

The Natomas Basin Conservancy

Executive Director's Report





2600 Capitol Avenue
Suite 200
Sacramento, CA 95816
916.564.4500 phone
916.564.4501 fax

www.esassoc.com

transmittal

date January 26, 2016 ☒ attached ☐ via regular mail

to The Natomas Basin Conservancy ☐ via messenger ☒ via overnight mail
John Roberts, Executive Director

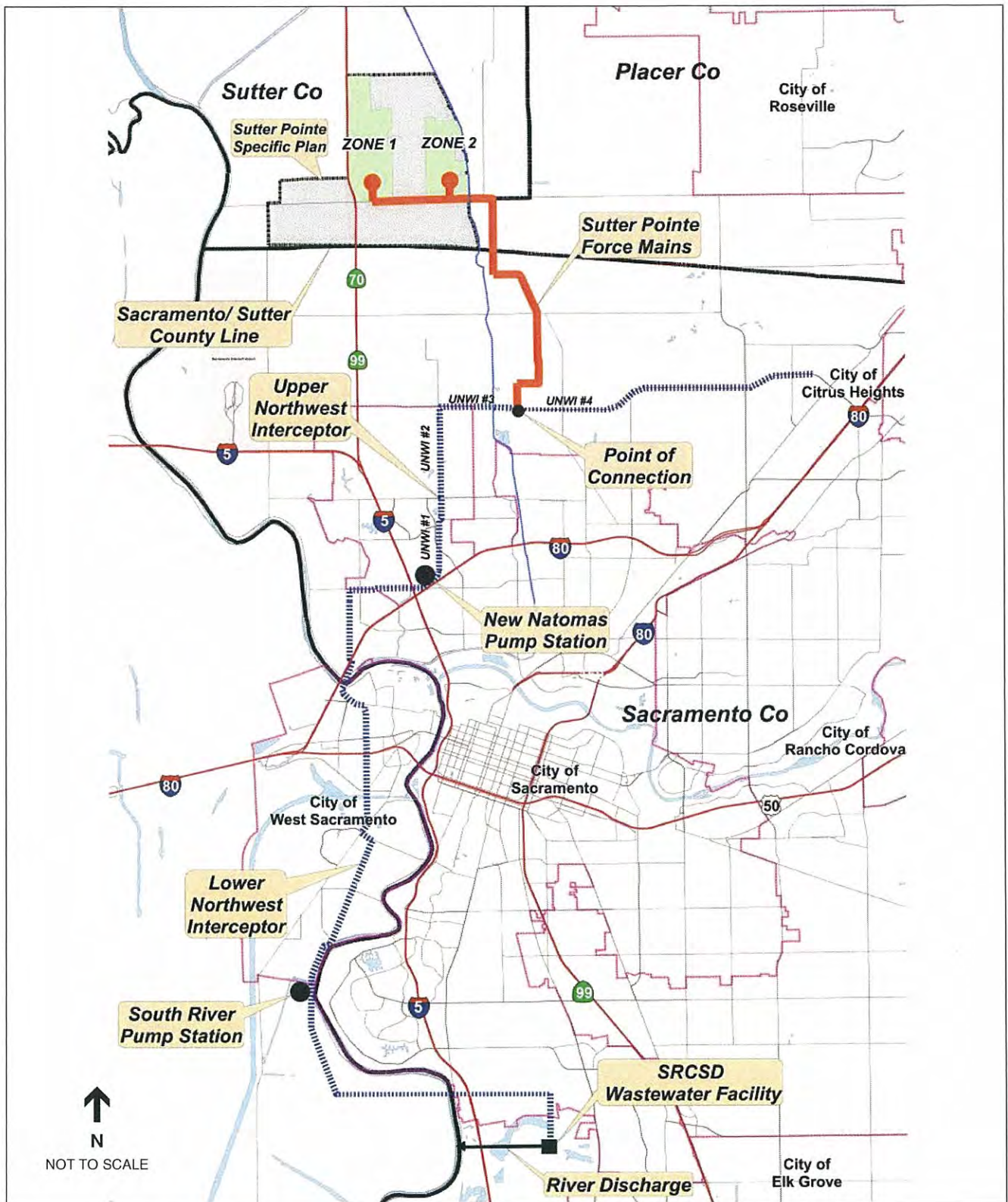
project Sutter Pointe Regional Wastewater Conveyance Project

items 2 Figures

comments This transmittal provides additional information in the form of two figures in support of the Notice of Preparation for the Sutter Pointe Regional Wastewater Conveyance Project that was mailed to you on Friday, January 22, 2016.

sent by Erick Cooke

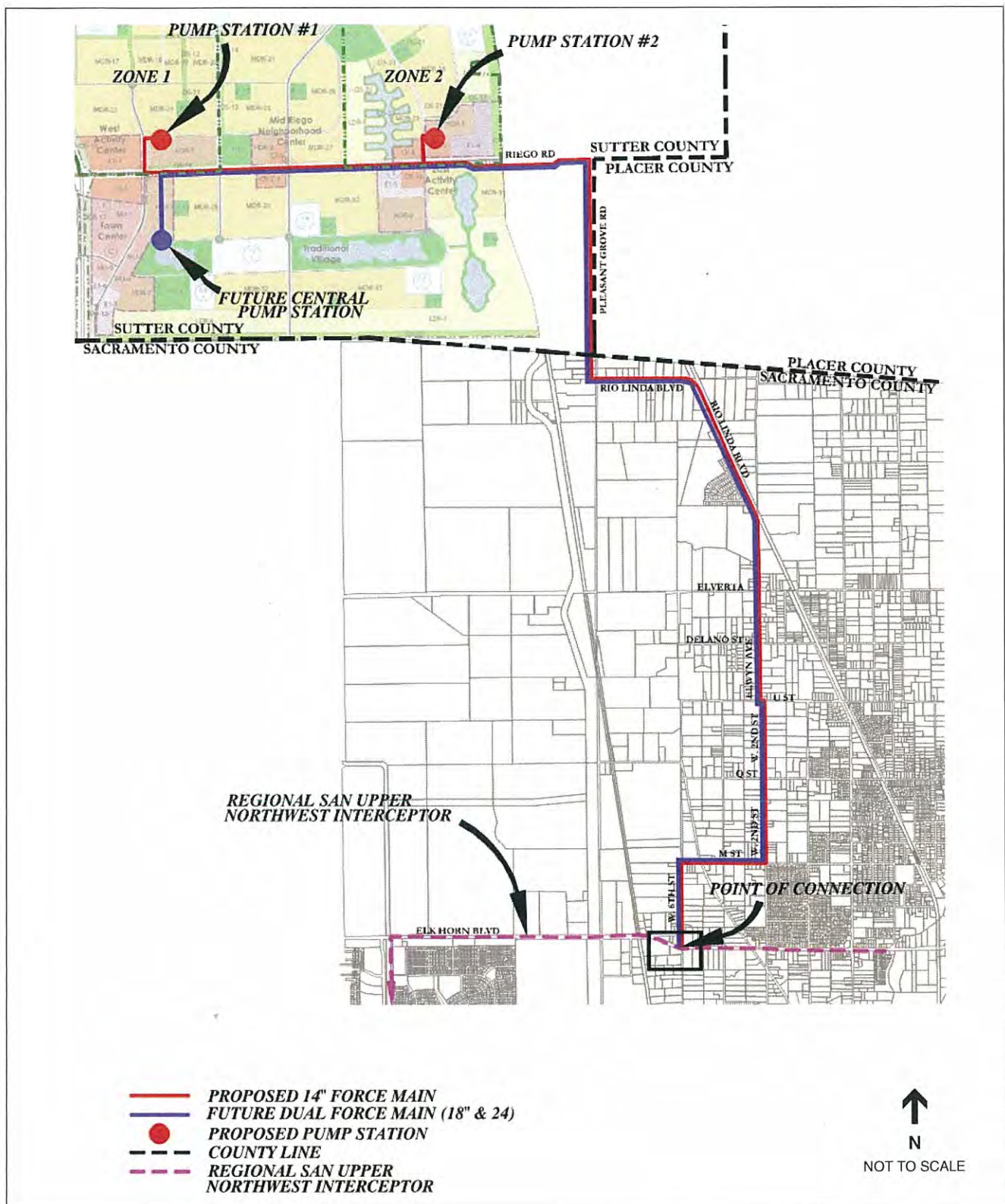
cc



SOURCE: MacKay & Somsps 2015

Sutter Pointe Regional Wastewater Conveyance Project . 130145

Figure 1
Project Regional Location



SOURCE: MacKay & Soms 2015

Sutter Pointe Regional Wastewater Conveyance Project . 130145

Figure 2
 Project Site

PROPOSED REGULATIONS MAY CHANGE THE PROCESS OF PROVIDING WRITTEN ACKNOWLEDGMENT TO DONORS

by Emina Cresswell, Manager, Not-for-Profit Practice

The IRS issued proposed regulations on September 17, 2015, that would implement an exception to the “contemporaneous written acknowledgement” requirement for substantiating charitable contribution deductions of \$250 or more. Why it’s important: because currently, to take the tax deduction for their charitable contribution, taxpayers need documentation, which recipient organizations now provide via written acknowledgment.

