

SITE PLAN

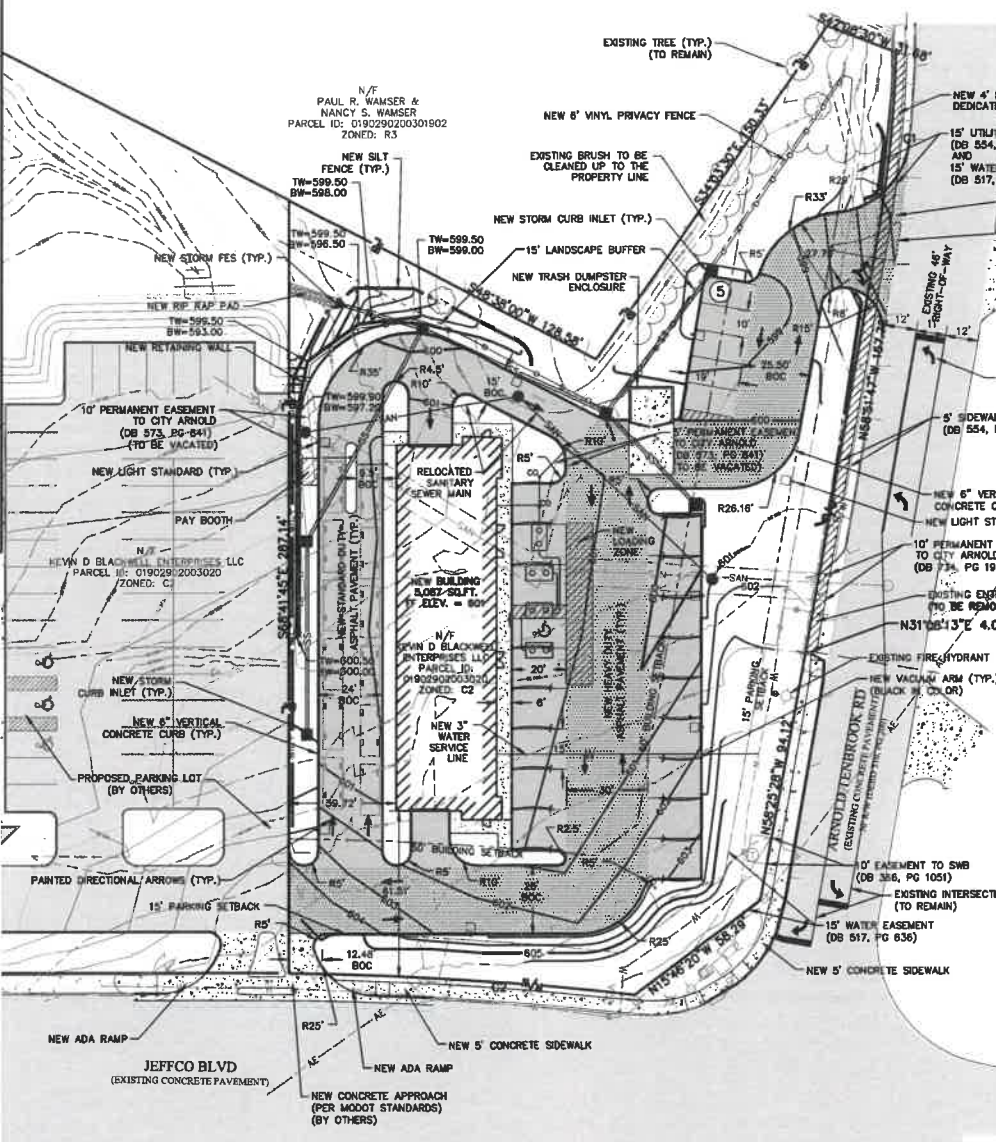
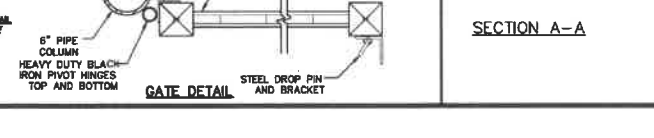
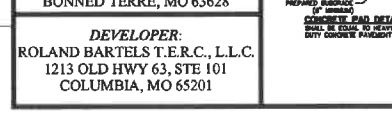
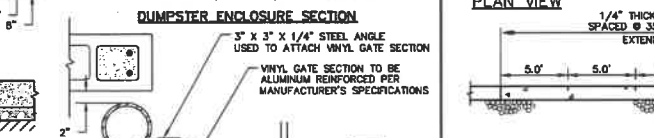
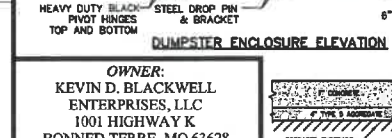
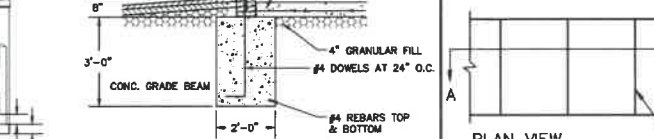
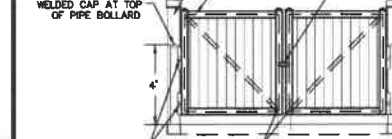
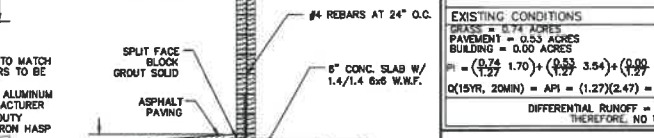
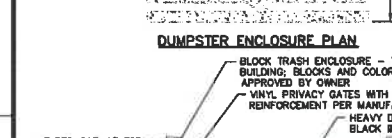
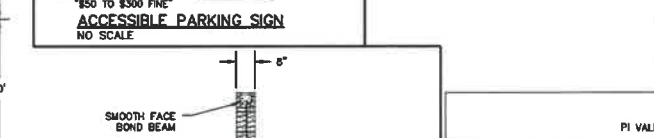
