

Planning Commission Staff Report

Meeting Date: August 8, 2022

From: Mike Knight, Assistant City Planner *mk*

Location: North of Wild Horse Creek Road and across from Wildhorse Parkway Drive

Petition: **Boone's Ridge (SDP):** A Site Development Plan, Landscape Plan, Tree Preservation Plan and Tree Stand Delineation for a 26.8 acre tract of land zoned "E-1/2AC" Estate District with a Wild Horse Creek Road Overlay District designation located on the north side of Wild Horse Creek Road and across from Wildhorse Parkway Drive (18V520115, 18V520126, 18V520160, 18V520027, 18V510381).

SUMMARY

McBride Byrne, LLC has submitted a Site Development Plan, Landscape Plan, Tree Preservation Plan and Tree Stand Delineation for a 26.8 acre tract of land to construct 36 detached single family homes known as Boone's Ridge. There is one proposed entrance off of Wild Horse Creek Road with an internal connection to a residential development known as Bur Oaks to the west and an internal connection for future development to the east.

Wild Horse Creek Road (WHCR) is classified as a major arterial roadway which is owned and operated by MoDOT. The property is zoned "E-1/2AC" Estate District with a Wild Horse Creek Road Overlay District designation. The intent of the overlay district is to protect and maintain the scenic character of the area and the adjacent neighborhoods by ensuring compatibility through site design, site plan review and to not adversely affect the character of the neighborhood or the general welfare of the City.



Figure 1: Aerial of the Subject Site

SITE HISTORY

On March 28, 2022 the City of Chesterfield City Council approved the current zoning designation, “E-1/2AC” Estate District with a Wild Horse Creek Road Overlay District designation, by a vote of (7-0) creating Ordinance 3187. This is the current governing ordinance for the subject site. The previous zoning designation consisted of multiple parcels under two different zoning districts.

Roughly 8 acres of property were zoned E-1 AC Estate District and the remaining was zoned NU – Non-Urban. Below is an image depicting the area by the previous zoning designation followed by a history of the subject site by said zoning district.



Figure 2: Current Zoning Designation of Subject Site

E-1AC Estate District

This property was zoned NU- Non Urban until 2007. Ordinance 2378 was approved in July of 2007 which changed the boundaries of the NU zoning district to a PC Planned Commercial District with the WHCR Overlay district. The goal of the development team at that time was to construct three 12,000 square foot office buildings within the roughly 8 acres of land.

The property was never developed under the PC designation. In 2011, the property was re-zoned from the PC district with the WHCR Overlay district to a E-1AC Estate district. The development team at that time intended to construct a 2-3 story senior living facility. A Conditional Use Permit (CUP) was approved on the same day as the E-1AC zoning permitting a 120-unit senior living facility. A Site Development Plan was approved, Improvement Plans were approved, and grading work began, but the project was never completed. The property is currently vacant/undeveloped.

NU Non-Urban

The property largely sits undeveloped with several homes over the 18+ acres. Staff is unaware of any applications to re-develop the existing properties.

It is important to note that the City of Chesterfield Comprehensive Land Use Plan has had varied land use designations for this property over the years. In 1990, the land use designation was Office Campus, in 2009, the designation was both Neighborhood Office and Residential Single Family, and the current designation is Suburban Neighborhood. A description of the Suburban Neighborhood land use designation may be found later in this report.

COMPREHENSIVE PLAN

The subject site is in Ward 4 of the City of Chesterfield. The City of Chesterfield Comprehensive Plan contains the City of Chesterfield Land Use Plan. The Land Use Plan depicts the development patterns envisioned by and for the community. The land use designations for the subject site including all the surrounding parcels to the south, east and west (bluff separates the Chesterfield Valley to the north) are either Suburban Neighborhood or Conservation. Below (Figure 3) is an image of the Land Use Plan.

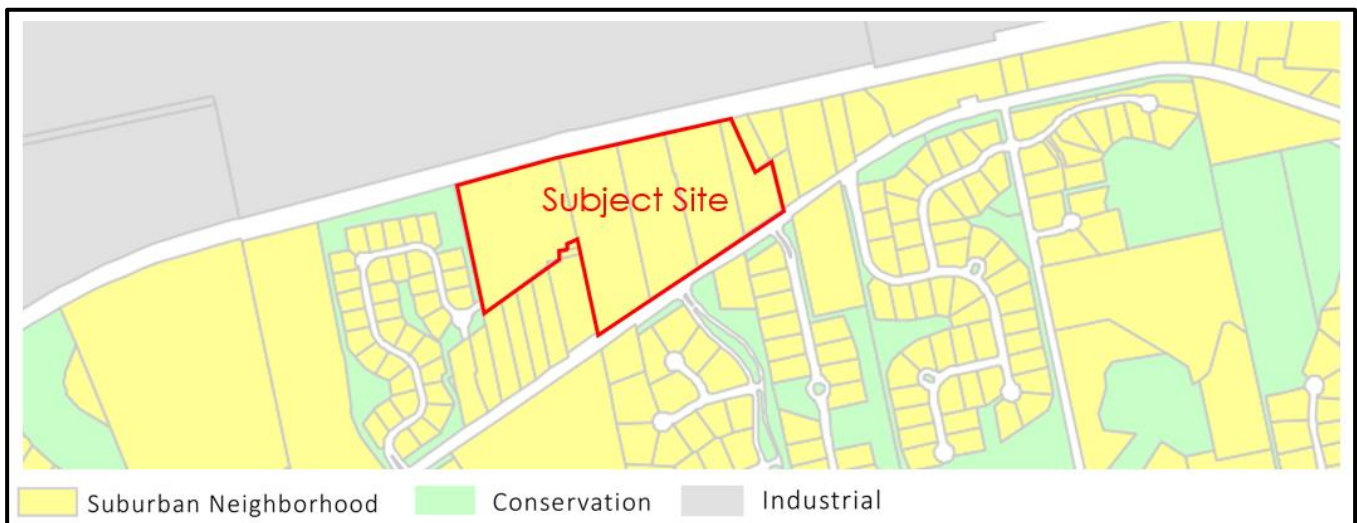


Figure 3: Land Use Designation

The conservation land use designation depicts areas of platted common ground. The area to the north that depicts the industrial land use designation is separated by a roughly 20 foot bluff and is located within the Chesterfield Valley. The Suburban Neighborhood Land Use designation (entire subject site) is described as land typically developed as a neighborhood for single-family detached homes with uniform housing densities. The proposed development is to construct 36 single family detached homes.

There are several development policies associated with the Suburban Neighborhood land use designation and referenced below.

- Encourage preservation of existing residential neighborhood's identity.
- New residential development should reinforce existing residential development patterns by continuing to reinforce high quality site and subdivision design, layout, and planning practices.

- Uncover the anticipated expense (cost of municipal infrastructure) for each new or re-developed residential development.

The proposed development is built off an extension of Silver Buck Lane. This roadway is a public roadway that runs through the entire residential development known as Bur Oaks directly to the west. The Bur Oaks subdivision is the same zoning designation as the subject site. The development is proposing public roadways. If the development is approved and constructed, the roadway and adjoining sidewalks would be additional municipal infrastructure maintenance cost in an amount typical of a single-family residential development.

SURROUNDING USES AND ZONING

The area for the subject site contains 26.8 acres. There is one major roadway to the south of the subject property, known as Wild Horse Creek Road “WHCR”. This is a major arterial roadway that is owned and operated by the Missouri Department of Transportation also known as MoDOT.

The area to the north is separated by a 20-foot bluff. Directly to the north is a golf course followed by the Spirit of St. Louis Airport. The areas surrounding the site east, south, and west consist mostly of single-family homes, except for two properties to the south (G & H in Figure 4) containing a preschool/early education center and a security/locksmith. The location of these properties are shown in Figure 4 and a description including the current land use, land use plan designation and zoning district are in Figure 5.

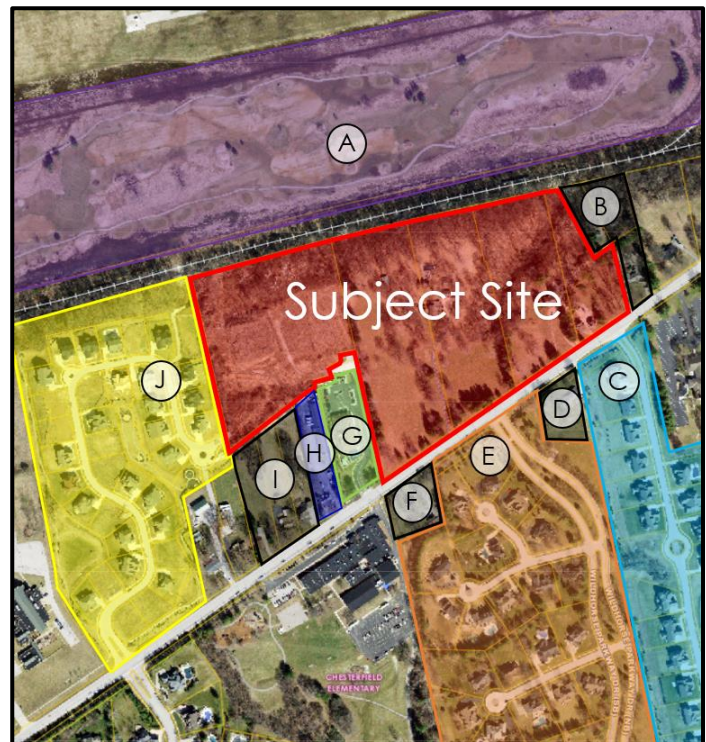


Figure 4: Surrounding Uses and Zoning Location

Direction	Label	Zoning District	Current Land Use	Land Use Plan	
North	A	M3 - Planned Industrial	Golf Course	Industrial	
East	B	NU - Non-Urban	Single Family	Suburban Neighborhood	
South	C	PUD - Planned Unit Development			
South	D, F, I	NU - Non-Urban			
South	E	R1- Residence			
South	G	R5 - Residence District			Preschool & Early Education Center
South	H	NU - Non-Urban			Security and Locksmith
West	J	E 1/2 AC Estate District			Single Family (Bur Oaks)

Figure 5: Surrounding Uses and Zoning Description

WH Wild Horse Creek Road Overlay District

All properties located within the Wild Horse Study Subarea (also known as "the Bow Tie") are required to zone to the WH Overlay District prior to any development or redevelopment action. Properties located within the Wild Horse Study Subarea may only seek a Zoning Map amendment to one of the estate district categories. As the WH Overlay District is required for all properties in this subarea, properties in the subarea do not qualify for a PUD Planned Unit Development zoning. Below is an image (Figure 6) of the Wild Horse Study Subarea. The current governing ordinance enacted this Overlay District onto the subject site.



Figure 6: Location of Wild Horse Study Subarea "Bow Tie"

As previously stated, the intent of the WH Wild Horse Creek Road Overlay District is to protect and maintain the scenic character of the Wild Horse Creek Road Subarea and the adjacent neighborhoods by ensuring compatibility through site design, site plan review, and the regulation of activity upon the designated sites so that the uses of the property will not adversely affect the character of the neighborhood or the general welfare of the City.

In addition to the development standards and district requirements required for the site in accordance with the underlying estate district zoning, the following performance standards are applicable to the WH Overlay District. Below are applicable minimum standards of design outlined in the City's Unified Development Code, followed by how the applicant's request relates to the minimum standards in *blue*.

A. Uses. Permitted and conditional uses for the WH Overlay District.

The applicant is requesting to construct 36 single family homes which are permitted under the current zoning designation.

B. Community amenities, such as a community center, nature preserve areas, park, lake, recreation areas, and other similar uses and amenities, are required for all residential development and shall be shown on any preliminary plan and/or site development plan.

The applicant is proposing a development that contains 37% common ground and 40% tree preservation. The applicant is proposing sidewalks along the internal roadway and sidewalks

along Wild Horse Creek Road. The applicant is also proposing a pickle ball court located within common ground.

