

**INDIAN WELLS VALLEY
GROUNDWATER AUTHORITY
TECHNICAL ADVISORY COMMITTEE
MINUTES**

**Indian Wells Valley Water District
500 W Ridgecrest Blvd, Ridgecrest, CA 93555
Thursday, April 5, 2018, 1:00 p.m.**

1. CALL TO ORDER

The meeting was called to order by TAC Chair Bingham at 1:05 p.m.

Roll Call TAC:

- 6 Present** – Earl Wilson, Eastern Kern County Resource Conservation District
Don Decker, Domestic Well Owners
Eddy Teasdale, Large Agriculture Meadowbrooke
Adam Bingham, Wholesaler and Industrial User
Wade Major, Large Agriculture Mojave Pistachios
Michael Powell, Rand Community Water District
1 Absent - Scott O’Neil, Business and Business Development

Non-Voting Members

- 2 Present** – Stephan Bork, Navy
Tim Parker, Indian Wells Valley Water District (IWVWD)
1 Absent - Michelle Anderson, Kern County Water Agency (KCWA)

Stetson Engineers Inc. (Stetson) representatives present – The Water Resources Manager (WRM) Steve Johnson and Jeff Helsley

Stetson representatives participated by phone –Jean Moran

2. PUBLIC COMMENTS

Stan Rajtora asked if the Navy was ready to release the 2nd DRI report of the model. Stephan Bork said no and that the report was meant for TAC review only. Mr. Bork clarified that the intent, as he understood it, was that when the model is revised the report for that revision will be released to the public according to Matt Boggs. The WRM also mentioned that Jean Moran has also been in contact with Mr. Boggs regarding the model.

Derrek Hoffman suggested the TAC request board approval to have the proposed fee (item 5f) as an agenda item for discussion with written comments as necessary.

3. APPROVAL OF PREVIOUS MEETING MINUTES

a. March TAC meeting

Tim Parker requested that the acre feet numbers reported for the treatment plant needed revision to account for 20% conservation.

Don Decker feels content of the minutes should represent the meeting as they record history.

Earl Wislon asked if recordings of the minutes were archived for posterity and Don Zdeba responded that they are not. Mr. Decker would like to see the minutes saved for posterity.

Derrek Hoffman suggested that the minutes expand on the public comments section and Judie Decker agreed.

Mr. Decker motioned to accept the minutes with revision, seconded by Earl Wilson. Mr. Hoffman suggested that the minutes not be approved at this meeting but instead the revised version be presented at the next meeting for TAC approval. The motion was withdrawn and will be discussed at the next meeting.

4. ADMINISTRATIVE ISSUES

a. TAC – Ethics Training and Form 700 Status

Chair Bingham thanked the committee for completing both the ethics training and form 700s.

Mr. Teasdale asked the WRM if there was something that could be done to get a draft agenda with all attachments to committee members sooner so that the committee has plenty of time to review and comment prior to meetings. The WRM assured that Stetson is working on pushing staff to get agendas out with all attachments at the same time and as soon as possible.

5. TAC DISCUSSION OF GSP PRIORITY PROJECTS/TASKS

a. Prop 1 Grant Funding Update

The WRM introduced Jeff Helsley and Jean Moran of Stetson then announced that grant funding was finalized and Indian Wells valley (IWV) got the amount of funding that was recommended. IWV is now waiting on contract documents in order to get funding moving and agreements going. Stetson is hoping to have contracts ready for the May meeting. Stetson has reviewed the agreement template and turned it over to the acting attorney.

b. Model Update Report (Jean Moran by phone, see Attachment 1)

i. Status Schedule

Ms. Moran discussed the changes that were made to the schedule (see below).

