VII. A.

690 Chesterfield Pkwy W ● Chesterfield MO 63017-0760
Phone: 636-537-4000 ● Fax 636-537-4798 ● www.chesterfield.mo.us

Planning Commission Staff Report

Project Type: Site Development Plan

Meeting Date: December 14, 2015

From: Purvi Patel
Project Planner

Location: 16300 Justus Post Road

Applicant: Stock & Associates Consulting Engineers, Inc.

Description: **Chesterfield Village Mall (The Grove in Chesterfield) SDP**: A Site Development Plan, Landscape Plan, Tree Preservation Plan, Lighting Plan, Architectural Elevations and Architect's Statement of Design for a 3.64 acre tract of land zoned "UC" Urban Core District located southeast of the intersection of Chesterfield Parkway West and Justus Post Road.

PROPOSAL SUMMARY

Stock and Associates Consulting Engineers, Inc., on behalf of Brinkmann Holdings, LLC., has submitted a request for construction of a three (3) story 82,300 square foot assisted living and memory support senior care facility with 96 beds. The 3.64 acre site is located within the Southwest Quadrant of Chesterfield Village at the intersection of Chesterfield Parkway West and Justus Post Road. It is zoned "UC" Urban Core District and is governed under the terms and conditions of City of Chesterfield Ordinance 2861. The exterior building materials will be comprised of stone veneer, pre-finished lap siding, cedar shake siding, cementitious trim boards, and asphalt roof shingles.

HISTORY OF SUBJECT SITE

This site is located within the Southwest Quadrant of the Chesterfield Village, specifically parcel C104. The Southwest Quadrant of Olive/Clarkson and I-64 was included in the original presentation to the St. Louis County Planning Commission in 1971 to initiate development of Chesterfield Village. Parcel C104 is located within the Regional Commercial/Town Center which permitted C1 through C7 land uses. Two (2) office buildings were previously located on the subject parcels and later were demolished in 2005.

On August 3, 2015, City of Chesterfield Ordinance 2861 approved the rezoning of this parcel from "C8" Planned Commercial to the "UC" Urban Core District. Ordinance 2861 permits an assisted living care facility which is the proposed land use. The subject site is currently vacant.

Land Use and Zoning of Surrounding Properties

Direction	Land Use	Zoning
North	Restaurant	"C8" Planned Commercial District
South	Residential	"R6/PEU" Residence District with Planned Environment Unit Procedure
East	Commercial Office Space	"C8" Planned Commercial District
West	Residential	"R6/PEU" Residence District with Planned Environment Unit Procedure

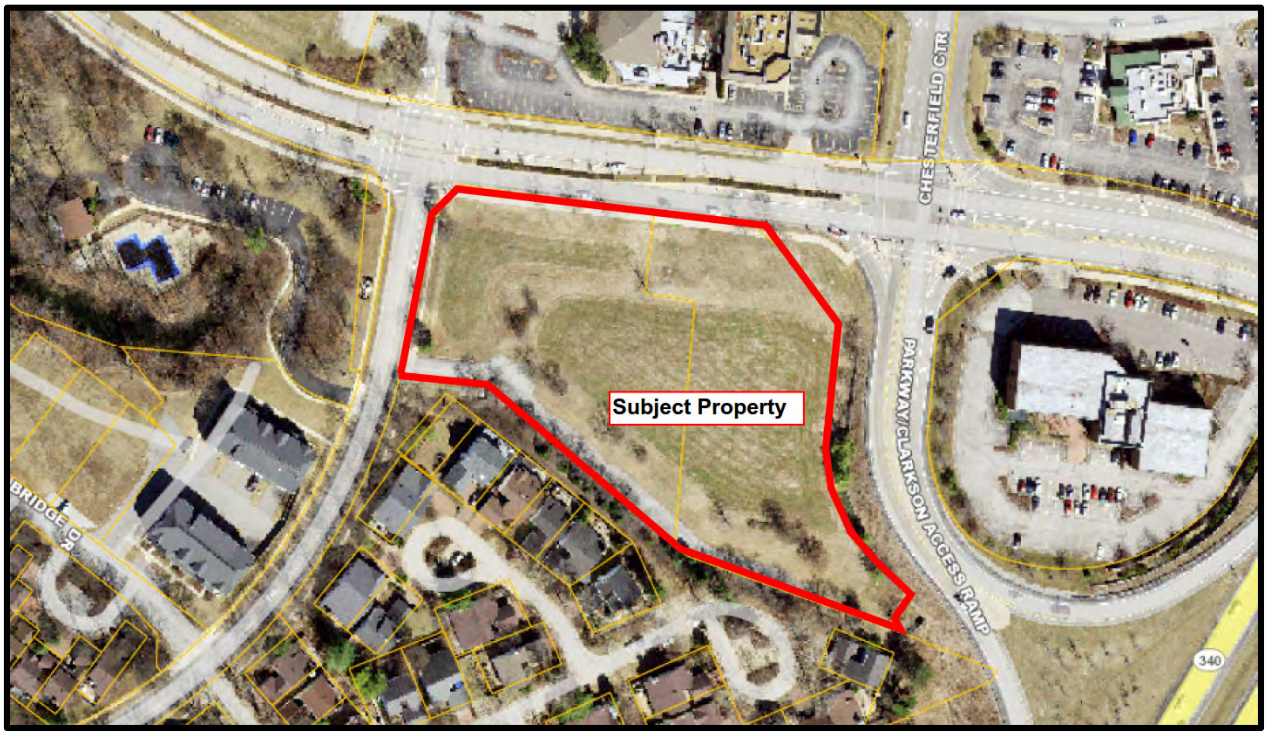


Figure 1: Aerial

Comprehensive Plan Analysis

The subject site is located within the Urban Core district. The Urban Core area is defined within the Comprehensive Plan as "the area known as the Chesterfield Village, centered at the intersection of I-64/US 40 and Clarkson Road/Olive Boulevard and primarily served by the Chesterfield Parkway. Land uses for the Urban Core include a mixture of high-density residential, retail and office uses containing the highest density development in the City of Chesterfield." This area also serves as the visual and physical focus of the City. The use proposed associated with this request is compliant with the Urban Core land use designation.

In addition to compliance of uses, a proposed development should be in compliance with the applicable Development Policies of the Urban Core land use as well as Commercial Development Policies listed in the Comprehensive Plan. On the following page is a list of relevant policies within the Comprehensive Plan.

- **3.1.1 Quality of Design** – Overall design standards should be provided for smaller-scale, mixed-use, project-oriented developments. Developments should emphasize architectural design, pedestrian circulation, landscaping, open space, innovative parking solutions and landscape buffering between any adjacent residential uses.
    - *This policy is met by this proposed development. Please see Access and Site Circulation, Parking, Landscaping, Open Space, and Architectural Elevations sections starting on Page 4. These sections discuss each of these items in detail, as they apply to this project.*
- **3.1.2 Buffering of Neighborhoods** – Development should substantially buffer neighboring residential uses in all directions by employing good site design, addressing vehicular access, building materials selection, tree preservation, and expanded setbacks.
    - *There is an existing berm between the proposed development and the Sycamore subdivision to the south. The applicant will maintain and improve this berm as required by the site specific ordinance. Additionally, the berm is planned to be heavily planted and enhanced to screen residences to the south. This item is further discussed in detail under the Landscaping section of this report.*
- **3.6.1 High Density Development** – High-density development should be developed as part of the Urban Core. High-density development encourages clustering of buildings with diverse building form through minimum restrictions for building height, openspace and setback requirements.
    - *As discussed earlier, the Urban Core is the center of the City. City centers typically are their downtowns which offer many mixed uses, especially high density developments. The proposed development at 85,000 square feet and 3 stories is towards the maximum Floor Area allowed within the Urban Core District and would be compliant.*
- **3.6.6 Multi-modal Transportation Choices** – Developments in the Urban Core should be designed to accommodate a variety of motorized and non-motorized transportation choices such as mass transit, pedestrian, and vehicular. An emphasis on pedestrian connectivity is encouraged.
    - *This policy is met by this proposed development. Please see the Access and Site Circulation section on Page 4 for a detailed discussion.*

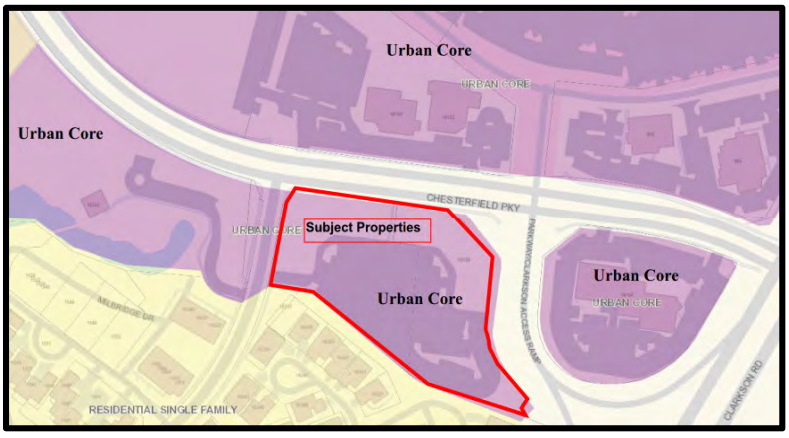


Figure 2: Comprehensive Plan

STAFF ANALYSIS

Access and Site Circulation

Proposed access to the site will be via an existing entrance point off Justus Post Road. This existing access point will be improved to accommodate the proposed development. No other vehicular access to the site is proposed by the applicants nor permitted by the site's ordinance.

The existing sidewalks on Chesterfield Airport Road and Justus Post Road will remain in place and the applicant will tie into these sidewalks to provide a connection throughout site. Additionally, the proposed Site Development Plan shows a bike rack to encourage bicycle use and provides a bus shelter off Chesterfield Parkway for the existing bus stop. The applicant will be working with St. Louis-Metro Transit as this process moves forward on the exact appearance and placement of this shelter. As discussed previously in the Comprehensive Plan Analysis section, developments in the Urban Core should be designed to accommodate of multi-modes of transportation. Additionally, the inclusion of multi-modes of transportation is a site design feature encouraged in the Urban Code zoning district of the Unified Development Code (UDC).

Parking

Parking will be south of the structure. The minimum parking requirement for the nursing home use is 1 space for every 3 beds, which is equal to 32 spaces for the proposed 96 beds in this development. The applicant is proposing 57 total spaces, including 4 accessible spaces. In addition, there are four (4) loading spaces provided as required by code, east of the building.

Figure 3: Colored Site Plan

Landscaping and Tree Preservation

A combination of deciduous trees, coniferous trees and shrubs/bushes have been utilized throughout the exterior of the site in addition to landscaping planned to be retained. The storm-water bio-retention of the site is planned to be landscaped per MSD requirements, which will add to the overall landscaping of this project.

The site shares an existing landscape berm to the south with the adjacent residential subdivision (Sycamore subdivision) which provided screening from the previously existing office buildings. As required by Ordinance 2861, the applicant will be heavily planting this berm to screen this development from the residents to the south.

A proposed trash dumpster and generator planned with this construction on the southeast portion of the facility will be enclosed by a screening wall. The enclosure will match the material and color of the proposed main structure. In addition to the screening wall, the applicant will provide arborvitaes around these enclosures.

The applicant is proposing to remove existing ash trees on-site due to the recent identification of the Emerald Ash Bore in the area. Per the Missouri Department of Conservation, the insect has been identified in St. Louis County as of September 15, 2015. Based upon this discovery, the applicant is proposing to remove all 21 ash trees located on-site. Per the City Code, due to the infestation of the Emerald Ash Bore and recommendation of the City Arborist, the Planning and Development Services Director approved the removal of all 21 of these trees on November 12, 2015.

As required by the modification process, the applicant has submitted a Mitigation Plan which is under review by Staff. In this case, the developer was only able to preserve 13.37% of the existing canopy and is therefore required to plant an additional 3,521 square feet of new tree canopy. Once a Landscape Plan is approved by the Planning Commission, Staff will then complete its review of the Mitigation Plan. The proposed mitigation trees will be provided along the southern edge of the site, in turn increasing the buffer between the subject site and residential development.

Open Space

The minimum open space requirement for the Urban Core District is 30% and the regulations also require the open space be integrated into the development to provide aesthetic, recreational, or other public benefit. The applicant is proposing 59.07% open space which is dispersed throughout the site. To take advantage of the increased open space, the applicant has provided several seating areas for the enjoyment of the patrons of the site.

The proposal also includes a public art installation near the intersection of Justus Post Road and Chesterfield Parkway. The type of installation will be determined prior to the issuance of building permits, after both the Planning and Development Services and Parks, Recreation and Arts divisions has reviewed and approved the art piece.

Architectural Elevations

The three (3) story structure design employs a slight curve to the site, with the building utilizing many residential features to integrate the structure into the area, which has residential homes to the south and west. Residential features include a pitched roof, cornices, and use of similar materials of adjacent residential developments. Materials for the structure include a stone veneer wainscoting at the base of the structure, lap siding, and shake siding seen in adjacent residential developments. These materials are wrapped on all sides of the structure to provide a cohesive building. Colors include different shades of grays which mimic some of the residential structures in the adjacent area. Colors, architectural features and materials are used consistently on all side of the proposed structure, which is recommended by the City architectural standards. The material and color samples for the proposed building will be presented at the Planning Commission meeting.

Other architectural technique used are the connectors which assist in breaking the size of the building to mimic residential units. All mechanical units are planned to be roof mounted and screened by the pitched roofs and parapet walls.

Figure 4: North Elevation

Figure 5: South Elevation

The project was reviewed by the Architectural Review Board (ARB) on October 8, 2015. A motion to forward the submittal to the Planning Commission with a recommendation for approval with the conditions listed below was passed by a vote of 4-0.

1. *Staff to work with the applicant to increase the landscaping with different shrubs and trees to the north elevation to help break up the front façade.*

   In response to this recommendation, the applicant has provided over one hundred and fifty (150) shrubs along the northern façade of the building; in addition has added shrubs along the southern façade as well. These shrubs will range from eighteen (18) inches to thirty-six (36) inches. They have also provided fourteen (14) additional trees along the northern edge and also increased the buffer plantings along Chesterfield Airport Road since the ARB meeting.

2. *Ensure that adequate screening is provided to the generator to the height of the equipment.*

   The applicant has verified that the generator will be screened by the proposed six (6) foot tall screening wall. Additionally, a note has been added to the detail section of the wall to ensure the enclosure height will be at least twenty-four (24) inches taller than the specified generator, but the overall height of the enclosure will not exceed six (6) feet.

Lighting

The proposed Lighting Plan shows several parking area fixtures and wall mounted fixtures. The applicant is proposing fully enclosed LED fixtures mounted at twenty (20) feet in the parking area. And the wall mounted fixtures are LED fixtures as well. Both fixtures can be seen in the images below. The Lighting Plan does meet code requirements without over lighting the site and creating light trespass to the adjacent residential properties.

Figure 6: Wall Mounted Fixture

Figure 7: Parking Area Fixture

STAFF RECOMMENDATION

Staff has reviewed the Site Development Plan, Landscape Plan, Tree Preservation Plan, Lighting Plan, Architectural Elevations, and Architect's Statement of Design and has found the proposal to be in compliance with the site specific ordinance, Comprehensive Plan, and all City Code requirements. Staff recommends approval of the proposed development of Chesterfield Village Mall (The Grove in Chesterfield).

MOTION

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

1) "I move to approve (or deny) the Site Development Plan, Landscape Plan, Tree Preservation Plan, Lighting Plan, Architectural Elevations and Architect's Statement of Design for Chesterfield Village Mall (The Grove in Chesterfield).

2) "I move to approve the Site Development Plan, Landscape Plan, Tree Preservation Plan, Lighting Plan, Architectural Elevations and Architect's Statement of Design for Chesterfield Village Mall (The Grove in Chesterfield), with the following conditions…" (Conditions may be added, eliminated, altered or modified)

Attachments: Site Development Plan
Landscape Plan
Tree Preservation Plan
Lighting Plan
Lighting Cut-sheets
Architect's Statement of Design
Architectural Elevations
Architectural Rendering

CC: Aimee Nassif, Planning and Development Services Director

THE GROVE IN CHESTERFIELD

SITE DEVELOPMENT PLAN

A TRACT OF LAND BEING LOT A AND PART OF LOT B OF CHESTERFIELD VILLAGE AS RECORDED IN PLAT BOOK 183, PAGE 95 LOCATED IN U.S. SURVEY 2002, TOWNSHIP 45 NORTH, RANGE 4 EAST OF THE 5TH PRINCIPAL MERIDIAN CITY OF CHESTERFIELD, ST. LOUIS COUNTY, MISSOURI

ZONED: UC (URBAN CORE)

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

DRAWING INDEX

SITE INFORMATION

SITE ACREAGE	= 3.6 Acres ±
SITE ADDRESS:	= 16300 JUSTUS POST RD.
LOCATOR No.	= 19S431691, 19S430579
EXISTING ZONING	= "UC" URBAN CORE
EXISTING ORD.	= ORD. # 2861 (8/3/15)
FIRE DISTRICT	= MONARCH FIRE PROTECTION
SCHOOL DISTRICT	= PARKWAY DISTRICT
SEWER DISTRICT	= METROPOLITAN ST. LOUIS SEWER DIST.
WATER SERVICE	= MISSOURI AMERICAN WATER COMPANY
GAS SERVICE	= LACLEDE GAS
ELECTRIC SERVICE	= AMEREN U.E.
PHONE SERVICE	= AT&T

ST. LOUIS COUNTY BENCHMARK

12-165 – ELEV. 646.98 "STANDARD ALUMINUM DISK" STAMPED 12-3Y, SET ALONG THE WEST SIDE OF ELDRIDGE DRIVE; ACROSS THE NORTH DRIVE OF FIRST NATIONAL BANK, APPROX. 100' SOUTH OF STRECKER RD. & MCBRIDE POINTE DR.

