James City County, VA

Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Bay Environmental, Inc.
U.S. EPA ID Number: VAR000533836

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
C&M Industries, Inc.
739 E End Avenue
Norfolk, VA 23504 US
Facility's Phone: 757-626-1141
U.S. EPA ID Number

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	recyclable oil & water	LVT-3	TT	80	G	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
vac monitor wells

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: David Massenburg Agent
Signature: DWM
Month: 6 Day: 12 Year: 2020

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: David Massenburg
Signature: DWM
Month: 6 Day: 12 Year: 2020

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

C & M

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Jarrett McKeon
Signature:
Month: 6 Day: 15 Year: 20

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DESIGNATED FACILITY TO GENERATOR

2.25

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

5. Generator's Name and Mailing Address

1676 Jamestown Rd
James City County, VA

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name: Bay Environmental, Inc.

U.S. EPA ID Number: VAR000533836

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address

C&M Industries, Inc.
739 E End Avenue
Norfolk, VA 23504 US

U.S. EPA ID Number

Facility's Phone: 757-625-1141

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	recyclable oil & water	LVT-3	TT	105	G	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

vac monitor wells

8hr

10', 12' STINGER

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: David Massenburg Agent

Signature

Month: 7 Day: 15 Year: 2020

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: David Massenburg

Signature

Month: 7 Day: 15 Year: 2020

Transporter 2 Printed/Typed Name

Signature

Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)

Month Day Year

C&M

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: J Dyer

Signature: J. Dyer

Month: 7 Day: 20 Year: 20

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DESIGNATED FACILITY TO GENERATOR

Appendix D: Laboratory Analytical Reports

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-192153-1
Client Project/Site: 1676 Jamestown Road

For:
Bay Environmental Inc
648 Independence Parkway
Chesapeake, Virginia 23320

Attn: Jonathan Gantz

Mark Swafford

Authorized for release by:
8/19/2020 2:44:34 PM

Mark Swafford, Project Manager II
(850)471-6207
Mark.Swafford@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Job ID: 400-192153-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-192153-1

Comments
No additional comments.

Receipt
The samples were received on 8/14/2020 9:26 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.3º C and 3.8º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
Method 8011: The continuing calibration verification (CCV) associated with batch 400-500542 recovered above the upper control limit for 1,2-Dibromo-3-Chloropropane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Client Sample ID: MW-3 — Lab Sample ID: 400-192153-1

No Detections.

Client Sample ID: MW-4 — Lab Sample ID: 400-192153-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	10		1.0		ug/L	1		8260B	Total/NA

Client Sample ID: MW-5 — Lab Sample ID: 400-192153-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline Range Organics (GRO) -C6-C10	230		100		ug/L	1		8015C	Total/NA

Client Sample ID: MW-7 — Lab Sample ID: 400-192153-4

No Detections.

Client Sample ID: MW-9 — Lab Sample ID: 400-192153-5

No Detections.

Client Sample ID: MW-10 — Lab Sample ID: 400-192153-6

No Detections.

Client Sample ID: MW-12 — Lab Sample ID: 400-192153-7

No Detections.

Client Sample ID: MW-13 — Lab Sample ID: 400-192153-8

No Detections.

Client Sample ID: MW-15 — Lab Sample ID: 400-192153-9

No Detections.

Client Sample ID: MW-16 — Lab Sample ID: 400-192153-10

No Detections.

Client Sample ID: MW-17 — Lab Sample ID: 400-192153-11

No Detections.

Client Sample ID: MW-18 — Lab Sample ID: 400-192153-12

No Detections.

Client Sample ID: MW-19 — Lab Sample ID: 400-192153-13

No Detections.

Client Sample ID: MW-20 — Lab Sample ID: 400-192153-14

No Detections.

Client Sample ID: MW-21 — Lab Sample ID: 400-192153-15

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Pensacola

Sample Summary

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-192153-1	MW-3	Water	08/13/20 12:50	08/14/20 09:26	
400-192153-2	MW-4	Water	08/13/20 12:40	08/14/20 09:26	
400-192153-3	MW-5	Water	08/13/20 12:30	08/14/20 09:26	
400-192153-4	MW-7	Water	08/13/20 12:20	08/14/20 09:26	
400-192153-5	MW-9	Water	08/13/20 12:10	08/14/20 09:26	
400-192153-6	MW-10	Water	08/13/20 12:00	08/14/20 09:26	
400-192153-7	MW-12	Water	08/13/20 11:50	08/14/20 09:26	
400-192153-8	MW-13	Water	08/13/20 11:40	08/14/20 09:26	
400-192153-9	MW-15	Water	08/13/20 11:30	08/14/20 09:26	
400-192153-10	MW-16	Water	08/13/20 11:20	08/14/20 09:26	
400-192153-11	MW-17	Water	08/13/20 11:10	08/14/20 09:26	
400-192153-12	MW-18	Water	08/13/20 11:00	08/14/20 09:26	
400-192153-13	MW-19	Water	08/13/20 10:50	08/14/20 09:26	
400-192153-14	MW-20	Water	08/13/20 10:40	08/14/20 09:26	
400-192153-15	MW-21	Water	08/13/20 10:30	08/14/20 09:26	

Client Sample Results

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Client Sample ID: MW-3

Date Collected: 08/13/20 12:50
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			08/17/20 09:57	1
Toluene	<1.0		1.0		ug/L			08/17/20 09:57	1
Ethylbenzene	<1.0		1.0		ug/L			08/17/20 09:57	1
Xylenes, Total	<10		10		ug/L			08/17/20 09:57	1
Naphthalene	<1.0		1.0		ug/L			08/17/20 09:57	1
Methyl tert-butyl ether	<1.0		1.0		ug/L			08/17/20 09:57	1
1,2-Dichloroethane	<1.0		1.0		ug/L			08/17/20 09:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*08/17/20 09:57*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*08/17/20 09:57*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*08/17/20 09:57*	*1*

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	<100		100		ug/L			08/18/20 03:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*98*		*78 - 119*		*08/18/20 03:18*	*1*

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	<0.020		0.020		ug/L		08/17/20 09:16	08/17/20 14:54	1
1,2-Dibromo-3-Chloropropane	<0.030		0.030		ug/L		08/17/20 09:16	08/17/20 14:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*60*	*p*	*51 - 149*	*08/17/20 09:16*	*08/17/20 14:54*	*1*

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Client Sample ID: MW-4

Date Collected: 08/13/20 12:40
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			08/17/20 12:41	1
Toluene	<1.0		1.0		ug/L			08/17/20 12:41	1
Ethylbenzene	<1.0		1.0		ug/L			08/17/20 12:41	1
Xylenes, Total	<10		10		ug/L			08/17/20 12:41	1
Naphthalene	<1.0		1.0		ug/L			08/17/20 12:41	1
Methyl tert-butyl ether	**10**		1.0		ug/L			08/17/20 12:41	1
1,2-Dichloroethane	<1.0		1.0		ug/L			08/17/20 12:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*08/17/20 12:41*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*08/17/20 12:41*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*08/17/20 12:41*	*1*

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	<100		100		ug/L			08/18/20 03:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*96*		*78 - 119*		*08/18/20 03:48*	*1*

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	<0.020		0.020		ug/L		08/17/20 09:16	08/17/20 15:15	1
1,2-Dibromo-3-Chloropropane	<0.030		0.030		ug/L		08/17/20 09:16	08/17/20 15:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*59*	*p*	*51 - 149*	*08/17/20 09:16*	*08/17/20 15:15*	*1*

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Client Sample ID: MW-5

Date Collected: 08/13/20 12:30
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			08/17/20 13:01	1
Toluene	<1.0		1.0		ug/L			08/17/20 13:01	1
Ethylbenzene	<1.0		1.0		ug/L			08/17/20 13:01	1
Xylenes, Total	<10		10		ug/L			08/17/20 13:01	1
Naphthalene	<1.0		1.0		ug/L			08/17/20 13:01	1
Methyl tert-butyl ether	<1.0		1.0		ug/L			08/17/20 13:01	1
1,2-Dichloroethane	<1.0		1.0		ug/L			08/17/20 13:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*08/17/20 13:01*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*08/17/20 13:01*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*08/17/20 13:01*	*1*

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	**230**		100		ug/L			08/18/20 04:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*99*		*78 - 119*		*08/18/20 04:13*	*1*

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	<0.019		0.019		ug/L		08/17/20 09:16	08/17/20 15:35	1
1,2-Dibromo-3-Chloropropane	<0.029		0.029		ug/L		08/17/20 09:16	08/17/20 15:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*59*	*p*	*51 - 149*	*08/17/20 09:16*	*08/17/20 15:35*	*1*

Client Sample Results

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Client Sample ID: MW-7

Date Collected: 08/13/20 12:20
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			08/17/20 13:21	1
Toluene	<1.0		1.0		ug/L			08/17/20 13:21	1
Ethylbenzene	<1.0		1.0		ug/L			08/17/20 13:21	1
Xylenes, Total	<10		10		ug/L			08/17/20 13:21	1
Naphthalene	<1.0		1.0		ug/L			08/17/20 13:21	1
Methyl tert-butyl ether	<1.0		1.0		ug/L			08/17/20 13:21	1
1,2-Dichloroethane	<1.0		1.0		ug/L			08/17/20 13:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*08/17/20 13:21*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*08/17/20 13:21*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*08/17/20 13:21*	*1*

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	<100		100		ug/L			08/18/20 05:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*99*		*78 - 119*		*08/18/20 05:31*	*1*

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	<0.020		0.020		ug/L		08/17/20 09:16	08/17/20 15:55	1
1,2-Dibromo-3-Chloropropane	<0.029		0.029		ug/L		08/17/20 09:16	08/17/20 15:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*65*	*p*	*51 - 149*	*08/17/20 09:16*	*08/17/20 15:55*	*1*

Client Sample Results

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Client Sample ID: MW-9

Date Collected: 08/13/20 12:10
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			08/17/20 13:42	1
Toluene	<1.0		1.0		ug/L			08/17/20 13:42	1
Ethylbenzene	<1.0		1.0		ug/L			08/17/20 13:42	1
Xylenes, Total	<10		10		ug/L			08/17/20 13:42	1
Naphthalene	<1.0		1.0		ug/L			08/17/20 13:42	1
Methyl tert-butyl ether	<1.0		1.0		ug/L			08/17/20 13:42	1
1,2-Dichloroethane	<1.0		1.0		ug/L			08/17/20 13:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*08/17/20 13:42*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*08/17/20 13:42*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*08/17/20 13:42*	*1*

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	<100		100		ug/L			08/18/20 06:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*100*		*78 - 119*		*08/18/20 06:00*	*1*

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	<0.020		0.020		ug/L		08/17/20 09:16	08/17/20 16:15	1
1,2-Dibromo-3-Chloropropane	<0.030		0.030		ug/L		08/17/20 09:16	08/17/20 16:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*63*	*p*	*51 - 149*	*08/17/20 09:16*	*08/17/20 16:15*	*1*

Client Sample Results

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Client Sample ID: MW-10

Date Collected: 08/13/20 12:00
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			08/17/20 14:02	1
Toluene	<1.0		1.0		ug/L			08/17/20 14:02	1
Ethylbenzene	<1.0		1.0		ug/L			08/17/20 14:02	1
Xylenes, Total	<10		10		ug/L			08/17/20 14:02	1
Naphthalene	<1.0		1.0		ug/L			08/17/20 14:02	1
Methyl tert-butyl ether	<1.0		1.0		ug/L			08/17/20 14:02	1
1,2-Dichloroethane	<1.0		1.0		ug/L			08/17/20 14:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*08/17/20 14:02*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*08/17/20 14:02*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*08/17/20 14:02*	*1*

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	<100		100		ug/L			08/18/20 06:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*101*		*78 - 119*		*08/18/20 06:25*	*1*

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	<0.020		0.020		ug/L		08/17/20 09:16	08/17/20 16:36	1
1,2-Dibromo-3-Chloropropane	<0.030		0.030		ug/L		08/17/20 09:16	08/17/20 16:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*64*	*p*	*51 - 149*	*08/17/20 09:16*	*08/17/20 16:36*	*1*

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Client Sample ID: MW-12

Date Collected: 08/13/20 11:50
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			08/17/20 14:23	1
Toluene	<1.0		1.0		ug/L			08/17/20 14:23	1
Ethylbenzene	<1.0		1.0		ug/L			08/17/20 14:23	1
Xylenes, Total	<10		10		ug/L			08/17/20 14:23	1
Naphthalene	<1.0		1.0		ug/L			08/17/20 14:23	1
Methyl tert-butyl ether	<1.0		1.0		ug/L			08/17/20 14:23	1
1,2-Dichloroethane	<1.0		1.0		ug/L			08/17/20 14:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*08/17/20 14:23*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*08/17/20 14:23*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*08/17/20 14:23*	*1*

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	<100		100		ug/L			08/18/20 06:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*100*		*78 - 119*		*08/18/20 06:51*	*1*

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	<0.021		0.021		ug/L		08/17/20 09:16	08/17/20 16:56	1
1,2-Dibromo-3-Chloropropane	<0.031		0.031		ug/L		08/17/20 09:16	08/17/20 16:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*60*	*p*	*51 - 149*	*08/17/20 09:16*	*08/17/20 16:56*	*1*

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Client Sample ID: MW-13

Date Collected: 08/13/20 11:40
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			08/17/20 14:43	1
Toluene	<1.0		1.0		ug/L			08/17/20 14:43	1
Ethylbenzene	<1.0		1.0		ug/L			08/17/20 14:43	1
Xylenes, Total	<10		10		ug/L			08/17/20 14:43	1
Naphthalene	<1.0		1.0		ug/L			08/17/20 14:43	1
Methyl tert-butyl ether	<1.0		1.0		ug/L			08/17/20 14:43	1
1,2-Dichloroethane	<1.0		1.0		ug/L			08/17/20 14:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*08/17/20 14:43*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*08/17/20 14:43*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*08/17/20 14:43*	*1*

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	<100		100		ug/L			08/18/20 07:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*99*		*78 - 119*		*08/18/20 07:19*	*1*

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	<0.021		0.021		ug/L		08/17/20 09:16	08/17/20 17:36	1
1,2-Dibromo-3-Chloropropane	<0.031		0.031		ug/L		08/17/20 09:16	08/17/20 17:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*59*	*p*	*51 - 149*	*08/17/20 09:16*	*08/17/20 17:36*	*1*

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Client Sample ID: MW-15

Date Collected: 08/13/20 11:30
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-9

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			08/17/20 15:04	1
Toluene	<1.0		1.0		ug/L			08/17/20 15:04	1
Ethylbenzene	<1.0		1.0		ug/L			08/17/20 15:04	1
Xylenes, Total	<10		10		ug/L			08/17/20 15:04	1
Naphthalene	<1.0		1.0		ug/L			08/17/20 15:04	1
Methyl tert-butyl ether	<1.0		1.0		ug/L			08/17/20 15:04	1
1,2-Dichloroethane	<1.0		1.0		ug/L			08/17/20 15:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*08/17/20 15:04*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*08/17/20 15:04*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*08/17/20 15:04*	*1*

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	<100		100		ug/L			08/18/20 07:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*98*		*78 - 119*		*08/18/20 07:45*	*1*

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	<0.023		0.023		ug/L		08/17/20 09:16	08/17/20 17:57	1
1,2-Dibromo-3-Chloropropane	<0.034		0.034		ug/L		08/17/20 09:16	08/17/20 17:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*59*	*p*	*51 - 149*	*08/17/20 09:16*	*08/17/20 17:57*	*1*

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Client Sample ID: MW-16

Date Collected: 08/13/20 11:20
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-10

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			08/17/20 15:24	1
Toluene	<1.0		1.0		ug/L			08/17/20 15:24	1
Ethylbenzene	<1.0		1.0		ug/L			08/17/20 15:24	1
Xylenes, Total	<10		10		ug/L			08/17/20 15:24	1
Naphthalene	<1.0		1.0		ug/L			08/17/20 15:24	1
Methyl tert-butyl ether	<1.0		1.0		ug/L			08/17/20 15:24	1
1,2-Dichloroethane	<1.0		1.0		ug/L			08/17/20 15:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*08/17/20 15:24*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*08/17/20 15:24*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*08/17/20 15:24*	*1*

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	<100		100		ug/L			08/18/20 08:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*98*		*78 - 119*		*08/18/20 08:12*	*1*

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	<0.020		0.020		ug/L		08/17/20 09:16	08/17/20 18:17	1
1,2-Dibromo-3-Chloropropane	<0.031		0.031		ug/L		08/17/20 09:16	08/17/20 18:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*64*	*p*	*51 - 149*	*08/17/20 09:16*	*08/17/20 18:17*	*1*

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Client Sample ID: MW-17

Date Collected: 08/13/20 11:10
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-11

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			08/17/20 15:45	1
Toluene	<1.0		1.0		ug/L			08/17/20 15:45	1
Ethylbenzene	<1.0		1.0		ug/L			08/17/20 15:45	1
Xylenes, Total	<10		10		ug/L			08/17/20 15:45	1
Naphthalene	<1.0		1.0		ug/L			08/17/20 15:45	1
Methyl tert-butyl ether	<1.0		1.0		ug/L			08/17/20 15:45	1
1,2-Dichloroethane	<1.0		1.0		ug/L			08/17/20 15:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*08/17/20 15:45*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*08/17/20 15:45*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*08/17/20 15:45*	*1*

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	<100		100		ug/L			08/18/20 08:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*98*		*78 - 119*		*08/18/20 08:37*	*1*

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	<0.020		0.020		ug/L		08/17/20 09:16	08/17/20 18:37	1
1,2-Dibromo-3-Chloropropane	<0.030		0.030		ug/L		08/17/20 09:16	08/17/20 18:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*63*	*p*	*51 - 149*	*08/17/20 09:16*	*08/17/20 18:37*	*1*

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Client Sample ID: MW-18

Date Collected: 08/13/20 11:00
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-12

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			08/17/20 16:05	1
Toluene	<1.0		1.0		ug/L			08/17/20 16:05	1
Ethylbenzene	<1.0		1.0		ug/L			08/17/20 16:05	1
Xylenes, Total	<10		10		ug/L			08/17/20 16:05	1
Naphthalene	<1.0		1.0		ug/L			08/17/20 16:05	1
Methyl tert-butyl ether	<1.0		1.0		ug/L			08/17/20 16:05	1
1,2-Dichloroethane	<1.0		1.0		ug/L			08/17/20 16:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*08/17/20 16:05*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*08/17/20 16:05*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*08/17/20 16:05*	*1*

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	<100		100		ug/L			08/18/20 09:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*99*		*78 - 119*		*08/18/20 09:04*	*1*

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	<0.020		0.020		ug/L		08/17/20 09:16	08/17/20 18:57	1
1,2-Dibromo-3-Chloropropane	<0.030		0.030		ug/L		08/17/20 09:16	08/17/20 18:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*66*	*p*	*51 - 149*	*08/17/20 09:16*	*08/17/20 18:57*	*1*

Client Sample Results

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Client Sample ID: MW-19

Date Collected: 08/13/20 10:50
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-13

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			08/17/20 16:26	1
Toluene	<1.0		1.0		ug/L			08/17/20 16:26	1
Ethylbenzene	<1.0		1.0		ug/L			08/17/20 16:26	1
Xylenes, Total	<10		10		ug/L			08/17/20 16:26	1
Naphthalene	<1.0		1.0		ug/L			08/17/20 16:26	1
Methyl tert-butyl ether	<1.0		1.0		ug/L			08/17/20 16:26	1
1,2-Dichloroethane	<1.0		1.0		ug/L			08/17/20 16:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*08/17/20 16:26*	*1*
Dibromofluoromethane	*95*		*81 - 121*		*08/17/20 16:26*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*08/17/20 16:26*	*1*

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	<100		100		ug/L			08/18/20 09:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*101*		*78 - 119*		*08/18/20 09:56*	*1*