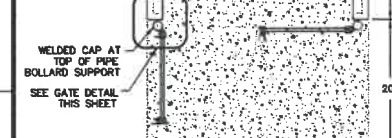
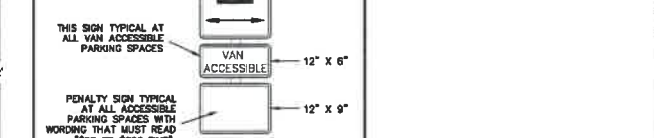
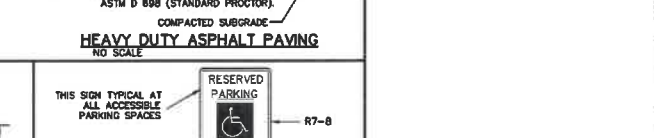
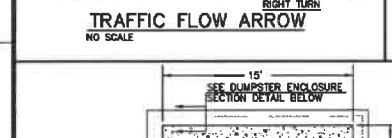
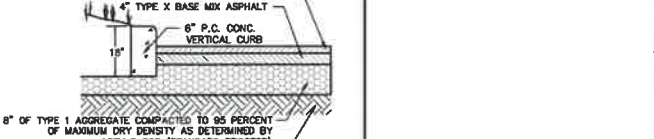
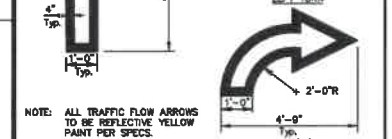
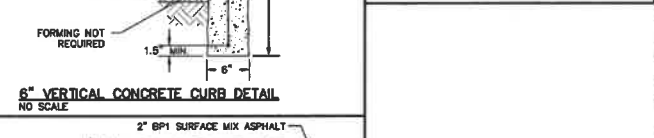
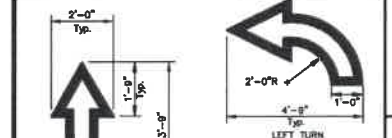
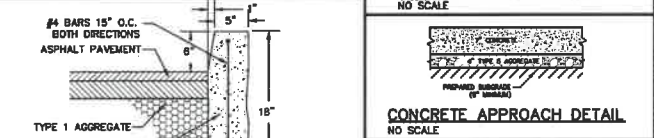
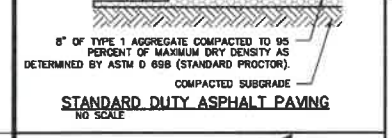
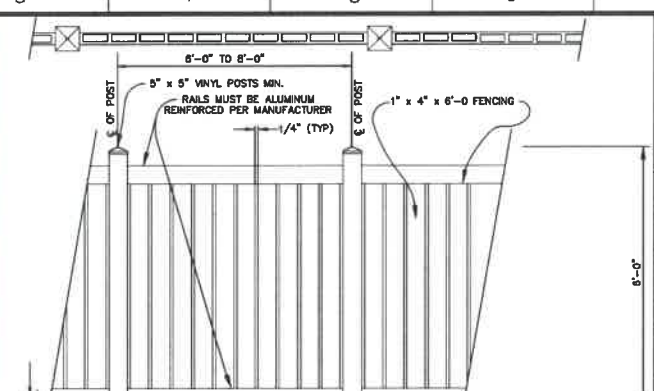
LEGEND

