



**H U X L E Y**  
— HEART OF THE PRAIRIE —

## **PLANNING & ZONING COMMISSION MEETING**

**HUXLEY CITY HALL – COUNCIL CHAMBERS – 515 N. MAIN AVENUE  
MONDAY APRIL 20, 2020  
6:00 P.M.**

### **AGENDA**

- 1. Roll Call**
- 2. Motion to approve the minutes from March 16, 2020**
- 3. Public Comments (5-minute limit for items not on this agenda)**
- 4. Business Items**
  - a. Fenceline Beer Lab Patio Installation 107 S. Main Avenue**
  - b. Story County Subdivision 2-mile review 30361 560<sup>th</sup> Street**
  - c. Ballard Creek Senior Living Driveway/Parking Lot Connection 908 US 69**
- 5. Informational Items**
- 6. City Administrator Communications**
- 7. Planning and Zoning Commission Comments**
- 8. Adjournment**

For more information on this and other agenda items, please call the City Clerk's Office at 515-597-2561 or visit the Clerk's Office, City Administration Building at 515 N. Main Ave. Agendas are available to the public at the City Clerk's Office on Friday morning preceding Monday's Planning & Zoning Commission meeting. Citizens can also request to receive meeting notices and agendas by email by calling the Clerk's Office or sending their request via email.

# **Huxley Planning & Zoning Commission Minutes**

## **Monday, March 16, 2020**

Chairman Roger Bierbaum called the meeting via conference call to order at 6:00 P.M.

**ROLL CALL:** Patterson, Schonhorst, Mosher, Wilson (entered meeting at 6:07P.M.), Scott, Frantz, Bierbaum.

**CITY STAFF PRESENT:** Rita Conner – City Administrator, Amy Kaplan – Zoning Clerk

**CONSULTANTS PRESENT:** Forrest Aldrich-City Engineer

**GUESTS PRESENT:** Brent Strauch – Shive-Hattery

**MINUTES APPROVAL:** Motion – Mosher, second – Patterson to approve minutes from September 12, 2019 meeting. 6 Aye. 0 Nay.

**PUBLIC COMMENTS:** None

Wilson entered the meeting at 6:07 P.M.

### **BUSINESS ITEMS: Site plan review DSI Huxley, Huxley Industrial Park**

Motion by Schonhorst, second by Wilson to approve DSI site plan, pending items needing approval by Forrest. Roll Call: Bierbaum, Patterson, Frantz, Schonhorst, Scott, Wilson, Mosher voted Yes. Motion carried.

### **INFORMATIONAL ITEMS:**

The following items will be reviewed in the future: 2019 Comprehensive plan, FY 20/21 CIP plan, trails & sidewalks infill draft master plan, alcohol sales in commercial and residential zoning districts.

### **CITY ADMINISTRATOR COMMUNICATIONS:**

Conner thanked everyone for volunteering their time on the Planning & Zoning Commission and noted that she is looking forward to meeting everyone in person.

### **PLANNING AND ZONING COMMISSION COMMENTS:**

Bierbaum: Next meeting is April 20<sup>th</sup> at 6 PM.

Wilson: Chapter 55.16 of the Code of Ordinances regarding prohibited animals needs to be revisited.

**ADJOURNMENT:** Motion – Schonhorst, Second- Patterson to adjourn meeting at 7:03 P.M. 7 ayes, 0 nays. Motion carried.

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Amy Kaplan, Zoning Clerk

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Roger Bierbaum, Chairman

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Date of Approval

# **PLANNING & ZONING COMMISSION COMMUNICATION**

## **AGENDA HEADING:**

Fenceline Beer Lab Patio Installation

## **SYNOPSIS:**

Fenceline Beer Lab, LLC (Susan Frantz, 107 South Main Huxley, Iowa 50124) has submitted materials for City of Huxley review for the installation of a cement patio at the Fenceline Beer Lab location in the Main Street/Old Towne District. The southern section of the patio would be used for no impact outdoor games such as bag tossing. The remainder would have seating service provided by waitstaff. A maximum of 20 people in the space at one time is planned.

Project initiation is estimated for Spring 2020.

Additional information is below and in the attachments.

## **ADDITIONAL INFORMATION:**

- Staff has reviewed the City of Huxley Code of Ordinances Section 165.28 regarding uses in a C-3 zoning district
- C-3 uses follow C-2 district regulations
- Staff has not identified anything in the code sections that prohibits the proposal.
- Fenceline is adjacent to Main Street, other commercial uses, and a public alley that runs between the Fenceline building and the residential uses to the north of the alley.
- Fenceline hours of operation (in times of standard operations) are no later than 10 pm.