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	<0.020		0.020		ug/L		08/17/20 09:16	08/17/20 19:18	1
1,2-Dibromo-3-Chloropropane	<0.030		0.030		ug/L		08/17/20 09:16	08/17/20 19:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*67*	*p*	*51 - 149*	*08/17/20 09:16*	*08/17/20 19:18*	*1*

Client Sample Results

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Client Sample ID: MW-20

Date Collected: 08/13/20 10:40
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-14

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			08/17/20 16:46	1
Toluene	<1.0		1.0		ug/L			08/17/20 16:46	1
Ethylbenzene	<1.0		1.0		ug/L			08/17/20 16:46	1
Xylenes, Total	<10		10		ug/L			08/17/20 16:46	1
Naphthalene	<1.0		1.0		ug/L			08/17/20 16:46	1
Methyl tert-butyl ether	<1.0		1.0		ug/L			08/17/20 16:46	1
1,2-Dichloroethane	<1.0		1.0		ug/L			08/17/20 16:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*08/17/20 16:46*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*08/17/20 16:46*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*08/17/20 16:46*	*1*

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	<100		100		ug/L			08/18/20 10:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*102*		*78 - 119*		*08/18/20 10:22*	*1*

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	<0.021		0.021		ug/L		08/17/20 09:16	08/17/20 19:38	1
1,2-Dibromo-3-Chloropropane	<0.031		0.031		ug/L		08/17/20 09:16	08/17/20 19:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*66*	*p*	*51 - 149*	*08/17/20 09:16*	*08/17/20 19:38*	*1*

Client Sample Results

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Client Sample ID: MW-21

Date Collected: 08/13/20 10:30
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-15

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			08/17/20 17:07	1
Toluene	<1.0		1.0		ug/L			08/17/20 17:07	1
Ethylbenzene	<1.0		1.0		ug/L			08/17/20 17:07	1
Xylenes, Total	<10		10		ug/L			08/17/20 17:07	1
Naphthalene	<1.0		1.0		ug/L			08/17/20 17:07	1
Methyl tert-butyl ether	<1.0		1.0		ug/L			08/17/20 17:07	1
1,2-Dichloroethane	<1.0		1.0		ug/L			08/17/20 17:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*08/17/20 17:07*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*08/17/20 17:07*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*08/17/20 17:07*	*1*

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	<100		100		ug/L			08/18/20 10:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*98*		*78 - 119*		*08/18/20 10:49*	*1*

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	<0.020		0.020		ug/L		08/17/20 09:16	08/17/20 19:58	1
1,2-Dibromo-3-Chloropropane	<0.030		0.030		ug/L		08/17/20 09:16	08/17/20 19:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*67*	*p*	*51 - 149*	*08/17/20 09:16*	*08/17/20 19:58*	*1*

QC Association Summary

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

GC/MS VOA

Analysis Batch: 500478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-192153-1	MW-3	Total/NA	Water	8260B	
400-192153-2	MW-4	Total/NA	Water	8260B	
400-192153-3	MW-5	Total/NA	Water	8260B	
400-192153-4	MW-7	Total/NA	Water	8260B	
400-192153-5	MW-9	Total/NA	Water	8260B	
400-192153-6	MW-10	Total/NA	Water	8260B	
400-192153-7	MW-12	Total/NA	Water	8260B	
400-192153-8	MW-13	Total/NA	Water	8260B	
400-192153-9	MW-15	Total/NA	Water	8260B	
400-192153-10	MW-16	Total/NA	Water	8260B	
400-192153-11	MW-17	Total/NA	Water	8260B	
400-192153-12	MW-18	Total/NA	Water	8260B	
400-192153-13	MW-19	Total/NA	Water	8260B	
400-192153-14	MW-20	Total/NA	Water	8260B	
400-192153-15	MW-21	Total/NA	Water	8260B	
MB 400-500478/4	Method Blank	Total/NA	Water	8260B	
LCS 400-500478/1002	Lab Control Sample	Total/NA	Water	8260B	
400-192153-1 MS	MW-3	Total/NA	Water	8260B	
400-192153-1 MSD	MW-3	Total/NA	Water	8260B	

GC VOA

Analysis Batch: 500603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-192153-1	MW-3	Total/NA	Water	8015C	
400-192153-2	MW-4	Total/NA	Water	8015C	
400-192153-3	MW-5	Total/NA	Water	8015C	
400-192153-4	MW-7	Total/NA	Water	8015C	
400-192153-5	MW-9	Total/NA	Water	8015C	
400-192153-6	MW-10	Total/NA	Water	8015C	
400-192153-7	MW-12	Total/NA	Water	8015C	
400-192153-8	MW-13	Total/NA	Water	8015C	
400-192153-9	MW-15	Total/NA	Water	8015C	
400-192153-10	MW-16	Total/NA	Water	8015C	
400-192153-11	MW-17	Total/NA	Water	8015C	
400-192153-12	MW-18	Total/NA	Water	8015C	
400-192153-13	MW-19	Total/NA	Water	8015C	
400-192153-14	MW-20	Total/NA	Water	8015C	
400-192153-15	MW-21	Total/NA	Water	8015C	
MB 400-500603/3	Method Blank	Total/NA	Water	8015C	
LCS 400-500603/1002	Lab Control Sample	Total/NA	Water	8015C	
400-192145-C-3 MS	Matrix Spike	Total/NA	Water	8015C	
400-192145-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8015C	

GC Semi VOA

Prep Batch: 500491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-192153-1	MW-3	Total/NA	Water	8011	
400-192153-2	MW-4	Total/NA	Water	8011	
400-192153-3	MW-5	Total/NA	Water	8011	
400-192153-4	MW-7	Total/NA	Water	8011	

GC Semi VOA (Continued)

Prep Batch: 500491 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-192153-5	MW-9	Total/NA	Water	8011	
400-192153-6	MW-10	Total/NA	Water	8011	
400-192153-7	MW-12	Total/NA	Water	8011	
400-192153-8	MW-13	Total/NA	Water	8011	
400-192153-9	MW-15	Total/NA	Water	8011	
400-192153-10	MW-16	Total/NA	Water	8011	
400-192153-11	MW-17	Total/NA	Water	8011	
400-192153-12	MW-18	Total/NA	Water	8011	
400-192153-13	MW-19	Total/NA	Water	8011	
400-192153-14	MW-20	Total/NA	Water	8011	
400-192153-15	MW-21	Total/NA	Water	8011	
MB 400-500491/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-500491/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-500491/3-A	Lab Control Sample Dup	Total/NA	Water	8011	
400-192153-15 MS	MW-21	Total/NA	Water	8011	
400-192153-15 MSD	MW-21	Total/NA	Water	8011	

Analysis Batch: 500542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-192153-1	MW-3	Total/NA	Water	8011	500491
400-192153-2	MW-4	Total/NA	Water	8011	500491
400-192153-3	MW-5	Total/NA	Water	8011	500491
400-192153-4	MW-7	Total/NA	Water	8011	500491
400-192153-5	MW-9	Total/NA	Water	8011	500491
400-192153-6	MW-10	Total/NA	Water	8011	500491
400-192153-7	MW-12	Total/NA	Water	8011	500491
400-192153-8	MW-13	Total/NA	Water	8011	500491
400-192153-9	MW-15	Total/NA	Water	8011	500491
400-192153-10	MW-16	Total/NA	Water	8011	500491
400-192153-11	MW-17	Total/NA	Water	8011	500491
400-192153-12	MW-18	Total/NA	Water	8011	500491
400-192153-13	MW-19	Total/NA	Water	8011	500491
400-192153-14	MW-20	Total/NA	Water	8011	500491
400-192153-15	MW-21	Total/NA	Water	8011	500491
MB 400-500491/1-A	Method Blank	Total/NA	Water	8011	500491
LCS 400-500491/2-A	Lab Control Sample	Total/NA	Water	8011	500491
LCSD 400-500491/3-A	Lab Control Sample Dup	Total/NA	Water	8011	500491
400-192153-15 MS	MW-21	Total/NA	Water	8011	500491
400-192153-15 MSD	MW-21	Total/NA	Water	8011	500491

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-500478/4
Matrix: Water
Analysis Batch: 500478

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			08/17/20 09:37	1
Toluene	<1.0		1.0		ug/L			08/17/20 09:37	1
Ethylbenzene	<1.0		1.0		ug/L			08/17/20 09:37	1
Xylenes, Total	<10		10		ug/L			08/17/20 09:37	1
Naphthalene	<1.0		1.0		ug/L			08/17/20 09:37	1
Methyl tert-butyl ether	<1.0		1.0		ug/L			08/17/20 09:37	1
1,2-Dichloroethane	<1.0		1.0		ug/L			08/17/20 09:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*08/17/20 09:37*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*08/17/20 09:37*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*08/17/20 09:37*	*1*

Lab Sample ID: LCS 400-500478/1002
Matrix: Water
Analysis Batch: 500478

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	52.0		ug/L		104	70 - 130
Toluene	50.0	50.5		ug/L		101	70 - 130
Ethylbenzene	50.0	51.3		ug/L		103	70 - 130
Xylenes, Total	100	102		ug/L		102	70 - 130
Naphthalene	50.0	52.9		ug/L		106	47 - 149
Methyl tert-butyl ether	50.0	49.9		ug/L		100	66 - 130
1,2-Dichloroethane	50.0	46.5		ug/L		93	69 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*78 - 118*
Dibromofluoromethane	*101*		*81 - 121*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: 400-192153-1 MS
Matrix: Water
Analysis Batch: 500478

Client Sample ID: MW-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<1.0		50.0	53.6		ug/L		107	56 - 142
Toluene	<1.0		50.0	50.7		ug/L		101	65 - 130
Ethylbenzene	<1.0		50.0	50.5		ug/L		101	58 - 131
Xylenes, Total	<10		100	99.3		ug/L		99	59 - 130
Naphthalene	<1.0		50.0	47.8		ug/L		96	25 - 150
Methyl tert-butyl ether	<1.0		50.0	49.1		ug/L		98	59 - 137
1,2-Dichloroethane	<1.0		50.0	45.6		ug/L		91	60 - 141

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*78 - 118*
Dibromofluoromethane	*98*		*81 - 121*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-192153-1 MS
Matrix: Water
Analysis Batch: 500478

Client Sample ID: MW-3
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	*97*		*80 - 120*

Lab Sample ID: 400-192153-1 MSD
Matrix: Water
Analysis Batch: 500478

Client Sample ID: MW-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<1.0		50.0	51.6		ug/L		103	56 - 142	4	30
Toluene	<1.0		50.0	47.4		ug/L		95	65 - 130	7	30
Ethylbenzene	<1.0		50.0	46.3		ug/L		93	58 - 131	9	30
Xylenes, Total	<10		100	91.9		ug/L		92	59 - 130	8	30
Naphthalene	<1.0		50.0	48.1		ug/L		96	25 - 150	1	30
Methyl tert-butyl ether	<1.0		50.0	48.5		ug/L		97	59 - 137	1	30
1,2-Dichloroethane	<1.0		50.0	45.3		ug/L		91	60 - 141	1	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*99*		*81 - 121*
Toluene-d8 (Surr)	*97*		*80 - 120*

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)

Lab Sample ID: MB 400-500603/3
Matrix: Water
Analysis Batch: 500603

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	<100		100		ug/L			08/18/20 00:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid)	*102*		*78 - 119*		*08/18/20 00:12*	*1*

Lab Sample ID: LCS 400-500603/1002
Matrix: Water
Analysis Batch: 500603

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C6-C10	1000	890		ug/L		89	85 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene (fid)	*98*		*78 - 119*

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics) (Continued)

Lab Sample ID: 400-192145-C-3 MS
Matrix: Water
Analysis Batch: 500603

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C6-C10	<100		1000	1070		ug/L		101	35 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid)	*99*		*78 - 119*

Lab Sample ID: 400-192145-C-3 MSD
Matrix: Water
Analysis Batch: 500603

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C10	<100		1000	1030		ug/L		98	35 - 150	3	15

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid)	*101*		*78 - 119*

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Lab Sample ID: MB 400-500491/1-A
Matrix: Water
Analysis Batch: 500542

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 500491

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	<0.020		0.020		ug/L		08/17/20 09:16	08/17/20 13:54	1
1,2-Dibromo-3-Chloropropane	<0.030		0.030		ug/L		08/17/20 09:16	08/17/20 13:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*56*	*p*	*51 - 149*	*08/17/20 09:16*	*08/17/20 13:54*	*1*

Lab Sample ID: LCS 400-500491/2-A
Matrix: Water
Analysis Batch: 500542

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 500491

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylene Dibromide	0.101	0.101		ug/L		100	60 - 140
1,2-Dibromo-3-Chloropropane	0.101	0.0922		ug/L		92	60 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*83*		*51 - 149*

Lab Sample ID: LCSD 400-500491/3-A
Matrix: Water
Analysis Batch: 500542

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 500491

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylene Dibromide	0.101	0.0999		ug/L		99	60 - 140	1	30

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC) (Continued)

Lab Sample ID: LCSD 400-500491/3-A
Matrix: Water
Analysis Batch: 500542

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 500491

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dibromo-3-Chloropropane			0.101	0.0968		ug/L		96	60 - 140	5	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*78*		*51 - 149*

Lab Sample ID: 400-192153-15 MS
Matrix: Water
Analysis Batch: 500542

Client Sample ID: MW-21
Prep Type: Total/NA
Prep Batch: 500491

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ethylene Dibromide	<0.020		0.105	0.104		ug/L		99	65 - 135		
1,2-Dibromo-3-Chloropropane	<0.030		0.105	0.125		ug/L		120	65 - 135		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*80*	*p*	*51 - 149*

Lab Sample ID: 400-192153-15 MSD
Matrix: Water
Analysis Batch: 500542

Client Sample ID: MW-21
Prep Type: Total/NA
Prep Batch: 500491

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylene Dibromide	<0.020		0.104	0.100		ug/L		96	65 - 135	3	20
1,2-Dibromo-3-Chloropropane	<0.030		0.104	0.122		ug/L		117	65 - 135	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*79*		*51 - 149*

Lab Chronicle

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Client Sample ID: MW-3
Date Collected: 08/13/20 12:50
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	500478	08/17/20 09:57	AMB	TAL PEN
	Instrument ID: CH_LARS									
Total/NA	Analysis	8015C		1	5 mL	5 mL	500603	08/18/20 03:18	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	8011			35.1 mL	35 mL	500491	08/17/20 09:16	DHJ	TAL PEN
Total/NA	Analysis	8011		1			500542	08/17/20 14:54	DHJ	TAL PEN
	Instrument ID: Yeti									

Client Sample ID: MW-4
Date Collected: 08/13/20 12:40
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	500478	08/17/20 12:41	AMB	TAL PEN
	Instrument ID: CH_LARS									
Total/NA	Analysis	8015C		1	5 mL	5 mL	500603	08/18/20 03:48	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	8011			34.9 mL	35 mL	500491	08/17/20 09:16	DHJ	TAL PEN
Total/NA	Analysis	8011		1			500542	08/17/20 15:15	DHJ	TAL PEN
	Instrument ID: Yeti									

Client Sample ID: MW-5
Date Collected: 08/13/20 12:30
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	500478	08/17/20 13:01	AMB	TAL PEN
	Instrument ID: CH_LARS									
Total/NA	Analysis	8015C		1	5 mL	5 mL	500603	08/18/20 04:13	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	8011			36.8 mL	35 mL	500491	08/17/20 09:16	DHJ	TAL PEN
Total/NA	Analysis	8011		1			500542	08/17/20 15:35	DHJ	TAL PEN
	Instrument ID: Yeti									

Client Sample ID: MW-7
Date Collected: 08/13/20 12:20
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	500478	08/17/20 13:21	AMB	TAL PEN
	Instrument ID: CH_LARS									
Total/NA	Analysis	8015C		1	5 mL	5 mL	500603	08/18/20 05:31	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	8011			35.6 mL	35 mL	500491	08/17/20 09:16	DHJ	TAL PEN
Total/NA	Analysis	8011		1			500542	08/17/20 15:55	DHJ	TAL PEN
	Instrument ID: Yeti									

Lab Chronicle

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Client Sample ID: MW-9

Date Collected: 08/13/20 12:10
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	500478	08/17/20 13:42	AMB	TAL PEN
	Instrument ID: CH_LARS									
Total/NA	Analysis	8015C		1	5 mL	5 mL	500603	08/18/20 06:00	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	8011			35.5 mL	35 mL	500491	08/17/20 09:16	DHJ	TAL PEN
Total/NA	Analysis	8011		1			500542	08/17/20 16:15	DHJ	TAL PEN
	Instrument ID: Yeti									

Client Sample ID: MW-10

Date Collected: 08/13/20 12:00
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	500478	08/17/20 14:02	AMB	TAL PEN
	Instrument ID: CH_LARS									
Total/NA	Analysis	8015C		1	5 mL	5 mL	500603	08/18/20 06:25	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	8011			35.5 mL	35 mL	500491	08/17/20 09:16	DHJ	TAL PEN
Total/NA	Analysis	8011		1			500542	08/17/20 16:36	DHJ	TAL PEN
	Instrument ID: Yeti									

Client Sample ID: MW-12

Date Collected: 08/13/20 11:50
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	500478	08/17/20 14:23	AMB	TAL PEN
	Instrument ID: CH_LARS									
Total/NA	Analysis	8015C		1	5 mL	5 mL	500603	08/18/20 06:51	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	8011			34.1 mL	35 mL	500491	08/17/20 09:16	DHJ	TAL PEN
Total/NA	Analysis	8011		1			500542	08/17/20 16:56	DHJ	TAL PEN
	Instrument ID: Yeti									

Client Sample ID: MW-13

Date Collected: 08/13/20 11:40
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	500478	08/17/20 14:43	AMB	TAL PEN
	Instrument ID: CH_LARS									
Total/NA	Analysis	8015C		1	5 mL	5 mL	500603	08/18/20 07:19	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	8011			33.7 mL	35 mL	500491	08/17/20 09:16	DHJ	TAL PEN
Total/NA	Analysis	8011		1			500542	08/17/20 17:36	DHJ	TAL PEN
	Instrument ID: Yeti									

Lab Chronicle

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Client Sample ID: MW-15

Date Collected: 08/13/20 11:30
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	500478	08/17/20 15:04	AMB	TAL PEN
	Instrument ID: CH_LARS									
Total/NA	Analysis	8015C		1	5 mL	5 mL	500603	08/18/20 07:45	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	8011			30.9 mL	35 mL	500491	08/17/20 09:16	DHJ	TAL PEN
Total/NA	Analysis	8011		1			500542	08/17/20 17:57	DHJ	TAL PEN
	Instrument ID: Yeti									

Client Sample ID: MW-16

Date Collected: 08/13/20 11:20
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	500478	08/17/20 15:24	AMB	TAL PEN
	Instrument ID: CH_LARS									
Total/NA	Analysis	8015C		1	5 mL	5 mL	500603	08/18/20 08:12	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	8011			34.2 mL	35 mL	500491	08/17/20 09:16	DHJ	TAL PEN
Total/NA	Analysis	8011		1			500542	08/17/20 18:17	DHJ	TAL PEN
	Instrument ID: Yeti									

Client Sample ID: MW-17

Date Collected: 08/13/20 11:10
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	500478	08/17/20 15:45	AMB	TAL PEN
	Instrument ID: CH_LARS									
Total/NA	Analysis	8015C		1	5 mL	5 mL	500603	08/18/20 08:37	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	8011			35.4 mL	35 mL	500491	08/17/20 09:16	DHJ	TAL PEN
Total/NA	Analysis	8011		1			500542	08/17/20 18:37	DHJ	TAL PEN
	Instrument ID: Yeti									

Client Sample ID: MW-18

Date Collected: 08/13/20 11:00
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	500478	08/17/20 16:05	AMB	TAL PEN
	Instrument ID: CH_LARS									
Total/NA	Analysis	8015C		1	5 mL	5 mL	500603	08/18/20 09:04	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	8011			34.8 mL	35 mL	500491	08/17/20 09:16	DHJ	TAL PEN
Total/NA	Analysis	8011		1			500542	08/17/20 18:57	DHJ	TAL PEN
	Instrument ID: Yeti									

