II. A

Memorandum
Planning & Development Services Division

To: **Planning and Public Works Committee**

From: Jessica Henry, Project Planner

Date: September 18, 2014

RE: **P.Z. 12-2013 The Wedge (McGrath Plaza)**: A request for a change of zoning from an existing "C8" Planned Commercial District to a new "PC" Planned Commercial District for 5 tracts of land totaling 5.26 acres located on the north side of Olive Street Road at its intersection with Chesterfield Airport Road. (17W620235, 17W620246, 17W610104, 17W610094, 17W610083)

Summary

Pickett, Ray & Silver, Inc., on behalf of Energy Marketing, LLC, has submitted a request for a zoning map amendment to rezone five parcels from "C8" Planned Commercial District to a new "PC" Planned Commercial District for a proposed convenience store with fuel pump stations, a fast food restaurant, and future retail/commercial development.

A Public Hearing relative to this petition was held at the October 28, 2013 Planning Commission meeting. Issues were identified at that time and included, but were not limited to, the number of uses and intensity of uses requested and the number and location of access points off of relocated Olive Street Road and Chesterfield Airport Road. At the request of the Petitioner, an Issues Meeting was held on December 9, 2013 during which the Planning Commission reaffirmed the outstanding issues.

Thereafter, the Petitioner amended their application and plan. A vote meeting was held on August 11, 2014. The Planning Commission recommended approval of the requested zoning map amendment by a vote of 9-0. The Planning Commission also passed a motion to incorporate an amendment to the Attachment "A" allowing unrestricted hours of operation by a vote of 9-0.

The project was presented at the August 21, 2014 Planning and Public Works Committee, at which time a motion to hold P.Z. 12-2013 The Wedge (McGrath Plaza) to allow the Petitioner to address the concerns raised and to bring it back to the Committee at the next possible meeting once these comments were addressed was passed by a voice vote of 4 - 0.

Attached to this report is the Preliminary Plan, Tree Stand Delineation, and Attachment "A" as previously presented and as previously recommended for approval by the Planning Commission. The Petition has elected to not furnish a revised preliminary plan. In addition to these items, the applicant has provided the following in your packets:

1. Letter dated 09/05/2014 addressing previous Staff comments on the Preliminary Development Plan as well as concerns raised by the Planning and Public Works Committee.
2. A revised Traffic Impact Study dated September 2014 and reflecting the current request.
3. An 11"x17" color illustrative exhibit showing greenspace, buffer, internal circulation patterns, drive throat depth, building square footages, parking calculations, and other details as requested.

4. A 24”x36” illustrative exhibit—this is a larger non-color version of the above exhibit.

The key revisions to the project following the August 21, 2014 Planning and Public Works Committee meeting are as follows:

1. The number of uses has been reduced from forty-eight (48) to thirty-one (31). If the Planning and Public Works Committee wishes to incorporate this reduction into the Attachment “A”, a Green Sheet Amendment is necessary.
2. An internal drive aisle is shown on the illustrative exhibits between the rear of the retail building and the property line; this conflicts with the parking setback requirement written into the Attachment “A” for this request, which states: “No parking stall, internal driveway, or roadway, except points of ingress and egress, will be located within the following setbacks: Fifteen (15) feet from the right-of-way of Olive Street Road.” Please note that the fifteen (15) foot parking and building setback from Olive Street Road is shown on the Preliminary Plan as recommended for approval by the Planning Commission.

Additionally, after discussion with the Petitioner and internal review, Staff is requesting that the Planning and Public Works Committee remove the following item J. 1 from page 5 of the Attachment “A” via a Green Sheet Amendment:

- **J. PUBLIC/PRIVATE ROAD IMPROVEMENTS, INCLUDING PEDESTRIAN CIRCULATION**
  1. All roadway and related improvements in each plat or phase of the development shall be constructed prior to issuance of building permits for that plat or phase. Delays due to utility relocation and/or adjustment, for which the developer is responsible monetarily, shall not constitute a cause to issue permits in advance of construction of the required improvements.

This requirement is fulfilled by Attachment “A” page 7, item P. 4, which is as follows:

- **P.MISCELLANEOUS**
  4. Road improvements and right-of-way dedication shall be completed prior to the issuance of an occupancy permit. If development phasing is anticipated, the developer shall complete road improvements, right-of-way dedication, and access requirements for each phase of development as directed by the Saint Louis County Department of Highways and Traffic. As previously noted, the delays due to utility relocation and adjustments will not constitute a cause to allow occupancy prior to completion of road improvements.

Respectfully submitted,

Jessica Henry
Project Planner

Cc: Aimee Nassif, Planning and Development Services Director

Attachments

1. Staff Report
2. Attachment “A”
3. Preliminary Plan
4. Tree Stand Delineation
5. Additional documents submitted by Petitioner

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 "PC" Planned Commercial District shall be:

   a. Animal grooming service.
   b. Art gallery.
   c. Art studio.
   d. Automotive retail supply.
   e. Bakery.
   f. Bar.
   g. Barber or beauty shop.
   h. Brewpub.
   i. Broadcasting studio.
   j. Car wash.
   k. Car wash, self-service.
   l. Check cashing facility.
   m. Coffee shop.
   n. Coffee shop, drive-thru.
   o. Commercial service facility.
   p. Donation collection bin.
   q. Drug store and pharmacy.
   r. Drug store and pharmacy, drive-thru.
   s. Dry cleaning establishment.
   t. Dry cleaning establishment, drive-thru.
   u. Filling station and convenience store with pump stations.
   v. Financial institution.
   w. Financial institution, drive-thru.
   x. Grocery--Community.
   y. Grocery--Neighborhood.

z. Kennel, boarding.

aa. Laundromat.

bb. Newspaper stand.

cc. Office, dental.

dd. Office, general.

ee. Office, medical.

ff. Oil change facility.

gg. Professional and technical service facility.

hh. Reading room.

ii. Recreation facility.

jj. Research facility.

kk. Restaurant, fast food.

ll. Restaurant, outdoor customer dining area.

mm. Restaurant, sit down.

nn. Restaurant, take out.

oo. Restaurant, with drive-thru window.

pp. Retail sales establishment, community.

qq. Retail sales establishment, neighborhood.

rr. Tackle and bait shop.

ss. Tattoo parlor/body piercing studio.

tt. Telecommunications structure.

uu. Telecommunications tower or facility.

vv. Veterinary clinic.

2. HOURS OF OPERATION

a. Hours of operation for this "PC" District shall not be restricted.

B. FLOOR AREA, HEIGHT, BUILDING AND PARKING STRUCTURE REQUIREMENTS

1. BUILDING REQUIREMENTS

a. A minimum of thirty-five (35) percent Open Space shall be required for this development, unless otherwise approved by the City of Chesterfield.

b. This development shall have a maximum F.A.R. of 0.55.

C. SETBACKS

1. STRUCTURE SETBACKS

   No building or structure, other than: a freestanding project identification sign, boundary and retaining walls, light standards, flag poles or fences will be located within the following setbacks:

   a. Thirty (30) feet from the right-of-way of Chesterfield Airport Road.

   b. Thirty (30) feet from the right-of-way of Relocated Olive Street Road.

   c. Fifteen (15) feet from the right-of-way of Olive Street Road.

2. PARKING SETBACKS

   No parking stall, internal driveway, or roadway, except points of ingress and egress, will be located within the following setbacks:

   a. Thirty (30) feet from the right-of-way of Chesterfield Airport Road.

   b. Thirty (30) feet from the right-of-way of Relocated Olive Street Road.

   c. Fifteen (15) feet from the right-of-way of Olive Street Road.

D. PARKING AND LOADING REQUIREMENTS

1. Parking and loading spaces for this development will be as required in the City of Chesterfield Code.

2. 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.

3. Parking lots shall not be used as streets.

E. LANDSCAPE AND TREE REQUIREMENTS

The development shall adhere to the Landscape and Tree Preservation Requirements of the City of Chesterfield Code.

F. SIGN REQUIREMENTS

1. Sign regulations shall be in accordance with the City Code.

2. Ornamental Entrance Monument construction, if proposed, shall be reviewed by the City of Chesterfield, and/or the St. Louis County Department of Highways and Traffic (or MoDOT), for sight distance considerations prior to installation or construction.

3. Installation of Landscaping and Ornamental Entrance Monument or Identification Signage construction shall be reviewed by the Saint Louis County Department of Highways and Traffic for sight distance consideration and approved prior to installation or construction.

G. LIGHT REQUIREMENTS

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

H. ARCHITECTURAL

1. The development shall adhere to the Architectural Review Standards of the City of Chesterfield Code.

2. Trash enclosures: All exterior trash areas will be enclosed with a minimum six (6) foot high sight-proof enclosure complemented by adequate landscaping. The location, material, and elevation of any trash enclosures will be as approved by the City of Chesterfield on the Site Development Plan or Site Development Section Plan.

I. ACCESS/ACCESS MANAGEMENT

1. Access to the development, except for the access to Out Lot A, shall be as shown on the Preliminary Site Plan, and adequate sight distance shall be provided, as directed by the City of Chesterfield, the Missouri Department of Transportation and St. Louis County Department of Highways and Traffic, as applicable. The access to Out Lot A shall be as directed by the City of Chesterfield.

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 off which the access is proposed.

3. Provide cross access easement and temporary slope construction license or other appropriate legal instrument or agreement guaranteeing permanent access between this site and adjacent properties as directed by the St. Louis County Department of Highways and Traffic and the City of Chesterfield.

J. PUBLIC/PRIVATE ROAD IMPROVEMENTS, INCLUDING PEDESTRIAN CIRCULATION

1. All roadway and related improvements in each plat or phase of the development shall be constructed prior to issuance of building permits for that plat or phase. Delays due to utility relocation and/or adjustment, for which the developer is responsible monetarily, shall not constitute a cause to issue permits in advance of construction of the required improvements.

2. Provide a 5 foot wide sidewalk, conforming to ADA standards, along the relocated Olive Street Road and Chesterfield Airport Road frontages of the site. The sidewalks shall provide for future connectivity to adjacent developments and/or roadway projects. The sidewalks may be located within right-of-way controlled by another agency, if permitted by that agency or on private property within a 6 foot wide sidewalk, maintenance and utility easement dedicated to the City of Chesterfield.

3. Obtain approvals from the City of Chesterfield and St. Louis County Highways and Traffic and other entities as necessary for locations of proposed curb cuts and access points, areas of new dedication, and roadway improvements.

4. Additional right-of-way and road improvements shall be provided, as required by the City of Chesterfield and the St. Louis County Department of Highways and Traffic.

5. Provide a twelve (12) foot wide right turn lane on Chesterfield Airport Road with six (6) foot shoulders with required tapers and including all storm drainage facilities as directed by the Saint Louis County Department of Highways and Traffic.

6. If required sight distance cannot be provided at the access locations, acquisition of right-of-way, reconstruction of pavement including correction to the vertical alignment and other off-site improvements may be required to provide adequate sight distance as directed by the Saint Louis County Department of Highways and Traffic.

K. TRAFFIC STUDY

Provide a traffic study as directed by the City of Chesterfield and/or Missouri Department of Transportation. 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, geometrics, 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.

L. POWER OF REVIEW

Either Councilmember of the Ward where a development is proposed or the Mayor may request that the plan for a development be reviewed and approved by the entire City Council. This request must be made no later than twenty-four (24) hours after Planning Commission review. The City Council will then take appropriate action relative to the proposal. The plan for a development, for purposes of this section, may include the site development plan, site development section plan, site development concept plan, landscape plan, lighting plans, architectural elevations, sign package or any amendment thereto.

M. 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. Storm water drainage shall comply with the current version of the Chesterfield Valley Master Storm Water Plan.

2. 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.

3. Offsite storm water shall be picked up and piped to an adequate natural discharge point. Such bypass systems must be adequately designed.

N. SANITARY SEWER

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

O. GEOTECHNICAL REPORT

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 sinkhole, 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.

P. MISCELLANEOUS

1. All utilities will be installed underground.

2. An opportunity for recycling will be provided. All provisions of Chapter 25, Article VII, and Section 25-122 thru Section 25-126 of the City Code shall be required where applicable.

3. 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 or that they have been reestablished and the appropriate documents filed with the Missouri Department of Natural Resources Land Survey Program, as necessary.

4. Road improvements and right-of-way dedication shall be completed prior to the issuance of an occupancy permit. If development phasing is anticipated, the developer shall complete road improvements, right-of-way dedication, and access requirements for each phase of development as directed by the Saint Louis County Department of Highways and Traffic. As previously noted, the delays due to utility relocation and adjustments will not constitute a cause to allow occupancy prior to completion of road improvements.

5. The developer is advised that utility companies will require compensation for relocation of their facilities with public road right-of-way. Utility relocation cost shall not be considered as an allowable credit against the petitioner's traffic generation assessment contributions. The developer should also be aware of extensive delays in utility company relocation and adjustments. Such delays will not constitute a cause to allow occupancy prior to completion of road improvements.

II. TIME PERIOD FOR SUBMITTAL OF SITE DEVELOPMENT CONCEPT PLANS AND SITE DEVELOPMENT PLANS

A. The developer shall submit a Concept Plan within eighteen (18) months of City Council approval of the change of zoning.

B. In lieu of submitting a Site Development Concept Plan and Site Development Section Plans, the petitioner may submit a Site Development Plan for the entire development within eighteen (18) months of the date of approval of the change of zoning by the City.

C. Failure to comply with these submittal requirements will result in the expiration of the change of zoning and will require a new Public Hearing.

D. A Site Development Plan shall be submitted in accordance with the combined requirements for Site Development Section and Concept Plans. The submission of Amended Site Development Plans by sections of this project to the Planning Commission shall be permitted if this option is utilized.

E. Where due cause is shown by the developer, the City Council may extend the period to submit a Site Development Concept Plan or Site Development Plan for eighteen (18) months.

III. COMMENCEMENT OF CONSTRUCTION

A. Substantial construction shall commence within two (2) years of approval of the Site Development Concept Plan or Site Development Plan, unless otherwise authorized by ordinance.

B. Where due cause is shown by the developer, the City Council may extend the period to commence construction for two (2) additional years.

IV. GENERAL CRITERIA

A. SITE DEVELOPMENT CONCEPT PLAN

1. Any Site Development Concept Plan shall show all information required on a preliminary plat as required in the City of Chesterfield Code.

2. Include a Conceptual Landscape Plan in accordance with the City of Chesterfield Code to indicate proposed landscaping along arterial and collector roadways.

3. Include a Lighting Plan in accordance with the City of Chesterfield Code to indicate proposed lighting along arterial collector roadways.

4. Provide comments/approvals from the appropriate Fire District, the St. Louis County Department of Highways and Traffic, Monarch Chesterfield Levee District, Spirit of St. Louis Airport and the Missouri Department of Transportation.

5. Compliance with the current Metropolitan Sewer District Site Guidance as adopted by the City of Chesterfield.

B. SITE DEVELOPMENT PLAN SUBMITTAL REQUIREMENTS

The Site Development Plan shall include, but not be limited to, the following:

1. Location map, north arrow, and plan scale. The scale shall be no greater than one (1) inch equals one hundred (100) feet.