SITE BENCHMARK

CUT CROSS IN TRAFFIC SIGNAL MEDIAN AT S.W. QUADRANT OF CHESTERFIELD PARKWAY WEST AND HIGHWAY 340 ON RAMP, AS SHOWN HEREON.

Geotechnical Engineer's Statement

Midwest Testing and the undersigned engineer have not prepared the plan on this sheet. The seal of the undersigned professional engineer has been affixed at the request of the City of Chesterfield and is a professional opinion to indicate that the undersigned has reviewed the plans and that in his opinion the grading and improvements as shown on the plans, as well as the foundations, are compatible with the soil and geologic conditions at the site as described in the geotechnical report prepared for the development, titled Geotechnical Exploration – MT Job No. 13867 – The Grove in Chesterfield Assisted Living – Chesterfield, Missouri and dated September 18, 2015.

Midwest Testing and the undersigned assume no responsibility for services by others, pursuant to RSMO 327.411.

Construction means and methods for implementation of the grading plan are the responsibility of the contractor. Observations of the contractor's compliance with the applicable specifications shall be identified and verified in writing.

MIDWEST TESTING

Daniel J. Barczykowski, P.E.
Missouri PE No. E-25861

STATE OF MISSOURI
DANIEL J. BARCZYKOWSKI
NUMBER E-25861
REGISTERED PROFESSIONAL ENGINEER

PROPERTY DESCRIPTION

A tract of land being Lot A and Part of Lot B of 'Chesterfield Village Area 'A' Phase One Plat One', a subdivision recorded in Plat Book 158, Page 96 and 97 of the St. Louis County, Missouri Recorder's Office and being more particularly described as follows:

BEGINNING at the Southwest corner of Lot A of 'Chesterfield Village Area 'A' Phase One Plat One', a subdivision recorded in Plat Book 158, Page 96 and 97 of the St. Louis County, Missouri Recorder's Office, said point being on the Eastern line of Justus Post Road, thence in a northerly direction along said Eastern line along a curve to the left having a radius of 641.50 feet, an arc length of 45.48 feet, the chord of which bears North 10 degrees 41 minutes 13 seconds East, a chord distance of 45.48 feet to a point; thence North 08 degrees 39 minutes 21 seconds East, a distance of 135.63 feet to a point; thence South 81 degrees 20 minutes 39 seconds East, a distance of 8.50 feet to a point; thence North 08 degrees 39 minutes 21 seconds East, a distance of 10.00 feet to a point; thence North 42 degrees 22 minutes 04 seconds East, a distance of 35.43 feet to a point on the Southern line of Chesterfield Parkway; thence along said Southern line South 83 degrees 56 minutes 31 seconds East, a distance of 350.47 feet to a point; thence South 38 degrees 56 minutes 31 seconds East, a distance of 142.84 feet to a point on the Western line of Fontaine Road; thence along said Western line South 06 degrees 03 minutes 29 seconds West, a distance of 71.30 feet to a point; thence South 06 degrees 42 minutes 00 seconds West, a distance of 88.72 feet to a point on a non-tangent curve to the left; thence along said curve to the left having a radius of 277.00 feet, and arc length of 145.73 feet, the chord of which bears South 27 degrees 41 minutes 36 seconds East, a chord distance of 144.06 feet to a point on a non-tangent curve to the right; thence along said curve to the right having a radius of 385.00 feet, an arc length of 40.65 feet, the chord of which bears South 39 degrees 44 minutes 26 seconds East, a chord distance of 40.63 feet to a point; thence South 42 degrees 03 minutes 46 seconds West, a distance of 37.46 feet to a point; thence South 34 degrees 28 minutes 56 seconds East, a distance of 10.53 feet to a point on the Southern line of Lot B of the aforesaid 'Chesterfield Village Area 'A' Phase One Plat One'; thence along the Southern line of said Lot B and the aforesaid Lot A North 69 degrees 28 minutes 51 seconds West, a distance of 253.04 feet to appoint; thence North 51 degrees 13 minutes 50 seconds West, a distance of 313.11 feet to a point; thence North 86 degrees 55 minutes 18 seconds West, a distance of 75.83 feet to the point of beginning and containing 3.6 acres more or less as per a survey by Stock & Associates Consulting Engineers, Inc. during February, 2014.

PREPARED FOR:
THE GROVE ASSISTED LIVING
16650 CHESTERFIELD GROVE RD. STE. 100
CHESTERFIELD, MO. 63005
PHONE: (636) 537-9700

GENERAL NOTES

1. GRADING AND DRAINAGE PER CITY OF CHESTERFIELD AND ST. LOUIS COUNTY HWY DEPT. AND M.S.D. STANDARDS AND SPECIFICATIONS. STORM WATER TO DISCHARGE AT AN ADEQUATE NATURAL DISCHARGE POINT.
2. THE LOCATION OF STORM AND SANITARY SEWER IMPROVEMENTS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS SHALL BE DETERMINED BY FIELD CONDITIONS AND SHALL BE INDICATED ON THE IMPROVEMENT PLANS.
3. NO SLOPE SHALL EXCEED 3:1 FOR EARTH SLOPES. STEEPER SLOPES SHALL BE QUALIFIED BY A PROFESSIONAL GEOTECHNICAL ENGINEER.
4. BOUNDARY AND TOPOGRAPHICAL SURVEY BY STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC.
5. APPROVAL OF THIS PLAN DOES NOT CONSTITUTE APPROVAL OF SIGNAGE. SIGN APPROVAL IS A SEPERATE PROCESS.
6. SUBJECT PROPERTY LIES WITHIN FLOOD ZONE "X" (AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD) ACCORDING TO THE NATIONAL FLOOD INSURANCE RATE MAP FOR ST. LOUIS COUNTY, MISSOURI AND INCORPORATED AREAS. MAP NUMBER 29189C0139 H WITH AN EFFECTIVE DATE OF AUGUST 2, 1995.
7. TRASH ENCLOSURE SHALL BE CONSTRUCTED OF MATCHING BUILDING MATERIALS.
8. ALL PROPOSED PROPOSED UTILITIES SHALL BE INSTALLED UNDERGROUND.
9. OPEN SPACE CALCULATIONS:
   LOT = 3.64 AC.
   BUILDING = 0.66 AC. (18.13%)
   PAVEMENT = 0.83 AC. (22.80%)
   OPEN SPACE= 2.15 AC. (59.07%)
10. F.A.R. = 0.53
11. PARKING CALCULATIONS:
    DEFINED USE = NURSING HOME
    REQUIRED: 1 SPACE FOR EVERY 3 BEDS = 32 SPACES (96 BEDS)
    PROVIDED: 4 ACCESSIBLE SPACES
    53 REGULAR SPACES
    57 TOTAL SPACES
12. ALL MECHANICAL EQUIPMENT SHALL BE SCREENED. PROPOSED MECHANICAL ENCLOSURES SHALL MATCH COLOR OF MAIN STRUCTURE.
13. RECEIVING STORM AND SANITARY SEWERS WILL BE EVALUATED DURING IMPROVEMENT PLANS.
14. PROPOSED BIORETENTION WATER LEVELS, PONDING LIMITS AND OVERLAND FLOW PATHS WILL BE EVALUATED DURING IMPROVEMENT PLANS.
15. EXISTING SIDEWALKS WILL BE EVALUATED FOR ADA COMPLIANCE AND NECESSARY IMPROVEMENTS WILL BE SHOWN ON IMPROVEMENT PLANS.

CURRENT OWNER
JPR CORPORATION
DB. 6801 PG. 2098
LOC.# 19S430579
16300 JUSTUS POST RD.
AND
CHESTERFIELD MTBD CORP.
DB. 7102 PG. 975
LOC.# 19S431691
16120 W. CHESTERFIELD PARKWAY

SURVEYOR'S CERTIFICATION

This is to certify that Stock and Associates Consulting Engineers, Inc. has prepared this Site Development Plan from an actual survey. The information shown is a correct representation of all existing and proposed land divisions.

STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC.
L.S. No. 222-D

By: _____ 11/05/15
Daniel Ehlmann, Missouri L.S. No. 2215

STATE OF MISSOURI DANIEL EHLMANN NUMBER PLS-2215 PROFESSIONAL LAND SURVEYOR

PREPARED BY:
STOCK & ASSOCIATES Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, Missouri 63005
636-530-9100 FAX (636) 530-9130
e-mail: generalmail@stockassoc.com
Web: www.stockassoc.com

SITE DEVELOPMENT PLAN FOR:
THE GROVE IN CHESTERFIELD
16300 JUSTUS POST ROAD
CITY OF CHESTERFIELD, MISSOURI 63017

DATE: Nov. 19, 2015

STATE OF MISSOURI GEORGE MICHAEL STOCK NUMBER E-25116 REGISTERED PROFESSIONAL ENGINEER

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

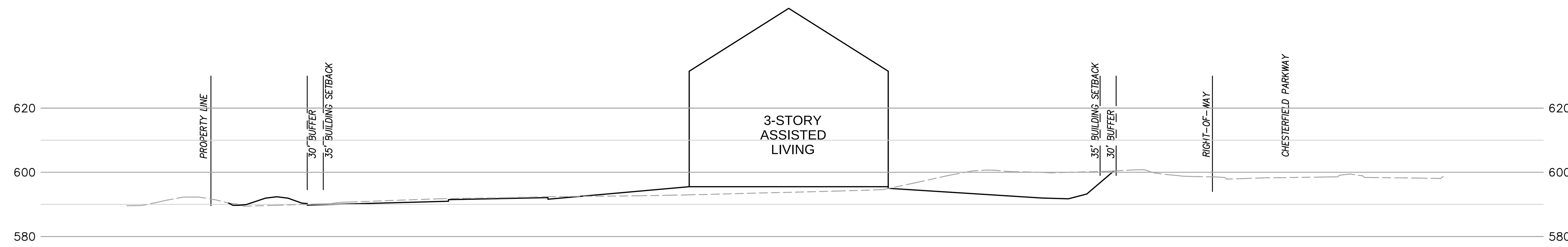
REVISIONS:

-	Per City Comments	09/23/15
-	Per City Comments	11/5/15
-	Per City Comments	11/19/15

DRAWN BY: J.E.F.	CHECKED BY: G.M.S.
DATE: 08-17-2015	JOB NO: 213-5215
M.S.D. P. #	BASE MAP #: 19S
S.L.C. H&T #:	H&T S.U.P. #:
M.D.N.R. #:	

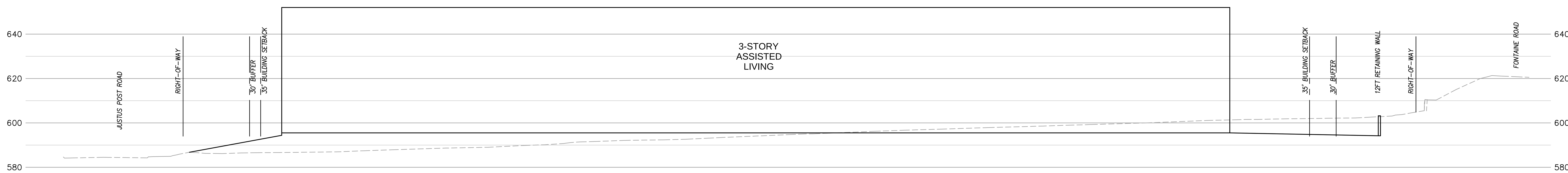
SHEET TITLE:
SITE DEVELOPMENT PLAN

SHEET NO.:
SHEET 1



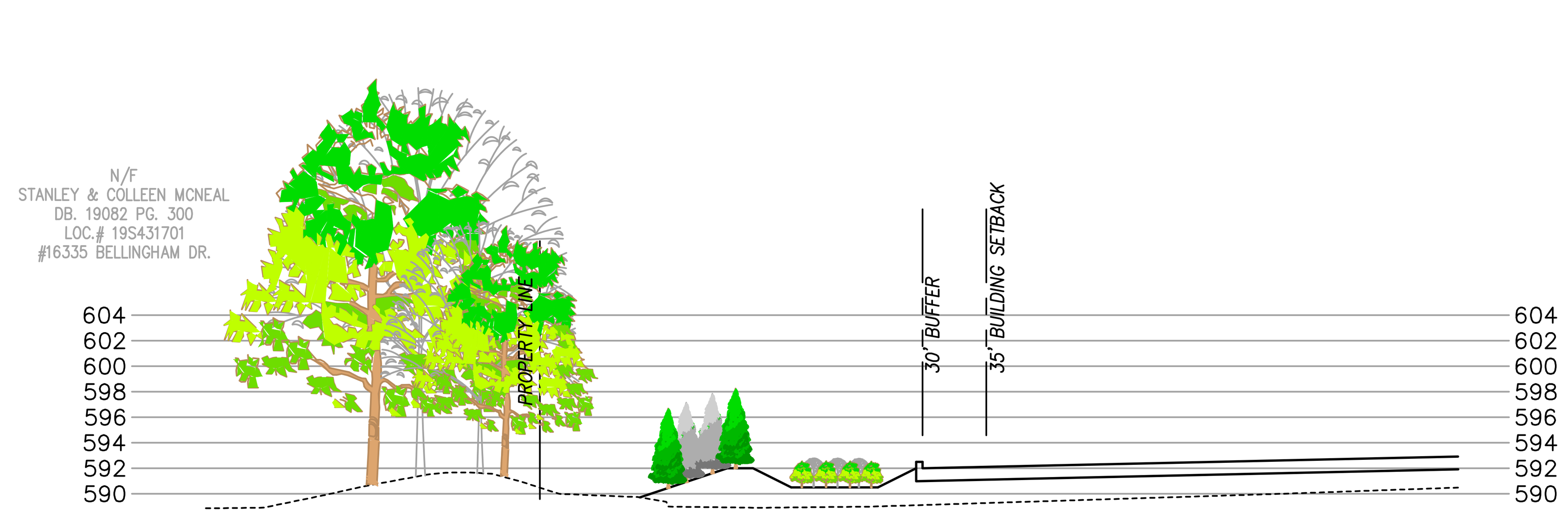
SITE SECTION A-A

SCALE:1"=20'(H)(V)



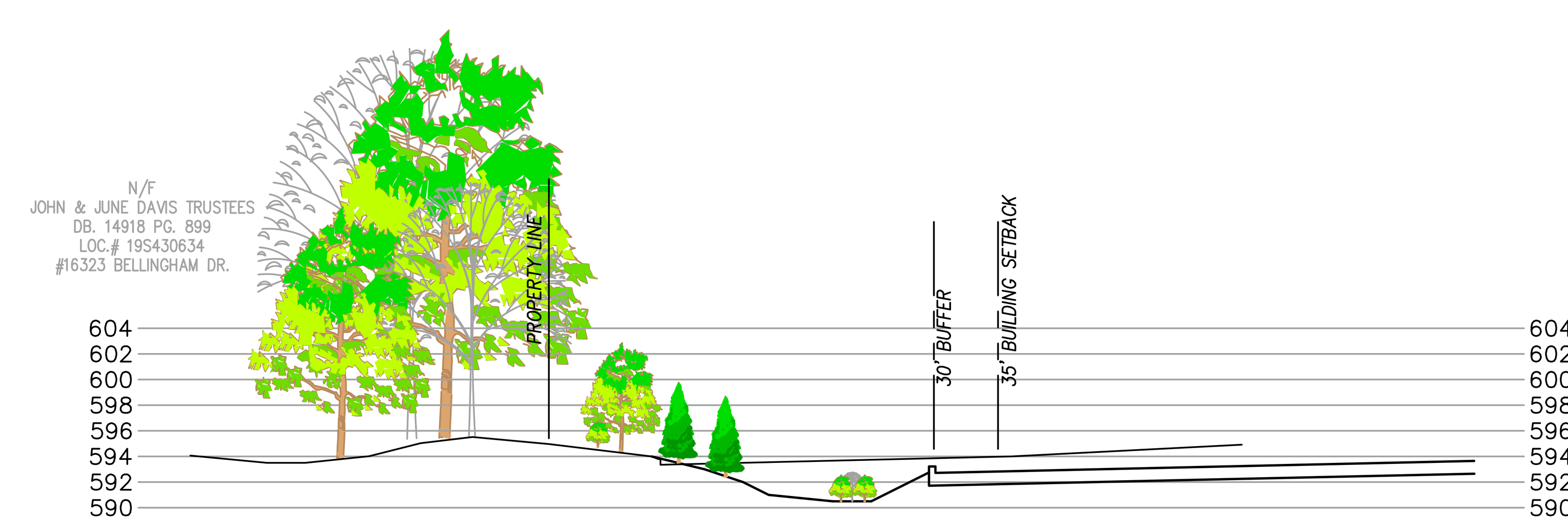
SITE SECTION B-B

SCALE:1"=20'(H)(V)