Lab Chronicle

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Client Sample ID: MW-19

Date Collected: 08/13/20 10:50
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-13

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	500478	08/17/20 16:26	AMB	TAL PEN
	Instrument ID: CH_LARS									
Total/NA	Analysis	8015C		1	5 mL	5 mL	500603	08/18/20 09:56	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	8011			35.1 mL	35 mL	500491	08/17/20 09:16	DHJ	TAL PEN
Total/NA	Analysis	8011		1			500542	08/17/20 19:18	DHJ	TAL PEN
	Instrument ID: Yeti									

Client Sample ID: MW-20

Date Collected: 08/13/20 10:40
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-14

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	500478	08/17/20 16:46	AMB	TAL PEN
	Instrument ID: CH_LARS									
Total/NA	Analysis	8015C		1	5 mL	5 mL	500603	08/18/20 10:22	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	8011			33.9 mL	35 mL	500491	08/17/20 09:16	DHJ	TAL PEN
Total/NA	Analysis	8011		1			500542	08/17/20 19:38	DHJ	TAL PEN
	Instrument ID: Yeti									

Client Sample ID: MW-21

Date Collected: 08/13/20 10:30
Date Received: 08/14/20 09:26

Lab Sample ID: 400-192153-15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	500478	08/17/20 17:07	AMB	TAL PEN
	Instrument ID: CH_LARS									
Total/NA	Analysis	8015C		1	5 mL	5 mL	500603	08/18/20 10:49	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	8011			34.8 mL	35 mL	500491	08/17/20 09:16	DHJ	TAL PEN
Total/NA	Analysis	8011		1			500542	08/17/20 19:58	DHJ	TAL PEN
	Instrument ID: Yeti									

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Accreditation/Certification Summary

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Laboratory: Eurofins TestAmerica, Pensacola

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Virginia	NELAP	460166	06-14-21

Method Summary

Client: Bay Environmental Inc
Project/Site: 1676 Jamestown Road

Job ID: 400-192153-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8015C	Nonhalogenated Organics using GC/FID -Modified (Gasoline Range Organics)	SW846	TAL PEN
8011	EDB, DBCP, and 1,2,3-TCP (GC)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5030C	Purge and Trap	SW846	TAL PEN
8011	Microextraction	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Phone: 850-474-1001 Fax: 850-478-2671

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: CK/AP	Lab PM: Swafford, Mark H	Carrier Tracking No(s):	COC No: 400-95770-34677.1
Client Contact: Jonathan Gantz	Phone:	E-Mail: Mark.Swafford@Eurofinset.com		Page: Page 1 of 2
Company: Bay Environmental Inc				Job #:
Address: 648 Independence Parkway	Due Date Requested:			
City: Chesapeake	TAT Requested (days): 10 days			
State, Zip: VA, 23320				
Phone: 757-436-5900(Tel)	PO #: Purchase Order not required			
Email: jonathan@bay-environmental.com	WO #:			
Project Name: 1676 Jamestown Road	Project #: 40002210			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

400-192153 COC

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8016C_GRO - GRO (C6-C10)	8011 - EDB & DBCP	8260B - BTEXMN,1,2-DCA	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	A	A	A	X	
MW-3	8/13/20	12:50	G	Water			X	X	X		
MW-4		12:40		Water							
MW-5		12:30		Water							
MW-7		12:20		Water							
MW-9		12:10		Water							
MW-10		12:00		Water							
MW-12		11:50		Water							
MW-13		11:40		Water							
MW-15		11:30		Water							
MW-16		11:20		Water							
MW-17		11:10		Water							

Virginia Beach #202

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	8/13/20	Bay Env		8/13/20 1425	ETA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	8/13/20 1630	ETA			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
				8-14-20 9:26	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
		3.3c, 3.8c IR

Ver: 01/16/2019

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Phone: 850-474-1001 Fax: 850-478-2671

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: CK/AP	Lab PM: Swafford, Mark H	Carrier Tracking No(s):	COC No: 400-95770-34677.2
Client Contact: Jonathan Gantz	Phone:	E-Mail: Mark.Swafford@Eurofinset.com		Page: Page 2 of 2
Company: Bay Environmental Inc				Job #:

Analysis Requested

Address: 648 Independence Parkway	Due Date Requested:
City: Chesapeake	TAT Requested (days): 10 days
State, Zip: VA, 23320	
Phone: 757-436-5900(Tel)	PO #: Purchase Order not required
Email: jonathan@bay-environmental.com	WO #:
Project Name: 1676 Jamestown Road	Project #: 40002210
Site:	SSOW#:

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - Di Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015C_GRO - GRO (C6-C10)	8011 - EDB & DBCP	8260B - BTEXMN,1,2-DCA	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A	A		
MW-18	8/13/20	11:00	G	Water			X	X	X		
MW-19		10:50		Water							
MW-20		10:40		water							
MW-21		10:30		water							

Virginia Beach #202

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		8/13/20	Bay Env	Robert Donald	8/13/20 1425	ETA
2	Robert Donald	8/13/20 1630	ETA		/	
3		/			8-14-20 9:26	

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.3c, 3.8c IR7

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: Bay Environmental Inc

Job Number: 400-192153-1

Login Number: 192153
List Number: 1
Creator: Whitley, Adrian

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	968819, 968816
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.3, 3.8°C IR7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Low Income Housing Tax Credit Program Information

The low-income housing tax credit was enacted by Congress to encourage new construction and rehabilitation of existing rental housing for low-income households and to increase the amount of affordable rental housing for households whose income is at or below specified income levels. In establishing the tax credit incentive, Congress recognized that a private sector developer may not receive enough rental income from a low-income housing project to: 1) cover the costs of developing and operating the project, and 2) provide a return to investors sufficient to attract the equity investment needed for development. More specifically, the LIHTC is a dollar-for-dollar reduction in tax liability to the owner of a qualified low-income housing development for the acquisition, rehabilitation ("rehab"), or construction of low-income rental housing units. To qualify for tax credits, a development must meet a number of conditions set forth in Section 42 of the Internal Revenue Code (IRC). In particular, the development must provide low-income housing units that meet certain occupancy and rent requirements. After the state allocates tax credits to developers, the developers typically sell the credits to private investors. The private investors use the tax credits to offset taxes otherwise owed on their tax returns. The money private investors pay for the credits is paid into the projects as equity financing. This equity financing is used to fill the gap between the development costs for a project and the nontax credit financing sources, such as mortgages, that could be expected to be repaid from rental income. For a LIHTC project, a minimum of 20% of the units must be occupied by households with incomes at or below 50% of the area median gross income (AMGI), as adjusted for family size; or a minimum of 40% of the units must be occupied by households, with incomes at or below 60% of the AMGI, adjusted for family size. The owner must irrevocably elect to comply with either the 20-50 or the 40-60 tests. The gross rent charged for a low-income unit may not exceed 30% of the household's income. The LIHTC program requires that these rent restrictions remain in place for 30 years.

RESOLUTION

HOUSING OPPORTUNITIES POLICY

WHEREAS, the 2009 Comprehensive Plan recognizes the importance of providing housing opportunities which are affordable for homeowners and renters with particular emphasis on households earning 30 to 120 percent of James City County's Area Median Income (AMI); and

WHEREAS, consideration of measures to promote affordable and workforce housing was included as part of the Zoning Ordinance update methodology adopted by the Board of Supervisors in May 2010; and

WHEREAS, the Policy Committee recommended approval of the Housing Opportunities Policy to the Planning Commission on October 11, 2011; and

WHEREAS, the James City County Planning Commission, after a public hearing, recommended approval of the Housing Opportunities Policy on November 7, 2012, by a vote of 6-0.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of James City County, Virginia, hereby establishes the following Housing Opportunities Policy in order to identify criteria whereby the provision of workforce housing in residential and multiple-use rezoning cases is done in a consistent manner:

The Housing Section of the 2009 Comprehensive Plan sets the following goal for housing opportunities in the County: *"Achieve high quality in design and construction of all residential development and neighborhood design, and provide a wide range of choices in housing type, density, price range, and accessibility."* In order to address the objectives of this goal, this policy is designed to increase the range of housing choices in the County through the provision of affordable and workforce housing in all rezoning applications that include a residential component.

This policy identifies criteria whereby the provision of affordable and workforce housing (rental and ownership) in residential rezoning cases is consistent yet flexible. Provision of housing at different price ranges is a strategy to achieve the greater housing diversity goal described in the 2009 Comprehensive Plan.

1. Definitions

   a. Affordable Housing. Housing available at a sales price or rental amount that does not exceed 30 percent of the total monthly income of households earning between 30 percent and 80 percent of the area median income as determined by the U.S. Department of Housing and Urban Development (HUD).

   b. Workforce Housing. Housing available at a sales price or rental amount that does not exceed 30 percent of the total monthly income of households earning between greater than 80 percent and 120 percent of the area median income as determined by the U.S. Department of Housing and Urban Development (HUD).

2. Provision and Integration of Housing Opportunity Dwelling Units

   a. At least 20 percent of a development's proposed dwelling units should be offered for sale or made available for rent at prices that are targeted at households earning 30 to 120 percent of Area Median Income (AMI). Of that 20 percent, the units should be targeted at the AMI ranges specified below:

Units targeted to (percent of AMI):	Percent of the development's proposed dwelling units expected
30 percent – 60 percent	8 percent
Over 60 percent – 80 percent	7 percent
Over 80 percent – 120 percent	5 percent

   b. These units should be fully integrated in the development with regard to location, architectural detailing, quality of exterior materials, and general appearance.

3. Applicability of Cash Proffers for Housing Opportunity Dwelling Units

   a. Units targeted at household meeting 30 to 120 percent of AMI will have reduced expectations for cash proffers in accordance with the amounts set forth in the Cash Proffer Policy for Schools adopted by the Board of Supervisors on July of 2007, as amended, other cash proffers related for water and sewer improvements (typically proffered to the James City Service Authority), and other public facility and infrastructure capital improvement program items. The reductions in the expected proffer amounts would be as follows:

Units targeted to (percent of AMI):	Percent cash proffer reduction:
30 percent – 60 percent	100 percent
Over 60 percent – 80 percent	60 percent
Over 80 percent – 120 percent	30 percent

4. Retention of Housing Opportunity Units Over Time

   a. Rental units must be made available at the targeted rents for a period of at least 30 years.

   b. Sales of all targeted for-sale units as specified in paragraph one shall include a soft second mortgage payable to the benefit of James City County or third party approved by the Office of Housing and Community Development and the County Attorney's Office. The term of the soft second mortgage shall be at least 50 years. In addition, a provision shall be included in the deed that establishes a County right of first refusal in the event that the owner desires to sell the unit.

5. In-lieu Contribution to the Housing Fund

   Applicants may choose to offer cash contributions in-lieu of the provision of the percentages of affordable and workforce housing units specified above. Such cash contributions shall be payable to the James City County Housing Fund. The Housing Fund will be used to increase the supply and availability of units targeted at households earning 30 to 120 percent of AMI in the County. If applicants choose to offer a cash contribution in-lieu of construction of the units, the guideline minimum amount per unit shall be:

Units targeted to (percent of AMI):	Cash in-lieu amount
30 percent – 60 percent	The cost to construct a 1,200 square-foot dwelling as determined below
Over 60 percent – 80 percent	The cost to construct a 1,200 square-foot dwelling as determined below
Over 80 percent – 120 percent	The cost to construct a 1,400 square-foot dwelling as determined below

Beginning in February 2013, and continuing in every subsequent February, the Housing and Community Development Director shall establish the average square foot cost to construct an affordable/workforce dwelling unit, which will be added to the median cost of a lot in the proposed subject development. The dwelling unit construction cost shall be determined based on the cost information provided by at least three builders of affordable/workforce dwellings in James City County. If no costs are available from James City County builders, the Director may consult builders from nearby localities. The anticipated median cost of a lot in the proposed development shall be documented and submitted by the developer; in the case of a proposed all-apartment development, the developer shall work with the Housing and Community Development Director to reach an acceptable estimate based on land and infrastructure costs.

6. Procedures

a. For rental units, the developer shall provide assurances in a form acceptable to the County Attorney that the development will provide a statement of rental prices, demonstrating that they are within the specified affordable and workforce housing income range, for the proffered units for each year of the 30-year term.

b. For for-sale units, the developer shall offer units at prices that fit within the affordable and workforce housing price range as stated in the definitions[1], which shall be calculated and made available on an annual basis by the County.

i. With regard to the soft-second mortgages, the James City County Office of Housing and Community Development ("OHCD") shall be named beneficiary of a second deed of trust for an amount equal to the sales price of the market rate unit and the sales price of the proffered unit. The soft second shall be a forgivable loan, upon the terms specified in Section 5 above, in a form approved by OHCD and the County Attorney. The soft second deed of trust, the deed of trust note, and the settlement statement shall be subject to the approval of the County Attorney and Housing and Community Development Director prior to closing. The original note and deed of trust and a copy of the settlement statement identifying the net sales price shall be delivered by the closing agent of the OHCD after the deed of trust is recorded and no later than 45 days after closing. If down-payment assistance loans are authorized by OHCD, the lien on the deed of trust for the soft second may be recorded in third priority.

ii. Owner shall consult with and accept referrals of, and sell to qualified buyers from the OHCD on a noncommission basis.

1 The prices shall be established based on payment of 30 percent of household income toward housing cost.

iii. Prior to closing, OHCD shall be provided with copies of the HUD deed and the original deed of trust and note for the soft second.

John J. McGlennon
Chairman, Board of Supervisors

ATTEST:

Robert C. Middaugh
Clerk to the Board

	VOTES		
	AYE	NAY	ABSTAIN
MCGLENNON	X	___	___
JONES	X	___	___
KENNEDY	X	___	___
ICENHOUR	X	___	___
KALE	X	___	___

Adopted by the Board of Supervisors of James City County, Virginia, this 27th day of November, 2012.

ZO-07-09-10_res2

AGENDA ITEM NO. F.3.

ITEM SUMMARY

DATE: 1/6/2021

TO: The Planning Commission

FROM: Tom Leininger, Senior Planner

SUBJECT: SUP-20-0018. 8251 Richmond Road Hertzler and George Landscaping

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ATTACHMENTS:

	Description	Type
🗋	Staff Report	Staff Report
🗋	Proposed Special Use Permit Conditions	Backup Material
🗋	Location Map	Exhibit
🗋	Master Plan	Backup Material
🗋	Community Impact Statement	Backup Material

REVIEWERS:

Department	Reviewer	Action	Date
Planning Commission	Holt, Paul	Approved	12/23/2020 - 2:06 PM
Planning Commission	Holt, Paul	Approved	12/23/2020 - 2:06 PM
Publication Management	Daniel, Martha	Approved	12/23/2020 - 2:10 PM
Planning Commission	Holt, Paul	Approved	12/23/2020 - 2:19 PM

SUMMARY FACTS

Applicant:	Mr. Ryan Stephenson, AES
Land Owners:	Mr. Jeff Bateman and Trustee
Proposal:	To utilize existing structures for a contractor's office and to develop a storage yard for a landscaping business
Location:	8251 Richmond Road
Tax Map/Parcel No.:	240100064
Special Use Permit (SUP) Acreage:	± 4.97
Property Acreage:	± 29.72
Zoning:	A-1, General Agriculture
Comprehensive Plan:	General Industry
Primary Service Area: (PSA)	Inside
Staff Contact:	Tom Leininger, Senior Planner

PUBLIC HEARING DATES

Planning Commission:	January 6, 2021, 6:00 p.m.
Board of Supervisors:	February 9, 2021, 5:00 p.m. (tentative)

FACTORS FAVORABLE

1. Staff finds the proposal consistent with the 2015 Comprehensive Plan, *Toward 2035: Leading the Way.*

2. Staff finds the proposal will not negatively impact surrounding development.

3. Impacts: See Impact Analysis on Pages 3-4.

FACTORS UNFAVORABLE

1. Impacts: See Impact Analysis on Pages 3-4.

SUMMARY STAFF RECOMMENDATION

Staff recommends that the Planning Commission recommend approval of the proposed SUP subject to the proposed conditions.

PROJECT DESCRIPTION

Mr. Ryan Stephenson has applied on behalf of Mr. Joe Hertzler for an SUP to develop a contractor's office and associated laydown yard for a landscaping business.

Hertzler and George Landscaping has been in business since 1993 in the City of Williamsburg. The company provides full-service landscaping design, construction, and maintenance services.

The parcel currently contains two structures. The existing single-family home was converted to classrooms and office space for Lifepointe Christian Church. The structures will be converted into a contractor's office and the garage will remain for parking and storage. There are no exterior improvements proposed to the existing

structures. Between the two existing structures, there are five proposed parking spaces, including a handicap space. Additional parking is proposed behind the existing garage for staff. Improvements to the site include a gravel laydown area and a proposed 4,000-square-foot building for repair shop and material storage, which are all located behind the existing structures. Conditions (Attachment No. 1) have been included to ensure that the storage and laydown areas are not visible from Richmond Road. Per the SUP conditions, an increased landscaped buffer is required along Parcel Nos. 1240100004 and 1240100005 and in buffer areas where there is little or no landscaping. Staff proposes supplementary landscaping be planted per Condition No. 3c.

PLANNING AND ZONING HISTORY

- Previously, this parcel was used for Lifepointe Christian Church.
- Prior to Lifepointe Christian Church, the property was a single-family residential home.

SURROUNDING ZONING AND DEVELOPMENT

- All properties surrounding this parcel are zoned A-1, General Agriculture except for the parcel directly to the south which is zoned M-1, Limited Business/Industrial.
- The properties to the north and south are designated General Industry on the 2035 Comprehensive Plan Land Use Map.
- The properties across Richmond Road are designated Low Density Residential on the 2035 Comprehensive Plan Land Use Map.
- The properties to the west are designated Low Density Residential and Rural Lands on the 2035 Comprehensive Plan Land Use Map.
- The property is bordered by Richmond Road to the east and CSX Railroad to the west.

Impacts/Potentially Unfavorable Conditions	Status *(No Mitigation Required/Mitigated/Not Fully Mitigated)*	Considerations/Proposed Mitigation of Potentially Unfavorable Conditions
Public Transportation: Vehicular	No Mitigation Required	- The new contractor's office would not exceed 100 peak hour trips. - There is an existing driveway for access to Richmond Road.
Public Transportation: Bicycle/Pedestrian	Mitigated	- Per the Adopted Regional Bikeways Map and Pedestrian Accommodation's Master Plan, a bike lane is required along Richmond Road. - Bicycle and pedestrian accommodations will be addressed during the development stage.
Public Safety	No Mitigation Required	- Fire Station 1 on Forge Road serves this area of the County and is approximately 0.9 miles from the proposed facility. - Staff finds this project does not generate impacts that require mitigation to the County's Fire Department facilities or services.
Public Schools	No Mitigation Required	- N/A since no residential dwelling units are proposed.
Public Parks and Recreation	No Mitigation Required	- N/A since no residential dwelling units are proposed.
Public Libraries and Cultural Centers	No Mitigation Required	- Staff finds this project does not generate impacts that require mitigation.
Groundwater and Drinking Water Resources	Mitigated	- The property receives public water and sewer. - James City Service Authority has reviewed the proposal and noted that the applicant shall be responsible for developing water conservation standards to be submitted and approved (Proposed SUP Condition No. 5).

