



The following information comprises the minutes for a special and regular meeting of the City Council, a joint meeting of the Banning City Council and Banning Utility Authority and a joint meeting of the Banning City Council and the Banning City Council sitting in its capacity as the Successor Agency Board.

**MINUTES
CITY COUNCIL**

**9/8/2020
SPECIAL AND REGULAR MEETING**

COUNCIL MEMBERS PRESENT:

Mayor Daniela Andrade
Councilmember David Happe
Councilmember Kyle Pingree
Mayor Pro Tem Colleen Wallace
Councilmember Art Welch

COUNCIL MEMBERS ABSENT: None

OTHER PRESENT

Douglas Schulze, City Manager
Kevin G. Ennis, City Attorney
Marie Calderon, City Clerk
Sonja De La Fuente, Deputy City Clerk
Matthew Hamner, Police Chief
Ralph Wright, Parks & Recreation Director
Tom Miller, Electric Utility Director
Art Vela, Public Works Director/City Engineer
Jennifer Christensen, Administrative Services Director
Adam Rush, Community Development Director
Laurie Sampson, Executive Assistant

I. CALL TO ORDER - CLOSED SESSION

The Mayor Called to Order a Special Meeting of the Banning City Council at 4:00 P.M.

The Mayor opened public comment for items on the closed session agenda. Seeing none, closed public comment.

The City Attorney listed the items on the closed session agenda.

The City Council convened to closed session at 4:02 P.M.

II. CLOSED SESSION

ITEM.II.1 CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION
Pursuant to Paragraph (1) of subdivision (d) of Government Code Section 54956.9
Name of case: Robertson's Ready Mix, Ltd. v. City of Banning, et al., Case No. RIC 1513475

ITEM.II.2 CONFERENCE WITH LEGAL COUNCIL - ANTECIPATED LITIGATION
Significant exposure to litigation pursuant to paragraph (2) of subdivision (d) of Government Code Section 54956.9: One potential case

The City Council reconvened to open session at 5:03 P.M.

The City Council reconvened to closed session at 7:09 P.M.

The City Council reconvened to open session at 7:54 P.M.

The City Attorney reported that the City Council discussed Item II.2 with no final or reportable action.

III. ADJOURNMENT - CLOSED SESSION

The Mayor adjourned closed session at 7:58 P.M.

I. CALL TO ORDER REGULAR MEETING

The Mayor called to order the regular meeting at 5:07 P.M.

ITEM.I.1 Invocation

Elder Richard Young with the Church of Jesus Christ of Latter-Day Saints offered the invocation.

ITEM.I.2 Pledge of Allegiance

Mayor Andrade led the Pledge of Allegiance.

ITEM.I.3 Roll Call

COUNCIL	PRESENT	ABSENT
Andrade, Daniela	X	
Happe, David	X	
Pingree, Kyle	X	
Wallace, Colleen	X	
Welch, Art	X	

II. AGENDA APPROVAL

Approve Agenda

VOTING

Motion by: Mayor Pro Tem Wallace
Second by: Council Member Pingree

COUNCIL	YES	NO	ABSTAIN	RECUSE	ABSENT
Andrade, Daniela	X				
Happe, David	X				
Pingree, Kyle	X				
Wallace, Colleen	X				
Welch, Art	X				

III. PRESENTATIONS

ITEM.III.1 Mayor's Special Recognitions

The Mayor and City Council recognized Martha Paige and Carmen Marie Pruitt for their dedication, hearts, and time at the Senior Center, making Banning a better place to work, play, and live.

IV. REPORT ON CLOSED SESSION

The City Attorney reported that the City Council met in closed session at 4:00 p.m. today. Items discussed were as listed on the agenda above. Regarding Item 1, Anticipated Litigation, an update was provided to the City Council. The City Council did not have time to discuss Item 2 and will do so following the regular meeting.

V. PUBLIC COMMENTS, CORRESPONDENCE, AND APPOINTMENTS, CITY COUNCIL COMMITTEE, CITY MANAGER, AND CITY ATTORNEY REPORTS

PUBLIC COMMENT

Inge Schuler expressed concern with the Rancho San Gorgonio property, as on Saturday night there was a party in the riverbed until after 10:00 p.m. She was not sure who to call to address the situation.

Lenore Williams advised that she lives in Sun Lakes and heard something was scheduled to be built behind her on Sun Lakes Boulevard in next 11 months and would like to know what that would be.

CORRESPONDENCE

None

APPOINTMENTS

ITEM.V.1 Councilmember Appointment to City Manager's Homelessness Advisory Committee

Appoint Council Member Pingree and Mayor Pro Tem Wallace to the City Manager's Homelessness Advisory Committee.

VOTING

Motion by: Mayor Andrade

Second by: Council Member Happe

COUNCIL	YES	NO	ABSTAIN	RECUSE	ABSENT
Andrade, Daniela	X				
Happe, David	X				
Pingree, Kyle	X				
Wallace, Colleen	X				
Welch, Art	X				

CITY MANAGER REPORT

City Manager Schulze advised there are some projects in process for the area near Sun Lakes, which involve the extension of Sun Lakes Boulevard. The other projects are private projects, including a small project in the Sun Lakes shopping center that involves the expansion of parking and small commercial building at the corner of Sun Lakes Boulevard and Highland Springs. That project should come forward in next few months. Also, the 47-acre project behind the Sun Lakes Village Shopping Center is in the design phase. A community meeting was held at Sun Lakes in March where they took public comment and are working on revisions to their plan. Sunset Crossroads (formerly Five Bridges) at Highland Home Road/Sunset/I-10/Bobcat is currently in the planning process and this includes a 50-acre parcel at Sunset/I-10, which is the soonest portion to be done. The remainder will take quite a bit of time to go through the permit process. No construction should take place within the next 12 months.

City Manager Schulze shared a slide presentation (Attachment 1) reporting that the AMG Outdoor Advertising Electronic Billboard has been erected and is now operational, a Bulky Item Disposal Event will be held on Saturday, October 10, 2020, from 8:00 A.M. until 1:00 P.M. at Dysart Park. Citizens may also contact Waste Management for bulky item pick up. Staff is working on the Airport closure and clean-up efforts. There is a Red Flag warning through Wednesday night due to the Santa Ana winds, so it is advised to bring flammable objects indoors. Emergency preparedness tips include keeping your car fuel tank at least half full and keeping your phones charged. For Nixle alerts, please text 92220 to 888777.

CITY ATTORNEY REPORT

City Attorney Ennis reported that some Legislature in California has recently been enacted, including a bill to provide tenants some relief from potential eviction and a bill regarding independent contractors for public entities. He advised that his office is keeping staff informed.

CITY COUNCIL COMMITTEE REPORTS

Council Member Pingree reported that the Animal Shelter will be re-roofed on Saturday.

Council Member Happe had nothing to report.

Council Member Welch reported that he attended a Zoom meeting last week with RCTC, Caltrans, and RTA regarding traffic in the area. He voiced concern regarding the width of the lanes. He asked them to take another look at it because of the speed of traffic and the close proximity to the walls. They also discussed speed and he advised that the CHP have stopped and ticketed 1,300 drivers exceeding 100 mph.

Mayor Pro Tem Wallace reported that she has been appointed to the SCAG Transportation Committee and echoed concerns regarding speed. She advised that this committee is developing and implementing speed limits to prioritize the safety of all road users and enhancing resources, including a web page, as they want to improve traffic control.