Let’s take a look at the specifics of the proposed regulations and what they might mean for donors and donee organizations.

PROPOSED CHANGES

The proposed regulations would provide another option to meet the substantiation requirements and rules on the time and manner in which donee organizations file information returns to report contributions received from donors during the calendar year. Donors would retain this information return to complete their respective income tax returns. This new reporting would be in lieu of written acknowledgement and completed by the donee organization.

To this end, the IRS is planning on developing an information return specifically to report contributions from donees—think of it as a new version of Form 1099. If an organization chooses to use this method, it would file the charitable information return with the IRS and provide a copy to the donor.

WRITTEN ACKNOWLEDGMENT TODAY

Currently, a taxpayer is allowed a tax deduction for a charitable contribution in excess of \$250 made to an exempt organization. However, the taxpayer must substantiate such a contribution with a contemporaneous written acknowledgement of the contribution by the donee organization. Under existing tax law, the donee must provide the following information in the acknowledgement to the donor (which isn’t sent to the IRS):

- The amount of cash and a description of any property contributed other than cash
- A statement as to whether any goods and services were provided by the donee organization in consideration for the contribution
- A description and good-faith estimate of the value of any goods and services provided by the organization (or a statement that such goods and services consist solely of intangible religious benefits)

Under IRC Section 170(f)(8)(C), a written acknowledgement is contemporaneous if it’s obtained by the taxpayer on or before whichever is earlier:

- The date the taxpayer files his or her original return



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Home (<http://www.sacsheriff.com/Default.aspx>)
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Services (<http://www.sacsheriff.com/services/>)
Crime Prevention (<http://www.sacsheriff.com/Pages/CrimePrevention/CP.aspx>)
FAQs (<http://www.sacsheriff.com/Pages/FAQs/faq.aspx>) | Most Wanted (<http://www.sacsheriff.com/Mostwanted>)
Resource Links (<http://www.sacsheriff.com/Pages/Services/Links.aspx>)
Stay Connected  (<http://www.facebook.com/SacSheriff>)  (<http://twitter.com/sacsheriff>)  (<http://www.youtube.com/sacramentosheriff>)  Email Us (<mailto:info@sacsheriff.com>)  Feed (<http://www.sacsheriff.com/feeds/rss/sacsheriff.xml>)

Media Release: Arrest in West Elverta Road Murder

December 17, 2015

Arrest in West Elverta Road Murder

Homicide detectives have arrested the suspect in the murder of Matthew Caquelin, 26, who was found murdered on November 25, 2015. Scot Sequeira, 28, of Sacramento was arrested by detectives on December 16th in Newman, California for the murder of Caquelin. He was arrested without incident.

A little after 7:15 a.m. on November 25, 2015, the Sheriff's Communication Center received a 911 call regarding a body located in a field near West Elverta Road in the north area of Sacramento County. A work crew was driving by when they noticed the body and immediately notified authorities.

Sacramento Sheriff's Deputies responded to the scene and located a male victim in the field. Sacramento Metro Fire personnel responded and pronounced the victim deceased at the scene. The victim sustained several gunshot wounds to the upper torso. Homicide detectives believe Sequeira and Caquelin knew each other, but it is still unknown why they were in a rural part of North Sacramento during the time of the murder. There is still no known motive at this time, and detectives are still trying to determine what exactly led up to the shooting.

Sequiera was booked at the Sacramento County Main Jail and is currently ineligible for bail. He is scheduled to be arraigned in Sacramento Superior Court on December 18, 2015.

Detectives are asking anyone with information relating to this incident, to please contact the Sheriff's Department at (916) 874-5115 or Crime Alert at (916) 443-HELP. Tip information may also be left anonymously at www.sacsheriff.com (<http://www.sacsheriff.com/>), by texting 274637 (CRIMES) and entering the keyword 'SSD', or by calling (916) 874-TIPS (8477).

Deputy Tony Turnbull

Sheriff's Spokesman



(Handler/Photo.ashx?th=n&id=366)

Scot Sequeira



Natomas
Mutual Water Company

2601 W. Elkhorn Blvd.
Rio Linda, CA 95673
Office 916 419 5936
Fax 916- 419 8691

IMPORTANT BILLING UPDATE **RECEIVED**

DEC 04 2015

DATE: November 30th, 2015

TO: Natomas Mutual Water Company Shareholders

SUBJECT: **ADJUSTMENT OF 2015 ADMINISTRATION/STANDBY FEES**

As California is approaching its 5th year of drought, the challenges of providing adequate water supply to our farms and habitats continue. Fortunately, in 2015 Natomas Mutual Water Company was able to meet the needs of its customers, thanks to the cooperation of our Shareholders and Tenants, as well as the Natomas Management's and Staff's commitment to efficiency.

Costs of water continue to increase as the drought conditions persist. To help mitigate these cost increases for our Shareholders, Natomas participated in conjunctive use programs and other transfers. This had the added benefit of helping other California districts meet their water needs during this difficult time.

Following a review of Natomas' 2015 financial position, the Board of Directors has determined that it is in the best interest of the Shareholders of NMWC to reduce the 2015 Administration and Standby charges from their originally budgeted amounts. As a result of this adjustment, we are pleased to inform you that Natomas will not be sending out bills for the 2nd installment of the Admin/Standby assessments. Additionally, we hope to refund up to \$43.24 per share of the 1st installment payment in December, pending upon a final financial review. We are also expecting to refund a portion of the 2015 Water Tolls.

I appreciate your ongoing support of Natomas Water, wish you a happy holiday season and look forward to serving you all in 2015.

Brett Gray
General Manger

NOTICE OF PREPARATION

ENVIRONMENTAL IMPACT REPORT FOR SUTTER POINTE REGIONAL WASTEWATER CONVEYANCE PROJECT

SUTTER COUNTY

To: Responsible Agencies and Interested Parties

Pursuant to the California Environmental Quality Act (CEQA), Sutter County as the CEQA Lead Agency has prepared this Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the Sutter Pointe Regional Wastewater Conveyance project (proposed project). The proposed project would extend wastewater service from the Upper Northwest Interceptor (UNWI), operated by the Sacramento Regional County Sanitation District (Regional San), to the Sutter Pointe Specific Plan (SPSP) area. Wastewater service to the SPSP area would be provided by the Regional San and the Sacramento Area Sewer District (SASD) under a Wastewater Service by Contract and Operating Agreement by and between Sutter County, Regional San and SASD (Agreement). The proposed project also includes a Wastewater Conveyance Project (WCP) that proposes on- and off-site facilities needed to convey future wastewater flows from the SPSP Area to the UNWI; including pumping facilities and parallel force mains, for conveyance to the Sacramento Regional Wastewater Treatment Plant (SRWTP) for treatment. The proposed parallel force mains would extend from the SPSP area to a point of connection with the UNWI near the intersection of West 6th Street and Elkhorn Boulevard in Rio Linda, an unincorporated community in Sacramento County. SASD would provide wastewater system operation and maintenance services to Sutter County until such time as the County assumes those duties

Construction of proposed project facilities would be phased. Two initial pumping stations and one of three planned force mains that would connect the SPSP area to the UNWI would be installed and operated first. A regional pump station and the remaining two force mains would be installed and operated at a later date as needed to serve subsequent development of the SPSP area. A more detailed project description is attached to this NOP.