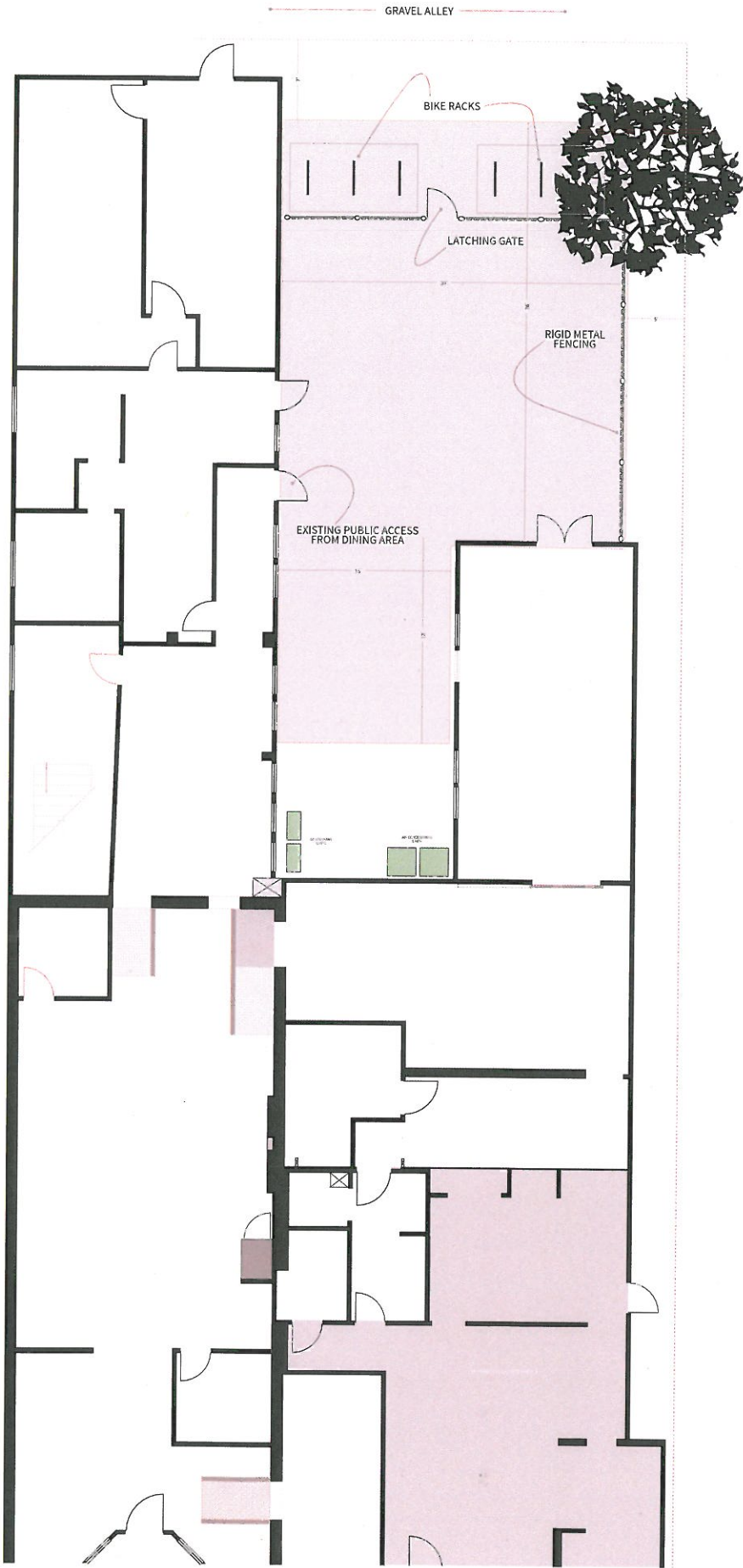
## **RECOMMENDATION: APPROVAL**

## **ANTICIPATED ACTIONS AND FUTURE COMMITMENTS:**

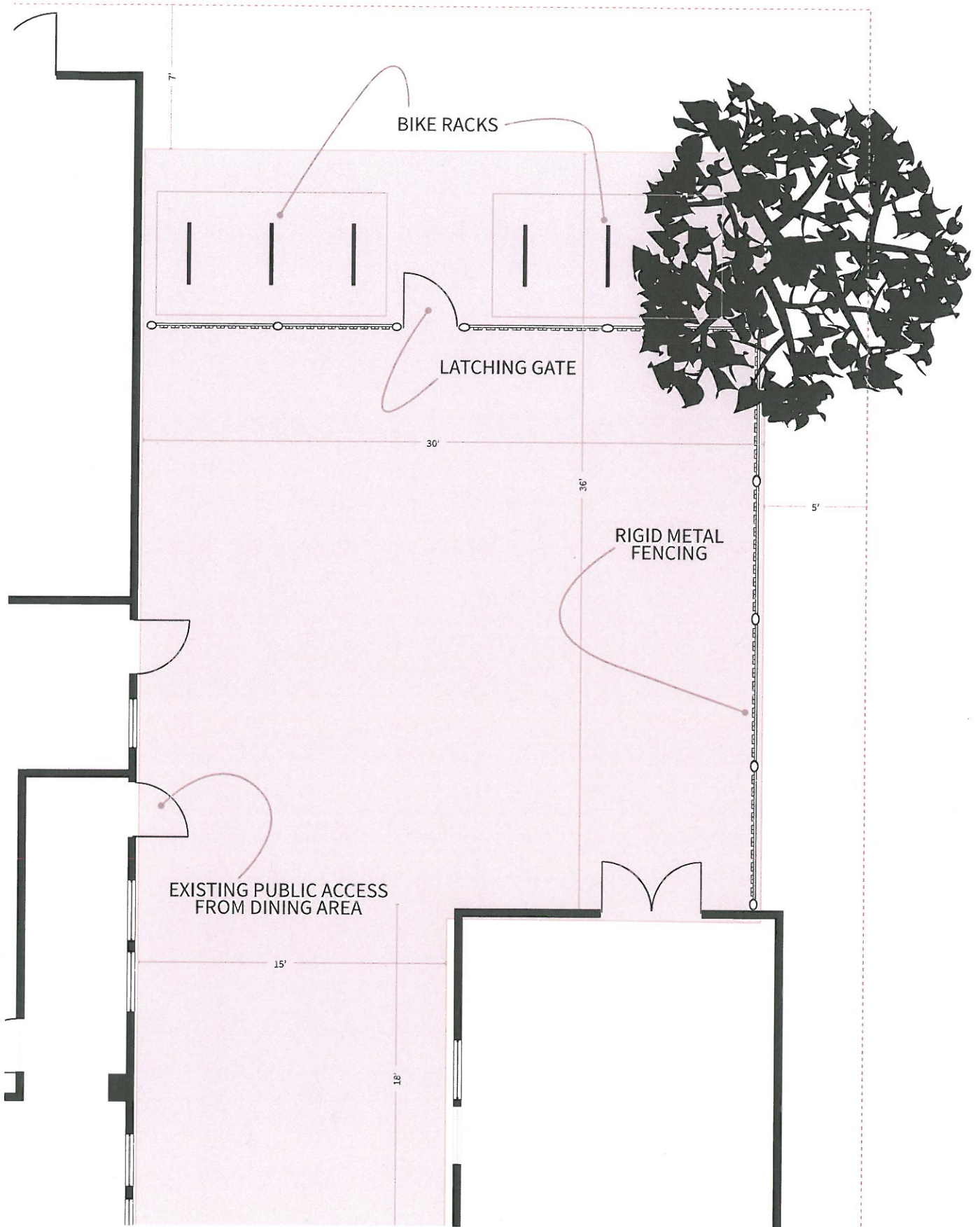
- April 28, 2020 City Council review of Planning & Zoning Commission recommendation
- Issuance of permit and construction of the project