Mayor Andrade thanked all of the firefighters and first responders working on the El Dorado fire. Ellen Carr with Tender Loving Critters expressing concern with people not being able to afford pet food during COVID. She partnered with the Chamber of Commerce to provide pet food. Anyone who would like to donate or pick up food can visit the Chamber of Commerce. Market Night was held on Friday. She thanked all who participated, including the vendors. This is held every first and third Friday of the month. Food Distribution was held on Sunday. The City, the Chamber, the Sikh Temple and volunteers. They donated face shields and she left them with the City. Reminded everyone the Hammer family will be on the San Gorgonio overpass with flags in rememberance of the events of 9/11/2001.

VI. CONSENT ITEMS

ITEM.VI.1 Minutes of the August 25, 2020 City Council Meetings

ITEM.VI.2 Resolution 2020-111, Authorizing the Application for and Receipt of Grant Funds for the Youth Community Access Grant Program

ITEM.VI.3 Agreement with ECS Imaging, Inc. for Installation and Configuration of Laserfiche Cloud Records Management System

ITEM.VI.4 Purchasing Credit Card (P-Card) Program Policy B-36

ITEM.VI.5 Electric Utility Easement from Pardee Homes for on Assessor's Tract Map No. 35966

ITEM.VI.6 Resolution 2020-115, Declaring Termination of Local Emergency

ITEM.VI.7 Resolution 2020-109, Awarding Professional Services Agreements to Cornerstone C.C.H.D. for Electrical Engineering Design Services

ITEM.VI.8 Resolution 2020-8 UA, Approving Amendment No. 4 to the Agreement with Babcock Laboratories, Inc.

ITEM.VI.9 Aviation Easement from Banning Industrial, L.P.

ITEM.VI.10 Resolution 2020-113, Project No. 2020-03 "Building Demolition & New Parking Lot Construction"

ITEM.VI.11 Resolution 2020-112, Adopting the Water Supply Assessment for Sun Lakes Village North SPA No. 6

ITEM.VI.12 Resolution 2020-114, Approving Final Tract Map No. 37390, 37390-1 and 37390-2

The Mayor asked the Council if they would like to pull any items for separate consideration. There were none.

Public Comment

None

Approve Consent Items VI.1 through VI.12.

VOTING

Motion by: Council Member Welch

Second by: Mayor Pro Tem Wallace

COUNCIL	YES	NO	ABSTAIN	RECUSE	ABSENT
Andrade, Daniela	X				
Happe, David	X				
Pingree, Kyle	X				
Wallace, Colleen	X				
Welch, Art	X				

VII. PUBLIC HEARINGS

ITEM.VII.1 Ordinance No. 1568 approving Zone Change 18-3504 and Resolution No. 2020-108, approving Annexation and Sphere of Influence Amendment 18-1001, General Plan Amendment 18-2505 and Environmental Assessment 18-1509

Community Development Director Adam Rush presented the staff report and a slide presentation (Attachment 2) for this item.

Public Hearing

None

Adopt Resolution 2020-108, approving Annexation and Sphere of Influence Amendment 18-1001, General Plan Amendment 18-2505, and Environmental

Assessment 18-1509, and find the Project exempt from the California Environmental Quality Act pursuant to CEQA Guidelines Section 150161(b)(3)

VOTING

Motion by: Council Member Happe
Second by: Council Member Pingree

COUNCIL	YES	NO	ABSTAIN	RECUSE	ABSENT
Andrade, Daniela	X				
Happe, David	X				
Pingree, Kyle	X				
Wallace, Colleen	X				
Welch, Art	X				

The Deputy City Clerk read the title of Ordinance 1568, "An Ordinance of the City of Banning, California, Approving Zone Change (Zoning Amendment) 18-3504 to Pre-Zone Two Parcels Located East of Hathaway Street and North of Wilson Street (APNs 532-030-008 and 532-030-009) as Business Park, and Making Findings Pursuant to CEQA."

Waive Further Reading of Ordinance 1568

VOTING

Motion by: Mayor Pro Tem Wallace
Second by: Council Member Happe

COUNCIL	YES	NO	ABSTAIN	RECUSE	ABSENT
Andrade, Daniela	X				
Happe, David	X				
Pingree, Kyle	X				
Wallace, Colleen	X				
Welch, Art	X				

Ordinance 1568 Pass its First Reading.

VOTING

Motion by: Council Member Happe
Second by: Council Member Welch

COUNCIL	YES	NO	ABSTAIN	RECUSE	ABSENT
Andrade, Daniela	X				
Happe, David	X				
Pingree, Kyle	X				
Wallace, Colleen	X				
Welch, Art	X				

VIII. REPORTS OF OFFICERS

ITEM.VIII.1 Animal Control Services Contractual Costs

City Manager Doug Schulze presented the staff report for this item.

Public Comment

None

Authorize the City Manager to create an Animal Control Division and direct the City Manager to prepare the required budget adjustments and amendment to the City's classification plan.

VOTING

Motion by: Council Member Happe

Second by: Council Member Welch

COUNCIL	YES	NO	ABSTAIN	RECUSE	ABSENT
Andrade, Daniela	X				
Happe, David	X				
Pingree, Kyle	X				
Wallace, Colleen	X				
Welch, Art	X				

ITEM.VIII.2 Wastewater Treatment Plant Studies and Recommendations

Senior Engineer Luis Cardenas presented the staff report and introduced Kyle Nelson with Nexom, Inc. who shared a slide presentation (Attachment 3) for this item.

Public Comment

John Hagen asked if the \$4.7 million is included in the total cost. Public Works Director Vela advised that is not included in the total cost of upgrade.

Receive and file the Wastewater Treatment Plant Studies completed in 2020; approve an agreement with Nexom, Inc. in the amount of \$68,500 to complete pilot studies of their MBBR and Tertiary Filter technologies; approve an appropriation in the amount of \$68,500 from the Wastewater Capital Facility Fund (681) is requested to fund the pilot study; and authorize the City Manager or his designee to make necessary budget adjustments, appropriations and transfers related to the Nexom pilot studies.

VOTING

Motion by: Council Member Happe

Second by: Council Member Pingree

COUNCIL	YES	NO	ABSTAIN	RECUSE	ABSENT
Andrade, Daniela	X				
Happe, David	X				
Pingree, Kyle	X				
Wallace, Colleen	X				
Welch, Art	X				

ITEM.VIII.3 Ordinance 1569, Amending Chapter 2.28 (“Planning Commission”) of the Banning Municipal Code

City Manager Doug Schulze provided the staff report for this item.

Public Comment

None

The Deputy City Clerk read the title of Ordinance 1569, “An Ordinance of the City of Banning, California, Amending Chapter 2.28 (“Planning Commission”) of the Banning Municipal Code to Update Planning Commissioner Terms, Duties, and Responsibilities.”

Waive Further Reading of Ordinance 1569

VOTING

Motion by: Mayor Pro Tem Wallace
Second by: Council Member Pingree

COUNCIL	YES	NO	ABSTAIN	RECUSE	ABSENT
Andrade, Daniela	X				
Happe, David	X				
Pingree, Kyle	X				
Wallace, Colleen	X				
Welch, Art	X				

Ordinance 1569 Pass its First Reading.