The County has determined that the proposed project may result in potentially significant impacts to the following environmental resources:

- Air quality
- Biological resources
- Cultural resources
- Greenhouse Gas Emissions
- Noise
- Wastewater Infrastructure Treatment and Capacity

Sutter County is soliciting the views of interested persons, organizations, and agencies regarding the scope and content of the environmental information in connection with the proposed project. In addition, each responsible agency shall provide Sutter County with specific detail about the

SUTTER POINTE REGIONAL WASTEWATER CONVEYANCE

Project Description

Introduction

Sutter County (the County), proposes to implement the Sutter Pointe Regional Wastewater Conveyance project (proposed project) to extend wastewater service from the Upper Northwest Interceptor (UNWI), operated by the Sacramento Regional County Sanitation District (Regional San), to the Sutter Pointe Specific Plan (SPSP) area. Wastewater service to the SPSP area would be provided by the Regional San and the Sacramento Area Sewer District (SASD) under a Wastewater Service by Contract and Operating Agreement by and between Sutter County, Regional San and SASD (Agreement). The proposed project also includes a Wastewater Conveyance Project (WCP) that proposes on- and off-site facilities needed to convey future wastewater flows from the SPSP Area to the UNWI; including pumping facilities and parallel force mains, for conveyance to the Sacramento Regional Wastewater Treatment Plant (SRWTP) for treatment. SASD would provide wastewater system operation and maintenance services to Sutter County until such time as the County assumes those duties.

Construction of proposed project facilities would be phased. Two initial pumping stations and one of three planned force mains that would connect the SPSP area to the UNWI would be installed and operated first. A regional pump station and the remaining two force mains would be installed and operated at a later date as needed to serve subsequent development of the SPSP area.

Project Background

The SPSP area is not currently served by any municipal wastewater collection and treatment system. Existing residential, industrial and commercial uses within the area are served by individual on-site septic tank systems. In 2009 the County approved the SPSP and certified the Environmental Impact Report (EIR) (SCH#2007032157). In addition, a Sewer Master Plan was developed (2008 Sewer Master Plan) that estimated wastewater demand from development of the SPSP and presented various options for providing wastewater service to the SPSP area. It also identified on- and off-site infrastructure needs for the options. The 2008 Sewer Master Plan:(1) concluded that the preferred options would be to extend service from the Regional San system; (2) confirmed the ability of the County to connect the Regional San system; and (3) confirmed the ability of Regional San to accept wastewater flows from the SPSP area. Over time, as the SPSP is built out, the 2008 Master Plan will need to be updated and future master plans will need to include additional detail on both on- and off-site infrastructure including: (1) on-site pump

Figure 1 Project Location (8.5x11)

Project Objectives

The objectives of the proposed project are to:

- provide adequate wastewater conveyance, treatment and discharge to support buildout of the SPSP Area in compliance with the SPSP and Sewer Master Plan;
- not adversely affect the conveyance or treatment capacity of existing facilities; and,
- comply with the Natomas Basin Habitat Conservation Plan, Sacramento Area Flood Control Agency flood control plans, and other regional resource conservation and land use plans.

Project Description

The specific components of the proposed project include the Agreement, WCP, and details on the pumping facilities and parallel force mains connecting the SPSP area to the UNWI. Each of these components is described in more detail below.

Wastewater Service by Contract and Operating Agreement

The Agreement is a three-party contract between Regional San, SASD, and the County to extend wastewater services to the SPSP area. The Agreement describes the terms and conditions under which these three agencies would divide the responsibilities, duties and obligations to provide wastewater service to the SPSP. Specifically, the Agreement addresses the legal, operational and administrative details of providing wastewater service to the SPSP area. No physical facilities are proposed as part of the Agreement; physical facilities are identified as part of the WCP, as described below. Under the terms of the Agreement, the County, through a yet to be formed independent special district, would be responsible to collect wastewater flows generated from development in the SPSP area. The wastewater flows would be conveyed to the UNWI operated by Regional San. Regional San would then convey the SPSP flows, along with the flows from its Contributing Members and Contracting Agencies¹, to the SRWTP for treatment. After treatment, SPSP flows are discharged into the Sacramento River just downstream of the Freeport Bridge.

Under the terms of the Agreement, the respective responsibilities of the three agencies would be as follows:

- The County would be responsible for the design, construction, financing and ownership of all wastewater facilities within the SPSP area (including the off-site force mains);
- SASD would be responsible for operation and maintenance of proposed facilities using their existing operational resources and management expertise; and
- Regional San would accept the wastewater flows generated by development in the SPSP area at the proposed point of connection and would treat the flows at the SRWTP prior to

¹ Regional San provides service to the cities of Sacramento, West Sacramento, Citrus Heights, Elk Grove, Folsom, and Rancho Cordova; unincorporated Sacramento County; and the communities of Courtland and Walnut Grove. Contributing agencies include SASD and the cities of Folsom, Sacramento and West Sacramento.

Initial Development Area Facilities

Proposed Initial Development Area facilities include two medium capacity, on-site wastewater pump stations and one of three proposed force mains connecting the pump stations with the UNWI. Pump stations would be installed below ground in concrete vaults with control and electrical equipment located above ground in a fenced and secured area above the pump station (approximately 120 feet by 120 feet, or approximately 14,400 square feet each). The pump stations would be covered and the fenced and secure area would be paved with asphaltic concrete, including the access driveways.

One pump station (1.53 mgd PWWF) would be located within Zone 1 and one pump station (2.51 mgd PWWF) would be located within Zone 2 (see Figure 2). Two miles of 12-inch diameter force main would connect the Zone 1 and Zone 2 pump stations and a seven mile long 14-inch diameter force main would connect the Zone 2 pump station to the point of connection with the UNWI near the intersection of Elkhorn Boulevard and West 6th Street in Sacramento County (a total of nine miles of pipe). Zone 1 and Zone 2 could be developed independently or concurrently. In the case that either zone moves forward independently, the pump stations and force main would be phased accordingly. The alignment of the force main once it leaves the SPSP is as follows:

1. East on Riego Road to Pleasant Grove Road for totaling approximately 1.2± miles. Within this length of force main the alignment would transition from the north to the south outside the roadway westerly of the Natomas East Main Drainage Canal;
2. South on Pleasant Grove Road for approximately 1.3 miles;
3. East on Rio Linda Blvd and following it southerly for a total distance of approximately 2.5± miles to U street;
4. East on U Street for 150± feet to West 2nd Street;
5. South on West 2nd Street for approximately 1.0± mile to M Street;
6. West on M Street for approximately 0.5± miles to West 6th Street; and
7. South on West 6th Street for 0.5± miles where the force main would connect to the Regional San UNWI at the intersection of Elkhorn Boulevard.

Operation and Maintenance

In accordance with the Agreement, SASD would provide operation and maintenance (O&M) services for the SPSP wastewater collection and conveyance system. SASD would perform routine preventative maintenance on the system (including pump stations, main lines). For the Pump Stations, maintenance activities would occur annually, quarterly, and monthly, as needed to address any mechanical, electrical, and instrumentation issues. For the force mains, maintenance would occur based on a predictive and preventive maintenance programs. Cleaning intervals would occur every two years after the first 10 years of use.

be cut through or removed, and then replaced after construction of the force main. Where the force main would cross an existing bridge structure, it would be attached to the outside of the bridge.

Open trench construction methods would consist of the excavation of a shallow trench, typically 3-1/2 feet wide by 6 feet deep. Trench walls would be shored up when more than six feet in depth. The floor of the trench would be prepared with imported pipe bedding material (typically imported sand), and then the force main pipe would be installed and covered with initial backfill material (typically imported sand). After compaction of the bedding and initial backfill material, the trench would be backfilled with native materials to pavement subgrade level. The top surface of the trench and all disturbed pavement areas would be repaved with temporary paving until the trench settlement period has elapsed. Then permanent asphalt concrete over aggregate base in like kind and depth to the existing pavement would be installed. In unpaved areas, the surface of the trench and all disturbed areas would be restored to existing conditions and revegetated with native plant materials.

In areas where a bore and jack construction methods would be used, a bore pit would be excavated at each end of the bore location (typically 15 feet wide by 30 feet long by 6 feet deep). A boring machine would be positioned in one of the pits and a casing pipe would be "bored and jacked" under the surface obstruction. Then the force main would be slipped into the casing pipe and the area between the force main pipe and the carrier pipe would be backfilled with air blown sand. The boring would then be closed up and the bore pits backfilled.