FENCELINE BEER LAB  
107 S. MAIN AVE.  
HUXLEY IA 50124

NORTH ➤



GRAVEL ALLEY





# **PLANNING & ZONING COMMISSION COMMUNICATION**

## **AGENDA HEADING:**

Story County Subdivision Two-Mile Review 30361 560th

## **SYNOPSIS:**

Mike Kamp (30361 560<sup>th</sup> Street Cambridge Iowa 50046) has submitted materials to Story County Planning and Development for review of a planned 2 lot rural residential subdivision, to be known as Forest Ridge Estates.

Additional information is below and in the attachments.

## **ADDITIONAL INFORMATION:**

- The property is presented to the City of Huxley under the Iowa Code 2-mile review requirements; subdivision proposals within 2 miles of the Huxley city limits must go through city review.
- Long-range planning and potential future public infrastructure expenditures should be considered with rural subdivision development.
- This proposal is recommended for approval by the Planning & Zoning Commission

## **RECOMMENDATION: APPROVAL**

## **ANTICIPATED ACTIONS AND FUTURE COMMITMENTS:**

- April 28, 2020 City Council review of Planning & Zoning Commission recommendation

# Story County Planning and Development

900 6th Street, Nevada, Iowa 50201  
(515) 382-7245 — pzweb@storycountyia.gov — www.storycountyia.gov



## 1. Property Owner\*

(Last Name) Kamp  
(First Name) Michael  
(Address) 30361 560th Ave.  
(City) Cambridge (State) Iowa (Zip) 50046  
(Phone) 515-460-4250 (Email) \_\_\_\_\_

## 2. Applicant (if different than owner)

(Last Name) same  
(First Name) \_\_\_\_\_  
(Address) \_\_\_\_\_  
(City) \_\_\_\_\_ (State) \_\_\_\_\_ (Zip) \_\_\_\_\_  
(Phone) \_\_\_\_\_ (Email) \_\_\_\_\_

3. Property Address 30361 560th Ave., Cambridge, IA 50046

Parcel ID Number(s) 14-18-100-366

## 4. Certification and Signature

I/we certify that the information and exhibits submitted are true and correct to the best of my knowledge and that in filing this application I am acting with the knowledge, consent and authority of the owners of the property. Pursuant to said authority, I hereby permit County officials to enter upon the property for the purpose of inspection.

\*Acknowledgement of property owner is required and may occur via email or by signature of this application.

Property Owner Signature Michael E. Kamp Date 3/23/20 Applicant Signature \_\_\_\_\_ Date \_\_\_\_\_

## ☒ Subdivision

Proposed Name: Forest Ridge Estates

Filing Fee/Type (required prior to processing): \_\_\_\_\_

- ☒ Residential Parcel Plat (\$175)
- ☒ Agricultural Plat (\$175)
- ☒ Minor Plat (\$275)\*\*
- ☒ Major Plat—Preliminary (\$275)\*\*
- ☒ Major Plat—Final (\$175)\*\*

\*\*Conceptual Review required

Submittal Requirements:

- ☒ Attend conceptual review meeting
- ☒ Legal description that will be used on all required legal documents (submit as Word document)
- ☒ Proposed subdivision plat (submit as PDF)
- ☒ All required submittal requirements as outlined in Chapter 87 of the Story County Code of Ordinances (87.06(3) for Residential Parcel, 87.07(3) for Agricultural, 87.08(3) for Minor, 87.09(3) for Major-Preliminary and 87.09(5) for Major-Final)
- ☒ All required documents for subdivision plats as outlined in Iowa Code Chapter 354.11

## ☐ Vacation

Type: ☐ Right-of-way ☐ Plat

Submittal Requirements:

- ☐ Filing Fee (required prior to processing): \$175
- ☐ Legal description that will be used on all required legal documents (submit as Word document)
- ☐ Written description of requested items to be vacated
- ☐ See Chapter 87.10 for the vacation process