- RIGHT OF WAY
- PROPERTY LINE
- BUILDING SETBACK
- EXISTING EASEMENT
- EXISTING CONTOUR
- EXISTING CONTOUR IDX
- EXISTING CONCRETE PAVEMENT
- EXISTING ASPHALT PAVEMENT
- NEW STANDARD DUTY ASPHALT
- NEW HEAVY DUTY ASPHALT
- NEW CONCRETE SIDEWALK AND APPROACHES
- EXISTING WATER LINE
- EXISTING FIRE HYDRANT
- EXISTING FIRE HYDRANT
- EXISTING SANITARY SEWER MANHOLE
- EXISTING SANITARY SEWER MAIN
- NEW WATER LINE
- NEW SANITARY LATERAL
- NEW SANITARY MAIN
- NEW SANITARY CLEANOUT
- NEW SANITARY SEWER CURB INLET/MANHOLE/GRATED INLET
- NEW STORM SEWER LINE
- NEW LIGHT STANDARD
- NEW BUILDING
- NEW CONTOUR
- NEW CONTOUR IDX

SCALE: 1"=30'
MARCH, 2018

CL R=462.00'
L=66.45'
C2 R=1332.58'
L=128.80'

- NOTES:**
- TOTAL SITE ACREAGE: ±1.27 ACRES (1.25 AFTER DEDICATION)
 - EXISTING ZONING: C-2 COMMERCIAL
 - BUILDING SETBACKS: FRONT - 50', REAR - 15', SIDE - 15'
 - LANDSCAPE BUFFER 15' WHEN ADJOINING RESIDENTIAL DISTRICT
 - THE SITE LAND USE SHALL BE COMMERCIAL
 - THIS SITE IS SERVED BY: WATER - PWSB #1 SEWER - MISSOURI AMERICAN WATER TELEPHONE - AT&T ELECTRIC - AMEREN UE GAS - SPIRE GAS FIRE - ROCK COMMUNITY FIRE DISTRICT
 - THIS SITE FALLS WITHIN UNSHADED "ZONE X" AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOODPLAIN, PER FIRMA FLOOD INSURANCE RATE MAP, FOR JEFFERSON COUNTY, MISSOURI AND INCORPORATED AREAS, MAP NUMBER Z0000001E AND 00000001E, EFFECTIVE DATE OF MAY 05, 2006.
 - EFFORTS WILL BE MADE TO DIRECT DRAINAGE TO EXISTING DISCHARGE POINTS.
 - ALL UTILITIES ARE TO BE LOCATED UNDERGROUND.
 - THE PROPOSED BUILDING HEIGHT SHALL BE NO MORE THAN 50 FT
 - THE SITE SHALL CONFORM TO CITY OF ARNOLD STANDARDS.
 - ALL ROADWAY DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
 - NO INVESTIGATION HAS BEEN PERFORMED BY COCHRAN REGARDING HAZARDOUS WASTE, UNDERGROUND CONDITIONS OR UTILITIES AFFECTING THE TRACT SHOWN HEREON.
 - THIS DRAWING DOES NOT CONSTITUTE A BOUNDARY SURVEY.
 - ALL PAVEMENT STRIPING SHALL BE 4" WIDE PAINTED YELLOW.
 - ACCESSIBLE PARKING STRIPING SHALL BE BLUE.
 - LOCATION, REPLACEMENT, AND CONNECTION OF THE UTILITIES SHALL BE COORDINATED WITH THE UTILITY COMPANIES.
 - ALL MECHANICAL, HVAC, AND UTILITY EQUIPMENT SHALL BE SCREENED FROM PUBLIC VIEW ACCORDING TO CITY ORDINANCE AND SHALL BE SCREENED OR PAINTED TO MATCH THE ADJACENT BUILDING COLOR.
 - A LIGHTING PLAN WILL BE PREPARED ACCORDING TO CITY REQUIREMENTS AND SUBMITTED TO THE CITY FOR REVIEW. ALL EXTERIOR LIGHTING, BUILDING AND PARKING LOT LIGHTS & LANDSCAPE LIGHTING SHALL BE DIRECTED AWAY FROM HIGHWAYS, PUBLIC ROADS & PROPERTIES SO THAT NO LIGHT IS CAST ON ADJOINING PROPERTIES OR PUBLIC ROADS.
 - MAX LIGHT HEIGHT IS 20'. THE POLES, POLES BASE & FIXTURES SHALL BE BLACK. ALL LIGHTING SHALL BE LED & SERVE WITH UNDERGROUND ELECTRIC.
 - STORMWATER SHALL BE COLLECTED IN A NEW STORM SEWER SYSTEM AND DIRECTED TO THE EXISTING DRAINAGE POINT.
 - ALL DISTURBED AREAS INTENDED FOR GRASS SHALL BE SOODED.
 - THE ADMINISTRATION OF THE LANDSCAPING PLAN FOR THIS PROJECT WILL BE ACCOMPLISHED VIA THE PROVIDED PLAN FOR LOCATION, TYPE, SIZE AND QUANTITY.
 - THIS PLAN HAS BEEN PREPARED UTILIZING BOUNDARY AND TOPOGRAPHIC INFORMATION PREPARED BY BURDINE AND ASSOCIATES, INC. COCHRAN HAS NOT PREPARED OR PERFORMED A SURVEY FOR THE PROJECT.
 - ALL OPEN SPACE SHALL BE BORGATED.
 - THE SITE SIGNAGE SHALL BE VIA A SEPARATE PERMIT.
 - NEW TRASH ENCLOSURE TO BE MASONRY TO MATCH THE BUILDING AND SCREENED ACCORDING TO CITY REQUIREMENTS.