Impacts/Potentially Unfavorable Conditions	Status *(No Mitigation Required/Mitigated/Not Fully Mitigated)*	Considerations/Proposed Mitigation of Potentially Unfavorable Conditions
Watersheds, Streams, and Reservoirs Project is located in the Diascund Creek Watershed.	Mitigated	- The Master Plan shows a conceptual layout for stormwater management facilities. - This project will need to demonstrate full compliance with environmental regulations at the development plan stage, but no other specific environmental impacts have been identified for mitigation.
Cultural/Historic	Mitigated	- Per Section 24-145 of the Zoning Ordinance, an archaeological study and natural resource inventory will be required at the development plan stage.
Nearby and Surrounding Properties	Mitigated	- A vegetated buffer to screen the project from nearby properties is specified in proposed Condition No. 3. - The project will also need to demonstrate full compliance with lighting and landscaping regulations in the Zoning Ordinance at the development plan stage. - Proposed Condition No. 2 limits the height of lighting fixtures and states that lighting shall not be routinely illuminated at night. - Prior to site plan approval, the applicant must submit an operations mitigation plan to address daily noise, odor, lighting, or other similar impacts on nearby properties (Proposed SUP Condition No. 6). - Proposed Condition No. 4 and the Zoning Ordinance requires the laydown area and storage areas to be screened from Richmond Road and adjacent properties.
Community Character	Mitigated	- The project is located along the Richmond Road Community Character Corridor (CCC). Buffering along a CCC is required to be an average width of 50 feet. - A vegetated buffer is required along the front of the parcel per the Zoning Ordinance. - No fencing is allowed within the CCC buffer per proposed Condition No. 3. - No storage materials or equipment shall be visible from Richmond Road per proposed Condition No. 4.

COMPREHENSIVE PLAN

The site is designated General Industry on the 2035 Comprehensive Plan Land Use Map.

General Industry describes areas within the PSA that are suitable for industrial uses which, because of their potential for creating dust, noise, odor, and other adverse environmental effects, require buffering from adjoining uses, particularly residential uses. Secondary uses in General Industry areas may include office uses and a limited amount of commercial development generally intended to support the needs of employees and other persons associated with an industrial development. The site is also located within a James City County Enterprise Zone.

The parcels in this vicinity were designated General Industry primarily due to their proximity to the CSX railroad.

The property is located along a CCC. Buffering along a CCC is required to be an average width of 50 feet. The CCC buffer is characterized as an open/agricultural CCC. This type of CCC is designated to preserve the view and integrity of farm fields and natural open spaces so they remain the dominant visual features.

Staff has determined that existing plantings in the CCC and new plantings required in the SUP conditions will screen the proposed storage and laydown yard from Richmond Road.

The proposal meets the following Comprehensive Plan goals:

Community Character

CC 1.1 - Expect that development along CCCs protects the natural views of the area.

Land Use

LU 4.7 - Encourage commercial and industrial uses to develop in compact nodes in well-defined locations within the PSA.

Economic Development

ED 1.3 - Continue to emphasize the benefits of locating new business and industry within the County's Enterprise Zone.

ED 5 - Encourage infill development, the redevelopment of existing parcels, and the adaptive reuse of existing buildings to efficiently use infrastructure and natural resources.

PROPOSED SUP CONDITIONS

The full text of the proposed conditions are provided in Attachment No. 1.

STAFF RECOMMENDATION

With the attached conditions, staff finds that the proposal is compatible with surrounding zoning and development and consistent with the 2035 Comprehensive Plan.

Staff recommends that the Planning Commission recommend approval of the proposed SUP to the Board of Supervisors subject to the proposed conditions.

TL/md
SUP20-18_8251RichmdRd

Attachments:
1. Proposed SUP Conditions
2. Location Map
3. Master Plan
4. Community Impact Statement

Proposed Special Use Permit Conditions for SUP-20-0018. 8251 Richmond Road Hertzler and George Landscaping

1. **Master Plan.** This Special Use Permit (SUP) shall be valid for the construction of a contractor's office with associated storage yard (the "Facility") on property located at 8251 Richmond Road and further identified as James City County Real Estate Tax Map No. 1240100064 (the "Property"). The Facility shall be developed and constructed substantially in accordance with the Master Plan titled "8251 Richmond Road Hertzler and George" prepared by AES, and dated November 25, 2020 and revised December 22, 2020 (the "Master Plan"), with any deviations considered per Section 24-23(a)(2) of the Zoning Ordinance, as amended.

2. **Lighting.** Prior to final approval of any site plan, if any exterior lighting is proposed for the Facility, the Planning Director or designee shall review and approve a lighting plan for the Property. Any exterior lighting for the Facility or the Property shall be shielded and directed downward. No glare, defined as 0.1-foot-candle or higher, shall extend outside the boundaries of the Property. Lights shall be operated by a motion detector or be able to be turned on as needed by the Facility operator and shall not be routinely illuminated at night. No light poles shall exceed a height of sixteen (16) feet above finished grade unless otherwise approved in writing by the Planning Director prior to final site plan approval.

3. **Landscape and Screening.** As part of the site plan, a landscape plan shall be submitted to the Planning Director or designee for review and approval prior to final site plan approval with the following standards:

    a. The area within the building setback as shown on the Master Plan between the Property and JCC Real Estate Tax Map Parcel Nos. 1240100005 and 1240100004 shall remain undisturbed with additional landscaping required per Condition No. 3c.

    b. Any fencing used for screening shall be of a natural wood color and of a design to screen the Facility from adjacent properties. Fence height shall be a minimum of six (6) feet and a maximum of eight (8) feet. The location of the fence shall be shown on the site plan, and the design of the fence shall be submitted to the Planning Director for review and approval as a component of the site plan. No fencing shall be built within the Community Character Corridor buffer.

    c. The perimeter buffer shall be landscaped to the provisions of Section 24-96 of the Zoning Ordinance for General Landscape Areas, except that the required evergreen tree and shrub mixture shall be increased from 35% to at least 45%. Any existing vegetation may be used to meet the requirements of this subsection as approved by the Planning Director as part of the landscape plan.

    d. Any gate or landscaping break within the perimeter buffer shall be shown on the site plan, and the design shall be approved by the Planning Director.

4. **Material and Equipment Storage.** All material and equipment storage shall be limited to areas designated as "proposed gravel/laydown area" on the Master Plan. Material stockpiles shall not exceed eight (8) feet in height and shall not exceed two thousand five hundred (2,500) square feet each in land area. Each material stockpile shall have a minimum of twenty-five (25) feet of separation from adjacent stockpiles. A screening plan shall be shown on the site plan, to be reviewed, and approved by the Planning Director or designee, to ensure that no material storage or

equipment shall be visible from the Richmond Road or adjacent properties. The screening plan shall also meet condition 3c.

5. **Water Conservation.** Water conservation standards shall be enforced on the Property through an agreement with the James City Service Authority (JCSA). The standards shall be approved by the JCSA General Manager prior to site plan approval and may include, but shall not be limited to, such water conservation measures as limitations on the installation and use of irrigation systems and irrigation wells, the use of approved landscaping materials including the use of drought-tolerant plants where appropriate, and the use of water-conserving fixtures and appliances to promote water conservation and minimize the use of public water resources. Any changes shall be submitted to and approved by the JCSA.

6. **Operations Mitigation Plan.** Prior to final approval of any site plan for the Facility, an Operations Mitigation Plan shall be reviewed and approved of the Planning Director or designee. The plan shall include:

   a. Dust mitigation of the gravel laydown areas, such as water trucks or similar methods.

   b. Noise mitigation, such as the enforcement of hours of operation or restrictions of on-site activities.

   c. Road monitoring of Richmond Road, to include cleaning roadways of mud tracked onto Richmond Road from traffic associated with the Facility.

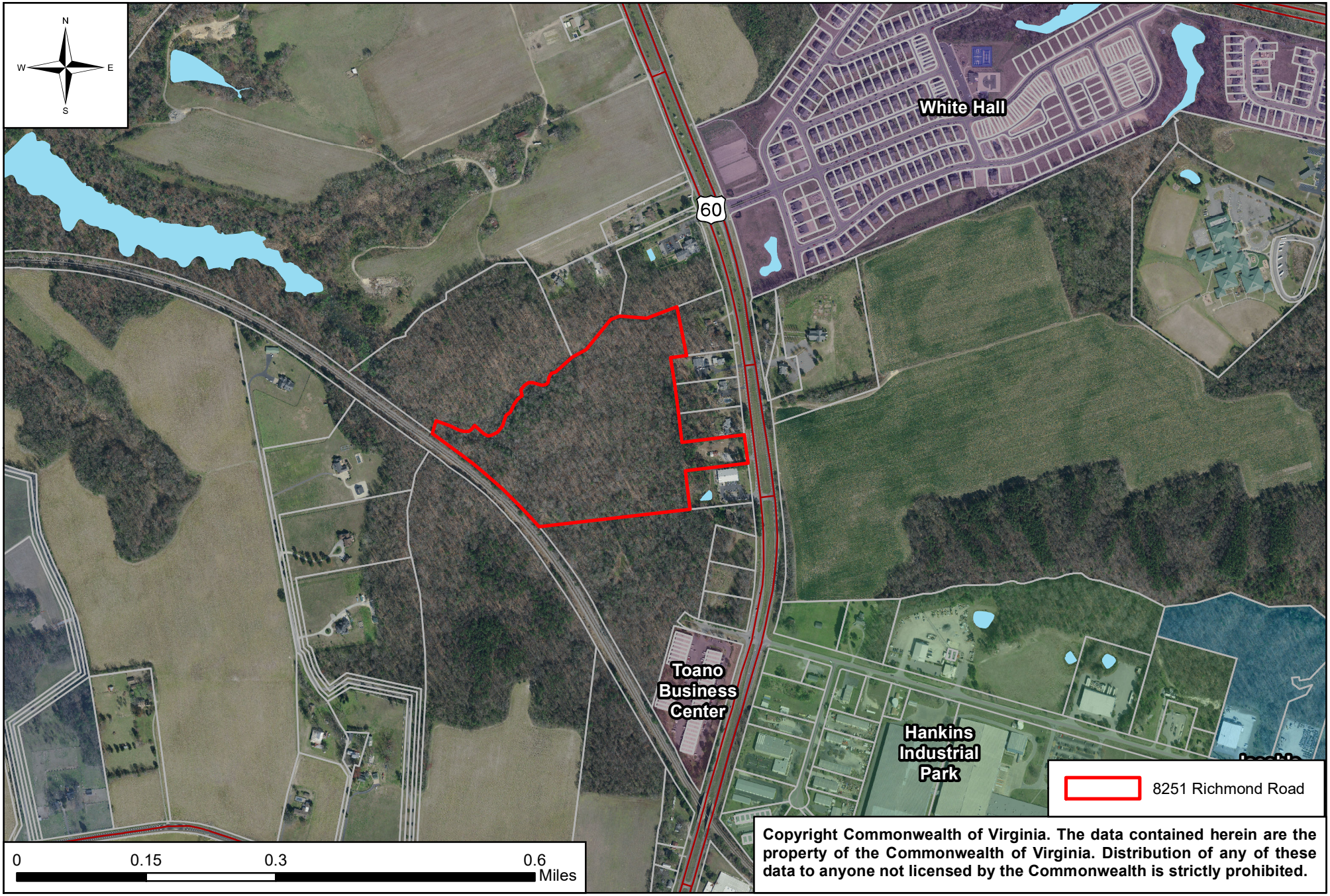
7. **Spill Prevention Control and Countermeasure Plan.** Prior to approval of any site plan for the Facility, a Spill Prevention Control and Countermeasure Plan (SPCCP) for the Property shall be submitted to the County Director of Stormwater and Resource Protection or designee for review and approval. The SPCCP shall outline measures and procedures necessary for the operation of the Facility and activities conducted on the Property.

8. **Limitations.** No direct sales of products related to the Facility, including the sales of wood or wood-related products, shall occur at the Property. No mulching or stump grinding shall occur at the Property.

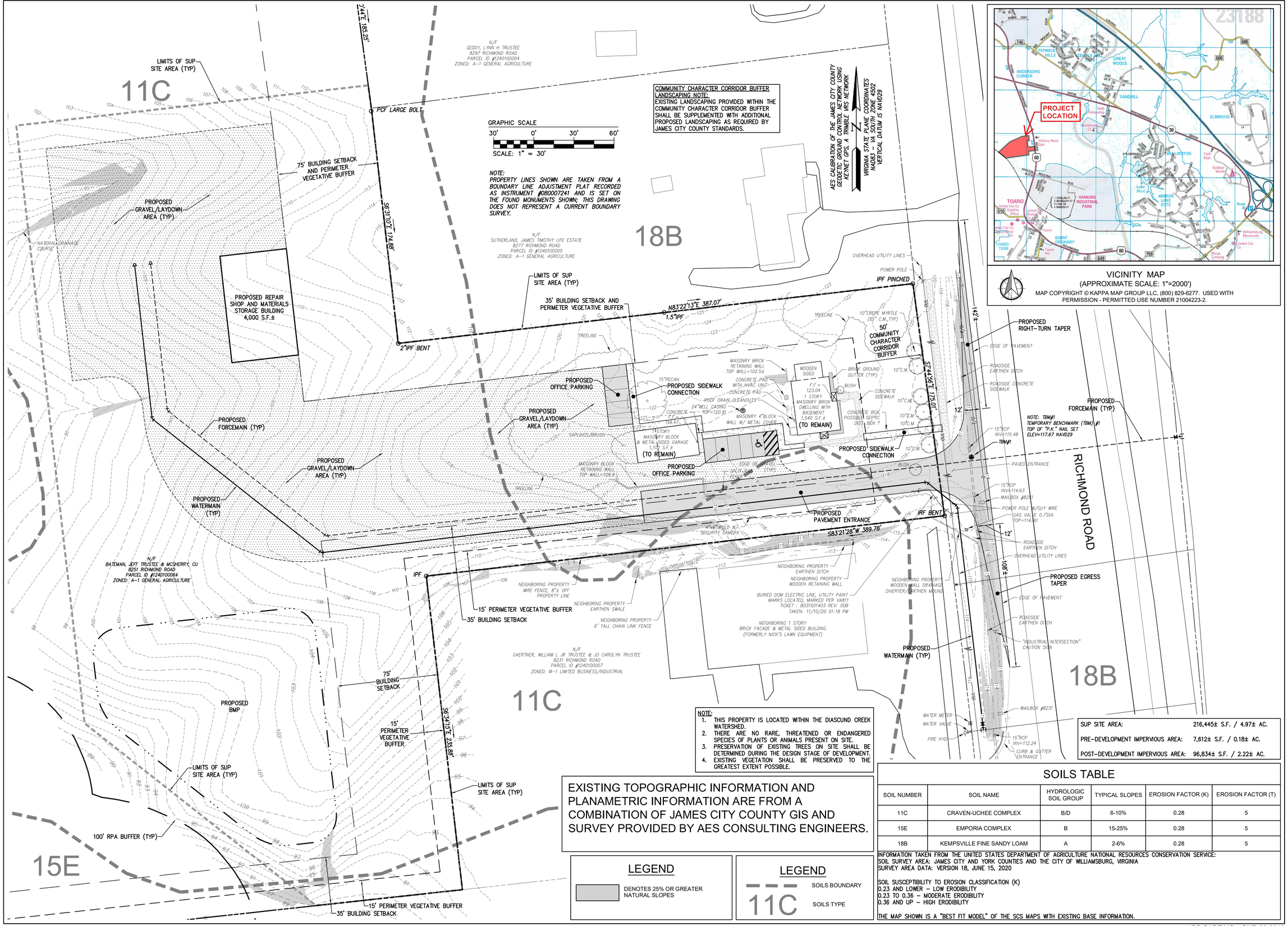
9. **Commencement of Construction.** Construction of the Facility as described in this SUP shall commence within thirty-six (36) months from the date of approval of this SUP, or this SUP shall be void. Construction shall be defined as obtaining change of use for existing structures on the Property and site plan approval for the Facility.

10. **Severance Clause.** This SUP is not severable. Invalidation of any word, phrase, clause, sentence, or paragraph shall invalidate the remainder.

JCC SUP-20-0018
8251 Richmond Road Hertzler and George Landscaping



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VICINITY MAP
(APPROXIMATE SCALE: 1"=2000')

MAP COPYRIGHT © KAPPA MAP GROUP LLC, (800) 829-6277. USED WITH PERMISSION - PERMITTED USE NUMBER 21004223-2.

NOTE:
1. THIS PROPERTY IS LOCATED WITHIN THE DIASCUND CREEK WATERSHED.
2. THERE ARE NO RARE, THREATENED OR ENDANGERED SPECIES OF PLANTS OR ANIMALS PRESENT ON SITE.
3. PRESERVATION OF EXISTING TREES ON SITE SHALL BE DETERMINED DURING THE DESIGN STAGE OF DEVELOPMENT.
4. EXISTING VEGETATION SHALL BE PRESERVED TO THE GREATEST EXTENT POSSIBLE.

SUP SITE AREA:	216,445± S.F. / 4.97± AC.
PRE-DEVELOPMENT IMPERVIOUS AREA:	7,612± S.F. / 0.18± AC.
POST-DEVELOPMENT IMPERVIOUS AREA:	96,834± S.F. / 2.22± AC.

EXISTING TOPOGRAPHIC INFORMATION AND PLANAMETRIC INFORMATION ARE FROM A COMBINATION OF JAMES CITY COUNTY GIS AND SURVEY PROVIDED BY AES CONSULTING ENGINEERS.

LEGEND

DENOTES 25% OR GREATER NATURAL SLOPES

LEGEND

11C SOILS TYPE

SOILS BOUNDARY

SOILS TABLE

SOIL NUMBER	SOIL NAME	HYDROLOGIC SOIL GROUP	TYPICAL SLOPES	EROSION FACTOR (K)	EROSION FACTOR (T)
11C	CRAVEN-UCHEE COMPLEX	B/D	6-10%	0.28	5
15E	EMPORIA COMPLEX	B	15-25%	0.28	5
18B	KEMPSVILLE FINE SANDY LOAM	A	2-6%	0.28	5

INFORMATION TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE NATIONAL RESOURCES CONSERVATION SERVICE:
SOIL SURVEY AREA: JAMES CITY AND YORK COUNTIES AND THE CITY OF WILLIAMSBURG, VIRGINIA
SURVEY AREA DATA: VERSION 18, JUNE 15, 2020

SOIL SUSCEPTIBILITY TO EROSION CLASSIFICATION (K)
0.23 AND LOWER – LOW ERODIBILITY
0.23 TO 0.36 – MODERATE ERODIBILITY
0.36 AND UP – HIGH ERODIBILITY

THE MAP SHOWN IS A "BEST FIT MODEL" OF THE SCS MAPS WITH EXISTING BASE INFORMATION.

JCC CASE NO.: SUP-20-0018

Rev.	Date	Description	Revised By
1	12/22/2020	REVISED PER 1ST JCC SUP SUBMITTAL COMMENTS	TRS

5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188
Phone: (757) 253-0040
www.aesva.com
AES CONSULTING ENGINEERS
Hampton Roads | Central Virginia | Middle Peninsula

THIS PLAN HAS NOT RECEIVED FINAL APPROVAL AND IS NOT APPROVED FOR CONSTRUCTION.

MASTER PLAN
FOR
8251 RICHMOND ROAD
HERTZLER & GEORGE
POWHATAN DISTRICT | JAMES CITY COUNTY | VIRGINIA

Project Contacts:	TRS
Project Number:	W10663-00
Scale: 1"=30'	Date: 11/25/2020

Sheet Title:
MASTER PLAN

Sheet Number
MP1.0

Community Impact Statement

For

8251 Richmond Road
Special Use Permit

Prepared For

Hertzler & George
P.O. Box 457
Williamsburg, Virginia 23187

Original: November 25, 2020
Revised: December 22, 2020

AES Project Number: W10663-00
JCC Case Number: SUP-20-0018

Prepared by:

AES
CONSULTING ENGINEERS
5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188
(757) 253-0040
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APPENDIX

I. INTRODUCTION

Hertzler & George is applying for a Special Use Permit (SUP) for a portion of the property located at 8251 Richmond Road in Toano, Virginia. The existing zoning for this property is A-1 General Agriculture, and the purpose of this SUP request is to bring a portion of the property into conformance with the James City County Zoning Ordinance to allow for a contractor's office and storage yard associated with the Hertzler & George landscaping business.