C. Specific design requirements are set forth in Table 1:

Table 1: Specific Design Requirements	
Building design	Rear and side facades shall be designed with similar detailing and be compatible with the principal facades of the building
Internal roadway system	As development occurs in the area, an internal roadway system, complete with buffers, landscaping, pedestrian circulation, and cross access shall be required as directed by the City of Chesterfield
Pedestrian circulation	To achieve pedestrian circulation, all development shall include sidewalks and/or trails
Preservation of slopes and natural features	Development on slopes in excess of 20% shall be minimized to the greatest extent practicable except for necessary infrastructure and public improvements
Protection of historic features	Future development shall minimize any impact to historic and heritage sites. Historic buildings and archeological sites shall be of utmost importance

The proposed Site Development Plan meets all of the Specific Design Requirements established in Table 1.

STAFF ANALYSIS

Zoning

As previously stated, the site specific governing ordinance for the subject site is Ordinance 3187. The proposed plans comply with the development criteria contained within the site-specific ordinance by providing thirty-six (36) single family detached homes. The proposed lots vary between approximately 15,000 square feet and 25,164 square feet in size. This complies with the minimum 15,000 square foot lot size requirement which corresponds to the underlying “E-1/2AC” Estate District within the “WH” Overlay.

Access and Circulation

The development has one entrance/exit from Wild Horse Creek Road. The development connects to the existing single family home development to the west and connects internally to the east for potential future development. The proposed development will provide an east bound left turn lane into the development. Concerns were raised through the zoning process in regards to the level of services of the

intersection at Wild Horse Creek Road. The development team has provided a traffic assessment by a transportation engineer at the company CBB. The entire assessment, including the summary regarding traffic impacts, is included within the Planning Commission Packet. One of the summarized conclusion statements from the transportation engineer was that there are no further improvements to improve conditions and a traffic signal is not warranted nor should be considered due to the short spacing between the adjacent signalized intersection.

Tree Preservation

A Tree Preservation Plan is required and has been provided for the proposed development. The plan exceeds the requirement of 35% tree preservation by depicting a tree canopy area to be preserved at 40%. It should be noted that although the plan is depicting 40%, the actual preserved canopy will be higher as there are trees being saved on future developed lots that are not counted within the canopy to be preserved figures.

Landscape Installation

The site specific governing ordinance requires a 50' landscape buffer off of Wild Horse Creek Road with a 30' landscape buffer around the remaining perimeter. There is an exception written into the ordinance that exempted two lots from the landscape buffer requirement. Through the Site Development Plan review process, some of the lot locations were reconfigured in which the perimeter buffer is maintained throughout the entire development.

It should be noted that the installation of sidewalk along Wild Horse Creek Road will require the removal of trees. The majority of the trees to be removed are of a low condition rating. The 50' landscape buffer will provide additional trees in the same general areas that were removed for the sidewalk installation.

Amenity

A pickle ball court is required by ordinance and included on the Site Development Plan. This court will be surrounded by a four foot high vinyl coated chain link fence. Additional plantings have also been placed to the south of the court to screen from Wild Horse Creek Road in addition to the aforementioned proposed 50 foot landscape buffer.

CBU

All residential developments are required to utilize cluster box units (CBUs) vs individual mail boxes for mail delivery by the United States Postal Service. City staff has an internal policy over CBU quantity and placement within a residential development. The City policy closely mimics the National Delivery Planning Standards Guide of the United State Postal Service. Although the City policy and USPS guide would typically require more than one CBU location, the United States Postal Service denied an attempt by the development team to secure more than one location. Residential mail delivery locations are under the jurisdictional authority of the United States Postal Service.

STAFF RECCOMENDATION

City Staff has completed review of the proposed Site Development Plan. All appropriate outside jurisdictional agencies have reviewed the plan and provided input/approval. The Site Development Plan meets all the requirements of the site specific governing ordinance and the City's Unified Development Code. Staff recommends approval of the proposed Site Development Plan.

MOTION

The following options are provided to the Planning Commission for consideration relative to the application:

- 1.) "I move to approve (or deny) the Site Development Plan, Landscape Plan, Tree Preservation Plan and Tree Stand Delineation for the Boone's Ridge subdivision."

- 2.) " I move to approve the Site Development Plan, Landscape Plan, Tree Preservation Plan and Tree Stand Delineation for the Boone's Ridge subdivision with the following conditions..." (Conditions may be added, eliminated or modified)

Attachments: Site Development Plan
 Landscape Plan
 Tree Preservation Plan
 Tree Stand Delineation
 Traffic Assessment

ATTACHMENT A

All provisions of the City of Chesterfield City Code shall apply to this development except as specifically modified herein.

I. SPECIFIC CRITERIA

A. PERMITTED USES

- 1. The uses allowed in this "B-1/2 AC" Estate District with a Wild Horse Creek Road "WF" Overlay District shall be:
 - a. Dwellings, Single Family Detached.

B. DENSITY REQUIREMENTS

- 1. The total number of single family residential units shall not exceed thirty-six (36) units.

C. SETBACKS

- 1. Structure setbacks shall be as follows:
 - a. Twenty-five (25) foot minimum from the internal ROW.
 - b. Ten (10) foot minimum side-yard setback for all lots.
 - c. Twenty (20) foot minimum setback between structures shall be maintained for all lots.
- 2. No building or structure, other than a freestanding project identification/ornamental entrance monument sign, light standards, retaining walls or flag poles shall be located within the above listed setbacks.
- 3. Lot Setbacks shall be as follows:
 - a. All developed lots must be setback at least fifty (50) feet from the Wild Horse Creek Road right-of-way.

D. DEVELOPMENT STANDARDS

- 1. Minimum lot size for this development shall be 15,000 square feet.
- 2. Maximum height of all structures shall be fifty (50) feet.
- 3. A minimum of thirty percent (30.0%) Common Open Space shall be required for this district.

2. The receiving sanitary sewer system(s) shall be evaluated to ensure adequate capacity and to ensure the project has no negative impacts to the existing system(s).

P. GEOTECHNICAL REPORT

- 1. Prior to Site Development Plan approval, the developer shall provide a geotechnical report, prepared by a registered professional engineer licensed to practice in the State of Missouri, as directed by the City of Chesterfield. The report shall verify the suitability of grading and proposed improvements with soil and geologic conditions and address the existence of any potential sinkholes, ponds, dams, septic fields, etc., and recommendations for treatment. A statement of compliance, signed and sealed by the geotechnical engineer preparing the report, shall be included on all Site Development Plans and Improvement Plans.

Q. MISCELLANEOUS

- 1. Existing overhead electric lines and poles serving these properties shall be removed and all new utilities shall be installed underground.
- 2. Prior to record plat approval, the developer shall cause, at his expense and to the recording of any plat, the reestablishment, restoration or appropriate witnessing of all Corners of the United States Public Land Survey located within, or which define or lie upon, the outboundaries of the subject tract in accordance with the Missouri Minimum Standards relating to the preservation and maintenance of the United States Public Land Survey Corners, as necessary.
- 3. The retaining walls, guardrail, and fence along the temporary turn-around shall be private and remain private forever and shall be located such that it is not necessary to support any public improvements.
- 4. Prior to final release of subdivision construction deposits, the developer shall provide certification by a registered land surveyor that all monumentation depicted on the record plat has been installed and United States Public Land Survey Corners have not been disturbed during construction activities of that they have been reestablished and the appropriate documents filed with the Missouri Department of Natural Resources Land Survey Program, as necessary.
- 5. Community amenities, including but not limited to a picnic ball court shall be provided for this development as shown on the Preliminary Development Plan, attached hereto and marked as Attachment B.

E. PARKING AND LOADING REQUIREMENTS

- 1. No construction related parking shall be permitted within right of way or on any existing roadways. All construction related parking shall be confined to the development.
- 2. Provide adequate temporary off-street parking for construction employees. Parking on non-surfaced areas shall be prohibited in order to eliminate the condition whereby mud from construction and employee vehicles is tracked on to the pavement causing hazardous roadway and driving conditions.
- 3. Parking and loading requirements for this development will be as required in this City of Chesterfield Code.

F. LANDSCAPE AND TREE REQUIREMENTS

- 1. The development shall adhere to the Landscape and Tree Preservation Requirements of the City of Chesterfield Code.
- 2. Landscape Buffer requirements:
 - a. A thirty (30) foot Landscape Buffer shall be required along the perimeter of the district, except for the perimeter to the east of Lots 1B and 2B and the southern border as identified on the Preliminary Development Plan attached hereto and marked as Attachment B. A fifty (50) foot landscape buffer shall be required along the southern border adjacent to Wild Horse Creek Road after right-of-way dedication.
 - b. The required Landscape Buffer shall be outside of any developed lot and shall be dedicated as Common Open Space or Common Ground as identified on the Preliminary Development Plan.
- 3. A minimum of thirty-five percent (35.0%) tree preservation shall be required for this district.

G. SIGN REQUIREMENTS

- 1. Signs shall be permitted in accordance with the regulations of the City of Chesterfield Code.
- 2. Ornamental Entrance Monument construction, if proposed, shall be reviewed by the City of Chesterfield and the Missouri Department of Transportation for sight distance considerations prior to installation or construction.

H. LIGHT REQUIREMENTS

- 1. Provide a lighting plan and cut sheet in accordance with the City of Chesterfield Code.

II. GENERAL CRITERIA

A. SITE DEVELOPMENT PLAN SUBMITTAL REQUIREMENTS
The Site Development Plan shall include all items as required by City Code and the following items:

- 1. Provide the DNL line on the Site Development Plan
- 2. Provide mail delivery locations.
- 3. Density calculations.
- 4. Parking calculations. Including calculations for all off street parking spaces, required and proposed, and the number, size and location for ADA designed.
- 5. Provide open space percentage for overall development.
- 6. A note indicating all utilities will be installed underground.
- 7. A note stating all above ground utility facilities larger than 2 feet in height or covering in excess of 4 square feet in size shall be screened from public view. If screening is completed by landscape material, a landscape plan identifying the size location and species shall be submitted and approved by the city prior to installation of any facility.
- 8. Specific structure and parking setbacks along all roadways and property lines.
- 9. Floodplain boundaries.
- 10. Depict existing and proposed improvements within 150 feet of the site as directed. Improvements include, but are not limited to, roadways, driveways and walkways adjacent to and across the street from the site, significant natural features, such as wooded areas and rock formations, and other karst features that are to remain or be removed.
- 11. Indicate the location of the proposed storm sewers, detention basins, sanitary sewers and connection(s) to the existing systems.
- 12. Address trees and landscaping in accordance with the City of Chesterfield Unified Development Code.
- 13. Comply with all preliminary plat requirements of the City of Chesterfield Subdivision Regulations per the City of Chesterfield Unified Development Code.
- 14. Signed and sealed in conformance with the State of Missouri Department of Economic Development, Division of Professional

I. ARCHITECTURAL

- 1. The development shall adhere to the Architectural Review Standards and the "WF" Overlay District of the City of Chesterfield Code.

J. ACCESS/ACCESS MANAGEMENT

- 1. Access to the development shall be shown on the Preliminary Development Plan attached hereto and marked as Attachment B, and adequate sight distance shall be provided as directed by the Missouri Department of Transportation and City of Chesterfield as applicable.
- 2. If adequate sight distance cannot be provided at the access location(s), acquisition of right-of-way, reconstruction of pavement and other off-site improvements may be required to provide the required sight distance as required by the City of Chesterfield and the agency in control of the right of way of which the access is proposed.
- 3. No lot of this development shall be allowed direct access to Wild Horse Creek Road.
- 4. Provide a 30' wide (minimum) access easement along the southern property line, north of 1701', 1701', 1707', 1707', and 17667' Wild Horse Creek Road as shown on the Preliminary Development Plan that would allow those properties to access an internal drive in the future, if necessary.
- 5. Provide approval and/or easements necessary to ensure access is retained for properties that currently have driveways on the subject tract but are not included as part of this development. Existing access easement or driveway agreements must be vacated.
- 6. The future extension of Street "F" is required to meet all city code requirements.