Approximately 1,000 linear feet of force main would be installed per day. Due to the linear nature of the force main, and the narrow width of the existing roads within which the majority of the force main is proposed to be installed, the work area for the construction of the force main would be limited. Accordingly, it is anticipated that the road closures would be necessary to accommodate installation of the force main. Roadways would be open to two lanes of traffic during non-working (night-time) hours with trench plates covering all open trenches within roadways during off construction hours.

Construction Staging

Construction staging and laydown areas (staging areas) would be strategically located throughout the project area. Due the size of the project area (approximately 9 miles in length), several on-site and off-site staging areas would be required. All staging areas would be constructed and maintained in accordance with the requirements of the California Construction General Permit (Order No. 2009-0009-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002) and the Best Management Practices standards of the California Stormwater Quality Association (BMP Standards). Staging areas would include gravel access driveways to minimize the tracking of dirt onto public roads, spill containment facilities, and concrete washout areas. Whenever practical, construction materials, supplies, and equipment would be stored inside a staging area. Upon completion of construction activities leftover construction materials would be removed and the areas would be regraded and restored to existing conditions and revegetated with native plant materials.

**TABLE 1
PUMP STATION CONSTRUCTION EQUIPMENT**

Type of Equipment	Number of Equipment	Average Use (per day/duration)
Pickups	4	4 hours/6-8 months
Small Backhoe	1	4 hours/6-8 months
Large Excavator Backhoe	1	8 hours/2 weeks
Dump Truck	2	8 hours/2 months
Flat Bed Truck	1	4 hours/6-8 months
Vibratory Compactor	1	8 hours/1 month
Ready-mix Concrete Trucks	2	8 hours/1 month
Asphalt Paver	1	8 hours/1 week
Asphalt Roller	1	8 hours/1 week
Small Bulldozer	1	4 hours/6-8 months
Small Crane or Large Boom Truck	1	8 hours/6-8 months
15 KW Portable Generator	1	8 hours/6-8 months
Dewatering Pump System	1	24 hours/2 months

Force Main

The construction of the force main would occur over an approximately 6 month period and would require a construction crew consisting of an average of 20 construction workers over the duration of the construction period. Table 2 presents the construction equipment would likely be required at various times during the installation of the force main. The estimated number of construction vehicles and equipment, and their estimated average use during the installation of the force main is shown.

**TABLE 2
FORCE MAIN CONSTRUCTION EQUIPMENT**

Type of Equipment	Number of Equipment	Average Use (per day/duration)
Pickups	8	4 hours/3-4 months
Small Backhoe	4	8 hours/3-4 months
Large Excavator Backhoe	2	8 hours/3-4 months
Dump Truck	4	8 hours/3-4 months
Flat Bed Truck	2	8 hours/3-4 months
Vibratory Compactor	2	8 hours/1 month
Bore and Jack Machine	1	8 hours/2 weeks
Asphalt Paver	1	8 hours/2 weeks
Asphalt Roller	1	8 hours/2 weeks
Small Loader	4	8 hours/3-4 months
Small Boom Truck	2	8 hours/3-4 months
5 KW Portable Generator	1	4 hours/3-4 months
Ready-mix Concrete Trucks	1	4 hours/3-4 months
Dewatering Pump System	1	24/2 months



United States Department of the Interior

BUREAU OF RECLAMATION
Mid-Pacific Regional Office
2800 Cottage Way
Sacramento, CA 95825-1898

IN REPLY REFER TO:

MP-720
ENV-6.00

NOV 24 2015

RECEIVED

JAN 07 16

Interested Parties

Subject: Shasta Lake Water Resources Investigation (SLWRI) Final Feasibility Report and Final Environmental Impact Statement (EIS)

Dear Ladies and Gentleman:

The U.S. Department of the Interior has released the Final Feasibility Report and Final EIS for the SLWRI for review by the general public and U.S. Congress. The reports document the results of the feasibility study, including the evaluation of the potential effects of alternative plans for raising the existing Shasta Dam and Shasta Reservoir, located approximately 10 miles northwest of Redding, California. The reports also present and address the findings of planning, engineering, environmental, social, economic, and financial studies, and potential benefits and costs of the alternative plans. The Final Feasibility Report does not include a recommendation for Congressional action, but rather describes outstanding issues the Secretary of the Interior has identified for resolution before making a recommendation.

The SLWRI is one of four on-going storage investigations included in the CALFED Bay-Delta Program Programmatic Record of Decision (ROD), which identified program goals, objectives, and projects primarily to improve California's water supply and the ecological health of the San Francisco Bay/Sacramento-San Joaquin Delta system. It is being conducted under the authority of Public Law (P.L.) 96-375 and P.L. 108-361, the CALFED Bay-Delta Authorization Act.

The primary objectives of the SLWRI are to increase the survival of anadromous fish populations in the upper Sacramento River, and increase water supply and water supply reliability for agricultural, municipal and industrial, and environmental purposes.

A Draft Feasibility Report was released in February 2012 with public review and comment through January 28, 2013. In July 2013, the Draft EIS was released for a 90-day public comment period. The Final EIS contains responses to all comments received on the Draft EIS and any additional information received during the review period. A Notice of Availability for the Final Feasibility Report and Final EIS, was published in the Federal Register on August 7, 2015. These final documents incorporate clarifying information in consideration of comments received regarding the draft reports. For information on the SLWRI and to download copies of the Final Feasibility Report and Final EIS, please visit the Reclamation website at <http://www.usbr.gov/mp/slwri>. DVDs of the final reports are available by request; please contact

Ms. Katrina Chow at kchow@usbr.gov to receive a copy by mail. Copies of the Final Feasibility Report and Final EIS are also available for public review at the following locations:

- Bureau of Reclamation, Regional Library, 2800 Cottage Way, Sacramento, CA 95825
- Bureau of Reclamation, Northern California Area Office, 16349 Shasta Dam Boulevard, Shasta Lake, CA 96019
- Natural Resources Library, Department of the Interior, 1849 C Street NW, Main Interior Building, Washington, DC 20240
- Shasta County Public Library, Redding Library, 1100 Parkview Avenue, Redding, CA 96001
- Dunsmuir Branch Library, 5714 Dunsmuir Avenue, Dunsmuir, CA 96025
- Kern County Library, Holloway-Gonzales Branch, 506 East Brundage Lane, Bakersfield, CA 93307
- Concord Library, 2900 Salvio Street, Concord, CA 94519
- Los Banos Public Library, 1312 South 7th Street, Los Banos, CA 93635
- Napa City-County Library, 580 Coombs Street, Napa, CA 94559

For further information, please notify Ms. Chow, Project Manager, 2800 Cottage Way, MP-720, Sacramento, CA 95825, or kchow@usbr.gov, 916-978-5067 (TTY 916-978-5608).

Sincerely,



Michelle H. Denning
Regional Planning Officer

From: Jennifer Kelley jkelley@natomasbasin.org
Subject: Fwd: Natomas Basin - VFD Potential
Date: December 8, 2015 at 10:58 AM
To: John Roberts jroberts@natomasbasin.org
Cc: Kimberli Burns kburns@natomasbasin.org



John & Kim,

Please see the emails below which provide the answer we have been seeking if our pumps would benefit from the Variable Frequency Drives.

Thank you,
Jennifer



Jennifer Kelley | Contract & Compliance Manager

The Natomas Basin Conservancy

jkelley@natomasbasin.org

Office: 916.649.3331

Fax: 916.649.3322



Begin forwarded message:

From: "Coffman, Matt" <M8CO@pge.com>
Date: December 8, 2015 at 10:47:57 AM PST
To: Jennifer Kelley <jkelley@natomasbasin.org>
Cc: "Butterfield, Barbara" <BJBo@pge.com>, "energypro42@yahoo.com" <energypro42@yahoo.com>
Subject: RE: Natomas Basin - VFD Potential

Hi Jennifer,

Sorry for the delayed reply. In reviewing the potential for this project, the current operation is most likely the most efficient way to water.

The pump is designed for an optimum design flow, at this flow the pump operates at its highest efficiency. Best practice would be to operate at this point until the water level is sufficient and then shut off the pump. A VFD has the potential to decrease or increase the energy usage depending on how it is ran. With high flow low pressure pumping, the VFD benefits are few and far between (we see the most savings with high pressure requirements and varying flow rates). VFD's do provide a level of control, but that does not always make the system more efficient.