Modeling Schedule (T) *changes are underlined*

Direct Model Item for the GSP	Start	Presentation / Submittal
Response to Comments re: Draft Model Review (Dec 2017 TAC) Water Budget (Feb 2018 TAC)	Dec 2017 Feb 2018	April TAC April TAC
IWV Basin Model: Model Update and Calibration TAC Model Workshops re: Historical & Baseline Recharge and Pumping Historical Calibration Historical Model Run and Water Budget	<u>Apr 2018</u>	Jun 2018 wrkshp <u>Aug 2018 wrkshp</u> Sep 2018 TAC mtg
MODEL: Baseline through 2070 Baseline Model Assumptions and Water Budget Baseline Model Run and Water Budget	Sep 2018	Oct 2018 TAC mtg Dec 2018 TAC mtg
MODEL: (4) Sustainable Management Alternatives through 2070 Monthly TAC discussion of Model Alternatives and Model Results	Nov 2018	Feb 2019
MODEL: Transport and Land Subsidence Analysis	Feb 2019	May 2019

ii. Responses to comments

Stetson received 24 comments from 4 people regarding the preliminary water budget. Funds are currently in the hands of the contracting department and DRI will not start work without those funds. Currently, work is expected to begin in May and the schedule for TAC model workshops were adjusted to reflect this (see above). Ms. Moran thanked the TAC for the comments that were submitted.

iii. Data Gaps

Ms. Moran discussed two data gaps, the first is drilling monitoring wells. Stetson has been working with Stephan Bork of the Navy in setting up discussion with BLM for the locations and availability of land for monitor wells to be drilled. Stetson has also been in discussion with the Seabees regarding constraints for putting in monitoring wells. The work plan for this year's drilling needs to be in by end of July for drilling in August. The TAC will review and discuss the locations identified by the Navy, after cross-checking with BLM, at the May TAC meeting and finalize locations during June TAC meeting. For the aquifer testing data gap, Stetson is reviewing the aquifer testing database from the Navy. Once the contract is finalized with DRI, existing pumping wells will be examined and testing in locations will be chosen. Stetson is looking at proposing locations and presenting them at the June TAC meeting and finalizing them at the August TAC meeting.

Ms. Moran also addressed a topic brought up earlier by Mr. Rajtora which is discussing with the Navy the preliminary update when doing the model review. The model review document must go through full review before it can be released to the public. Currently, the document has only been released to Stetson. The work that was incorporated into the model will be included in the new documentation with the model calibration. At this time, the document that is scheduled to be reviewed in November is not being released to the public.

Committee Comments:

Mr. Decker thinks that it would be appropriate and useful to have TAC involved in preliminary identification of monitor well sites and is concerned that by May the TAC would function more like observers rather than participants in the decision making process. Ms. Moran responded that the plan is to present constraints related to land access and constraints regarding the Seabees to the TAC at the May meeting as well as the recommendations from DRI. Once the TAC has been given this information, the TAC will have the tools to be able to address anything that has been missed or things that DRI has not considered. Mr. Decker feels the place to start the process with well locations first and constraints second as previous work has already data gaps. Ms. Moran asked if the TAC could provide recommendations for locations for monitoring wells at this meeting. Mr. Decker agreed and went on to say that the groundwater characterization is adequate as it stands and the progress on the GSP can move forward now. Mr. Decker does not feel additional data is needed and is worried money is not being spent carefully. Mr. Decker concluded that the TAC and Stetson are not here for science, but for the GSP.

Mr. Parker brought up that the old TAC (the group that met prior to an official TAC being created by the Groundwater Authority) developed a list of over 20 proposed monitor well locations to fill data gaps along with a map and offered to send that information to Stetson. Mr. Parker agreed with Mr. Decker that enough information is available to get working on the GSP. On the other hand, there is grant money available and it would be wise to optimizing the money we can get, but Mr. Parker does not want to trip up schedule to do additional work on filling data gaps.

Mr. Teasdale is concerned that the April start date for the basin model is going to be pushed and was wondering if anything could be done to prevent that. Mr. Bork said that everything depends on finalizing the contract. Mr. Bork then asked Ms. Moran to address the three items that the navy will attack and Ms. Moran explained that the Navy is getting funding for update and calibration of the model as well as the baseline model run. Ms. Moran explained that these three elements are required for the GSP. Stetson is working on the Groundwater Authority (GA) side of contracting for the model workshops.

Chair Bingham asked if the Brackish Water Group could assist by providing geophysical data that SVM collected and if that data would be useful for the model. Ms. Moran responded that as soon as contract with Navy comes through we can discuss with DRI to see if we can make that happen. The concern is time and cost to do this.