K. PUBLIC/PRIVATE ROAD IMPROVEMENTS, INCLUDING PEDESTRIAN CIRCULATION

- 1. Any request to install a gate at the entrance to this development must be approved by the City of Chesterfield and the agency in control of the right of way of which the entrance is constructed. No gate installation will be permitted on public right of way.
- 2. If a gate is installed on a street in this development, the streets within the development, or that portion of the development that is gated, shall be private and remain private forever.
- 3. Provide street connections to the adjoining properties as shown on the

- Preliminary Development Plan and as directed by the City of Chesterfield. Street shut signage, in conformance with Section 405.04.090 of City Code of the City of Chesterfield, shall be posted within 10 days of the street opening being placed.
- 4. All roadway and related improvements in each plat or phase of the development shall be constructed prior to issuance of building permits exceeding 40% for that plat or phase. Delays due to utility relocation and/or adjustment, for which the developer is responsible monthly, shall not constitute a cause to issue permits in excess of 40%.
- 5. Provide a 5-foot wide sidewalk, conforming to ADA standards, along Wild Horse Creek Road as approved by MoDOT and the City of Chesterfield. The sidewalk shall provide future connectivity to adjacent developments and/or roadway projects. The sidewalk should be located within MoDOT right-of-way, if permitted by MoDOT, or on private property within a 6-foot-wide sidewalk, maintenance and utility easement dedicated for public use.
- 6. Provide ADA compliant sidewalks along both sides of all internal roadways.
- 7. Construct a temporary turn-around, as shown on the Preliminary Development Plan, for the eastern terminus of Street "F". Provide a Special Cash Easement, as necessary, for future removal of the temporary turn-around and all work necessary to extend Street "F" and the associated sidewalk to the eastern property line. A permanent cut-deck or eye-low type turn-around may also be considered in lieu of a temporary turn-around.
- 8. Obtain approvals from the City of Chesterfield and the Missouri Department of Transportation and other entities as necessary for locations of proposed curb cuts and access points, areas of new dedication, and roadway improvements.
- 9. Additional right-of-way and road improvements shall be provided, as required by the Missouri Department of Transportation and the City of Chesterfield.

L. TRAFFIC STUDY

- 1. A traffic study may be required as directed by the City of Chesterfield and/or MoDOT. The scope of the study shall include internal and external circulation and may be limited to site specific impacts, such as the need for additional lanes, entrance configuration, geometric sight distance, traffic signal modifications or other improvements required, as long as the density of the proposed development falls within the parameters of the City's traffic model. Should the density be other than the density assumed in the model, regional issues shall be

addressed as directed by the City of Chesterfield.

- 2. If a traffic study is required, a scoping meeting with the City of Chesterfield and Missouri Department of Transportation is required to discuss what type of traffic analysis will be needed to determine the necessary roadway improvements.

M. POWER OF REVIEW

- 1. The development shall adhere to the Power of Review Requirements of the City of Chesterfield Code.

N. STORM WATER

- 1. The site shall provide for the positive drainage of storm water and it shall be discharged at an adequate natural discharge point or an adequate piped system. The adequacy and condition of the existing (downstream systems) shall be verified and upgraded as necessary.
- 2. Detention/retention and channel protection measures are to be provided in each watershed as required by the City of Chesterfield and the Metropolitan St. Louis Sewer District. The storm water management facilities shall be operational prior to issuance of building permits exceeding sixty (60%) of the approved dwelling units in each plat, watershed or phase of residential developments. The location and types of storm water management facilities shall be identified on all Site Development Plans.
- 3. Emergency overflow drainage ways to accommodate runoff from the 100-year storm event shall be provided for all storm sewers, as directed by the City of Chesterfield.
- 4. Offsite storm water shall be picked up and piped to an adequate natural discharge point. Such by-pass systems must be adequately designed.
- 5. The lowest opening of all structures shall be set at least two (2) feet higher than the one hundred (100) year high water elevation in detention/retention facilities. All structures shall be set at least 30 feet horizontally from the features of the one hundred (100) year high water.
- 6. Locations of site limitations such as lakes and detention ponds must be approved by the City of Chesterfield and the Metropolitan Saint Louis Sewer District.

O. SANITARY SEWERS

- 1. Sanitary sewers shall be as approved by the City of Chesterfield and the Metropolitan St. Louis Sewer District.

- 3. The amount of these required contributions, if not submitted by January 1, 2022 shall be adjusted on that date and on the first day of January in each year succeeding year thereafter in accordance with the construction cost index as determined by the St. Louis County Department of Transportation.
- B. Prior to Special Use Permit issuance by the St. Louis County Department of Transportation, a special cash escrow or special escrow supported an Irrevocable Letter of Credit, must be established with the St. Louis County Department of Transportation to guarantee completion of the required roadway improvements.
- C. Provide adequate temporary off-street parking for construction employees. Parking on non-surfaced areas shall be prohibited in order to eliminate the condition whereby mud from construction and employee vehicles is tracked onto pavement causing hazardous roadway and driving conditions.

IV. RECORDING

Within sixty (60) days of approval of any development plan by the City of Chesterfield, the approved Plan will be recorded with the St. Louis County Recorder of Deeds. Failure to do so will result in the expiration of approval of said plan and require re-approval of a plan by the Planning Commission.

V. ENFORCEMENT

- A. The City of Chesterfield, Missouri will enforce the conditions of this ordinance in accordance with the Plan approved by the City of Chesterfield and the terms of this Attachment A.
- B. Failure to comply with any or all the conditions of this ordinance will be adequate cause for revocation of approvals/permits by reviewing Departments and Commissions.
- C. Non-compliance with the specific requirements and conditions set forth in this Ordinance and its attached conditions or other Ordinances of the City of Chesterfield shall constitute an ordinance violation, subject, but not limited to, the penalty provisions as set forth in the City of Chesterfield Code.
- D. Waiver of Notice of Violation per the City of Chesterfield Code.
- E. This document shall be read as a whole and any inconsistency to be integrated to carry out the overall intent of this Attachment A.

Registration, Missouri Board for Architects, Professional Engineers and Land Surveyors requirements.

- 15. Provide comments/approvals from the appropriate Fire District, Missouri levee District, Spirit of St. Louis Airport, the Missouri Department of Transportation, and the Metropolitan St. Louis Sewer District (MSLD).
- 16. Compliance with the current Metropolitan Sewer District Site Guidance as adopted by the City of Chesterfield.

III. TRUST FUND CONTRIBUTION

A. The developer shall contribute a Traffic Generation Assessment (TGA) to the Sutherlin - Kehrs Mill Road Trust Fund (No. 552). This contribution shall not exceed an amount established by multiplying the required parking spaces by the following rate schedule:

Type of Development	Required Contribution
Single Family Dwelling	\$1,271.72/Parking Space

(Parking Space as required by the site-specific ordinance)
If types of development proposed differ from those listed, rates shall be provided by the St. Louis County Department of Transportation.
If a portion of the improvements required herein are completed to provide for the safety of the traveling public, their need as a part of this development is mandatory.

Allowable credits for required roadway improvements will be awarded as directed by the St. Louis County Department of Transportation and the City of Chesterfield. Sidewalk construction and utility relocation, among other items, are not considered allowable credits.

- 1. As this development is located within a trust fund area established by St. Louis County, any portion of the traffic generation assessment contribution which remains following completion of road improvements required by the development shall be retained in the appropriate trust fund.
- 2. Traffic generation assessment contributions shall be deposited with St. Louis County Department of Transportation. The deposit shall be made prior to the issuance of a Special Use Permit (S.U.P.) by St. Louis County Department of Transportation or prior to issuance of building permits in the case where no Special Use Permit is required. If development planning is anticipated, the developer shall provide the traffic generation assessment contributions prior to issuance of building permits for each phase of development. Funds shall be payable to Treasurer, St. Louis County.

- 3. The amount of these required contributions, if not submitted by January 1, 2022 shall be adjusted on that date and on the first day of January in each year succeeding year thereafter in accordance with the construction cost index as determined by the St. Louis County Department of Transportation.
- B. Prior to Special Use Permit issuance by the St. Louis County Department of Transportation, a special cash escrow or special escrow supported an Irrevocable Letter of Credit, must be established with the St. Louis County Department of Transportation to guarantee completion of the required roadway improvements.
- C. Provide adequate temporary off-street parking for construction employees. Parking on non-surfaced areas shall be prohibited in order to eliminate the condition whereby mud from construction and employee vehicles is tracked onto pavement causing hazardous roadway and driving conditions.

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- C. Non-compliance with the specific requirements and conditions set forth in this Ordinance and its attached conditions or other Ordinances of the City of Chesterfield shall constitute an ordinance violation, subject, but not limited to, the penalty provisions as set forth in the City of Chesterfield Code.
- D. Waiver of Notice of Violation per the City of Chesterfield Code.
- E. This document shall be read as a whole and any inconsistency to be integrated to carry out the overall intent of this Attachment A.

II. GENERAL CRITERIA

A. SITE DEVELOPMENT PLAN SUBMITTAL REQUIREMENTS
The Site Development Plan shall include all items as required by City Code and the following items:

- 1. Provide the DNL line on the Site Development Plan
- 2. Provide mail delivery locations.
- 3. Density calculations.
- 4. Parking calculations. Including calculations for all off street parking spaces, required and proposed, and the number, size and location for ADA designed.
- 5. Provide open space percentage for overall development.
- 6. A note indicating all utilities will be installed underground.
- 7. A note stating all above ground utility facilities larger than 2 feet in height or covering in excess of 4 square feet in size shall be screened from public view. If screening is completed by landscape material, a landscape plan identifying the size location and species shall be submitted and approved by the city prior to installation of any facility.
- 8. Specific structure and parking setbacks along all roadways and property lines.
- 9. Floodplain boundaries.
- 10. Depict existing and proposed improvements within 150 feet of the site as directed. Improvements include, but are not limited to, roadways, driveways and walkways adjacent to and across the street from the site, significant natural features, such as wooded areas and rock formations, and other karst features that are to remain or be removed.
- 11. Indicate the location of the proposed storm sewers, detention basins, sanitary sewers and connection(s) to the existing systems.
- 12. Address trees and landscaping in accordance with the City of Chesterfield Unified Development Code.
- 13. Comply with all preliminary plat requirements of the City of Chesterfield Subdivision Regulations per the City of Chesterfield Unified Development Code.
- 14. Signed and sealed in conformance with the State of Missouri Department of Economic Development, Division of Professional

III. TRUST FUND CONTRIBUTION

A. The developer shall contribute a Traffic Generation Assessment (TGA) to the Sutherlin - Kehrs Mill Road Trust Fund (No. 552). This contribution shall not exceed an amount established by multiplying the required parking spaces by the following rate schedule:

Type of Development	Required Contribution
Single Family Dwelling	\$1,271.72/Parking Space

(Parking Space as required by the site-specific ordinance)
If types of development proposed differ from those listed, rates shall be provided by the St. Louis County Department of Transportation.
If a portion of the improvements required herein are completed to provide for the safety of the traveling public, their need as a part of this development is mandatory.

Allowable credits for required roadway improvements will be awarded as directed by the St. Louis County Department of Transportation and the City of Chesterfield. Sidewalk construction and utility relocation, among other items, are not considered allowable credits.

- 1. As this development is located within a trust fund area established by St. Louis County, any portion of the traffic generation assessment contribution which remains following completion of road improvements required by the development shall be retained in the appropriate trust fund.
- 2. Traffic generation assessment contributions shall be deposited with St. Louis County Department of Transportation. The deposit shall be made prior to the issuance of a Special Use Permit (S.U.P.) by St. Louis County Department of Transportation or prior to issuance of building permits in the case where no Special Use Permit is required. If development planning is anticipated, the developer shall provide the traffic generation assessment contributions prior to issuance of building permits for each phase of development. Funds shall be payable to Treasurer, St. Louis County.

addressed as directed by the City of Chesterfield.