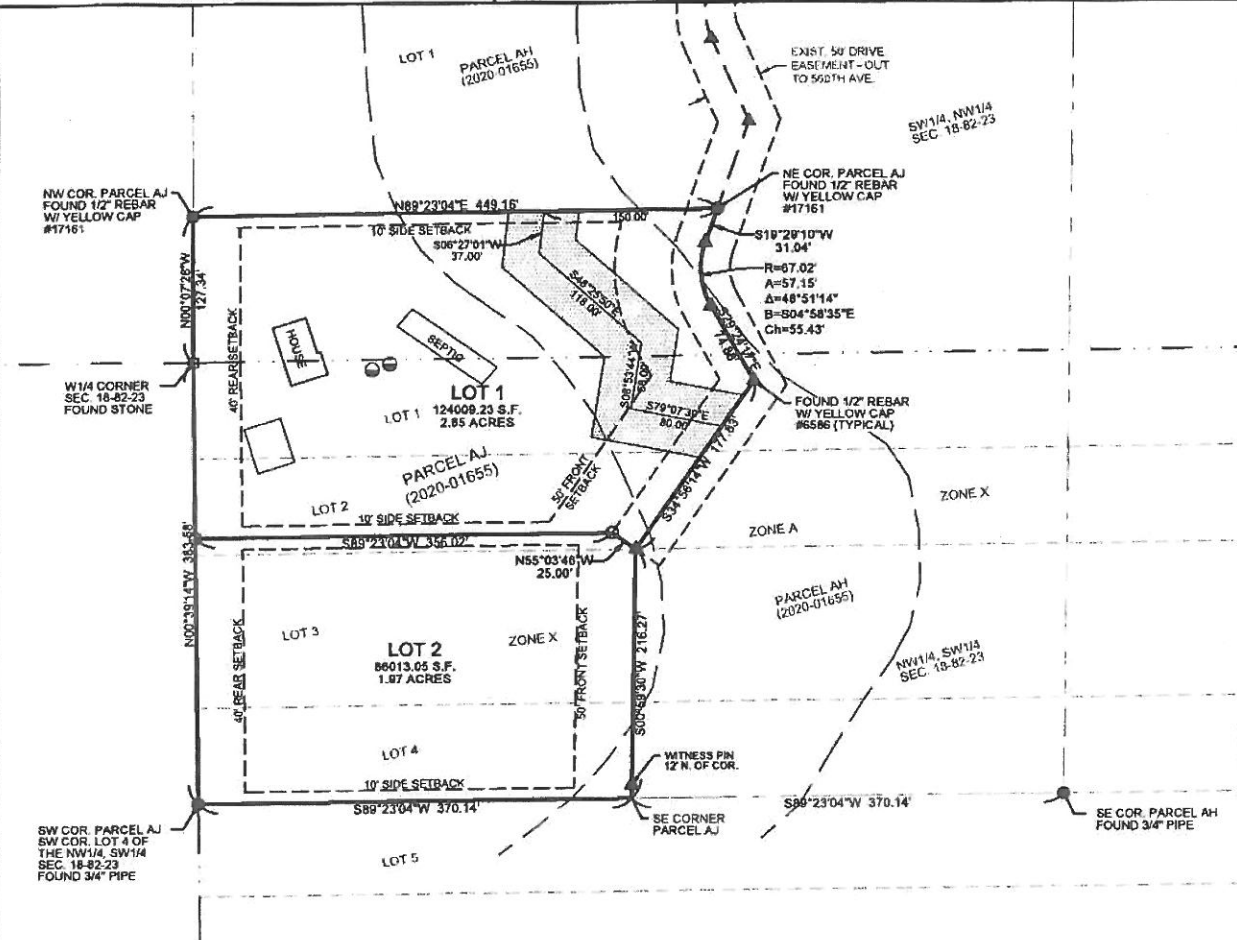
Receipt No. \_\_\_\_\_  
Receipt Amount \_\_\_\_\_

# FINAL PLAT FOREST RIDGE ESTATES

A RESIDENTIAL PARCEL SUBDIVISION OF  
PARCEL AJ IN THE W1/2 OF SECTION 18-82-23,  
STORY COUNTY, IOWA

OWNER/  
DEVELOPER: MICHAEL E. KAMP  
30361 560TH AVE.  
CAMBRIDGE, IA 50046

SURVEYOR: R. BRADLEY STUMBO, PLS #17161  
FOX ENGINEERING ASSOCIATES, INC.  
AMES, IA 50010  
515-233-0000



## Survey Description-Forest Ridge Estates:

A subdivision of Parcel AJ, as shown on the Plat of Survey filed at Inst No. 2020-01655, in the Southwest Quarter of the Northwest Quarter and the Northwest Quarter of the Southwest Quarter of Section 18, Township 82 North, Range 23 West of the 5th P.M., Story County, Iowa, being more particularly described as follows: Beginning at the West Quarter Corner of said Section 18, thence N00°07'28"W, 127.34' along the west line of said Southwest Quarter of the Northwest Quarter to the Northwest Corner of said Parcel AJ; thence N89°23'04"E, 449.16' to the Northeast Corner thereof; thence S19°28'10"W, 31.04' feet, thence southerly, 57.15' feet along a curve having a radius of 67.02' feet, concave to the East, a central angle of 48°51'14" and being subtended by a chord which bears S04°58'35"E, 55.43' feet; thence S29°24'17"E, 74.88' feet; thence S34°56'14"W, 177.83' feet; thence S00°59'30"W, 218.27' feet to the Southeast Corner of said Parcel AJ; thence S89°23'04"W, 370.14' feet to the Southwest Corner thereof; thence N00°39'14"W, 383.58' feet to the point of beginning, containing 4.82 acres.

## Survey Description-Drainage Easement:

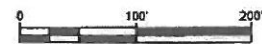
A strip of land 60.00 feet in width across Lot 1 in Forest Ridge Estates in the Southwest Quarter of the Northwest Quarter and the Northwest Quarter of the Southwest Quarter of Section 18, Township 82 North, Range 23 West of the 5th P.M., Story County, Iowa, being situated 30.00 feet on each side of the following centerline: Beginning at a point on the north line of said Lot 1 which is 150.00 feet West of the Northeast Corner thereof; thence S06°27'01"W, 37.00' feet; thence S48°25'50"E, 118.00' feet; thence S08°53'44"W, 58.00' feet; thence S79°07'30"E, 80.00' feet to a point on the easterly line of said Lot 1, and there terminating.

## Notes:

1. Lot 1 is served by private septic and rural water with a well for back up.
2. Lot 2 will be served by private septic and rural water.
3. All new lots shall require an E911 address for inhabited structures, including residences and businesses, telecommunications towers and facilities, and for any public assembly area including open-air, outdoor activities. E911 addresses shall be assigned by Story County at the request of the property owner.

Districts:  
Zoning: A-1 (Agricultural)  
School: Ballard  
Fire: Huxley  
Ambulance: Story County  
Utilities: Xenia Rural Water  
Drainage:

O = SET 1/2" REBAR W/  
YELLOW CAP #17161

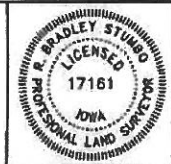


FOX Engineering Associates, Inc.  
414 South 17th Street, Suite 107  
Ames, Iowa 50010  
Phone: (515) 233-0000  
FAX: (515) 233-0103

I hereby certify that this land surveying document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Land Surveyor under the laws of the State of Iowa.

