

CSD Enterprises, Broken Arrow, Oklahoma

A commercial development in the City of Broken Arrow, Tulsa County, Oklahoma

Planned Unit Development # 226A Major Amendment to PUD 226

Location:

3050 and 3056 North Aspen, Broken Arrow, OK 74012,
Section 33, T-19-N, R-14-E, Tulsa County

Date Prepared:

January 11, 2018

Prepared by:

GEODECA LLC.
6028 S. 66th E. Ave., Suite 101
Tulsa, OK 74145
Tel: 918-949-4064

Owners:

CSD Enterprises LLC
3501 W. Kenosha
Broken Arrow, OK
74012
Tel: 918-872-6006
Attn: Charlie Daniels

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Legal Description

All of Lot 1 & Lot 2 of Block 1 and Reserve A of "**CSD ENTERPRISES**", Plat #6627 an addition to the City of Broken Arrow. Previously described as The North 180.3 feet of the South 294.3 feet of the Northeast Quarter of the Southeast Quarter of the Northeast Quarter (NE/4 SE/4 NE/4) of Section Thirty-three (33), Township Nineteen (19) North, Range Fourteen (14) East of the Indian Base and Meridian, Tulsa County, State of Oklahoma, according to the U.S. Government Survey thereof. (*108317 Square Feet or 2.4866 Acres*)

ALONG WITH

The North 100 feet of the South 114 feet of the Northeast Quarter of the Southeast Quarter of the Northeast Quarter (NE/4 SE/4 NE/4) of Section Thirty-three (33), Township Nineteen (19) North, Range Fourteen (14) East of the Indian Base and Meridian, Tulsa County, State of Oklahoma, according to the U.S. Government Survey thereof. Less and except the East 40.0' dedicated to the public thereof. (*59579 Square Feet or 1.3677 Acres*)

ALONG WITH

A 14.00 foot x 600.76 foot tract of land that is part of Lot One (1), Block One (1), "**BATTLE CREEK MINI-STORAGE**", an Addition to the City of Broken Arrow, Tulsa County, Oklahoma, Recorded as Plat #5595 at the office of the Tulsa County Clerk, more particularly described as follows: Commencing at a point that is the Northeast Corner of Lot One (1) of Block One, BATTLE CREEK MINI-STORAGE, thence along the East line thereof, South a distance of 50.00 feet; thence S 89°49'43" W a distance of 600.76 feet; thence S 00°00'01" E a distance of 280.42 feet to the Beginning Point; thence from the Beginning Point, S 89°55'20" E a distance of 600.76 feet; thence South a distance of 14.00 feet; thence N 89°55'20" W a distance of 600.76 feet; thence N 0°00'01" W a distance of 14.00 feet to the Beginning Point. (*8427 Square Feet or 0.1935 Acres*)

Land Area:

GROSS AREA = 178324 square feet, or 4.0937 acres

Address

3050 and 3056 North Aspen, Broken Arrow, OK 74012

Project Description

CSD LLC is the Owner and Developer of the proposed “CSD ENTERPRISES AMENDED”, which will be a development of three combined contiguous properties.

The combined property is within the Northeast Quarter of Section 33, T19N, R14E, and is north of Broken Arrow Expressway and west of North Aspen Ave.

The 1st property is the north property and is the platted subdivision “CSD ENTERPRISES”, and zoned PUD 226, CH. Lot 1 is the Easterly Lot and is fully developed and is where CSD LLC and Daniels and Daniels Construction has their offices.

The 2nd property is an unplatted 100’ wide x 620.76’ deep tract, zoned A-CH, and adjoins the south boundary of “CSD ENTERPRISES”. This property was included in PUD 226, but was not platted. The site has been cleared of all but one remaining metal building in the back. This tract also has part of the current detention pond developed for “CSD ENTERPRISES” in the back (westerly).

The 3rd property is the 14’ strip of Lot 1, of Block 1, “BATTLE CREEK MINI-STORAGE” that adjoins the south line of the 2nd property. The 3rd property is zoned CH and is a part of PUD 124 and has no buildings and no capability of buildings in its current configuration.

Together the properties are bordered on the north, and west by “Battle Creek Mini-Storage”, Plat # 5595, which is zoned CH, and to the south by an unplatted parcel zoned A-CH. Together the east side of the properties have approximately 294 feet of frontage onto North Aspen Avenue. All properties will be combined into one development with 3 lots a reserve drainage easement and a mutual access easement.

Separately each property has a severe depth ratio being narrow and deep parcels with little frontage onto North Aspen Avenue. The property owners have agreed that it would be mutually beneficial to each owner and the City of Broken Arrow to combine the properties into one development.

Lot 1, the Northeast lot is the current site for the Daniels and Daniels Construction Company office building. To remain Zoned CH

Lot 2, the West lot is planned warehouse/office. To be Rezoned IL

Lot 3, the Southeast lot will be a future planned office building which will be smaller but harmonious with the building in Lot 1. To be Rezoned CH

Reserve "A", along the west side of the property will be a dedicated detention and utility easement. Part of the proposed Reserve "A" is the platted Reserve "A" of "CSD ENTERPRISES" and will extend south into the unplatted area which is also currently dedicated as detention and utility easement by separate instrument. There is an existing drainage pond and green space in the area to be Reserve "A".