2. Outboundary plat and legal description of property.

3. Density calculations.

4. Parking calculations. Including calculation for all off street parking spaces, required and proposed, and the number, size and location for handicap designed.

5. Provide openspace percentage for overall development including separate percentage for each lot on the plan.

6. Provide Floor Area Ratio (F.A.R.).

7. A note indicating all utilities will be installed underground.

8. A note indicating signage approval is separate process.

9. Depict the location of all buildings, size, including height and distance from adjacent property lines, and proposed use.

10. Specific structure and parking setbacks along all roadways and property lines.

11. Indicate location of all existing and proposed freestanding monument signs.

12. Zoning district lines, subdivision name, lot number, dimensions, and area, and zoning of adjacent parcels where different than site.

13. Floodplain boundaries.

14. 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.

15. Depict all existing and proposed easements and rights-of-way within 150 feet of the site and all existing or proposed off-site easements and rights-of-way required for proposed improvements.

16. Indicate the location of the proposed storm sewers, detention basins, sanitary sewers and connection(s) to the existing systems.

17. Depict existing and proposed contours at intervals of not more than one (1) foot, and extending 150 feet beyond the limits of the site as directed.

18. Address trees and landscaping in accordance with the City of Chesterfield Code.

19. Comply with all preliminary plat requirements of the City of Chesterfield Subdivision Regulations per the City of Chesterfield Code.

20. Signed and sealed in conformance with the State of Missouri Department of Economic Development, Division of Professional Registration, Missouri Board for Architects, Professional Engineers and Land Surveyors requirements.

21. Provide comments/approvals from the appropriate Fire District, Monarch Levee District, Spirit of St. Louis Airport, Metropolitan St. Louis Sewer District (MSD) and the Missouri Department of Transportation.

22. Compliance with Sky Exposure Plane.

23. Compliance with the current Metropolitan Sewer District Site Guidance as adopted by the City of Chesterfield.

C. SITE DEVELOPMENT SECTION PLAN SUBMITTAL REQUIREMENTS

The Site Development Section Plan shall adhere to the above criteria and to the following:

1. Location map, north arrow, and plan scale. The scale shall be no greater than one (1) inch equals one hundred (100) feet.

2. Parking calculations. Including calculation for all off street parking spaces, required and proposed, and the number, size and location for handicap designed.

3. Provide openspace percentage for overall development including separate percentage for each lot on the plan.

4. Provide Floor Area Ratio (F.A.R.).

5. A note indicating all utilities will be installed underground.

6. A note indicating signage approval is a separate process.

7. Depict the location of all buildings, size, including height and distance from adjacent property lines and proposed use.

8. Specific structure and parking setbacks along all roadways and property lines.

9. Indicate location of all existing and proposed freestanding monument signs.

10. Zoning district lines, subdivision name, lot number, lot dimensions, lot area, and zoning of adjacent parcels where different than site.

11. Floodplain boundaries.

12. Depict existing and proposed improvements within one hundred and fifty (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.

13. Depict all existing and proposed easements and rights-of-way within 150 feet of the site and all existing or proposed off-site easements and rights-of-way required for proposed improvements.

14. Indicate the location of the proposed storm sewers, detention basins, sanitary sewers and connection(s) to the existing systems.

15. Depict existing and proposed contours at intervals of not more than one (1) foot, and extending one hundred and fifty (150) feet beyond the limits of the site as directed.

16. Address trees and landscaping in accordance with the City of Chesterfield Code.

17. Comply with all preliminary plat requirements of the City of Chesterfield Subdivision Regulations per the City of Chesterfield Code.

18. Signed and sealed in conformance with the State of Missouri Department of Economic Development, Division of Professional Registration, Missouri Board for Architects, Professional Engineers and Land Surveyors requirements.

19. Provide comments/approvals from the appropriate Fire District, Monarch Levee District, Spirit of St. Louis Airport, St. Louis Department of Highways and Traffic, Metropolitan St. Louis Sewer District (MSD) and the Missouri Department of Transportation.

20. Compliance with Sky Exposure Plane.

21. Compliance with the current Metropolitan Sewer District Site Guidance as adopted by the City of Chesterfield.

VI. TRUST FUND CONTRIBUTION

Road Improvements Assessment

1. The developer shall contribute a Traffic Generation Assessment (TGA) to the Chesterfield Valley Trust Fund (No. 556). This contribution shall not exceed an amount established by multiplying the required parking spaces by the following rate schedule:

Type of Development	**Required Contribution**
TGA Category	Contribution
Convenience Store	$12,895.57
General Retail	$1,934.32
Loading Space	$3,165.27

If types of development proposed differ from those listed, rates shall be provided by the Saint Louis County Department of Highways and Traffic.

If a portion of the improvements required herein are needed to provide for the safety of the traveling public, their completion as a part of this development is mandatory.

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

2. As this development is located within a trust fund area established by Saint 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.

3. Road improvement traffic generation assessment contributions shall be deposited with Saint Louis County Department of Highways and Traffic. The deposit shall be made prior to the issuance of a Special Use Permit (S.U.P.) by Saint Louis County Department of Highways and Traffic or prior to the issuance of building permits in the case where no S.U.P. is required. If development phasing is anticipated, the developer shall provide the traffic generation assessment contribution prior to issuance of building permits for each phase of development. Funds shall be payable to Treasurer, Saint Louis County.

Water Main Assessment

The primary water line contribution is based on gross acreage of the development land area. The contribution shall be a sum of $777.97 per acre for the total area as approved on the Site Development Plan to be used solely to help defray the cost of constructing the primary water line serving the Chesterfield Valley area.

The primary water line contribution shall be deposited with the Saint Louis County Department of Highways and Traffic. The deposit shall be made prior to St. Louis County approval of the Site Development Plan unless otherwise directed by the Saint Louis County Department of Highways and Traffic. Funds shall be payable to the Treasurer, Saint Louis County.

Storm Water Assessment

The storm water contribution is based on gross acreage of the development land area. These funds are necessary to help defray the cost of engineering and construction improvements for the collection and disposal of storm water from the Chesterfield Valley in accordance with the Master Plan on file with and jointly approved by Saint Louis County and the Metropolitan Saint Louis Sewer District. The amount of the storm water contribution will be computed based on $2,468.31 per acre for the total area as approved on the Site Development Plan.

The storm water contributions to the Trust Fund shall be deposited with the Saint Louis County Department of Highways and Traffic. The deposit shall be made before the issuance of a Special Use Permit (S.U.P.) by Saint Louis County Department of Highways and Traffic or before the issuance of building permits in the case where no Special Use Permit is required. Funds shall be payable to the Treasurer, Saint Louis County.

Sanitary Sewer

The sanitary sewer contribution is collected as the Caulks Creek impact fee. The sanitary sewer contribution within Chesterfield Valley area shall be deposited with the Metropolitan St. Louis Sewer District as required by the District.

Traffic Generation Assessment Rates

The amount of all required contributions for roadway, storm water and primary water line improvements, if not submitted by January 1, 2015, shall be adjusted on that date and on the first day of January in each succeeding year thereafter in accordance with the construction cost index as determined by the Saint Louis County Department of Highways and Traffic.

Additional Conditions

In addition to the conditions listed above, St. Louis County asks that the following general conditions be met:

1. Prior to Special Use Permit issuance by the Saint Louis County Department of Highways and Traffic, a special cash escrow or a special escrow supported by an Irrevocable Letter of Credit, shall be established with the Saint Louis County Department of Highways and Traffic to guarantee completion of the required roadway improvements.

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 onto the pavement causing hazardous roadway and driving conditions.

VII. 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.

X. 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.

Preliminary Development Plan
Energy Marketing 709 LLC

COMMONWEALTH LAND TITLE INSURANCE COMPANY File No: 11644798
Revision 1
Effective Date: April 28, 2009

SCHEDULE B – SECTION 2

Items 1 –7 Standard Exceptions

Item 8 Restrictions, Conditions and easements, contained in instrument(s) recorded in: Plat Book 325 Page 11. (EASEMENTS SHOWN, SUBJECT TO RESTRICTIONS AND CONDITIONS)

Item 9 Easement granted to Union Electric Company recorded in Book 1132 page 49. (SHOWN)

Item 10 Covenants, conditions and restrictions according to instruments recorded in Book 10 page 494, Book 11 page 247, Book 3951 Page 581 and in Book 9305 page 1047. (SUBJECT TO)

Item 11 Oil and Gas Lease granted by instrument recorded in Book 524 page 86 and assigned to Mobil Oil Corporation. (SUBJECT TO)

Item 12 Easement granted to Southwestern Bell Telephone Company recorded in Book 8509 page 390, (SHOWN) Book 7383 page 1263 (DOES NOT AFFECT).

Item 13 Reservation of a perpetual easement for the installation, use, enjoyment, operation, maintenance, repair, replacement, relocation and removal of any and all utility systems and/or parts thereof, lines and related facilities for sanitary and storm sewer, water, electrical, gas, lighting, and telephone, etc., as contained in instrument recorded in Book 9305 page 1047 (SHOWN) and in Book 10210 page 1431.

Item 14 Reservation of a Perpetual Access Easement as contained in instrument recorded in Book 9305 page 1047 and in Book 10210 page 1431. (SHOWN)

Item 15 Easement granted to Laclede Gas Company recorded in Book 9820 page 2469. (SHOWN)

Item 16 Terms and provisions of the Development Plan recorded in Plat Book 284 pages 49 thru 51, Plat Book 325 page 40 and Plat Book 332 page 8. (SUBJECT TO)

Item 17 Permanent Roadway improvement, Maintenance Utility Sewer and Sidewalk Easement granted to St. Louis County, Missouri by instrument recorded in Book 10106 page 2178. (SHOWN)

Item 18 Terms and provisions of Ordinance No. 854 of the City of Chesterfield, a certified copy of which is recorded in Book 10148 page 1935, as amended by Ordinance No. 959 of the City of Chesterfield, a certified copy of which is recorded in Book 10379 page 2059. (SUBJECT TO)

Item 19 Right of way of roadways over any portion of the herein described property embraced therein.

Item 20 Not Survey Related Item.

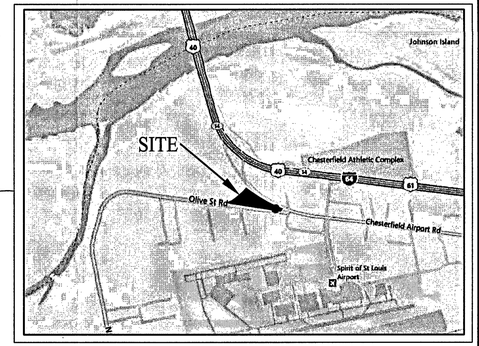
Item 21 Easement granted Monarch Chesterfield Levee District according to the instrument recorded in Book 10611 Page 2052, Book 11723 page 316, Book 11723 page 321 and Book 17962 page 4033. (DOES NOT AFFECT)

Item 22–28 Not Survey Related Items.

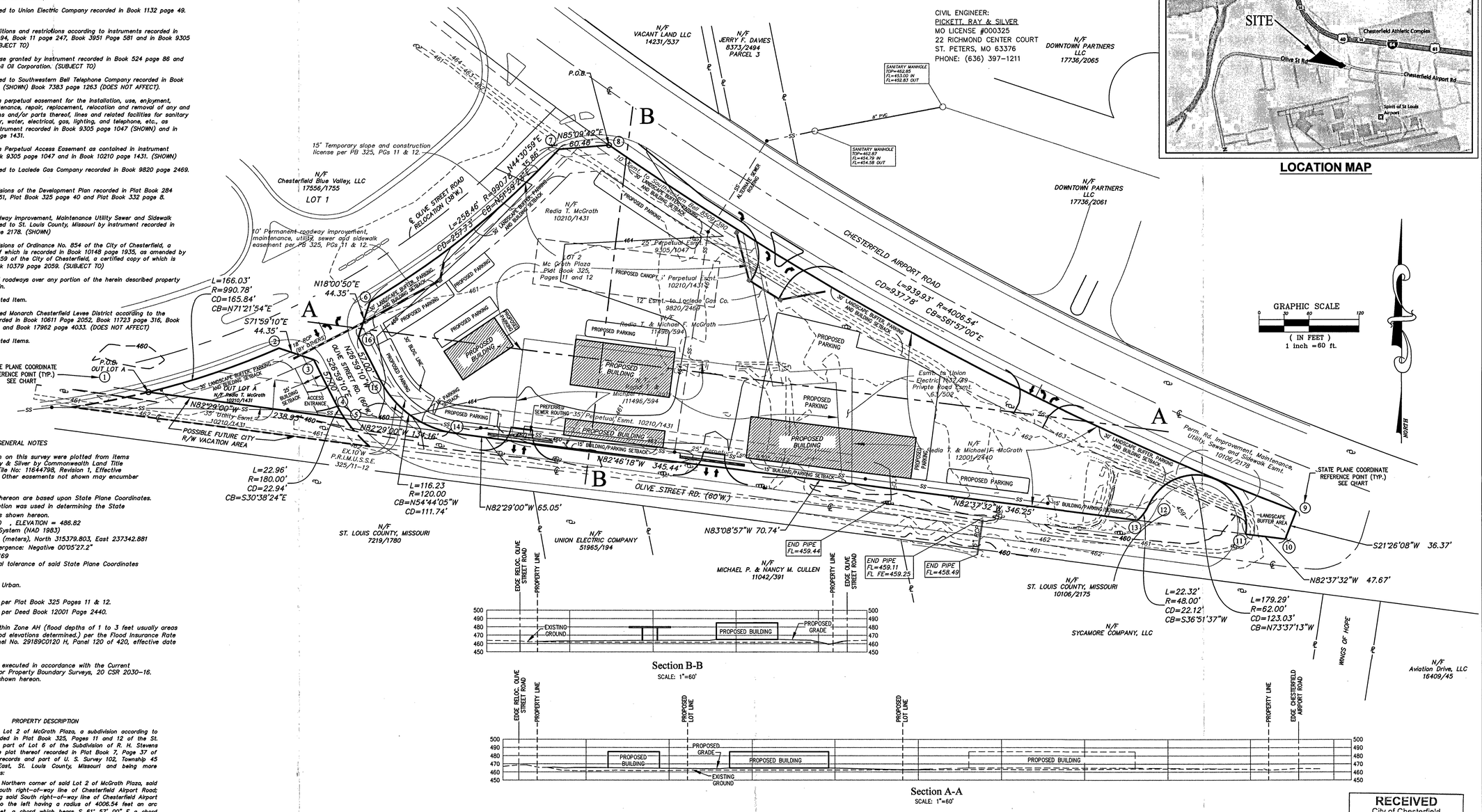
OWNER & CONSULTANT CONTACTS

PROPERTY OWNER:
ENERGY MARKETING 1877 LLC
2130 KIENLEN AVENUE
ST. LOUIS, MO 63121
PHONE: (314) 383–3700

CIVIL ENGINEER:
PICKETT, RAY & SILVER
MO LICENSE #000325
22 RICHMOND CENTER COURT
ST. PETERS, MO 63376
PHONE: (636) 397–1211



LOCATION MAP



Section B-B
SCALE: 1"=60'

Section A-A
SCALE: 1"=60'

GRAPHIC SCALE
0 30 60 120
(IN FEET)
1 inch = 60 ft.