R. BRADLEY STUMBO, PLS  
License number 17161  
My license renewal date is December 31, 2021.

DATE





Preparer information: Dennis W. Parmenter, Parmenter Law Office, 515-597-3401  
Return document to: Parmenter Law Office, P.O. Box 336, 501 E. Fourth St., Huxley, Iowa 50124

**PLATTING DOCUMENTS**

**For**

**FOREST RIDGE ESTATES**

Attached hereto for filing as the subdivision of this plat are the following attached documents:

1. Owner's Acknowledgment of Consent to Plat
2. Mortgage Lender's Consent to Plat
3. Judgment Lienholder's Consent to Plat
4. Attorney's Title Opinion
5. Treasurer's Certificate

Legal Description preplatting:

Parcel AJ in the West Half of Section 18, Township 82 North, Range 23 West of the 5<sup>th</sup> P.M., Story County, Iowa, as established by the Plat of Survey recorded in Story County Iowa, Iowa, as Instrument No. 2020-01655.

ACKNOWLEDGMENT OF CONSENT OF OWNER TO THE PLATTING OF  
FOREST RIDGE ESTATES SUBDIVISION OF STORY COUNTY, IOWA

I, Michael Edward Kamp, a single person, covenant that I am the owner of certain real estate legally described as:

Parcel AJ in the West Half of Section 18, Township 82 North, Range 23 West of the 5<sup>th</sup> P.M., Story County, Iowa, as established by the Plat of Survey recorded in Story County Iowa, Iowa, as Instrument No. 2020-01655.

I further acknowledge and state that this platting and subdivision of the real estate described above as it appears on the survey attached hereto is done with my free consent and is in accordance with my desires.

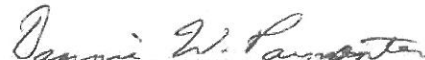
Signed at Huxley, Iowa, on March 23<sup>rd</sup>, 2020.

  
Michael Edward Kamp, Owner

STATE OF IOWA            )  
                                      ) ss  
COUNTY OF STORY        )

On March 23, 2020, Michael Edward Kamp, a single person, personally known to me, appeared before me and executed the foregoing instrument and acknowledged that he did so as his voluntary act and deed.



  
Dennis W. Parmenter  
Notary Public, Iowa

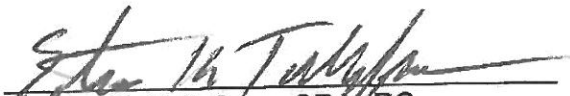
ACKNOWLEDGMENT OF CONSENT OF MORTGAGE LIENHOLDER TO THE  
PLATTING OF  
FOREST RIDGE ESTATES SUBDIVISION OF STORY COUNTY, IOWA

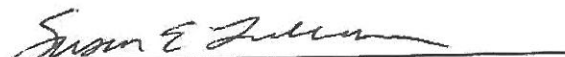
I, Steven K. Tollefson, CPA, PC, covenant that I am the holder of a mortgage concerning real estate legally described as:

Parcel AJ in the West Half of Section 18, Township 82 North, Range 23 West of the 5<sup>th</sup> P.M., Story County, Iowa, as established by the Plat of Survey recorded in Story County Iowa, Iowa, as Instrument No. 2020-01655.

I further acknowledge and state that this platting and subdivision of the real estate described above as it appears on the survey attached hereto is done with my free consent and is in accordance with my desires.

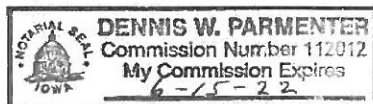
Signed at Huxley, Iowa, on March 31, 2020.


  
Steven K. Tollefson, CPA, PC

  
Susan Tollefson, spouse

STATE OF IOWA            )  
                                      ) ss  
COUNTY OF STORY    )

On March 21, 2020, Steven K. Tollefson, CPA, PC, and his wife, Susan Tollefson, personally known to me, appeared before me and executed the foregoing instrument and acknowledged that they each did so as his/her individual voluntary act and deed.



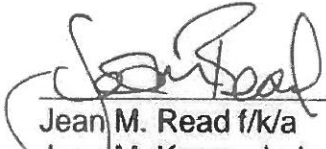
  
Dennis W. Parmenter  
Notary Public, Iowa

ACKNOWLEDGMENT OF CONSENT OF JUDGMENT LIENHOLDER TO THE  
PLATTING OF  
FOREST RIDGE ESTATES SUBDIVISION OF STORY COUNTY, IOWA

I, Jean M. Read, f/k/a Jean M. Kamp, a single person, covenant that I am the holder of a judgment lien concerning real estate legally described as:

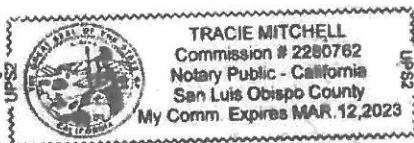
Parcel AJ in the West Half of Section 18, Township 82 North, Range 23 West of the 5<sup>th</sup> P.M., Story County, Iowa, as established by the Plat of Survey recorded in Story County Iowa, Iowa, as Instrument No. 2020-01655.

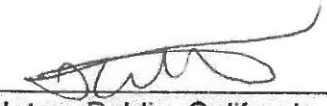
I further acknowledge and state that this platting and subdivision of the real estate described above as it appears on the survey attached hereto is done with my free consent.

  
\_\_\_\_\_  
Jean M. Read f/k/a  
Jean M. Kamp, Judgment Lienholder

STATE OF CALIFORNIA                    )  
  ) ss  
COUNTY OF San Luis Obispo        )

On April 7, 2020, Jean M. Read personally appeared before me and executed the foregoing instrument and acknowledged that she did so as her voluntary act and deed.