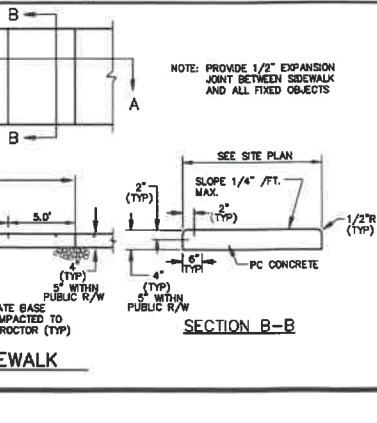
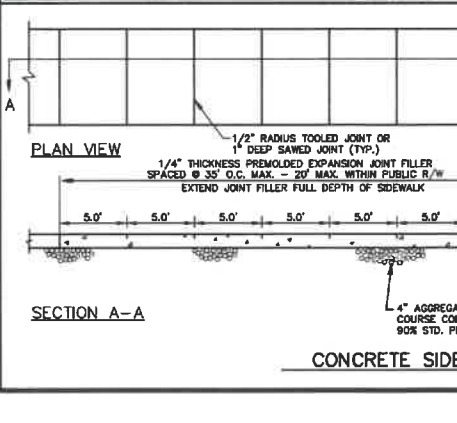
SITE RUNOFF TABLE
PI VALUE GRASS = 1.70
PI VALUE PAVEMENT/BUILDING = 3.54

EXISTING CONDITIONS	PROPOSED CONDITIONS
AREAS = 0.74 ACRES PAVEMENT = 0.53 ACRES BUILDING = 0.00 ACRES	AREAS = 0.50 ACRES PAVEMENT = 0.65 ACRES BUILDING = 0.12 ACRES
$P_i = (0.25 \cdot 1.70) + (0.33 \cdot 3.54) + (0.00 \cdot 3.54) = 2.47$	$P_i = (0.25 \cdot 1.70) + (0.33 \cdot 3.54) + (0.12 \cdot 3.54) = 2.82$
$Q(15YR, 20MIN) = A P_i = (1.27)(2.47) = 3.14 \text{ CFS}$	$Q(15YR, 20MIN) = A P_i = (1.27)(2.82) = 3.58 \text{ CFS}$

DIFFERENTIAL RUNOFF = 3.58 CFS - 3.14 CFS = +0.44 CFS INCREASE, THEREFORE, NO WATER QUALITY OR DETENTION REQUIRED.

NOTE: LOADING ZONE TO BE UTILIZED DURING NON OPERATING HOURS ONLY.

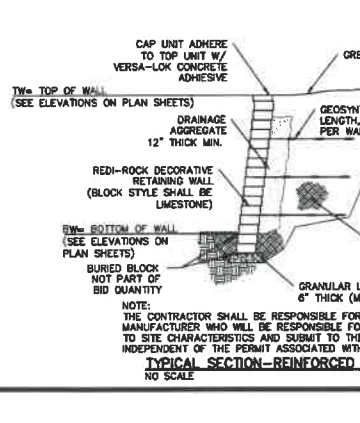
NOTE: A PLAT IS TO BE PREPARED BY THE OWNER TO SUBDIVIDE THE PROPERTY AND CREATE THE 1.27 +/- ACRE LOT SHOWN ON THIS PLAN.



NOTE: ALL VACUUM ARMS AND EQUIPMENT SHALL BE PAINTED BLACK.

NOTE: TRASH RECEPTACLES SHALL BE PROVIDED AT EACH VACUUM BAY.