VOTING

Motion by: Mayor Pro Tem Wallace
Second by: Council Member Pingree

COUNCIL	YES	NO	ABSTAIN	RECUSE	ABSENT
Andrade, Daniela	X				
Happe, David	X				
Pingree, Kyle	X				
Wallace, Colleen	X				
Welch, Art	X				

IX. DISCUSSION ITEMS

None

X. ITEMS FOR FUTURE AGENDAS

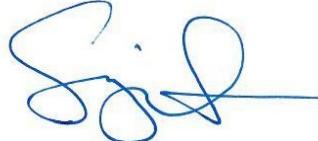
Council Member Welch asked that an Electric/Golf Cart Ordinance be brought forward in September.

XI. ADJOURNMENT

The Mayor adjourned the regular meeting at 7:09 P.M.

Next Meeting: Regular Meeting, Tuesday, September 22, 2020, 5:00 P.M.

Minutes Prepared by:

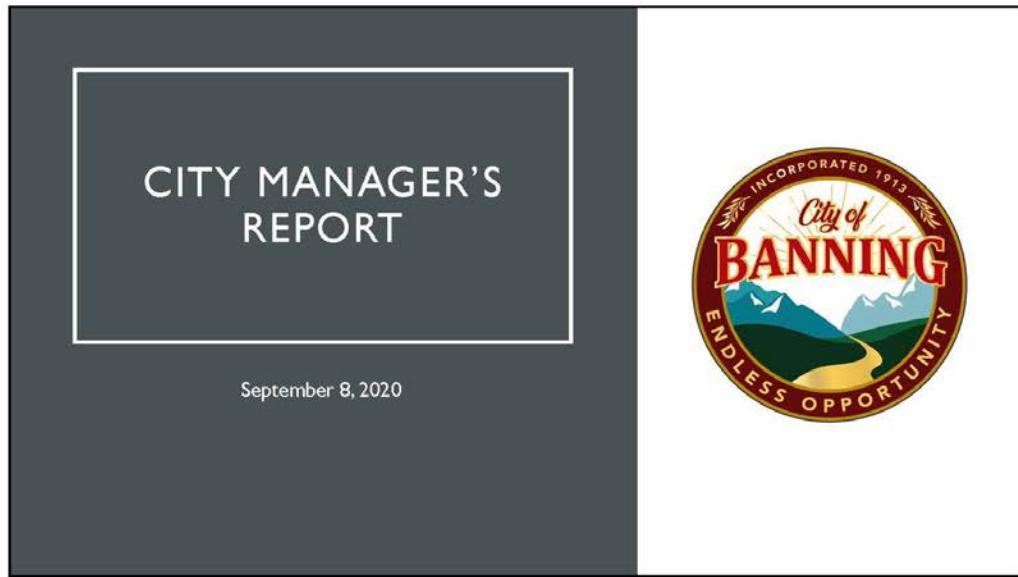


Sonja De La Fuente, Deputy City Clerk

*The entire discussion of this meeting may be viewed here: Part 1:
<https://banninglive.viebit.com/player.php?hash=az2oljACJZ0I> and Part 2 -
<https://banninglive.viebit.com/player.php?hash=YSWj91vnw5Pk>. or by purchasing a CD or
DVD in the amount of \$7.00 at Banning City Hall located at 99 E. Ramsey Street.*

*All related documents maybe viewed here:
<https://banningca.gov/ArchiveCenter/ViewFile/Item/2363>*

ATTACHMENT 1



1



2

1

BULKY ITEM DISPOSAL EVENT

- SATURDAY, OCTOBER 10, 2020
- 8:00AM TO 1:00PM
- DYSART PARK



3

AIRPORT CLOSURE

- October 12, 2010 – FAA's Atlanta Airports District Office Manager: "A runway length of less than 5,000 feet would result in rapidly diminishing support from the FAA." It is the FAA's opinion that the benefits of a runway of less than 5,000 feet would not justify the cost.
- Banning Municipal Airport does not have navigational aids for instrument procedures like Hemet, Redlands, Palm Springs, March or Big Bear (all within 20 nm).



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CLEAN UP EFFORTS



5

City Manager's Report

News you can use about the City of Banning!

Text
92220
to **22828** to get started.



Message and data rates may apply.

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NIXLE NOTIFICATIONS

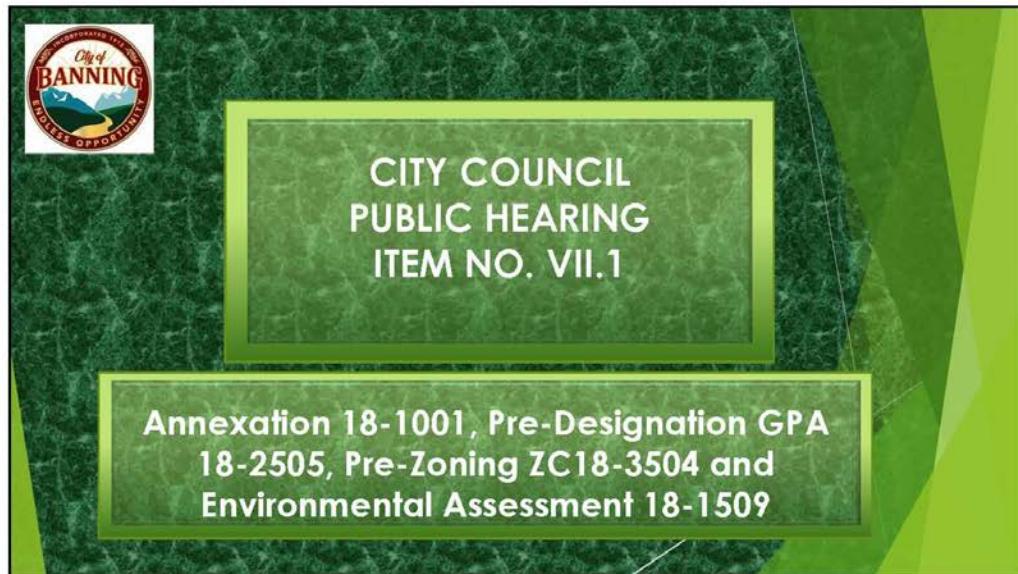


- EMERGENCY & COMMUNITY NOTIFICATIONS
- TO SUBSCRIBE SEND TEXT MESSAGE **92220 TO 888777**

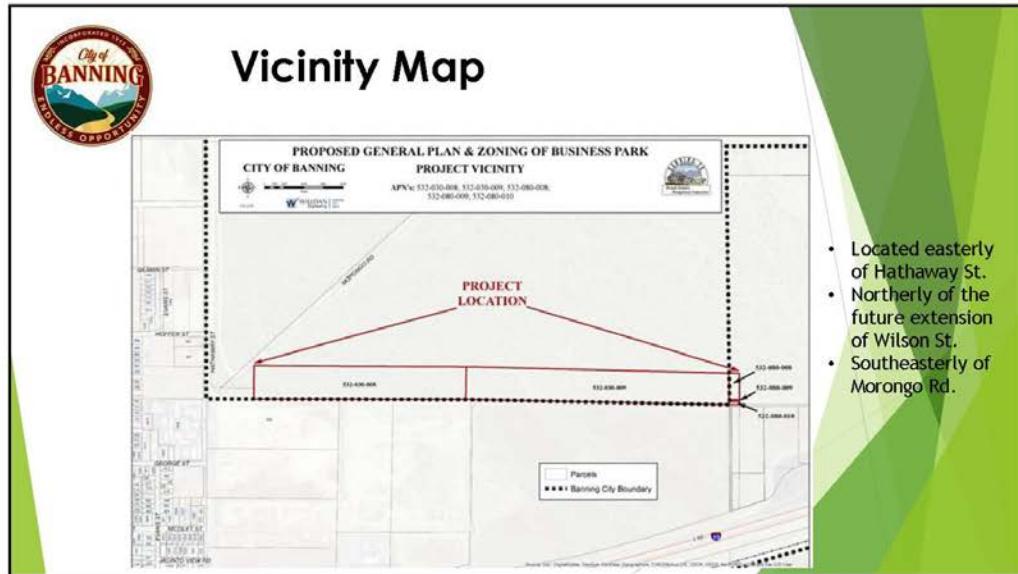
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ATTACHMENT 2