NORTH

GENERAL NOTES

1. The easements shown on this survey were plotted from items furnished Pickett, Ray & Silver by Commonwealth Land Title Insurance Company File No: 11644798, Revision 1, Effective Date: April 28, 2009. Other easements not shown may encumber this site.
2. The bearings shown hereon are based upon State Plane Coordinates. The following information was used in determining the State Plane Coordinates as shown hereon.
   Station Name SL–40 , ELEVATION = 486.82
   Missouri Coordinate System (NAD 1983)
   Missouri Coordinates (meters), North 315379.803, East 237342.881
   Zone Central, Convergence: Negative 00°05'27.2"
   Grid Factor: 0.9999169
   The relative positional tolerance of said State Plane Coordinates are ±0.03 meters.
3. Class of property – Urban.
4. (R1) Record bearing per Plat Book 325 Pages 11 & 12.
   (R2) Record bearing per Deed Book 12001 Page 2440.
5. This property lies within Zone AH (flood depths of 1 to 3 feet usually areas of ponding, base flood elevations determined.) per the Flood Insurance Rate Map, Community Panel No. 29189C0120 H, Panel 120 of 420, effective date August 2, 1995.
6. This survey has been executed in accordance with the Current Minimum Standards for Property Boundary Surveys, 20 CSR 2030–16. and the results are shown hereon.

PROPERTY DESCRIPTION

A tract of land being Lot 2 of McGrath Plaza, a subdivision according to the plat thereof recorded in Plat Book 325, Pages 11 and 12 of the St. Louis County Records, part of Lot 6 of the Subdivision of R. H. Stevens Farm according to the plat thereof recorded in Plat Book 7, Page 37 of the St. Louis County records and part of U. S. Survay 102, Township 45 North – Range 3 East, St. Louis County, Missouri and being more particularly described as:

Beginning at the most Northern corner of said Lot 2 of McGrath Plaza, said point being on the South right–of–way line of Chesterfield Airport Road; thence Eastwardly along said South right–of–way line of Chesterfield Airport Road along a curve to the left having a radius of 4008.54 feet an arc distance of 939.93 feet, a chord which bears S 61° 57' 00" E a chord distance of 937.78 feet to the most Eastern corner of property of Redia T. and Michael F. McGrath, as described in the deed recorded in Book 12001, Page 2440 of the St. Louis County Records; thence S 21° 26' 08" W a distance of 36.37 feet and N 82° 37' 32" W a distance of 47.67 feet along the boundary line of said McGrath property to the Southeast corner of property conveyed to St. Louis County, Missouri as described in the deed recorded in Book 10106, Page 2175 of the St. Louis County Records; thence along said St. Louis County, Missouri boundary, along a curve to the left having a radius of 62.00 feet an arc length of 179.29 feet, a chord which bears N 73° 37' 13" W a chord distance of 123.03 feet and along a curve to the right having a radius of 48.00 feet an arc distance of 22.32 feet, a chord which bears S 36° 51' 37" W a chord distance of 22.12 feet to the South line of the aforesaid McGrath property; thence N 82° 37' 32" W a distance of 346.25 feet to the Southeast corner of property of Redia T. and Michael F. McGrath, as described in the deed recorded in Book 11496, Page 594 of the St. Louis County Records; thence N 83° 08' 57" W a distance of 70.74 feet and N 82° 46' 18" W a distance of 345.44 feet along the South line of said McGrath property to the Southeast corner of the aforesaid Lot 2 of McGrath Plaza; thence along the boundary lines of said Lot 2 the following courses and distances: N 82° 29' 00" W a distance of 65.05 feet, along a curve to the right having a radius of 120.00 feet an arc distance of 116.23 feet, a chord which bears N 54° 44' 05" W a chord distance of 111.74 feet, N 26° 59' 10" W a distance of 57.00 feet, N 18° 00' 50" E a distance of 44.35 feet, along a curve to the left having a radius of 990.78 feet an arc distance of 258.46 feet, a chord which bears N 51° 59' 23" E a chord distance of 257.73 feet, N 44° 30' 59" E a distance of 35.86 feet and N 85° 09' 42" E for a distance of 60.46 feet to the point of beginning and containing 219,558 square feet or 5.04 acres more or less.

PROPERTY DESCRIPTION OUT LOT A

A tract of land being Out Lot A of McGrath Plaza, a subdivision according to the plat thereof recorded in Plat Book 325, Pages 11 and 12 of the St. Louis County Records, in U. S. Survey 102, Township 45 North – Range 3 East, St. Louis County, Missouri and being more particularly described as:

Beginning at the most Western corner of said Out Lot A of McGrath Plaza, said point being on the North right–of–way line of Olive Street Road, 60 feet wide; thence along the boundary line of said Out Lot A the following courses and distances: along a curve to the left having a radius of 990.78 feet an arc length of 166.03 feet, a chord which bears N 71° 21' 54" E a chord distance of 165.84 feet, S 71° 59' 10" E a distance of 44.35 feet, S 26° 59' 10" E a distance of 57.00 feet, along a curve to the left having a radius of 180.00 feet an arc length of 22.96 feet, a chord which bears S 30° 38' 24" E a chord distance of 22.94 feet and N 82° 29' 00" W a distance of 238.93 feet to the point of beginning and containing 9,530 square feet or 0.22 acres more or less.

STATE PLANE COORDINATE REFERENCE POINT CHART

POINT #	COORDINATE IN FEET		COORDINATE IN METERS	
1	1033394.0303	775643.4539	314979.1307	236416.5978
2	1033447.0177	775800.5852	314995.2813	236464.4915
3	1033433.3040	775842.7569	314991.1014	236477.3455
4	1033382.5146	775868.6200	314975.6207	236485.2286
5	1033362.7775	775880.3111	314969.6048	236488.7920
6	1033502.7008	775909.9334	315012.2535	236497.8209
7	1033686.9662	776138.1212	315068.4178	236567.3727
8	1033692.0653	776198.3607	315069.9720	236585.7338
9	1033251.1221	777025.9157	314935.5722	236837.9730
10	1033217.2707	777012.6252	314925.2543	236833.9221
11	1033223.3891	776965.3512	314927.1192	236819.5129
12	1033258.0822	776847.3206	314937.6936	236783.5371
13	1033240.3826	776834.0505	314932.2988	236779.4924
14	1033345.2284	776013.3112	314964.2559	236529.3306
15	1033409.7389	775922.0825	314983.9187	236501.5240
16	1033460.5283	775896.2195	314999.3993	236493.6409

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City of Chesterfield
SEP – 9 2014
Department of Public Services

ENGINEERS AUTHENTICATION

The responsibility for professional engineering liability on this project is hereby limited to the set of plans authenticated by the seal, signature, and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in this project and specifically excludes amendments after this date unless REAUTHENTICATED.

STATE OF MISSOURI
PICKETT, RAY & SILVER, INC
CA LICENSE # 000325
DOUGLAS S. TIEMANN
NUMBER E-23345
PROFESSIONAL ENGINEER
9/9/14

DOUGLAS S. TIEMANN PROFESSIONAL ENGINEER LICENSE# E–23345
DOUGLAS S. TIEMANN, PLS PROFESSIONAL LAND SURVEYOR LICENSE# LS–2378

PICKETT, RAY & SILVER INC.
CIVIL ENGINEERING, LAND SURVEYING, AND NATURAL RESOURCES SERVICES
St. Peters
22 Richmond Center Court
St. Peters, MO 63376
Branson
110 W. Adams, Suite 201
Branson, MO 65616
Phone (636) 397-1211 Fax (636) 397-1104
www.prs3.com 1-800-708-3918

Preliminary Development Plan
A tract of land being Lot 2 and Outlot A of McGrath Plaza, part of Lot 6 of the Subdivision of R. H. Stevens Farm and part of U. S. Survey 102, Township 45 North - Range 3 East, St. Louis County, Missouri

Prepared For:
Energy Marketing 709 LLC

Mr. Steve Medres
2130 Kienlen Avenue
St. Louis, MO 63121-5505
314-383-3700

REVISIONS NO.	DATE	DESCRIPTION
1.	09/06/13	REVISED PER CITY COMMENTS DATED 8/30/13
	10/09/13	REVISED PER CITY COMMENTS
	11/25/13	REVISED PER CITY COMMENTS
	04/16/14	REVISED PER CITY COMMENTS
	06/10/14	REVISED PER CITY COMMENTS
	06/19/14	REVISED 15' PARKING SETBACK OLD OLIVE – FAR TABLE
	07/15/14	REVISED PER CLIENT
	07/18/14	REVISED PER CLIENT
	07/30/14	REVISED PER COMMENTS FROM CITY

DRAWN RGA–DWD	DATE 05–29–13
CHECKED DFS	DATE 05–29–13
PROJECT # 09056.EMKT.00S	
TASK # 1	FIELD BOOK 1287

PRELIMINARY DEVELOPMENT PLAN
18423 OLIVE ST. RD.

SHEET 1 OF 1

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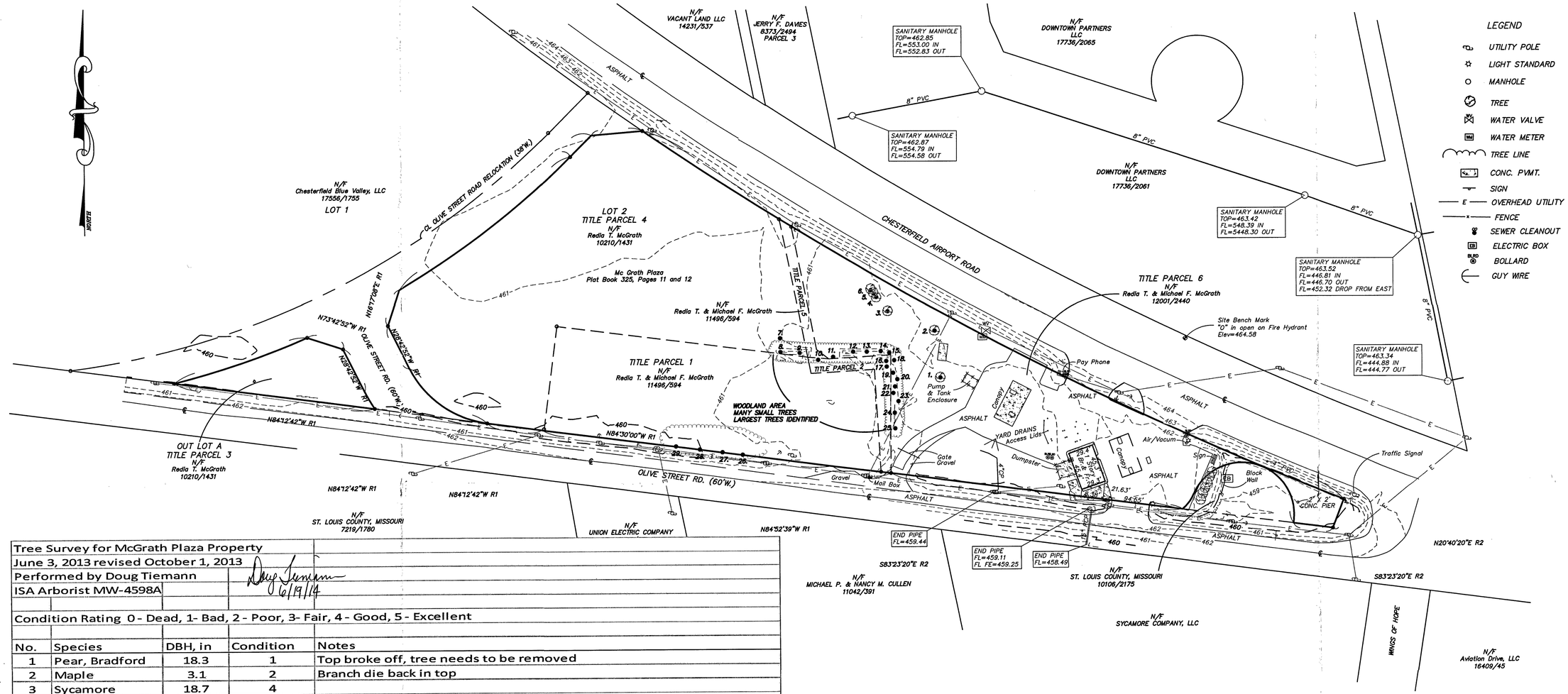
Tree Stand Delineation

GRAPHIC SCALE
120 60 30 0 60 180
(IN FEET)
1 inch = 60 ft.



Tree Survey for McGrath Plaza Property				
June 3, 2013 revised October 1, 2013				
Performed by Doug Tiemann			Doug Tiemann 6/19/14	
ISA Arborist MW-4598A				
Condition Rating 0 - Dead, 1- Bad, 2 - Poor, 3- Fair, 4 - Good, 5 - Excellent				
No.	Species	DBH, in	Condition	Notes
1	Pear, Bradford	18.3	1	Top broke off, tree needs to be removed
2	Maple	3.1	2	Branch die back in top
3	Sycamore	18.7	4	
4	Maple	12.6	3	Multiple Stems - largest stem measured
5	Pine, Austrian	4.8	3	
6	Pine, Austrian	3.8	3	
7	Elm	6.1	3	
8	Elm	7.0	3	Multiple Stems - 5", 6" & 7"
9	Maple, Silver	14.5	3	
10	Elm	5.0	3	
11	Pine, Austrian	3.4	2	
12	Maple, Silver	8.0	3	
13	Pine, Austrian	8.8	3	
14	Pine, Austrian	12.0	3	
15	Pine, Austrian	18.7	2	Bottom portion dead
16	Elm, Siberian	8.8	3	
17	Elm, Siberian	8.4	3	
18	Pine, Austrian	12.2	2	
19	Elm	5.0	3	
20	Pine, Austrian	11.5	2	Bottom portion dead
21	Pine, Austrian	11.8	3	
22	Pear, Bradford	4.6	3	
23	Elm, Siberian	8.8	3	
24	Elm, Siberian	8.0	3	
25	Pear, Bradford	4.2	3	
26	Maple, Silver	35	1	Heavily trimmed on south side for power lines - Approximate diameter
27	Maple, Silver	46	1	Heavily trimmed on south side for power lines - Approximate diameter
28	Maple, Silver	32	1	Heavily trimmed on south side for power lines - Approximate diameter
29	Maple, Silver	44	1	Heavily trimmed on south side for power lines - Approximate diameter

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JUL 31 2014
Department of Public Services

PICKETT, RAY & SILVER INC.
CIVIL ENGINEERING, LAND SURVEYING, AND NATURAL RESOURCES SERVICES
New Town 3320-1 Rue Royale St. Charles, MO 63301
St. Peters 333 Mid Rivers Mall Drive St. Peters, MO 63376
Branson 3027 W. Hwy 76, Suite B Branson, Mo 65616
Phone (636) 397-1211 Fax (636) 397-1104
www.prs3.com 1-800-708-3818