  
\_\_\_\_\_  
Notary Public, California

**PARMENTER LAW OFFICE**

P.O. Box 336  
Huxley, Iowa 50124

Dennis W. Parmenter

204 N. Hwy. 69  
(515) 597-3401  
Fax (515) 597-3402  
E-mail: [parlaw@huxcomm.net](mailto:parlaw@huxcomm.net)

April 8, 2020

Michael Edward Kamp  
30361 560<sup>th</sup> Ave.  
Cambridge, Iowa 50046

**Re: CERTIFICATE OF TITLE OPINION  
PLATTING OF FOREST RIDGE ESTATES**

Dear Michael, and all interested parties:

I have examined the Abstract of Title to the real property legally described as:

Parcel AJ a part of the Southwest Quarter of the Northwest Quarter and the Northwest Quarter of the Southwest Quarter of Section 18, Township 82 North, Range 23 West of the 5<sup>th</sup> P.M., Story County, Iowa, as shown on the Plat of Survey recorded in Story County, Iowa, on February 27, 2020, as Instrument No. 20-01655.

to be hereafter known as FOREST RIDGE ESTATES, a Subdivision in Section 18, Township 82 North, Range 23 West of the 5<sup>TH</sup> P.M., Story County, Iowa.

The Abstract consists of the original Abstract of Chain of Title No. 74101 by Batman-Sayers Abstract Company, together with formal continuations thereof through and including Abstract of Title No. 2003200945. Based entirely upon my examination of the Abstract, it is my opinion that marketable title to the property is in:

Michael Edward Kamp.

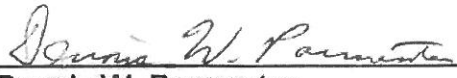
**Mortgage.** There is a mortgage on the property held by Steven K. Tollefson. Mr Tollefson has indicated his consent to the platting by a separate document.

**Judgment Lien.** Jean M. Kamp holds a lien for \$75,000.00 on the property. She consents to this platting by a separate document.

This Title Opinion is prepared to supplement the platting procedure of the property described above.



Forest Ridge Estates Subdivision, Title Opinion, page 2  
April 8, 2020

  
Dennis W. Parmenter  
Examining Attorney

Title Guaranty #2715

# **PLANNING & ZONING COMMISSION COMMUNICATION**

## **AGENDA HEADING:**

Ballard Creek Senior Living Driveway/Parking Lot Connection

## **SYNOPSIS:**

Ballard Creek Senior Living (908 US 69 Huxley, Iowa 50124) has submitted materials for City of Huxley review for the connection of their existing driveway to their parking lot, designed to improve traffic flow. Approximately .12 additional acres on the site will become hard surface through this project.

Project initiation is estimated for Spring 2020.

Additional information is below and in the attachments.

## **ADDITIONAL INFORMATION:**

- Staff and Veenstra & Kimm, Inc. have reviewed the original and revised stormwater calculations for the site.
- System capacity and release rate have been reviewed and are determined to be acceptable.
- The owner has requested a waiver for the installation of sidewalk along the property frontage. Staff has requested that this would be an extension rather than a waiver and be completed at City request in conjunction with the development of the adjacent site.
- Parking spaces for the facility remain within required amounts

## **RECOMMENDATION: APPROVAL WITH SIDEWALK CONDITION**

## **ANTICIPATED ACTIONS AND FUTURE COMMITMENTS:**

- April 28, 2020 City Council review of Planning & Zoning Commission recommendation
- Issuance of permit and construction of the project



**VEENSTRA & KIMM, INC.**

3000 Westown Parkway • West Des Moines, Iowa 50266-1320

515-225-8000 • 515-225-7848 (FAX) • 800-241-8000 (WATS)

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April 6, 2020

Rita Conner  
City Administrator  
City of Huxley  
515 N. Main Avenue  
Huxley, Iowa 50124

HUXLEY, IOWA  
BALLARD CREEK ASSISTED LIVING  
SITE PLAN REVIEW

We have reviewed the site plan for Ballard Creek Assisted Living and find it acceptable.

We understand the property owner has requested a waiver from the City to allow for a sidewalk not to be installed along the property frontage.

If you have any questions or comments, please contact us at 515-225-8000.

VEENSTRA & KIMM, INC.

Forrest S. Aldrich

FSA:dml  
45229-050

cc: Jeff Peterson, City of Huxley (e-mail)  
Bill Claassen, Wayne Claassen Engineering and Surveying, Inc. (e-mail)  
John Nilles, Nilles Associates (e-mail)







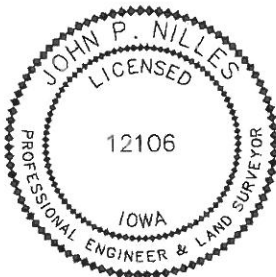
**STORM WATER STUDY**  
**PARKING LOT IMPROVEMENTS**  
**MADRID HOMES,**  
**BALLARD CREEK ASSISTED LIVING**

**HUXLEY, IOWA**

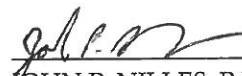
**NAI PROJECT NO. 20066**  
**MARCH 26, 2020**  
**Rev. APRIL 01, 2020**

***NILLES ASSOCIATES***

**1250 SW STATE STREET, SUITE A**  
**ANKENY, IOWA 50023-2555**



I HEREBY CERTIFY THAT THIS ENGINEERING  
DOCUMENT WAS PREPARED BY ME OR UNDER  
MY DIRECT PERSONAL SUPERVISION AND THAT  
I AM A DULY LICENSED PROFESSIONAL  
ENGINEER UNDER THE LAWS OF THE STATE  
OF IOWA.

 APR 01, 2020  
JOHN P. NILLES, P.E. Date

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2020  
PAGES COVERED BY THIS SEAL: ALL SHEETS



**Storm Water Management Study  
Parking Lot Improvements  
Madrid Homes, Ballard Creek Assisted Living  
908 US 69, Huxley, Iowa  
March 26, 2020, rev. April 01, 2020**

**A. EXISTING CONDITIONS:**

The original building, known as Phase 1, was constructed in 1997 along with associated parking. As part of this original project, a temporary storm water basin was constructed on the easterly side of the property to provide storage for approximately 1.36 acres of the developed site, also known as Zone B. This basin was designed to drain into an existing 8" storm sewer along the north side of Sycamore Blvd., which acts as the drain line for the residential sump pumps. The allowable five year release rate for this 1.36 acre area was 1.55 cfs. Because the basin outlet is connected to the existing 8" storm sewer, the City Engineer reduced the allowable release rate to approximately 0.7 CFS. The average c value for this basin was 0.59, resulting in a required storage volume of 7350 CF. An 8" outlet pipe with orifice plate set at 3" above the flowline was installed to limit the release rate to approximately 0.7 CFS.