Mr. Teasdale asked about management alternatives after the baseline scenario is run and if the Navy is contracted for that. Ms. Moran said that Stetson is still working that out with DRI and mentioned that there is some grant funding for that. The WRM explained that getting authorization and money, in regards to working with the Navy were not as simple as they thought it was going to be. The bottom line is that DRI does not work until they get funded. Stetson received confirmation from the Navy that Stetson can contract with DRI directly without having to go through the Navy. Ms. Moran has talked to DRI about scope of work and budget. Cost came back a little high according to Stetson, so Stetson is working with Commander Longbottom to get the cost down to get more work done. Mr. Teasdale is hoping to get model runs done on time if not faster. The WRM assured that this item will remain on the agenda.

Mr. Bork added clarification on federal contracting requirements and said that the reason DRI is legally obligated to wait for contracts and funding prior to starting work. Mr. Major asked if thought has been given to using the Brown and Caldwell model and keeping that in the public realm to allow consultants to interact with the GA without having to deal with a larger bureaucracy. Chair Bingham added that SVM also collected data that could be used in the models and would like to see thing come together especially where money has already been spent by the participating groups. The WRM explained that we do not want to use alternative models. Ms. Moran Prop. 1 funding requires a certain percent of in-kind money and the Navy has put in a lot of money already for these services. Mr. Decker feels that the endeavor to get to the GSP needs to be streamlined as much as possible. Mr. Parker brought up that DWR does not expect the first GSP to be a complete GSP. Mr. Parker raised a potential issue that the State is developing the Groundwater Architecture project and it may come to pass that the model that is developed for the GSP will have to conform to the State model. Mr.

Decker pointed out that we should not do more than we need to do. Mr. Bork stated that additional monitoring wells are required to meet the monitoring requirement of the GSP.

Public Comments:

Mr. Rajtora stated that the GA needs to have control of model eventually as well as control the schedule. Mr. Rajtora feels there is an issue with transparency and it is inappropriate and also that it is not too early to think about how the GA is going to take over the model.

Mr. Hoffman agrees with Mr. Rajtora and asked if the question is being raised regarding who will own the model. The WSM expressed that Stetson shares these concerns and agrees the GA should have control, but that question cannot be answered yet. Mr. Bork asked that if the GA and DRI have an agreement, then why haven't GA funds or Prop. 1 been released to DRI to start the work? The WRM said there is some hold on the model regarding proprietary control but agrees with Mr. Bork regarding funding.

Mr. Teasdale asked if Ms. Moran has the grid files or output files. Ms. Moran said she was able to look at the output files and budget files and compared them to her own modeling experience. Ms. Moran went on to say that part of the contract with DRI should include what we are able to get from the model. Mr. Parker mentioned the GAP project again (Groundwater Architecture Project formerly known as the Stanford Project) to say that it is nearly complete and we have made request to get the grid file.

c. Recycled Water (see Attachment 2)

Jeff Helsley gave a presentation on the recycled water opportunities brought up at the March meeting. More information and regulation requirements were incorporated into this presentation. Key points from the presentation, not explicitly included in attached slides, are:

1. About 2600 acre-feet per year (AFY) came out of water treatment plant in 2014, but the historic trend data has not been looked at. The operator reported 2700 AFY for 2017.
2. Type of use of recycled water will determine what type of treatment needs to be done.
3. Discussions are still going on in regards to expanding the water treatment plant.
4. There is at least one septic system per domestic well and Stetson has identified areas where septic systems are clustered and looking at the possibility of putting a treatment system that will collect waste water from a clustered area.
5. Originally, Stetson felt surface spreading was a viable option.