Development Concept:

PUD 226 was approved by the Broken Arrow City Council on June 16, 2014. At the time PUD 226 was approved, the property was under the ownership of two different property owners, CSD Enterprises LLC and The Paul & Carol De Moore Family Trust. A plat for the property owned by CSD Enterprises was filed in Tulsa County on August 28, 2015, thereby validating PUD 226.

PUD 226 that was previously approved divided the CSD Enterprises and Moore property into four lots. Lot 1 was for the Daniels and Daniels Construction Company office building, which has been constructed. Lot 2, in the northwest part of the property, was proposed to be a storage building with office spaces. Lot 3, the southwest lot, was planned to be a 5 bay storage building with office spaces for Greg Moore. Lot 4, in the southeast part of the property was proposed to contain a two story office building. The western edge of the property was to be open space to accommodate storm water detention.

Three existing points of access to Aspen Avenue were to be replaced by a single 44 foot wide mutual access point. From this point of access, the four lots would be joined together by a private drive contained within a mutual access easement that passed east/west through the property from Aspen Avenue to the storm water detention facility. This mutual access easement was included with the CSD Enterprises plat.

CSD Enterprises LLC has since purchased the Moore property. In addition, a 14-foot wide strip has been obtained along the south boundary. Furthermore, the development concept associated with the property has been changed. Instead of having four lots, PUD 226A proposes to have three lots. Lot 1 will continue to be for the Daniels and Daniels Construction Company office and remain zoned CH. Lot 2 is being modified. Instead of one building for storage and office on Lot 2, there will be multiple buildings with warehouse, office space, and/or indoor RV storage and therefore will be rezoned to IL. Lot 3 is still proposed to be an office building and will ultimately be zoned CH.

Development Standards:**Lots 1 and 3**

Lots 1 and 3 shall be developed in accordance with the City of Broken Arrow Zoning Ordinance and the use and development regulations of the CH district except as described below. Any public utility systems within the project will be constructed to public standards and dedicated to the City upon completions as necessary.

Permitted uses: All used defined in the CH zoning district except Sexually Oriented Business, Bar/Nightclub, Alcoholic Beverages, Marijuana Sales/Cultivation, Tattooing, Animal Sales and Service.

Lot Dimension: Per current zoning requirements for CH.

Building Setbacks:

Front Yard Setback from Aspen Avenue	50 feet
Interior lot lines	0 feet
Rear Yard	0 feet
Perimeter of PUD side yards	10 feet*

*If a maintenance easement is obtained from the adjacent property owner, the building setback line may be reduced to 0. No buildings, however, shall be located in a utility easement.

Building Heights: 3 story, 60 feet

Maximum permitted floor area: No restriction.

Building façade:

The east side of all buildings shall be constructed of masonry, concrete panels, glass block, glass curtain walls, Exterior Insulated Finished Systems (EIFS), or stucco facades. Other exterior materials can be considered, provided they are submitted to and approved by the Planning Commission. The north and south side of building for at least 4' high shall be constructed of masonry, concrete panels, glass block, glass curtain walls, Exterior Insulate Finished Systems (EIFS), or stucco facades. Other exterior materials can be considered, provide they are submitted to and approved by the Planning Commission.

Lots 1 and 3

Landscaping: Per current CH zoning requirements except as noted.

Landscape Requirements		
Requirement	Code Requirement	PUD Requirement
Landscape Easement	10'	10'
Street Yard shrubs	10 shrubs for every 50 linear feet	10 shrubs for every 50 linear feet
Interior Lot Trees	1 per 15 parking spaces	1 per 12 parking spaces
Street Trees	1 tree per 50 linear feet	1 tree per 40 linear feet*
Minimum Landscape Area	15% Office 10% Commercial	15% Developable

*1 per 40 linear feet if 2” caliper trees from the approved list are used, 1 per 20 linear feet when crape myrtles are used.

Lot 2

Lot 2 shall be developed in accordance with the City of Broken Arrow Zoning Ordinance and the use and development regulations of the IL district except as described below. Any public utility systems within the project will be constructed to public standards and dedicated to the City upon completions as necessary.

Permitted uses: Office, warehouse, and/or indoor RV storage space shall be the only uses allowed in Lot 2.

Lot Dimension: Lot 2 shall be developed as one lot. Access to this lot from Aspen Avenue shall be by the mutual access easement.

Building Setbacks:

The only building setback requirement in Lot 2 is that no buildings shall be located in a utility easement and buildings shall setback at least 10 feet from the north and south boundaries of Lot 2. If a maintenance easement is obtained from the adjacent property owner, the building setback line along the north and south boundaries may be reduced to 0.

Building Heights: 3 story, 60 feet

Maximum permitted floor area: No restriction.

Building façade:

The exterior of all buildings shall be either constructed of masonry, concrete panels, glass block, glass curtain walls, Exterior Insulated Finished Systems (EIFS), stucco facades, or metal panels. If metal panels are used on the sides adjacent to the east and south boundary of Lot 2, they shall resemble that shown in Exhibit F. Other exterior materials can be considered, provided they are submitted to and approved by the Planning Commission.