Some recommendations to save energy, would be to use the pump between the hours of 9:30pm and 8:30am (if possible). This will ensure that you are pumping during off peak hours which will result in a lower bill than when pumping during the peak hours of the day.

If you still would like to pursue a VFD, we can perform calculations to show whether or not it makes sense. We would need a few things though:

- Pump test
- Pump curve
- Acreage
- Schedule, flow rates that will be used and the corresponding annual hours they will be ran for

Please feel free to contact me with any additional questions you may have.

Best Regards,



**Pacific Gas and
Electric Company®**

Matt Coffman | Program Engineer
Pacific Gas & Electric Company - Davis
EE Operations – Engineering Services
(O): (530) 757-5234 | (F): (530) 757-5240
(C): (530) 632-2085 | Email: M8CO@pge.com
Website: <http://www.pge.com/>

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From: Jennifer Kelley [<mailto:jkelley@natomasbasin.org>]
Sent: Thursday, December 03, 2015 11:37 AM
To: Coffman, Matt
Subject: Re: Natonas Basin - VFD Potential

Alert: This message originated outside of PG&E. Use caution when opening attachments, clicking links or responding to requests for information.

Matt,

I did some research on the pump noted in your email, we refer to it as Bennett North. This pump is used for winter water rice degradation, and watering up our marsh complex. Most recently it was a part of the Water Company water sale which concluded at the end of the summer.

I hope this helps answer your questions. Let me know if there is any further questions I can get answered for you in helping to make your assessment of a possible VFD for our pump.

Thank you,
Jennifer

Coffman, Matt <M8CO@pge.com> , 11/24/2015 1:52 PM:
Hi Jennifer,

Thanks for speaking with me earlier today. Looking at the usage for the different pumps on your account, it seems like installing VFD's on a majority of the pumps will not necessarily be cost effective with the low usage.

One of the pumps (0027887150), has fairly high annual usage and may have potential savings depending on where you are pumping from and what the water is being used for. Typically with high volume, low pressure pumps we do not see a benefit from adding a VFD to the pump. It is more efficient to run the pump at optimum operating flow when needed, an on/off type operation (it seems like the pumps are already being operated this way). In regards to this pump, where is water being pumped from? What is the pump being used for?

Thanks in advance for your time and please let me know if you have any additional questions

Thanks in advance for your time and please let me know if you have any additional questions.

Best Regards,



**Pacific Gas and
Electric Company®**

Matt Coffman | Energy Solutions Engineer
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ECOS
ENVIRONMENTAL
♦ COUNCIL ♦
OF SACRAMENTO



P.O. Box 1526, Sacramento, CA 95812-1526
(916) 444-0022
office@ecosacramento.net
www.ecosacramento.net

December 16, 2015

Sacramento County Board of Supervisors
800 H Street
Sacramento, CA 95814

Sent via email

Subject: ***December 16, 2015 2:30 pm Workshop Prior to Initiation of Environmental Review for Natomas North Precinct Plan, Control No. 2003-0171 and PLNP 2014-00172***

Dear Members of the Board:

The purpose of your Board's workshop on December 16 is to consider the entitlement request of North Natomas landowners to expand the Urban Service Boundary, amend the General Plan, prepare a specific plan, and rezone 5600 acres to allow for the development of a new suburban community of 55,000 people. You are specifically being asked to review and comment on the Natomas North precinct plan and to direct staff to continue with more detailed plan studies, including preparation of a DEIR. You have already (on December 17, 2015) authorized staff to enter into an agreement to reimburse the county for up to \$7.5 million in staff expenses and to contract with a private company to prepare an EIR at a cost of close to \$1 million

Your actions today are of vital concern to the Environmental Council of Sacramento (ECOS) and Habitat 2020. Members of ECOS include: *350 Sacramento, Breathe California of Sacramento-Emigrant Trails, Friends of Stone Lakes National Wildlife Refuge, International Dark-Sky Association, Los Rios College Federation of Teachers, Mutual Housing California, Physicians for Social Responsibility Sacramento Chapter, Preservation Sacramento (formerly known as Sacramento Old City Association), Resources for Independent Living, Inc. (RIL), Sacramento Audubon Society, Sacramento Housing Alliance (SHA), Sacramento Natural Foods Co-op, Sacramento Valley Chapter of the California Native Plant Society, Sacramento Vegetarian Society, Save Our Sandhill Cranes (SOS Cranes), Save the American River Association (SARA), SEIU Local 1000 (Environmental Committee), Sierra Club Sacramento Group, The Green Democratic Club of Sacramento, and the Wellstone Progressive Democrats of Sacramento.* Members of Habitat 2020 include: *the Sacramento Audubon, Save the American River Association, Sacramento Urban Creeks Council, California Native Plant Society- Sacramento Valley Chapter, Sierra Club- Mother Lode Chapter, Friends of Swainson's Hawk, Save Our Sandhill Cranes, and Friends of Stone Lake National Wildlife Refuge.*

The ECOS and Habitat 2020 request that your Board acknowledge that this project represents a significant and precedent setting expansion of the Urban Service Boundary (USB), and that you put this project on hold to engage in a public discussion of the fundamental growth issues of this

request. We recommend that your Board continue this matter and direct county staff to come back with an objective and preferably independent evaluation of the following issues:

1. Why moving ahead at this time with USB expansion is justified in terms of supply and demand;
2. Implications of Natomas development on endangered species protection, existing HCP implementation and issues/ obstacles with federal permitting;
3. Implications for safe yield conjunctive use of the groundwater table as per the Water Forum Agreement and at full buildout and issues with groundwater withdrawal given a new state regulatory role;
4. Challenges of dealing with flood and drainage in the Natomas area;
5. Inconsistency with the draft Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) for 2036 and the Sacramento County Air Quality Attainment Plan;
6. Why the benefits of expanding the USB are so extraordinary as to override the findings required by existing County policy; and
7. Why it is necessary for development to proceed via the County rather than Sacramento City, as originally intended during the adoption of the 1993 General Plan.

Why Expanding the Urban Service Boundary is Significant and Precedent Setting

Sacramento's adoption of an Urban Service Boundary in 1993 represented one of the first California General Plans to define a long term boundary for urban growth in a metropolitan setting. It provided sufficient land within the USB for many decades worth of growth. The USB provided the potential, with carefully considered phased growth, to at least triple the unincorporated urban population in the County.

By and large the Urban Service Boundary has been an effective planning policy. Folsom did expand beyond the boundary south of US Highway 50—as a city it is not bound by the same policies—and the County approved one minor expansion for a truck stop along Interstate 80. When Elk Grove City tried to expand its sphere way beyond the USB, the boundary's importance weighed in the issues brought before LAFCo and their ultimate decision to deny the expansion. The boundary was an important benchmark for the analysis that led to the Water Forum Agreement, and has been, as intended, a valuable tool for planning sewer interceptors and other urban infrastructure over the last 22 plus years.

The Natomas Project would expand the Urban Service Boundary to allow a new “city” of 55,000 people. It would send the message to other cities that the USB is just a line on a map and not a significant delimiter for urban development. For all of us who want to see responsible, efficient, phased growth that gives infill a chance, moving forward with the Natomas project at this time sends exactly the wrong message. So, for us and many Sacramento residents, moving the boundary IS a big deal.

Consistency with County General Plan

Policy LU-127. Policy LU-127 in the County General Plan Land Use Element recognizes the significance of the USB. It requires that 6 findings be made before any decision to expand the

USB (See Attachment B). The Board can alternatively, by a 4/5ths vote, avoid these findings if they determine that the “expansion would provide extraordinary environmental, social or economic benefits and opportunities to the County.” This policy sets a much higher bar for moving the USB than normal land use decisions.

The recent staff report to the Planning Commission on the Natomas North Precinct Master Plan earlier this fall made no mention of the project’s consistency with General Plan Policy. The staff report released just prior to this workshop does respond to questions ECOS has raised regarding General Plan policy consistency. The staff report acknowledges that the Board can't make all of 6 required findings and that a 4/5ths vote under the alternative provision of LU-127 will be necessary. That is all. The staff report does not include any discussion about which findings cannot be met, what the issues are and why the findings cannot be met. Nor does the staff report suggest what the project offers in the way of “extraordinary environmental, social or economic benefits and opportunities to the County.”