- 2. If a traffic study is required, a scoping meeting with the City of Chesterfield and Missouri Department of Transportation is required to discuss what type of traffic analysis will be needed to determine the necessary roadway improvements.

M. POWER OF REVIEW

- 1. The development shall adhere to the Power of Review Requirements of the City of Chesterfield Code.

N. STORM WATER

- 1. The site shall provide for the positive drainage of storm water and it shall be discharged at an adequate natural discharge point or an adequate piped system. The adequacy and condition of the existing (downstream systems) shall be verified and upgraded as necessary.
- 2. Detention/retention and channel protection measures are to be provided in each watershed as required by the City of Chesterfield and the Metropolitan St. Louis Sewer District. The storm water management facilities shall be operational prior to issuance of building permits exceeding sixty (60%) of the approved dwelling units in each plat, watershed or phase of residential developments. The location and types of storm water management facilities shall be identified on all Site Development Plans.
- 3. Emergency overflow drainage ways to accommodate runoff from the 100-year storm event shall be provided for all storm sewers, as directed by the City of Chesterfield.
- 4. Offsite storm water shall be picked up and piped to an adequate natural discharge point. Such by-pass systems must be adequately designed.
- 5. The lowest opening of all structures shall be set at least two (2) feet higher than the one hundred (100) year high water elevation in detention/retention facilities. All structures shall be set at least 30 feet horizontally from the features of the one hundred (100) year high water.
- 6. Locations of site limitations such as lakes and detention ponds must be approved by the City of Chesterfield and the Metropolitan Saint Louis Sewer District.

O. SANITARY SEWERS

- 1. Sanitary sewers shall be as approved by the City of Chesterfield and the Metropolitan St. Louis Sewer District.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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MCBRIDE BYRNE, LLC
17418 N OUTER 40 ROAD
ST. LOUIS, MISSOURI 63112
CHESTERFIELD, MO 63005

THE STERLING CO.
ENGINEERS & SURVEYORS
1000 N. BROADWAY
ST. LOUIS, MISSOURI 63102
Ph: 314.481.1000 Fax: 314.481.9444
www.sterlingco.com
Professional Certificate of Authority #0014948

Boone's Ridge
CHESTERFIELD, MISSOURI
SITE DEVELOPMENT PLAN
ORDINANCE

CITY OF CHESTERFIELD
MOOREY
PLANNING COMMISSION
PE 000218181
03/29/2022

SITE DEVELOPMENT PLAN
Date: 2-29-2022
PROJECT: MCDONALD'S
License No. PE 2020010012
Civil Engineer

Sheet Number: 17-05-107
Page: 51
Date: July 29, 2022
Designed by: [blank] SPOZ
Drawn by: EA
Checked: [blank] SDP

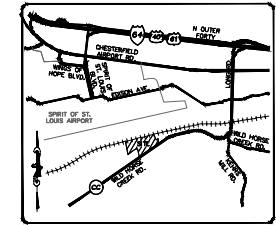
MSD Base Map 16V
MSD P #
Highway & Traffic #

Boone's Ridge

FIVE PARCELS OF LAND BEING PART OF
 LOTS 2, 3, 4, 5, 6, AND 7 OF "MARY SCHAEFFER ESTATE SUBDIVISION",
 ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 17
 PAGE 4 OF THE ST. LOUIS COUNTY, MISSOURI RECORDS, AND
 LOCATED IN PART OF U.S. SURVEYS 122 AND 150, TOWNSHIP 45
 NORTH, RANGE 3 EAST OF THE FIFTH PRINCIPAL MERIDIAN,
 CITY OF CHESTERFIELD, ST. LOUIS COUNTY, MISSOURI



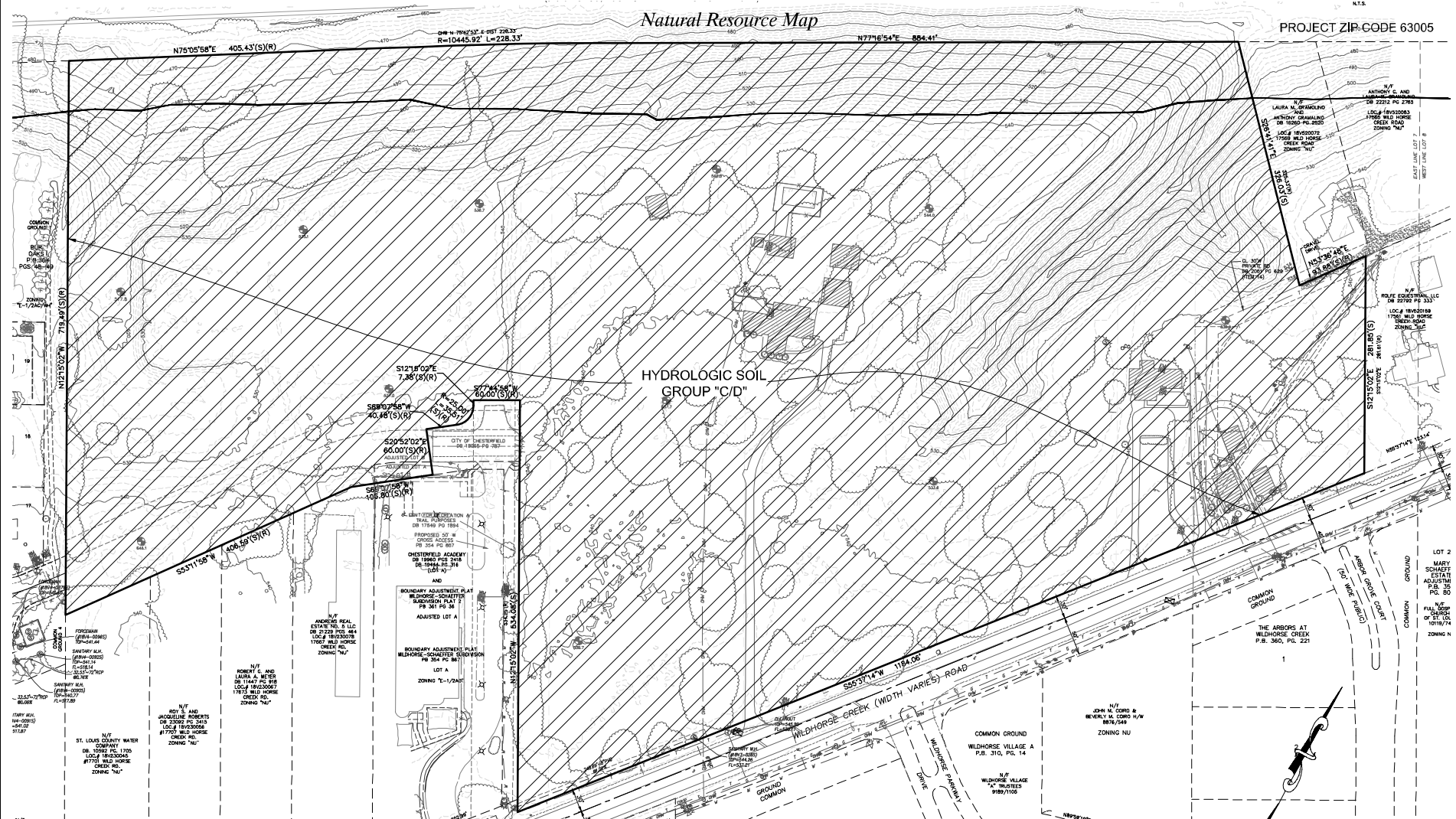
AERIAL PHOTO
N.T.S.



LOCATION MAP
N.T.S.

Natural Resource Map

PROJECT ZIP CODE 63005



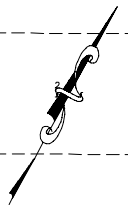
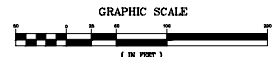
HYDROLOGIC SOIL
 GROUP "C/D"

THE UNDERGROUND UTILITIES SHOWN HEREON WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT REPRESENT THE NUMBER OR LOCATION OF THESE UTILITIES OR THE RESPONSIBILITY FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, DEPTH OR SIZE, AND TO ANY OTHERS. CONSULT WITH THE APPROPRIATE AGENCY BEFORE CONSTRUCTION OF ANY UNDERGROUND FACILITY AND DRAINAGE PREVENTION ACT, CHAPTER 318, RSMo.

NATURAL RESOURCE	PRESENCE?	ADDITIONAL INFORMATION
Wetlands	No	None identified per Aerial photo.
Streams and Floodplains	No	No floodplain exists per FEMA Map No. 29189C0295K AND 29189C0313K, Dated February 4, 2015. No Streams were identified.
Karst	No	None identified per Aerial photo.
Ponds	No	None identified per Aerial photo.

	Hydrologic Group B Soils
	Hydrologic Group C/D Soils
	Existing Tree Mass
	Regulated Waters

FLOOD NOTE:
 ACCORDING TO THE FLOOD INSURANCE RATE MAP OF THE COUNTY OF ST. LOUIS, MISSOURI, UNINCORPORATED AREAS (COMMUNITY PANEL NUMBER 29189C0295K AND 29189C0313K, DATED FEBRUARY 4, 2015), THIS PROPERTY LIES ENTIRELY OUTSIDE THE 500-YEAR FLOODPLAIN.



DATE	17-05-107
DESIGNED BY	ENR & LORETTA
CHECKED BY	ENR & LORETTA
IN CHARGE	ENR & LORETTA
PROJECT NO.	17-05-107
CLIENT	BOONE'S RIDGE

MICHAEL PERRY, LLC
 17415 N OUTER 40 ROAD
 CHESTERFIELD, MO 63005

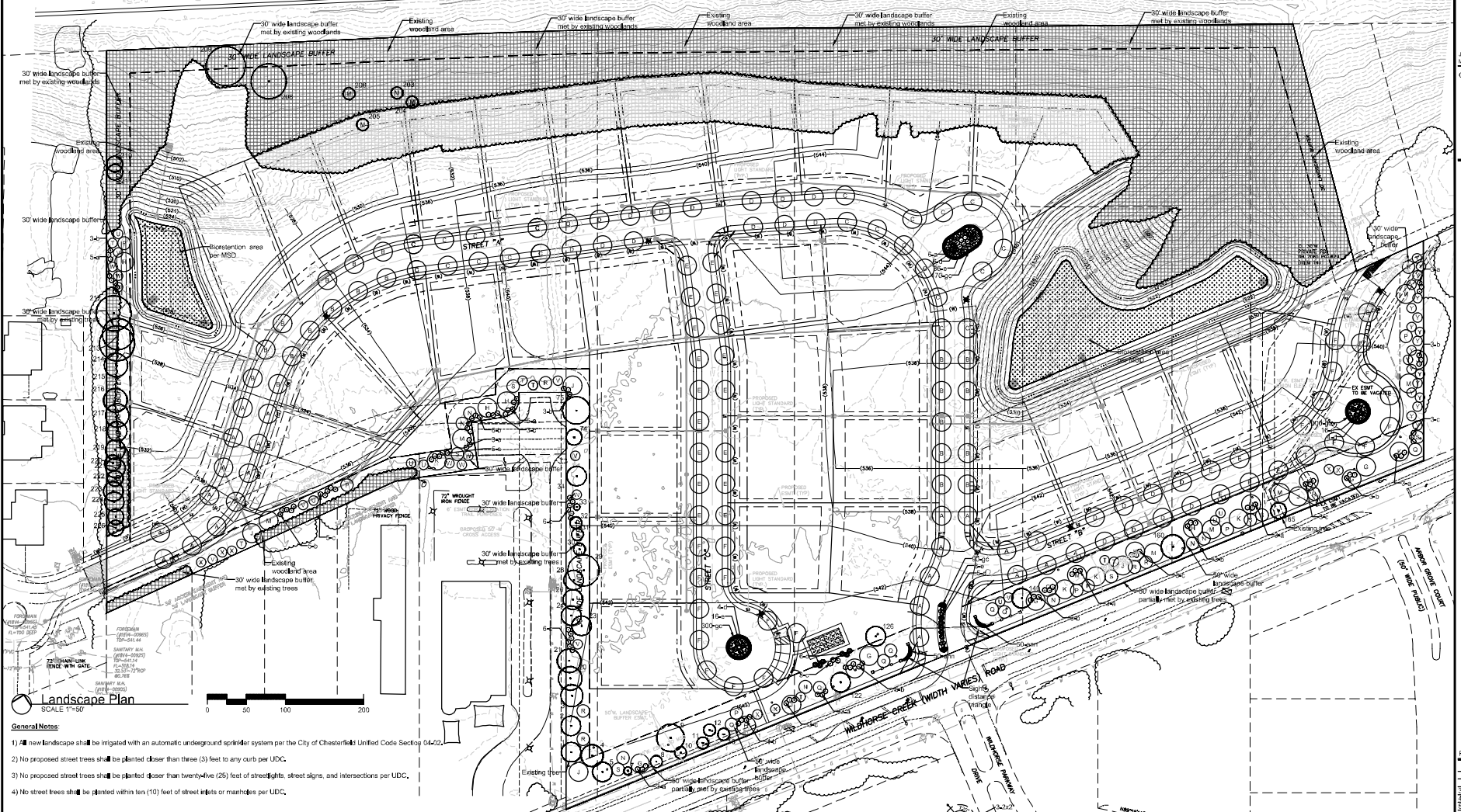
THE STERLING CO.
 ENGINEERS & SURVEYORS
 5505 New Hampshire Road
 Pin 3-Heathville Pin 3-Heathville
 Concrete Certificate of Authority #001948