NOTE: THE SITE LIGHTING AND VACUUM BAYS WILL NOT OPERATE AFTER HOURS. THE ONLY LIGHTING TO OPERATE AFTER HOURS SHALL BE SECURITY LIGHTING ON THE BUILDING.



HOURS OF OPERATION:
7 AM TO 8 PM MONDAY THROUGH SATURDAY
8 AM TO 8 PM SUNDAY

AREA OF DISTURBANCE: 1.05 AC.

MINIMUM PARKING DIMENSIONS:
REGULAR PARKING - 10'x19'

NOTE: COVER TYPE % COVERAGE
BUILDING: 0.121 AC. 9.53%
PARKING LOT: 0.810 AC. 48.03%
OPEN SPACE: 0.339 AC. 42.44%
TOTAL SITE ACREAGE: 1.27 AC.

PARKING REQUIREMENTS:
USE NOT SPECIFIED IN CODE
TOTAL SPACES PROVIDED - 5 SPACES

NOTE: ALL DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.

NOTE: CAR WASH MUST COMPLY WITH THE CITY NOISE PERFORMANCE STANDARD OUTLINED IN SECTION 10.2.B.

**PRELIMINARY PRINT
NOT FOR CONSTRUCTION
FOR REVIEW ONLY**

CALL OR CLICK 3 DAYS BEFORE YOU BID
1-800-BIG-BITE-811
www.motcsl.com

OWNER:
KEVIN D. BLACKWELL
ENTERPRISES, LLC
1001 HIGHWAY K
BONNED TERRE, MO 63628

DEVELOPER:
ROLAND BARTELS T.E.R.C., L.L.C.
1213 OLD HWY 63, STE 101
COLUMBIA, MO 65201

636-332-6574 (cell)
636-337-0780 (fax)
www.motcsl.com

North Office
8 East Main Street
Warrensburg, Missouri 63393

COCHRAN

Missouri State Certificate
Authority Numbers:
0010000046

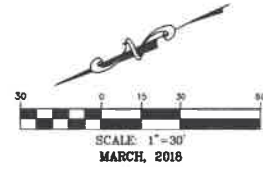
No working copy prior to
the date of the permit. For
call 1-800-811-BITE for
utility location information.

ERIC SCOTT
KIRCHNER
REGISTERED PROFESSIONAL
ENGINEER

SITE PLAN
TIGER EXPRESS CAR WASH
ARNOLD, MISSOURI

DATE: 3/14/18
SCALE: 1"=30'
1 OF 3

LANDSCAPE PLAN



836-332-4574 (tel.)
836-332-0780 (fax)
www.mocall.com

North Office
9 East Main Street
Warrensburg, Missouri 63385

MOHRAN

Missouri State Certificate
Authority Numbers:
2510000046

Professional Services:
• Civil Engineering
• Land Surveying
• Architecture
• Site Development
• General Contracting
• Master Planning

Please working copy prior to
submitting to the City Engineer
on this site, contractor shall
call 1-800-DIG-RITE for
daily weather information.

All OSMA rules & regulations
established for the type of
plans shall be strictly followed
(i.e. Treeing, Righting, etc.)

STATE OF MISSOURI
ERIC SCOTT
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 12/31/18