Tree Survey
A tract of land being Lot 2 and Outlot A of McGrath Plaza, part of Lot 6 of the Subdivision of R. H. Stevens Farm and part of U. S. Survey 102, Township 45 North - Range 3 East, St. Louis County, Missouri

Prepared For:
Energy Marketing 709 LLC
2130 Kienlen Avenue St. Louis, MO 63121-5505 314-383-3700

REVISIONS NO.	DESCRIPTION	DATE
1.	CHANGED NAME FOR DRAWING	11-06-2013

DRAWN	DATE
DWD	06-03-13
CHECKED DST	DATE 06-03-13

PROJECT # 09056.EMKT.00S
TASK # 1 FIELD BOOK 1287

TREE STAND DELINEATION
18423 OLIVE ST. RD.
SHEET 1 OF 1

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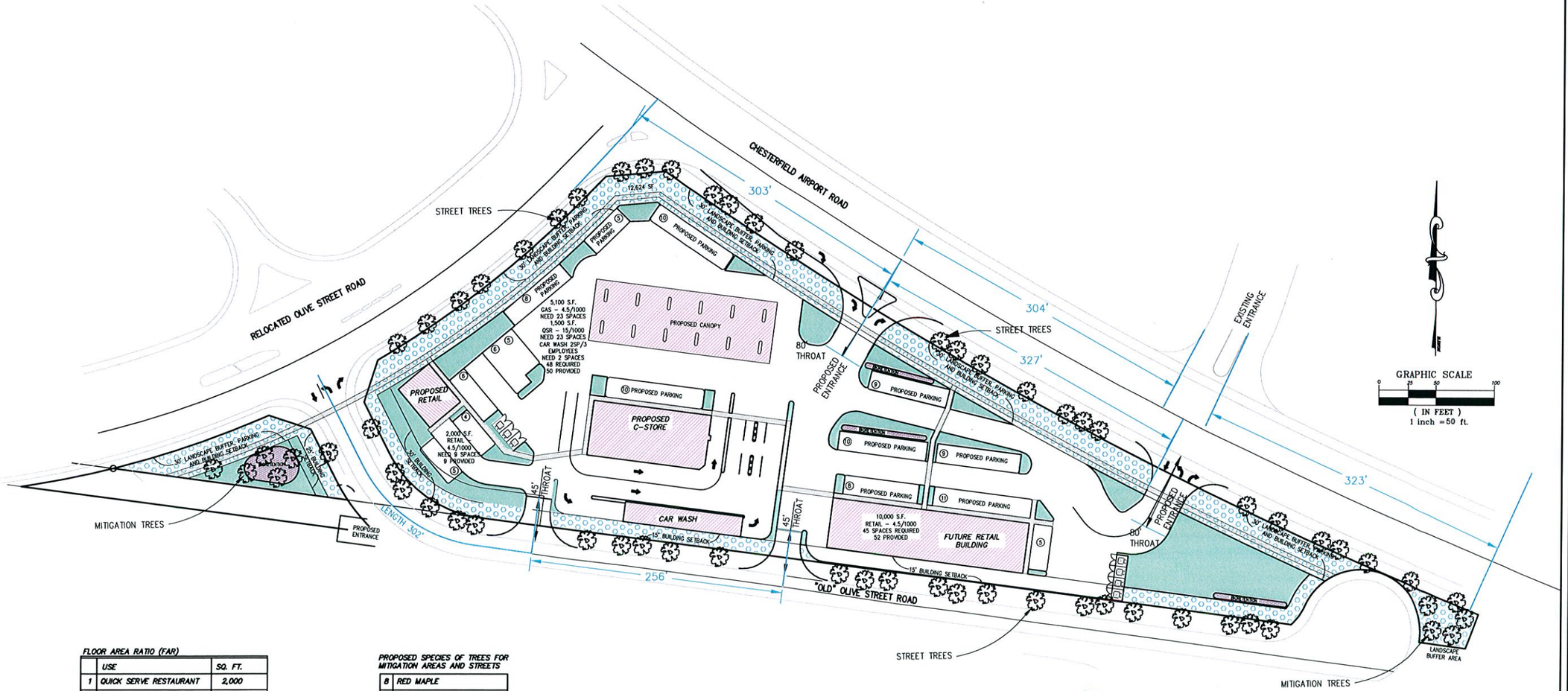
ENERGY MARKETING 709 LLC
EXHIBIT FOR FAR, ENTRANCES, GREENSPACE AND BUFFER AREAS
(FOR STAFF ONLY- UPDATED 09-05-14)



FLOOR AREA RATIO (FAR)

	USE	SQ. FT.
1	QUICK SERVE RESTAURANT	2,000
2	CONVENIENCE STORE W/GAS	6,600
3	CANOPY	11,424
4	CAR WASH	2,400
4	RETAIL CENTER	10,000
5	TOTAL BUILDING AREA	32,424
6	TOTAL PROPERTY AREA	229,088
7	FLOOR AREA RATIO (FAR)	0.142
	MAXIMUM FAR ALLOWED	0.550

PROPOSED SPECIES OF TREES FOR MITIGATION AREAS AND STREETS

8	RED MAPLE
7	SWAMP WHITE OAK
8	CRIMSON CLOUD HAWTHORN
8	ENGLISH OAK
7	LITTLE LEAF LINDEN
8	AMERICAN HORNBEAN
7	HACKBERRY
8	NORWAY MAPLE

OPEN SPACE REQUIREMENT

- LANDSCAPE BUFFER (50,325 SF)
- INTERIOR LANDSCAPE AREA (30,800 SF)
- SIDEWALK/OPEN SPACE (5,197 SF)

TOTAL OPEN SPACE ±86,322 SF OR 37.7%

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SEP - 5 2014
Department of Public Services

ENGINEERS AUTHENTICATION

The responsibility for professional engineering liability on this project is hereby limited to the set of plans authenticated by the seal, signature, and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in this project and specifically excludes revisions after this date unless reauthenticated.

PICKETT, RAY & SILVER, INC
MO LICENSE # 000325

DOUGLAS S. TIEMANN, PE
PROFESSIONAL ENGINEER
LICENSE # E-23345

PICKETT, RAY & SILVER INC.
CIVIL ENGINEERING, LAND SURVEYING, AND NATURAL RESOURCES SERVICES
St. Peters
22 Richmond Center Court
St. Peters, MO 63376
Phone (636) 397-1211 Fax (636) 397-1104
Branson
110 W. Adams, Suite 201
Branson, Mo 65616
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Preliminary Development Plan - FAR

A tract of land being Lot 2 and Outlot A of McGrath Plaza, part of Lot 6 of the Subdivision of R. H. Stevens Farm and part of U. S. Survey 102, Township 45 North - Range 3 East, St. Louis County, Missouri

Prepared For:
Energy Marketing 709 LLC

Mr. Steve Madras
2150 Kienlen Avenue
St. Louis, MO 63121-5505
314-383-3700

REVISIONS NO.	DESCRIPTION	DATE

DRAWN	DATE
KAS	08-29-14
CHECKED	DATE
DST	08-29-14

PROJECT # 09056.EMKT.00S
TASK # 1 FIELD BOOK 1287

FAR EXHIBIT
18423 OLIVE ST. RD.

SHEET 1 OF 1

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PICKETT, RAY & SILVER, INC.

CIVIL ENGINEERING, LAND SURVEYING & LAND PLANNING SERVICES

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City of Chesterfield
SEP - 5 2014
Department of Public Services

September 5, 2014

Ms. Jessica Henry
City of Chesterfield
690 Chesterfield Pkwy W
Chesterfield, MO 63017-0760

RE: Energy Marketing #709 – P.Z. 12-2013
Preliminary Development Plan/Change in Zoning "Wedge Property"
Pickett, Ray & Silver, Inc. Project No. 09056.EMKT.00R

Dear Ms. Henry:

The following is a written response to your letter dated December 13, 2013 and from the letter dated July 31, 2014 for Item 2. The list of uses has been has been revised from forty-eight to thirty-one uses and, given the nature of Chesterfield's Code, many of these remaining uses appear to overlap. The Preliminary Development Plan has been revised to address your comments.

1. *Address concerns with the number and location and access points off of Olive Street and Chesterfield Airport Roads. Note that compliance with Chapter 26 Article III Driveway Access Location and Design Standards of the Municipal Code is required.*

   The PDP has been revised and the access along relocated Olive Street Road has been removed. A traffic impact study has been completed by BLA & Associates. The recommendations from the traffic study have been incorporated into the preliminary development plan. A right-in/right-out is proposed on Chesterfield Airport Road at the western end of the development and a full access is proposed on Chesterfield Airport Road across from the Comfort Inn and Suites. Two access points are proposed on old Olive Street Road along the southern edge of the property. The full access entrance at the eastern portion of the site is dictated by the existing full access on the north side of Chesterfield Airport Road serving the Comfort Inn. The full access in this location causes cross traffic internal circulation concerns; ideally, the full access would have been located in the middle of our site on Chesterfield Airport Road. As a consequence, a secondary, minor access point is required on Chesterfield Airport Road allowing right in/right out access only, which access alleviates internal traffic issues and avoids overloading the full access entrance/exit on the far eastern edge of the site. The distances meet the minimum spacing for drive access for this redevelopment project. The traffic study supports the entrances and concludes that after full build-out, assuming the most intense uses are put on the site, all entrances provide acceptable levels of service on Chesterfield Airport Road even after 20 years in the future and growth in the area.

22 Richmond Center Court
St. Peters, Missouri 63376
Ph: 636-397-1211 Fax: 636-397-1104
Web: www.prs3.com

2. *Address the concerns with the number, type, and intensity of the uses requested.*

The list of uses requested on the site has been reduced to the following thirty-one (31) uses.

(1) Animal grooming service.
(2) Art studio.
(3) Automotive retail supply (indoor sales only).
(4) Bakery.
(5) Bar.
(6) Barber or beauty shop.
(7) Brewpub.
(8) Car wash.
(9) Coffee shop.
(10) Coffee shop, drive-thru.
(11) Commercial service facility.
(12) Drug store and pharmacy.
(13) Drug store and pharmacy, drive-thru.
(14) Dry cleaning establishment.
(15) Filling station and convenience store with pump stations.
(16) Financial institution.
(17) Financial institution, drive-thru.
(18) Grocery--Community.
(19) Grocery--Neighborhood.
(20) Kennel, boarding.
(21) Office, general.
(22) Oil change facility.
(23) Recreation facility.
(24) Restaurant, fast food
(25) Restaurant, outdoor customer dining area.
(26) Restaurant, sit down.
(27) Restaurant, take out.
(28) Restaurant, with drive-thru window.
(29) Retail sales establishment, community.
(30) Retail sales establishment, neighborhood.
(31) Veterinary clinic.

As noted, several of these uses seem conceptually to overlap. For example, there are essentially five restaurant uses, three pet oriented uses, two retail uses, two drug store uses, two financial uses, and four beverage establishment uses. The variation in many of these uses depends upon whether there is a drive thru associated with the use.

3. *Address concerns with the parking and building setbacks and landscape buffers as shown the Preliminary Plan.*

The plan shows a 30-feet wide landscape buffer, parking and building setback along the entire portion of Chesterfield Airport Road and Relocated Olive Street Road as required. In addition, a substantial green space area has replaced a proposed building on the eastern portion of the site.

The proposed Preliminary Development Plan meets the requirements for 35% open space and parking for the proposed uses can be met as shown on the illustrative plan submitted with this response. Therefore, parking can be achieved on the site and it is likely that some of the areas

shown as parking will be converted to green space. An illustrative plan has been included with this submission to demonstrate that these requirements can be met. Applicant acknowledges that this is not a site plan review and the submission of the illustrative plan is simply to demonstrate that these requirements can be met. Formal site plan will be submitted later in the process.

4. *Concerns about specific items and areas:*

   a. *FAR and parking located adjacent to that specific building.*

   The floor area ratio has been analyzed for the site as proposed in the site development plan and the FAR density (including pump canopy) is approximately 0.14 which is well below the required maximum of 0.55. The PDP meets the parking requirements and the illustrative plan shows the parking located adjacent to the specific building; applicant recognizes that formal site plan review will take place later in the process and parking fields will be reduced to provide more green space as part of the final site plan.

   b. *Loading space requirements.*

   The PDP can meet the required number of loading spaces. Loading spaces are available adjacent to the retail space as shown on the illustrative plan and can also be placed near the proposed car wash.

   c. Each proposed building will require a separate dumpster with screening.

   Each building has a designated separate dumpster as shown on the illustrative plan. Screening will be provided.

   d. Sidewalks will be required both along the Chesterfield Airport Road and relocated Olive Street Road and internal to the site to allow for safe pedestrian access to each building within the site.

   Sidewalks will be provided along both Chesterfield Airport Road and relocated Olive Street Road along with internal pedestrian access to each building.

   e. Parking areas will be required to provide landscape islands and trees as required by the Tree Preservation and Landscape Manual requirements.

   Landscape islands are shown in parking areas and will be provided as required by the Tree Preservation and Landscape Manual requirements.

   f. On-site drainage structure (such as bio-retention areas) will be required.

   Bio-retention areas will be provided and are shown on the PDP.

   g. Access Management requirements, including throat depth requirements, must be met.

   Access management requirements meet the guidelines of the TIS analysis and throat depth requirements will be provided. The illustrative plan shows that these requirements can be met.

5. *Hours of Operation.* We have provided for the hours of operation to be the same as those of the businesses on the surrounding properties, namely, Comfort Inn to the northeast, and the Gas Station/Outlet Mall to the west, which contain no limitation on the hours of operation. As this is these proposed hours are consistent with existing uses and there is no residentially zoned property adjacent to or in the vicinity of the site, we believe these hours are appropriate. Finally, the existing gas station operation has no limitation on hours of operation.

If you have any questions or need additional information, feel free to contact me at (636) 397-1211 or dtiemann@prs3.com.

Yours very truly,

PICKETT, RAY & SILVER, INC.

Douglas S. Tiemann

Douglas S. Tiemann, P.E., P.L.S.
Director of Engineering

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City of Chesterfield
SEP - 8 2014
Department of Public Services

TRAFFIC IMPACT STUDY FOR PROPOSED CHESTERFIELD WEDGE MIXED-USE DEVELOPMENT

April 2014

Revised: September 2014

Prepared For:

Energy Marketing 709, LLC
2130 Kienlen Avenue
St. Louis, Missouri 63121

Prepared by:

Bernardin, Lochmueller & Associates, Inc.
411 North 10th Street
St. Louis, Missouri 63101

BLA Report 514-0001-0TE

TABLE OF CONTENTS

LIST OF EXHIBITS

LIST OF TABLES

EXECUTIVE SUMMARY

Bernardin, Lochmueller & Associates has completed a traffic impact study for the proposed mixed-use development of "the wedge" property in Chesterfield. A review of the traffic operations and site plan has informed the following conclusions:

- The proposed development would be expected to generate a net total of approximately 300 and 280 trips during the a.m. and p.m. peak hours, respectively, and 445 trips during the Saturday midday peak hour. A significant portion of these trips would be pass-by in nature, so approximately 140, 140 and 225 "new" trips would be generated during these respective peak hours.