The purpose of this Community Impact Statement (CIS) is to summarize and organize the planning efforts of the project team into a cohesive package for Staff review, addressing the pertinent planning issues as well as the cultural, fiscal, and physical impacts of the proposed development to James City County.

II. THE PROJECT TEAM

The organizations that participated in the preparation of the information provided within this SUP submission are as follows:

- Business Owner: Hertzler & George Greenguard Associates, Inc.
- Civil Engineering: AES Consulting Engineers

The key components of this Community Impact Statement are as follows:

- Existing Conditions
- Project Description
- Planning Considerations
- Analysis of Impacts to Public Facilities and Services
- Analysis of Environmental Impacts
- Analysis of Stormwater Management
- Analysis of Impacts to Traffic
- Fiscal Impact Study
- Conclusions

III. EXISTING CONDITIONS

Overall Site Location – See Figure 1, Vicinity Map, Page 6

The existing SUP site is currently partially developed and mostly wooded. There are existing gravel roadways and parking areas, building structures, stormwater management infrastructure, and underground utilities located onsite. Elevations range from 90± to 124±, with existing slopes onsite from 0 to 25± percent.

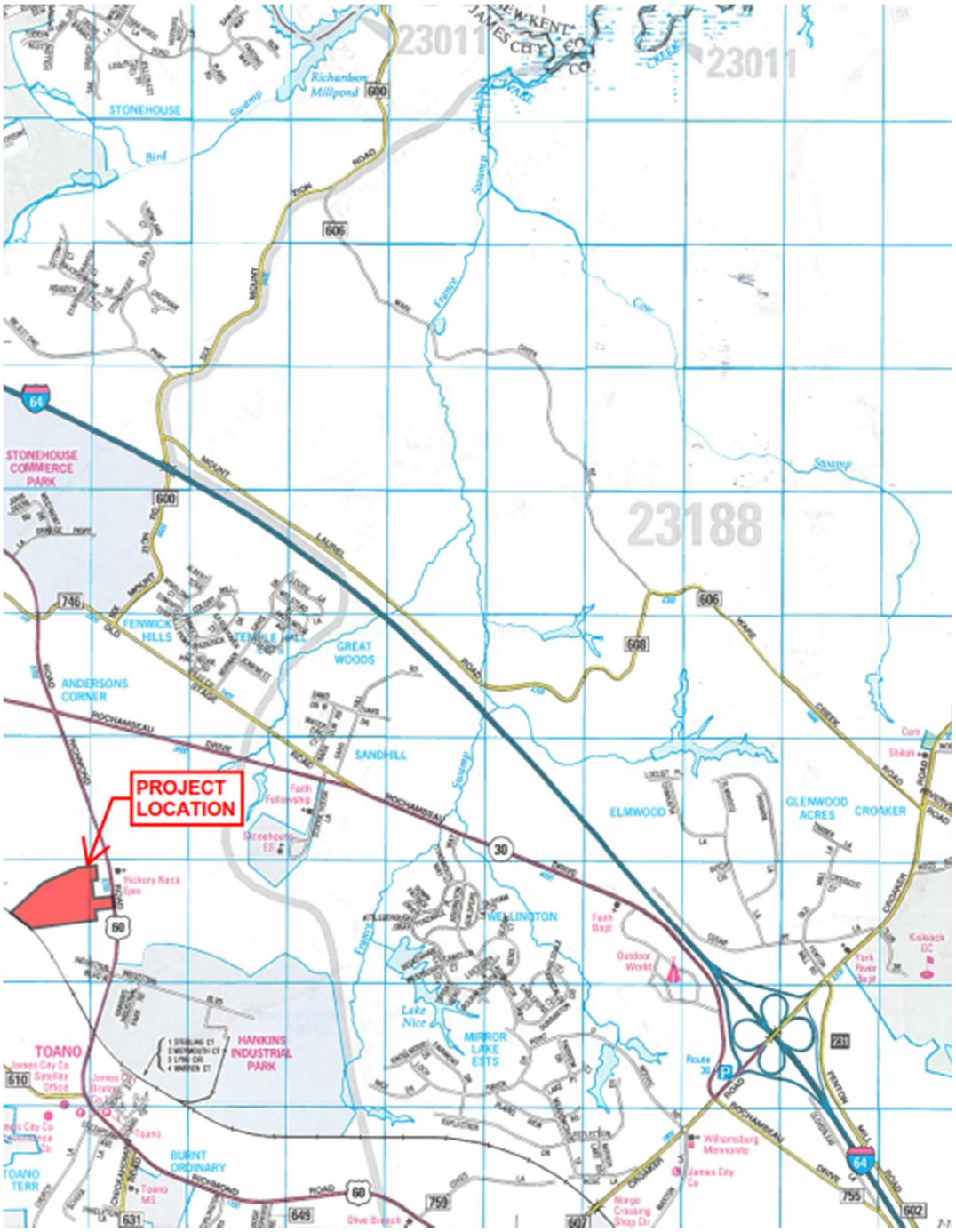
The Master Plan contains detailed information on preliminary wetlands, buffers, soils, and slopes. A pre-development SUP site analysis reveals the following results:

Total SUP Area:	***4.97***	***acres***
RPA Wetland Areas:	***0.00***	***acres***
Non-RPA Wetland Areas:	***0.00***	***acres***
Areas of 25% or Greater Natural Slopes:	***0.07***	***acres***
Total Non-Developable SUP Area:	***0.07***	***acres***
Net Developable SUP Area:	***4.90***	***acres***

IV. PROJECT DESCRIPTION

Hertzler & George proposes to redevelop a portion of the existing overall parcel in order to bring the SUP site into conformance with the James City County Zoning Ordinance to allow for a contractor's office and storage yard associated with the Hertzler & George landscaping business. This SUP project also includes roadway and parking space additions, stormwater management additions, and underground utility additions associated with the proposed re-development. The corresponding Master Plan shows the configuration of the existing and proposed SUP site features.

Figure 1



Map copyright © Kappa Map Group LLC, (800) 829-6277. Used with permission – Permitted Use Number 21004223-2

APPROXIMATE SCALE: 1"=2000'

VICINITY MAP

for

8251 Richmond Road
James City County, Virginia

V. PLANNING CONSIDERATIONS

A. Land Use

The 29.72± acre parcel located at 8251 Richmond Road (Parcel ID #1240100064) is currently zoned as A-1, General Agriculture. The James City County 2035 Comprehensive Plan designates this parcel as General Industry. This site is currently bounded by 8399 Richmond Road (Parcel ID #1230100001), 8395 Richmond Road (Parcel ID #1240100001A), and 8391 Richmond Road (Parcel ID #1240100063) to the north; 8343 Richmond Road (Parcel ID #1240100002), 8305 Richmond Road (Parcel ID #1240100003), 8297 Richmond Road (Parcel ID #1240100004), 8277 Richmond Road (Parcel ID #1240100005), 8231 Richmond Road (Parcel ID #1240100007), and Richmond Road to the east; 8205 Richmond Road (Parcel ID #1240100009A) to the south; and the CSX Railroad to the west.

An SUP is being requested in order to utilize a portion of this subject property in question for a contractor's office and storage yard associated with the Hertzler & George landscaping business, which includes the storage of the contractor's equipment, trailers, and vehicles.

B. Environmental

The environmental concerns associated with this SUP project are described in the following section: *VII. Analysis of Environmental Impacts, A. Wetlands & Resource Protection Areas.*

C. Historic & Archeological

The SUP site is located in an area of low probability to contain historic or archeological concerns related to the re-development. However, an archeological report shall be provided to James City County prior to site plan approval.

VI. ANALYSIS OF IMPACTS TO PUBLIC FACILITIES AND SERVICES

A. Public Water & Sewer Facilities

This SUP site includes additional public water and sanitary sewer requirements as part of the James City Service Authority (JCSA) Primary Service Area (PSA). There are existing JCSA water mains and JCSA sanitary sewer force mains located adjacent to the SUP site within the Richmond Road Right-of-Way (R/W). The proposed SUP public water system ties into the JCSA 8" water main, and the proposed SUP sanitary sewer force main system ties into the JCSA 12" sanitary sewer force main as shown on the Master Plan.

B. Fire Protection and Emergency Services

There are currently five (5) fire stations providing fire protection services and Emergency Medical Services (EMS) to James City County. Two (2) fire stations are located within a reasonable distance to the SUP site; these fire stations are Fire Station 1 and Fire Station 4. The closest fire station to the SUP site within James City County is Fire Station 1, located at 3135 Forge Road. Response time to the SUP site is within appropriate limits if an emergency event occurs that requires additional fire and life safety support.

C. Solid Waste

The solid waste that is generated from the construction debris, office waste, and yard waste associated with the landscaping business shall be adequately collected onsite and properly hauled offsite when the appropriate disposal service is necessary.

D. Utility Service Providers

There are adequate utility services available along this portion of Richmond Road, including electric, telecommunications, natural gas, public water, and sanitary sewer. The SUP site shall utilize such utilities for the proposed re-development.

E. Schools

There are no impacts to the school system with this SUP project.

VII. ANALYSIS OF ENVIRONMENTAL IMPACTS

A. Wetlands & Resource Protection Areas

There are wetlands and Resource Protection Areas (RPA) located on the overall parcel. However, there are no wetlands or RPA buffers located on the SUP site.

B. Endangered Species

The SUP site is located in an area of low probability to contain endangered species concerns related to the re-development. However, an endangered species report shall be provided to James City County prior to site plan approval.

C. Soils

The United States Department of Agriculture (USDA) Natural Recourse Conservation Service (NRCS) Web Soil Survey highlights the following soil types located within the SUP site area:

- 11C, Craven-Uchee Complex
- 15E, Emporia Complex
- 18B, Kempsville Fine Sandy Loam

Please refer to the Master Plan for the locations of the aforementioned soils.

VIII. ANALYSIS OF STORMWATER MANAGEMENT

A. Stormwater Quality

The Virginia Runoff Reduction Method (VRRM) as set forth by the Virginia Department of Environmental Quality (DEQ) governs the stormwater quality requirements for both new and re-development projects. Since the existing SUP site is partially developed, the proposed SUP site is classified as a "Re-Development" project. Following the stormwater quality analysis procedures for a re-development, the required pollutant load reduction can be calculated to ensure the proposed SUP development does not have a negative impact on downstream waterways. This pollutant load reduction is measured in Total Phosphorus (TP), a chemical that DEQ has determined that drives all other pollutant levels. Essentially, if the TP load is reduced, so are all other pollutants.

The VRRM Spreadsheet for this SUP project is included in the Appendix and details the SUP site soil data and required TP load reduction. The TP load reduction required for the proposed SUP site is 4.20 lb/yr. Based on the Best Management Practice (BMP) of a Wet Pond (Level 2) provided for the SUP site, the TP load reduction achieved is 4.67 lb/yr, exceeding the requirement by 0.47 lb/yr.

B. Stormwater Quantity

Stormwater quantity control is required to ensure that the post-development stormwater runoff from the SUP site is controlled to a point that is either at or below the existing condition in terms of flow rates. This stormwater quantity flow rate can be reduced by storing the increase stormwater runoff in a BMP for a period of time before releasing it back into the downstream waterway. A DEQ-approved Wet Pond (Level 2) is proposed to store the increased stormwater and reduce the runoff flow rate. The VRRM can be used in combination with the Soil Conservation Service (SCS) Method to calculate the required stormwater volume for the Wet Pond (Level 2). Appropriate measures shall be taken to ensure that the 1-, 2-, 10-, and 100-year storm events are properly contained within the Wet Pond (Level 2) and discharged over time with appropriate flows to maintain or better the existing condition.

C. Special Stormwater Criteria

Since the overall parcel is located within the Diascund Creek Watershed, there are no Special Stormwater Criteria (SSC) requirements.

D. Storm Sewer System

The majority of stormwater runoff from the proposed SUP site shall be conveyed via sheet flow, shallow concentrated flow, and channel flow to the proposed drop inlets placed at strategic low points. These drop inlets shall convey stormwater runoff via the proposed drainage pipe infrastructure into the Wet Pond (Level 2). This Wet Pond (Level 2) shall control the outfall of stormwater runoff.

IX. ANALYSIS OF IMPACTS TO TRAFFIC

Based on historical data provided by Hertzler & George, the landscaping business generates approximately 60 trips per day. Since this trips per day amount is less than 100 peak-hour trips, a traffic study is not required for this SUP application.

X. FISCAL IMPACT STUDY

A Fiscal Impact Study is not required for this SUP application.

XI. CONCLUSIONS

Hertzler & George has been operating in James City County since 1993 and is seeking to bring a portion of the property located at 8251 Richmond Road into conformance with the James City County Zoning Ordinance to allow for a contractor's office and storage yard associated with the landscaping business.

This SUP application meets the intent of the James City County 2035 Comprehensive Plan, which designates this parcel as General Industry. As previously detailed and described, there are no negative public facilities and services, environmental, or traffic impacts associated with this SUP application.

Finally, stormwater runoff from the proposed impervious cover associated with this SUP application shall be collected and conveyed to the Wet Pond (Level 2), which shall adequately meet the stormwater quality and stormwater quantity requirements for the SUP site.

APPENDIX

Master Plan
VRRM Spreadsheet

AGENDA ITEM NO. F.4.

ITEM SUMMARY

DATE: 1/6/2021

TO: The Planning Commission

FROM: Brett Meadows, Planner

SUBJECT: SUP-20-0017. Williamsburg Crossing Bruster's Real Ice Cream Amendment

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ATTACHMENTS:

	Description	Type
🗋	Staff Report_SUP-20-0017	Staff Report
🗋	Attachment 01_Conditions_SUP-20-0017	Backup Material
🗋	Attachment 02_Location Map_SUP-20-0017	Exhibit
🗋	Attachment 03_Master Plan_SUP-20-0017	Backup Material
🗋	Attachment 04_Narrative_SUP-20-0017	Backup Material
🗋	Attachment 05_Rendered Concept_SUP-20-0017	Backup Material
🗋	Attachment 06_SUP293 Williamsburg Crossing	Backup Material

REVIEWERS:

Department	Reviewer	Action	Date
Planning Commission	Holt, Paul	Approved	12/23/2020 - 2:51 PM
Planning Commission	Holt, Paul	Approved	12/23/2020 - 2:52 PM
Publication Management	Daniel, Martha	Approved	12/23/2020 - 3:01 PM
Planning Commission	Holt, Paul	Approved	12/23/2020 - 3:13 PM

SUMMARY FACTS

Applicant:	Mr. Jordan Bristow of AES Consulting Engineers
Land Owner:	Caroline's Creamery, LLC
Proposal:	Amend previously approved Special Use Permit (SUP) conditions so the business can build a drive-through lane adjacent to the existing building.
Location:	5289 John Tyler Highway
Tax Map/Parcel No.:	4812200010
Project Acreage:	.55 +/- acres
Zoning:	B1, General Business District
Comprehensive Plan:	Mixed Use
Primary Service Area:	Inside
Staff Contact:	Brett A. Meadows, Planner

PUBLIC HEARING DATES

Planning Commission:	January 6, 2021, 6 p.m.
Board of Supervisors:	February 9, 2021, 5 p.m. (tentative)

FACTORS FAVORABLE

1. The proposal is consistent with the recommendations of the 2035 Comprehensive Plan.

2. With the attached SUP conditions, staff finds the proposal compatible with surrounding zoning and development.

3. The proposal meets current Code requirements for right-of-way buffers along a Community Character Corridor (CCC).

4. Impacts: See Impact Analysis on Pages 3-4.

FACTORS UNFAVORABLE

1. Impacts: See Impact Analysis on Pages 3-4.

STAFF RECOMMENDATION

1. Approval subject to the attached SUP conditions.

PROJECT DESCRIPTION

Caroline's Creamery, LLC, doing business as Bruster's Real Ice Cream, currently operates on a parcel in Williamsburg Crossing abutting Humelsine Parkway (State Route 199). The parcel is zoned B1, General Business, and is designated as Mixed Use on the 2035 Comprehensive Plan. Suggested uses include commercial, office, and moderate density residential. The adjacent section of Route 199 is designated as an urban/suburban CCC in the 2035 Comprehensive Plan.

Bruster's Real Ice Cream would like to add a drive-through lane around the building. To help visually screen the drive-through,

existing vegetation and screening will remain and at least an additional tree and 70 shrubs will be added to the buffer.

No net loss of buffer area is anticipated. On the master plan (Attachment No. 3), the current square footage of the CCC buffer is 12,355 +/-, and the proposed square footage is 12,358 +/-.

With the proposed screening, staff finds the proposed CCC buffer meets the current Ordinance requirements and staff will verify the planting requirements at the development plan stage of the project.

The currently adopted SUP conditions require lighting that does not meet current Ordinance standards. The proposed conditions would eliminate the outdated requirement and allow for the current Ordinance to be met.

SURROUNDING ZONING AND DEVELOPMENT

1. The immediate surrounding parcels are zoned B1, General Business, and are designated as Mixed Use in Williamsburg Crossing on the 2035 Comprehensive Plan. They are part of the Williamsburg Crossing subdivision. Suggested uses include commercial, office, and moderate density residential.

2. The parcels directly across State Route 199 are located in the City of Williamsburg are zone LB-3, Limited Business Mixed Use and LB-4, Limited Business Corridor District. The parcels and are part of the Governor Berkeley Professional Center.

PLANNING AND ZONING HISTORY

The currently adopted SUP conditions for this property were adopted on October 20, 1993 and state that a "minimum 50-foot greenbelt, free of structures and paving, shall be provided along the future right-of-way of Route 199."

Staff notes that this SUP language, and the greenbelt reference, pre-date current Ordinance language for CCC buffers. The County's Greenbelt Policy first began as a designation in the 1975 Comprehensive Plan and was expanded and strengthened in the 1987 Comprehensive Plan. As implemented, the Greenbelt Policy was negotiated with applicants as part of the legislative development review process. At the time, there was little to no protection where properties developed with by-right uses, when only minimal landscape standards would apply.

The CCC landscape buffer standards were subsequently added to the Zoning Ordinance in 1999, six years after the approval of this Williamsburg Crossing SUP.

The CCC buffer requirements that are in effect today still meet the goal and intent of providing enhanced landscape protection along our most significant corridors; however, the Code today has evolved to provide some flexibility. Instead of a firm 50-foot requirement, today's Code allows for a 50-foot average width buffer, with the Code stating that any CCC buffer must be no less than 25 feet in any one area and no more than 65 feet in any one area.

As noted earlier in this staff report, with the current proposal, the current square footage of the existing CCC buffer on this parcel remains intact (i.e., existing is 12,355 +/- and the proposed square footage is 12,358 +/-). As currently proposed, staff find the proposal meets current code requirements for right-of-way buffers along a CCC. If approved, staff will verify existing landscaping and the need for additional screening landscaping at the development plan stage.

Impacts/Potentially Unfavorable Conditions	**Status** *(No Mitigation Required/Mitigated/Not Fully Mitigated)*	**Considerations/Proposed Mitigation of Potentially Unfavorable Conditions**
Watersheds, Streams, and Reservoirs The project is located in the Yarmouth Creek Watershed. The project is expected to add approximately 2,110 square feet +/- of new pavement.	No Mitigation Required	- The project will meet all Stormwater requirements at the site plan stage. - The proposed impermeable surface area falls within the allowable percentage for the zoning and under the Chesapeake Bay Preservation Act requirements.
Nearby and Surrounding Properties The project is surrounded by other Mixed Use parcels.	No Mitigation Required	- The proposed project would continue the existing business operation.
Community Character The project is located along the State Route 199 CCC. Buffering along a CCC is required to be an average width of 50 feet.	Mitigated	- Proposed changes to the CCC proposes a similar buffer total square footage to what would be required under the currently adopted Code. The existing square footage is 12,355 +/-, and the proposed square footage is 12,358 +/-.
Cultural/Historic	No Mitigation Required	- The site is already developed.
Public Transportation: Vehicular	No Mitigation Required	- No additional ingress/egress is proposed in the development. - No public transportation modifications are proposed. - Staff finds this project does not generate impacts requiring mitigation.