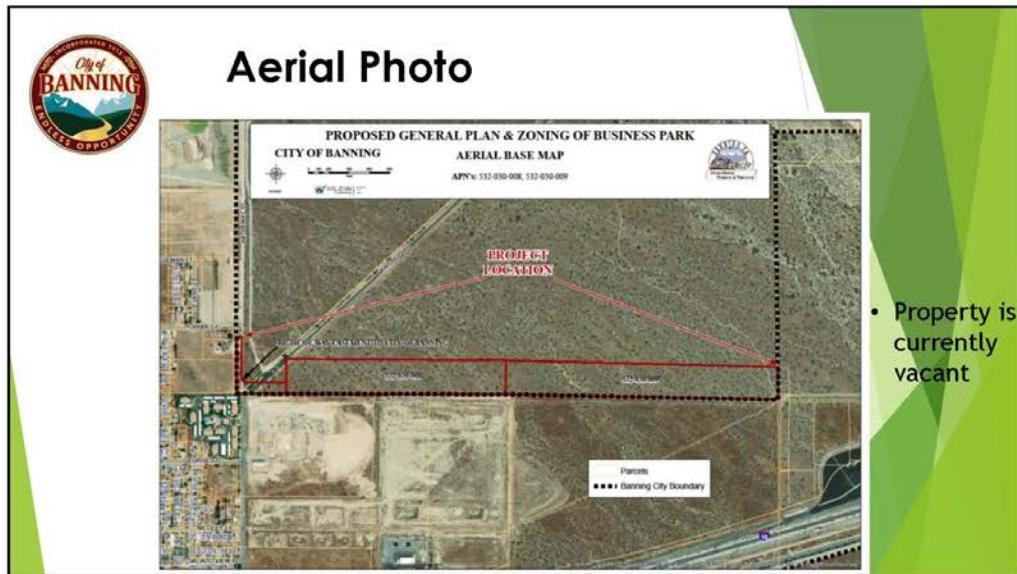


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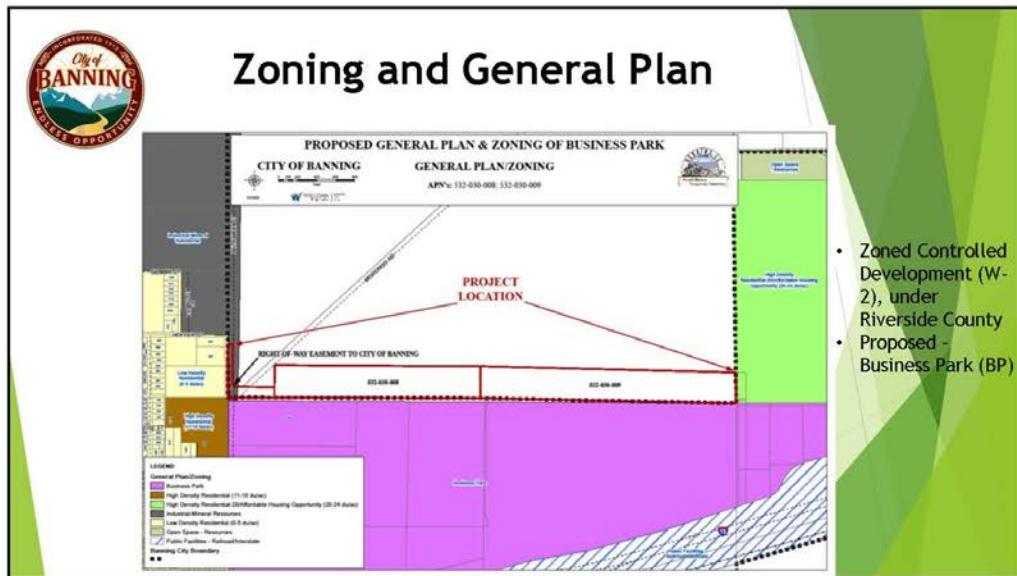


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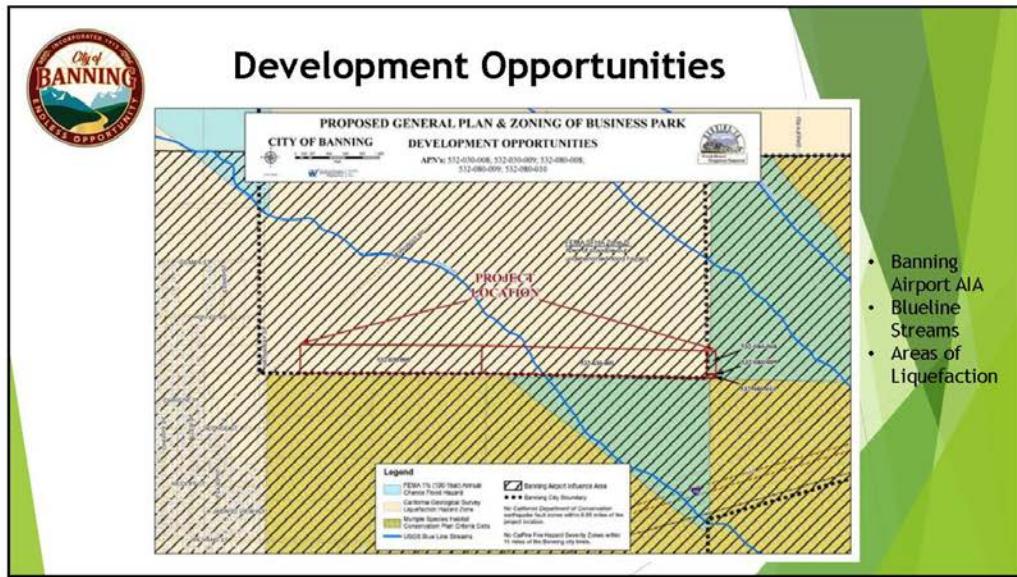