Landscaping:

A 5-foot wide landscape area shall be provided along the east boundary of Lot 2 as shown in Exhibits D & E. The five foot wide landscape area can be located in partial or all in Lot 1, 2, and 3. In this landscape area, at least one evergreen, three-gallon shrub shall be planted per 30 linear feet thereof. No other landscaping is required in Lot 2.

Overall Development Standards:

Transportation Access and Parking

Mutual Entry: The Limited frontage for the development causes the spacing between the proposed entry and entries across N. Aspen to not meet the current requirements. However, the combination of the three parcels removes the additional entries onto N Aspen. The proposed 44 feet wide Mutual Point of Entry is built and will be as shown on the Final Plat for CSD ENTERPRISES AMENDED and no other point of entry will be allowed. The distance from nearest intersecting street meets requirements.

Mutual Access Easement: For the efficient and harmonious development of the combined parcels a mutual access easement will be a part of the Final Plat.

Lots without Street Frontage: With the mutual access easement one lot, Lot 2, will be created that does not have access to a public street as shown on Exhibit D.

Mutual Parking: For the efficient and harmonious development of the combined parcels a mutual parking agreement will be a part of the covenants.

Off-Street Parking Requirements: For Lot 2, 1 parking space per 650 square feet of building. For Lot 1 and 3, 1 parking space per 400 square feet, per PUD 226.

Exterior Lighting: To follow current zoning requirements.

Signs: One freestanding monument sign shall be allowed to be placed per lot. The freestanding signs shall not exceed 14 feet in height and 100 square feet of display area. No sign shall be located in any utility or access easement. All free standing signs shall have a monument base design (no single pole design).

Refuse: To follow current zoning requirements.

General Provisions

Utilities:

Storm sewer, water, and sanitary sewer service are available on site and will be extended as needed. Franchise utilities will also serve the project with communications and electric service. Underground services throughout the site is anticipated. There will a 17.5 ft. utility easement along the north subdivision line and a 26 ft. Utility easement, being 13 ft. on each side of the shared lot line of lot 1 and lot 3. There will be a 40 ft. drainage/utility easement through lot 2. The platted 11 ft. utility easement on the West side of the East line of Lot 2 of "CSD Enterprises will be vacated and a proposed 11ft. utility easement to run North to South in Lot 2 as shown on Exhibit.

Platting/Site Plan:

Prior to any building permits being issued, the property shall be platted, the plat recorded in Tulsa County, and a site plan shall be submitted to and approved by the City of Broken Arrow.

Schedule:

This project is expected to proceed immediately upon completion of the planning and/or platting process.

EXHIBIT A

FINAL PLAT CSD ENTERPRISES

An Addition to the City of Broken Arrow
 being a subdivision of Northeast Quarter of Section 33,
 Township 19 North, Range 14 East
 Indian Meridian, Tulsa County, State of Oklahoma
 PUD 226

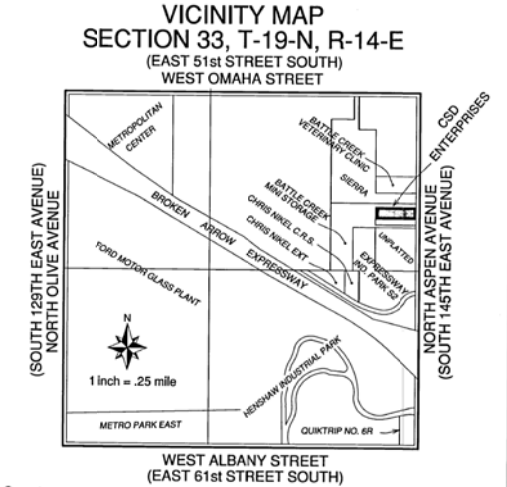
Owners
 CSD Enterprises LLC
 Attention: Rodney James
 3501 West Kenosha
 Broken Arrow, Oklahoma 74012
 Phone: 918 872 6006

Surveyor
 GEODECA LLC
 6028 S. 66th E. Ave. Suite 101
 Tulsa, Oklahoma 74145
 918 949 4064
 rmuzika@geodeca.com
 CA # 5524 Renewal Date June 30th 2016

Engineer
 Casement Engineering, LLC
 P.O. Box 688
 Owasso, OK 74055
 918 740 7650
 bcasement54@yahoo.com
 CA # 5433 Renewal Date June 30th 2016



Benchmark #1
 Top of MAG Nail on Top of Curb 20.5'
 North of the North Curb Return for
 Battle Creek Mini-Storage
 Elevation = 751.70 NAVD 1988



Control #1
 Northeast Corner
 Section 33
 T19N, R14E Tulsa County
 Stem of Brass Cap
 Northing 404019.724
 Easting 2613936.306

Legend

3056 = Address

Addresses shown on this plat are accurate as of the time the plat was filed. Addresses are subject to change and should never be relied on in place of a legal description.