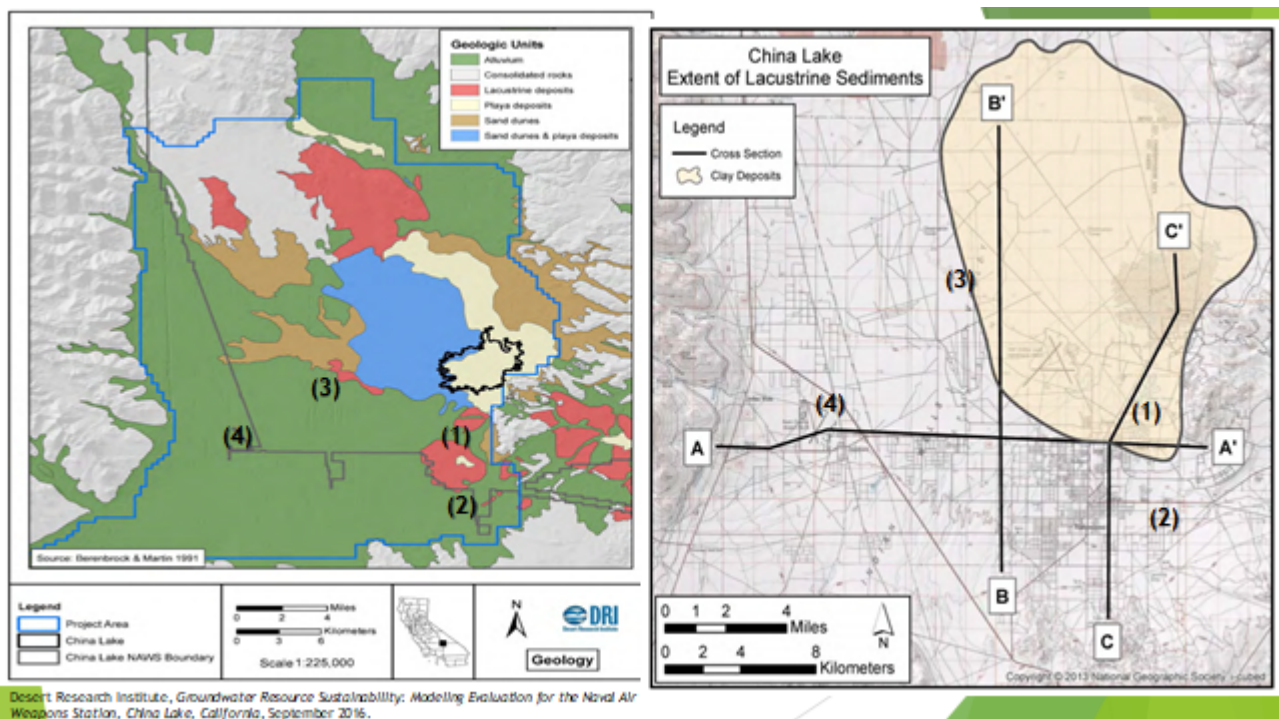
Committee Comments:

Mr. Teasdale asked what volumes we are looking when it comes to processing septic systems. Mr. Helsley credited Mr. Decker for coming up with an estimate. Mr. Decker also mentioned he costed out a system also and found that system cost as it relates to

water volumes would be about \$1.00 per gallon for collection. Mr. Helsley mentioned that at the moment, we do not know how many septic users are reusing their greywater for irrigation. Ms. Decker said that on paper it would make sense to build a septic treatment facility in areas with high density of dwellings, but septic treatment is expensive.