- It is recommended that full access be retained on Chesterfield Airport Road opposite the Comfort Inn & Suites. Two full-access driveways are planned on old Olive Street Road, which is a dead-end roadway with a cul-de-sac near the east end of the site. All three full-access drives would meet the City's access management standards.

- A right-in/right-out driveway is proposed on Chesterfield Airport Road near the west end of the site. This drive does not meet the City's preferred spacing standards, but it does meet the minimum standards and has been endorsed by St. Louis County. To ensure proper operation of the right-in/right-out access, the County will require either a raised median in the center of Chesterfield Airport Road or an island in the driveway built to the County's Standards.

- The relatively long and narrow shape of the site creates unique challenges to internal circulation. Without access at both ends of the site, motorists would be required to traverse the buildings, particularly the new convenience store planned within the west/central portion of the property. The proposed combination of full and limited-access driveways will provide sufficient access to prevent undue adverse travel and reduce the potential for vehicular and/or pedestrian conflicts within the site.

- In order to maximize the safety and efficiency of the site's access, it is recommended that eastbound right-turn lanes be constructed at both site drives on Chesterfield Airport Road. The provision of separate deceleration lanes will allow motorists to access the site without impeding traffic flow on Chesterfield Airport Road, particularly during the heavy morning peak period.

Overall, with the provision of the recommended improvements, the proposed development could be accommodated satisfactorily. It is anticipated that the development would have nominal impact on the intersection of Chesterfield Airport Road and relocated Olive Street Road, while through traffic on the adjoining roadways would not be impeded by turning movements into and out of the site.

INTRODUCTION

Bernardin, Lochmueller & Associates has completed a traffic impact study for a proposed mixed-use development in Chesterfield, Missouri. The site is located in the southeast quadrant of Chesterfield Airport Road and relocated Olive Street Road. That intersection and four proposed access points were included in the analysis.

A preliminary site plan is shown on **Exhibit 1**. It is our understanding that the development will include a 5,100 square-foot (s.f.) C-Store with a convenience market, car wash and a fast-food restaurant, a 2,000-3,000 s.f. fast-food restaurant, and 10,000 s.f. of retail space. While the specific tenants for each of these uses have not been determined, these land use assumptions are being used to plan the site.

This property is commonly referred to as "the wedge" as it was created when Olive Street Road was relocated. A gas/convenience store facility is currently operating on the site, and it would be replaced by the uses shown on the site plan.

The purpose of this study was to determine the amount of traffic that would be generated by the proposed development, evaluate its impact upon the adjoining road system and identify the need for roadway and/or traffic control improvements to mitigate those impacts.

The following analysis scenarios were analyzed consistent with the requirements of the St. Louis County Department of Highways and Traffic and the City of Chesterfield:

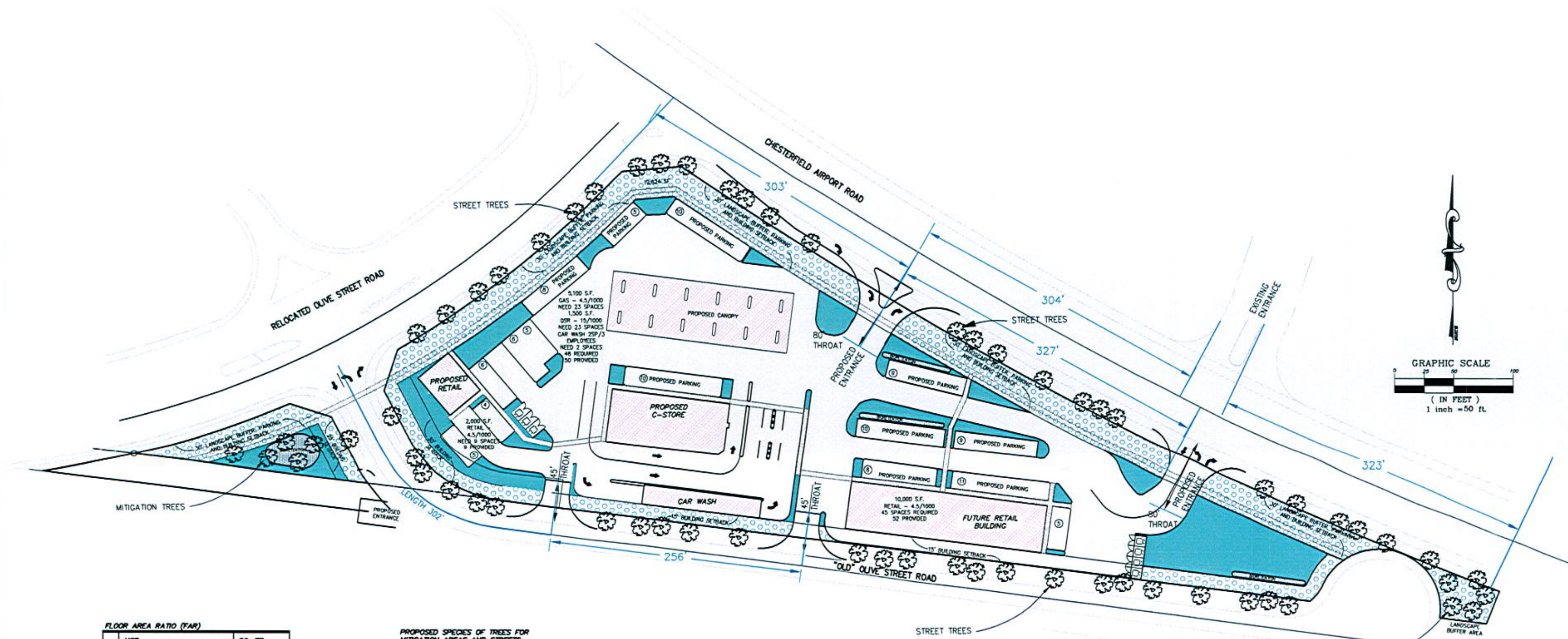
- Existing Conditions;
- 2014 Build Conditions (existing plus the proposed development);
- 2034 No-Build Conditions; and
- 2034 Build Conditions.

The focus of our analysis was the a.m. and p.m. peak periods of a typical weekday and the midday peak period of a typical Saturday.

In addition to an operational analysis, a review of the site plan was performed. This included a comparison of the proposed access locations with the City of Chesterfield's access management standards, a preliminary check of anticipated sight distance available at the proposed drive locations, and an assessment of expected internal circulation.

The following report summarizes our findings regarding existing conditions and forecasted conditions following completion of the proposed development. The methodology employed to complete this study, along with the findings and recommendations, is discussed in greater detail in the subsequent sections.

ENERGY MARKETING 709 LLC
EXHIBIT FOR FAR, ENTRANCES, GREENSPACE AND BUFFER AREAS
(FOR STAFF ONLY- UPDATED 09-05-14)



FLOOR AREA RATIO (FAR)

	USE	SQ. FT.
1	QUICK SERVE RESTAURANT	2,000
2	CONVENIENCE STORE W/GAS	6,600
3	CANOPY	11,424
4	CAR WASH	2,400
4	RETAIL CENTER	10,000
5	TOTAL BUILDING AREA	32,424
6	TOTAL PROPERTY AREA	229,088
7	FLOOR AREA RATIO (FAR)	0.142
	MAXIMUM FAR ALLOWED	0.550

PROPOSED SPECIES OF TREES FOR MITIGATION AREAS AND STREETS

8	RED MAPLE
7	SWAMP WHITE OAK
8	CRIMSON CLOUD HAWTHORN
8	ENGLISH OAK
7	LITTLE LEAF LINDEN
8	AMERICAN HORNBEAN
7	HACKBERRY
8	NORWAY MAPLE

OPEN SPACE REQUIREMENT

- LANDSCAPE BUFFER (50,325 SF)
- INTERIOR LANDSCAPE AREA (30,800 SF)
- SIDEWALK/OPEN SPACE (5,197 SF)

TOTAL OPEN SPACE ±86,322 SF OR 37.7%

ENGINEERS AUTHENTICATION

The responsibility for professional engineering liability on this project is hereby limited to the set of plans authenticated by the seal, signature, and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in this project and specifically excludes revisions after this date unless reauthenticated.

PICKETT, RAY & SILVER, INC
MO LICENSE # 000325

DOUGLAS S. TIEMANN, PE
PROFESSIONAL ENGINEER
LICENSE# E-23345

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22 Richmond Center Court
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Branson, Mo 65616
Phone (636) 397-1211 Fax (636) 397-1104
www.prs3.com 1-800-708-3918

Preliminary Development Plan - FAR

A tract of land being Lot 2 and Outlot A of McGrath Plaza, part of Lot 6 of the Subdivision of R. H. Stevens Farm and part of U. S. Survey 102, Township 45 North - Range 3 East, St. Louis County, Missouri

Prepared For:
Energy Marketing 709 LLC

Mr. Steve Madras
2130 Kienlen Avenue
St. Louis, MO 63121-5505
314-383-3700

REVISIONS NO.	DATE	DESCRIPTION

DRAWN	DATE
KAS	08-29-14
CHECKED	DATE
DST	08-29-14

PROJECT # 09056.EMKT.005
TASK # 1 FIELD BOOK 1287

FAR EXHIBIT
18423 OLIVE ST. RD.

SHEET 1 OF 1

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EXISTING CONDITIONS

Before analyzing the impacts of the proposed mixed-use development, it was necessary to establish the existing traffic conditions on the adjacent roadways.

Existing Roadway Conditions

The site is located in western Chesterfield in St. Louis County, approximately three-quarters of a mile southeast of the partial interchange at Chesterfield Airport Road and I-64. According to the City of Chesterfield Comprehensive Plan, Chesterfield Airport Road is a major arterial roadway. It has a 45 mph speed limit and acts as a service road on the south side of I-64, allowing access to a major retail district to the east of the site. It generally consists of four travel lanes with a two-way left-turn lane.

Relocated Olive Street Road is classified as a major arterial as well, serving new developments to the southwest of Chesterfield Airport Road and the residential areas further to south. In the vicinity of the site, it has a 45 mph speed limit and consists of four travel lanes with a concrete median and turn lanes at the signalized intersections. The character of this section of Olive Street Road is expected to change significantly as the Blue Valley development continues to expand to the west of the site.

All traffic using Chesterfield Airport Road to access I-64 West, Eatherton Road, or the Blue Valley development passes through the intersection with Olive Street Road. To accommodate these demands, it was constructed with dual westbound left-turn lanes, dual northbound left-turn lanes, and dual northbound right-turn lanes. Both roadways are maintained by St. Louis County Department of Highways and Traffic (SLCDHT).

Existing Traffic Conditions

As an initial step in quantifying traffic conditions, manual turning movement count data was collected and summarized for the three study periods. It was determined that the peak hours of traffic flow are 7:15 to 8:15 a.m. and 4:30 to 5:30 p.m. on a typical weekday and 1:00 to 2:00 p.m. on Saturday.

These peak periods for the adjacent roadways would coincide with the peak times of trip generation for the proposed use. Therefore, if traffic from the proposed development can be accommodated at these times, it can be reasoned that adequate capacity would be available throughout the remainder of the day. The existing traffic volumes are summarized in **Exhibit 2**.

As shown, the prevailing commuter travel patterns are prevalent in front of the site. Patterns are weighted heavily west to east in the morning and east to west in the evening, as well as slightly south to north in the morning and north to south in the evening. Traffic on Saturday is more balanced, as it is driven by retail activity.

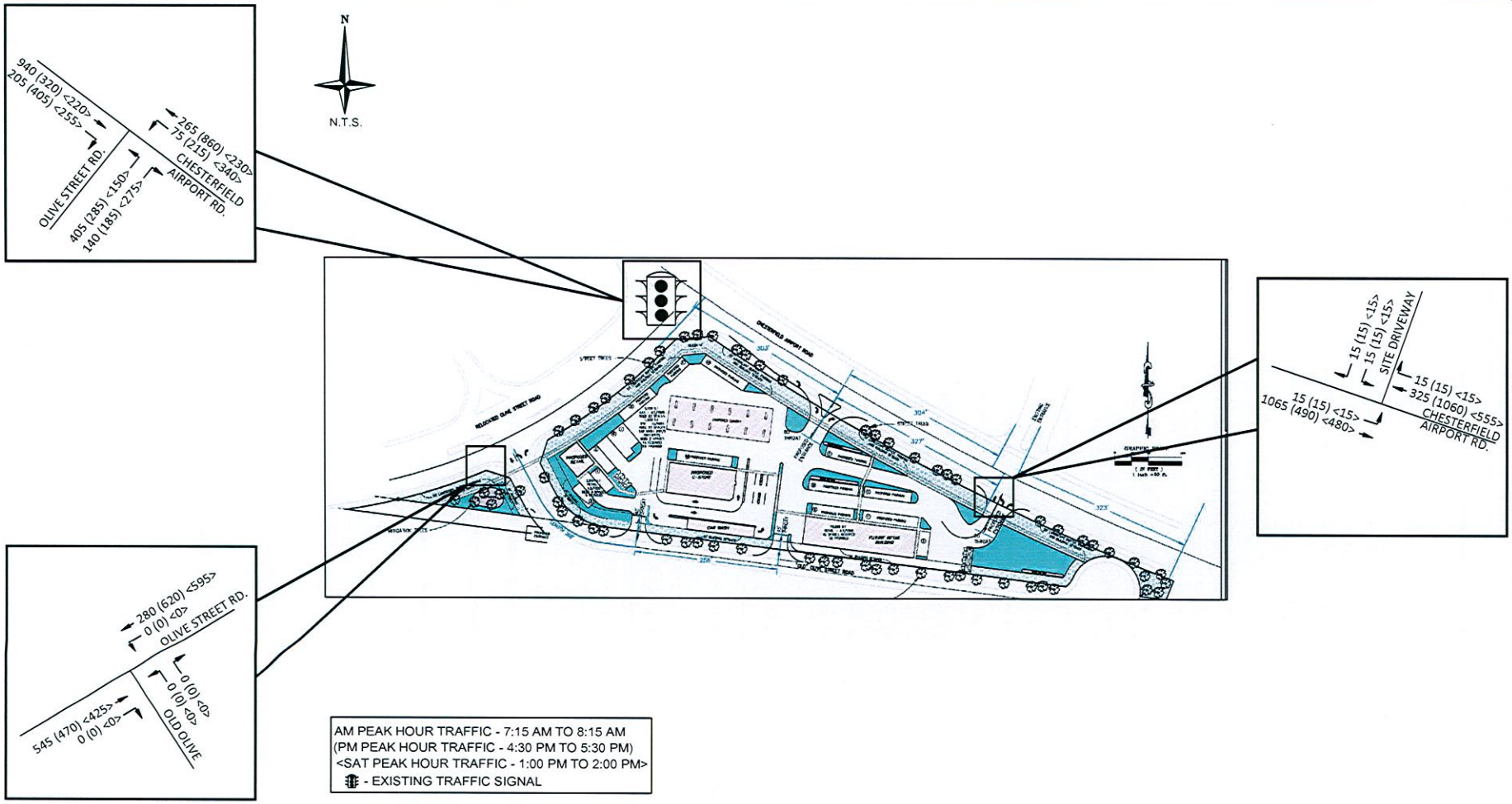

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EXHIBIT 2: EXISTING PEAK HOUR TRAFFIC

CHESTERFIELD WEDGE - ENERGY MARKETING
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Existing Operating Conditions

The intersections within the study area were evaluated to quantify existing operating conditions. The analysis was completed using SYNCHRO 7, a traffic analysis software based upon the methodologies outlined in the "Highway Capacity Manual" (HCM) published in 2010 by the Transportation Research Board. The capacity of an intersection is quantified by the Level of Service (LOS), which is based upon the delay an average vehicle experiences at a particular intersection.