SITE SECTION C-C

SCALE:1"=10'(H)(V)



SITE SECTION D-D

SCALE:1"=10'(H)(V)

ST. LOUIS COUNTY GENERAL NOTES

1. All proposed improvements shall be constructed to St. Louis County Standards.

2. No slopes within St. Louis County right-of-way shall exceed 3 (horizontal) to 1 (vertical).

3. Storm water shall be discharged at an adequate natural discharge point. Sinkholes are not adequate discharge points.

4. All proposed access to St. Louis County roads shall meet minimum St. Louis County sight distance requirements.

5. All sidewalks and associated accessibility improvements shall be constructed to St. Louis County ADA Standards.

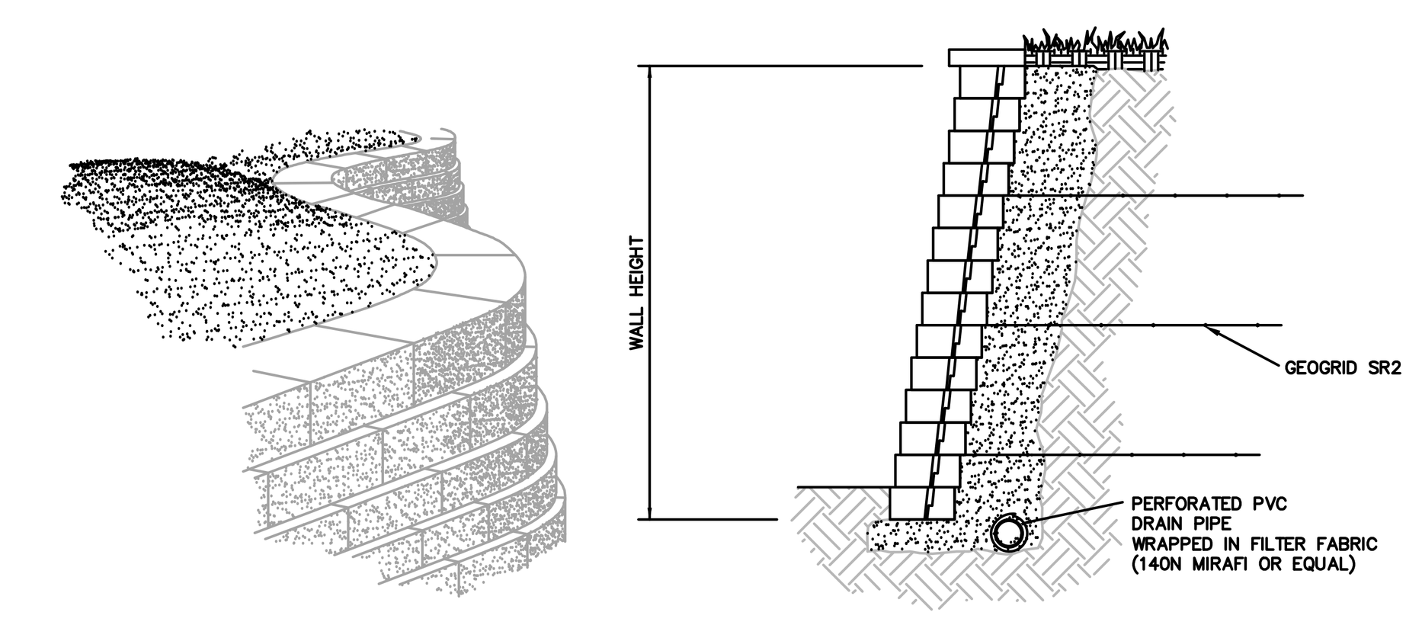
6. A signed/sealed note shall be added to the Construction Plans indicating that the unimproved existing sidewalk along the project frontage meets current St. Louis County ADA standards.

7. All grading and drainage shall be in conformance with St. Louis County and MSD Standards.

8. All hydrants, power poles or other potential obstructions within the St. Louis County road right-of-way shall have a minimum two (2) foot setback from face of curb or edge of pavement, as directed by the St. Louis County Department of Highways and Traffic.

9. Any entity that performs work on St. Louis County maintained property shall provide the County with a Certificate of Insurance evidencing general liability coverage (bodily injury and property damage) in the amounts specified as the limits of liability set by the State for public entities. Such certificate shall include "St. Louis County" as an additional insured and shall be provided prior to the issuance of any permit. Certificate shall provide for a 30 day policy cancellation notice to St. Louis County. Upon request, the County will provide the specific amounts for both per person and per occurrence limits.

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



ISOMETRIC VIEW

SECTION "A-A"

NOTES:

1.) ALL CONSTRUCTION SHALL BE PER THE MANUFACTURERS RECOMMENDATION.

2.) SHOP DRAWINGS BEARING THE SEAL OF A REGISTERED ENGINEER IN THE STATE OF MISSOURI TO BE SUPPLIED TO THIS ENGINEER FOR APPROVAL.

3.) ACCEPTED WALL SYSTEMS: OMEGA, VERSALOK, KEYSTONE OR HERCULES.

4.) TW= TOP OF RETAINING WALL, BW= GRADE AT BASE OF WALL.

5.) BLOCK SHALL BE A SPLIT FACE TYPE BLOCK.

5.) COLOR OF BLOCK TO BE STANDARD GRAY. BLOCK PAINTED TO MATCH BLDG.

RETAINING WALL DETAIL

NOTE *:
THE ABOVE INFORMATION IS A CONCEPT ONLY. ACTUAL DESIGN OF RETAINING WALL SHALL BE BY A LICENSED PROFESSIONAL ENGINEER & SUBMITTED TO STOCK AND ASSOCIATES FOR GENERAL COMPLIANCE W/ GRADING PLAN.

PREPARED BY:
STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005 PH. (636)
530-9100 FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

SITE DEVELOPMENT PLAN FOR:

THE GROVE IN CHESTERFIELD

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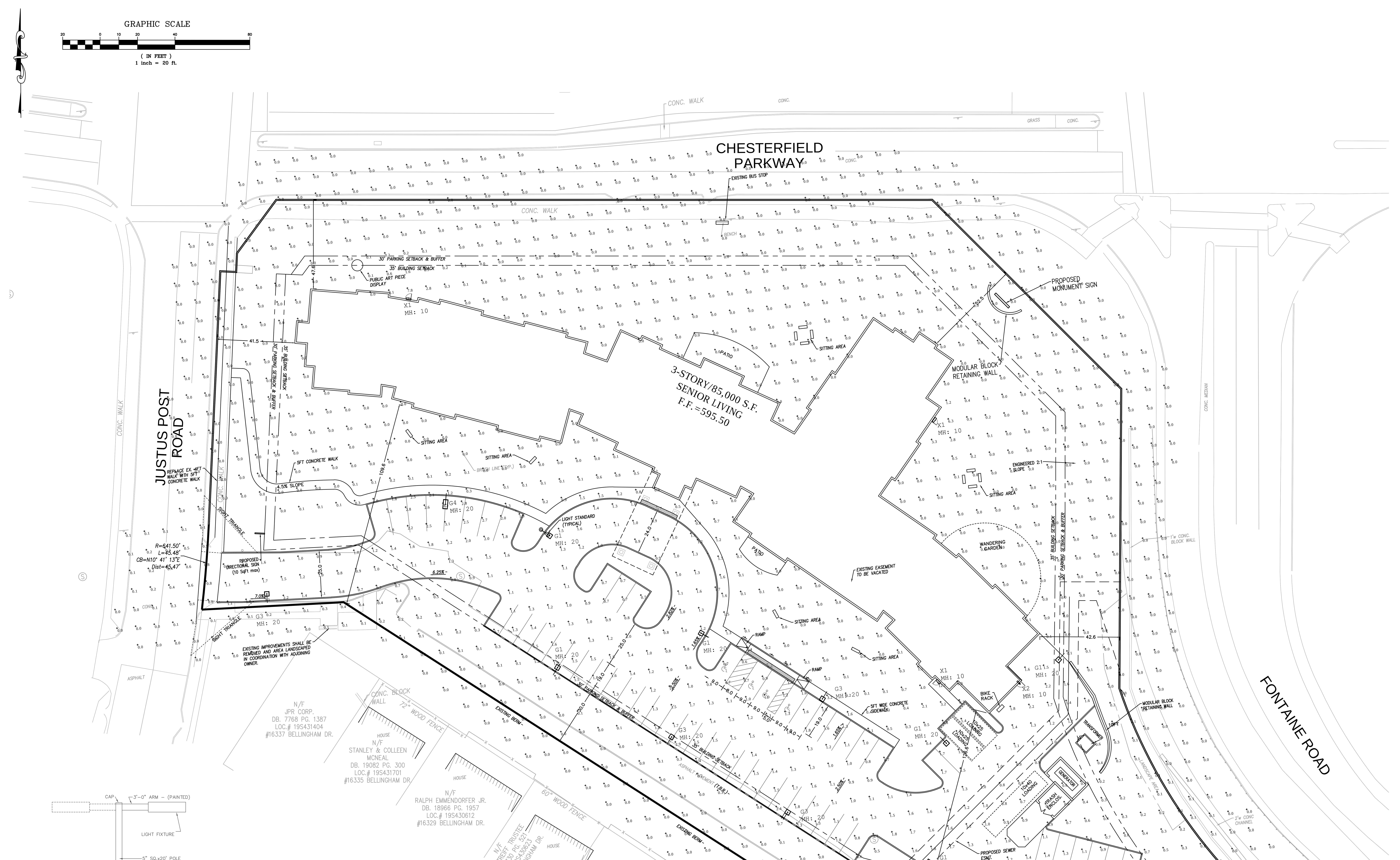
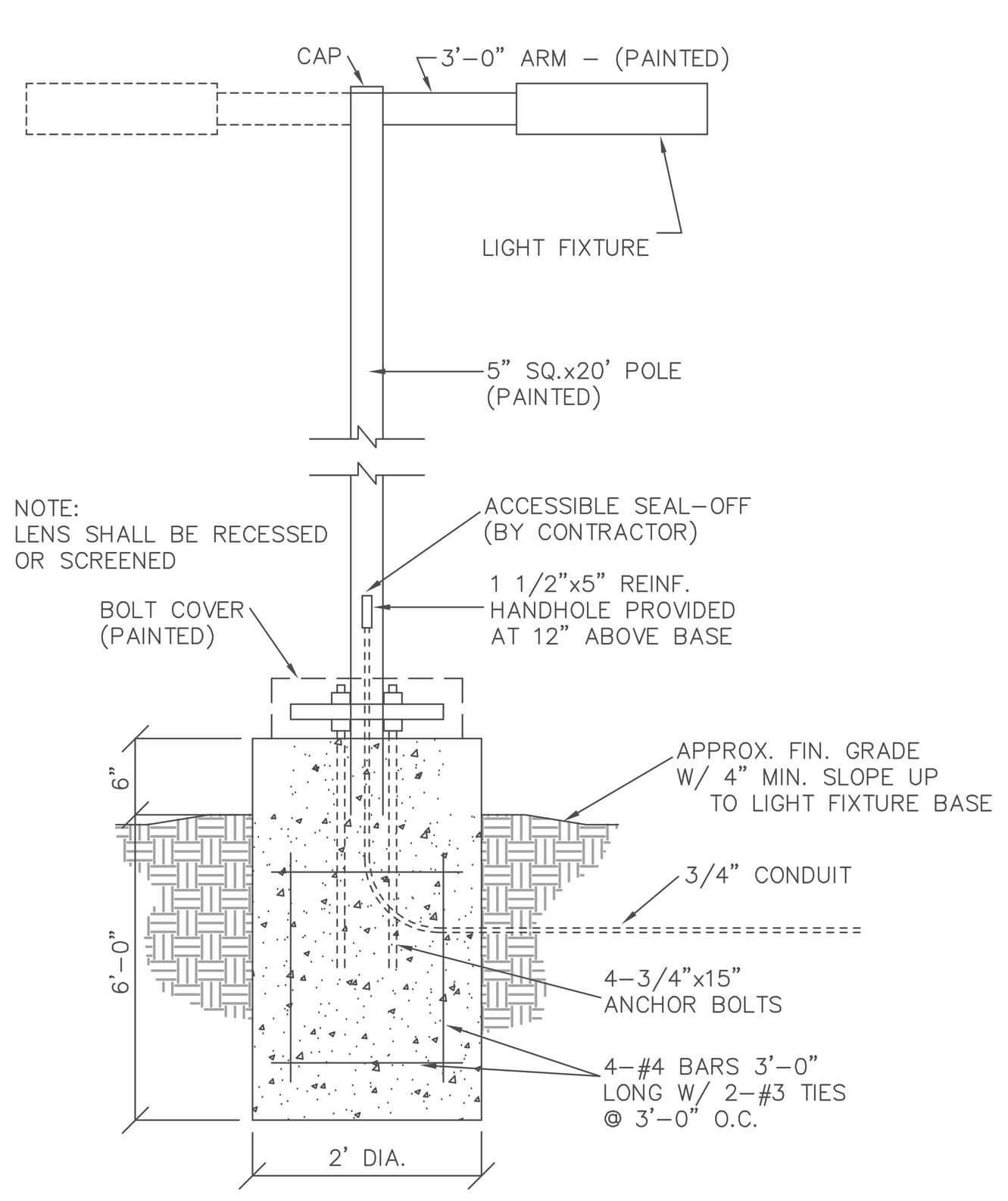
M.D.N.R. #: .	

SHEET TITLE:
PRELIMINARY SITE SECTIONS

SHEET NO.:
SHEET 2





AREA LIGHT & POLE DETAIL
(n.t.s.)

DESIGN BY LIGHTING ASSOCIATES, INC.

DESIGN IS BASED ON CURRENT INFORMATION PROVIDED AT THE TIME OF REQUEST. ANY CHANGES IN MOUNTING HEIGHT, MOUNTING LOCATION, LAMP WATTAGE, LAMP TYPE, AND EXISTING FIELD CONDITIONS THAT EFFECT ANY OF THE PREVIOUSLY MENTIONED, WILL VOID CURRENT LAYOUT AND REQUIRE A CHANGE REQUEST AND RECALCULATION.

FIXTURES MOUNTED ON 20' POLE
LIGHT LEVEL CALCULATED ON THE GROUND

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
BUILDING PERIMETER	Illuminance	Fc	0.17	12.7	0.0	N.A.	N.A.
Parking Lot	Illuminance	Fc	1.38	3.3	0.6	2.30	5.50
SPILL LIGHT	Illuminance	Fc	0.05	1.2	0.0	N.A.	N.A.