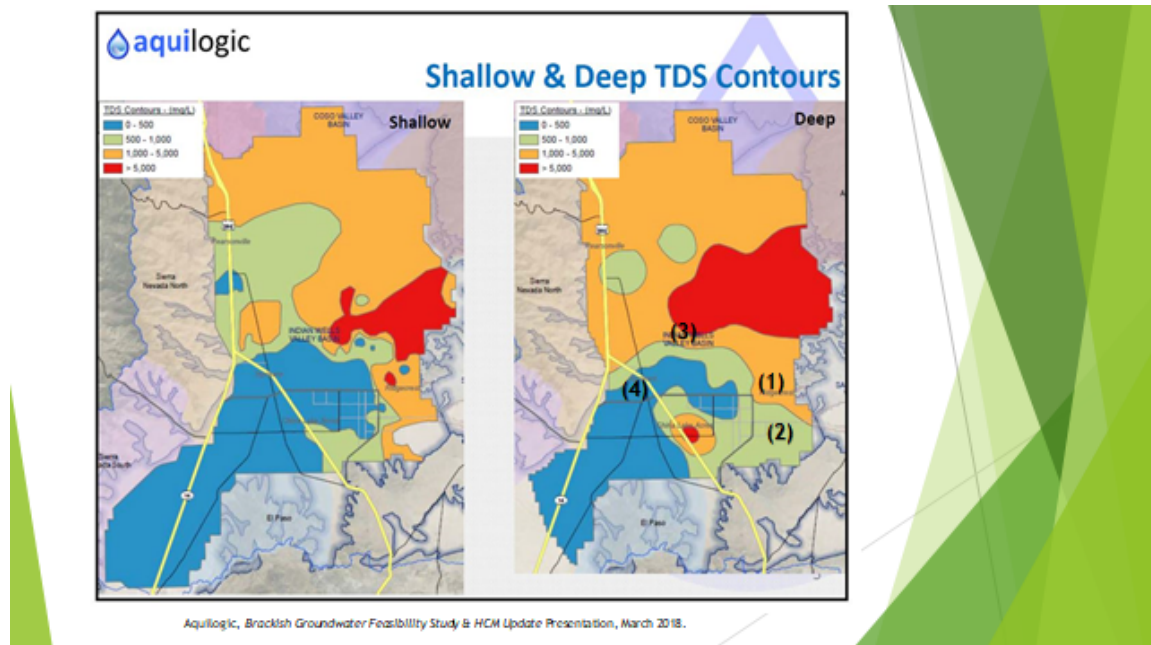
Mr. Helsley posed the question asked in slide 20 about continuing to investigate the use of greywater. Mr. Decker feels that focus needs to be on concrete projects and mentioned that he calculated 400 AFY available for irrigation. Mr. Helsley asked if we want to do any further work on these options. Chair Bingham brought up concerns regarding piping. Mr. Parker mentioned that this is a management option and brought up the Parks and Water bond that is going to be on the ballot in June and another bond in November that combined have a total of around 7-8 billion so having a portfolio of management options will be useful for applying for future grants. Mr. Helsley agreed and said that is why they considered looking at an example management area in order to conceptualize it. Mr. Teasdale asked what impact this management system would impact the water sustainable management of the area in the long-term. Mr. Helsley continued by saying we need to get the information so we can discuss what areas we want to model. Mr. Decker feels this project should be set aside as the volume of water collected will not make a dent in our water problems. Mr. Bork asked if there is any gain in capturing septic, transporting it and recharging it elsewhere. Mr. Decker mentioned that there is no evidence of surface recharge in 99% of this valley due to high-clay content. Mr. Bork would like to see a study on this topic. Chair Bingham mentioned that from his experience with the models the vadose zone is too deep for surface recharge to work.

Mr. Decker pointed out that the geologic map (slide 21) reflects only surface sediment exposures and mentioned that site 2 (alfalfa site) is very clayey (slide 22).



Public Comments:

Elaine Mead asked what the depth to the aquifers are (slide 23, below). Mr. Major responded that “shallow” and “deep” aquifers refers to the upper 3 and lower 3 layers of the DRI modeling domain, so depths is not clear. Mr. Major did say, from his experience, that deep layers start around 500 feet in the center of the basin. Mr. Decker disagrees. Mr. Major explained that these figures were adapted from the DRI model and went on to explain the difference between actual data and assumed control points all of which combine to drive the model and the data gap discussion from earlier focuses on where we have assumed data.



Mr. Decker feels it is the TAC’s responsibility to read and understand the old reports on the subject of lithologic boundaries and TDS. Mr. Bork explained that Mr. Major has been working to pull data from old reports so that it can be added to the model. Mr. Decker referred everyone to the water district’s library for the information.

Mr. Parker mentioned that there are areas where water is being discharge into and recovered from brackish water bodies in a response to a concern Mr. Decker brought up regarding injecting potentially potable water into a high TDS area. Ms. Decker asked why you would try to recharge water that you have to treat in order to recharge instead of finding a place to use that water. Ms. Decker reminded the TAC that you have to figure out the cost of these projects and be practical.

Mr. Bork would like to see a statement of objectives in terms of looking at recycled water, and suggested another objective could be limiting over pumping. Mr. Decker agrees with Stephan and would like Stetson and the TAC to keep in mind lacustrine clay deposits are everywhere and this limits the surface spreading option. Mr. Bork would like to see geology included in decision making a bit more. Ms. Decker re-emphasized that surface spreading is not practical. Mr. Teasdale mentioned there are ways to engineer something to make surface spreading viable.