Table 1 summarizes the criterion for both signalized and unsignalized intersections, as defined in the Highway Capacity Manual. LOS C, which is normally used for highway design, represents a roadway with volumes ranging from 70% to 80% of its capacity. However, Level D is considered an acceptable condition during peak period conditions in urban and suburban areas.

Table 1: Intersection Level of Service Thresholds

	Control Delay per Vehicle (sec/veh)	
Level of Service	Signalized	Unsignalized
A	≤ 10	0-10
B	> 10-20	> 10-15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80	> 50

The existing operating conditions at the intersection of Olive Street Road and Chesterfield Airport Road are summarized in **Table 2**. As shown, most movements operate favorably at LOS A or B. The three-legged intersection and dual turn lanes provide an abundance of capacity for all movements under existing demands.

Table 2: Existing Operating Conditions

Intersection/Approach	AM Peak Hour	PM Peak Hour	Saturday Peak Hour
Olive Street Road at Chesterfield Airport Road			
Eastbound Approach	B (14.3)	A (8.9)	A (9.1)
Westbound Approach	B (13.3)	B (11.3)	B (16.5)
Northbound Approach	C (31.7)	B (18.1)	B (10.2)
Total	**B (18.8)**	**B (11.9)**	**B (12.3)**

X (XX.X) - Level of Service (Average vehicular delay in seconds per vehicle)

2014 FORECASTED CONDITIONS

Following the establishment of the baseline roadway and traffic conditions, the impacts of the traffic generated by the proposed development were analyzed. The purpose of this forecasted scenario was to identify the impacts of the proposed development and determine the roadway improvements that would be necessary to support the resulting traffic demands. In addition to operational analyses, the proposed site access was reviewed in relation to the City's standards for access management, internal circulation and sight distance.

Proposed Development Access and Review of Access Management

There are four proposed access points with various levels of access as shown in **Figure 1**. The following section describes the characteristics of each driveway and **Table 3** compares the spacing of each driveway to the applicable City standards. It should be noted that while turn restrictions will be enforced at driveway #2, the City's access management standards do not distinguish between full and turn-restricted driveways.

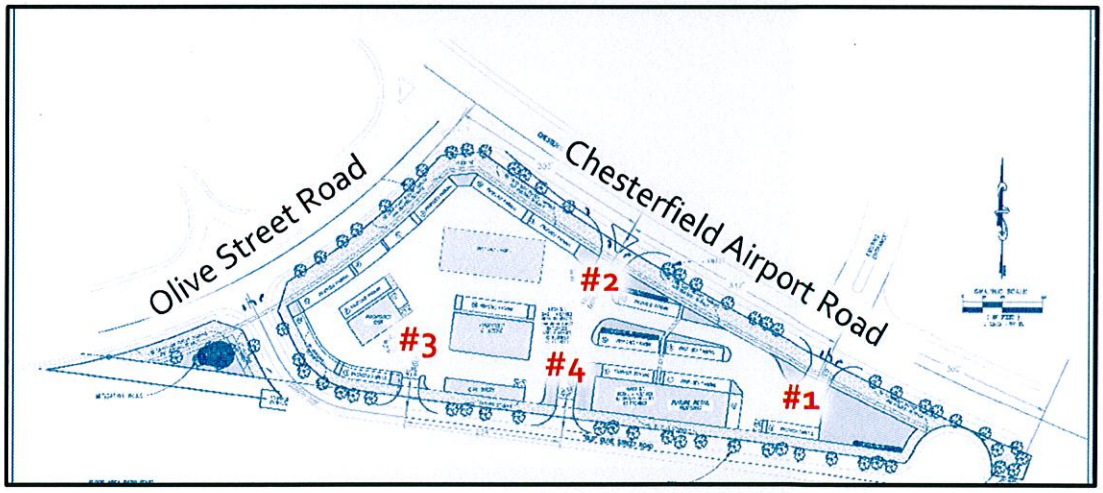

Figure 1. The four proposed points of access

Driveway #1 is proposed as a full-access driveway on the east side of the site along Chesterfield Airport Road opposite the existing driveway for the Comfort Inn & Suites, at the location of the existing access point for the current gas station. While this access point does not meet the City's desirable spacing standards, it is generally agreed that this is the most appropriate location for a full-access driveway. As noted below, an eastbound right-turn lane is recommended to serve this driveway and mitigate any impact to through traffic on Chesterfield Airport Road that could otherwise occur as a result of right-turn movements decelerating to enter the site.

Table 3: Proposed Driveway Spacing vs. City Standards

Driveway	Measurement	Proposed Spacing	City Desirable Spacing	City Minimum Spacing
#1	Adjacent Left	327′	350′	275′
	Opposite Right	323′	400′	300'
#2	Adjacent Right	327′	350′	275′
	Adjacent Left	303′	350′	275′
	Opposite Right	304′	400′	300′
#3	Adjacent Right	325′	150′	100′
	Adjacent Left	234′	150′	100′
#4	Adjacent Left	234′	150′	100′

Driveway #2 is a proposed right-in/right-out only access point to the west of driveway #1. This driveway is important for providing access to the west side of the site from Chesterfield Airport Road without forcing vehicles to traverse the entire site. This driveway does not meet the desirable spacing standards for the City, but it does meet the minimum standards and St. Louis County has endorsed right-in/right-out access at this location.

As noted below, an eastbound right-turn lane is recommended to serve this driveway and mitigate any impact to through traffic on Chesterfield Airport Road that could otherwise occur as a result of right-turn movements decelerating to enter the site. The proposed spacing from Olive Street Road would facilitate the proper acceleration of right turns leaving the site without impeding traffic arriving from the signalized intersection.

In order to ensure proper operation of the right-in/right-out, the County will require either a raised median in the center of Chesterfield Airport Road or an island in the entrance built to the County's standards.

Driveways #3 and #4 are proposed full-access driveways along old Olive Street Road. They both meet all the City's spacing standards for local roadways and are expected to have nominal operational impacts since this segment of old Olive Street Road is a remnant that will dead-end at the east end of the site and carry nominal traffic. It is beneficial to have two access points, one on each side of the proposed gas station and convenience mart, to serve both sides of the site, thereby dispersing internal traffic and reducing the amount that would need to traverse the convenience mart area.

The two proposed access points on Chesterfield Airport Road have an 80-foot throat depth. The two access points along Old Olive Street Road have a 45-foot throat depth, as depicted on the preliminary site plan. Therefore, all of the access points would meet or exceed the City's standard of 80 feet for major arterials and 45 feet for non-residential and collector roadways.

In addition to the primary development site, there is a small triangle of property to the south of Old Olive Street Road that is proposed as a bio-retention swale. The developers have requested access to this part of the site via a maintenance entrance on Old Olive Street Road. There are no traffic implications that are expected to arise from this access. If the developers wish to convert this parcel to a different land-use in the future, this access point would require further analysis at that time.

Internal Circulation Review

The proposed site plan was reviewed to determine the sufficiency of the internal layout and circulation arrangements. This qualitative evaluation focused primarily on the identification of constraints that would obstruct the driveways, impede access from the adjacent roadways, or result in internal conflicts that would create potential safety hazards.

The relatively long and narrow shape of the site creates unique challenges to internal circulation. Without access at both ends of the site, motorists would be required to traverse through each of the internal uses, particularly the new convenience store planned within the west/central portion of the property. The proposed combination of full and limited-access driveways will help disperse these movements and provide sufficient access to prevent adverse travel and reduce the potential for vehicular and/or pedestrian conflict within the site.

Parking areas are adequately set back from the two proposed access points along Chesterfield Airport Road, which is expected to allow the driveways to remain clear of obstructions from parking maneuvers. Also, the provision of multiple exits with generous throat depths should reduce the likelihood of any traffic spillbacks into or out of the site.

Sight Distance Assessment

In order to conform to Ordinance #2753, a sight distance review was performed for the proposed driveways where outbound traffic will be allowed. The purpose of this evaluation was to confirm that sufficient sight distance is available to support safe operations at the driveways.

The St. Louis County Department of Highways and Traffic's Drawing No. 40.25-1 was used to determine the sight distance requirements. For vehicles entering Chesterfield Airport Road (50 mph design speed), the distance required for left-turning vehicles is 590 feet and the distance required for the right-turn only driveways is 480 feet. For vehicles turning left from Old Olive Street Rd onto relocated Olive Street Road (50 mph design speed), left-turning vehicles require 590 feet of sight distance.

Adequate sight distance would be available along Chesterfield Airport Road for vehicles at both access drives as they would be visible for well over 590 feet in both directions. At the intersection of relocated Olive Street Road and Old Olive Street Road, there is a clear sight line to Chesterfield Airport Road to the north (though it should be noted that this assessment does

not account for the impact of potential queuing along relocated Olive Street Road in the future) and over 590 feet to the south/southwest along relocated Olive Street Road.

It should be noted that this sight distance assessment was based on a review of the proposed preliminary site plan only. While it appears that clear sight lines are achievable along each of the roadways providing access to the site, obstructions such utilities, landscaping or signage added in close proximity to the travelled way could reduce available sight distance in the future.

Trip Generation Estimate

It is our understanding that the development will include a 5,100 square-foot (s.f.) C-Store with a convenience market, car wash and a fast-food restaurant, a 2,000-3,000 s.f. fast-food restaurant, and 10,000 s.f. of retail space. While the specific tenants for each of these uses have not been determined, these land use assumptions are being used to plan the site.

The trip generation forecasts were based upon data provided in the "Trip Generation Manual", Ninth 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. The resulting traffic projections for the proposed development are summarized in **Table 4**.

As noted above, the proposed C-Store will include a convenience market, a car wash as well as a small fast-food establishment inside the store. Since this mix of uses is not addressed by ITE directly, the "Trip Generation Manual" and several technical articles on gas stations with fast-food services were reviewed to identify the most appropriate method for calculating the associated trip generation.

It was determined that traffic for the gas station/convenience store/car wash should be estimated independently of the fast-food restaurant in order to apply the most applicable rates, while still remaining conservative in this analysis (calculated trip rates are likely higher than actual conditions). This process utilized information provided in the "Trip Generation Manual" for each use and aggregated the calculations to determine the total forecast. It was assumed that the gas station/convenience store/car wash would have 12 fueling positions (since the ITE data provided is based on fueling positions and not square footage), and the fast-food restaurant would comprise 2,000 of the total 5,400 s.f. inside the building.

It is important to note that the ITE estimates assume that each component of the proposed development would be freestanding. Instead, the uses would share access, and published studies show that patrons of multi-use developments often visit more than one use within the development on a single visit. As a result, a 20% "common trip" reduction was applied to the trip estimates to account for motorists that would visit multiple uses within the development (i.e., trips that would be captured internally and not impact the external road system).

The projections were further adjusted to account for the fact that not all of the trips generated by the development would be *new* to the surrounding road system, but instead are trips already passing the site. These "pass-by trips" would be attracted to the development on their way to or from other destinations. The actual percentage of pass-by traffic depends on the nature of the use, the volume on the adjacent street, and the time of day.

Based upon statistical information provided in the "Trip Generation Manual," pass-by trips were estimated to comprise 56-62% of the C-Store trips depending on the time of day, 49-50% of the fast-food traffic and 26-34% of the retail site traffic. The pass-by trips would produce turning movements at the site's access points, but they would not represent new traffic on the adjoining roadways.

Table 4: Estimated Trip Generation for Chesterfield Wedge

		Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Midday Peak Hour		
Land Use	*Size*	*In*	*Out*	*Total*	*In*	*Out*	*Total*	*In*	*Out*	*Total*
Fast-Food Restaurant with Drive-Through (934)	3,000 ft²	70	70	140	50	50	100	90	85	175
Gas Station with Convenience Store and Car Wash (946)	12 fueling positions	70	70	140	85	80	165	120	115	235
Fast-Food Restaurant without Drive-Through (933)	2,000 ft²	55	35	90	25	25	50	50	45	95
Retail Shops (820)	10,000 ft²	5	5	10	15	20	35	25	25	50
Common Trip Reduction (20%)		*(45)*	*(35)*	*(80)*	*(35)*	*(35)*	*(70)*	*(60)*	*(55)*	*(115)*
Total External Trips		**160**	**140**	**300**	**140**	**140**	**280**	**230**	**215**	**445**
New Trips		80	60	140	70	70	140	120	105	225
Pass-By Trips		80	80	160	70	70	140	110	110	220

As summarized in **Table 4**, the proposed development would be expected to generate a net total of approximately 300 and 280 trips during the a.m. and p.m. peak hours, respectively, and 445 trips during the Saturday midday peak hour. A significant portion of these trips would be pass-by in nature, so approximately 160, 140 and 225 "new" trips would be generated during these respective peak hours.

Directional Distribution of New Trips

The development-generated trips were assigned into and out of the site based upon the expected directional distribution of patrons visiting the proposed uses. The distribution of site-generated traffic was determined by evaluating existing traffic patterns and assessing the market area of the development. It is important to note that pass-by traffic would access the site in proportion to existing flows on the adjacent roadways, while new trips would be attracted from outside the study area.

The resulting distribution of *new* site-generated trips was assumed as follows:

- To/from the east on Chesterfield Airport Road 50%
- To/from the west on Chesterfield Airport Road 25%
- To/from the south on Olive Street Road.....25%

The distribution of the site-generated traffic can be seen on **Exhibit 3**. The site-generated volumes were aggregated with existing traffic volumes to produce the traffic forecast shown in **Exhibit 4**.