Boone's Ridge
 CHESTERFIELD, MISSOURI
 SITE (S) DEVELOPMENT PLAN
 NATURAL RESOURCE MAP

STATE OF MISSOURI
 BOONE'S RIDGE
 PROJECT NO. PE 2002016612
 Civil Engineer

DATE: July 29, 2022
 DRAWN BY: ENR
 SCALE: 6.1
 SHEET: SDP

(aka CHICAGO, ROCK ISLAND AND PACIFIC RAILROAD)



Landscape Plan
SCALE 1"=50'
0 50 100 200

- General Notes:**
- 1) All new landscape shall be irrigated with an automatic underground sprinkler system per the City of Chesterfield Unified Code Section 04-02.
 - 2) No proposed street trees shall be planted closer than three (3) feet to any curb per UDC.
 - 3) No proposed street trees shall be planted closer than twenty-five (25) feet of streetlights, street signs, and intersections per UDC.
 - 4) No street trees shall be planted within ten (10) feet of street inlets or manholes per UDC.

PLANTING SCHEDULE						
PLANT	QTY	SPACING	DBH	FEET TO CURB	PERCENT	PER SPECIES
CANOPY/SHADE (STREET) TREES						
A	22	10'	2.5" cal.	BAB	15.67%	LgM-Fast
B	22	10'	2.5" cal.	BAB	15.67%	Lg-Fast
C	22	10'	2.5" cal.	BAB	15.67%	LgM-Fast
D	22	10'	2.5" cal.	BAB	15.67%	Lg-Fast
E	22	10'	2.5" cal.	BAB	15.67%	LgM-Fast
F	22	10'	2.5" cal.	BAB	15.67%	Lg-Fast
CANOPY/SHADE (BUFFER) TREES						
G	7	10'	2.5" cal.	BAB	20%	Lg-Fast
H	7	10'	2.5" cal.	BAB	20%	LgM-Fast
J	7	10'	2.5" cal.	BAB	20%	Med/Slow-M
K	7	10'	2.5" cal.	BAB	20%	LgM-Fast
M	7	10'	2.5" cal.	BAB	20%	Lg/Sb/Mod
UNDERSTORY/ORNAMENTAL (BUFFER) TREES						
N	7	10'	2.5" cal.	BAB	20%	Med/Fast
P	7	10'	2.5" cal.	BAB	20%	Sm/Sb/Mod
O	7	10'	2.5" cal.	BAB	20%	Med/Slow-M
R	7	10'	2.5" cal.	BAB	20%	Sm/Mod
S	7	10'	2.5" cal.	BAB	20%	Sm/Mod
EVERGREEN (BUFFER) TREES						
T	7	10'	6" h.	BAB	20%	Lg/Mod
U	7	10'	6" h.	BAB	20%	Med/Mod
V	7	10'	6" h.	BAB	20%	Med/Mod
W	7	10'	6" h.	BAB	20%	Med/Mod
X	7	10'	6" h.	BAB	20%	Lg/Sb/Mod
EVERGREEN (NEIGHBOR) TREES						
Y	20	10'	10" h.	BAB	100%	Total 72.8%

PLANTING SCHEDULE

PLANT	QTY	SPACING	DBH	FEET TO CURB	PERCENT	PER SPECIES
SHRUBS/GRASSES/PERENNIALS/ANNUALS/GROUND COVER						
a	37	10'	18"	72" c.c.		
b	41	10'	18"	72" c.c.		
c	40	10'	18"	72" c.c.		
d	25	10'	5 gal.	72" c.c.		
e	76	10'	18"	48" c.c.		
f	86	10'	2" cub.	12" c.c.		
ann	100	10'	2" cub.	12" c.c.		

Planting Schedule Notes:

- 1) Existing canopy trees (along buffer) contribute to tree species variety (Sycamore, Maple, Sweetgum, Walnut, Black Cherry, Honeylocust, Cottonwood, Elm, Hackberry, Mulberry, and Boxelder).
- 2) Existing evergreen trees (along buffer) contribute to tree species variety (Pine, Spruce, and Hemlock).

Tree Inventory

ID	Tree Name	DBH	Canopy	Condition	Comment
1	Maple	15	25	3	Tree assessment
2	Sweetgum	16	25	3	Tree assessment
3	Maple	18	30	2	Tree assessment
4	Maple	16	30	3	Basal decay
5	Maple	18	25	2	Basal decay
6	Sweetgum	5	10	3	Sprout from stump
7	Pine	6	15	3	New assessment
8	Sweetgum	20	35	3	New assessment
9	Pine	6	15	3	New assessment
10	Hemlock	6	15	3	New assessment
11	Pine	6	15	3	New assessment
12	Pine	6	15	3	New assessment
13	Pine	6	15	3	New assessment
14	Pine	24	30	3	New assessment
15	Saplings	12	30	3	New assessment
16	Saplings	12	30	3	New assessment
17	Pine	14	25	3	New assessment
18	Pine	14	25	3	New assessment
19	Cottonwood	24	25	2	New assessment
20	Pine	8	15	4	New assessment
21	Pine	6	15	4	New assessment
22	Pine	8	15	4	New assessment
23	Spruce	6	15	3	New assessment
24	Cottonwood	18	25	2	New assessment
25	Sweetgum	20	35	3	New assessment
26	Pine	14	25	2	New assessment
27	Cottonwood	24	25	2	New assessment
28	Pine	8	15	4	New assessment
29	Pine	6	15	4	New assessment
30	Pine	8	15	4	New assessment
31	Spruce	6	15	3	New assessment
32	Spruce	6	15	3	New assessment
33	Cottonwood	18	25	2	New assessment
34	Cottonwood	18	25	2	New assessment
35	Sweetgum	20	35	3	New assessment
36	Pine	14	25	2	New assessment
37	Pine	20	25	2	New assessment
38	Pine	20	25	2	New assessment
39	Pine	20	25	2	New assessment
40	Spruce	6	15	2	New assessment
41	Spruce	6	15	2	New assessment
42	Spruce	6	15	2	New assessment
43	Spruce	6	15	2	New assessment
44	Spruce	6	15	2	New assessment
45	Spruce	6	15	2	New assessment
46	Spruce	6	15	2	New assessment
47	Spruce	6	15	2	New assessment
48	Spruce	6	15	2	New assessment
49	Spruce	6	15	2	New assessment
50	Spruce	6	15	2	New assessment
51	Spruce	6	15	2	New assessment
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53	Spruce	6	15	2	New assessment
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55	Spruce	6	15	2	New assessment
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59	Spruce	6	15	2	New assessment
60	Spruce	6	15	2	New assessment
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63	Spruce	6	15	2	New assessment
64	Spruce	6	15	2	New assessment
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68	Spruce	6	15	2	New assessment
69	Spruce	6	15	2	New assessment
70	Spruce	6	15	2	New assessment
71	Spruce	6	15	2	New assessment
72	Spruce	6	15	2	New assessment
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75	Spruce	6	15	2	New assessment
76	Spruce	6	15	2	New assessment
77	Spruce	6	15	2	New assessment
78	Spruce	6	15	2	New assessment
79	Spruce	6	15	2	New assessment
80	Spruce	6	15	2	New assessment
81	Spruce	6	15	2	New assessment
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85	Spruce	6	15	2	New assessment
86	Spruce	6	15	2	New assessment
87	Spruce	6	15	2	New assessment
88	Spruce	6	15	2	New assessment
89	Spruce	6	15	2	New assessment
90	Spruce	6	15	2	New assessment
91	Spruce	6	15	2	New assessment
92	Spruce	6	15	2	New assessment
93	Spruce	6	15	2	New assessment
94	Spruce	6	15	2	New assessment
95	Spruce	6	15	2	New assessment
96	Spruce	6	15	2	New assessment
97	Spruce	6	15	2	New assessment
98	Spruce	6	15	2	New assessment
99	Spruce	6	15	2	New assessment
100	Spruce	6	15	2	New assessment

Tree Condition Rating:
Excellent 4
Good 3
Fair 2
Poor 1
Dead 0

Tree Inventory Prepared under direction of:
Bridie Bage
Certified Arborist MVA5033A

LOOMIS ASSOCIATES
landscape architects • planners
1101 S. Brentwood Blvd.
St. Louis, MO 63104
Phone: 314.434.1100
www.loomisassociates.com

Project: Boone's Ridge
17600 Wld Horse Creek Road
Chesterfield, Missouri
Date: 10/5/21
Job #: 1055-005

Revisions:

Date	Description	No.
11/1/21	Final Changes	1
11/1/21	City Comments	2
11/1/21	City Comments	3
11/1/21	City Comments	4
11/1/21	City Comments	5
11/1/21	City Comments	6
11/1/21	City Comments	7

Drawn: KP
Checked: RS

LOOMIS ASSOCIATES
landscape architects • planners
1101 S. Brentwood Blvd.
St. Louis, MO 63104
Phone: 314.434.1100
www.loomisassociates.com

Sheet: Landscape
Plan
No.: L1.01

Date: 10/5/21
Job #: 1055-005



Tree Stand Delineation
 SCALE 1"=50'

Tree Stand Delineation Narrative
 This project site comprises a total of 27 acres and has a total of 12 acres of tree canopy. The Tree Stand Delineation map was compiled by field inspections. The woodland area is mainly along the Northern property line. It is composed primarily of Elm, Oak, Ash, Maple, Hackberry, Locust, Sycamore, and Sassafras trees. The trees are in fair to good condition and vary in size ranging from 8-12" DBH. There is some low Honeylocust understorey at the Northwest corner of the property. There are no state champion or rare trees found on-site.