A copy of the original storm water report is attached to this Study.

**B. PROPOSED CONDITIONS:**

The proposed development will change approximately 0.12 acres from lawn to paving from the original development. The resulting drainage to this basin will now consist of 0.62 acres of pavement ( $c = 0.90$ ), 0.23 acres of roof ( $c = 0.85$ ) and 0.51 acres of lawn ( $c = 0.25$ ). This now results in an average c value of 0.65, an increase of approximately 10%. This updated c value will increase the original storage volume from 7350 CF to 8600 CF.

Page 3 of the original report has been revised for today's proposed improvements.

**C. SUMMARY:**

The existing basin will be expanded to hold approximately 8600 CF of storm water while maintaining a release rate of approximately 0.7 CFS.

STORMWATER MANAGEMENT CALCULATION FOR :  
THE MADRID HOME OF HUXLEY, HUXLEY, IOWA.

EXISTING CONDITIONS

AREA:

ZONE A (NW AREA)	1.57 ACRES
ZONE B (SE AREA)	1.36 ACRES
UNDEVELOPED AREA	<u>1.67 ACRES</u>

TOTAL AREA 4.60 ACRES

ZONE A:

WATER DETENTION WILL BE PROVIDED FOR THIS AREA:

EXISTING:

GRASSED: 1.57 A @ C = 0.30

RELEASE RATE (15-min. duration)

$$Q_{5yr} = (0.30)(3.8)(1.57) = 1.79 \text{ CFS}$$

ZONE B:

~~NO~~ WATER DETENTION WILL BE PROVIDED FOR THIS AREA:

EXISTING:

GRASSED: 1.36 A @ C = 0.30

RELEASE RATE (15-min. duration)

$$Q_{5yr} = (0.30)(3.8)(1.36) = 1.55 \text{ CFS}$$

LIMIT RELEASE TO 0.7 CFS ←

FUTURE CONDITIONSZONE A:

## DETENTION AREA:

PAVEMENT	.11 Ac @ C = 0.90
ROOF	.40 Ac @ C = 0.85
LAWN	.83 Ac @ C = 0.25
	<u>1.34 Ac</u>

$$\text{AVG. } C = \left(\frac{.11}{1.34}\right) \cdot .90 + \left(\frac{.40}{1.34}\right) \cdot .85 + \left(\frac{.83}{1.34}\right) \cdot .25 = 0.48$$

## NON-DETENTION AREA:

PAVEMENT	.08 Ac @ C = 0.90
LAWN	.15 Ac @ C = 0.25
	<u>.23 Ac</u>

$$\text{AVG. } C = \left(\frac{.08}{.23}\right) \cdot .90 + \left(\frac{.15}{.23}\right) \cdot .25 = 0.48$$

$$Q_{100\text{-yr}} = (0.48)(6.15)(.23) = 0.68 \text{ cfs}$$

## ALLOWABLE RELEASE RATE:

$$1.79 \text{ cfs} - 0.68 \text{ cfs} = 1.11 \text{ cfs}$$

## DETENTION AREA:

DURATION (sec)	i @ 100 yr	C x A	Q (cfs)	rainfall	VOLUME (cu.ft.) release	retention
900	6.15	.64	3.94	3542	999	2543
1200	5.40	.64	3.46	4147	1332	2815
1800	4.50	.64	2.88	5184	1998	3186
2400	3.80	.64	2.43	5837	2664	3173
2700	3.60	.64	2.30	6221	2997	3224
3600	3.20	.64	2.05	7373	3996	3377 ←
7200	2.15	.64	1.38	9907	7992	1915

$$\text{DETENTION VOLUME @ 8" depth} = 4000 \text{ cu.ft. } \pm$$

$$\text{DISCHARGE PIPE: 8" } \phi \text{ PIPE @ 0.82\% } \sim 1.1 \text{ cfs}$$

ZONE B:

8" SUMP PUMP DRAIN LINE ALONG NORTH SIDE  
ZONE B WILL FLOW EAST TO EXISTING SYCAMORE STREET.

PAVEMENT : 0.62 ~~54~~ A @ C = 0.90

ROOF .23 A @ C = 0.85

LAWN 0.51 ~~.83~~ A @ C = 0.25

1.36 A

$$\text{AVG. } c = \left( \frac{.62}{1.36} \right) .90 + \left( \frac{.23}{1.36} \right) .85 + \left( \frac{.51}{1.36} \right) .25 = 0.59 \quad 0.65$$

$$Q_5 = (.59)(3.8)(1.36) = 3.05 \text{ cfs}$$

$$Q_{10} = (.59)(4.5)(1.36) = 3.61 \text{ cfs}$$

ALLOWABLE RELEASE RATE: 0.7 cfs (PER CITY)

## DETENTION AREA:

DURATION (sec)	i e 100 yr	C x A	Q (cfs)	rainfall	VOLUME (cu. ft.) release	retention
		.88				
900	6.15	.80	4.92	4428	630	3800
1200	5.40	.80	4.32	5184	840	4350
1800	4.50	.80	3.60	6480	1260	5200
2400	3.80	.80	3.04	7296	1680	5600 6346
2700	3.60	.80	2.88	7776	1890	5900 6664
3600	3.20	.80	2.56	9216	2520	6700 7618
7200	2.15	.80	1.72	12384	5040	7350 8582
10800	1.65	.80	1.32	14256	7560	6700 8122
14400	1.30	.80	1.04	14976	10080	4900 6394

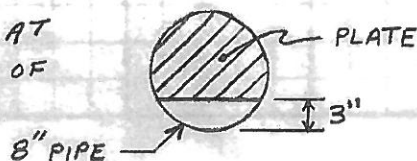
REQUIRED STORAGE: ~~7350~~ cu. ft. ←  
8582