Impacts/Potentially Unfavorable Conditions	**Status** *(No Mitigation Required/Mitigated/Not Fully Mitigated)*	**Considerations/Proposed Mitigation of Potentially Unfavorable Conditions**
Public Transportation: Bicycle/ Pedestrian	No Mitigation Required	- The parcel is accessed via the Williamsburg Crossing parking lot, and there are no access points to State Route 199. State Route 199 is listed as a shared roadway in the 2013 Adopted Regional Bikeways Plan. - Staff finds this project does not generate impacts requiring mitigation.
Public Safety	No Mitigation Required	- Staff finds this project does not generate impacts that require mitigation to the County's Fire Department facilities or services.
Public Schools	No Mitigation Required	- N/A since no residential dwelling units are proposed.
Public Parks and Recreation	No Mitigation Required	- N/A since no residential dwelling units are proposed.
Public Libraries and Cultural Centers	No Mitigation Required	- Staff finds this project does not generate impacts that require mitigation.
Groundwater and Drinking Water Resources Project Receives Public Water and Sewer.	No Mitigation Required	- Staff finds this project does not generate impacts that require mitigation. The scope of the business remains similar. The major change is the customer access.

COMPREHENSIVE PLAN

The parcel is designated as Mixed Use in Williamsburg Crossing on the 2035 Comprehensive Plan and abuts the State Route 199 CCC.

Urban/suburban CCC areas are characterized as having high to moderate traffic, commercial, and some residential uses. The predominant visual character of these areas should be the built environment and the natural landscape, with parking and other auto-related areas as a secondary component. The buffer treatments should incorporate existing specimen and understory trees, required plantings, and any legislated enhancements such as over-sized landscape plants, the use of berms, and other desirable design features which complement and enhance the visual quality of the urban corridor. Auto-related activities such as parking lots and other outdoor operations should be screened with required evergreen plantings. This treatment provides the applicant with the most visibility of the commercial use and the most flexibility in establishing a manicured and/or formal look compared to the wooded and open/agricultural treatments.

Staff finds that existing plantings in the CCC and new planting required in the proposed SUP conditions will screen the auto-related activity proposed by the new drive-through.

Staff further finds the proposal meets the following Comprehensive Plan goals:

Economic Development:

ED 1.2. - Encourage the . . . retention of existing small businesses.

ED 1.2.2 - Reviewing the Zoning Ordinance to ensure it allows. . . small businesses consistent with neighborhood and community character.

Community Character:

CC 1 - Preserve and enhance entrance corridors and roads that promote the rural, natural, or historic character of the County.

CC 1.9 - Encourage development to occur in a manner that does not require changing the character of roads that enhance the small town, rural, and natural character of the County by preserving buffers.

Staff finds that the proposed CCC buffer changes maintain an average 50-foot width and the proposed conditions assure that the impact of the proposed drive-through is mitigated.

PROPOSED SUP CONDITIONS

The full text of the proposed conditions are provided in Attachment No. 1.

STAFF RECOMMENDATION

With the attached conditions, staff finds that the proposal is compatible with surrounding zoning and development and consistent with the 2035 Comprehensive Plan.

Staff recommends the Planning Commission recommend approval of this application subject to the attached conditions.

BAM/nb
SUP20-17WCBrustersAmnd

Attachments:
1. Proposed SUP Conditions
2. Location Map
3. Master Plan
4. Applicant Narrative
5. Rendered Layout Plan
6. SUP-0002-1993 Resolution

Proposed Conditions – SUP-20-0017, Williamsburg Crossing Bruster's Ice Cream Amendment

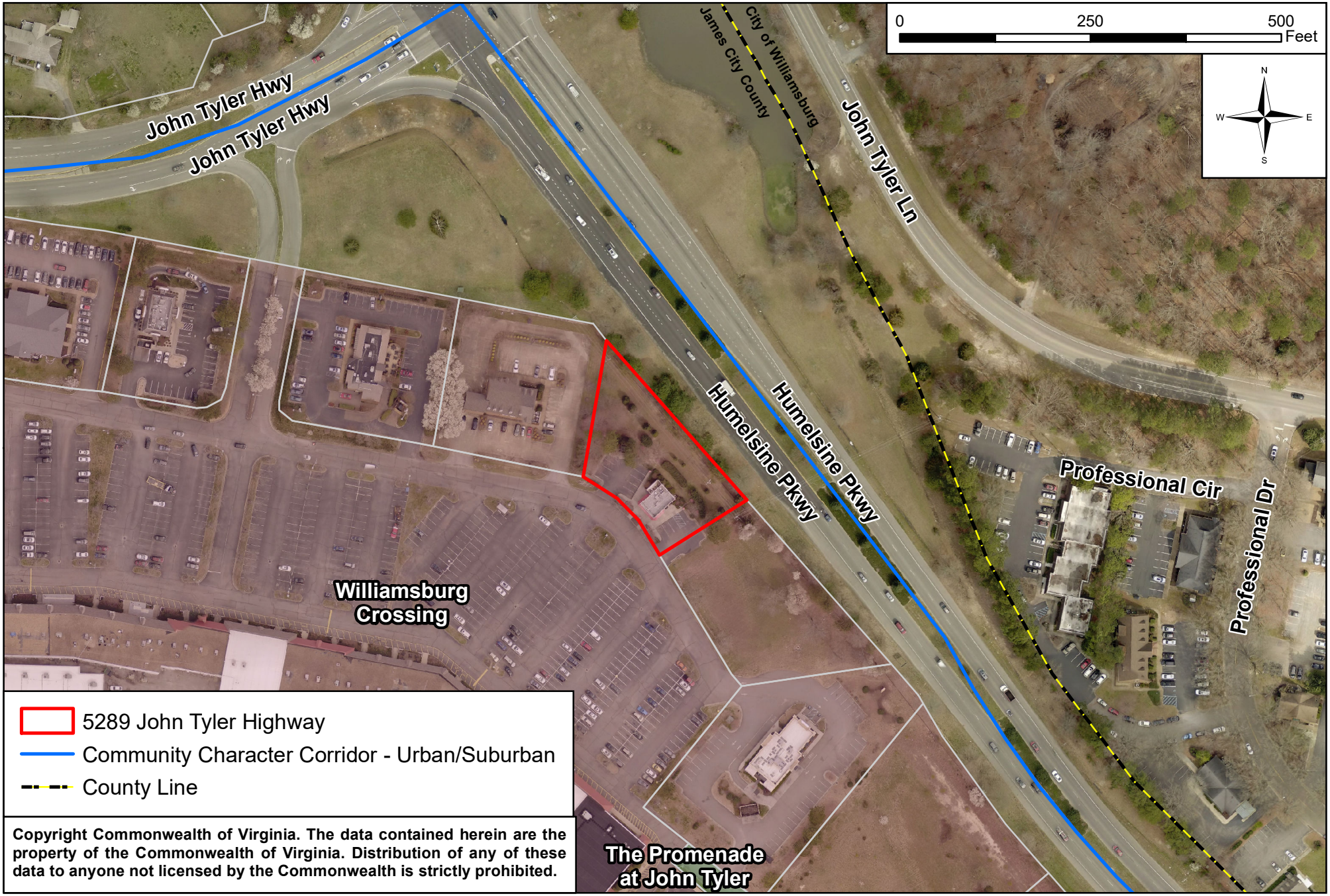
1. ***Master Plan.*** This special use permit (SUP) would amend previously approved Special Use Permit-2-93 (SUP-2-93) to allow for changes to Condition 3 related to the 50 foot greenbelt buffer at 5289 John Tyler Highway, further identified as James City County Real Estate Tax Map Parcel No. 4812200010 (the "Property"). The use and layout of the Property shall be generally as shown on the document entitled "SUP-20-0017, Caroline's Creamery Drive Thru Addition" (the "Master Plan"), with any deviations considered per Section 24-23(a)(2) of the Zoning Ordinance, as amended.

2. ***Landscape and Screening.*** As part of the site plan, a landscape and screening plan shall be submitted to the Director of Planning or designee for review and approval prior to final site plan approval. The Community Character Corridor buffer shall meet the requirements of Section 24-98, Landscape areas(s) along the right(s)-of-way and Section 24-100, Screening, of the landscape ordinance as amended.

3. ***Lighting***. Any proposed new lighting must meet the current lighting ordinance. Current condition #8 requires outdated lighting requirements and will be eliminated by this amendment.

4. ***Severance Clause.*** This SUP is not severable. Invalidation of any word, phrase, clause, sentence, or paragraph shall invalidate the remainder.

JCC SUP-20-0017
Williamsburg Crossing Bruster's Ice Cream Drive Thru



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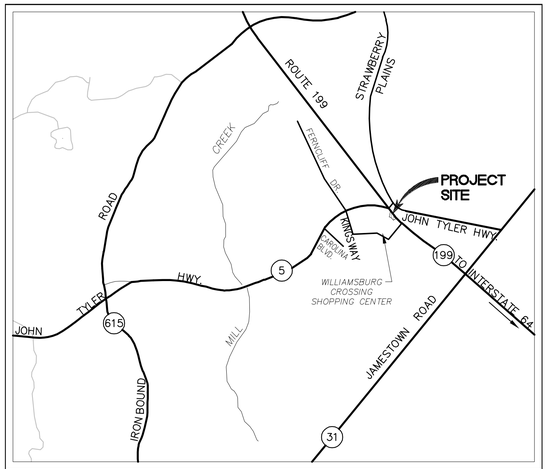
SPECIAL USE PERMIT AMENDMENT

FOR

CAROLINE'S CREAMERY

DRIVE THRU ADDITION

BERKELEY DISTRICT JAMES CITY COUNTY VIRGINIA



VICINITY MAP
(APPROXIMATE SCALE: 1"=2000')

ORIGINAL COUNTY PROJECT NO.: SUP-02-93
COUNTY PROJECT NO.: SUP-20-0017
AMENDMENT SUBMITTAL DATE: NOVEMBER 24, 2020
AMENDMENT RE-SUBMITTAL DATE: DECEMBER 21, 2020

INDEX OF SHEETS:

SHEET NO.	SHEET DESCRIPTION
MP-1	COVER SHEET
MP-2	EXISTING CONDITIONS
MP-3	MASTER CONCEPTUAL PLAN
MP-4	COMMUNITY CHARACTER CORRIDOR BUFFER EXHIBIT

Rev.	Date	Description	Revised By

COMMONWEALTH OF VIRGINIA
JORDAN M. BRISTOW
Lic. No. 001915
LANDSCAPE ARCHITECT
12/21/2020

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AES CONSULTING ENGINEERS
Hampton Roads | Central Virginia | Middle Peninsula

SPECIAL USE PERMIT AMENDMENT
CAROLINE'S CREAMERY, LLC
BERKELEY DISTRICT JAMES CITY COUNTY VIRGINIA

Project Contacts:	GAM/JMB
Project Number:	8642-04A
Scale: NA	Date: 11/24/2020

Sheet Title:
COVER SHEET

Sheet Number
MP-1

STATE ROUTE 199
VARIABLE R/W (LIMITED ACCESS)

(HIGHWAY PLAT BOOK 8, Pg. 26)
(D.B.775, Pg.736)

EX.DITCH
EX.FENCE
EX.PP
S33°58'54"E 75.32'
APPROXIMATE LOCATION OF EXISTING 30' VA. POWER EASEMENT (D.B. 775, Pg.736-739)
S41°24'38"E 197.89'
LIMITED ACCESS LINE AND R/W LINE
OVERHEAD UTILITY LINES
29A
19B
14" LOCUST
13" AMERICAN HOLLY
15" LOCUST
12" AMERICAN HOLLY
EXISTING 10' JCSA UTILITY EASEMENT
50' COMMUNITY CHARACTER CORRIDOR BUFFER
(4) 15" AMERICAN HOLLY
(2) 8" AMERICAN HOLLY
16"WL
EX. 16" DI WATER MAIN
WV
(12) HOLLY SHRUBS
(13) HOLLY SHRUBS (4 TO BE REMOVED)
PARCEL 10
(P.B.54, Pg.41)
16" LOCUST
(2) 26" OAK
(2) HOLLY SHRUBS
12" MAPLE
(3) 8" CRAPE MYRTLE (TO BE REMOVED)
12" LOCUST (TO BE REMOVED)
12" MAPLE
N/F
OLD POINT NATIONAL BANK
TAX PARCEL # 4812200004
PARCEL 4
(P.B.49, Pg.69)
SHRUB LINE
N10°20'49"E 179.59'
EXISTING MONUMENT SIGN
15' LANDSCAPE YARD
EXISTING BUILDING 1,140 SF.
S57°09'22"W 111.81'
EX.SAN. MH
RIM=97.94
INV=92.10
30' ACCESS EASEMENT
N/F
UNIVERSITY SQUARE ASSOC.
TAX PARCEL # 4812200011
PARCEL 11
(P.B.54, Pg.41)
EX.TRANS-FORMER
Δ=41°24'13"
R=176.00, L=127.18
N32°03'49"W 23.08'
EX.GRASS DITCH
RIPRAP
EP96.39
EP96.82
EP96.33
FES INV= 95.10
EX.YDI
TOP=93.77
INV=89.27
ENTRANCE SIGN
EX.8"PVC SAN
EX.15"RCP
EX.24"RCP
EX.21"RCP
LP
42'
EXISTING ACCESS EASEMENT (P.B. 49, PG. 69)

GRAPHIC SCALE
10' 0' 10' 20'
SCALE: 1" = 10'

LEGEND

19B — SOILS TYPE

SOILS BOUNDARY

NOTE:
1. THE AREA OF IMPACT FOR THIS PROPERTY IS LOCATED WITHIN THE MILL CREEK WATERSHED.
2. THERE ARE NO RARE, THREATENED OR ENDANGERED SPECIES OF PLANTS OR ANIMALS PRESENT ON SITE.
3. PRESERVATION OF EXISTING TREES ON SITE SHALL BE DETERMINED DURING THE DESIGN STAGE OF DEVELOPMENT.
4. EXISTING VEGETATION SHALL BE PRESERVED TO THE GREATEST EXTENT POSSIBLE.

SOILS TABLE

SOIL NUMBER	SOIL NAME	HYDROLOGIC SOIL GROUP	TYPICAL SLOPES	EROSION FACTOR (K)	EROSION FACTOR (T)
19B	KEMPSVILLE-EMPORIA FINE SANDY LOAM	B/C	2-6%	0.28	5
29A	SLAGLE FINE SANDY LOAM	C	0-2%	0.28	5

INFORMATION TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE NATIONAL RESOURCES CONSERVATION SERVICE:
SOIL SURVEY AREA: JAMES CITY AND YORK COUNTIES AND THE CITY OF WILLIAMSBURG, VIRGINIA
SURVEY AREA DATA: VERSION 18, JUNE 15, 2020

SOIL SUSCEPTIBILITY TO EROSION CLASSIFICATION (K)
0.23 AND LOWER - LOW ERODIBILITY
0.23 TO 0.36 - MODERATE ERODIBILITY
0.36 AND UP - HIGH ERODIBILITY
THE MAP SHOWN IS A "BEST FIT MODEL" OF THE SCS MAPS WITH EXISTING BASE INFORMATION.

Rev.	Date	Description	Revised By

COMMONWEALTH OF VIRGINIA LICENSED LANDSCAPE ARCHITECT
JORDAN M. BRISTOW
Lic. No. 001915
12/21/2020

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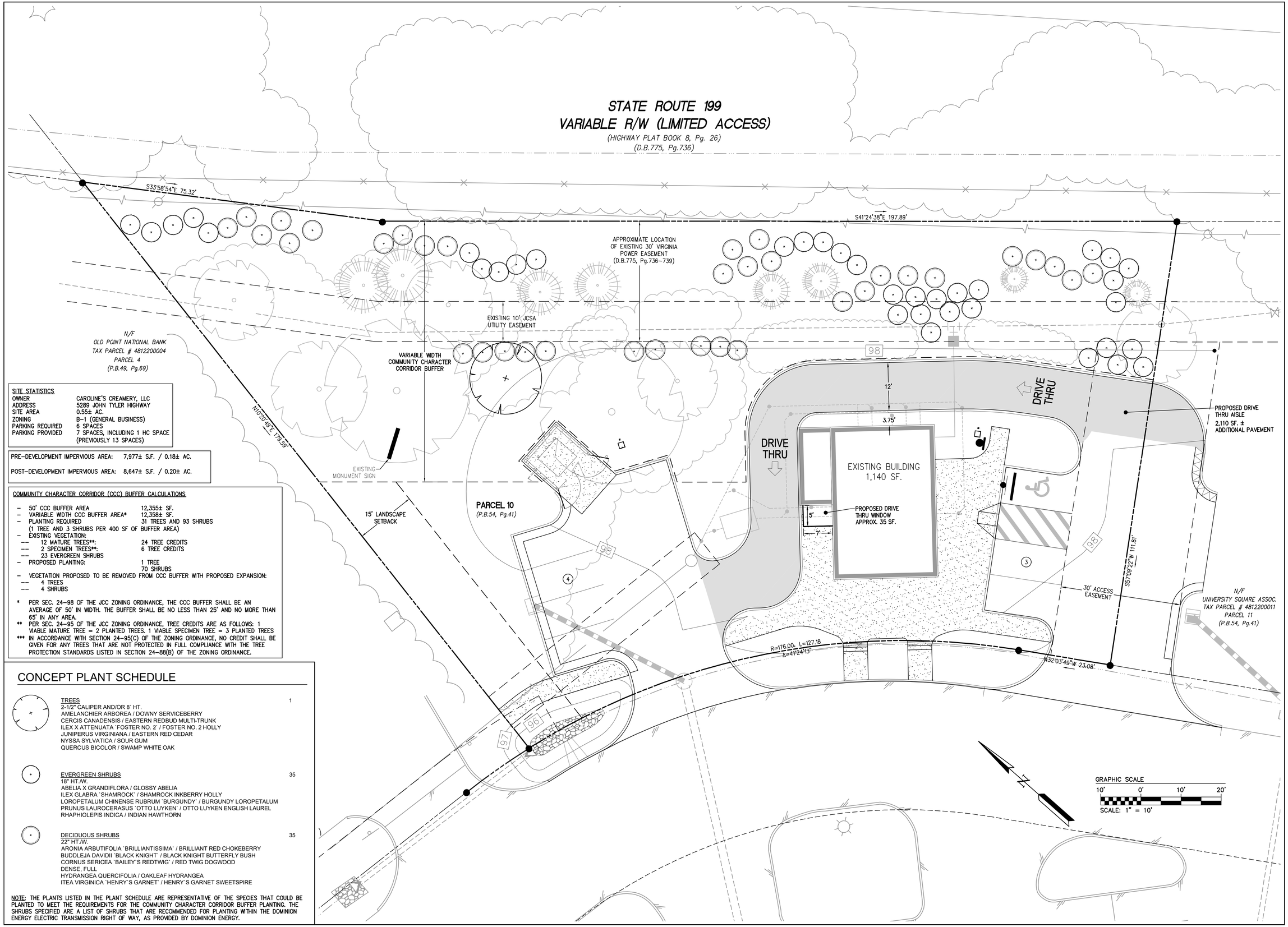
AES CONSULTING ENGINEERS
Hampton Roads | Central Virginia | Middle Peninsula

SPECIAL USE PERMIT AMENDMENT
CAROLINE'S CREAMERY, LLC
BERKELEY DISTRICT JAMES CITY COUNTY VIRGINIA

Project Contacts:	GAM/JMB
Project Number:	8642-04A
Scale: 1"=10'	Date: 11/24/2020

Sheet Title:
EXISTING CONDITIONS

Sheet Number
MP-2



SITE STATISTICS	
OWNER	CAROLINE'S CREAMERY, LLC
ADDRESS	5289 JOHN TYLER HIGHWAY
SITE AREA	0.55± AC.
ZONING	B-1 (GENERAL BUSINESS)
PARKING REQUIRED	6 SPACES
PARKING PROVIDED	7 SPACES, INCLUDING 1 HC SPACE (PREVIOUSLY 13 SPACES)

PRE-DEVELOPMENT IMPERVIOUS AREA: 7,977± S.F. / 0.18± AC.