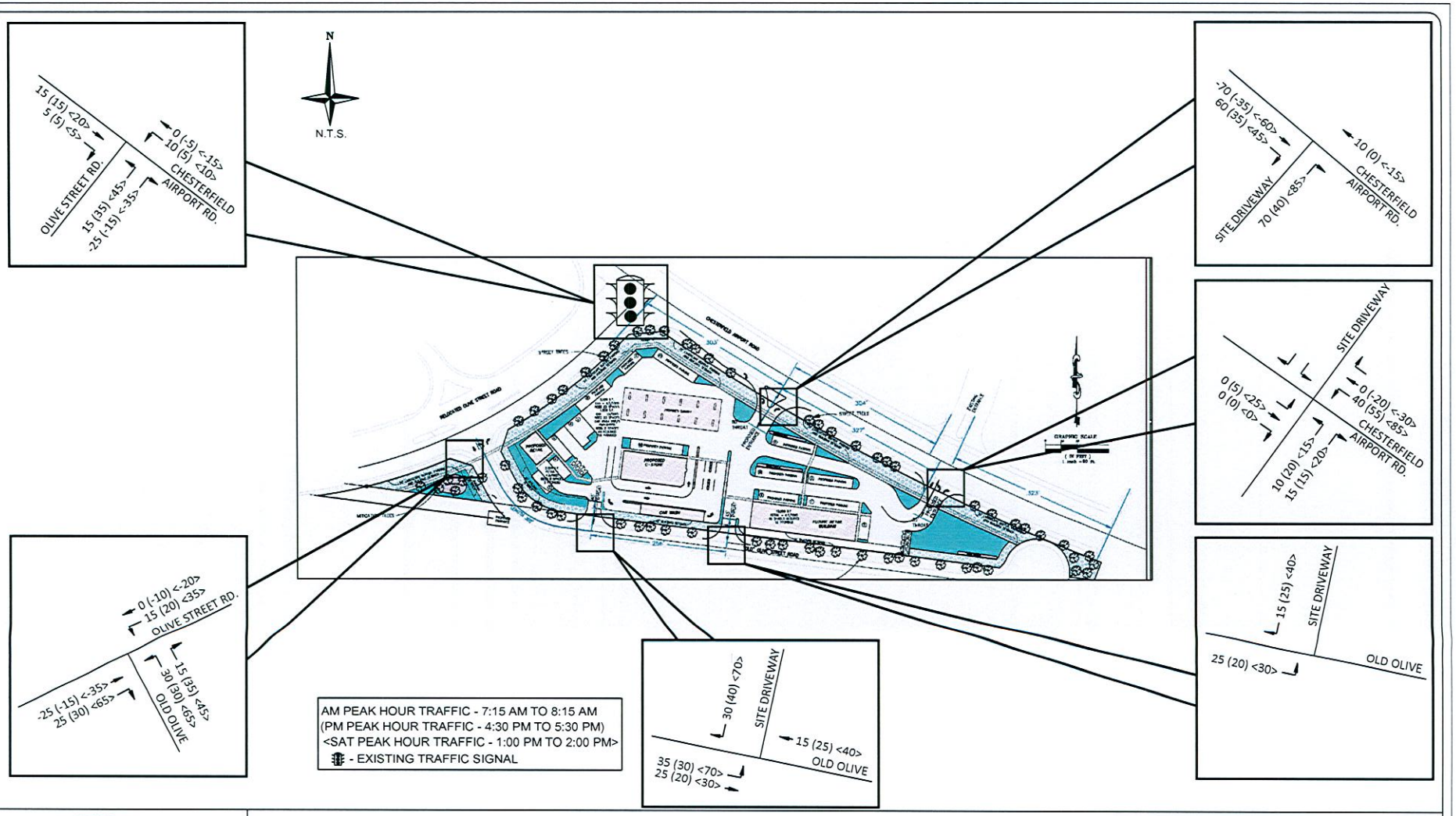

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EXHIBIT 3: SITE GENERATED PEAK HOUR TRAFFIC

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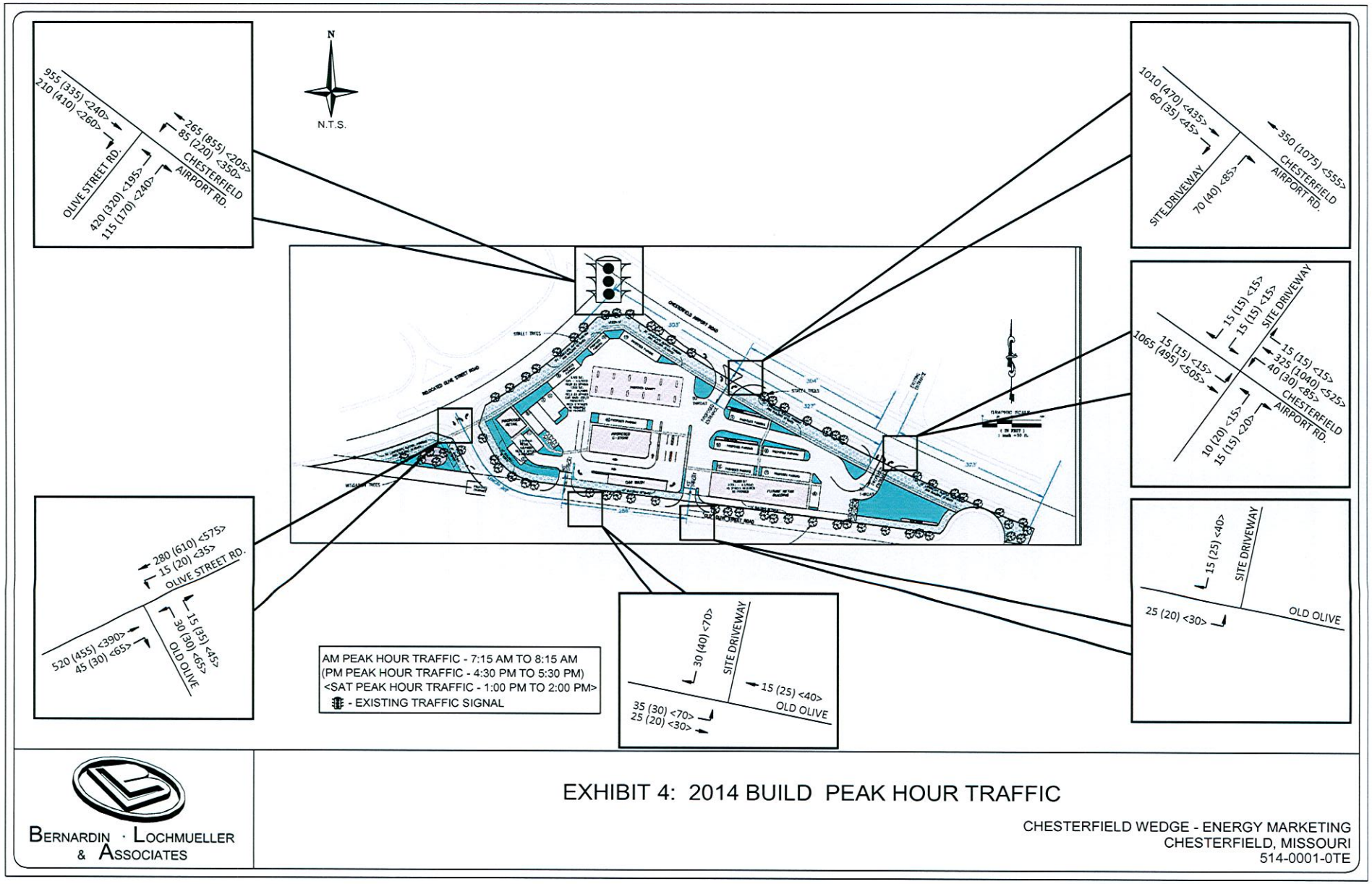

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EXHIBIT 4: 2014 BUILD PEAK HOUR TRAFFIC

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Recommended Improvements and Forecasted Operating Conditions

In order to maximize the safety and efficiency of the site's access, it is recommended that eastbound right-turn lanes be constructed at both site drives on Chesterfield Airport Road (driveways #1 and #2). The provision of separate deceleration lanes will allow motorists to access the site without impeding traffic flow on Chesterfield Airport Road, particularly during the heavy morning peak period.

This analysis also assumes that a westbound right-turn lane is in place on the old Olive Street Road approach to minimize delays for motorists exiting the site onto relocated Olive Street Road.

Table 5 summarizes the 2014 Build operating conditions. As shown, conditions at each of the study intersections would remain favorable with all approaches operating at LOS C or better. Specifically, it is anticipated that motorists would be able to enter or exit any of the proposed driveways with relatively short delays assuming the recommended improvements noted above are implemented in conjunction with the development.

The signalized intersection of Chesterfield Airport Road and relocated Olive Street Road would continue to operate favorably. Likewise, the unsignalized intersection of Olive Street Road and old Olive Street Road would operate well with LOS C or better expected for all approaches. *The two drives on old Olive Street Road (Driveways #3 and #4) would have nominal delay since no through traffic would be present on that roadway.*

Table 5: 2014 Forecasted Operating Conditions with Development

Intersection/Approach	AM Peak Hour	PM Peak Hour	Saturday Peak Hour
Chesterfield Airport Road at Site Driveway #1 (unsignalized)			
Eastbound Left-Turn	A (8.1)	B (11.1)	A (8.7)
Westbound Left-Turn	B (10.3)	A (8.5)	A (8.9)
Northbound Approach	B (12.9)	B (14.0)	B (12.6)
Southbound Approach	B (11.1)	C (19.9)	B (14.0)
Chesterfield Airport Road at Site Driveway #2 (unsignalized)			
Northbound Right-Turn	A (9.6)	B (9.2)	A (9.9)
Chesterfield Airport Road at Relocated Olive Street Road			
Eastbound Approach	B (14.8)	A (9.2)	A (9.7)
Westbound Approach	B (114.2)	B (11.9)	B (17.9)
Northbound Approach	C (33.0)	B (19.9)	B (12.9)
Intersection Total	**B (19.4)**	**B (12.7)**	**B (13.7)**
Relocated Olive Street Road at Old Olive Street Road (unsignalized)			
Westbound Approach	B (14.9)	B (14.5)	C (16.8)
Southbound Left-Turn	A (8.8)	A (8.5)	A (8.5)

X (XX.X) - Level of Service (Average vehicular delay in seconds per vehicle)

2034 FORECASTED CONDITIONS

Finally, forecasted conditions were evaluated for the year 2034 as the ultimate design horizon for this project. The purpose of this analysis was to assess the adequacy of the study roadways, proposed access and recommended improvements in accommodating future growth.

2034 No-Build Traffic Conditions

In order to assess the effects of long-term traffic growth within the study area, 20-year traffic conditions *without* the proposed development were next analyzed.

Specifically, it was necessary to forecast anticipated traffic growth within the study area based on "background" growth from increasing population and, more importantly, from the commercial growth associated with the completion of the Blue Valley development on the west side of relocated Olive Street Road. In order to be consistent with other planning efforts in the area, background growth rates were supplied by St. Louis County staff. An annual growth rate of 0.5% was applied to account for underlying background traffic growth over the next 20 years.

The City of Chesterfield provided information regarding the future of the Blue Valley development. This included the established land uses consisting of Phase 2 of the St. Louis Premium Outlet Mall, a gas station, hotel, and an athletic field house. The remaining density for development consisted of approximately 700,000 ft² of space, which was generically allocated as a Shopping Center land use (ITE Land Use 820).

The "Trip Generation Manual" was used to estimate trip generation for the full build-out of Blue Valley, and previous studies were reviewed to establish reasonable estimates for the portion of the development's traffic that would impact the intersection of Chesterfield Airport Road and relocated Olive Street Road.

The resulting 2034 No-Build traffic projections are summarized in **Exhibit 5**. As shown, this forecast represents significant growth along both Chesterfield Airport Road and relocated Olive Street Road. Total two-way traffic flows on Olive Street Road would be expected to exceed 3,000 vehicles during the p.m. and Saturday midday peak hours.

2034 No-Build Operating Conditions

The operating conditions for the study intersections were analyzed using the forecasted traffic volumes depicted in Exhibit 5. The results of the 2034 no-build capacity analyses are summarized in **Table 6.**

Table 6: 2034 No Build Operating Conditions

Intersection/Approach	AM Peak Hour	PM Peak Hour	Saturday Peak Hour
Olive Street Road at Chesterfield Airport Road			
Eastbound Approach	B (23.7)	D (42.9)	D (37.5)
Westbound Approach	C (23.9)	C (27.3)	D (42.3)
Northbound Approach	C (28.9)	C (22.8)	B (21.4)
Total	**C (25.2)**	**C (29.8)**	**C (32.1)**

X (XX.X) - Level of Service (Average vehicular delay in seconds per vehicle)

Conditions in 2034 would remain acceptable without any further improvements to the intersection of Chesterfield Airport Road and relocated Olive Street Road. All movements would still be expected operate at LOS D or better. The westbound dual left-turn lanes and northbound dual left-turn and dual right-turn lanes would continue to provide sufficient capacity even for the significant levels of growth.

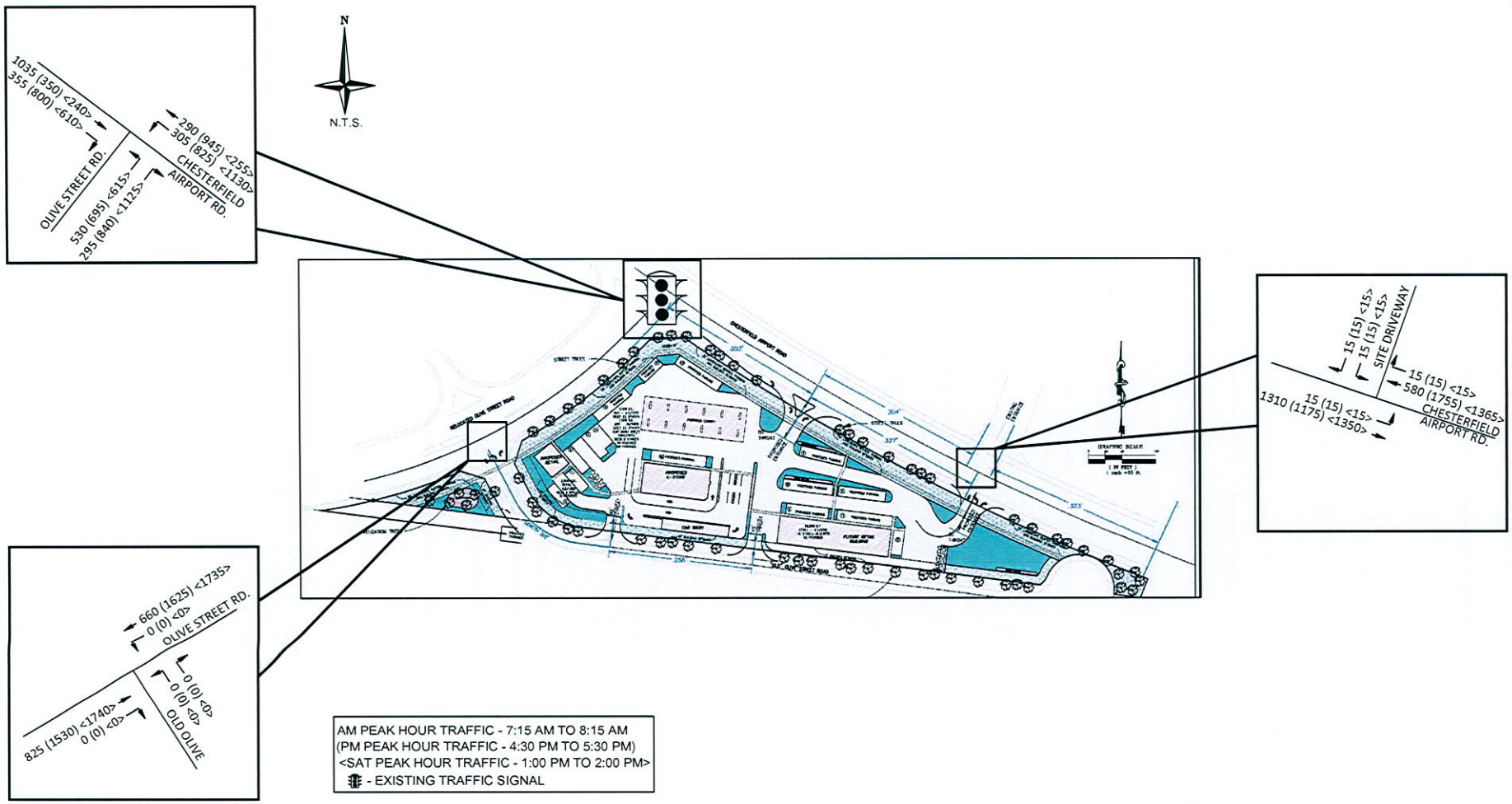

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EXHIBIT 5: 2034 NO BUILD PEAK HOUR TRAFFIC

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2034 Forecasted Conditions with Development

Finally, the site's traffic was aggregated with the 2034 No-Build traffic to generate a total traffic forecast for the design year. Those volumes are summarized in **Exhibit 6**.