LANDSCAPE PLAN
TIGER EXPRESS CAR WASH
ARNOLD, MISSOURI

LANDSCAPE PLAN

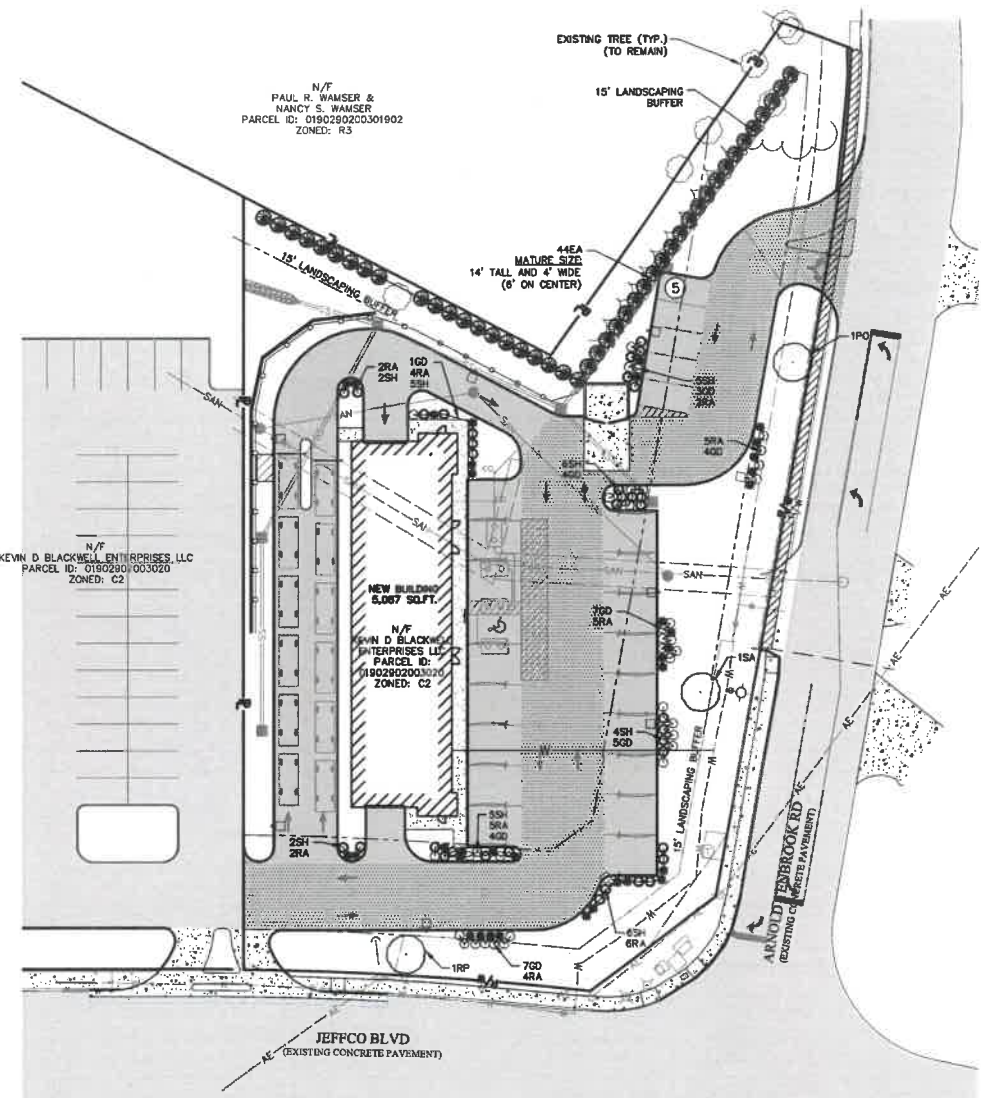
DATE:	3/7/18	PER CLIENT REQUEST
DATE:	4/12/18	PER CITY COMMENTS
DATE:	4/23/18	PER CITY COMMENTS
DATE:	5/14/18	PER CITY COMMENTS

DATE: MAR. 2018

SCALE: 1" = 30'

PROJECT NO: M18-7526

2 OF 3



PLANT LEGEND

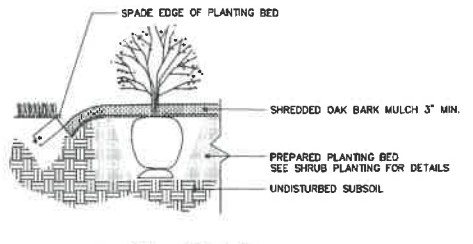
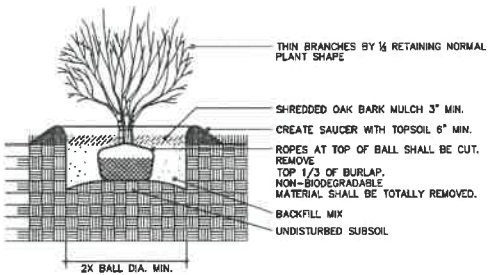
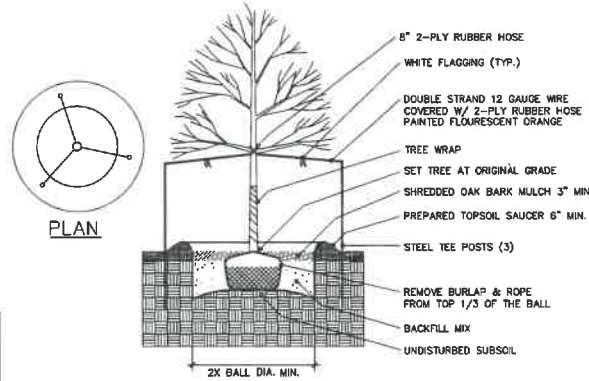
- - RED PINE "RP"
- - SUMMIT ASH "SA"
- - PIN OAK "PO"
- - EMERALD ARBORVITAE "EA"
(MATURE HEIGHT = 14')
(MATURE WIDTH = 4')
- - GREY DOGWOOD "GD"
- - SMOOTH HYDRANGEA "SH"
- ★ - ROSESHILL AZALEA "RA"

NOTE:

- ALL AREAS ON SITE THAT ARE DISTURBED ARE TO BE SOODED.
- ALL LANDSCAPE BEDS TO HAVE SHREDDED OAK BARK MULCH UNLESS OTHERWISE NOTED.
- ANY LANDSCAPE BEDS NOT EDGED BY CONCRETE CURBING SHALL BE SPADE-CUT EDGE.