Total Site Area = 1,179,326 s.f. (27.03 acres)
Woodland = 407,592 s.f. (9.36 acres)
Individual Trees = 117,168 s.f. (2.69 acres)
Total Existing Canopy = 524,778 s.f. (12.05 acres)

Tree Condition Rating
 Good 3
 Fair 2
 Poor 1
 Dead 0

Tree Stand Delineation Prepared by: Brian Raps
 Certified Arborist MW-9333A

ID	Tree Name	DBH	Spans	Canopy	Condition	Rating	Comment
1	Maple	18	25	3			
2	Sweetgum	16	25	3			
3	Maple	18	25	3			
4	Maple	16	30	3			
5	Maple	16	25	2			Basal decay
7	Sweetgum	3	10	3			Sprout from stump
8	Pine	8	15	3			Near assessment
9	Sweetgum	20	30	3			
10	Pine	8	15	3			Near assessment
11	Pine	8	15	3			Near assessment
13	Pine	6	15	3			
131	Pine	8	15	3			Near assessment
14	Pine	24	30	2			
15	Pine	18	25	2			Power lines
16	Maple	20	30	2			Power lines (significant impact)
17	Pine	18	25	2			Power lines
18	Sweetgum	24	30	2			Power lines
20	Pine	24	30	2			Power lines
21	Pine	18	30	2			Power lines
22	Maple	14	25	2			
23	Maple	18	30	2			
24	Maple	14	25	2			
25	Pine	8	15	0			Dead
26	Sweetgum	14	25	3			
27	Pine	18	25	2			
28	Coltsfoot	24	40	2			
30	Pine	6	15	4			

ID	Tree Name	DBH	Spans	Canopy	Condition	Rating	Comment
31	Pine	8	15	3			
32	Pine	8	15	4			
33	Spruce	3	6	2			
34	Coltsfoot	18	25	2			
35	Maple	24	40	2			
36	Ash	12	30	1			
37	Sweetgum	12	30	3			
38	Red Oak	20	35	2			
39	Ash	12	30	2			
40	Ash	12	30	2			Disinfect
41	Maple	30	45	3			Power lines (significant impact)
42	Sweetgum	28	40	2			Power lines (significant impact)
43	Maple	14	35	1			Power lines (significant impact)
44	Penstemon	18	30	2			Power lines
45	Red Oak	25	35	3			Power lines
46	Maple	20	30	2			Power lines
47	Pine	18	25	2			Power lines
48	Sweetgum	24	30	2			Power lines
49	Sweetgum	24	30	2			Power lines
50	Oak	40	60	2			Power lines
51	Ash	12	25	2			
52	Maple	20	35	2			
53	Maple	14	25	2			
54	Maple	10	20	2			
55	Maple	14	25	2			
56	Sweetgum	24	35	2			
57	Ash	20	35	2			
58	Ash	18	25	2			
59	Ash	18	25	3			
60	Ash	14	25	2			

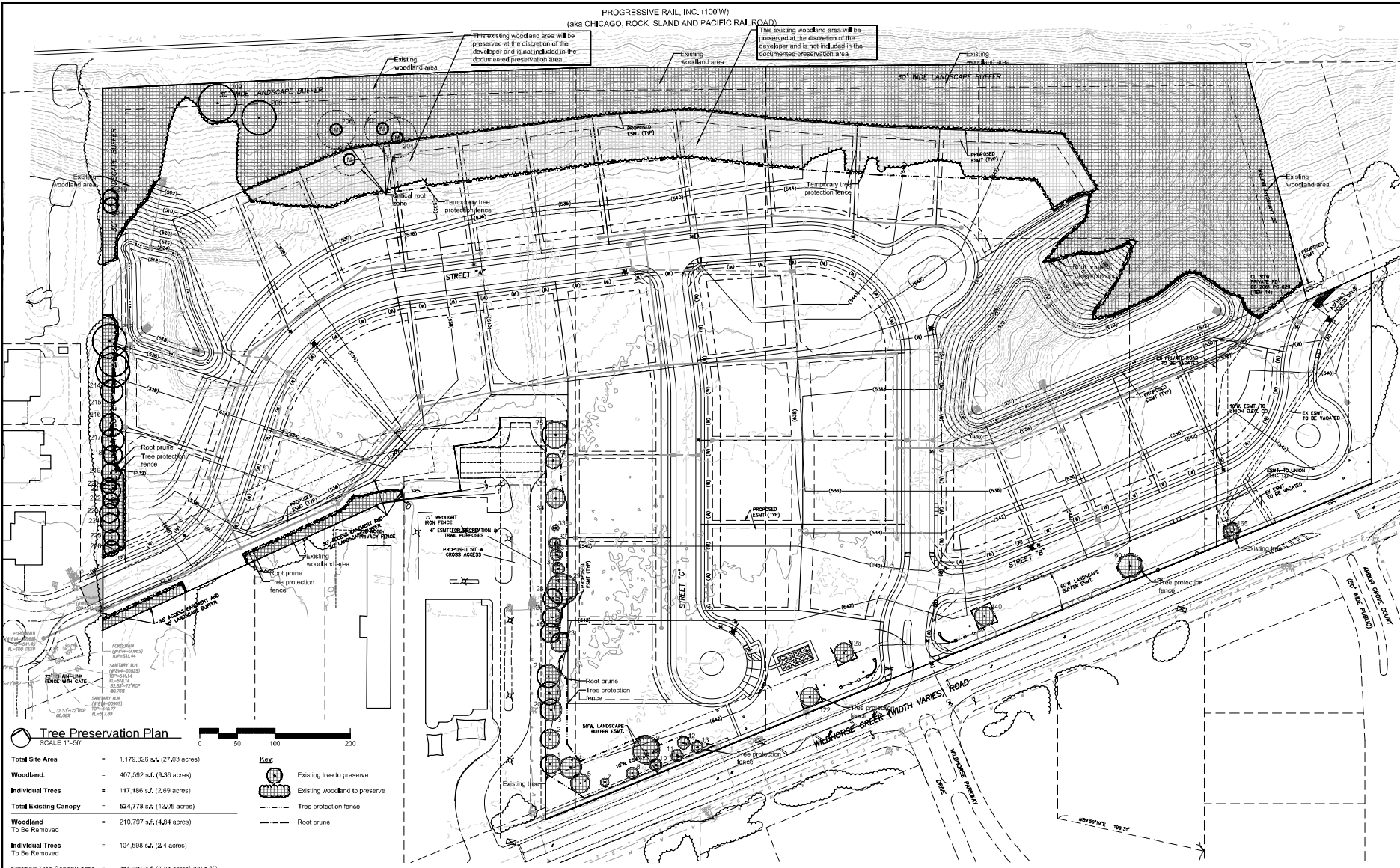
ID	Tree Name	DBH	Spans	Canopy	Condition	Rating	Comment
61	Maple	10	25	3			
62	Maple	14	30	3			
63	Maple	30	50	3			
64	Coltsfoot	30	60	3			
65	Maple	14	30	2			
66	Tupelo	26	30	2			
67	Sweetgum	12	30	3			
68	Red Oak	20	45	4			
69	Ash	16	30	2			
70	Maple	12	25	2			
71	Red Oak	26	45	3			
72	Maple	14	30	3			
73	Ash	12	25	3			
74	Maple	18	30	2			
75	Sweetgum	20	35	3			
76	Maple	20	30	2			
77	Pine	18	20	2			
78	Maple	18	25	2			
79	Ash	18	20	2			
80	Sweetgum	16	25	3			
81	Pine	16	20	2			
82	Coltsfoot	18	30	1			
83	Oak	14	25	3			
84	Pine	14	20	1			
85	Maple	14	25	2			
86	Maple	20	30	4			
87	Maple	14	20	2			
88	Red Oak	20	15	3			
89	Red Oak	20	15	3			
90	Red Oak	10	20	2			Basal decay
91	Walnut	30	45	2			

ID	Tree Name	DBH	Spans	Canopy	Condition	Rating	Comment
92	Red Oak	10	25	3			
93	Maple	14	30	3			
94	Maple	30	50	4			
95	Maple	14	30	2			
96	Ash	14	25	2			
97	Sweetgum	18	30	2			
98	Red Oak	14	25	2			
99	Ash	14	30	2			
100	Coltsfoot	18	35	3			
101	Maple	12	30	3			
102	Sweetgum	14	25	3			
103	Coltsfoot	16	20	2			
104	Penstemon	18	30	2			
105	Maple	26	50	3			
106	Sweetgum	18	30	2			
107	Ash	12	30	3			
108	Maple	18	25	2			
109	Sweetgum	18	35	2			
110	Sweetgum	24	50	3			
111	Maple	24	50	2			
112	Maple	10	25	3			
113	Oak	16	30	3			
114	Maple	20	30	3			
115	Maple	14	30	2			
116	Maple	14	20	4			
117	Coltsfoot	12	25	2			
118	Maple	14	25	3			
119	Maple	24	40	2			
120	Pine	18	25	2			

ID	Tree Name	DBH	Spans	Canopy	Condition	Rating	Comment
121	Ash	16	25	2			
122	Pine	14	25	2			
123	Pine	14	20	2			
124	Spruce	6	10	2			
125	Maple	12	25	3			
126	Pine	20	25	2			
127	Pine	18	25	2			
128	Red Oak	14	25	2			
129	Maple	14	25	2			
130	Pine	16	20	2			
131	Pine	16	20	2			
132	Pine	16	20	2			
133	Pine	16	20	2			
134	Pine	16	20	2			
135	Pine	18	20	2			
136	Pine	18	20	2			
137	Goat	6	15	2			1 large dead limb
138	Maple	25	25	2			
139	Sweetgum	14	25	4			
140	Pine	20	25	2			
141	Pine	20	25	2			
142	Pine	18	25	0			Dead
143	Pine	12	12	1			
144	Pine	18	20	2			
145	Coltsfoot	22	30	2			
146	Maple	14	20	2			
147	Maple	30	40	2			Power lines, near assessment
148	Maple	14	20	2			in assessment
149	Maple	24	30	2			Power lines
150	Maple	14	25	2			Near assessment
151	Maple	18	25	2			Near assessment
152	Maple	8	15	3			

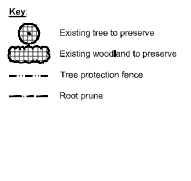
Tree Inventory

ID	Tree Name	DBH	Spans	Canopy	Condition	Rating	Comment
153	Maple	6	12	3			
154	Maple	18	30	2			Multi-stem
155	Maple	30	30	1			
156	Maple	30	20	2			
157	Maple	30	40	1			
158	Maple	30	40	1			
159	Pine	14	25	2			
160	Sycamore	30	60	1			
161	Maple	30	40	1			
162	Maple	30	60	2			
163	Maple	14	35	3			
164	Maple	14	35	3			
165	Spruce	8	10	2			Top Out
166	Spruce	6	10	2			Top Out
167	Spruce	8	10	2			Top Out
168	Maple	8	10	2			Top Out
169	Sycamore	47	40	3			Monarch, at hollow
170	Sycamore	34	35	3			Monarch, at hollow
171	Sycamore	41	50	3			Monarch, at hollow
172	Spruce	8	10	2			Top Out
173	Green Ash	30	40	3			Top Out
174	Sycamore	26	50	1			Top Out
175	Maple	15	20	1			
176	Maple	24	30	2			Near assessment
177	Maple	18	20	2			Near assessment
178	Maple	18	20	2			Near assessment
179	Maple	18	20	2			Near assessment
180	Maple	18	20	2			Near assessment
181	Maple	18	20	2			Near assessment
182	Maple	18	20	2			Near assessment
183	Maple	18	20	2			Near assessment
184	Maple	18	20	2			Near assessment
185	Maple	18	20	2			Near assessment
186	Maple	18	20	2			Near assessment
187	Maple	18	20	2			Near assessment
188	Maple	18	20	2			Near assessment
189	Maple	18	20	2			Near assessment
190	Maple	18	20	2			Near assessment
191	Maple	18	20	2			Near assessment
192	Maple	18	20	2			Near assessment
193	Maple	18	20	2			Near assessment
194	Maple	18	20	2			Near assessment
195	Maple	18	20	2			Near assessment
196	Maple	18	20	2			Near assessment
197	Maple	18	20	2			Near assessment
198	Maple	18	20	2			Near assessment
199	Maple	18	20	2			Near assessment
200	Maple	18	20	2			Near assessment
201	Maple	18	20	2			Near assessment
202	Maple	18	20	2			Near assessment
203	Maple	18	20	2			Near assessment
204	Maple	18	20	2			Near assessment
205	Maple	18	20	2			Near assessment
206	Maple	18	20	2			Near assessment
207	Maple	18	20	2			Near assessment
208	Maple	18	20	2			Near assessment
209	Maple	18	20	2			Near assessment
210	Maple	18	20	2			Near assessment
21							