Statistics

Subdivision Contains
 2 Lots in 1 Block, 1 Reserve
 Gross Area 119135 Square Feet or 2.7350 Acres
 Net Developable Area (Block 1) 94873 Square Feet or 2.1780 Acres

Flood Zone

Subdivision within Flood Zone X (unshaded)
 FEMA FIRM Map Number 40143C0379L
 Revised Date October 16, 2012

Sanitary Sewer

Minimum Allowable FFE Without Backflow
 Preventer Valve: 751.00'
 Upstream Manhole Top of Rim: 750.00'
 Backflow Preventer Valve Required: No

Stormwater Detention Onsite

Detention Determination No. DD-31815-06

Monumentation

Corners Monumented with a #3 Rebar with an Orange Plastic Cap or a Spike with Steel Washer, stamped "GEODECA CA5524" Unless Monument Found

Basis of Bearing

Coordinates and Bearings shown based on the Oklahoma State Plane North Grid

APPROVED 4-21-2015
 by the City Council of the City of
 Broken Arrow, Oklahoma

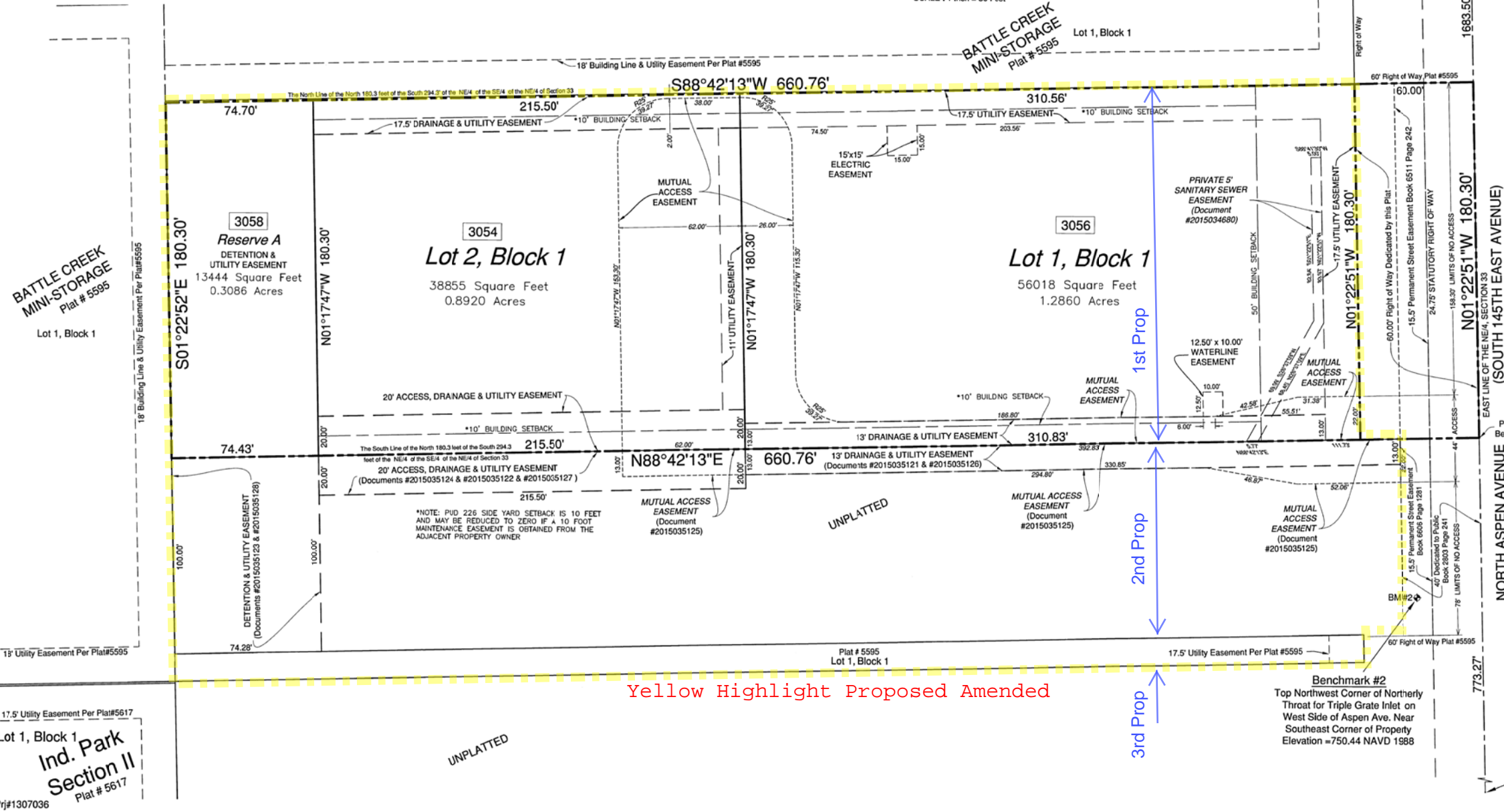
 Mayor

 Attest: City Clerk

CERTIFICATE

I hereby certify that all real estate taxes involved in this plat have been paid as reflected by the current tax rolls. Security as required has been provided in the amount of \$6,530.00 per trust receipt no. 14033 to be applied to 2015 taxes. This certificate is NOT to be construed as payment of 2015 taxes in full but is given in order that this plat may be recorded. 2015 taxes may exceed the amount of security deposit.