Luminaire Schedule

Symbol	Qty	Label	Arrangement	Lum. Watts	Total Watts	LLF	Description
	6	G1	SINGLE	56	336	1.000	GLEON-AE-01-LED-E1-SL4-HSS
	4	G3	SINGLE	56	224	1.000	GLEON-AE-01-LED-E1-SL3-HSS
	2	G4	SINGLE	107	214	1.000	GLEON-AE-02-LED-E1-SL4-HSS
	3	X1	SINGLE	27	81	1.000	XTOR3A
	1	X2	SINGLE	7	7	1.000	XTOR1A

PREPARED BY:
Stock & Associates Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005 PH. (636)
530-9100 FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

SITE DEVELOPMENT PLAN FOR:

THE GROVE IN CHESTERFIELD

16300 JUSTUS POST ROAD
CITY OF CHESTERFIELD, MISSOURI 63017

DATE: Nov. 19, 2015

STATE OF MISSOURI
GEORGE MICHAEL STOCK
NUMBER E-25116
REGISTERED PROFESSIONAL ENGINEER

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

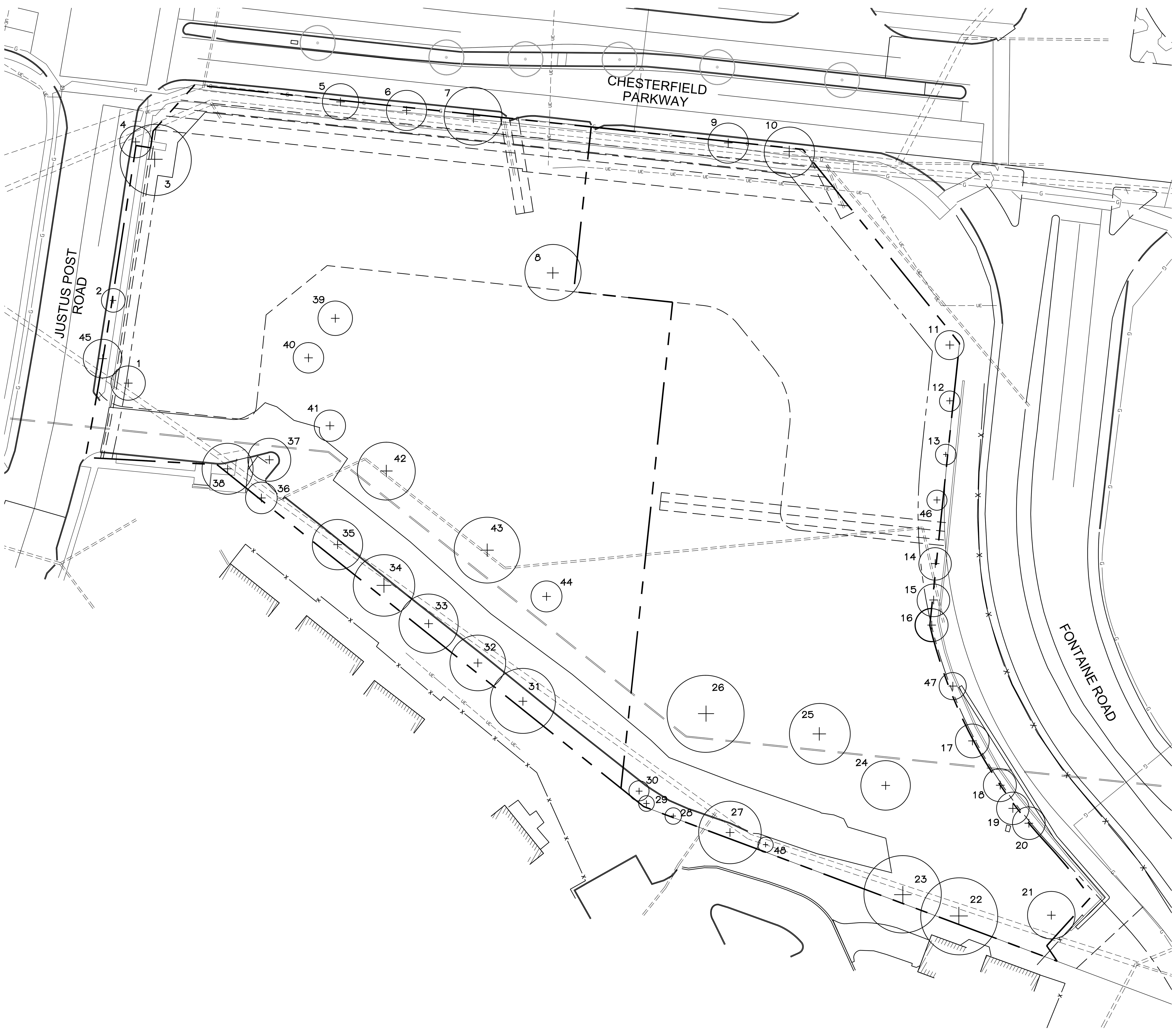
REVISIONS:

.	Per City Comments	09/23/15
.	Per City Comments	11/5/15
.	Per City Comments	11/19/15

DRAWN BY: J.E.F.	CHECKED BY: G.M.S.
DATE: 08-17-2015	JOB NO: 213-5215
M.S.D. P #: -	BASE MAP #: 19S
S.L.C. H&T #: .	H&T S.U.P. #: .
M.D.N.R. #: .	

SHEET TITLE:
SITE PHOTOMETRIC PLAN

SHEET NO.:
SHEET 3



Tree Stand Delineation

SCALE 1" = 30'-0"

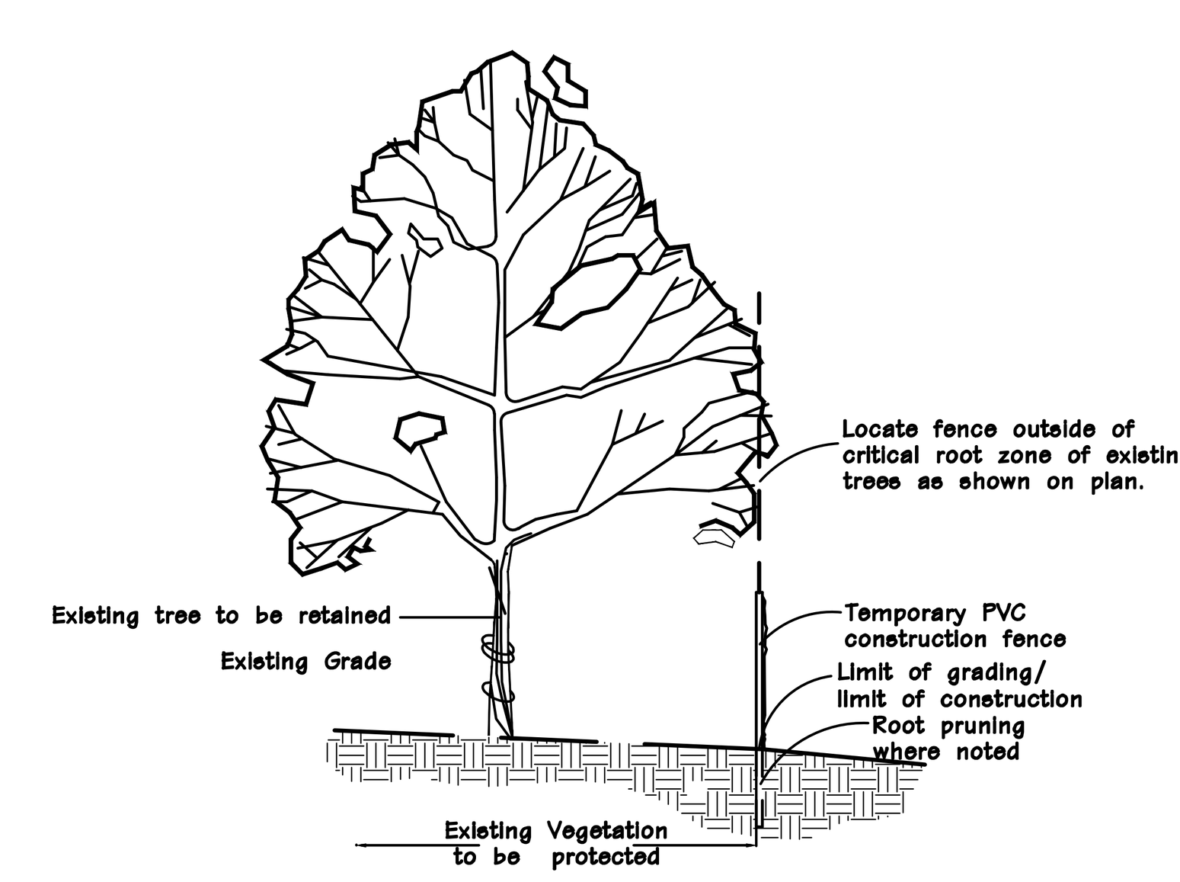
LEGEND:

Symbol	Description
6 ⊕	Existing Individual Tree
○	Existing Off-Site Tree

TREE STAND DELINEATION:

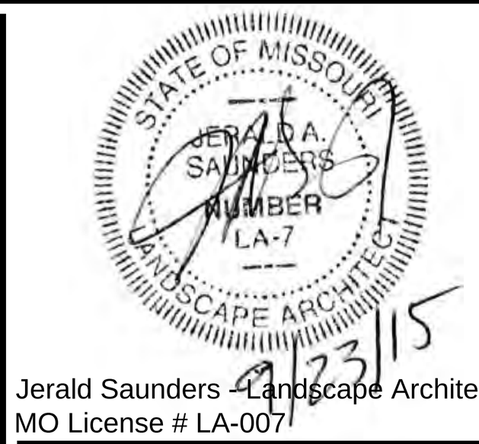
Justus Post Road 5-27-2014					
No.	Common Name	DBH of Trunk (in.)	Canopy Area (sf.)	Condition Rating (1-5 Scale)	Condition Comment
1	Austrian Pine	16"	300	3	
2	Red Maple	10"	87	2	
3	Honeylocust	24'	1,110	3	
4	Green Ash	14"	48	2	
5	Green Ash	10"	205	3	
6	Green Ash	12"	170	2	
7	Green Ash	14"	495	2	
8	Sugar Maple	14"	1,000	1	Sunscald dieback
9	Green Ash	18"	250	2	
10	Green Ash	18"	400	2	
11	Red Maple	12"	190	3	
12	Red Maple	10"	90	1	50% dead, sunscald/borers
13	Red Maple	8"	80	2	Severe sunscald/borers
14	White Pine	18"	170	2	In decline
15	White Pine	16"	140	3	
16	White Pine	16"	150	3	Double leader
17	White Pine	16"	170	3	
18	Red Maple	10"	160	3	
19	White Pine	10"	190	3	
20	Red Maple	8"	150	3	
21	Green Ash	14"	590	1	50% dead- in decline
22	Green Ash	18"	1,050	3	
23	Green Ash	20"	1,070	3	
24	Pin Oak	16"	700	3	
25	Pin Oak	18"	1,000	3	
26	Sugar Maple	24"	1,250	1	50% dead; sun scald/borers
27	Green Ash	20"	680	3	
28	Hawthorn	4"	48	3	
29	Colorado Spruce	8"	54	3	
30	Austrian Pine	8"	110	2	
31	Green Ash	20"	740	3	
32	Green Ash	18"	600	2	
33	Green Ash	18"	670	3	
34	Green Ash	20"	760	2	
35	Green Ash	18"	580	3	
36	Crabapple	8"	160	1	50% dead
37	Green Ash	12"	450	2	
38	Green Ash	18"	450	1	Severe decline
39	Honeylocust	12"	250	3	
40	Honeylocust	12"	250	3	
41	Green Ash	12"	300	2	In decline
42	Green Ash	16"	1,000	3	
43	Green Ash	24"	1,250	3	
44	Green Ash	10"	250	2	
45	Red Maple	12"	200	3	
46	Red Maple	8"	100	2	Sun scald
47	Red Maple	8"	60	2	25% dieback
48	Green Ash	20"	1,000	3	

Total Canopy Area: 21,177 sf.



TREE PROTECTION DETAIL
n.t.s.

Tree Stand Delineation Plan Prepared under direction of: Douglas DeLong Certified Arborist MW- 4826A



Jerald Saunders - Landscape Architect
MO License # LA-007

Consultants:

The Grove In Chesterfield

16300 Justus Post Road, Chesterfield, Missouri

Revisions:

Date	Description	No.
4/6/15	On-site only	1
9/23/15	City Comments	

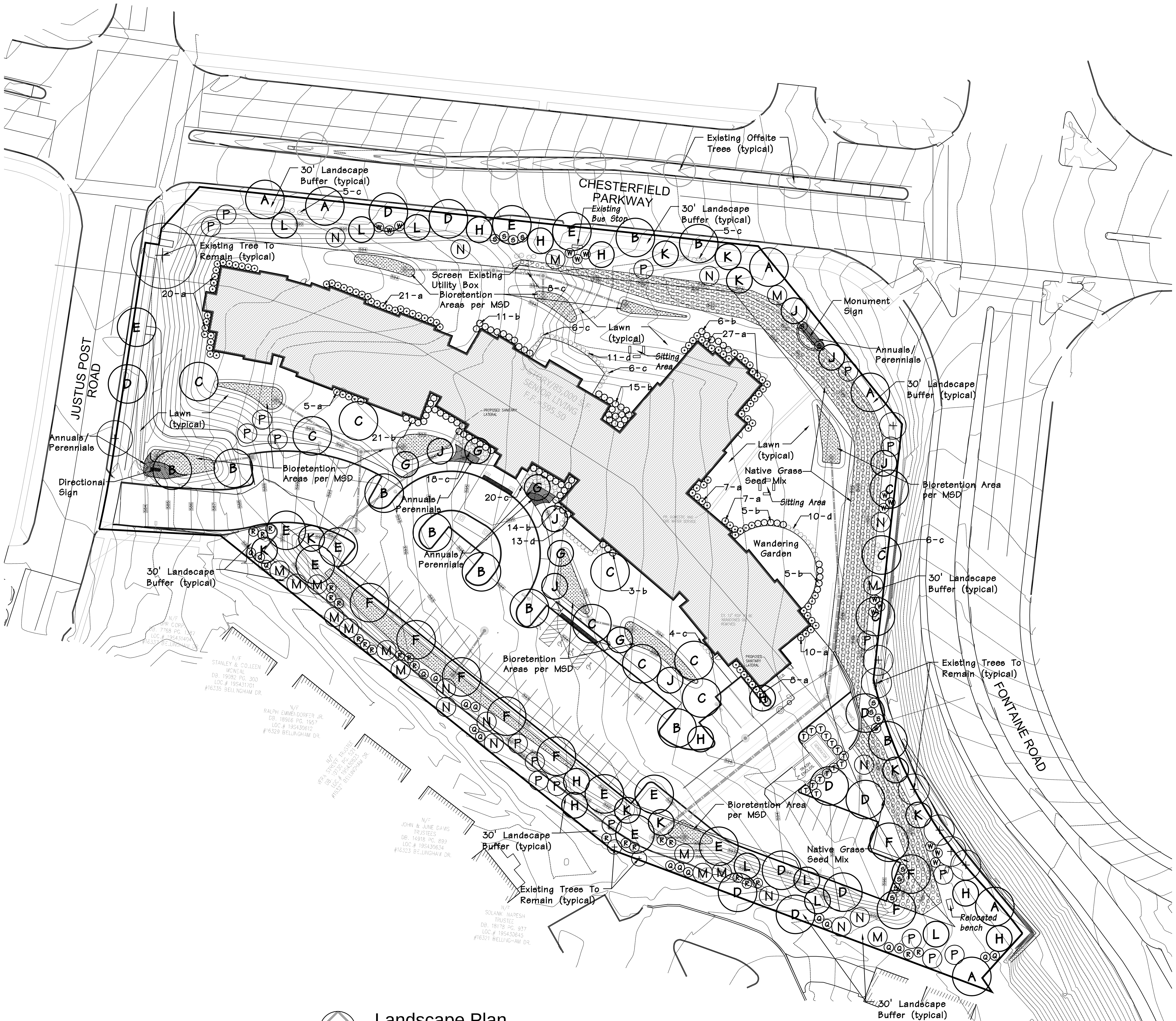
Drawn: LWH
Checked: JAS

loomisAssociates
landscapeArchitects|planners
707 Spirit 40 Park Drive, Suite 135
Chesterfield, Missouri 63005-1194
(636) 519-8668 Fax:(636) 519-0797
e-mail: lainfo@loomis-associates.com
Loomis Associates Inc.
Missouri State Certificate of Authority #: LAC #000019

Sheet Title: Tree Stand Delineation

Sheet No: TSD

Date: 6/6/14
Job #: 568.016



Landscape Plan

SCALE 1" = 30'-0"

PLANTING SCHEDULE

TREES

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	TYPE	GROWTH RATE
A	6	Tilia cordata	Little-leaf Linden	2.5" cal	B&B	Deciduous	Slow/Medium
B	10	Acer rubrum 'Franksred'	Red Sunset Maple	2.5" cal	B&B	Deciduous	Fast
C	11	Zelkova serrata	Zelkova	2.5" cal	B&B	Deciduous	Fast
D	10	Ginkgo biloba-Male	Ginkgo (male)	2.5" cal	B&B	Deciduous	Slow/Medium
E	10	Quercus rubra	Northern Red Oak	2.5" cal	B&B	Deciduous	Medium/Fast
F	8	Taxodium distichum	Baldcypress	2.5" cal	B&B	Deciduous	Medium
G	5	Cercis canadensis	Redbud	2.5" cal	B&B	Ornamental	Fast
H	9	Syringa reticulata	Japanese Lilac	2.5" cal	B&B	Ornamental	Medium
J	7	Prunus serrulata 'Kwanzan'	Kwanzan Cherry	2.5" cal	B&B	Ornamental	Medium
K	9	Amelanchier arborea	Downy Serviceberry	2.5" cal	B&B	Ornamental	Slow/Medium
L	7	Cornus florida	Flowering Dogwood	2.5" cal	B&B	Ornamental	Slow/Medium
M	18	Picea pungens	Colorado Blue Spruce	6-8' ht	B&B	Evergreen	Medium
N	12	Picea glauca	White Spruce	6-8' ht	B&B	Evergreen	Medium
P	18	Pinus strobus	White Pine	6-8' ht	B&B	Evergreen	Fast
T	14	Thuja occidentalis 'Degroot's Spire'	Upright Arborvitae	6-8' ht	B&B	Evergreen	Slow
SHRUBS							
Q	18	Viburnum plicatum 'Maresii'	Doublefile Viburnum	36-42"			
R	27	Viburnum rhytidophyllum	Leatherleaf Viburnum	36-42"			
S	14	Syringa patula 'Miss Kim'	Miss Kim Lilac	36-42"			
W	15	Juniperus virginiana 'Grey Owl'	Grey Owl Juniper	36-42"			
a	105	Ligustrum 'Vicaryi'	Golden Privet	24-36"			
b	80	Ilex glabra 'Compacta'	Inkberry	24-36"			
c	78	Rosa 'The Fairy'	Polyantha Rose	18-24"			
d	34	Spiraea japonica 'Golden Princess'	Golden Princess Spiraea	18-24"			

PLANTING SCHEDULE

GROUNDCOVER/ANNUALS/PERENNIALS

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	TYPE	GROWTH RATE
	539 s.f.	Annuals and Perennials					
BIORETENTION PLANTINGS							
	4,421 s.f.	Per MSD requirements					
GRASSES							
	934 s.y.	Native Grass Seed Mix					

CALCULATIONS:

Total Site Area: 158,535 s.f., or 3.64 acres

Existing Tree Canopy Coverage: 21,177 s.f., or 0.49 acres

Tree Canopy proposed for removal: 18,345 s.f., or 0.42 acres (86.63%)

21,177 s.f. x .30 = 6,353 s.f. of tree canopy preservation required

Tree Canopy proposed for preservation: 2,832 s.f., or 0.07 acres (13.37%)

3,521 s.f. new tree canopy required

OPEN SPACE = 2.15 acres (59.07%)

Note: All landscaping areas, including parking islands, shall be irrigated by an inground system.