The normal County process when entertaining requests to expand the Urban Service or the Urban Policy Area boundaries is evaluate the likelihood that the requested expansion can meet relevant General Plan policies. Indeed, much of the Natomas North Specific Plan staff analysis for this workshop concerns consistency with Policies LU-119 and LU-120 regarding expansion of the UPA. In contrast, if your Board moves forward to the EIR and detailed planning studies, the fundamental issues associated with USB policy will not be considered until the final project hearings in a couple of years, after millions have been spent on planning studies. There needs to be equal weight and consideration NOW to the threshold decision of expanding the USB in the context of LU-127. And that discussion needs to involve more than just the technical parsing of policy conformance, but address the spirit and intent of the policy requirements. The Board, at a minimum needs to fully address these concerns:

Available Land within the USB. First, Policy LU-127 restricts USB expansion unless there is “inadequate vacant land within the USB to accommodate the projected 25 year demand for urban uses.” We think that it is pretty clear that there is well more than a 25 year supply of vacant land. But how much more supply is either available for development or in the pipeline? It would be instructive to have a quantitative understanding. County staff, working with input from the Sacramento Area Council of Governments (SACOG), should provide the numbers.

Water Supply. Second, water supply has become a critical California issue in recent years. Policy LU-127 requires that development within the proposed USB expansion area “can satisfy the requirements of a master water plan as contained in the Conservation Element.” There is no such document in the Conservation Element, but there is a Water Forum Agreement. The Water Forum Agreement did not assume development within the Natomas North Precinct. The Infrastructure Assessment Report for the North Precinct Area by Mackay and Soms, dated November 11, 2015 concludes that between Natomas Central Mutual Water Company rights held by landowners and groundwater pumped from within the proposed project, there is sufficient water available to meet projected water demand. This assumes that the State Water Resources Control Board and Bureau of Reclamation will approve a change of use for the Natomas Water Company water from agriculture to municipal/industrial. The report states that groundwater withdrawal rates will not exceed a per acre sustainable annual water withdrawal

rate identified for the Sutter Pointe Development, and that the groundwater withdrawal for the project will not exceed the Water Forum limit for pumping from the North Area Groundwater Basin (which is not a limit based on urban buildout). There is no discussion of new state laws and regulations pertaining to groundwater withdrawal and whether these could be a significant barrier to meeting water demand for the project.

We think that further review and discussion is warranted on water supply questions. What issues will the SWRCB and Bureau consider in granting the change of use and how likely is it that the permit will be granted? Will groundwater withdrawals at buildout within the North Area Groundwater Basin be sufficient in combination with North Precinct buildout pumping to maintain safe yield? Are those limits still realistic in terms of a future likely to include more frequent severe droughts? And what problems/barriers are there likely to be with state groundwater regulatory programs?

Impact on HCP. Third, Policy LU-127 requires that the area of expansion “not preclude implementation of a Sacramento County-adopted Habitat Conservation Plan.” While it is true that the existing Natomas HCP is not County-adopted, it does include Metro Air Park in the unincorporated County. Moreover, the Staff reports accompanying this workshop acknowledge that the proposed North Precinct development cannot jeopardize the existing HCP and that a separate HCP will be needed. The existing HCP must be implemented within the Natomas Basin. We have seen no accounting of how many mitigation acres still need to be protected in order to meet the permitted take, how many acres of habitat are available with the Basin, how North Precinct project development will impact the availability of habitat for mitigation, and the ratio of mitigation to available acreage to ensure feasibility of acquisition both before and after the project. In other words, there is no analysis of whether Natomas North Precinct development will by itself make it much more difficult to fully implement the existing HCP. And there is no indication that a new HCP would be able to get an Incidental Take Permit because of its impact on the existing HCP.

Moreover, the County is blithely assuming that a separate HCP which will rely on protecting habitat outside of the County can satisfy federal and state regulatory requirements for protecting listed species. Given that the long promised South Sacramento HCP is approaching its silver anniversary as a plan-in-progress, we think that this assumption is overly optimistic. The County notes that the new HCP is moving on a separate track from the entitlement process. We think that there needs to be more progress and clarity on the scope and strategy of a separate HCP before the entitlement process moves to the next stage of studies.

Consistency with MTP/SCS

Consistency with an MTP/SCS is not a part of Policy LU-127, but it is a very relevant threshold issue. The staff report addendum indicates that the General Plan policies LU-119 and LU-120 were an acceptable alternative to SACOG’s Blueprint. While the Blueprint anticipates the potential for some eventual growth in this area, the current 2016 Draft MTP/SCS does not anticipate any growth in this area within the 2036 horizon year of the plan (see Table A-1 of Attachment A of the draft MTP/SCS, attached as Attachment A to this letter). Therefore, this

project is inconsistent with the Sustainable Communities Strategy and the reduction of greenhouse emissions associated with that Strategy.

The County's compliance with the MTP/SCS is critical for the region to reach the greenhouse gas reduction targets established for the region by the California Air Resources Board. Premature growth in this area will severely inhibit the region's ability to build a transportation system that will meet the State's climate goals and federal air quality requirements, as well as build equitable, healthy, economically thriving communities while preserving our natural resources and local agricultural base.

With worldwide agreement this month among 195 nations to lower planet-warming greenhouse gas emissions to stave off the most drastic effects of climate change, it is simply not appropriate for local governments to proceed with business-as-usual approval of more urban sprawl.

Air Quality Attainment Plan Consistency. However one of the LU-127 requirements is that the development associated with USB expansion “can satisfy the Requirements of the Sacramento County Air Quality Attainment Plan”. We have seen no analysis on this regard. It is our understanding that consistency with the Sacramento County Air Quality Attainment Plan requires consistency with the MTP/SCS. This makes MTP/SCS Consistency a relevant General Plan policy consistency issue. Again, there needs to be a more visible evaluation and discussion of these plan inconsistencies with both the Sacramento County Air Quality Management District and SACOG providing input.

Why is Natomas Development So Extraordinary as to Merit a 4/5th Approval Vote?. Finally, there is the matter of the 4/5 vote exception in Policy LU-127. We think that there needs to be public discussion now on what is so extraordinary about Natomas development that justifies moving the USB and beginning the development entitlement process with disregard to both the County's adopted growth strategy and regional transportation and air quality plans.

Drainage Challenges

Flood control and drainage have been a longstanding Natomas issue. There are significant challenges with designing a flood control plan for this low-lying area. The Infrastructure Assessment Report prepared by the landowners' consultants discusses a drainage strategy for the development of the area. You have received separate testimony questioning the assumptions and adequacy of the drainage strategy. Given the challenges of the area and the likely high cost of drainage improvements, we think that an independent assessment of the feasibility of the proposed drainage strategy is worthwhile before moving forward with the entitlement process.

Sacramento City vs County as Lead of Any Natomas North Precinct Development

The 1993 Board did consider including the North Natomas area in the proposed boundary, but that Board recognized that the City of Sacramento was the logical entity to provide urban services and manage the growth of the area, so they adopted the present boundary. Development of the area was supposed to proceed through Sacramento City via the LAFCo sphere of influence and annexation process, which involves a thorough consideration how urban service needs will

be met and the impact on agriculture and open space. To our knowledge this option was never seriously pursued. We do know that landowners were back before the County seeking to amend the County General Plan within three years of its 1993 adoption. Later the applications were put on hold during the Natomas Vision Process, involving both city and county staff. However, the County is no longer working with the City on a joint vision for how and when the area will be developed. Rather the Vision Process has morphed into an unincorporated area growth project. That doesn't change the underlying rationale and appropriateness for the original strategy. At a minimum, the County should explain why development is no longer a "joint vision and have a public discussion on why unincorporated area growth is a more efficient and effective way for the area to urbanize. City leaders should be invited to participate in this discussion.

Conclusion

We hope that your Board understands the significance of your actions regarding expanding the USB north to the Sutter County line. We understand that this is only a step in a long process of considering entitlement approval. But you have authorized entering into contracts for over \$7 million worth of studies and work to figure out the details of creating a new town of 55,000 people, and you have authorized preparation of a \$1 million Environmental Impact Report to consider the impacts. You are proceeding as if this is a done deal only requiring the planning details to be worked out. And you are doing so without having fully and publicly addressed the significant issues associated with the threshold decision of whether this development should proceed at all, in this time frame, or under the auspices of the County rather than the City. Please consider our request to put the project on hold while you undertake a serious and unbiased review and hold a public discussion on the important concerns we are raising.