PLANT SCHEDULE

QTY.	I.D.	COMMON NAME	BOTANICAL NAME	SIZE	NOTES
44	EA	EMERALD ARBORVITAE	<i>Thuja occidentalis</i>	6"	B & B
1	RP	RED PINE	<i>Pinus resinosa</i>	6"	B & B
1	SA	SUMMIT ASH	<i>Fraxinus pennsylvanica</i>	3"	
1	PO	PIN OAK	<i>Quercus palustris</i>	3"	
35	GD	GREY DOGWOOD	<i>Cornus Roridula</i>	5 GALLON	B & B, CONTAINER
35	SH	SMOOTH HYDRANGEA	<i>Hydrangea Arborescens</i>	5 GALLON	B & B, CONTAINER
35	RA	ROSESHILL AZALEA	<i>Rhododendron Prinosphyllum</i>	5 GALLON	B & B, CONTAINER



OWNER:
KEVIN D. BLACKWELL
ENTERPRISES, LLC
1001 HIGHWAY K
BONNED TERRE, MO 63628

DEVELOPER:
ROLAND BARTELS T.E.R.C., L.L.C.
1213 OLD HWY 63, STE 101
COLUMBIA, MO 65201

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www.mocall.com

PHOTOMETRIC PLAN



North Office
8 East Main Street
Wentzville, Missouri 63305

COCHRAN

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

Missouri State Certificate of Authority Numbers: 2010000046

Please working copy prior to the start of any excavation. Call 1-800-485-8811 for utility location information.

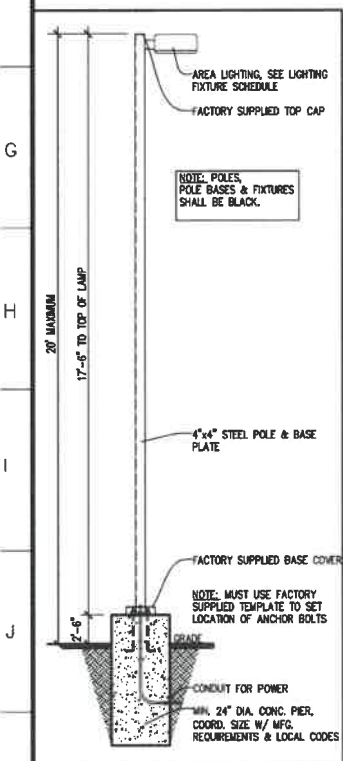
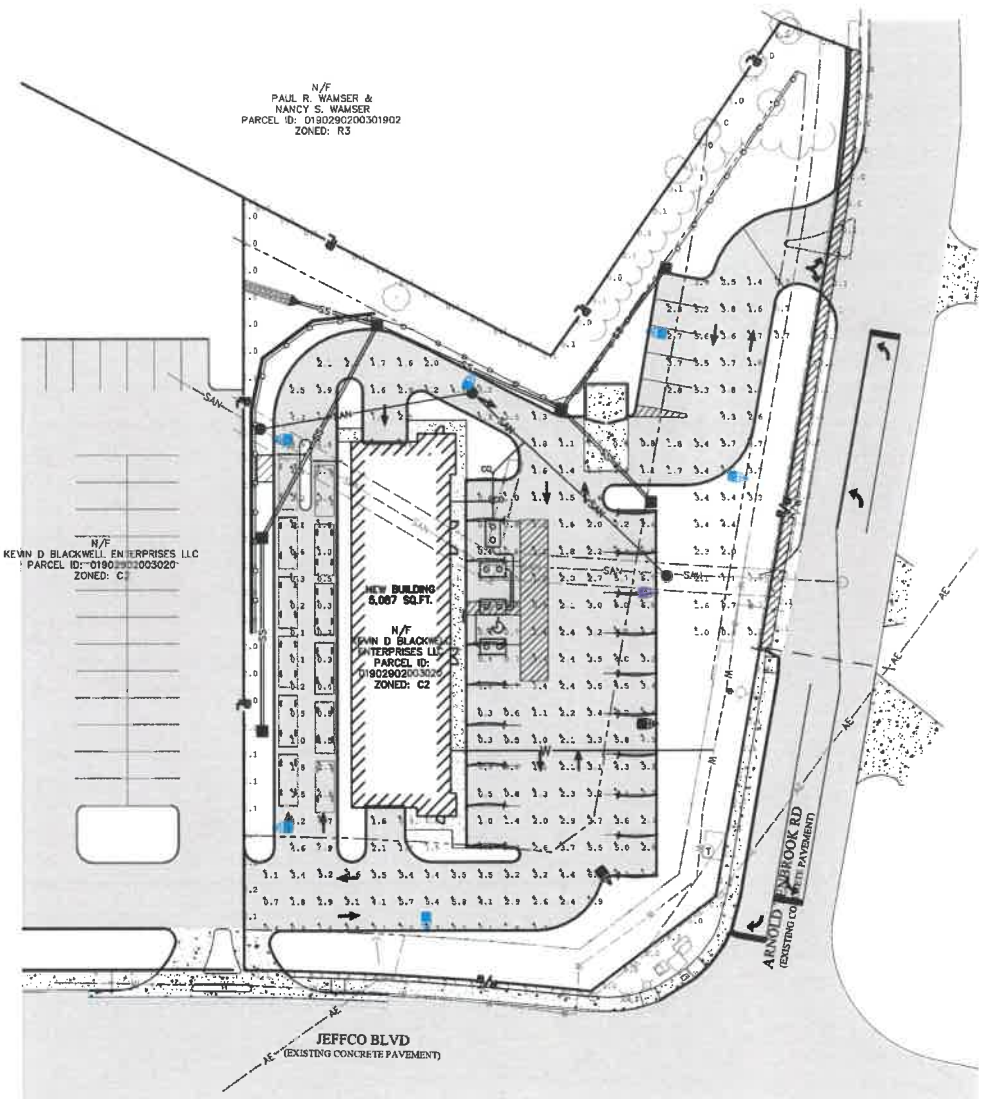
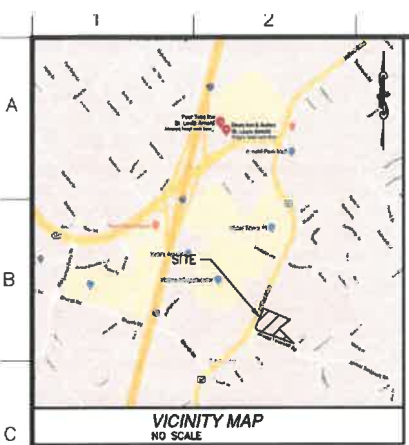
All work shall be in accordance with the specifications and standards for the type of construction required by these codes (i.e. Trenching, Boring, etc.)