Dated: 08/28/2015
 Dennis Semple
 Tulsa County Clerk
 By:
 Deputy



Yellow Highlight Proposed Amended

Control #2
 East Quarter Corner Section 33
 T19N, R14E Tulsa County
 3/8" Rebar Below Grade
 Northing 401383.423
 Easting 2613999.856

Benchmark #2
 Top Northwest Corner of Northerly
 Throat for Triple Gate Inlet on
 West Side of Aspen Ave. Near
 Southeast Corner of Property
 Elevation = 750.44 NAVD 1988

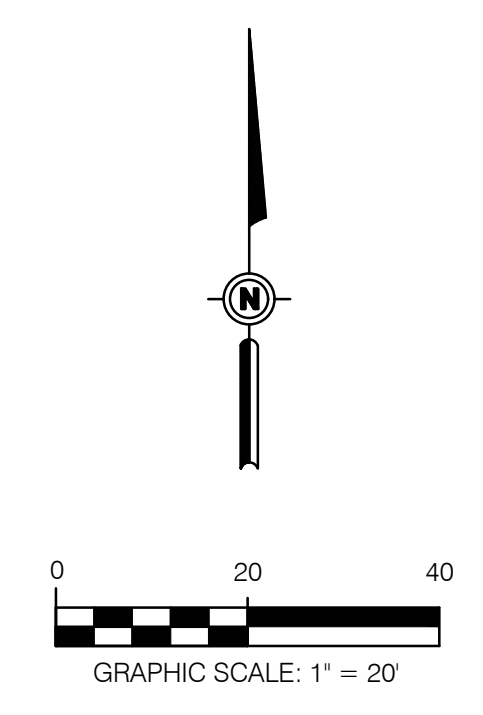
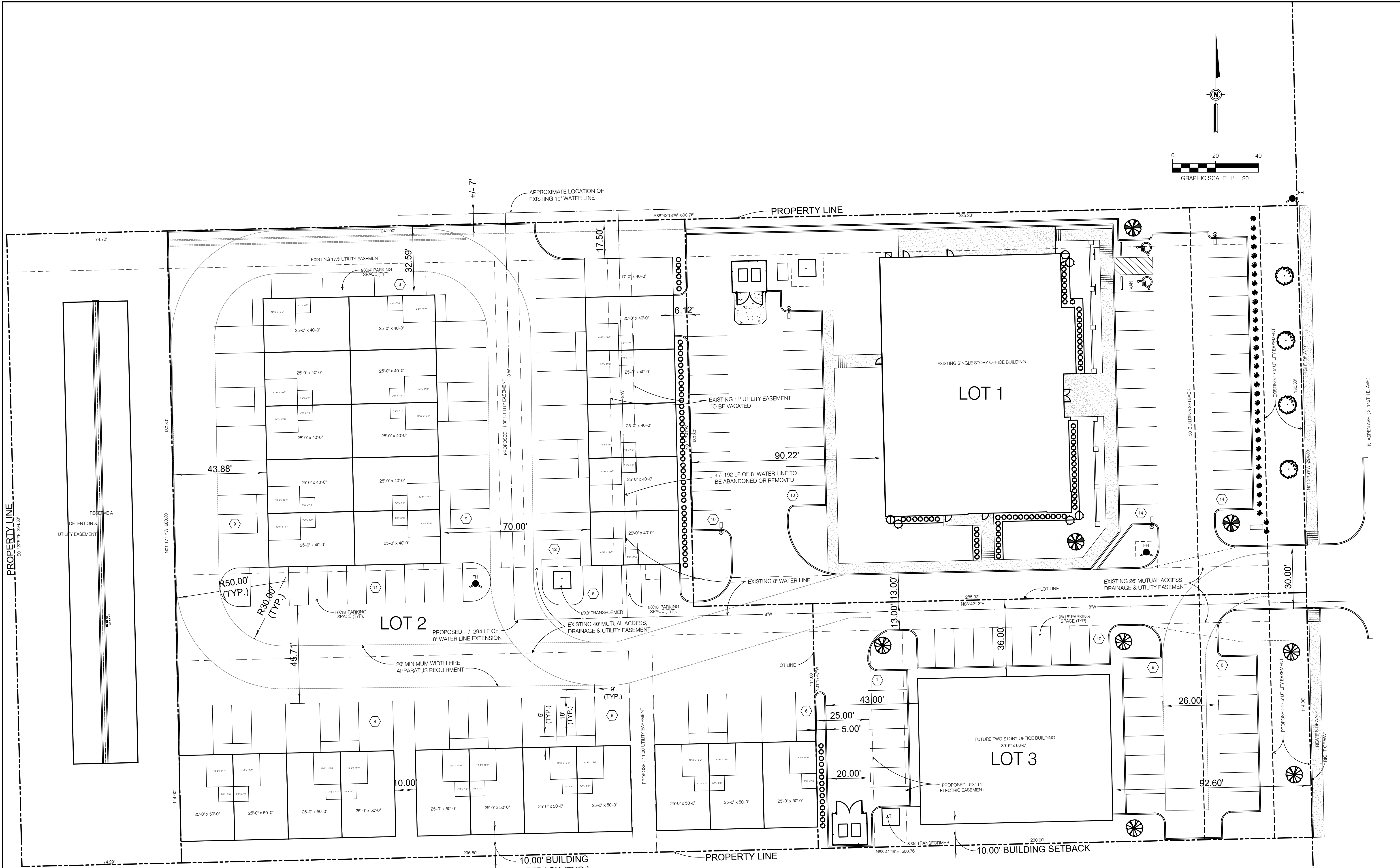
CASE NO. PT13-104