Sincerely,

A handwritten signature in black ink, appearing to read "Rick Guerrero".

Rick Guerrero, ECOS President

A handwritten signature in black ink, appearing to read "Robert C. Burness".

Rob Burness, Co-Chair of Habitat 2020

Attachment A

Table A-1

Approved or Pending Greenfield Plans included in adopted 2035 MTP/SCS as Developing Community	Total Housing Units Planned/Proposed in Project	Housing Units Estimated to be Built by 2035 in Adopted MTP/SCS	Approved or Pending Greenfield Plans not included in adopted 2035 MTP/SCS	Total Housing Units Planned/Proposed in Project
Isleton			Isleton	
			Village on the Delta Specific Plan	300
Rancho Cordova			Rancho Cordova	
Sunridge Specific Plan	8,763	7,571		
Rio Del Oro Specific Plan	11,601	8,057		
Ranch At Sunridge Specific Plan	2,713	2,296		
Suncreek Specific Plan	4,893	1,834		
Arboretum ¹	4,742	571		
Westborough ¹	6,078	756		
Sacramento			Sacramento	
Delta Shores Specific Plan	5,092	5,077		
Unincorporated Sacramento County			Unincorporated Sacramento County	
Elverta Specific Plan	4,950	1,507	Cordova Hills Specific Plan	9,010
North Vineyard Station Specific Plan	6,063	3,292	Jackson Township Specific Plan	6,143
Vineyard Springs Specific Plan	5,942	3,740	Newbridge Specific Plan	3,075
Vineyard Community Plan	6,610	5,251	Northwest Special Planning Area	22,000-25,000
Florin Vineyard Specific Plan	9,919	2,552		
Glenborough at Easton Specific Plan	3,239	3,262		
West Jackson Specific Plan	15,658	5,150		
Mather South Specific Plan	2,504	1,039		
Sutter County			Sutter County	
Live Oak			Live Oak	
			Live Oak northern annexation ¹	2,700
			Live Oak SOI ¹	10,900

Attachment B

Sacramento County General Plan Land Use Element Policy LU-127

LU-127. The County shall not expand the Urban Service Boundary unless:

- There is inadequate vacant land within the USB to accommodate the projected 25 year demand for urban uses; and
- The proposal calling for such expansion can satisfy the requirements of a master water plan as contained in the Conservation Element; and
- The proposal calling for such expansion can satisfy the requirements of the Sacramento County Air Quality Attainment Plan; and
- The area of expansion does not incorporate open space areas for which previously secured open space easements would need to be relinquished; and
- The area of expansion does not include the development of important natural resource areas, aquifer recharge lands or prime agricultural lands;
- The area of expansion does not preclude implementation of a Sacramento County-adopted Habitat Conservation Plan;

OR

- The Board approves such expansion by a 4/5ths vote based upon on finding that the expansion would provide extraordinary environmental, social or economic benefits and opportunities to the County.

LIST

Key dates

Nov. 2:

Form 941 is due for the third quarter of 2015 if Social Security, Medicare, and/or withheld income tax were not deposited on time for the quarter.

Nov. 2:

Deadline for comments on proposed regulations (REG-143800-14) on how to determine whether an employer-sponsored health plan provides "substantial coverage of inpatient hospitalization and physician services."

Nov. 10:

Form 941 is due for the third quarter of 2015 if Social Security, Medicare, and withheld income tax were deposited on time for the quarter.

Nov. 25:

Deadline for comments on proposed regulations (REG-136459-09) that would remove the benefits-and-burdens-of-ownership rule for determining which party to a contract manufacturing agreement is entitled to claim the Sec. 199 domestic production activities deduction.

Nov. 30:

Deadline for comments on proposed changes to the Uniform CPA Examination.

Drafts outstanding

IFAC

Proposed International Standard on Auditing (ISA) 810 (Revised), *Engagements to Report on Summary Financial Statements*

Comment deadline: Nov. 2

ED: tinyurl.com/q4vwd8v

Exposure Draft 56, *The Applicability of IPSASs*

Comment deadline: Nov. 30

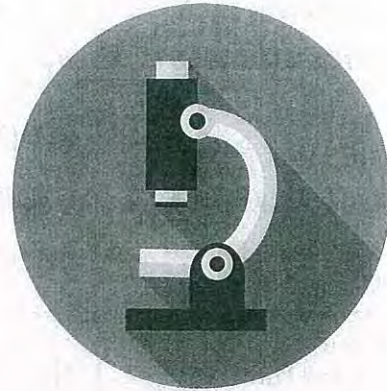
ED: tinyurl.com/nu6ldtn

Consultation Paper, *Recognition and Measurement of Social Benefits*

Comment deadline: Jan. 31

CP: tinyurl.com/q727dqx

QJ
FYI
↓



GASB explores fundamental changes

The board is evaluating a reporting model that has been in place since 1999.

GASB will take a fundamental look at the reporting model for state and local government financial statements in an effort that aims to enhance the information available for decision-making and assessing a government's accountability.

In adding a new project to its technical agenda, GASB committed to examining a financial reporting model that was established in 1999 through Statement No. 34, *Basic Financial Statements—and Management's Discussion and Analysis—for State and Local Governments*, and subsequent related pronouncements.

The current structure of state and local government financial reporting was established in Statement No. 34, which set the foundation for the format and contents of the basic financial statements, certain related notes to the financial statements, and required supplementary information, including management's discussion and analysis (MD&A).

One of the most significant additions to the reporting model that resulted from Statement No. 34 was the introduction of governmentwide financial statements including accrual information, which includes the reporting of infrastructure, other capital assets, and long-term liabilities.

GASB's reexamination will take into account research GASB's staff has conducted over the past two years with users, preparers, and auditors of governmental financial statements, who have shared views on how the financial reporting model is functioning.

Potential areas of improvement include MD&A, governmentwide financial statements, major funds, governmental fund financial statements, proprietary fund financial statements, and budgetary information.

GASB will look for opportunities to reduce the complexity of financial statements in each of these areas, which may improve the timeliness of reporting. Deliberations were scheduled to begin in October, and the board expects to issue an initial due process document by the end of 2016.



2015.12.21



2015.12.21

NO HUNTING NO TRESPASSING

Sensitive Wildlife Habitat Area
Violators Will Be Prosecuted

t h e
NATOMAS
BASIN
c o n s e r v a n c y

Violators will be prosecuted under the California Penal Code Section 602 and other state and federal statutes.

2015.12.21

At Sacramento airport, birds and planes don't mix well

HIGHLIGHTS

Birds collide with jets up to 200 times a year near Sacramento International Airport

In almost all cases there is little or no damage to jets, but strikes can take an engine out

The airport spends hundreds of thousands annually to discourage, harass and kill birds



1 of 7



BY TONY BIZJAK

tbizjak@sacbee.com

Each day at Sacramento International Airport, a high-stakes turf war unfolds in the fields beyond the runways.

Armed with noise cannons, squawk boxes, shotguns and rifles, airport biologists patrol the grounds, shooing and often shooting avian intruders in hopes of reducing bird strikes, one of the airline industry's oldest problems. Similar scenarios play out at airports nationally, but they are especially common in Sacramento, which sits beneath the giant bird migratory route known as the Pacific Flyway.

Bird strikes pose a potentially significant hazard for planes. A Southwest Airlines flight hit a bird eight minutes after takeoff this month and was forced to return to the airport when one engine lost power. A similar incident forced a commercial airliner to make a precautionary landing in November.

Sacramento has one of the highest bird strike rates in the country. This time of year, it's easy to see why. The airfield is surrounded by Natomas basin farmland, much of it prime habitat for birds, including rice fields flooded in winter. Flocks of geese could be seen last week resting in the watery fields on both sides of Highway 99 just north of the airport under commercial jet flight paths.

"Thousands of them," Glen Rickelton, a Sacramento airport manager who oversees the airport's wildlife hazard management program, lamented last week.

The county's decision to build the airport in Natomas wetlands in 1967 proved to be a mixed blessing. "We don't have people living too close by," he said, "but we end up with thousands of acres of habitat that we have to find a way to coexist with."

Airport crews work to keep the grounds mowed and dry. But this year's rains are starting to saturate the ground, Rickelton said. If that continues, pooling water could attract more birds.