## DISCHARGE PIPE:

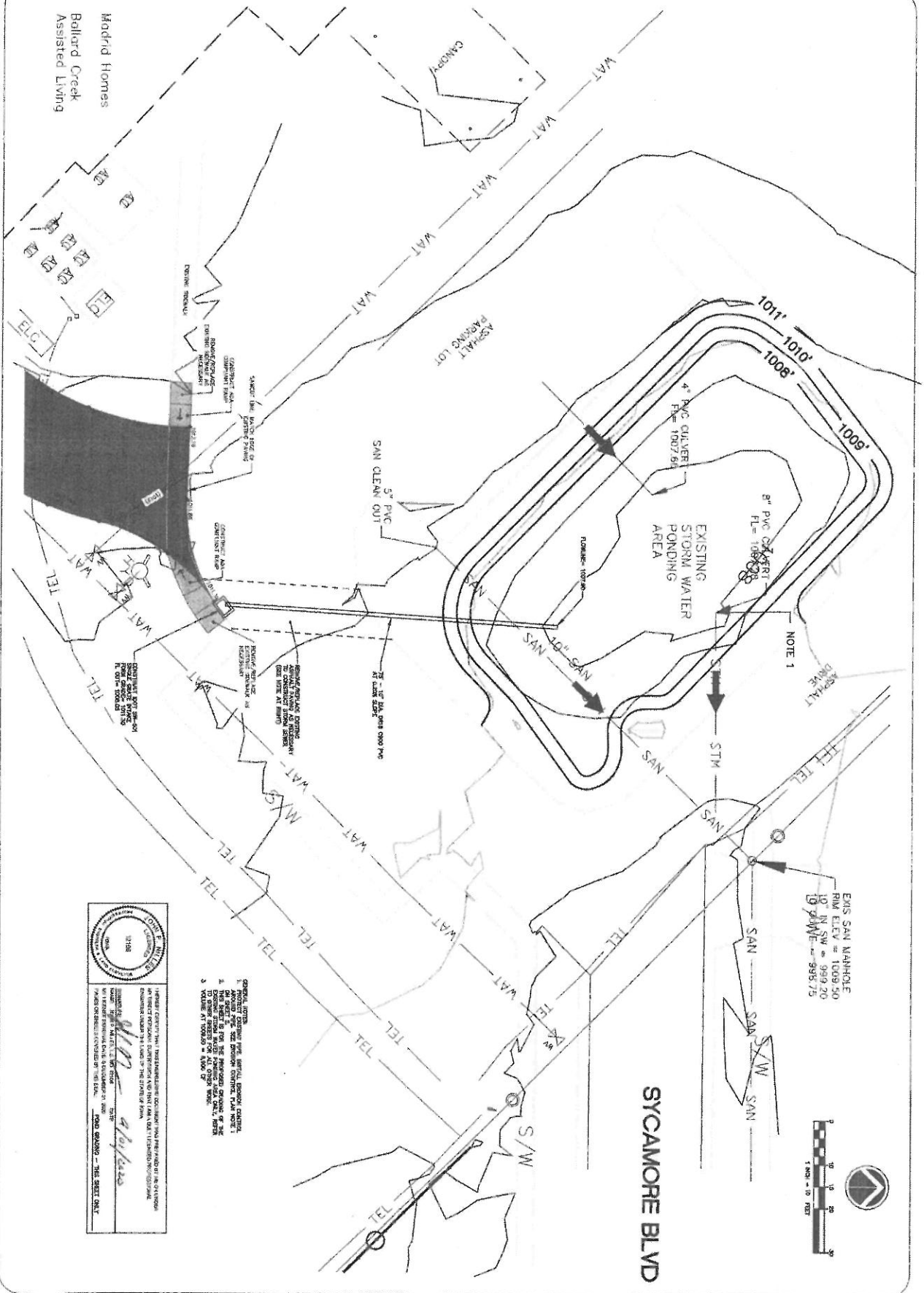
USE 8" PIPE WITH ORIFICE PLATE

$$A = \left[ \frac{0.7}{(0.6)(\sqrt{2})(32.2)(1.5')} \right] (144) = 17.1 \text{ in}^2$$

USE PLATE SET AT  
3" ABOVE INVERT OF  
8" Ø PIPE



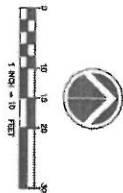
Madrid Homes  
Ballard Creek  
Assisted Living



PROJECT: <b>Parking Lot Improvements</b> LOCATION: <b>Madrid Homes, Ballard Creek Assisted Living</b> DATE: <b>4/1/12</b> DRAWN BY: <b>WJC</b> CHECKED BY: <b>WJC</b> SCALE: <b>AS SHOWN</b>	SHEET: <b>4A</b> OF: <b>4</b> DATE: <b>4/1/12</b> BY: <b>WJC</b> CHECKED BY: <b>WJC</b> SCALE: <b>AS SHOWN</b>

1. EXISTING STORM WATER PONDING AREA TO BE REMOVED AND REPLACED WITH NEW PONDING AREA.
2. NEW PONDING AREA TO BE 10' X 20' WITH 1' DEPTH.
3. NEW PONDING AREA TO BE 10' X 20' WITH 1' DEPTH.

SYCAMORE BLVD



Sheet  
4A

**Parking Lot Improvements**  
**Madrid Homes, Ballard Creek Assisted Living**  
**908 US 69, Huxley, Iowa**  
**GRADING FOR STORM WATER PONDING AREA**

FILE NO.	DATE
DATE PLOTTED	DATE
PROJECT: <b>Parking Lot Improvements</b> LOCATION: <b>Madrid Homes, Ballard Creek Assisted Living</b> DATE: <b>4/1/12</b> DRAWN BY: <b>WJC</b> CHECKED BY: <b>WJC</b> SCALE: <b>AS SHOWN</b>	

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