DATE PREPARED August 4 2015, 12:30 PM

CSD ENTERPRISES Sheet 1 of 2

17.5' Utility Easement Per Plat #5617
 Lot 1, Block 1
 Ind. Park
 Section II
 Plat # 5617
 Prj#1307036





BRIAN A. CASEMENT, P.E.
ENGINEER OF RECORD

BY	REVISION	DATE

CASEMENT ENGINEERING, LLC
CIVIL AND AGRICULTURAL SERVICES
P.O. Box 688
OWASSO, OK 74055-0688
MOBILE: 918.740.7650
EMAIL: BCASEMENT54@YAHOO.COM
CERTIFICATE OF AUTHORIZATION NO. 5433
EXPIRES JUNE 30, 2018

STIPULATION FOR REUSE OR ALTERATION
THIS DRAWING IS PREPARED FOR USE
ON A SPECIFIC SITE, AND IT IS NOT
TO BE REUSED FOR ANY OTHER SITE,
ON A DIFFERENT PROJECT SITE, USE,
OR FOR ANY OTHER PURPOSE WITHOUT THE
WRITTEN CONSENT OF THE ENGINEER OF
RECORD. MODIFICATION OF THE
DRAWING WITHOUT THE WRITTEN CONSENT OF THE ENGINEER OF
RECORD IS PROHIBITED.

SITE PLAN
CSD ENTERPRISES
3056 N. ASPEN AVE.
BROKEN ARROW, OK 74012

DRAWN BY:	DB
APPV. BY:	BC
DATE:	01/16/18

SHEET **C1**

PROPOSED PUD 226A

NUMBER OF PARKING SPACES

EXHIBIT D

EXHIBIT E1

Looking West at Entry



EXHIBIT E2

Looking West Northwest at Lot 3



EXHIBIT E3

Looking West Southwest at Lot 3



EXHIBIT E4

Looking West at Entry



EXHIBIT E5

Looking North through Lot 2

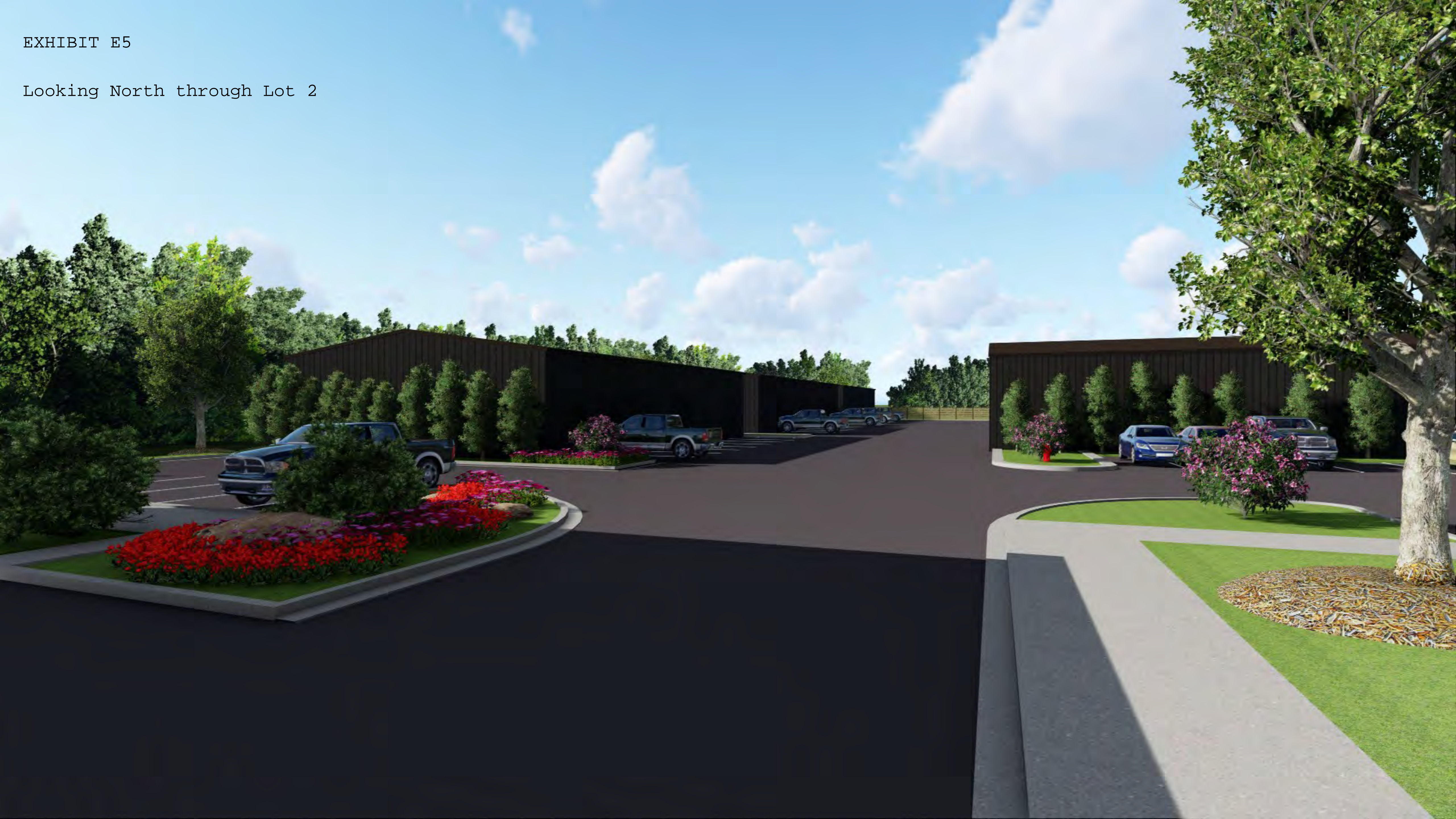


EXHIBIT E6

Looking Northwest through Lot 2





STANDARD COLORS

Due to limitations in the printing process, please request actual color chips for accurate color viewing.