Mr. Rajtora asked if extending sewer lines to incorporate people on septic has been considered. Mr. Rajtora mentioned that the trend in water volume at waste water treatment plant has been going down for the last 5 years, and an uptrend doesn't seem reasonable.

d. Alternative/Imported Water Opportunities – Presentation No. 2 (Attachment 3)

Mr. Helsley gave a presentation regarding the regulatory framework for water transfer and importation of water. This is an informational presentation regarding the hurdles that will be faced in regards to pursuing imported water and the regulations that surround the LA aqueduct. Key points:

1. There might be opportunities to exchange state water projects with the city of Los Angeles and proposals are due April 12, 2018 we may be able to approach them and have a mutually beneficial exchange.
2. The project with the most promise is to exchange with the Antelope Valley East Kern Water Agency (AVEK) as they currently have an exchange program.

Committee Comments:

Mr. Teasdale asked how a water project exchange works. Mr. Helsley explained that the way it works is we contract out a state water project that would provide water for the LA Municipal Water District (MWD), then in exchange, the LA Municipal Water District would allow IWV to take some water from the aqueduct. Mr. Decker instructed Mr. Helsley to look at the restrictions Inyo County has placed on IWVGA in using Inyo County water.

Mr. Decker pointed out that AVEK is within county, which would reduce regulatory complications.

Mr. Parker mentioned looking at energy trade off from evaporative coolers to air conditioners (AC) and that should become part of the water discussion. Mr. Decker pointed out that evaporative components still exist in some AC systems and removing evaporative coolers have potential health benefits for people.

Mr. Helsley went over the next steps which include getting more information on AVEK's program and begin to shape what a program might look like for this valley then start putting costs together. Begin discussions with MWD as well as quantify conservation programs/practices.

Mr. Bork asked if there is more information on the Cadiz Project. Mr. Helsley does not believe there is any more information on that as they are not close enough. The WRM added that timeline needs to be considered. Mr. Decker feels that the Cadiz Project amounts to mining water in another desert basin and that in itself creates an ethical issue.

Mr. Wilson asked if the storage charge is for purification. Mr. Helsley responded that, no the cost is for storing only.

Public Comments:

None.

e. TAC Input – Reporting of Pumping w/o Meter

The WRM combined items e. and f. into one discussion, please see below.

f. TAC Input - Identification of Potential Wells/Owners Subject to Pumping Assessment

The WRM mentioned that they received comments regarding pumping w/o meters and information will be provided in tonight's packet for workshop. What the WRM would like to get out of this discussion is where to get the best information about the well and the well owners and things like that. Stetson got information from various groups including Kern County Health Department etc. to send information out to people who might be impacted by this so they can know that this will be discussed in the workshop so no one is left out of discussion. The WRM emphasized that no decision will be made today and asked how should Stetson move forward in gathering this information?

Committee Comments:

Mr. Teasdale proposed an idea to have a document that is vetted through the PAC and TAC talking about this process so people can see what is going to be done with the information and where it will be stored, etc. Mr. Parker followed up by stating we need a well inventory for this basin. The GA has the authority and responsibility to do such a thing and Mr. Decker agrees. Mr. Parker that a well inventory was done a while back and Mr. Decker added that a field study will need to be conducted. Mr. Parker mentioned a well location app that could be used as a non-invasive way to get the information. Chair Bingham mentioned that the TAC might want to discuss with the PAC regarding the best way to collect well location information.

Mr. Wilson asked if we can get a total number of de minimis users. Mr. Decker said no.

Public Comments:

Ms. Decker pointed out that Donna Thomas sent the information from Eastern Kern Conservation District and it is not recorded on the document for tonight. The WRM mentioned that the information was used according to their best judgement.

Mr. Rajtora Southern California Edison (SCE) has a project where they will voluntarily check wells and suggested that when people are contacted, you should get the owner's permission to check SCE records for that information. Mr. Decker was under the understanding that SCE would only provide those services for commercial-class (20 horse-powers) wells.

Mr. Hoffman brought up that based on the discussion he has heard, we do not know how many domestic wells there are and we do not know how many of those are. Mr. Hoffman suggested a document or memo that outlines the process Stetson will take to gather that information and include a component that addresses the amount of AFY, number of domestic users, and confirming that the well is for domestic purposes. Mr. Hoffman feels these are the data gaps that exist on this subject.