KEY

A H P - Required trees

Jerald Saunders - Landscape Architect
MO License # LA-007

Consultants:

The Grove In Chesterfield

16300 Justus Post Road, Chesterfield, Missouri

Revisions:

Date	Description	No.
9/23/15	City Comments	
11/04/15	City Comments	

Drawn: KP
Checked: JS

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landscapeArchitects|planners
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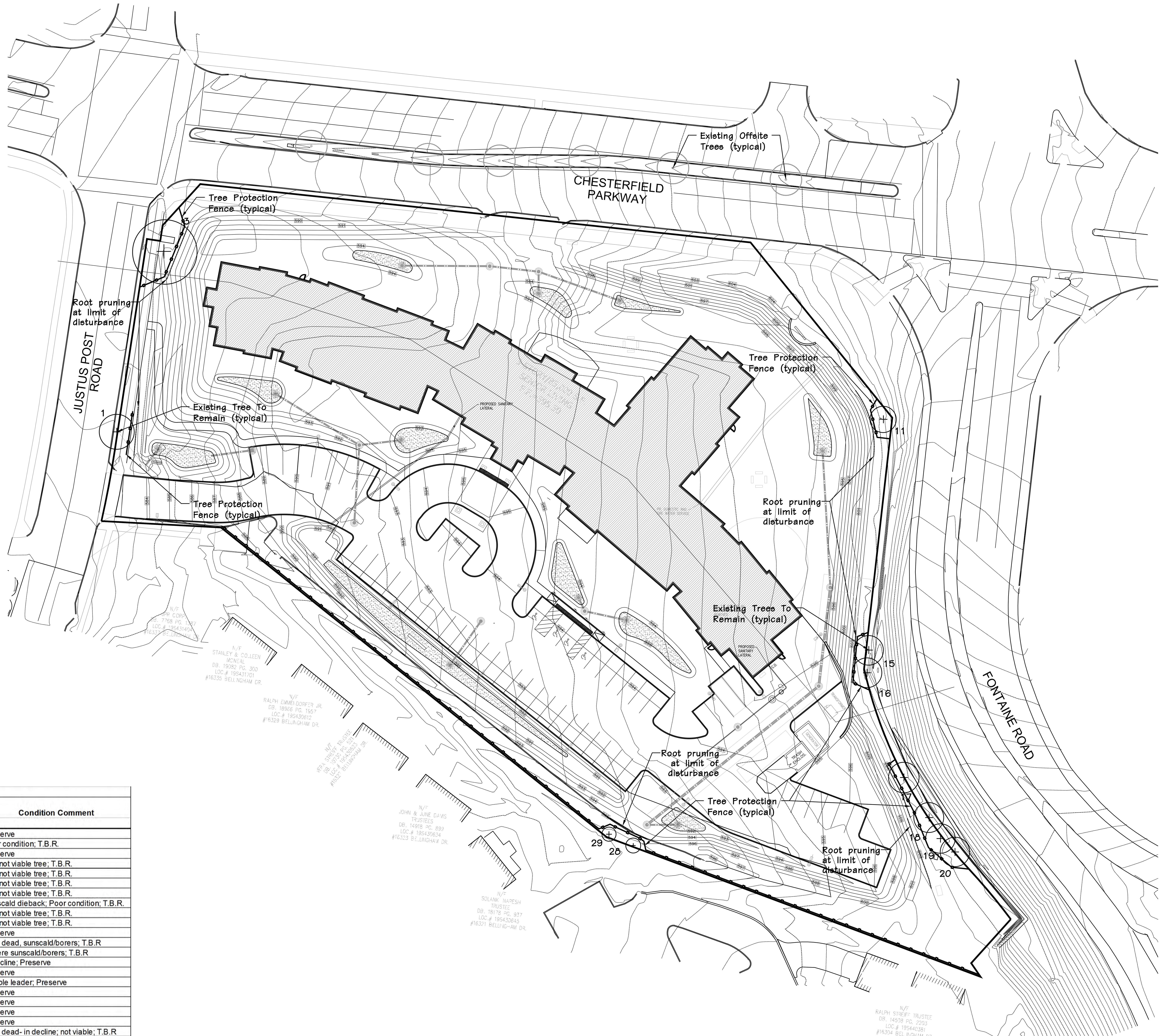
(636)519-8668 fax:(636)519-0797
e-mail: laurin@loomis-associates.com
Loomis Associates Inc.
Missouri State Certificate of Authority #: LAC #000019

Sheet Title: Landscape Plan

Sheet No: L-1

Date: 08/17/15
Job #: 568.016



Tree Preservation Plan

SCALE 1" = 30'-0"

TREE PROTECTION NOTES:

1) Pre-construction meeting to be held on-site to include a presentation of tree protection measures to operators; construction supervisors; developer's representative; and city zoning inspector.

2) Clearing Limits to be rough staked in order to facilitate location for installation of protection fencing. No early maintenance schedule is required. Where noted on plan, contractor to trench and root prune (as needed) prior to any grading activity. Required siltation devices to be installed along limit of disturbance line.

3) No clearing or grading shall begin in areas where the treatment and preservation measures have not been completed including the installation of tree protection fencing along all "Limit of Disturbance" lines shown on the map.

4) Tree Protection Fencing shall be 4-foot tall, plastic, orange fencing. No equipment traffice/parking, concrete washout, material storage or other such construction activity shall be permitted to penetrate the protection fencing or disrupt the Protected Woodland Area. Tree Protection Signage will be placed along the Protection Fencing as shown as the dashed line on the map.

5) Tree protection measures to be maintained throughout construction sequence.

TREE PROTECTION ACTION KEY SEQUENCE:

1) Survey limit of disturbance.

2) Install tree protection fencing.

3) Post tree protection signage on fence (No signs will be posted on trees).

4) Maintain tree protection area as an off-limits zone.

CALCULATIONS:

Total Site Area: 158,535 s.f., or 3.64 acres

Existing Tree Canopy Coverage: 21,177 s.f., or 0.49 acres

Tree Canopy proposed for removal: 18,345 s.f., or 0.42 acres (86.63%)

21,177 s.f. x .30 = 6,353 s.f. of tree canopy preservation required

Tree Canopy proposed for preservation: 2,832 s.f., or 0.07 acres (13.37%)

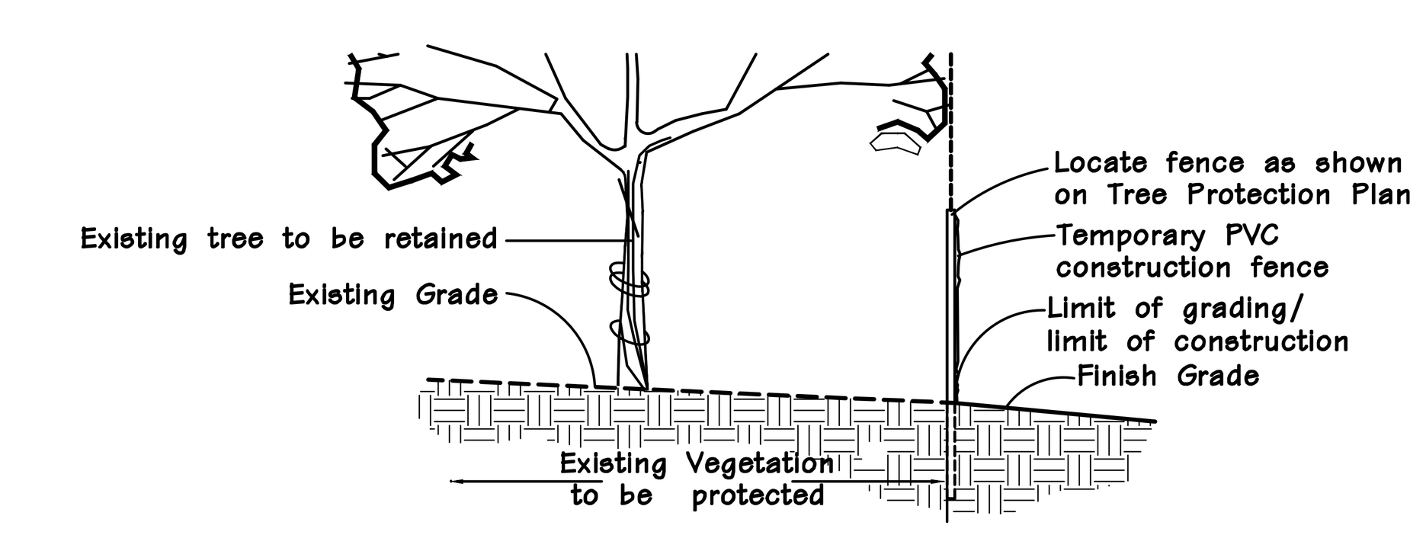
3,521 s.f. new tree canopy required

LEGEND:

Symbol	Description
	Existing Individual Tree
	Existing Off-Site Tree
	Tree Protection Fence
	Root pruning

Justus Post Road 5-27-2014

No.	Common Name	DBH of Trunk (in.)	Canopy Area (sf.)	Condition Rating (1-5 Scale)	Condition Comment
1	Austrian Pine	16"	300	3	Preserve
2	Red Maple	10"		2	Poor condition; T.B.R.
3	Honeylocust	24'	1,110	3	Preserve
4	Green Ash	14"		2	Ash not viable tree; T.B.R.
5	Green Ash	10"		3	Ash not viable tree; T.B.R.
6	Green Ash	12"		2	Ash not viable tree; T.B.R.
7	Green Ash	14"		2	Ash not viable tree; T.B.R.
8	Sugar Maple	14"		1	Sunscald dieback; Poor condition; T.B.R.
9	Green Ash	18"		2	Ash not viable tree; T.B.R.
10	Green Ash	18"		2	Ash not viable tree; T.B.R.
11	Red Maple	12"	190	3	Preserve
12	Red Maple	10"		1	50% dead, sunscald/borers; T.B.R
13	Red Maple	8"		2	Severe sunscald/borers; T.B.R
14	White Pine	18"	170	2	In decline; Preserve
15	White Pine	16"	140	3	Preserve
16	White Pine	16"	150	3	Double leader; Preserve
17	White Pine	16"	170	3	Preserve
18	Red Maple	10"	160	3	Preserve
19	White Pine	10"	190	3	Preserve
20	Red Maple	8"	150	3	Preserve
21	Green Ash	14"		1	50% dead- in decline; not viable; T.B.R
22	Green Ash	18"		3	Ash not viable tree; T.B.R.
23	Green Ash	20"		3	Ash not viable tree; T.B.R.
24	Pin Oak	16"		3	T.B.R.
25	Pin Oak	18"		3	T.B.R.
26	Sugar Maple	24"		1	50% dead; sun scald/borers; T.B.R.
27	Green Ash	20"		3	Ash not viable tree; T.B.R.
28	Hawthorn	4"	48	3	Preserve
29	Colorado Spruce	8"	54	3	Preserve
30	Austrian Pine	8"		2	Poor condition; T.B.R.
31	Green Ash	20"		3	Ash not viable tree; T.B.R.
32	Green Ash	18"		2	Ash not viable tree; T.B.R.
33	Green Ash	18"		3	Ash not viable tree; T.B.R.
34	Green Ash	20"		2	Ash not viable tree; T.B.R.
35	Green Ash	18"		3	Ash not viable tree; T.B.R.
36	Crabapple	8"		1	50% dead; T.B.R
37	Green Ash	12"		2	Ash not viable tree; T.B.R.
38	Green Ash	18"		1	Severe decline; T.B.R
39	Honeylocust	12"		3	T.B.R.
40	Honeylocust	12"		3	T.B.R.
41	Green Ash	12"		2	In decline; Ash not viable tree; T.B.R.
42	Green Ash	16"		3	Ash not viable tree; T.B.R.
43	Green Ash	24"		3	Ash not viable tree; T.B.R.
44	Green Ash	10"		2	Ash not viable tree; T.B.R.
45	Red Maple	12"		3	T.B.R.
46	Red Maple	8"		2	Sun scald; Poor condition; T.B.R
47	Red Maple	8"		2	25% dieback; Poor condition; T.B.R
48	Green Ash	20"		3	Ash not viable tree; T.B.R.



TREE PROTECTION DETAIL

Jerald Saunders - Landscape Architect
MO License # LA-007

Consultants:

The Grove In Chesterfield

16300 Justus Post Road, Chesterfield, Missouri

Revisions:

Date	Description	No.
9/23/15	City Comments	
11/04/15	City Comments	

Drawn: KP
Checked: JS

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e-mail: lainfo@loomis-associates.com
Loomis Associates Inc.
Missouri State Certificate of Authority #: LAC #000019

Sheet Title: Tree Preservation Plan

Sheet No: TPP

Date: 08/17/15
Job #: 568.016

Lantz -- Boggio Architects P.C.
5650 DTC Parkway
Suite 200
Englewood, Colorado
80111
(303)773-0436
fax (303)773-8709

Memorandum

September 23, 2015

To: The Architectural Review Board
The City of Chesterfield, Missouri

From: Ro-Tien Liang, RA, LEED AP

Reference: The Grove in Chesterfield
16300 Justus Post Rd.
Chesterfield, MO 63017

Architect's Statement of Design

The purpose of this letter is to identify how each section in the Architectural Review Standards has been addressed and the intent of the project.

SITE DESIGN

The building is situated in response to the existing neighborhood with the front of the building facing southwest towards the neighboring residence and the rear of the building facing Chesterfield Parkway. Courtyards and pedestrian paths will be provided for the residents, with the majority of the courtyards being on the north side. The service side is on the east side of the building, which is away from public view.

The access into the facility is off of Justus Post Road. Parking is lineal along the front of the building, with setbacks, existing berm and planting that creates a landscaped foreground from the south neighbors.

The orientation and placement of the building takes advantage of the existing topography to minimize disturbance of the natural grade and uses existing berms to screen the parking area.

Retaining walls will be minimized because of the building placement. In locations where retaining walls are required, it will be of stone, masonry, or textured concrete with appropriate landscaping.

BUILDING DESIGN

The scale of the building has taken consideration from adjacent residential and commercial developments. Architectural elements (materials, windows, roof line) are all related to residential design, and borrowing design elements from neighboring houses. The building is divided with connectors, which breaks down the overall mass. It also creates a rhythm that emulates the neighborhood.

The building is laid out in a slight curve, in response to the shape of the site and the topography. This gesture also deconstructs the lineal streetscape.

Roof top equipment will be screened by screen walls and parapets, which are an extension of the building façade, with similar materials and colors.

Equipment and trash enclosure are placed on the east side of the site, which is less visible from the neighborhood on the south. It will be screened by stone and siding walls that match with the main building.

The primary materials used are stone veneer, lap siding, shake siding, cementitious trim boards, and asphalt roof shingles. The colors used are subtle shades of grays, which emulates from the surrounding neighborhood.

The landscaping around the building will be a consistent theme, with variation on specific areas like the courtyard and the main entrance. Setbacks have been established to meet or exceed zoning requirements and appropriate landscaping will be placed around the perimeter of the site.

Monument signage and directional and traffic signs are placed strategically, which will adhere to the city codes.

The above letter states how each section in the standards has been addressed and describes the intent of the project. This letter supplements the drawings that are submitted, which visually depicts our design intent.