BUCKSKIN



PARCHMENT



ALMOND



AGED BRONZE



SHASTA WHITE



FOREST GREEN



PATINA GREEN



SIERRA TAN



MEDIUM BRONZE



CHARCOAL GREY



HEMLOCK GREEN



BRISTOL BLUE



TERRA-COTTA



DARK BRONZE



ZINC GREY



HARTFORD GREEN



ROYAL BLUE



COLONIAL RED



COPPER BROWN



MATTE BLACK



TEAL GREEN



BURGUNDY



DEEP RED

PREMIUM COLORS

Berridge premium colors require a nominal surcharge.



NATURAL WHITE



AWARD BLUE

METALLIC COLORS

Berridge metallic colors are premium finishes which require a nominal surcharge. Due to limitations in the printing process, please request actual color chips for accurate color viewing.



CHAMPAGNE



COPPER-COTE™



ANTIQUÉ
COPPER-COTE

NATURAL METAL FINISH

Berridge Acrylic-Coated Galvalume® is a coated sheet product that combines the corrosion resistance of GALVALUME® steel sheet with a clear, organic resin applied to the top side and bottom side of GALVALUME® substrate.



ACRYLIC-COATED
GALVALUME®



ZINC-COTE™



LEAD-COTE™



PREWEATHERED
GALVALUME®



All colors except Award Blue comply with LEED® v3 & Energy Star requirements for roof slopes greater than 2:12. Almond complies with LEED® v3 requirements for low slopes less than or equal to 2:12. Natural White complies with LEED® v3 & Energy Star requirements for low slopes less than or equal to 2:12.

EXHIBIT F2

Berridge "R" Panel

Prefinished or Satin Finish Galvalume, wall, soffit, fascia, mansard, liner or equipment screen panel

- U.L. 90 approved
- Spans over open purlins



Furnish and install Berridge "R" Panel as manufactured by Berridge Manufacturing Company, San Antonio, Texas.

MANUFACTURE:

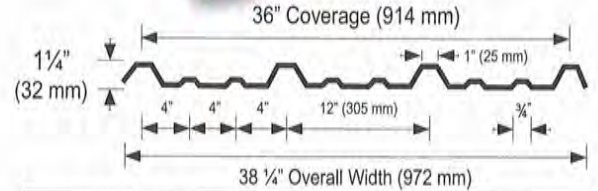
Panels shall be roll formed in continuous lengths (maximum 40'). Where required, Panel to bear Underwriter's Laboratory Label U.L.90, pursuant to Construction Numbers 30, 79, and 161.

MATERIAL AND FINISH

(See current Sweet's catalog - 07610/BER)

CONSTRUCTION DETAILS

(See web site: www.berridge.com)



SECTION PROPERTIES BASED ON 24 GAUGE 40 K.S.I.			
"R" PANEL	I_x (in ⁴ /ft)	S_x (in ³ /ft)	M_x (in-kip/ft)
Positive Bending	0.0554	0.0575	1.380
Negative Bending	0.0536	0.0567	1.360

SPAN (FT)	NET VERTICAL DEAD + LIVE LOAD						NET VERTICAL WIND UPLIFT					
	1-SPAN		2-SPAN		3-SPAN		1-SPAN		2-SPAN		3-SPAN	
	STRESS	DEFL L/240	STRESS	DEFL L/240	STRESS	DEFL L/240	STRESS	DEFL L/240	STRESS	DEFL L/240	STRESS	DEFL L/240
3'	101	134	99	319	116	250	102	130	103	319	120	250
4'	56	57	55	134	65	105	58	55	59	134	68	105
5'	36	29	35	69	41	54	37	28	38	69	44	54

NOTES:

1. The panel weight has been deducted from the allowable stress values.
2. The properties and load tables are for the panel alone. The capacity of clips and fasteners is not included
3. The panel section properties have been calculated in accordance with 2007 AISI Specification.

For specific job application recommendations, please contact Berridge Technical Department 1-800-231-8127.

Berridge "M" Panel

Prefinished or Satin Finish Galvalume roof, wall, soffit, fascia, mansard, liner or equipment screen panel

- Wide, 3-foot coverage
- U.L. 90 approved
- Spans over open purlins



Furnish and install Berridge "M" Panel as manufactured by Berridge Manufacturing Company, San Antonio, Texas.