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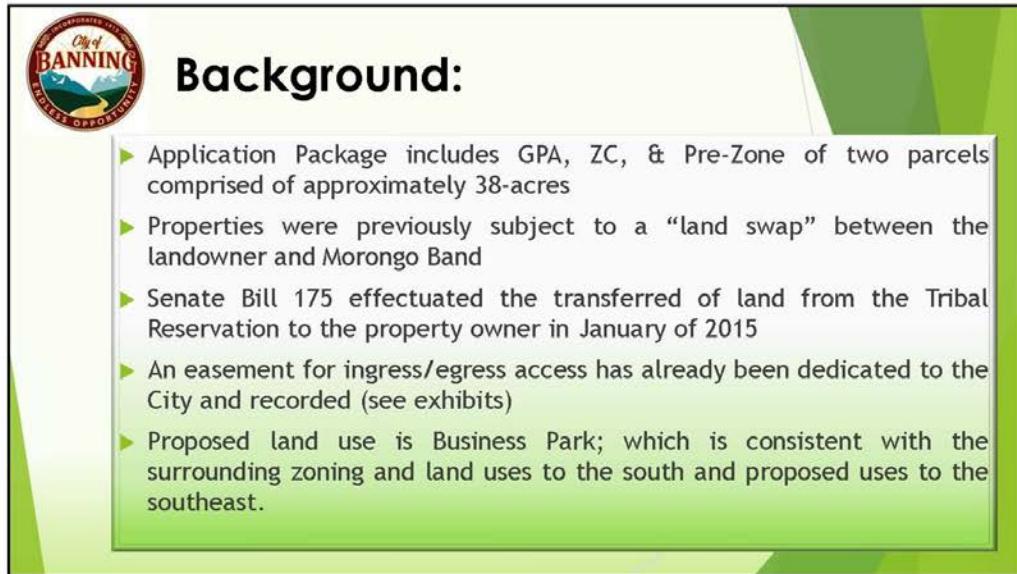


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Recommendations Action

- ▶ Make the appropriate findings for Environmental Assessment 18-1509 finding the Project Exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines Section 15061(b)(3).
- ▶ Introduce the first reading of Ordinance 1568 approving the pre-designation and pre-zoning filed as Change of Zone 18-3504;
- ▶ Adopt Resolution 2020-108, approving Annexation and Sphere of Influence Amendment 18-1001, General Plan Amendment 18-2505, and including the necessary CEQA findings.

7



Conclusion

THANK YOU & QUESTIONS

8

4



Revised Resolution

- ▶ After review by our Legal Council, a few changes were made to the Resolution. Essentially, the changes are in reference to the description of the project, "Zone Change" is now described as, "pre-designation and Pre-Zoning." The project number, "Zone Change 18-3504" remains unchanged.
- ▶ Other minor changes were made that do not affect the content of the Resolution but were made to clarify content, cite code sections and correct typographical errors.
- ▶ Corrected versions have been provided for your consideration.

9

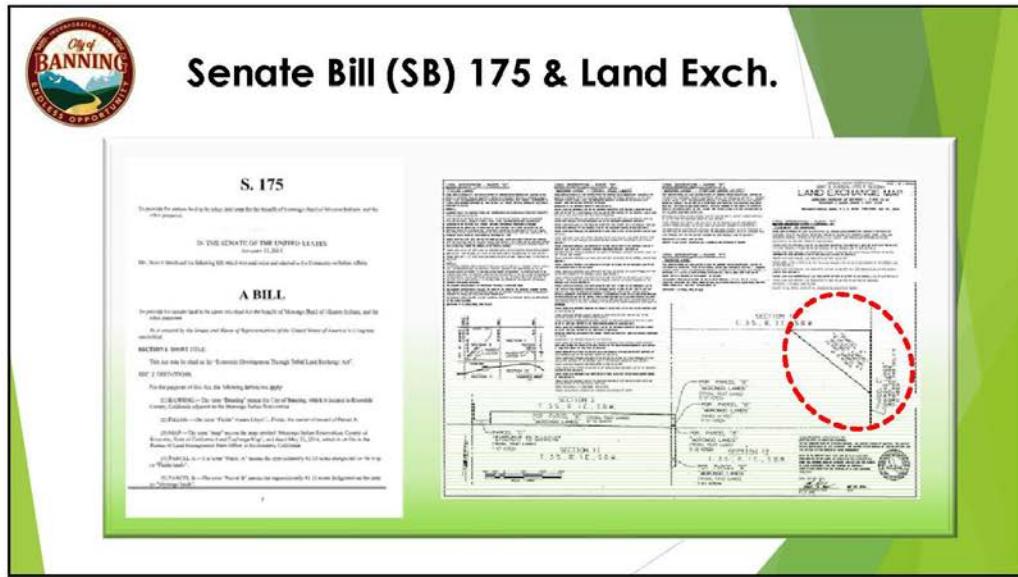


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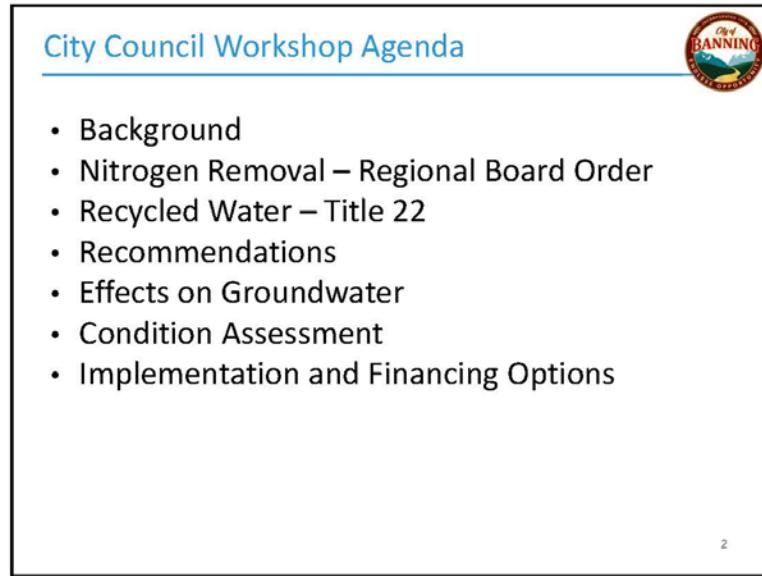