Tree Preservation Plan
SCALE 1"=50'

Total Site Area	=	1,170,325 s.f. (27.03 acres)
Woodland	=	407,592 s.f. (9.36 acres)
Individual Trees	=	117,186 s.f. (2.69 acres)
Total Existing Canopy	=	524,778 s.f. (12.05 acres)
Woodland To Be Removed	=	210,797 s.f. (4.84 acres)
Individual Trees To Be Removed	=	104,598 s.f. (2.4 acres)
Existing Tree Canopy Area To Be Removed	=	315,395 s.f. (7.24 acres) (66.1%)
Woodland To Be Preserved	=	196,795 s.f. (4.52 acres)
Individual Trees To Be Preserved	=	12,588 s.f. (0.29 acres)
Existing Tree Canopy Area To Be Preserved	=	209,383 s.f. (4.81 acres) (39.9%)

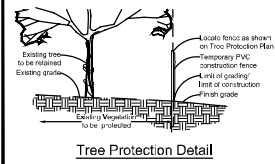


Tree Protection Notes:

- 1) Preconstruction meeting to be held on-site to include a presentation of tree protection measures to operators, construction supervisors, developer's representative, and city zoning inspector.
- 2) Clearing limits to be rough staked in order to facilitate location for installation of protection fencing. No early maintenance schedule is required.
- 3) No clearing or grading shall begin in areas where the treatment and preservation measures have not been completed, including the installation of tree protection fencing as shown on the plan. Where necessary, Contractor may perform minor tree clearing prior to installing all fencing and tree protection fencing provided they maintain tree protection area.
- 4) Tree Protection Fencing shall be 4-foot high temporary plastic construction fence. No equipment, materials, concrete washout, material storage or other such construction activity shall be permitted to penetrate the protection fencing or disrupt the Protected Woodland Area except for the removal of dead or invasive plant material. All ground plane in planting areas shall be mulched with hardwood bark mulch. Tree Protection Signage will be placed along the Protection Fencing as shown as the dashed line on the plan.
- 5) Tree protection measures to be maintained throughout construction sequence.

Tree Protection Action Key Sequence:

- 1) Survey limit of disturbance.
- 2) Perform root pruning.
- 3) Install tree protection fencing.
- 4) Post tree protection signage on fence. (No signs will be posted on trees).
- 5) Mark tree protection area as an 8' limit zone.



ID	Tree Name	DBH	Canopy	Condition	Rating	Comment
1	Maple	12	25	4		
2	Sycamore	16	30	3		
3	Maple	18	30	2		
4	Maple	16	30	3		
5	Maple	18	25	2		Minor decay
6	Sycamore	15	10	3		Signal from stump
8	Pine	6	15	3		Near easement
9	Sycamore	20	30	3		Near easement
10	Hickory	6	15	3		Near easement
11	Pine	6	15	3		Near easement
12	Pine	6	15	3		Near easement
13	Pine	6	15	3		Near easement
20	Pine	24	30	3		
21	Pine	18	30	3		
22	Spruce	12	25	3		
24	Sycamore	14	25	2		
26	Pine	14	25	3		
28	Pine	14	25	2		
29	Cottonwood	24	40	2		
30	Pine	6	15	4		
31	Pine	6	15	4		
32	Pine	6	15	4		
33	Spruce	3	6	2		
34	Cottonwood	18	25	2		
74	Maple	15	30	2		

ID	Tree Name	DBH	Canopy	Condition	Rating	Comment
15	Sycamore	20	30	3		
16	Pine	14	25	2		
136	Pine	20	25	2		
140	Pine	20	25	2		
141	Pine	20	20	2		
160	Spruce	20	30	3		Near easement
165	Spruce	10	20	2		Near easement
203	Sycamore	38	65	3		Monarch at hillside
204	Sycamore	42	60	3		Monarch at hillside
205	Sycamore	34	58	3		Monarch at hillside
206	Sycamore	41	50	3		Monarch at hillside
208	Sycamore	36	45	2		Top Out
209	Sycamore	28	50	1		Top Out
210	Maple	10	20	2		
211	Elm	10	20	2		
212	Maple	8	45	2		
214	Black Cherry	20	40	2		
213	Black Cherry	18	40	2		
214	Black Cherry	20	40	2		
215	Hickory	10	20	2		
246	Boxelder	16	30	2		
217	Hickory	12	25	2		
218	Elm	11	25	2		
219	Elm	14	25	2		
220	Black Cherry	10	20	1		

ID	Tree Name	DBH	Canopy	Condition	Rating	Comment
221	Black Cherry	20	25	2		
222	Walnut	12	25	2		
223	Honeylocust	15	25	2		
224	Honeylocust	12	25	2		
225	Walnut	10	20	2		
226	Walnut	10	20	2		

Tree Condition Rating:	Excellent	4	Tree Preservation Plan Prepared under direction of Brian Baggs, Certified Arborist MW-5033A
Good	3		
Fair	2		
Poor	1		
Dead	0		

Revisions:

Date	Description	No.
10/02/21	Plan Changes	1
11/22/21	City Comments	2
02/22/22	City Comments	3
07/22/22	City Comments	4
01/22/22	City Comments	5
01/22/22	City Comments	6
01/22/22	City Comments	7

Drawn: KP
Checked: RS



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Sheet Title: Tree Preservation Plan
Sheet No: TPP

Date: 10/5/21
Job #: 1055.005

July 5, 2022

Mr. Brian Jokerst
Elite Development Services
16091 Swingley Ridge Road, Suite 300
Chesterfield, Missouri 63017

RE: Traffic Assessment
Proposed Boone's Ridge Residential Development
Chesterfield, Missouri
CBB Job No. 049-22

Dear Mr. Jokerst:

As requested, CBB has prepared the following assessment to address the traffic levels associated with a proposed residential development of 36 homes known as Boone's Ridge development in Chesterfield, Missouri. The development site is located on the north side of Wild Horse Creek Road, opposite Wildhorse Parkway Drive. Access to the residential development is proposed via one full access driveway opposite Wildhorse Parkway Drive as well as one cross access connection to Silver Buck Lane. **Figure 1** illustrates the general location of the proposed site relative to the surrounding area. **Exhibit 1** illustrates the preliminary site plan provided by you.



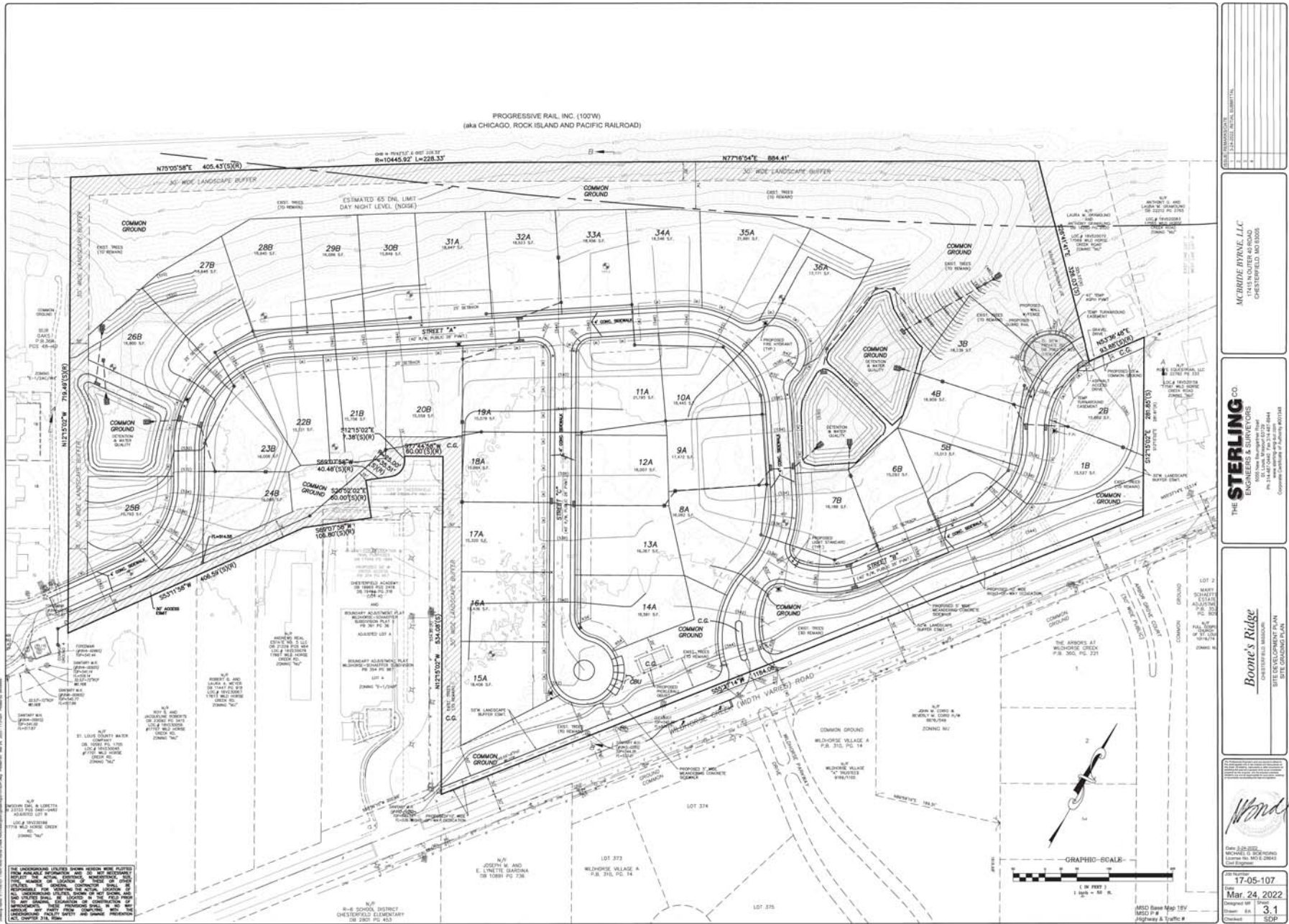


Exhibit 1: Preliminary Site Plan (provided by others)

Job# 049-22
 06/15/2022





The purpose of this traffic assessment was to observe the existing conditions, estimate the number of trips that would be generated by the proposed residential development, assign the trips to the adjoining roadways, and project the impact of the additional trips based on the existing conditions. The focus of our analysis was the AM and PM peak hours of a typical weekday. This assessment only addresses the intersection of Wild Horse Creek Road at Wildhorse Parkway Drive.

EXISTING CONDITIONS

Area Roadway System: Wild Horse Creek Road (Missouri Route CC) is an east-west minor arterial roadway under the jurisdiction of the Missouri Department of Transportation (MoDOT). Wild Horse Creek Road generally provides two-lanes (one lane in each direction) with minimal shoulders. The posted speed limit is 45 miles per hour (mph) except along the segment between Wildhorse Parkway Drive and Silver Buck Lane for a 35-mph school zone, when flashing, for the Chesterfield Elementary School. The roadway has a rolling, curvy alignment with dense vegetation along both sides as well as overhead electric power lines located along the south side of the roadway. A center turn lane is provided along the segment between Wildhorse Parkway Drive and Greystone Manor Parkway/Silver Buck Lane. Several private residential driveways exist along the north side of the roadway.