Sincerely,

9.23.15

Ro-Tien Liang, RA, LEED AP
Project Director
Lantz-Boggio Architects, P.C.

cc: Bobby Swacil, Bob Brinkmann, Nancy Cutter, David Fik

1 NORTH ELEVATION

1/16" = 1'-0"

2 SOUTH ELEVATION

1/16" = 1'-0"

COLOR LEGEND

COLOR GROUP "A" :
PRE-FINISHED SHAKE SIDING- MAGNETIC GRAY (SW 7058)
PRE-FINISHED LAP SIDING - MAGNETIC GRAY (SW 7058)
PRE-FINISHED LAP SIDING - UNUSUAL GRAY (SW 7059)

COLOR GROUP "B" :
PRE-FINISHED SHAKE SIDING- AMAZING GRAY (SW 7044)
PRE-FINISHED LAP SIDING - AMAZING GRAY (SW 7044)
PRE-FINISHED LAP SIDING - INTELLECTUAL GRAY (SW 7045)

ROOF GABLES: CEDAR SHAKE SIDING - GRAY SEMI-TRANSPARENT STAIN
STONE VENEER: EARTHWORKS MAYOR BLEND

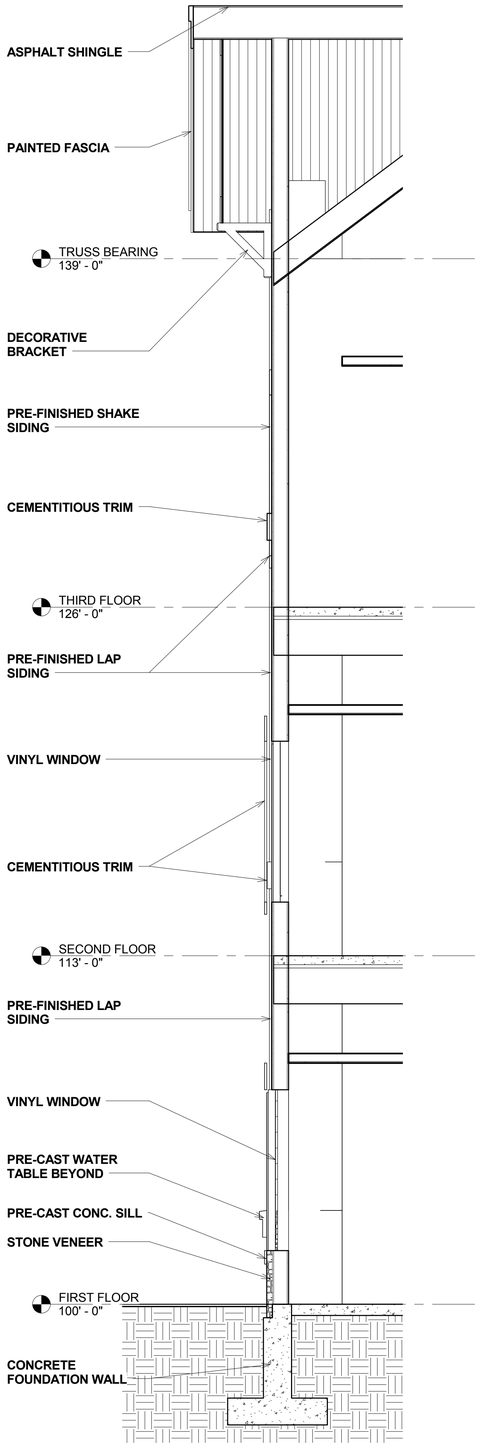
STATE OF MISSOURI DENNIS RAY BOGGIO A-007426 REGISTERED ARCHITECT

The Grove in Chesterfield

Chesterfield, Missouri

November 5th, 2015

Lantz - Boggio Architects, P.C.



3 TYPICAL WALL SECTION

3/8" = 1'-0"

1 EAST ELEVATION

1/16" = 1'-0"

2 WEST ELEVATION

1/16" = 1'-0"

COLOR LEGEND

COLOR GROUP "A" :
PRE-FINISHED SHAKE SIDING- MAGNETIC GRAY (SW 7058)
PRE-FINISHED LAP SIDING - MAGNETIC GRAY (SW 7058)
PRE-FINISHED LAP SIDING - UNUSUAL GRAY (SW 7059)

COLOR GROUP "B" :
PRE-FINISHED SHAKE SIDING- AMAZING GRAY (SW 7044)
PRE-FINISHED LAP SIDING - AMAZING GRAY (SW 7044)
PRE-FINISHED LAP SIDING - INTELLECTUAL GRAY (SW 7045)

ROOF GABLES: CEDAR SHAKE SIDING - GRAY SEMI-TRANSPARENT STAIN
STONE VENEER: EARTHWORKS MAYOR BLEND

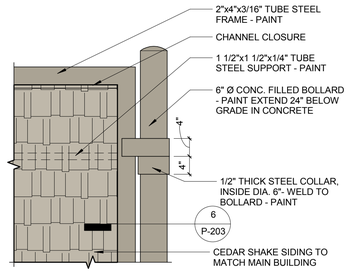
STATE OF MISSOURI
DENNIS RAY BOGGIO
AR007426
REGISTERED ARCHITECT

The Grove in Chesterfield

Chesterfield, Missouri

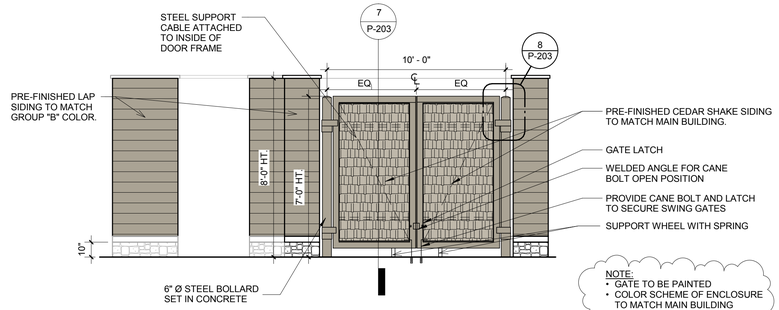
November 5th, 2015

Lantz - Boggio Architects, P.C.



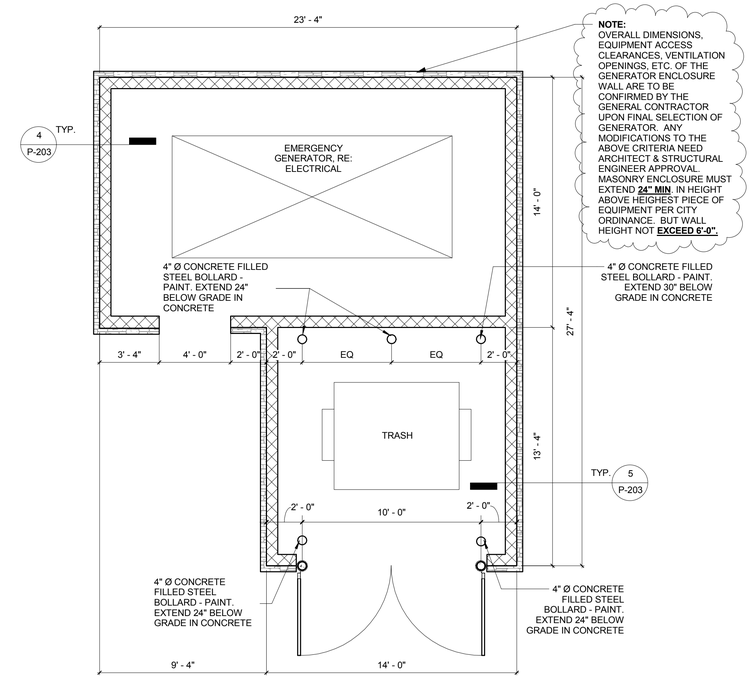
8 TRASH GATE

3/4" = 1'-0"



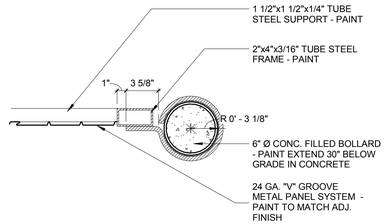
3 TRASH ENCLOSURE ELEVATION

1/4" = 1'-0"



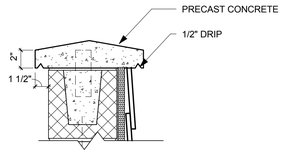
1 TRASH ENCLOSURE ENLARGED PLAN

1/4" = 1'-0"



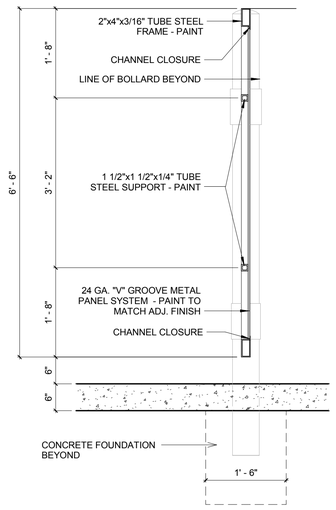
6 TRASH GATE DETAIL

1 1/2" = 1'-0"



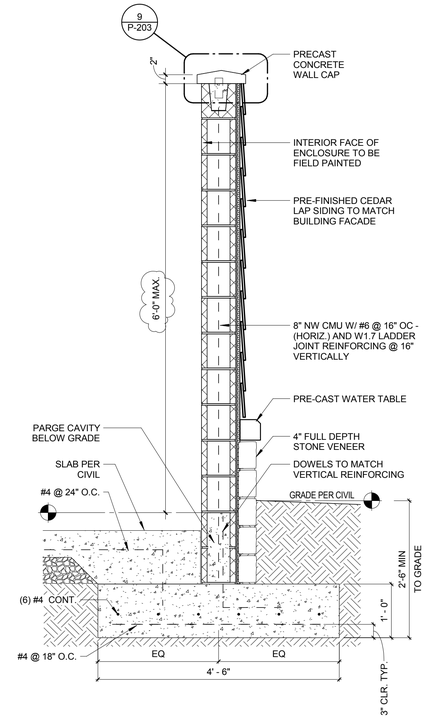
9 PRECAST CONCRETE WALL CAP

1 1/2" = 1'-0"



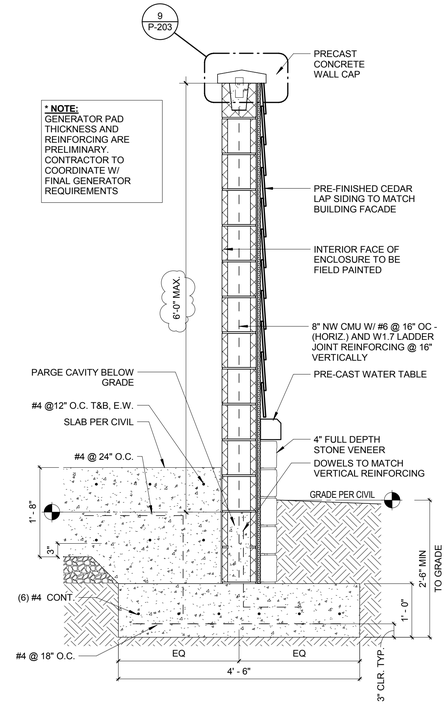
7 SECTION AT TRASH GATE, SUPPORT AND BOLLARD

3/4" = 1'-0"



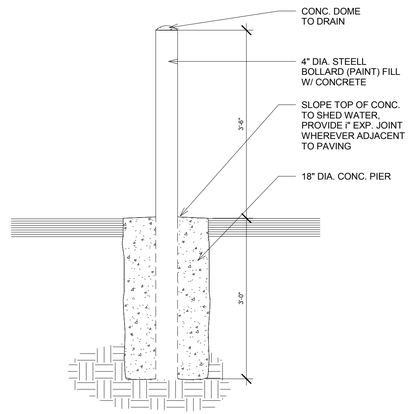
5 TRASH ENCLOSURE WALL SECTION

3/4" = 1'-0"



4 GENERATOR ENCLOSURE WALL SECTION

3/4" = 1'-0"



2 BOLLARD DETAIL

3/4" = 1'-0"

STATE OF MISSOURI
DENNIS RAY BOGGIO
A007426
REGISTERED ARCHITECT

The Grove in Chesterfield

Chesterfield, Missouri

November 5th, 2015

Lantz - Boggio Architects, P.C.

The Grove in Chesterfield

1 FRONT PERSPECTIVE

2 Entry View

3 Rear View

The Grove in Chesterfield

Chesterfield, Missouri

September 25th, 2015

Lantz - Boggio Architects, P.C.

Lumark

DESCRIPTION

The patented Lumark Crosstour™ LED Wall Pack Series of luminaries provides an architectural style with super bright, energy efficient LEDs. The low-profile, rugged die-cast aluminum construction, universal back box, stainless steel hardware along with a sealed and gasketed optical compartment make the Crosstour impervious to contaminants. The Crosstour wall luminaire is ideal for wall/surface, inverted mount for façade/canopy illumination, post/bollard, site lighting, floodlight and low level pathway illumination including stairs. Typical applications include building entrances, multi-use facilities, apartment buildings, institutions, schools, stairways and loading docks test.

Catalog #		**Type**
Project		
Comments		**Date**
Prepared by		

SPECIFICATION FEATURES

Construction

Slim, low-profile LED design with rugged one-piece, die-cast aluminum hinged removable door and back box. Matching housing styles incorporate both a small and large design. The small housing is available in 7W and 18W. The large housing is available in the 26W model. Patent pending secure lock hinge feature allows for safe and easy tool-less electrical connections with the supplied push-in connectors. Back box includes three (3) half-inch, NPT threaded conduit entry points. The universal back box supports both the small and large forms and mounts to standard 3-1/2" to 4" round and octagonal, 4" square, single gang and masonry junction boxes. Key hole gasket allows for adaptation to junction box or wall. External fin design extracts heat from the fixture surface. One-piece silicone gasket seals door and back box. Minimum 5" wide pole for site lighting application. Not recommended for car wash applications.

Optical

Silicone sealed optical LED chamber incorporates a custom engineered mirrored anodized reflector providing high-efficiency illumination. Optical assembly includes impact-resistant tempered glass and meets IESNA requirements for full cutoff compliance. Solid state LED Crosstour luminaries are thermally optimized with five (5) lumen packages in cool 5000K or neutral warm 3500K LED color temperature (CCT).

Electrical

LED driver is mounted to the die-cast housing for optimal heat sinking. LED thermal management system incorporates both conduction and natural convection to transfer heat rapidly away from the LED source. 7W models operate in -40°C to 40°C [-40°F to 104°F]. 18W and 26W models operate in -40°C to 40°C [-40°F to 104°F]. High ambient 50°C models available. Crosstour luminaires maintain greater than 90% of initial light output after 72,000 hours of operation. Three (3) half-inch NPT threaded conduit entry points allow for thru-branch wiring. Back box is an authorized electrical wiring compartment. Integral LED electronic driver incorporates surge protection. 120-277V 50/60Hz or 347V 60Hz models.

Finish

Crosstour is protected with a Super durable TGIC carbon bronze or summit white polyester powder coat paint. Super durable TGIC powder coat paint finishes withstand extreme climate conditions while providing optimal color and gloss retention of the installed life.

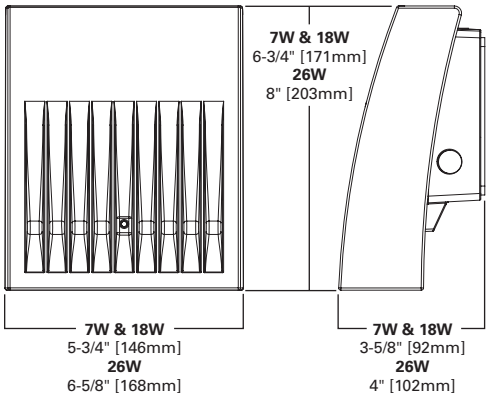
Warranty

Five-year warranty.

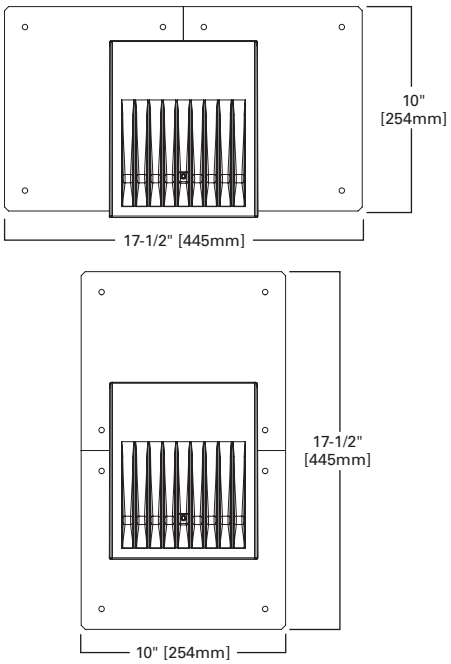
XTOR
CROSSTOUR LED

APPLICATIONS:
WALL / SURFACE
POST / BOLLARD
LOW LEVEL
FLOODLIGHT
INVERTED
SITE LIGHTING

DIMENSIONS



ESCUTCHEON PLATES



CERTIFICATION DATA

UL/cUL Wet Location Listed
LM79 / LM80 Compliant
ROHS Compliant
ADA Compliant
NOM Compliant Models
IP66 Ingressed Protection Rated
Title 24 Compliant
DesignLights Consortium® Qualified*

TECHNICAL DATA

40°C Maximum Ambient Temperature
External Supply Wiring 90°C Minimum

EPA

Effective Projected Area (Sq. Ft.):
XTOR1A/XT0R2A=0.34
XTOR3A=0.45

SHIPPING DATA:

Approximate Net Weight:
3.7 – 5.25 lbs. [1.7 – 2.4 kgs.]

Powering Business Worldwide

*www.designlights.org

LUMEN MAINTENANCE

Ambient Temperature	TM-21 Lumen Maintenance (72,000 Hours)	Theoretical L70 (Hours)
XTOR1A Model		
25°C	> 92%	> 290,000
40°C	> 92%	> 290,000
50°C	> 91%	> 270,000
XTOR2A Model		
25°C	> 91%	> 270,000
40°C	> 90%	> 260,000
50°C	> 88%	> 225,000
XTOR3A Model		
25°C	> 91%	> 280,000
40°C	> 91%	> 270,000
50°C	> 89%	> 240,000

LUMENS - CRI/CCT TABLE

LED Information	XTOR1A	XTOR2A	XTOR2A-N	XTOR3A	XTOR3A-N
Delivered Lumens (Wall Mount)	722	1,633	1,523	2,804	2,284
Delivered Lumens (With Flood Accessory Kit) [1]	468	1,060	978	2,168	1,738
B.U.G. Rating [2]	B0-U0-G0	B1-U0-G0	B1-U0-G0	B1-U0-G0	B1-U0-G0
CCT (Kelvin)	5,000	5,000	3,500	5,000	3,500
CRI (Color Rendering Index)	65	65	70	65	70
Power Consumption (Watts)	7W	18W	18W	26W	26W

NOTES: 1 Includes shield and visor. **2** B.U.G. Rating does not apply to floodlighting.