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ATTACHMENT 3

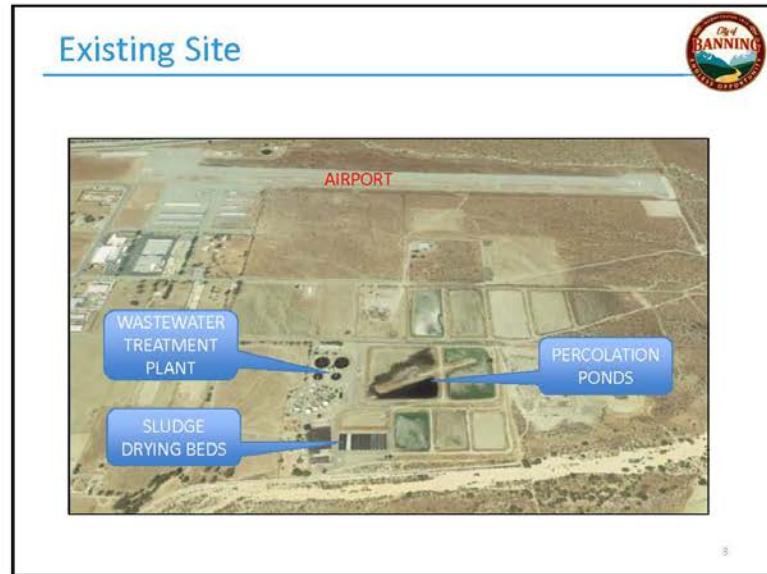


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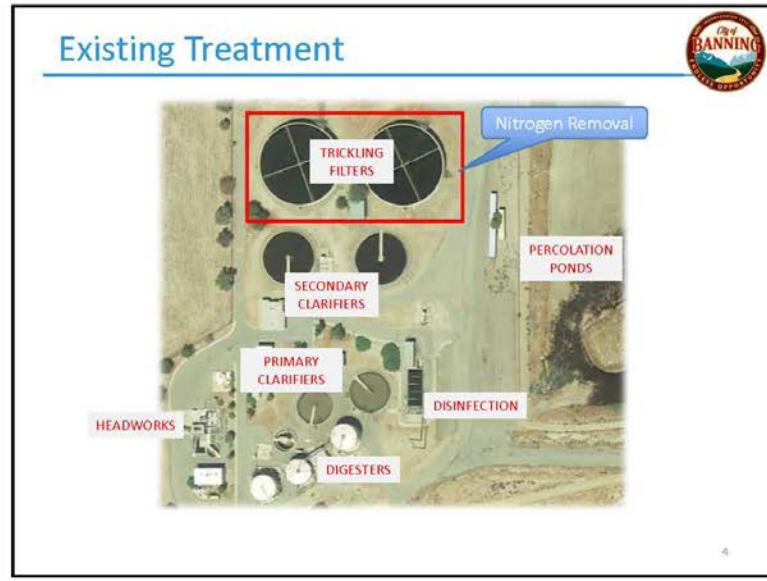


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New Permit Requirements



- June 30, 2016 Regional Water Quality Control Board adopted Order R7-2016-0015 establishing more stringent requirements for the Banning WWTP
- Most consequential is a total nitrogen discharge limit of 10 mg-N/L
- Current total nitrogen discharge is 29 mg-N/L
- Feasibility study to determine best treatment technologies and cost of compliance
- Workplan and schedule to comply with new total nitrogen limit

5

Feasibility Study Objectives



- Comply with Regional Board Order
- Evaluate technologies that also support future goals:
 - Compared to previous reports/designs for the City
 - Produce recycled water (Title 22)
 - Groundwater recharge
- Identify existing plant components that can be reused
 - Facility Condition Assessment
- Develop cost estimates for construction, O&M, and life cycle
- Select most economical treatment option that meets City, Board Order, and Title 22 goals

6

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Key Board Order Requirements		
Parameter	30-day average	7-day average
20°C BOD ₅	30 mg/L	45 mg/L
TSS	30 mg/L	45 mg/L
30-day Average Daily Discharge	< 3.6 Million Gallons per Day	
Total Nitrogen	10 mg-N/L	

Additional Title 22 Requirements for Recycled Water and Groundwater Recharge	
Parameter	30-day average
Turbidity	2 NTU
Total Suspended Solids (TSS)	3-5 mg/L
Disinfection	90-minute contact time; 5 mg/L chlorine residual

7

Existing Water Quality						
Parameter	Unit	Raw Wastewater	Primary Effluent		Plant Effluent	Combined Limits
			% Removal	Effluent		
BOD	mg/L	320	30	224	24	30
TSS	mg/L	288	50	144	20	< 5
TDS	mg/L	420	0	420	437	500
TN	mg-N/L	45*	6	42.3	29	10

Data per 2015 – 2018 Annual Operations Reports, average flows of 2.0 MGD
 *Data is from previous studies. New measurements will be taken to confirm values.

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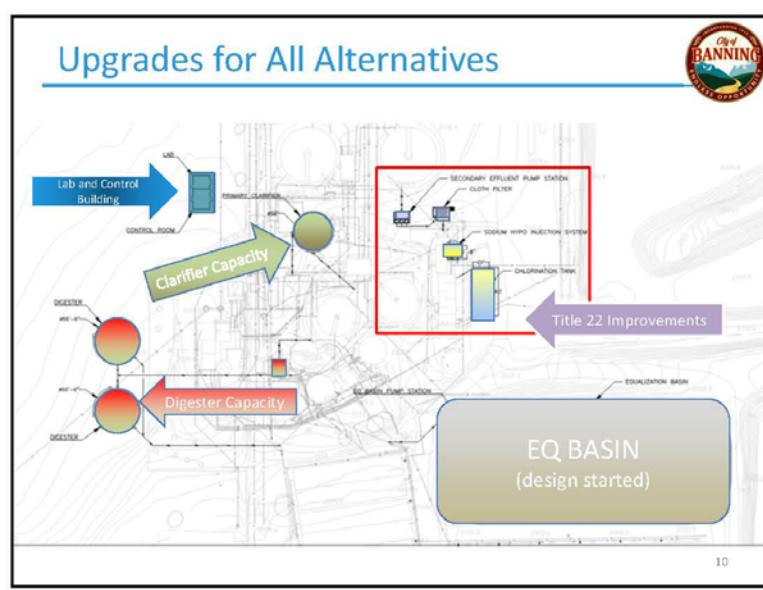
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Nitrogen Removal Treatment Alternatives

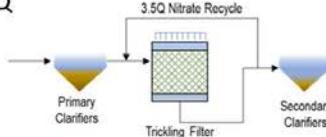
- Alternative 1 – Increase Trickling Filter Recirculation Rate
- Alternative 2 – Conventional Activated Sludge
- Alternative 3 – Integrated Fixed-Film Activated Sludge (IFAS)
- Alternative 4 – Moving Bed Biofilm Reactor (MBBR)
- Alternative 5 – Membrane Bioreactor (MBR)

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Alternative 1 – Increase Trickling Filter Recirculation Rate

• Current recirculation is 1Q
 • Need minimum 3.5Q
 • Q = flow into the plant





City of BANNING
Water Department

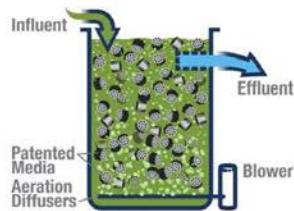
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Alternatives 2, 3, 4 – Biological System

• Activated sludge = clumps of biomass
 • Oxygen is injected as a food source
 • Healthy organisms degrade organics
 • **Fixed (IFAS) and floating media (MBBR) for microorganism growth**





City of BANNING
Water Department

12

12

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Alternative 5 – Membrane Bioreactor

City of Banning Seal

- Biological reactor plus microfiltration membranes
- Typically hollow fibers arranged in cassettes
- Operate at higher biomass concentrations
- Produce high effluent water quality
- Process robustness
- Operated autonomously



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Performance Comparison

City of Banning Seal

Parameter	Limit (mg/l)	Treatment Effluent (mg/l)				Best Water Quality (mg/l)
		Alternative 1 Trickling Filter	Alternative 2 Activated Sludge	Alternative 3 IFAS	Alternative 4 MBBR	
BOD	30	21.78	4.78	4.58	4.34	0.86
TSS	30	6.31	10.96	10.43	6.64	0.00
TN	10	9.02	7.49	7.4	8.00	7.74