POST-DEVELOPMENT IMPERVIOUS AREA: 8,647± S.F. / 0.20± AC.

COMMUNITY CHARACTER CORRIDOR (CCC) BUFFER CALCULATIONS

- 50' CCC BUFFER AREA 12,355± SF.
- VARIABLE WIDTH CCC BUFFER AREA* 12,358± SF.
- PLANTING REQUIRED 31 TREES AND 93 SHRUBS (1 TREE AND 3 SHRUBS PER 400 SF OF BUFFER AREA)
- EXISTING VEGETATION:
  - 12 MATURE TREES**: 24 TREE CREDITS
  - 2 SPECIMEN TREES**: 6 TREE CREDITS
  - 23 EVERGREEN SHRUBS
- PROPOSED PLANTING: 1 TREE, 70 SHRUBS
- VEGETATION PROPOSED TO BE REMOVED FROM CCC BUFFER WITH PROPOSED EXPANSION:
  - 4 TREES
  - 4 SHRUBS

* PER SEC. 24-98 OF THE JCC ZONING ORDINANCE, THE CCC BUFFER SHALL BE AN AVERAGE OF 50' IN WIDTH. THE BUFFER SHALL BE NO LESS THAN 25' AND NO MORE THAN 65' IN ANY AREA.

** PER SEC. 24-95 OF THE JCC ZONING ORDINANCE, TREE CREDITS ARE AS FOLLOWS: 1 VIABLE MATURE TREE = 2 PLANTED TREES. 1 VIABLE SPECIMEN TREE = 3 PLANTED TREES

*** IN ACCORDANCE WITH SECTION 24-95(C) OF THE ZONING ORDINANCE, NO CREDIT SHALL BE GIVEN FOR ANY TREES THAT ARE NOT PROTECTED IN FULL COMPLIANCE WITH THE TREE PROTECTION STANDARDS LISTED IN SECTION 24-88(B) OF THE ZONING ORDINANCE.

CONCEPT PLANT SCHEDULE

TREES — 1
2-1/2" CALIPER AND/OR 8' HT.
AMELANCHIER ARBOREA / DOWNY SERVICEBERRY
CERCIS CANADENSIS / EASTERN REDBUD MULTI-TRUNK
ILEX X ATTENUATA `FOSTER NO. 2` / FOSTER NO. 2 HOLLY
JUNIPERUS VIRGINIANA / EASTERN RED CEDAR
NYSSA SYLVATICA / SOUR GUM
QUERCUS BICOLOR / SWAMP WHITE OAK

EVERGREEN SHRUBS — 35
18" HT./W.
ABELIA X GRANDIFLORA / GLOSSY ABELIA
ILEX GLABRA `SHAMROCK` / SHAMROCK INKBERRY HOLLY
LOROPETALUM CHINENSE RUBRUM `BURGUNDY` / BURGUNDY LOROPETALUM
PRUNUS LAUROCERASUS `OTTO LUYKEN` / OTTO LUYKEN ENGLISH LAUREL
RHAPHIOLEPIS INDICA / INDIAN HAWTHORN

DECIDUOUS SHRUBS — 35
22" HT./W.
ARONIA ARBUTIFOLIA `BRILLIANTISSIMA` / BRILLIANT RED CHOKEBERRY
BUDDLEJA DAVIDII `BLACK KNIGHT` / BLACK KNIGHT BUTTERFLY BUSH
CORNUS SERICEA `BAILEY`S REDTWIG` / RED TWIG DOGWOOD
DENSE, FULL
HYDRANGEA QUERCIFOLIA / OAKLEAF HYDRANGEA
ITEA VIRGINICA `HENRY`S GARNET` / HENRY`S GARNET SWEETSPIRE

NOTE: THE PLANTS LISTED IN THE PLANT SCHEDULE ARE REPRESENTATIVE OF THE SPECIES THAT COULD BE PLANTED TO MEET THE REQUIREMENTS FOR THE COMMUNITY CHARACTER CORRIDOR BUFFER PLANTING. THE SHRUBS SPECIFIED ARE A LIST OF SHRUBS THAT ARE RECOMMENDED FOR PLANTING WITHIN THE DOMINION ENERGY ELECTRIC TRANSMISSION RIGHT OF WAY, AS PROVIDED BY DOMINION ENERGY.

Rev.	Date	Description	Revised By

COMMONWEALTH OF VIRGINIA LICENSED LANDSCAPE ARCHITECT JORDAN M. BRISTOW Lic. No. 001915 12/21/2020

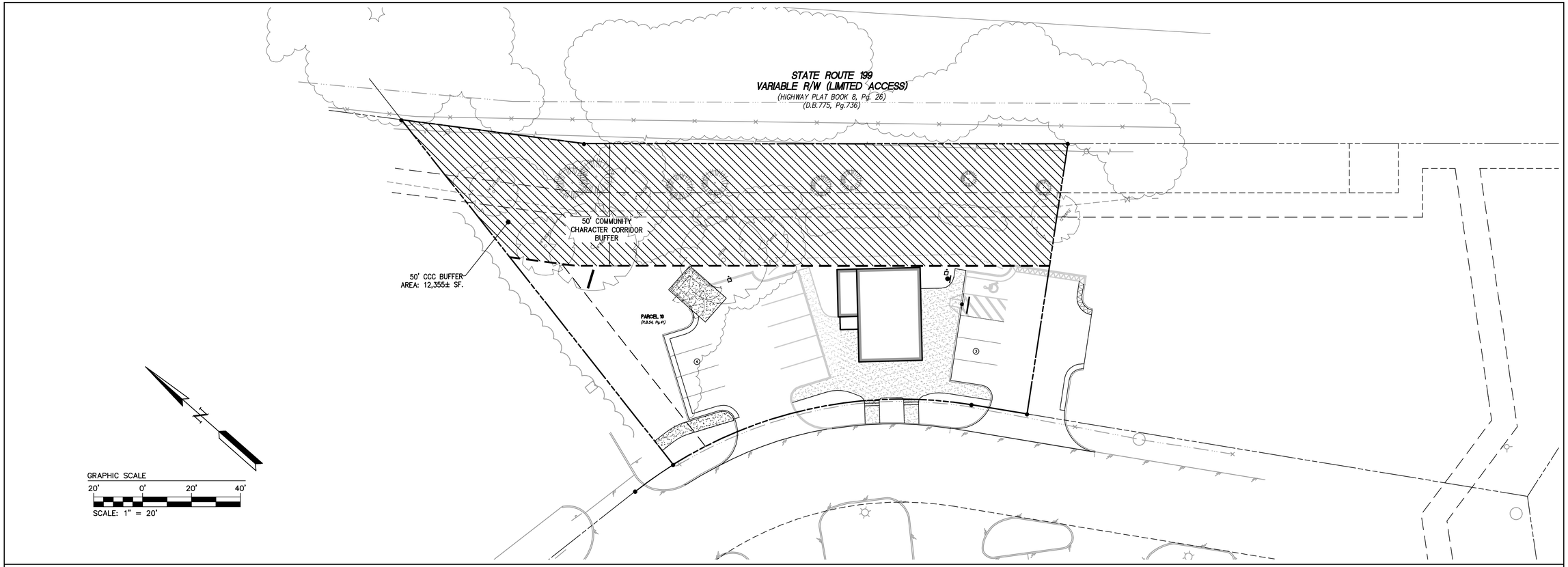
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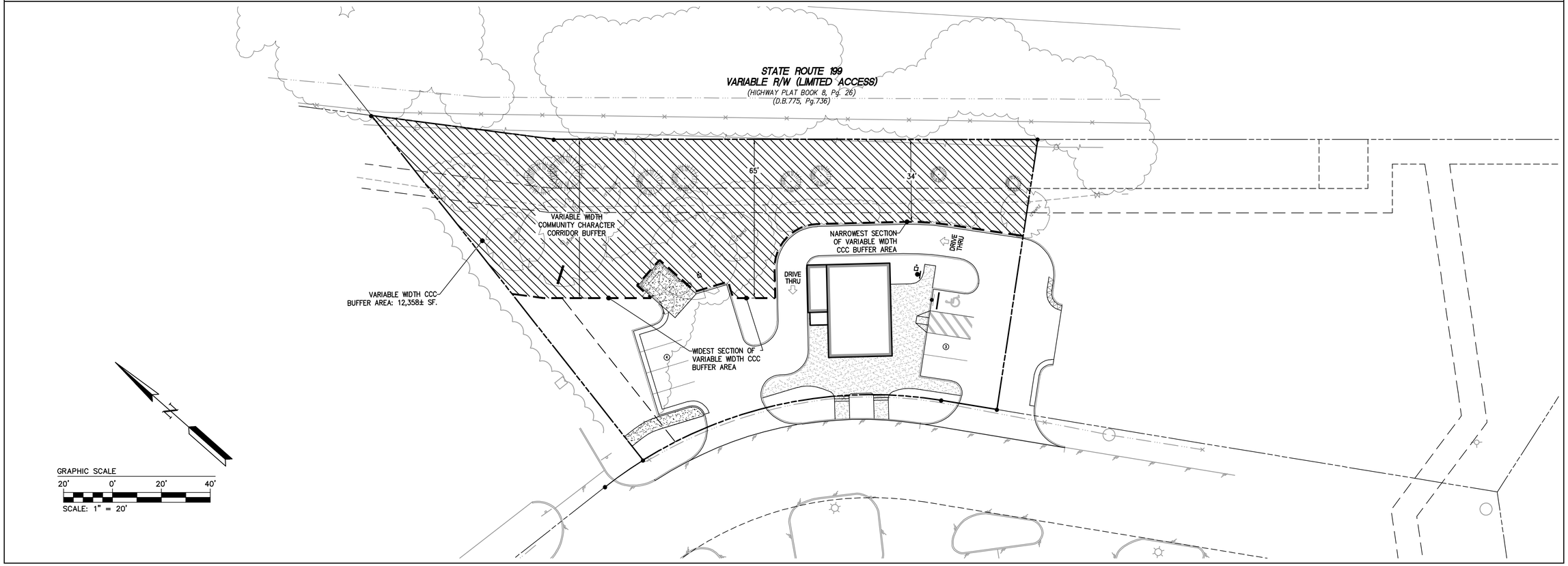
SPECIAL USE PERMIT AMENDMENT
CAROLINE'S CREAMERY, LLC
BERKELEY DISTRICT JAMES CITY COUNTY VIRGINIA

Project Contacts:	GAM/JMB
Project Number:	8642-04A
Scale: 1"=10'	Date: 11/24/2020

Sheet Title:
MASTER CONCEPTUAL PLAN

Sheet Number
MP-3





Rev.	Date	Description	Revised By

COMMONWEALTH OF VIRGINIA LICENSED LANDSCAPE ARCHITECT
Lic. No. 001915
JORDAN M. BRISTOW
12/21/2020

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SPECIAL USE PERMIT AMENDMENT
CAROLINE'S CREAMERY, LLC
BERKELEY DISTRICT JAMES CITY COUNTY VIRGINIA

Project Contacts:	GAM/JMB
Project Number:	8642-04A
Scale: 1"=20'	Date: 11/24/2020

Sheet Title:
COMMUNITY CHARACTER CORRIDOR BUFFER EXHIBITS

Sheet Number
MP-4

Special Use Permit (SUP) Project Narrative – SUP-20-0017

Caroline's Creamery, LLC, dba Bruster's Ice Cream located at 5289 John Tyler Highway (PIN: 4812200010), Bruster's Ice Cream, who is celebrating 20 years in operation this year, is requesting a Special Use Permit amendment to accommodate a drive thru addition to their existing business operation. Due to the impact of Covid-19, Bruster's Ice Cream has had to modify its approach to delivering its products to the community. This drive thru expansion allows Bruster's to provide a new and safer way to continue to provide its excellent services, while maintaining a safe, socially distant and more convenient transaction.

Due to site constraints, the proposed drive thru wraps behind the existing building, approximately 15 feet into the 50' Community Character Corridor (CCC) Buffer adjacent to State Rt. 199. To offset this encroachment, the CCC Buffer will vary in width, as allowed in Sec. 24-98 of the James City County Zoning Ordinance, so that buffer shall be no less than 25' and no more than 65' in any area, and will be planted to meet the requirements set forth in Sec. 24-96. Helping further mitigate this encroachment are the existing plantings in the Rt. 199 right of way. The plantings are significant and in conjunction with the existing and proposed plantings provide a more than adequate buffer to mitigate the 15' drive thru encroachment. The drive thru expansion will require the removal of six (6) parking spaces directly adjacent to the existing building. However, the proposed condition will still provide seven (7) spaces, one (1) more than required for the site. A 5'x7' drive thru window will be built onto the existing building.

The proposed drive thru addition will help Bruster's continue to grow and flourish with varying delivery methods to serve the community, with virtually no impact to the buffer.

SUP Checklist Items

- There is no change to the impact of traffic with this project.
- There are no impacts to water and sewer with this project.
- There is not a need for a Historic and Archaeological Study with this project.
- There are no natural resources on site applicable to the James City County Natural Resources Policy.
- The proposed drive thru addition should increase the fiscal impact to James City County.
- There is no Parks and Recreation information associated with this project.



RENDERED CONCEPTUAL LAYOUT

CAROLINE'S CREAMERY

JAMES CITY COUNTY, VIRGINIA

(AES PROJECT #: 8642-04A - AES PROJECT CONTACT: JORDAN BRISTOW, L.A.)

DATE: NOVEMBER 24, 2020 REVISED: DECEMBER 21, 2020

SCALE: 1"=10'

SHEET 1 of 1

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RESOLUTION

CASE NO. SUP-2-93. WILLIAMSBURG CROSSING

WHEREAS, the Board of Supervisors of James City County has adopted by ordinance specific land uses that shall be subjected to a special use permit process; and

WHEREAS, the applicant has requested a special use permit to amend the binding master plan for the Williamsburg Crossing Shopping Center. The proposed amendment would redesignate approximately 7.6 acres of land which is currently shown as reserved to a designation which would allow an outdoor center of amusement and/or any commercial use generally permitted in the B-1, General Business District. The property is identified as a part of Parcel (1-1) on James City County Real Estate Tax Map No. (48-1); and

WHEREAS, the James City County Board of Supervisors acknowledges that the approval of this Special Use Permit does not impact the litigation currently pending in the Circuit Court for the City of Williamsburg and County of James City between University Square Associates and the County; and

WHEREAS, the James City County Board of Supervisors acknowledges that University Square Associates is not waiving any rights asserted in the pending litigation and that the County is not recognizing the validity of any rights asserted by University Square Associates in such litigation.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of James City County, Virginia, does hereby approve the issuance of Special Use Permit No. SUP-2-93 as described herein with the following conditions:

1. No more than 535,665 square feet total of commercial and/or office square footage, including existing development, and 198 multifamily residential units, shall be constructed on the site.

2. A minimum 65-foot buffer shall be provided along the southern and western boundaries of the site. The buffer shall be landscaped, at a minimum, in accordance with the landscaping requirements of the Zoning Ordinance and such landscaping shall be approved by the Development Review Committee. Utilities and drainage structures may be placed within the buffer if approved by the Development Review Committee. This buffer may be reduced to a width of 50 feet if enhanced landscaping approved by the Development Review Committee is provided. Such enhanced landscaping shall be far in excess of what is required by the Zoning Ordinance and shall effectively screen the adjacent property.

3. A minimum 50-foot greenbelt, free of structures and paving, shall be provided along the future right-of-way of Route 199 as shown on Sheet 3 of the Virginia Department of Transportation's plan entitled "Commonwealth of Virginia, Plan and Profile of Proposed State Highway, James City County and York County, (Route 199), From: 0.092 mi south of Route 60 EBB, To: Interstate Route I-64" and hand dated May 26, 1992, a copy of which is

These documents were printed from the official JCC Records Management Imaging site

kept on file at the James City County Planning Division and shall contain enhanced landscaping as approved by the Development Review Committee, with the minimum landscaping in accordance with the standards contained in the Zoning Ordinance.

4. A right-turn lane, acceptable to the Virginia Department of Transportation, shall be provided on southbound Strawberry Plains Road (Route 616) at its intersection with Route 5 and Route 199. This turn lane shall be installed prior to final site plan approval for any project on the site which causes the total trip generation of the Williamsburg Crossing Shopping Center (including out parcels, office development, residential development, an outdoor center of amusement and/or existing development) to go beyond the trip generation equivalent of 211,177 square feet of shopping center development (L.U. Code 820).

5. No Certificate of Occupancy shall be issued for any portion of the project which causes the total trip generation of the Williamsburg Crossing Shopping Center (including out parcels, office development, residential development, an outdoor center of amusement and/or existing development) to go beyond the trip generation equivalent of 477,390 square feet of commercial development of shopping center development (L.U. Code 820) until the construction of the future Route 199/Route 5 intersection has commenced.

6. The following road improvements identified by the applicant's traffic impact analysis shall be made to the Route 5/Kings Way intersection prior to issuance of any Certificate of Occupancy for any development after the relocation of the main entrance to Kings Way or earlier if requested by the Virginia Department of Transportation:

Northbound Kings Way shall have the following configuration:

1 through/left-turn lane
1 right-turn lane

Southbound Kings Way (Ferncliff Drive) shall have the following configuration:

1 lane (current configuration)

Eastbound Route 5 shall have the following configuration:

1 left-turn lane
1 through lane
1 through/right-turn lane

Westbound Route 5 shall have the following configuration:

1 left-turn lane
1 through/right-turn lane

Improvements which become the developer's responsibility shall be built to

These documents were printed from the official JCC Records Management Imaging site

dimensions and specifications as determined by VDOT at development plan submittal. VDOT may, at the time of development plan review, substitute the above improvements with equivalent improvements or not require certain improvements if deemed unnecessary. The applicant shall be responsible for any other road improvements related to the development, if determined necessary by VDOT.

7. Signalization of Kings Way and Route 5 shall be provided by the applicant when signal warrants require signalization. Additionally, the applicant shall construct a dedicated right-turn lane on westbound Route 5 at the time of signalization. The turn lane shall be approved by VDOT and built to their standards.

8. Lighting on the site shall be of the sodium vapor type and shall be consistent in nature and illumination characteristics with the lighting currently utilized in the Williamsburg Crossing Shopping Center. If an outdoor center of amusement is constructed, only high pressure sodium lighting shall be permitted consistent with conditions of Case No. SUP-3-93.

9. A pedestrian access shall be provided to the vacant R-1 zoned parcel located to the west of the site. The location of such access shall be approved by the Development Review Committee.

10. Land Bay 11 shall only be used for open space associated with an outdoor center of amusement. No impervious surface or buildings shall be permitted. Poles, netting, and fencing shall be permitted if these facilities are part of an outdoor center of amusement.

Judith N. Knudson
Chairman, Board of Supervisors

SUPERVISOR	VOTE
TAYLOR	AYE
EDWARDS	NAY
DEPUE	AYE
SISK	AYE
KNUDSON	NAY

ATTEST:

David B. Norman
Clerk to the Board

Adopted by the Board of Supervisors of James City County, Virginia, this 20th day of October, 1993.

SUP293-4.res

These documents were printed from the official JCC Records Management Imaging site

AGENDA ITEM NO. H.1.