PLANES AT SACRAMENTO AIRPORT HAVE COLLIDED WITH BIRDS 113 TO 200 TIMES A YEAR OVER THE PAST DECADE.

Planes arriving or leaving Sacramento International have collided with birds anywhere from 113 to 200 times a year over the past decade, a Sacramento Bee review of federal data shows. The peak years in the decade were in 2009 and 2010. Strike reports have dropped off in the years since, but not by a lot. There were 134 in the most recent data year, 2014.

National experts recently reported mixed evidence that they say suggests the industry is making progress in reducing strike risks. The total number of strikes reported nationally is on the rise, but that may be due to more vigilance and reporting by airports and airlines, bird strike analysts say. More notable, they say, is that the more serious bird strikes, the ones that damage planes, have been falling since 2000.

Strikes generally pose much bigger problems for birds than to humans. In roughly 9 out of 10 strikes, there is no damage to the jet. When there is damage, it often is minor. Sacramento airport officials say they have no record of any human injury from a bird strike here.

But in rare occurrences, bird strikes have disabled planes. The Federal Aviation Administration reports 25 human deaths from bird strikes since 1990.

“

IT IS A PROBLEM WE HAVE TO KEEP ON TOP OF.

Archie Dickey, director of the Center for Wildlife and Aviation at Embry-Riddle Aeronautical University

The problem is not new.

Orville Wright struck a bird in an Ohio field in 1905. In 1960, a flock of starlings caused a commercial jet to crash in Boston harbor, killing 62 people.

Many airports and airlines have attempted to deal with it for years, but the issue did not get much publicity among the general public until a spectacular event in 2009 prompted federal safety officials and local airports to reassess their efforts. A U.S. Airways airliner taking off from LaGuardia Airport in New York ran into a flock of geese and lost power in both engines. The pilot managed an emergency water landing, belly-flopping the jet on the Hudson River without serious injury to passengers.

That incident, referred to in the aviation industry as the Miracle on the Hudson, drove home a point. “It is a problem we have to keep on top of,” said Archie Dickey, director of the Center for Wildlife and Aviation at Embry-Riddle Aeronautical University. “The public needs to be in support of trying to reduce this.”

Cleared for landing

Since then, airports and airlines have stepped up reporting and analysis of bird strikes, beefing up bird management efforts, many by hiring biologists. Sacramento, which had a robust program before the Hudson River incident, spends \$350,000 to \$500,000 annually to keep birds at bay. It employs two and sometimes three biologists.

Most bird strikes

Top 10 airports nationally
for bird strikes since 2010:

Denver	2,506
Dallas/Fort Worth	2,048
Chicago O'Hare	1,365
John F. Kennedy	1,156
Salt Lake City	1,033
Memphis	1,028
Philadelphia	1,007
Sacramento	917
Orlando	910
La Guardia	830

Other West Coast airports

Los Angeles	578
Portland	494
Seattle-Tacoma	469
San Francisco	445
Mineta San Jose	417
Oakland	355

Source:
Federal Aviation
Administration (July 2015)
The Sacramento Bee

The tactics are often proactive and basic. Airport workers reduce shelter and feeding areas on airport grounds by cutting the grass, pruning trees and draining ditches. They also set traps near runways to catch small prey that might attract large birds.

Last summer, during the drought, the airport's wildlife team sprayed insecticide around both runways to quell a grasshopper population boom that was attracting swallows and causing a spike in small bird strikes. This summer, airport officials plan to increase the spray area.

Much of the daily work, though, involves what biologists call hazing and harassing. That includes firing pyrotechnic pistols at birds, and placing booming propane cannons and squawk boxes around airport grounds. Biologists drive around in trucks honking the horn at birds. The airport has tried falconry, bird dogs and remote-controlled vehicles at times to chase birds away, but Rickelton said the effectiveness of each was limited.

When harassing methods don't work, the fight gets deadly. Biologists shot more than 1,300 birds on airport grounds in 2013-2014, the most recent reported year. The airport is required under a federal "depredation" permit to count and report every shooting.

That tactic has drawn ire from some wildlife advocates, but airport officials say it's needed.

1,323

Recent tally of bird kills at the airport

"If a bird is sitting on the side of the runway and that bird is just not going to leave ... we will use lethal force to preserve the safety of the operations of the airport," Rickelton said. "That is a judgment call. It's an option of last resort."

Federal wildlife officials place specific limits on the number of birds of various species the airport can kill each year. In its most recent report, the airport listed 707 kills of the birds in permit-covered categories. Those included 191 cliff swallows, 138 western meadowlarks, 36 great egrets, 17 great blue herons and eight red-tailed hawks.

The airport killed another 616 birds in groups for which there are no limitations. More than 500 of them were blackbirds, the No. 1 species shot at the airport.

"It's a function of their numbers and their persistence," Rickelton said of blackbirds. "You have big blocks of them and they just won't leave." He said he had honked his horn that morning at a group of blackbirds on an airport fence, but the flock simply hopped into the air for a few seconds and then came back down.

The upshot

Some Sacramento environmentalists and wildlife advocates criticized the airport's approach, saying they wonder if it's overkill.

"I seriously question whether what they are doing is necessary," said Jim Pachl, a longtime bird advocate. "If you shoot a bunch of them, a bunch more are going to move in. It sounds like laziness."

Sacramento is among many airports where shooting occurs. "It's almost always controversial," said Chris Oswald, vice president of safety and regulatory affairs for the Airports Council International – North America. "I'd love to say we don't need to do that, but it is an important tool."

In Sacramento, Rickelton said he believes his team's multipronged approach has reduced the risk of strikes on or close to airport property. He pointed out the window of his airport office at neatly mowed fields with only a few birds in sight inside the airport fence line. But he said the airport can do little about the many bird strikes that happen after takeoffs or before landings a few miles off airport grounds.

Mike Begier, chair of the national Bird Strike Committee, a group that includes the Department of Defense, commercial airports, the aerospace industry and private sector, thinks increased awareness is having positive effects.

Begier and colleagues recently presented study results that show, in particular, a reduction in damaging strikes closer to airports, where airport hazard management teams have more control. Begier estimated the reductions have saved the industry \$300 million since 2000, and possibly saved human lives.

Begier, who also is national coordinator of the airport wildlife hazard program in the U.S. Department of Agriculture, said the numbers show increased vigilance is having an effect. "Is there more work to be done? Yes," he said. "There has to be diligence. Proactivity."

An evolving technology, called "avian radar," may help airports and the Federal Aviation Administration get a better real-time handle on bird movements across airfields in the coming years. It could even allow controllers to hold flights momentarily until a threat passes, said Oswald of the Airports Council International.

The problem won't be going away, though, because birds are persistent, said Dickey of Embry-Riddle Aeronautical University. He said he once saw a hawk at Sacramento airport sitting on a noise cannon. The hawk had the cannon timed. Just before it went off, the bird flew a few feet away, then landed back on the cannon again.

“You can’t put a dome over the airport,” he said. “Birds and animals are going to move across. No way of stopping that.”

Tony Bizjak: 916-321-1059, @TonyBizjak

BIRD SHOOTINGS

Biologists working for the Sacramento International Airport shot more than 1,300 birds in 2013-14. The list:

Limited species	Shot	Limit
Barn swallow	1	85
Barn owl	0	25
Cliff swallow	191	600
Great blue heron	17	60
Great egret	36	85
Long-billed curlew	28	70
Mallard	72	400
Mourning dove	29	200
Red-tailed hawk	8	75
Turkey vulture	31	30
Western kingbird	15	125
Western meadowlark	138	250
White-faced ibis	4	60
American kestrel	8	50
American wigeon	1	50
Black-crowned night heron	2	50
California gull	4	50

?

Canada goose	11	50
Common raven	1	50
Double-crested cormorant	2	50
Ferruginous hawk	2	50
Gadwall	1	50
Hooded merganser	9	50
Horned lark	4	50
House finch	10	50
Killdeer	51*	50
Ring-billed gull	9	50
Savannah sparrow	16	50
Snowy egret	1	50
White-crowned sparrow	4	50
Yellow-billed magpie	1	50
No limits		
American crow	43	–
Brewer's blackbird	293	–
Brown-headed cowbird	40	–
Common grackle	2	–
Red-winged blackbird	238	–

*Emergency take report filed

Source: U.S. Fish and Wildlife Service

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