Wildhorse Parkway Drive is a local residential street on the south side of Wild Horse Creek Road that serves a residential subdivision consisting of single-family homes.

The intersection of Wild Horse Creek Road and Wildhorse Parkway Drive is side-street stop-controlled with Wildhorse Parkway Drive required to stop. The northbound approach of Wildhorse Parkway Drive is approximately 20 feet wide. Based on observations during the traffic counts, motorists generally shift to one side of the roadway and utilize the northbound approach as separate left and right turn lanes at the approach to Wild Horse Creek Road. The westbound approach of Wild Horse Creek Road provides a single through lane and a separate left-turn lane. The eastbound Wild Horse Creek Road approach has one shared through/right-turn lane as well as a lane that is hatched out opposite the westbound left-turn lane. **Figure 2** provides an aerial view of the Wild Horse Creek Road and Wildhorse Parkway Drive intersection.



Figure 2: Aerial of Wild Horse Creek Road at Wildhorse Parkway Drive Intersection

Existing Traffic Volumes: Video, turning movement traffic counts were conducted at the intersection of Wild Horse Creek Road and Wildhorse Parkway Drive during the weekday morning (7:00 - 9:00 a.m.) and weekday afternoon (3:00 - 6:00 p.m.) peak periods on Tuesday, May 25, 2022. The local schools were in session during the traffic counts. Based on the traffic data collected, the morning peak hour occurred between 7:15 and 8:15 a.m. and the afternoon peak hour occurred between 4:30 and 5:30 p.m. The existing peak hour volumes are summarized in **Exhibit 2**.

As seen in Exhibit 2, the eastbound through volumes are heaviest during the AM peak hour with just over 650 vehicles per hour (vph) and lighter during the PM peak with just over 450 vph. The westbound through volumes are relatively light during the AM peak hour with about 230 vph but are much heavier during the PM peak hour with approximately 730 vph. The westbound left-turn is relatively light during the AM peak with 75 vph and heavier with 200 vph during the PM peak. The eastbound right-turns are light with 30 to 35 right-turns during the AM and PM peak hours. The northbound approach of Wildhorse Parkway Drive is heaviest during the AM peak with 75 left-turns and 220 right-turns and remains moderate during the PM peak with 20 left-turns and 130 right-turns.

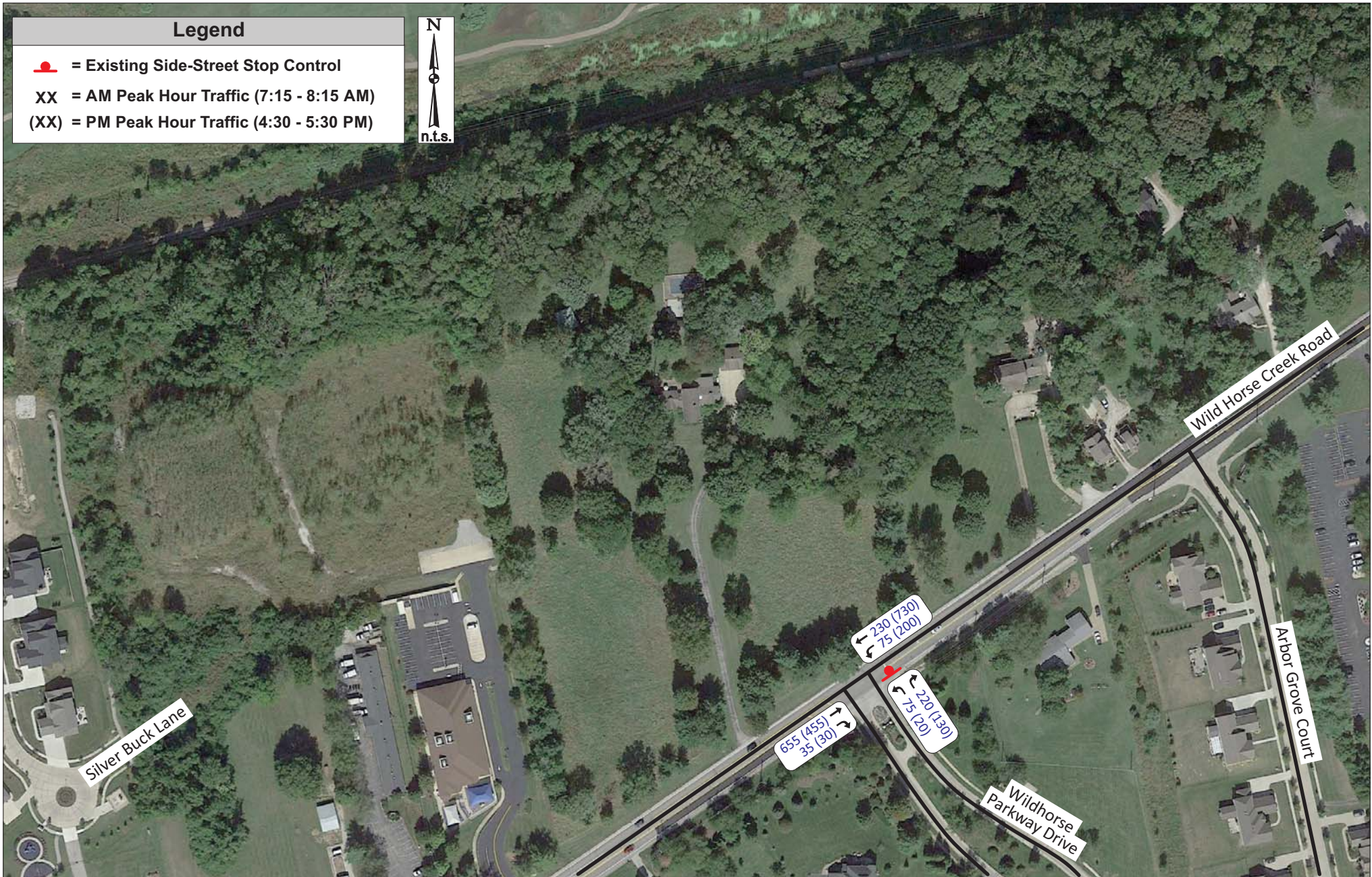


Exhibit 2: 2022 Existing Traffic Volumes



PROPOSED SITE

Proposed Development: The proposed development consists of 36 single-family homes with access proposed via one full access driveway on Wild Horse Creek Road, opposite Wildhorse Parkway Drive, as well as one cross access connection to Silver Buck Lane. It is our understanding the development will restripe an existing hatched out area on Wild Horse Creek Road, west of the site entrance, to accommodate an eastbound left-turn lane into the site. The new Boone's Ridge leg to the subdivision is proposed to provide one inbound lane and two outbound lanes (one left-turn lane and one right turn lane).

Trip Generation: Forecasts were prepared to estimate the amount of traffic the proposed 36 residential lots would generate during the weekday AM and PM peak hours. These forecasts were based upon information provided in the *Trip Generation Manual*, 11th Edition, published by the Institute of Transportation Engineers (ITE). This manual, which is a standard resource for transportation engineers, is based on a compilation of nationwide studies documenting the characteristics of various land uses. Estimates for the proposed uses were based on Land Use 210 (Single-Family Detached Housing).

The resulting trip generation estimate for the proposed 36 residential lots is summarized in **Table 1**. As shown in the table, the proposed 36 residential lots are estimated to generate 29 total trips during the weekday AM peak hour (7 in and 22 out) and 38 total trips during the weekday PM peak hour (24 in and 14 out).

Table 1: Trip Generation Estimate – Boone's Ridge

Land Use	Size	Daily	Weekday AM Peak Hour			Weekday PM Peak Hour		
			In	Out	Total	In	Out	Total
Single-Family Detached Housing (ITE 210)	36 homes	394	7	22	29	24	14	38

Trip Distribution: The new trips generated by the proposed residential development were assigned to the adjoining roadway system based upon the following anticipated directional distribution:

- 70% to/from the east on Wild Horse Creek Road;
- 25% to/from the west on Wild Horse Creek Road; and
- 5% to/from the south on Wildhorse Parkway Drive.

The trip distribution was applied to the site-generated traffic volumes, and those site trips were assigned to the roadways, as shown in **Exhibit 3**. This site-generated traffic was then added to the existing traffic volumes (Exhibit 2) to reflect the 2022 Build Traffic Volumes for the weekday AM and PM peak hours, as shown in **Exhibit 4**.



Exhibit 3: Site-Generated Trips



Exhibit 4: 2022 Build Traffic Volumes



Eastbound Left-Turn Lane: It is our understanding the development will restripe the existing hatched out area on Wild Horse Creek Road, west of the site entrance to accommodate an eastbound left-turn lane into the site.

TRAFFIC OBSERVATIONS

CBB recorded the actual delays experienced by the northbound left-turn and the northbound right-turn vehicles on Wildhorse Parkway Drive attempting to turn left and turn right onto Wild Horse Creek Road during the AM and PM peak hours. The average delays measured in the field for the turns from Wildhorse Parkway Drive are summarized in **Table 2**. During the peak hours, the northbound left-turns incurred 29 to 33 seconds of delay, on average, while the right-turns only incurred about 10 to 15 seconds of delay, on average. The left-turns from Wild Horse Creek Road to Wildhorse Parkway Drive (into the subdivision) were also observed to have low levels of delays.

Table 2: Observed Delays – Existing Conditions

INTERSECTION/APPROACH	AM PEAK HOUR	PM PEAK HOUR
Wild Horse Creek Road and Wildhorse Parkway Drive– Side-Street Stop		
Wildhorse Parkway Drive - Northbound Left-Turn	33 sec	29 sec
Wildhorse Parkway Drive - Northbound Right-Turn	15 sec	9 sec

Average Vehicular delay in seconds per vehicle

Since the proposed new leg for the Boone's Ridge subdivision proposes separate left and right-turn lanes exiting the subdivision and the forecasted turns to the Boone's Ridge subdivision are much lower than the existing Wildhorse Parkway Drive turns, the new southbound approach is expected to be similar to the Wildhorse Parkway Drive approach.

Since separate left-and right-turn lanes are proposed on the southbound approach exiting the proposed Boone's Ridge subdivision and a separate eastbound left-turn will be provided into the subdivision, little else could be done to improve the side-street conditions. A traffic signal is not warranted due to the light side-street left-turn volumes outside the AM peak hour, nor should it be considered due to the short spacing between the signalized intersection along Wild Horse Creek Drive.



SUMMARY

Based upon the preceding discussion, the following may be concluded regarding the traffic impacts of the proposed residential development of the Boone's Ridge residential development in Chesterfield, Missouri:

- The northbound left-turn from Wildhorse Parkway Drive was field measure to incur about 31 seconds of delay, on average, during the AM peak hour and about 29 seconds of delay on average during the PM peak hour.
- The northbound right-turn from Wildhorse Parkway Drive was field measure to incur about 10 to 15 seconds of delay on average during the AM and PM peak hours.
- The proposed residential development of 36 homes is expected to generate 29 *new* trips during the AM peak hour and 38 *new* trips during the PM peak hour.
- The development will restripe Wild Horse Creek Road to provide an eastbound left-turn lane into the site.
- The Boone's Ridge subdivision will provide separate left and right-turn lanes exiting the subdivision.
- The forecasted turns to and from the new Boone's Ridge leg are expected to be much lower than the turns to/from Wildhorse Parkway Drive.
- The new southbound approach is expected to be similar to the northbound leg of Wildhorse Parkway Drive.
- There are no further improvements to improve conditions and a traffic signal is not warranted nor should it be considered due to the short spacing between the adjacent signalized intersection.

We trust that you will find this report useful in addressing the traffic associated with the proposed Boone's Ridge residential development in Chesterfield, Missouri. Should there be any questions regarding this information, please contact me at (314) 479-5022 or brensing@cbbtraffic.com.

Sincerely,

Brian Rensing, P.E., PTOE, RSP2I
Associate - Senior Traffic Engineer