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Cost Comparison



Unit Process	Alternative 2 Activated Sludge	Alternative 3 IFAS	Alternative 4 MBBR	Alternative 5 MBR
EQ Basin	\$2,008,000	\$2,008,000	\$2,008,000	\$2,008,000
Primary Clarifier	\$1,701,000	\$1,701,000	\$1,701,000	\$1,701,000
Sludge Treatment	-	-	\$1,203,000	-
Lab and Control Building	\$978,000	\$978,000	\$978,000	\$978,000
Activated Sludge	\$22,501,000	-	-	-
IFAS	-	\$25,735,000	-	-
MBBR	-	-	\$14,516,000	-
MBR	-	-	-	\$28,415,000
Construction Total	\$27,188,000	\$30,422,000	\$20,406,000	\$33,102,000
Annual O&M	\$342,000	\$440,000	\$388,000	\$745,000
20-Year Life Cycle	\$35,987,000	\$41,725,000	\$30,380,000	\$62,711,000

Higher Cost

Lower Cost and Better Performance

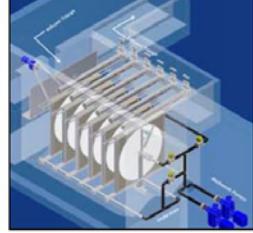
Highest Cost

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Title 22 Compliance



- State Water Resources Control Board Division of Drinking Water (DDW)
- Title 22 Code of Regulations
- Regulates water quality and system design for recycled water
- Recycled water for irrigation requirements
 - 2 NTU turbidity
 - Chlorine disinfection of CT 450 mg-min/L at 90 minutes modal contact time




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Comparison – Title 22 Cost		
Unit Process	Alternative 4 MBBR	Alternative 5 MBR
EQ Basin	\$2,008,000	\$2,008,000
Primary Clarifier	\$1,701,000	\$1,701,000
Tertiary Filter	\$1,814,000	\$0
Chlorine Contact Basin	\$1,097,000	\$1,097,000
Sludge Treatment	\$1,203,000	\$0
Lab and Control Building	\$978,000	\$978,000
MBBR	\$14,516,000	-
MBR	-	\$28,415,000
Construction Total	\$23,317,000	\$34,199,000
Annual O&M	\$737,000	\$878,000
20-Year Life Cycle	\$42,395,000	\$67,206,000

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Original Recommendations – Feb 2019		
<ul style="list-style-type: none"> • Option 1 – Phased Approach <ul style="list-style-type: none"> – Conventional activated sludge and upgrade to MBR in the future – Originally cheapest option – Allows for immediate Board Order compliance and can delay recycled water system • Option 2 – MBR <ul style="list-style-type: none"> – Highest cost option – Best system available – Best water quality – Becoming more prevalent in California – Can add reverse osmosis for TDS removal – Modified for Indirect Potable Reuse (IPR) 		

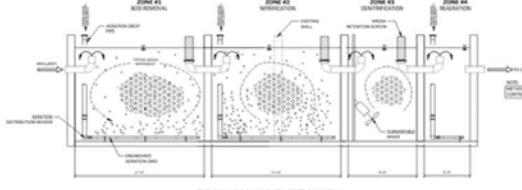
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Updated Recommendations



- Alternative 4 – MBBR
- \$7M cheaper than activated sludge; \$11M cheaper than MBR for capital costs
- \$25M cheaper than MBR over 20-year life cycle
- Highly resilient to changes in water quality
- Can be further modified to comply with more stringent discharge requirements
- Tertiary filter is required to produce recycled water
- *Recommend piloting before final selection*



TYPICAL MBBR LAYOUT - SECTION VIEW

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MBBR Piloting



- Simulate actual field conditions
- Evaluate performance and scalability of system
- Compare theoretical vs real results
- Allows for familiarity with engineers and operators
- Better estimates of construction, O&M, and life cycle costs
- 2-month pilot study





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Effects of Beneficial Reuse on Groundwater



- Board Order requires the City to evaluate the effects of beneficial reuse on the groundwater
- State Water Board Resolution 68-16
 - Maintain high quality waters
 - Increased concentrations are required to meet BPTC of the discharge
- Assumes all nitrogen species convert to nitrate/nitrite
- Modeled wells in the Banning and Cabazon Sub Units
- Model areas where recycled water will be potentially used
- Used to develop Salt and Nutrient Management Plan

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Model Scenarios

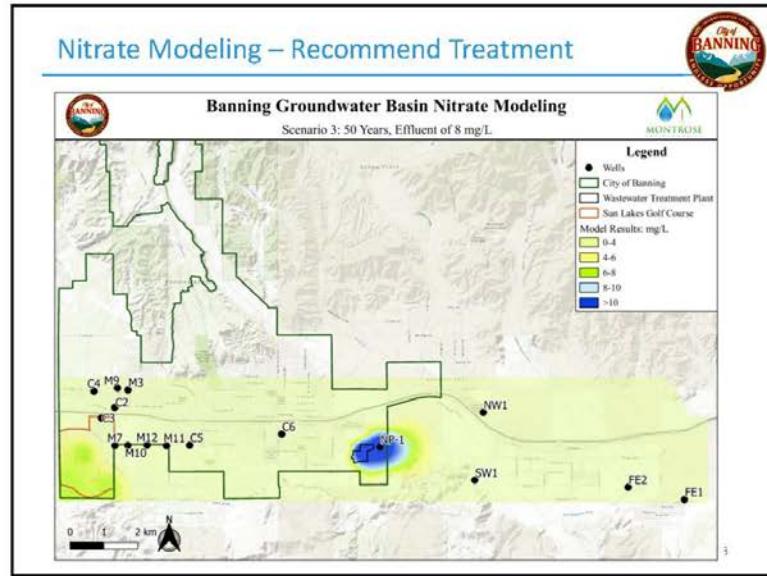


Scenario	Description	WWTP Effluent Concentration
Nitrate		
1	No NO_3 Removal	29 mg-N/L
2	MCL	10 mg-N/L
3	Below MCL	8 mg-N/L
TDS		
1	No TDS Removal	430 mg/L
2	TDS Blended	330 mg/L
3	RO Used	110 mg/L