The capacity analyses were repeated using this forecast and assuming the recommended improvements were implemented, as summarized in **Table 7**.

Table 7: 2034 Forecasted Operating Conditions with Development

Intersection/Approach	AM Peak Hour	PM Peak Hour	Saturday Peak Hour
Chesterfield Airport Road at Site Driveway #1 (unsignalized)			
Eastbound Left-Turn	A (8.9)	C (17.3)	B (13.2)
Westbound Left-Turn	B (11.6)	B (11.7)	C (14.9)
Northbound Approach	B (15.2)	D (26.7)	D (28.0)
Southbound Approach	B (13.6)	F (54.3)	E (39.8)
Chesterfield Airport Road at Site Driveway #2 (unsignalized)			
Northbound Right-Turn	A (10.2)	B (12.0)	B (15.1)
Chesterfield Airport Road at Relocated Olive Street Road			
Eastbound Approach	B (24.4)	D (44.8)	D (35.5)
Westbound Approach	C (24.5)	C (26.3)	D (45.9)
Northbound Approach	C (29.7)	C (25.2)	C (22.4)
Intersection Total	**C (25.9)**	**C (30.7)**	**C (33.3)**
Relocated Olive Street Road at Old Olive Street Road (unsignalized)			
Westbound Approach	D (27.1)	F (>200)	F (>200)
Southbound Left-Turn	A (10.0)	C (15.1)	C (18.6)

X (XX.X) - Level of Service (Average vehicular delay in seconds per vehicle)

As shown, the development would have a limited impact on the adjacent roadways, particularly in comparison to other large-scale developments in the area. All movements at the intersection of Chesterfield Airport Road and relocated Olive Street Road would continue to operate at LOS D or better.

The significant growth along the adjacent roadways, however, is expected to have an adverse impact on the proposed site driveways, as compared with the 2014 Build scenario. Specifically, side-street left-turn movements would be subject to lengthy delays during the p.m. and Saturday peak hours.

This is a typical condition along major thoroughfares during peak periods, and the only reasonable mitigation measure is often to ensure that separate outbound turn lanes are provided to prevent exiting right turns from being encumbered. The recommended right-turn lane on old Olive Street Road and the planned two-lane exit for driveway #1 would address that condition.

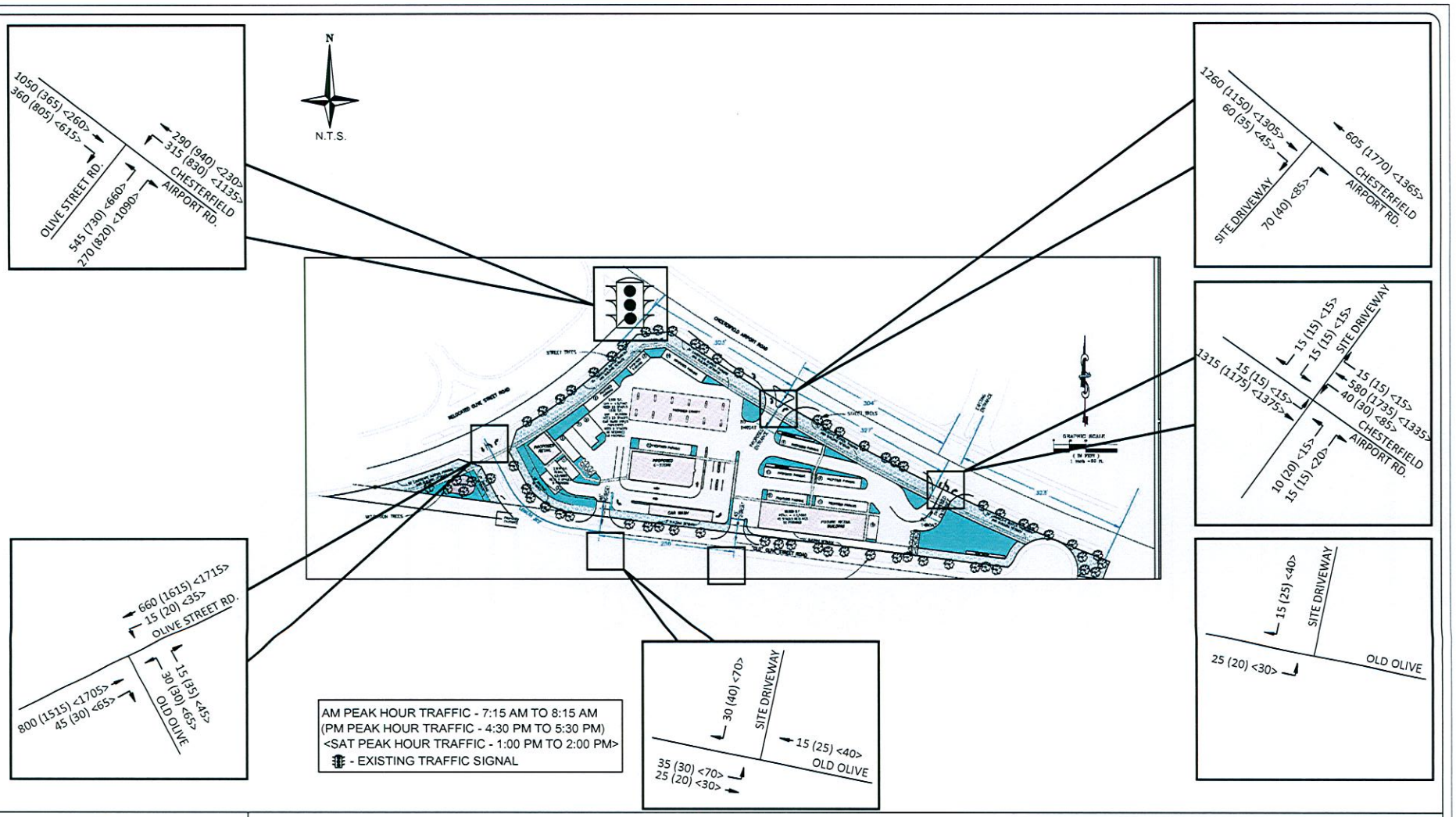

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EXHIBIT 6: 2034 BUILD PEAK HOUR TRAFFIC

CHESTERFIELD WEDGE - ENERGY MARKETING
CHESTERFIELD, MISSOURI
514-0001-0TE

CONCLUSION

Bernardin, Lochmueller & Associates has completed a traffic impact study for the proposed mixed-use development of "the wedge" property in Chesterfield. A review of the traffic operations and site plan has informed the following conclusions:

- The proposed development would be expected to generate a net total of approximately 300 and 280 trips during the a.m. and p.m. peak hours, respectively, and 445 trips during the Saturday midday peak hour. A significant portion of these trips would be pass-by in nature, so approximately 140, 140 and 225 "new" trips would be generated during these respective peak hours.

- It is recommended that full access be retained on Chesterfield Airport Road opposite the Comfort Inn & Suites. Two full-access driveways are planned on old Olive Street Road, which is a dead-end roadway with a cul-de-sac near the east end of the site. All three full-access drives would meet the City's access management standards.

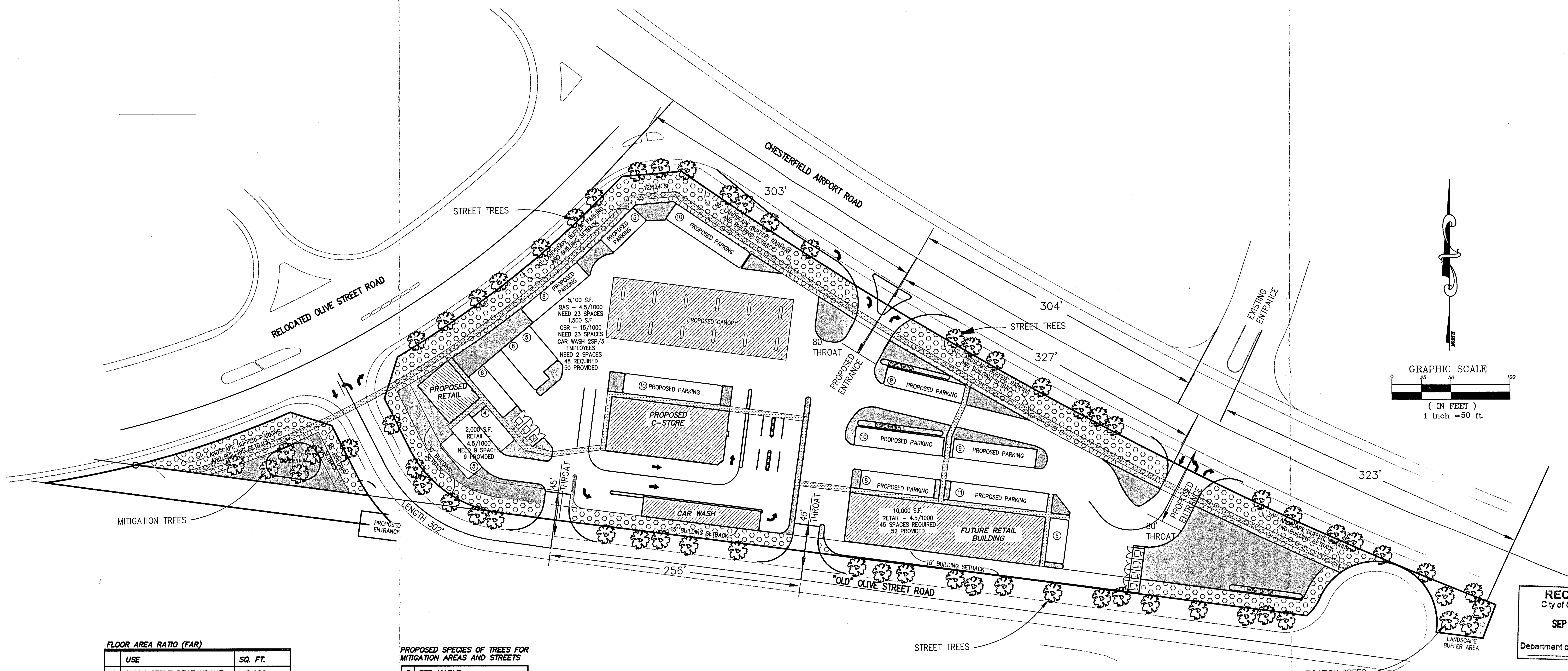
- A right-in/right-out driveway is proposed on Chesterfield Airport Road near the west end of the site. This drive does not meet the City's preferred spacing standards, but it does meet the minimum standards and has been endorsed by St. Louis County. To ensure proper operation of the right-in/right-out access, the County will require either a raised median in the center of Chesterfield Airport Road or an island in the driveway built to the County's Standards.

- The relatively long and narrow shape of the site creates unique challenges to internal circulation. Without access at both ends of the site, motorists would be required to traverse the buildings, particularly the new convenience store planned within the west/central portion of the property. The proposed combination of full and limited-access driveways will provide sufficient access to prevent undue adverse travel and reduce the potential for vehicular and/or pedestrian conflicts within the site.

- In order to maximize the safety and efficiency of the site's access, it is recommended that eastbound right-turn lanes be constructed at both site drives on Chesterfield Airport Road. The provision of separate deceleration lanes will allow motorists to access the site without impeding traffic flow on Chesterfield Airport Road, particularly during the heavy morning peak period.

Overall, with the provision of the recommended improvements, the proposed development could be accommodated satisfactorily. It is anticipated that the development would have nominal impact on the intersection of Chesterfield Airport Road and relocated Olive Street Road, while through traffic on the adjoining roadways would not be impeded by turning movements into and out of the site.

ENERGY MARKETING 709 LLC
EXHIBIT FOR FAR, ENTRANCES, GREENSPACE AND BUFFER AREAS
(FOR STAFF ONLY- UPDATED 09-05-14)



FLOOR AREA RATIO (FAR)

	USE	SQ. FT.
1	QUICK SERVE RESTAURANT	2,000
2	CONVENIENCE STORE W/GAS	6,600
3	CANOPY	11,424
4	CAR WASH	2,400
4	RETAIL CENTER	10,000
5	TOTAL BUILDING AREA	32,424
6	TOTAL PROPERTY AREA	229,088
7	FLOOR AREA RATIO (FAR)	0.142
	MAXIMUM FAR ALLOWED	0.550

PROPOSED SPECIES OF TREES FOR MITIGATION AREAS AND STREETS

8	RED MAPLE
7	SWAMP WHITE OAK
8	CRIMSON CLOUD HAWTHORN
8	ENGLISH OAK
7	LITTLE LEAF LINDEN
8	AMERICAN HORNBEAN
7	HACKBERRY
8	NORWAY MAPLE

OPEN SPACE REQUIREMENT

- LANDSCAPE BUFFER (50,325 SF)
- INTERIOR LANDSCAPE AREA (30,800 SF)
- SIDEWALK/OPEN SPACE (5,197 SF)

TOTAL OPEN SPACE ±86,322 SF OR 37.7%

ENGINEERS AUTHENTICATION

The responsibility for professional engineering liability on this project is hereby limited to the set of plans authenticated by the seal, signature, and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in this project and specifically excluded ... after this date unless reauthenticated.

DOUGLAS S. [illegible]
PROFESSIONAL ENGINEER
LICENSE# E-23345

PICKETT, RAY & SILVER INC.
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Preliminary Development Plan - FAR

A tract of land being Lot 2 and Outlot A of McGrath Plaza, part of Lot 6 of the Subdivision of R. H. Stevens Farm and part of U. S. Survey 102, Township 45 North - Range 3 East, St. Louis County, Missouri

Prepared For:
Energy Marketing 709 LLC

Mr. Steve Madras
2130 Kienlen Avenue
St. Louis, MO 63121-5505
314-383-3700

REVISIONS NO.	DESCRIPTION	DATE

DRAWN KAS	DATE 08-29-14
CHECKED DST	DATE 08-29-14
PROJECT # 09056.EMKT.00S	
TASK # 1	FIELD BOOK 1287

FAR EXHIBIT
18423 OLIVE ST. RD.

SHEET 1 OF 1

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