PHOTOMETRIC PLAN
TIGER EXPRESS CAR WASH
ARNOLD, MISSOURI

REV	DATE	DESCRIPTION	APP'D BY
1	3/14/18	PER CLIENT REQUEST	ERH
2	4/2/18	PER CITY COMMENTS	ERH
3	4/2/18	PER CITY COMMENTS	ERH
4	5/14/18	PER CITY COMMENTS	ERH

DATE: MAR. 2018
SCALE: 1:30'
PROJECT NO: M18-7526
DRAWN BY: [Signature]



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1001 HIGHWAY K
BONNED TERRE, MO 63628

DEVELOPER:
ROLAND BARTELS T.E.R.C., L.L.C.
1213 OLD HWY 63, STE 101
COLUMBIA, MO 65201

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
CALC POINTS	Illuminance	Fc	2.43	6.9	0.1	24.30	69.00
PROPERTY LINE	Illuminance	Fc	0.06	0.2	0.0	N.A.	N.A.
CUSTOMER PARKING	Illuminance	Fc	3.95	5.8	2.4	1.65	2.33
ENTRANCE LANE	Illuminance	Fc	1.89	4.9	0.1	18.90	49.00
VACUUM AREA	Illuminance	Fc	2.28	6.9	0.3	7.53	23.00

Luminaire Schedule

Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description	Total Watts	BUG Rating	Lum. Watts
	6	A	SINGLE	N.A.	0.950	VISIONAIRE VMX-1-T4-64L-C-5-5K-VOLT-CLS-SINGLE @ 20' MTG. HT.	636	B1-U0-G3	100
	2	B	SINGLE	N.A.	0.950	VISIONAIRE VMX-1-T4-64L-C-5-5K-VOLT-CLS-SINGLE @ 20' MTG. HT.	212	B2-U0-G3	108
	1	C	SINGLE	N.A.	0.950	VISIONAIRE VMX-1-T4-64L-C-5-5K-VOLT-SINGLE @ 20' MTG. HT.	107	B2-U0-G3	107

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