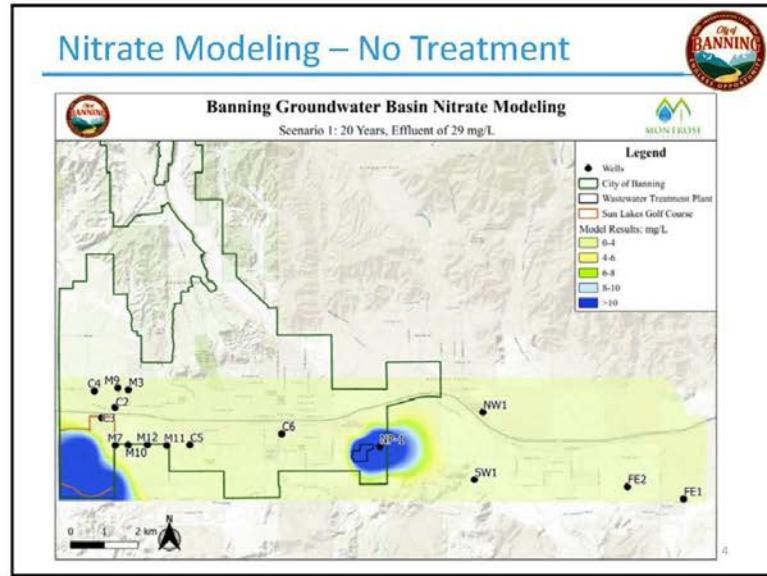
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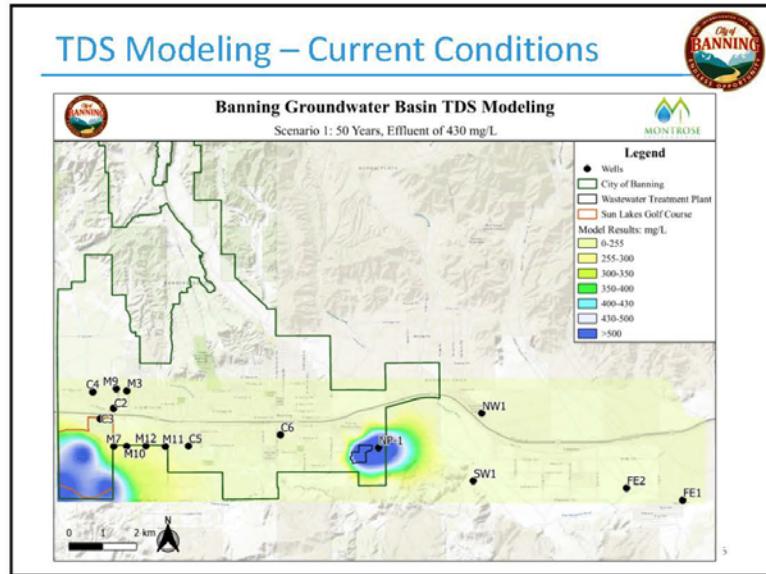


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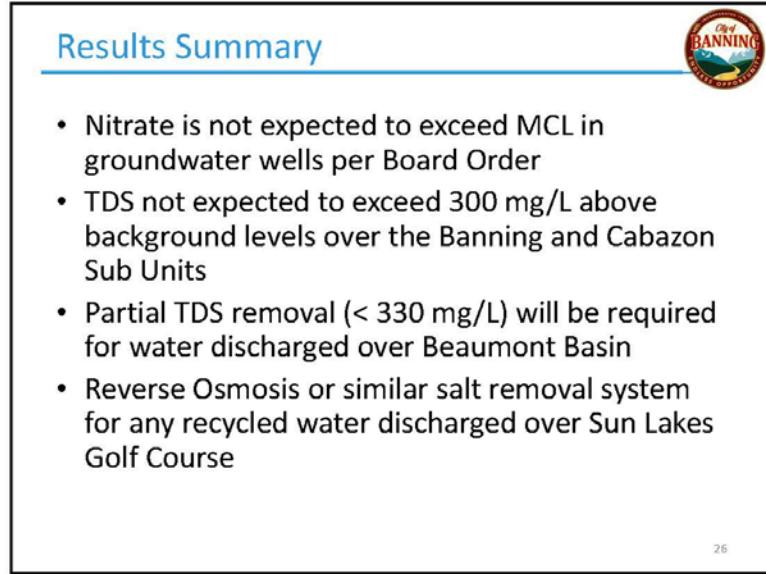


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WWTP Condition Assessment



- Condition and capacity assessment of WWTP
 - Equipment
 - Structural
 - Electrical
 - Field verification capacity
- Assessed the performance of the plant
- Near-term and long-term upgrades
- Maintenance
- Replacement of components

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Site Photos



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Condition Assessment Results



- Overall plant is considered in "fair" condition
- Rust and corrosion of metals
- Structures remaining life 15+ years for many components
 - Trickling filter structure has cracks, expected life is < 10 years
- Equipment ranges from 2 – 10+ years of useful life
- MSB is obsolete, recommended immediate replacement
 - System discontinued and supplies power to many major treatment components
- SCADA installation highly recommended

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Summary of Recommendations



WWTP Area	Improvements	Timeline (year)	Budgetary Estimate	WWTP Area	Improvements	Timeline (year)	Budgetary Estimate	
		0-2	2-5	5-10		0-2	2-5	5-10
Chemical Feed System	Repair major leaks in ferric sulfate tank	X		\$1,000	Cleaning, painting, and coating of pipes and support equipment		X	\$2,000
	Cleaning, painting, and coating of pipes and support equipment		X	\$3,000	Repairing leaking bolts in the effluent alarm system		X	\$3,000
Screening Compactor	Replace bar screen wash compactor	X		\$55,000	Repair distributor mechanism seals, bearings, etc. due to leak	X		\$20,000
	Install a new high-level or overflow alarm system	X		\$3,000	Replace/upgrade trickling filter gate valves	X		\$40,000
	Replace leaking bolts in the effluent pipe flange	X		\$1,000	Cleaning, painting, and coating of a center column distributor	X		\$3,000
Grit Tank	Cleaning, painting, and coating of pipes and support equipment		X	\$1,000	Upgrade underground leaders and manholes		X	\$3,000
	Replace mixer motor, vortex separator out of service	X		\$13,000	Repair unstable gratings	X		\$2,000
Grit Washer/Cyclone	Replace/reinforce parts of corroded grit cyclone		X	\$17,000	Repair tanks in pipe 1	X		\$1,000
	Repair major leaks, re-pipe pressure relief pipe, and add level documentation	X		\$10,000	Repair pump 2 due to electrical issue	X		\$10,000
	Cleaning and painting of support equipment		X	\$5,000	Cleaning, painting, and coating of pipes, pumps, and support equipment		X	\$2,000
Grit Pumps	Replace grit pump 2 (25 kW)	X		\$41,000	Replace pumps (25 HP)	X		\$82,000
	Replace corroded 18-inch gate valves on the east primary clarifier	X		\$20,000	Install a new conductivity meter by the headwork effluent channel	X		\$6,000
Primary Clarifiers	Repair leak on pump mounting above east primary clarifier	X		\$2,000	Upgrade all circuit breakers	X		\$24,000
	Perform maintenance on west clarifier gearbox and drive bearings	X		\$3,000	Replace labels and signs on control panels	X		\$10,000
	Cleaning, painting, and coating of pipes and support equipment		X	\$2,000	Replacement of MCCs	X		\$600,000
Primary Pumps	Replace primary effluent pump 1	X		\$48,000	Cleaning, painting, and coating of electrical support equipment	X		\$10,000
	Perform maintenance on east and west clarifiers i.e. gearboxes, drive bearings		X	\$2,000	Install a SCADA system	X		\$373,000
Secondary Clarifiers	Repair damaged concrete structures		X	\$3,000				
					0-2 years	\$202,000		
					2-5 years	\$1,153,000		
					5-10 years	\$84,000		
					Total	\$1,219,000		

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Implementation Options



- Traditional Design-Bid-Build (DBB)
 - Design 12 months; Construction 24 months
 - 3 years total project time
- Design-Build (DB)
 - Saves time and money
 - 2 years total project time
- Design-Build-Operate (DBO)

Name	Duration (months)	Year 1	Year 2	Year 3
Engineering Design RFP and Selection	4			
Engineering Design	10			
Permitting	9			
Issue Design Documents for Bids and Selection	3			
Construction	12			
Start-Up and Commissioning	4			

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Financing Options



- Grants
- Development Impact Fees
- SRF Loan
- Public-Private Partnership (P3)
- Design-Build-Finance (DBF)
- Design-Build-Finance-Operate (DBFO)

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Questions?



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