MANUFACTURE:

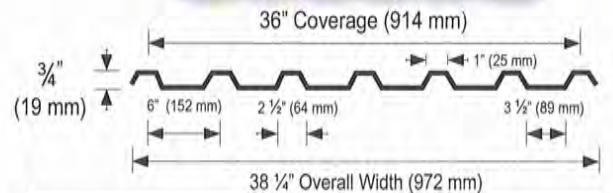
Panels shall be roll formed in continuous lengths (maximum 40'). Where required, Panel to bear Underwriter's Laboratory Label U.L.90, pursuant to Construction Number 39.

MATERIAL AND FINISH

(See current Sweet's catalog - 07610/BER)

CONSTRUCTION DETAILS

(See web site: www.berridge.com)



SECTION PROPERTIES BASED ON 24 GAUGE 40 K.S.I.			
"M" PANEL	I_x (in ⁴ /ft)	S_x (in ³ /ft)	M_x (in-kip/ft)
Positive Bending	0.0279	0.0537	1.290
Negative Bending	0.0228	0.0494	1.180

SPAN (FT)	NET VERTICAL DEAD + LIVE LOAD						NET VERTICAL WIND UPLIFT					
	1-SPAN		2-SPAN		3-SPAN		1-SPAN		2-SPAN		3-SPAN	
	STRESS	DEFL L/240	STRESS	DEFL L/240	STRESS	DEFL L/240	STRESS	DEFL L/240	STRESS	DEFL L/240	STRESS	DEFL L/240
3'	94	68	87	148	101	116	89	55	97	148	113	116
4'	53	29	48	63	56	49	50	23	55	63	64	46
5'	33	15	30	32	36	25	33	12	35	32	41	25

NOTES:

1. The panel weight has been deducted from the allowable stress values.
2. The properties and load tables are for the panel alone. The capacity of clips and fasteners is not included
3. The panel section properties have been calculated in accordance with 2007 AISI Specification.

For specific job application recommendations, please contact Berridge Technical Department 1-800-231-8127.



Berridge Manufacturing Company
6515 Fratt Road
San Antonio, Texas 78218
(800) 669-0009 • www.berridge.com

**KYNAR 500® HYLAR 5000™ SPECIFICATIONS FOR
GALVANIZED AND GALVALUME® COIL COATING APPLICATIONS:**

EXHIBIT F3

TESTED PROPERTY	TESTING METHOD	KYNAR 500® or HYLAR 5000™
Colors Available	---	See color chart on reverse side
Specular Gloss	ASTM D-523-80	Low and medium gloss only
Color Uniformity	ASTM D-2244-79	Color controlled both instrumentally and visually
Dry Film Thickness	ASTM D-1400-81, ASTM D-1005-84, NCCA 11-13, 11-14, 11-15	Primer 0.25 ± 0.05 mil, Topcoat 0.8 ± 0.05 mil
Hardness	ASTM D-3363-89, NCCA 11-12, Eagle Turquoise Pencils	HB Minimum
Adhesion (X-Cut)	ASTM D-3359-90	No adhesion loss
Adhesion (Crosshatch)	ASTM D-3359-90	No adhesion loss
Direct Impact Flexibility	ASTM D-2794-84, Gardner Impact Tester, 1/10" Distortion	Excellent, no removal
Reverse Impact Flexibility	NCCA Spec. 11, ASTM D-2794-84, Gardner Impact Tester, 5/8" ball Impact force in inch pounds equal to metal thickness	Excellent, no cracking or loss of adhesion
Formability	ASTM D-4145, 180° T-Bend on 1/8 Mandrel	No cracks or loss of adhesion
Salt Spray Resistance	ASTM B-117-73 (1992)	Passes 1000 hrs on H.D.G. Steel 1000 hrs on Galvalume®
Humidity Resistance	ASTM D-2247 (1987)	Passes 2000 hrs on H.D.G. Steel 2000 hrs on Galvalume®
Acid Resistance	ASTM D-1308-79 (1987), Proc. 3.1.1 10% Sulfuric Acid spot test, 24 hr exposure	Excellent, no effect
Alkali Resistance	ASTM D-1308-79 (1981), Proc. 5.2 10% Sodium Hydroxide	Excellent, no effect
Abrasion Coefficient	ASTM D-968-81	100 liters/mil topcoat
Detergent Resistance	ASTM D-2248, 72 hrs immersion in 3% solution at 100°F	Excellent, no effect
Resistance to Acid Pollutants	ASTM D 1308-87 Proc. 3.1.1 24 hr exposure 10% HNO ³ vapors	Excellent, no effect
Weathering - Color Retention	ASTM D-2244-89, 20 yrs, 45° South Florida	Maximum 5 NBS units color change
Weathering - Chalk Resistance	ASTM D-4214-86, 20 yrs, 45° South Florida	Rating of 8 minimum
Erosion	20 yrs, 45° South Florida	Maximum 15% loss

Notes:

1. ASTM - American Society for Testing Materials
2. NCCA - National Coil Coaters Association
3. Galvalume® is 55% Aluminum-Zinc alloy coated sheet steel and is a registered trademark of BIEC International, Inc.

**BMC SAN ANTONIO
CORPORATE HQ**
6515 Fratt Rd
San Antonio, TX 78218
210-650-3050
800-669-0009
Fax 210-650-0379

**BMC SEGUIN
MANUFACTURING**
2201 Rudeloff Rd
Seguin, TX 78155
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