CURRENT DRAW

Voltage	Model Series		
	XTOR1A	XTOR2A	XTOR3A
120V	0.05A	0.15A	0.22A
208V	0.03A	0.08A	0.13A
240V	0.03A	0.07A	0.11A
277V	0.03A	0.06A	0.10A
347V	0.025A	0.058A	0.082A

ORDERING INFORMATION

Sample Number: XTOR2A-N-WT-PC1

Series [1]	**LED Kelvin Color**	**Housing Color**	**Options** (Add as Suffix)	**Accessories** (Order Separately)
XTOR1A=Small Door, 7W **XTOR2A**=Small Door, 18W **XTOR3A**=Small Door, 26W	**[Blank]**=Bright White (Standard) 5000K **N**=Neutral Warm White, 3500K [2]	**[Blank]**=Carbon Bronze (Standard) **WT**=Summit White	**PC1**=Photocontrol 120V [3] **PC2**=Photocontrol 208-277V [3, 4] **347V**=347V [5] **HA**=50°C High Ambient [5]	**WG/XTOR**=Wire Guard [6] **XTORFLD-KNC**=Knuckle Floodlight Kit [7] **XTORFLD-TRN**=Trunnion Floodlight Kit [7] **XTORFLD-KNC-WT**=Knuckle Floodlight Kit, Summit White [7] **XTORFLD-TRN-WT**=Trunnion Floodlight Kit, Summit White [7] **EWP/XTOR**=Escutcheon Wall Plate, Carbon Bronze **EWP/XTOR-WT**=Escutcheon Wall Plate, Summit White

NOTES: 1 DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details. **2** XTOR1A not available in 3500K. **3** Photocontrols are factory installed. **4** Order PC2 for 347V models. **5** Thru-branch wiring not available with HA option or with 347V. **6** Wire guard for wall/surface mount. Not for use with floodlight kit accessory. **7** Floodlight kit accessory supplied with knuckle (KNC) or trunnion (TRN) base, small and large top visors and small and large impact shields.

STOCK ORDERING INFORMATION

7W Series	18W Series	26W Series
XTOR1A=7W, 5000K, Carbon Bronze	XTOR2A=18W, 5000K, Carbon Bronze	XTOR3A=26W, 5000K, Carbon Bronze
XTOR1A-WT=7W, 5000K, Summit White	XTOR2A-N=18W, 3500K, Carbon Bronze	XTOR3A-N=26W, 3500K, Carbon Bronze
XTOR1A-PC1=7W, 5000K, 120V PC, Carbon Bronze	XTOR2A-WT=18W, Summit White	XTOR3A-WT=26W, Summit White
	XTOR2A-PC1=18W, 120V PC, Carbon Bronze	XTOR3A-PC1=26W, 120V PC, Carbon Bronze

5-DAY QUICK SHIP ORDERING INFORMATION

7W Series	18W Series	26W Series
XTOR1A-WT-PC1=7W, 5000K, Summit White, 120V PC	XTOR2A-PC2=18W, 5000K, 208-277V PC, Carbon Bronze	XTOR3A-PC2=26W, 5000K, 208-277V PC, Carbon Bronze
	XTOR2A-WT-PC1=18W, 5000K, Summit White, 120V PC	XTOR3A-WT-PC1=26W, 5000K, Summit White, 120V PC
	XTOR2A-WT-PC2=18W, 5000K, Summit White, 208-277V PC	XTOR3A-WT-PC2=26W, 5000K, Summit White, 208-277V PC
	XTOR2A-N-WT=18W, 3500K, Summit White	XTOR3A-N-WT=26W, 3500K, Summit White
	XTOR2A-N-PC1=18W, 3500K, 120V PC, Carbon Bronze	XTOR3A-N-PC1=26W, 3500K, 120V PC, Carbon Bronze
	XTOR2A-N-PC2=18W, 3500K, 208-277V PC, Carbon Bronze	XTOR3A-N-PC2=26W, 3500K, 208-277V PC, Carbon Bronze
	XTOR2A-N-WHT-PC1=18W, 3500K, Summit White, 120V PC	XTOR3A-N-WHT-PC1=26W, 3500K, Summit White, 120V PC
	XTOR2A-N-WT-PC2=18W, 3500K, Summit White, 208-277V PC	XTOR3A-N-WT-PC2=26W, 3500K, Summit White, 208-277V PC

McGraw-Edison

DESCRIPTION

The Galleon™ LED luminaire delivers exceptional performance in a highly scalable, low-profile design. Patented, high-efficiency AccuLED Optics™ system provides uniform and energy conscious illumination to walkways, parking lots, roadways, building areas and security lighting applications. IP66 rated.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Construction
Extruded aluminum driver enclosure thermally isolated from Light Squares for optimal thermal performance. Heavy-wall, die-cast aluminum end caps enclose housing and die-cast aluminum heat sinks. A unique, patent pending interlocking housing and heat sink provides scalability with superior structural rigidity. 3G vibration tested. Optional tool-less hardware available for ease of entry into electrical chamber. Housing is IP66 rated.

Optics
Choice of 16 patented, high-efficiency AccuLED Optics. The optics are precisely designed to shape the distribution maximizing efficiency and application spacing. AccuLED Optics create consistent distributions with the scalability to meet customized application requirements. Offered standard in 4000K (+/- 275K) CCT and minimum 70 CRI. Optional 6000K CCT and 3000K CCT. For the ultimate level of spill light control, an optional house side shield accessory can be field or factory installed. The house side shield is designed to seamlessly integrate with the SL2, SL3, SL4 or AFL optics.

Electrical
LED drivers are mounted to removable tray assembly for ease of maintenance. 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. Standard with 0-10V dimming. Shipped standard with Eaton proprietary circuit module designed to withstand 10kV of transient line surge. The Galleon LED luminaire is suitable for operation in -40°C to 40°C ambient environments. For applications with ambient temperatures exceeding 40°C, specify the HA (High Ambient) option. Light Squares are IP66 rated. Greater than 90% lumen maintenance expected at 60,000 hours. Available in standard 1A drive current and optional 530mA and 700mA drive currents.

Mounting
Extruded aluminum arm includes internal bolt guides allowing for easy positioning of fixture during assembly. Designed for pole or wall mounting. When mounting two or more luminaires at 90° or 120° apart, the EA extended arm may be required. Refer to the arm mounting requirement table on page 3. Round pole top adapter included. For wall mounting, specify wall mount bracket option. 3G vibration rated.

Finish
Housing finished in super durable TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Heat sink is powder coated black. Standard colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available. Consult the McGraw-Edison Architectural Colors brochure for the complete selection.

Warranty
Five-year warranty.

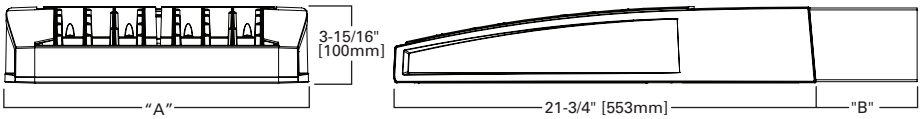
GLEON
GALLEON LED

1-10 Light Squares
Solid State LED

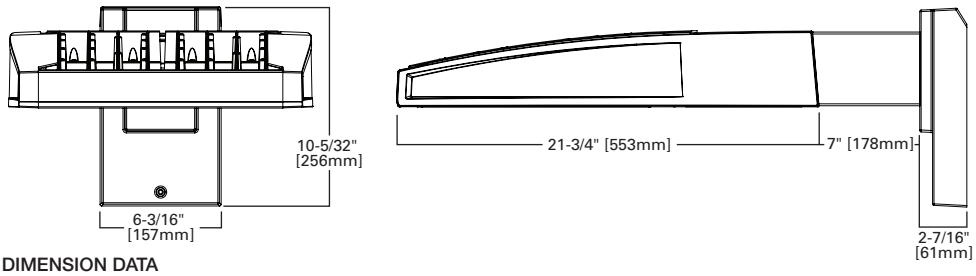
AREA/SITE LUMINAIRE

DIMENSIONS

POLE MOUNT



WALL MOUNT



DIMENSION DATA

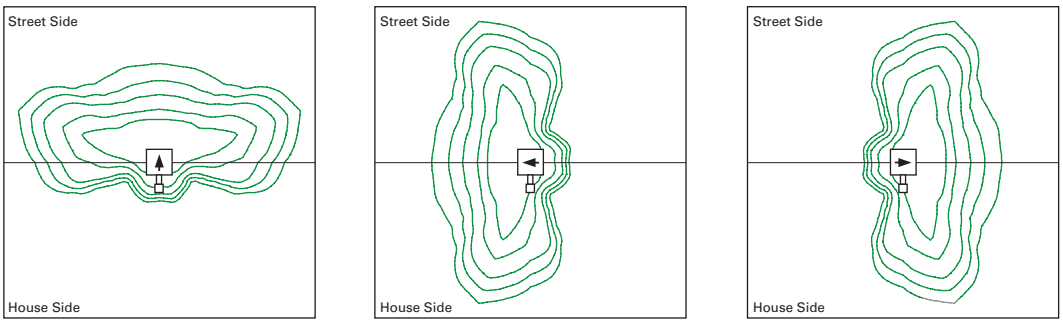
Number of Light Squares	"A" Width	"B" Standard Arm Length	"B" Optional Arm Length [1]	Weight with Arm (lbs.)	EPA with Arm [2] (Sq. Ft.)
1-4	15-1/2" (394mm)	7" (178mm)	10" (254mm)	33 (15.0 kgs.)	0.96
5-6	21-5/8" (549mm)	7" (178mm)	10" (254mm)	44 (20.0 kgs.)	1.00
7-8	27-5/8" (702mm)	7" (178mm)	13" (330mm)	54 (24.5 kgs.)	1.07
9-10	33-3/4" (857mm)	7" (178mm)	16" (406mm)	63 (28.6 kgs.)	1.12

NOTES: 1 Extended arm option may be required when mounting two or more fixtures per pole at 90° or 120°. Refer to arm mounting requirement table. **2** EPA calculated with optional arm length.

CERTIFICATION DATA
UL/cUL Wet Location Listed
ISO 9001
LM79 / LM80 Compliant
3G Vibration Rated
IP66 Rated
DesignLights Consortium® Qualified*

ENERGY DATA
Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120V-277V 50/60Hz
347V & 480V 60Hz
-40°C Min. Temperature
40°C Max. Temperature
50°C Max. Temperature (HA Option)

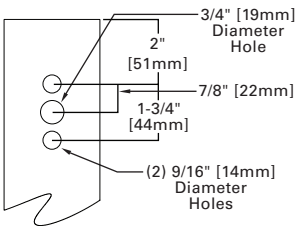
OPTIC ORIENTATION



Standard | **Optics Rotated Left @ 90°** [L90] | **Optics Rotated Right @ 90°** [R90]

DRILLING PATTERN

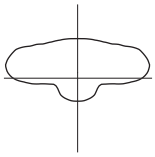
TYPE "N"



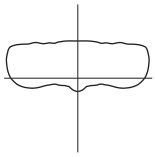
OPTICAL DISTRIBUTIONS

Asymmetric Area Distributions

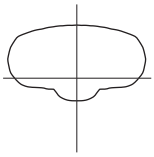
T2 (Type II)



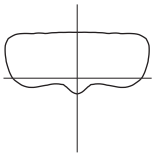
SL2 (Type II with Spill Control)



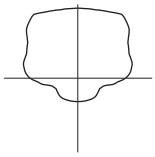
T3 (Type III)



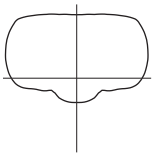
SL3 (Type III with Spill Control)



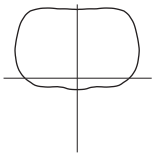
T4FT (Type IV Forward Throw)



T4W (Type IV Wide)

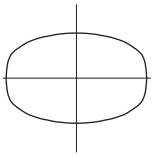


SL4 (Type IV with Spill Control)

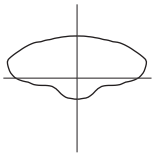


Asymmetric Roadway Distributions

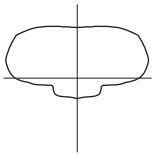
RW (Rectangular Wide Type I)



T2R (Type II Roadway)

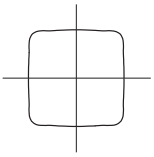


T3R (Type III Roadway)

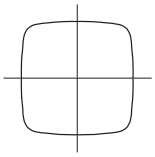


Symmertric Distributions

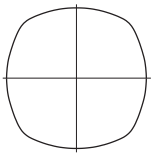
5NQ (Type V Square Narrow)



5MQ (Type V Square Medium)

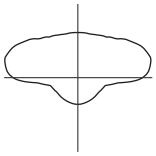


5WQ (Type V Square Wide)

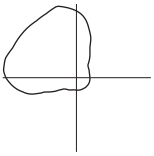


Specialized Distributions

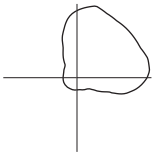
AFL (Automotive Frontline)



SLL (90° Spill Light Eliminator Left)



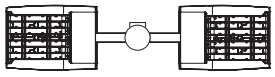
SLR (90° Spill Light Eliminator Right)



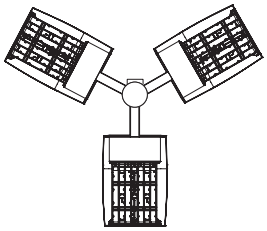
ARM MOUNTING REQUIREMENTS

Configuration	90° Apart	120° Apart
GLEON-AE-01	7" Arm (Standard)	7" Arm (Standard)
GLEON-AE-02	7" Arm (Standard)	7" Arm (Standard)
GLEON-AE-03	7" Arm (Standard)	7" Arm (Standard)
GLEON-AE-04	7" Arm (Standard)	7" Arm (Standard)
GLEON-AE-05	10" Extended Arm (Required)	7" Arm (Standard)
GLEON-AE-06	10" Extended Arm (Required)	7" Arm (Standard)
GLEON-AE-07	13" Extended Arm (Required)	13" Extended Arm (Required)
GLEON-AE-08	13" Extended Arm (Required)	13" Extended Arm (Required)
GLEON-AE-09	16" Extended Arm (Required)	16" Extended Arm (Required)
GLEON-AE-10	16" Extended Arm (Required)	16" Extended Arm (Required)

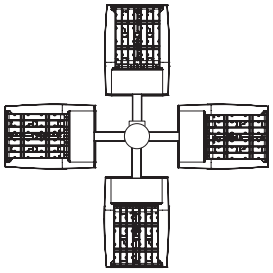
2 @ 180°



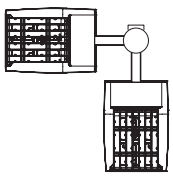
Triple[1]



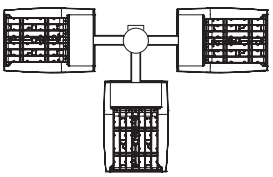
4 @ 90°



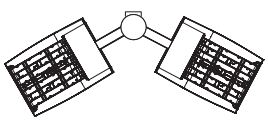
2 @ 90°



Triple[2]



2 @ 120°



NOTES: 1 Round poles are 3 @ 120°. Square poles are 3 @ 90°. **2** Round poles are 3 @ 90°.

Eaton
1121 Highway 74 South
Peachtree City, GA 30269
P: 770-486-4800
www.eaton.com/lighting

NOMINAL POWER AND LUMENS (1A)

Number of Light Squares		1	2	3	4	5	6	7	8	9	10
Drive Current		1A	1A	1A	1A	1A	1A	1A	1A	1A	1A
Nominal Power (Watts)		56	107	157	213	264	315	370	421	475	528
Input Current @ 120V (A)		0.47	0.90	1.31	1.79	2.21	2.64	3.09	3.51	3.96	4.41
Input Current @ 208V (A)		0.28	0.51	0.74	1.02	1.25	1.48	1.76	1.99	2.22	2.50
Input Current @ 240V (A)		0.25	0.45	0.65	0.90	1.10	1.30	1.55	1.75	1.95	2.20
Input Current @ 277V (A)		0.23	0.41	0.59	0.82	1.00	1.18	1.41	1.59	1.77	2.00
Optics											
T2	Lumens	5,272	10,303	15,373	20,313	25,168	30,118	35,618	40,357	45,018	49,842
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5
T2R	Lumens	5,597	10,938	16,321	21,565	26,719	31,974	37,813	42,844	47,792	52,914
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B4-U0-G4	B4-U0-G5
T3	Lumens	5,374	10,501	15,669	20,704	25,652	30,697	36,303	41,134	45,884	50,802
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
T3R	Lumens	5,493	10,735	16,017	21,164	26,222	31,379	37,110	42,048	46,904	51,930
	BUG Rating	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
T4FT	Lumens	5,405	10,562	15,760	20,824	25,801	30,875	36,514	41,372	46,150	51,096
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
T4W	Lumens	5,335	10,426	15,556	20,555	25,468	30,476	36,042	40,838	45,554	50,436
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
SL2	Lumens	5,263	10,285	15,347	20,278	25,124	30,066	35,556	40,288	44,940	49,756
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
SL3	Lumens	5,373	10,500	15,667	20,701	25,649	30,693	36,298	41,128	45,878	50,794
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
SL4	Lumens	5,105	9,976	14,886	19,669	24,370	29,163	34,488	39,078	43,591	48,262
	BUG Rating	B1-U0-G2	B1-U0-G3	B1-U0-G3	B2-U0-G4	B2-U0-G4	B2-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
5NQ	Lumens	5,542	10,830	16,160	21,352	26,455	31,658	37,439	42,421	47,320	52,392
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4
5MQ	Lumens	5,644	11,029	16,457	21,745	26,942	32,241	38,128	43,202	48,191	53,356
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5
5WQ	Lumens	5,659	11,059	16,501	21,803	27,014	32,327	38,230	43,317	48,320	53,498
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5
SLL/SLR	Lumens	4,722	9,227	13,767	18,191	22,539	26,971	31,897	36,141	40,315	44,635
	BUG Rating	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
RW	Lumens	5,492	10,732	16,014	21,159	26,216	31,372	37,101	42,038	46,893	51,918
	BUG Rating	B2-U0-G1	B3-U0-G1	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4
AFL	Lumens	5,512	10,771	16,072	21,236	26,311	31,486	37,236	42,191	47,063	52,107
	BUG Rating	B1-U0-G1	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4

* Nominal data for 4000K CCT.

LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1.00
40°C	0.99
50°C	0.97

LUMEN MAINTENANCE

Ambient Temperature	TM-21 Lumen Maintenance (60,000 Hours)	Theoretical L70 (Hours)
25°C	> 94%	> 350,000
40°C	> 93%	> 250,000
50°C*	> 90%	> 170,000

* 50°C lumen maintenance data applies to 530mA and 700mA drive currents.

NOMINAL POWER AND LUMENS (700MA)

Number of Light Squares		1	2	3	4	5	6	7	8	9	10
Drive Current		700mA	700mA	700mA	700mA	700mA	700mA	700mA	700mA	700mA	700mA
Nominal Power (Watts)		38	72	105	138	176	210	243	276	314	348
Input Current @ 120V (A)		0.32	0.59	0.86	1.14	1.45	1.72	2	2.28	2.58	2.86
Input Current @ 208V (A)		0.21	0.36	0.51	0.67	0.87	1.02	1.18	1.34	1.53	1.69
Input Current @ 240V (A)		0.19	0.32	0.45	0.59	0.77	0.90	1.04	1.18	1.35	1.49
Input Current @ 277V (A)		0.20	0.29	0.40	0.51	0.69	0.80	0.91	1.02	1.20	1.31
Optics											
T2	Lumens	3,854	7,531	11,237	14,847	18,395	22,013	26,033	29,497	32,904	36,430
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4
T2R	Lumens	4,091	7,995	11,929	15,762	19,529	23,370	27,638	31,316	34,932	38,676
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4
T3	Lumens	3,928	7,676	11,453	15,133	18,750	22,437	26,534	30,065	33,537	37,132
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5
T3R	Lumens	4,015	7,846	11,707	15,469	19,166	22,936	27,124	30,733	34,283	37,957
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
T4FT	Lumens	3,951	7,720	11,519	15,221	18,858	22,567	26,688	30,240	33,732	37,347
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5
T4W	Lumens	3,900	7,620	11,370	15,024	18,615	22,276	26,343	29,849	33,296	36,864
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5
SL2	Lumens	3,847	7,518	11,217	14,821	18,364	21,975	25,988	29,447	32,847	36,368
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5
SL3	Lumens	3,927	7,675	11,451	15,131	18,747	22,434	26,531	30,061	33,533	37,126
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G3	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
SL4	Lumens	3,731	7,292	10,880	14,376	17,812	21,315	25,208	28,562	31,861	35,275
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G3	B1-U0-G3	B2-U0-G4	B2-U0-G4	B2-U0-G4	B2-U0-G5	B2-U0-G5	B3-U0-G5
5NQ	Lumens	4,051	7,916	11,811	15,606	19,336	23,139	27,365	31,006	34,587	38,294
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3
5MQ	Lumens	4,125	8,062	12,029	15,894	19,692	23,565	27,869	31,577	35,224	38,999
	BUG Rating	B2-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4
5WQ	Lumens	4,136	8,083	12,061	15,936	19,745	23,628	27,943	31,661	35,318	39,103
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4
SLL/SLR	Lumens	3,451	6,744	10,063	13,296	16,474	19,714	23,314	26,416	29,467	32,625
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
RW	Lumens	4,014	7,844	11,704	15,465	19,162	22,930	27,118	30,726	34,274	37,948
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3
AFL	Lumens	4,029	7,873	11,747	15,522	19,231	23,014	27,216	30,838	34,399	38,086
	BUG Rating	B1-U0-G1	B1-U0-G1	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3

* Nominal data for 4000K CCT.

LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1.00
40°C	0.99
50°C	0.97

LUMEN MAINTENANCE

Ambient Temperature	TM-21 Lumen Maintenance (60,000 Hours)	Theoretical L70 (Hours)
25°C	> 94%	> 350,000
40°C	> 93%	> 250,000
50°C*	> 90%	> 170,000

* 50°C lumen maintenance data applies to 530mA and 700mA drive currents.

NOMINAL POWER AND LUMENS (530MA)

Number of Light Squares		1	2	3	4	5	6	7	8	9	10
Drive Current		530mA	530mA	530mA	530mA	530mA	530mA	530mA	530mA	530mA	530mA
Nominal Power (Watts)		30	54	80	105	130	159	184	209	234	259
Input Current @ 120V (A)		0.25	0.45	0.66	0.86	1.07	1.32	1.52	1.72	1.93	2.14
Input Current @ 208V (A)		0.17	0.28	0.39	0.51	0.63	0.78	0.9	1.02	1.14	1.26
Input Current @ 240V (A)		0.17	0.25	0.35	0.45	0.55	0.70	0.80	0.90	1.00	1.10
Input Current @ 277V (A)		0.19	0.24	0.32	0.40	0.49	0.64	0.72	0.80	0.89	0.98
Optics											
T2	Lumens	3,079	6,017	8,978	11,862	14,697	17,588	20,800	23,567	26,289	29,106
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4
T2R	Lumens	3,269	6,388	9,531	12,593	15,603	18,672	22,082	25,020	27,909	30,900
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4
T3	Lumens	3,138	6,133	9,150	12,091	14,980	17,926	21,200	24,021	26,795	29,667
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4
T3R	Lumens	3,208	6,269	9,354	12,359	15,313	18,325	21,671	24,555	27,390	30,326
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4
T4FT	Lumens	3,156	6,168	9,203	12,161	15,067	18,030	21,323	24,160	26,950	29,839
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5
T4W	Lumens	3,116	6,088	9,084	12,004	14,872	17,797	21,047	23,848	26,602	29,453
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5
SL2	Lumens	3,074	6,006	8,962	11,842	14,672	17,558	20,764	23,527	26,244	29,056
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4
SL3	Lumens	3,138	6,132	9,149	12,089	14,978	17,924	21,197	24,018	26,791	29,662
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4
SL4	Lumens	2,981	5,826	8,693	11,486	14,231	17,030	20,140	22,820	25,456	28,184
	BUG Rating	B0-U0-G1	B1-U0-G2	B1-U0-G3	B1-U0-G3	B1-U0-G3	B2-U0-G3	B2-U0-G4	B2-U0-G4	B2-U0-G4	B2-U0-G5
5NQ	Lumens	3,236	6,324	9,437	12,469	15,449	18,487	21,863	24,773	27,634	30,595
	BUG Rating	B1-U0-G0	B2-U0-G1	B3-U0-G1	B3-U0-G2	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G2
5MQ	Lumens	3,296	6,441	9,610	12,698	15,733	18,828	22,266	25,229	28,142	31,158
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G3
5WQ	Lumens	3,305	6,458	9,636	12,732	15,775	18,878	22,325	25,296	28,217	31,241
	BUG Rating	B2-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4
SLL/SLR	Lumens	2,757	5,388	8,040	10,623	13,162	15,751	18,627	21,105	23,543	26,066
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G4
RW	Lumens	3,207	6,267	9,351	12,356	15,309	18,320	21,666	24,549	27,384	30,319
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3
AFL	Lumens	3,219	6,290	9,385	12,401	15,365	18,387	21,745	24,638	27,484	30,429
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3

* Nominal data for 4000K CCT.

LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1.00
40°C	0.99
50°C	0.97

LUMEN MAINTENANCE

Ambient Temperature	TM-21 Lumen Maintenance (60,000 Hours)	Theoretical L70 (Hours)
25°C	> 94%	> 350,000
40°C	> 93%	> 250,000
50°C*	> 90%	> 170,000

* 50°C lumen maintenance data applies to 530mA and 700mA drive currents.

ORDERING INFORMATION

Sample Number: GLEON-AE-04-LED-E1-T3-GM-700

Product Family [1]	Light Engine	Number of Light Squares [2]	Lamp Type	Voltage	Distribution	Color	Mounting
GLEON=Galleon	**AE**=1A Drive Current	**01**=1 **02**=2 **03**=3 **04**=4 **05**=5 **06**=6 **07**=7 **08**=8 **09**=9 **10**=10	**LED**=Solid State Light Emitting Diodes	**E1**=120-277V **347**=347V [3] **480**=480V [3, 4]	**T2**=Type II **T2R**=Type II Roadway **T3**=Type III **T3R**=Type III Roadway **T4FT**=Type IV Forward Throw **T4W**=Type IV Wide **5NQ**=Type V Narrow **5MQ**=Type V Square Medium **5WQ**=Type V Square Wide **SL2**=Type II w/Spill Control **SL3**=Type III w/Spill Control **SL4**=Type IV w/Spill Control **SLL**=90° Spill Light Eliminator Left **SLR**=90° Spill Light Eliminator Right **RW**=Rectangular Wide Type I **AFL**=Automotive Frontline	**AP**=Grey **BZ**=Bronze **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White	**[Blank]**=Arm for Round or Square Pole **EA**=Extended Arm [5] **MA**=Mast Arm Adapter [6] **WM**=Wall Mount

Options (Add as Suffix)

2L=Two Circuits [7, 8]
7030=70 CRI 3000K [9]
8030=80 CRI 3000K [10]
7050=70 CRI 5000K [10]
7060=70 CRI 6000K [9]
530=Drive Current Factory Set to 530mA [11]
700=Drive Current Factory Set to 700mA [11]
F=Single Fuse (120, 277 or 347V. Must Specify Voltage)
FF=Double Fuse (208, 240 or 480V. Must Specify Voltage)
P=Button Type Photocontrol (120, 208, 240 or 277V)
PER7=NEMA 7-PIN Twistlock Photocontrol Receptacle
R=NEMA Twistlock Photocontrol Receptacle
HA=50°C High Ambient [8, 12]
MS/DIM-L08=Motion Sensor for Dimming Operation, Maximum 8' Mounting Height [13, 14, 15, 16, 17]
MS/DIM-L20=Motion Sensor for Dimming Operation, 9' - 20' Mounting Height [13, 14, 15, 16, 17]
MS/DIM-L40=Motion Sensor for Dimming Operation, 21' - 40' Mounting Height [13, 14, 15, 16, 19]
MS/DIM-L40W=Motion Sensor for Dimming Operation, 21' - 40' Mounting Height (Wide Range) [13, 14, 15, 16, 20]
MS/X-L08=Bi-Level Motion Sensor, Maximum 8' Mounting Height [13, 14, 15, 16, 17, 21]
MS/X-L20=Bi-Level Motion Sensor, 9' - 20' Mounting Height [13, 14, 15, 16, 18, 21]
MS/X-L40=Bi-Level Motion Sensor, 21' - 40' Mounting Height [13, 14, 15, 16, 19, 21]
MS/X-L40W=Bi-Level Motion Sensor, 21' - 40' Mounting Height (Wide Range) [13, 14, 15, 16, 20, 21]
MS-L08=Motion Sensor for ON/OFF Operation, Maximum 8' Mounting Height [13, 14, 15, 16, 17]
MS-L20=Motion Sensor for ON/OFF Operation, 9' - 20' Mounting Height [13, 14, 15, 16, 18]
MS-L40=Motion Sensor for ON/OFF Operation, 21' - 40' Mounting Height [13, 14, 15, 16, 19]
MS-L40W=Motion Sensor for ON/OFF Operation, 21' - 40' Mounting Height (Wide Range) [13, 14, 15, 16, 20]
DIMRF-LW=LumaWatt Wireless Sensor, Wide Lens for 8' - 16' Mounting Height [22]
DIMRF-LN=LumaWatt Wireless Sensor, Narrow Lens for 16' - 40' Mounting Height [22]
L90=Optics Rotated 90° Left
R90=Optics Rotated 90° Right
MT=Factory Installed Mesh Top
TH=Tool-less Door Hardware
LCF=Light Square Trim Plate Painted to Match Housing [23]
HSS=Factory Installed House Side Shield [24]
CE=CE Marking [25]

Accessories (Order Separately)

OA/RA1016=NEMA Photocontrol Multi-Tap - 105-285V
OA/RA1027=NEMA Photocontrol - 480V
OA/RA1201=NEMA Photocontrol - 347V
OA/RA1013=Photocontrol Shorting Cap
OA/RA1014=120V Photocontrol
MA1252=10kV Surge Module Replacement
MA1036-XX=Single Tenon Adapter for 2-3/8" O.D. Tenon
MA1037-XX=2@180° Tenon Adapter for 2-3/8" O.D. Tenon
MA1197-XX=3@120° Tenon Adapter for 2-3/8" O.D. Tenon
MA1188-XX=4@90° Tenon Adapter for 2-3/8" O.D. Tenon
MA1189-XX=2@90° Tenon Adapter for 2-3/8" O.D. Tenon
MA1190-XX=3@90° Tenon Adapter for 2-3/8" O.D. Tenon
MA1191-XX=2@120° Tenon Adapter for 2-3/8" O.D. Tenon
MA1038-XX=Single Tenon Adapter for 3-1/2" O.D. Tenon
MA1039-XX=2@180° Tenon Adapter for 3-1/2" O.D. Tenon
MA1192-XX=3@120° Tenon Adapter for 3-1/2" O.D. Tenon
MA1193-XX=4@90° Tenon Adapter for 3-1/2" O.D. Tenon
MA1194-XX=2@90° Tenon Adapter for 3-1/2" O.D. Tenon
MA1195-XX=3@90° Tenon Adapter for 3-1/2" O.D. Tenon
FSIR-100=Wireless Configuration Tool for Occupancy Sensor [26]
GLEON-MT1=Field Installed Mesh Top for 1-4 Light Squares
GLEON-MT2=Field Installed Mesh Top for 5-6 Light Squares
GLEON-MT3=Field Installed Mesh Top for 7-8 Light Squares
GLEON-MT4=Field Installed Mesh Top for 9-10 Light Squares
LS/HSS=Field Installed House Side Shield [24, 27]

NOTES:
1. DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.
2. Standard 4000K CCT and minimum 70 CRI.
3. Requires the use of a step down transformer when combined with MS/DIM, MS/X or DIMRF.
4. Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).
5. May be required when two or more luminaires are oriented on a 90° or 120° drilling pattern. Refer to arm mounting requirement table.
6. Factory installed.
7. 2L is not available with MS, MS/X or MS/DIM at 347V or 480V. 2L in AE-02 through AE-04 requires a larger housing, normally used for AE-05 or AE-06. Extended arm option may be required when mounting two or more fixtures per pole at 90° or 120°. Refer to arm mounting requirement table.
8. Not available with LumaWatt wireless sensors.
9. Extended lead times apply. Use dedicated IES files for 3000K and 6000K when performing layouts. These files are published on the Galleon luminaire product page on the website.
10. Extended lead times apply. For 8030, factor 7030 IES files x .92 (8% lumen loss). For 7050, use 7060 IES files.
11. 1 Amp standard. Use dedicated IES files for 530mA and 700mA when performing layouts. These files are published on the Galleon luminaire product page on the website.
12. 50°C lumen maintenance data applies to 530mA and 700mA drive currents.
13. Consult factory for more information.
14. Utilizes internal step down transformer when 347V or 480V is selected.
15. The FSIR-100 configuration tool is required to adjust parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Eaton for more information.
16. Not available with HA option.
17. Approximately 22' detection diameter at 8' mounting height.
18. Approximately 40' detection diameter at 20' mounting height.
19. Approximately 60' detection diameter at 40' mounting height.
20. Approximately 100' detection diameter at 40' mounting height.
21. Replace X with number of Light Squares operating in low output mode.
22. LumaWatt wireless sensors are factory installed only requiring network components RF-EM-1, RF-GW-1 and RF-ROUT-1 in appropriate quantities. See www.eaton.com/lighting for LumaWatt application information.
23. Not available with house side shield (HSS).
24. Only for use with SL2, SL3, SL4 and AFL distributions. The Light Square trim plate is painted black when the HSS option is selected.
25. CE is not available with the DIMRF, MS, MS/X, MS/DIM, F, FF, P, R or PER7 options.
26. This tool enables adjustment of parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Eaton for more information
27. One required for each Light Square.