ITEM SUMMARY

DATE: 1/6/2021

TO: The Planning Commission

FROM: Paul D. Holt, III, Director of Community Development and Planning

SUBJECT: Planning Director's Report - January 2021

ATTACHMENTS:

	Description	Type
🗋	Memorandum	Cover Memo
🗋	Spreadsheet listing new cases received November 2020	Exhibit
🗋	Spreadsheet listing new cases received December 2020	Exhibit
🗋	New cases spreadsheet received January 2021	Exhibit

REVIEWERS:

Department	Reviewer	Action	Date
Planning Commission	Holt, Paul	Approved	12/23/2020 - 1:40 PM
Planning Commission	Holt, Paul	Approved	12/23/2020 - 1:40 PM
Publication Management	Daniel, Martha	Approved	12/23/2020 - 1:45 PM
Planning Commission	Holt, Paul	Approved	12/23/2020 - 1:54 PM

PLANNING DIRECTOR'S REPORT
January 2021

This report summarizes the status of selected Department of Community Development activities during the past three months.

- **Planning**

  - **Monthly Case Reports:** For a list of all cases received in the last three months, please see the attached documents.

  - **Board Action Results:**
    - **October 13, 2020**
      - AFD-05-86-2-2018. 10039 Old Stage Road, Barnes Swamp AFD Addition (Approved 5-0)
      - SUP-20-0014/Z-20-0004. Williamsburg Landing Boatwright Circle Amendments (Approved 5-0)
    - **November 10, 2020**
      - SUP-20-0016. Norge Solar Farm SUP Amendment (Approved 5-0)
      - SUP-20-0015. 3179 Chickahominy Road Family Subdivision (Approved 5-0)

  - **Comprehensive Plan Update**
    - In October, November and December, the Planning Commission Working Group met to continue to review the technical reports and associated materials for the Comprehensive Plan chapters, including Economic Development, Parks and Recreation, Housing, Environment, Community Character, Transportation, Public Facilities, and Land Use, including the draft Future Land Use Map materials. The Planning Commission also had a joint work session with the Board of Supervisors on October 27th to review the Round 2 public engagement results as well as the Plan Framework and Preferred Scenario documents.

      In October, November and December, the Community Participation Team (CPT) met to revise and affirm the Public Engagement Round 2 Exploring and Testing Public Inputs Report and to discuss and work toward finalizing the Round 3 Deciding and Affirming Engagement Approach and questionnaires on character design guidelines, the future land use map, and policies and actions regarding the public input priorities of nature, economic development, quality of life, and affordable/workforce housing.

      From January 11 to February 21, 2021, the Round 3 Community Chats and Questionnaires will provide a third and final opportunity during the Comprehensive Plan update for the community to give input on future County policies and actions to implement planning priorities. The Policies and Actions

Questionnaire on Nature, Economic Development, Quality of Life, and Affordable Housing will be released on Jan. 11, 2021, with virtual Community Chats held on Jan. 14 at noon and Jan. 21 at 6:30 p.m. for the community to learn more about these topics and ask questions. Questionnaires on Character Design Guidelines and the Future Land Use Map will be released Jan. 25, 2021, with virtual Community Chats on Jan. 28 at noon or Feb. 4 at 6:30 p.m. for the community to learn more about these topics and ask questions.

- **The Planning Division welcomes new Community Development Assistant Paxton Condon**



Paxton recently graduated from the College of William & Mary with a Bachelors in Public Policy. In summer 2019, she interned with the United States Marshals Service in their Office of Congressional Affairs. In her spare time, she enjoys crafting and any time she gets to spend near the ocean.

- **League of American Bicyclists – James City County Honorable Mention**

  On December 16, 2020, the League of American Bicyclists listed James City County as an Honorable Mention in the 2020 Bicycle Friendly Communities awards. James City County Planning Department submitted an application with assistance from Zoning, the Police Department, Parks and Recreation and the Historic Triangle Bicycle Advisory Committee. The League of American Bicyclists provided a report card to assist James City County on improving their application to better their chances of becoming an awarded community.

- **Building Safety & Permits**

  - **Building Safety & Permits welcomes new Permit Technician Sherri Thompson**

    Sherri has a wealth of customer service experience, having worked for several well-known local companies. She enjoys hiking, reading and cooking and is mom to four amazing young men.

- **Community Development**
  - Safety and security improvements were recently completed for Buildings A & E. Improvements include the ability to monitor the front door, secure doors from the lobby to staff areas, and protective glass panels at the customer service counters.





New Cases Spreadsheet for November 2020

CaseType	Case Number	Case Title	Address	Description	District	Assigned To
Appeal / Variance	BZA-20-0013	4595 Ware Creek Road Lot Width Variance	4595 WARE CREEK RD	Variance to reduce minimum lot width from 200' to 185'.	Stonehouse	Orne, Taylor
Change of Use	CU-20-0017	Venture Lane Fitness Training Gym	3317-C VENTURE LN	New Fitness Training Gym tenant in vacant space.	Jamestown	Smith, Marty
Conceptual Plan	C-20-0103	Ford's Colony Fitness Center	100 MANCHESTER	Conceptual Plan for conversion of bay of warehouse into fitness center.	Powhatan	Wysong, Thomas
	C-20-0106	8796 Pocahontas Trl. Tourist Home	8796 POCAHONTAS TRL	8796 Pocahontas Trl. Tourist Home	Roberts	Wysong, Thomas
	C-20-0107	2749 & 2751 Jolly Pond Rd. Gordons Creek AFD Addition	2751 JOLLY POND RD	Allowable uses for properties if enrolled in an AFD.	Powhatan	Leininger, Thomas
	C-20-0108	8251 Richmond Rd. Hertzler & George Landscaping	8251 RICHMOND RD	Conceptual plan to operate Hertzler & George Landscape from 8251 Richmond Rd.	Powhatan	Leininger, Thomas
	C-20-0109	9950 Fire Tower Road Subdivision	9950 FIRE TOWER RD	Looking to divide existing lot into total of three lots.	Stonehouse	Wysong, Thomas
	C-20-0110	4007 Ironbound Rd. NEPA Review	4007 IRONBOUND RD	4007 Ironbound Rd. NEPA Review.	Jamestown	Leininger, Thomas
Ordinance Update	ORD-20-0015	Keeping of Bees in non-residential Districts	101 Mounts Bay RD	Keeping of Bees in non-residential Districts.	Roberts	Costello, Terry
Rezoning	Z-20-0005	Powhatan Terrace Proffer Amendment #3	1676 JAMESTOWN RD	Powhatan Terrace Proffer Amendment #3.	Berkeley	Haynes, Tori

Site Plan	SP-20-0059	Williamsburg Landing Boatwright Cir. Duplexes	5550 WILLIAMSBURG LANDING DR	Development Plan for Boatwright Circle Addition at Williamsburg Landing.	Roberts	Wysong, Thomas
	SP-20-0062	Kingswood Pool Dome	111-A SPRING RD	Putting a Dome over the existing Kingswood Pool.	Berkeley	Wysong, Thomas
	SP-20-0063	Toano Pedestrian Improvements	3135 FORGE RD	Pedestrian safety improvements to Route 60 in Toano.	Stonehouse	Leininger, Thomas
	SP-20-0064	AJ's Tree Service Gravel driveway and Parking Lot	7782 RICHMOND RD	Plan of Development for a new gravel driveway and parking lot.	Stonehouse	Risinger, John
	SP-20-0065	7505 Richmond Rd. Playground SP Amend	7505 RICHMOND RD	The project will add a playground to an existing area of the site that is not being utilized for parking. The playground will use rubber tiles over the existing asphalt.	Stonehouse	Wysong, Thomas
	SP-20-0066	Stonehouse Elementary Learning Cottage Lighting SP Amend.	3651 ROCHAMBEAU DR	Installation of exterior trailer-mounted lights.	Stonehouse	Haynes, Tori
	SP-20-0067	Jamestown High School Learning Cottage Lighting SP Amend.	3751 JOHN TYLER HWY	Installation of exterior trailer-mounted lights.	Berkeley	Haynes, Tori
	SP-20-0069	Bryant Contracting Storage Yard SP Amend.	7754 RICHMOND RD	Future storage yard details .	Stonehouse	Costello, Terry
	SP-20-0070	5900 Warhill Trail, Water Tank Antenna Upgrade SP Amend.	5900 WARHILL TRL	Upgrade of antenna equipment on existing water tank/antenna.	Powhatan	Risinger, John

Subdivision Plat	S-20-0044	7082 Menzels Rd. Little Creek Minor Subdivision, Lots 1-5	7082 MENZELS RD	First of two back to back minor subdivisions.	Powhatan	Haynes, Tori
	S-20-0045	7082 Menzels Rd. Little Creek Minor Subdivision, Lots 5-9	7082 MENZELS RD	Second of 2 back to back minor subdivision plats.	Powhatan	Haynes, Tori
	S-20-0046	132 Reflection Dr. and 7901 Croaker Rd. Subdivision	132 REFLECTION DR	Subdivision creating two lots from 132 Reflection Drive which includes a boundary line adjustment for 7901 Croaker Road.	Stonehouse	Ribeiro, Jose
	S-20-0047	Jolly Pond Road T Turnaround	2900 JOLLY POND RD	Creating right-of-way for T Turnaround.	Powhatan	Leininger, Thomas
	S-20-0048	2150 John Tyler Hwy. Minor Subdivision	2150 JOHN TYLER HWY	Creation of one 25.5 acre parcel + associated r/w dedication.	Powhatan	Haynes, Tori
	S-20-0049	Stonehouse Preserve & Riverfront Preserve	9800 SIX MOUNT ZION RD	Subdivision creating the two preserve parcels.	Stonehouse	Wysong, Thomas
	S-20-0050	New Town Section 8, Parcel D, Phase 1B	5335 SETTLERS MARKET BLVD	New Town Section 8, Parcel D, Phase 1B, Lots 61-78, 123-124 and CA89	Jamestown	Wysong, Thomas
	S-20-0052	The Promenade at John Tyler Phase 34 - Courthouse Plat	5304 JOHN TYLER HWY	Courthouse Plat	Berkeley	Baruch, Alex
	S-20-0053	The Promenade at John Tyler Phase 33 - Courthouse Plat	5304 JOHN TYLER HWY	Courthouse Plat	Berkeley	Baruch, Alex
Zoning Verification Letter	ZVL-20-0028	ZVL for 3612 La Grange Parkway	3612 LA GRANGE PKWY	Request for verification of Zoning District and uses; List of Code Violations; Zoning Information for adjacent parcel.	Stonehouse	Orne, Taylor
	ZVL-20-0029	ZVL for 5215 Monticello Avenue	5215 MONTICELLO AVE	Request for verification of Zoning District and uses; List of Code Violations; Zoning Information for adjacent parcel.	Jamestown	Orne, Taylor

New Cases Spreadsheet - December 2020

Case Type	Case Number	Case Title	Address	Description	District	Assigned To
Change of Use	CU-20-0019	Head Start Building	7505 RICHMOND RD	Suites indicated change from business to educational use.	Stonehouse	Smith, Marty
Conceptual Plan	C-20-0115	1245 Stewarts Rd. Subdivision	1245 STEWARTS RD	Intend to remove parcel from AFD in 2022 and subdivide into 3 more residential lots.	Stonehouse	Leininger, Thomas
	C-20-0116	8796 Pocahontas Trail Antique Shop & Caretaker's Residence	8792 POCAHONTAS TRL	Retail space to house an antique shop with attached care keepers residence.	Roberts	Wysong, Thomas
	C-20-0117	George Washington Inn Merrimac Trail Rezoning (York County Courtesy Review)	101 MOUNTS BAY RD	A request to amend the York County Zoning Map by reclassifying four parcels of land for the purpose of redeveloping an existing motel into a 125-unit rental apartment building.	Roberts	Meadows, Brett
	C-20-0118	1239 Oak Dr. Subdivision	1239 OAK DR	A plan to demolish the existing structure and subdivide the parcel to construct a single-family home on each parcel	Roberts	Risinger, John
	C-20-0120	Carter's Grove Shoreline Stabilization	8797 POCAHONTAS TRL	Living Shoreline Project DEQ Review	Roberts	Meadows, Brett
Ordinance Update	ORD-20-0017	Amendment to Division 14 - Planned Unit Development Districts, PUD Section 24-493 Use List	101-A MOUNTS BAY RD	Ordinance Amendment to include contractors' offices and storage in the Use List	Roberts	Parrish, Christy

Case Type	Case Number	Case Title	Address	Description	District	Assigned To
Site Plan Amendment	SP-20-0068	5485 Mooretown Rd. Office Building Lighting SP Amend.	5485 MOORETOWN RD	Amendments to approved lighting plan	Powhatan	Risinger, John
	SP-20-0071	6489 Richmond Rd. Fencing SP Amend.	6489 RICHMOND RD	Extending 8' tall aluminum fence to enclose the property.	Stonehouse	Ribeiro, Jose
	SP-20-0072	3428 Brick Bat Rd. Tailwinds Ranch	3428 BRICK BAT RD	Site Plan for theraputic riding center	Berkeley	Costello, Terry
	SP-20-0073	James City County Marina Improvement Project Amendment #2	2054 JAMESTOWN RD	Value engineering revisions to the previously approved James City County Marina Improvement Project bid set.	Berkeley	Haynes, Tori
	SP-20-0077	Exit 231 of I-64 Wireless Tower Equipment Swap SP Amend.	Exit 231 Interstate 64	Upgrading equipment to existing ATT cell site NF115:	Stonehouse	Leininger, Thomas
	SP-20-0078	The Promenade at John Tyler Public Square	5307 JOHN TYLER HWY	Site plan for a public square at the Promenade at John Tyler and associated site infrastructure.	Berkeley	Ribeiro, Jose
	SP-20-0080	James City County Marina Lighting SP Amend.	100 MP JAMESTOWN YACHT BASIN	Replacement of Lighting Fixtures	Berkeley	Risinger, John
	SP-20-0081	Coastal Animal Referral and Emergency (CARE)	5295 JOHN TYLER HWY	SP for re-use of the Zaxby's Building	Berkeley	Ribeiro, Jose
Subdivision	S-20-0054	Colonial Heritage Phase VI, Section 2B	499 JOLLY POND RD	Colonial Heritage Phase VI - Section 2B Plat of Subdivision Lots 10-14, 37-82 & COS #3, #4B & #5B	Stonehouse	Ribeiro, Jose
	S-20-0055	8301 Croaker Rd. BLA	8301 CROAKER RD	Boundary Line Adjustment between Lot 3, Subdivision of Parcel No. 1, M.A. Rouland Estate Property and Lot 27, Glenwood Acres	Stonehouse	Meadows, Brett
	S-20-0056	5495 Centerville Rd. Survey	5495 CENTERVILLE RD	Courthouse plat - 5495 Centerville Rd. Survey	Powhatan	Baruch, Alex
	S-20-0057	7155 Little Creek Dam Rd. BLE	7155 LITTLE CREEK DAM RD	Boundary Line Extinguishment, Lot 4, Timber Creek Estates & residual parcel	Powhatan	Baruch, Alex
	S-20-0058	124 and 124B Cooley Road BLA	124 COOLEY RD	Adjustment of boundary lines between the two parcels.	Jamestown	Ribeiro, Jose
Zoning Verification	ZVL-20-0031	7346 Merrimac trail	7346 MERRIMAC TRL	Zoning Compliance Verification for AAAA Self-Storage and Moving	Roberts	Rogerson, John
	ZVL-20-0032	5393 Mooretown Road	5393 MOORETOWN RD	Zoning letter to include copies of any open/active zoning, building, and fire code violations; and any variances, special/conditional use permits.	Jamestown	Orne, Taylor

New Cases Spreadsheet for January

Case Type	Plan Number	Case Title	Address	Plan Type	Description	Assigned To	District
Appeal	BZA-20-0014	Zoning Administrator's Determination Appeal, 7218 Merrimac Trail	7218 Merrimac Trail	Appeal / Variance	Zoning Administrator's Determination Appeal that a mural painted on the outside wall of the existing building on property located at 7218 Merrimac Trail is a sign	Parrish, Christy	Roberts
Conceptual Plan	C-20-0121	Norge Solar Farm DEQ Review	341 Farmville Lane	Conceptual Plan	Norge Solar Farm DEQ Review	Leininger, Thomas	Stonehouse
	C-20-0122	Fieldstone Parkway Intersection Signal Justification Report	9300 Fieldstone Parkway	Conceptual Plan	Fieldstone Parkway Intersection Signal Justification Report	Wysong, Thomas	Stonehouse
	C-20-0123	The Homes at Wessex Hundred	140 Waltrip Lane	Conceptual Plan	Potential Planned Residential Development	Wysong, Thomas	Roberts
	C-20-0124	Oakland Pointe	7581 Richmond Road	Conceptual Plan	Revisions to approved plan	Ribeiro, Jose	Stonehouse
	C-20-0127	Stonehouse Ware Creek Disconnection	9800 Six Mount Zion Road	Conceptual Plan	Stonehouse Proffer 3.8 Petition to VDOT: Ware Creek Disconnection	Wysong, Thomas	Stonehouse
	C-20-0128	Surry-Skiffes Creek-Whealton Transmission Project	8961 Pocahontas Trail	Conceptual Plan	Draft Environmental Impact Study	Baruch, Alex	Roberts
	C-20-0129	Stonehouse Land Bay 5	9360 Fieldstone parkway	Conceptual Plan	Stonehouse Land Bay 5 - Required Conceptual Plan	Wysong, Thomas	Stonehouse
	C-20-0130	Potential for Subdivision of 90 Shirley Drive	90 Shirley Drive	Conceptual Plan	Determining whether the lot can be subdivided	Leininger, Thomas	Stonehouse
Change of Use	CU-20-0020	Change of Use, 4391 Ironbound Road Salon	4391 ironbound Road	Change of Use	Changing use of business located at 4391 Ironbound Rd., Unit D., Williamsburg, VA into a salon.	Smith, Marty	Jamestown
Rezoning	Z-20-0006	8189 & 8193 Richmond Road Rezoning	8189 & 8193 Richmond Road	Rezoning	Request to hange zoning from existing B-1 to M-1	Costello, Terry	Powhatan
Site Plan	SP-20-0079	4897 Longhill Rd King of Glory Lutheran Church Expansion SP Amend	4897 Longhill Road	Site Plan	Revison to Storm Sewer, Building Mounted Lighting, and landscaping. Addition of a Columbarium to the Prayer Garden	Leininger, Thomas	Jamestown
Subdivision	S-20-0059	6221 Old Mooretown Road Minor Subdivision	6221 Old Mooretown Road	Subdivision Plat	Minor subdivision with four single family lots.	Costello, Terry	Powhatan
	S-20-0060	4392 Harrington Commons Building Setback Adjustment	4392 Harrington Commons	Subdivision Plat	Courthouse Plat	Baruch, Alex	Stonehouse
	S-20-0061	2827 Forge Road Plat Vacation	2827 Forge Road	Subdivision Plat	Plat Vacation	Rosario, Tammy	Stonehouse
	S-20-0062	3179 Chickahominy Rd. Family Subdivision	3179 Chickahominy Road	Subdivision Plat	1 Acre Family Subdivision	Leininger, Thomas	Stonehouse
	S-20-0063	114 Ron Springs Dr. Minor Subdivision	114 Ron Springs Drive	Subdivision Plat	Minor Subdivision with 4 lots	Wysong, Thomas	Roberts
	S-20-0064	4861 Rochambeau Dr. & 5072 Fenton Mill Rd. BLA	4861 Rochambeau Drive	Subdivision Plat	BLA of approximately 2.6 acres from PID 2420100026 to 2420100001	Leininger, Thomas	Stonehouse
	S-20-0065	3412 & 3406 William Hodgson BLA	3412 William Hodgson	Subdivision Plat	Boundary line Adjustment between Lots 140 & 141, Phase One, Greensprings Plantation	Meadows, Brett	Berkeley
Special Use Permit	SUP-20-0017	Williamsburg Crossing Bruster's Ice Cream Drive-Thru	5289 Joohn Tyler Highway	Special Use Permit	An amendment to an existing SUP to allow the addition of a drive-thru lane and window to their existing business operation.	Meadows, Brett	Berkeley
	SUP-20-0018	Hertzler & George Landscaping	8251 Richmond Road	Special Use Permit	SUP for contractor's office and storage yard	Leininger, Thomas	Powhatan