Mr. Wilson said that we have the number of wells that are on small properties and the amount they use. Mr. Wilson admits that these numbers may not be very accurate, but

they are there. Mr. Decker said the information was based on two weeks of work and it was estimated that the amount was 1000 AFY is about 4% of the total production. Mr. Decker also passed around a report to the TAC.

g. Prop 1 Grant – Category 1 (SDAC) Project (Attachment 4)

Mr. Helsley said that the grant award had two categories: projects for severely disadvantaged communities (SDAC) which the state fully funds (Category 1 projects) and grants for the GSP (Category 2 projects). IWV proposed two category 1 projects: Leak detection and repair and water conservation rebate program (both are pilot programs). We will be requesting proposals from contractors for the Residential and Commercial Rebate program. The WRM clarified that a consultant would be brought on board and that this is only for disadvantaged areas. The WRM then asked the TAC for suggestions on how to work with the consultant.

Committee Comments:

Mr. Parker asked who would manage the grant. The WRM answered that we are not sure yet.

Mr. Decker mentioned that there is a limit to conservation because sewers will not drain without flowing water.

Mr. Wilson mentioned other conservation alternatives such a no water urinals which would be a good alternative as long as they are maintained. Mr. Wilson also mentioned that faucets need restrictors in businesses around town.

Public Comments:

Ms. Decker feels that the biggest bang for your buck is to meter leaking pipes. Mr. Helsley pointed out that Ms. Decker's suggestion is more for second project, but it is something to think about. Ms. Decker pointed out an area off Jack's Ranch Road with large co-ops and that maybe a good area for the rebate and leaking pipes program.

h. Comments received by WRM from TAC

The WRM mentioned that comments should be included in agenda packets so they are recorded and put on the website.

No further comments.

6. FUTURE AGENDA ITEMS SCHEDULE

This time is reserved to inform the Committee of any items that are anticipated to be on the next agenda. No action may be taken unless authorized by law and public comments are limited to three minutes per person.

Adam gave an overview of the PAS items for May including:

- i) Imported water opportunities
- ii) Recycled water opportunities
- iii) Data gaps: monitoring wells and aquifer tests
- iv) Category 1: leak detection

Committee Comments:

Mr. Parker added the GAP project.

Mr. Teasdale added an update from the Navy on the model.

Public Comments:

Mr. Hoffman asked, is it clear what the TAC is tasked to do on each of those items? Chair Bingham said that the TAC will work with Stetson on what needs to be done.

Ms. Decker asked if the TAC going to review the recharge study. Chair Bingham responded that if the TAC is tasked to do that, then they would. Ms. Decker feels the TAC should review the study. Mr. Teasdale added that the report is not officially out yet. Mr. Parker that once it is out, the TAC cannot make any changes to it, but it would be good to critique. Mr. Teasdale agreed that a critique and presentation should be on the GA agenda. The WRM will take care of getting that on the agenda.

Anita Amsand asked when Don Clease, for Small Agriculture, will be on the TAC. Chair Bingham responded that the decision is in the GA's hands.

7. FUTURE TAC MEETING DATES

July date will move to Tuesday July 10th.

8. COMMITTEE MEMBER ANNOUNCEMENTS OR COMMENTS

No comments.

9. ADJOURN

With no further comments or discussion to come before the Committee, motion was made by Earl Wilson and seconded by Michael Powell to adjourn the meeting at 4:14 p.m.

Respectfully submitted,

Jade Brush
Recording Secretary
Searles Valley Minerals

Indian Wells Valley Model Status

April 5, 2018

IWV-TAC Meeting

Modeling Schedule (T) *changes are underlined*

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MODEL: Transport and Land Subsidence Analysis	Feb 2019	May 2019



Recycled Water Opportunities and Constraints Evaluation

**Indian Wells Valley Groundwater Authority
Technical Advisory Committee Meeting**

April 5, 2018

Outline

- ▶ Update: Current Sources of Wastewater and Recycled Water
- ▶ Opportunities
 - ▶ Non-Potable Reuse
 - ▶ Indirect Potable Reuse
 - ▶ Potential basin recharge locations
 - ▶ Direct Potable Reuse
 - ▶ Indian Wells Valley Water District
 - ▶ Searles Valley Minerals and City of Trona
- ▶ Regulatory Analysis
 - ▶ Regional Water Quality Control Board – Lahontan Region
 - ▶ California State Water Resources Control Board (SWRCB)
 - ▶ Non-Potable Reuse
 - ▶ Indirect Potable Reuse
 - ▶ Direct Potable Reuse
- ▶ Conclusions
- ▶ Next Steps

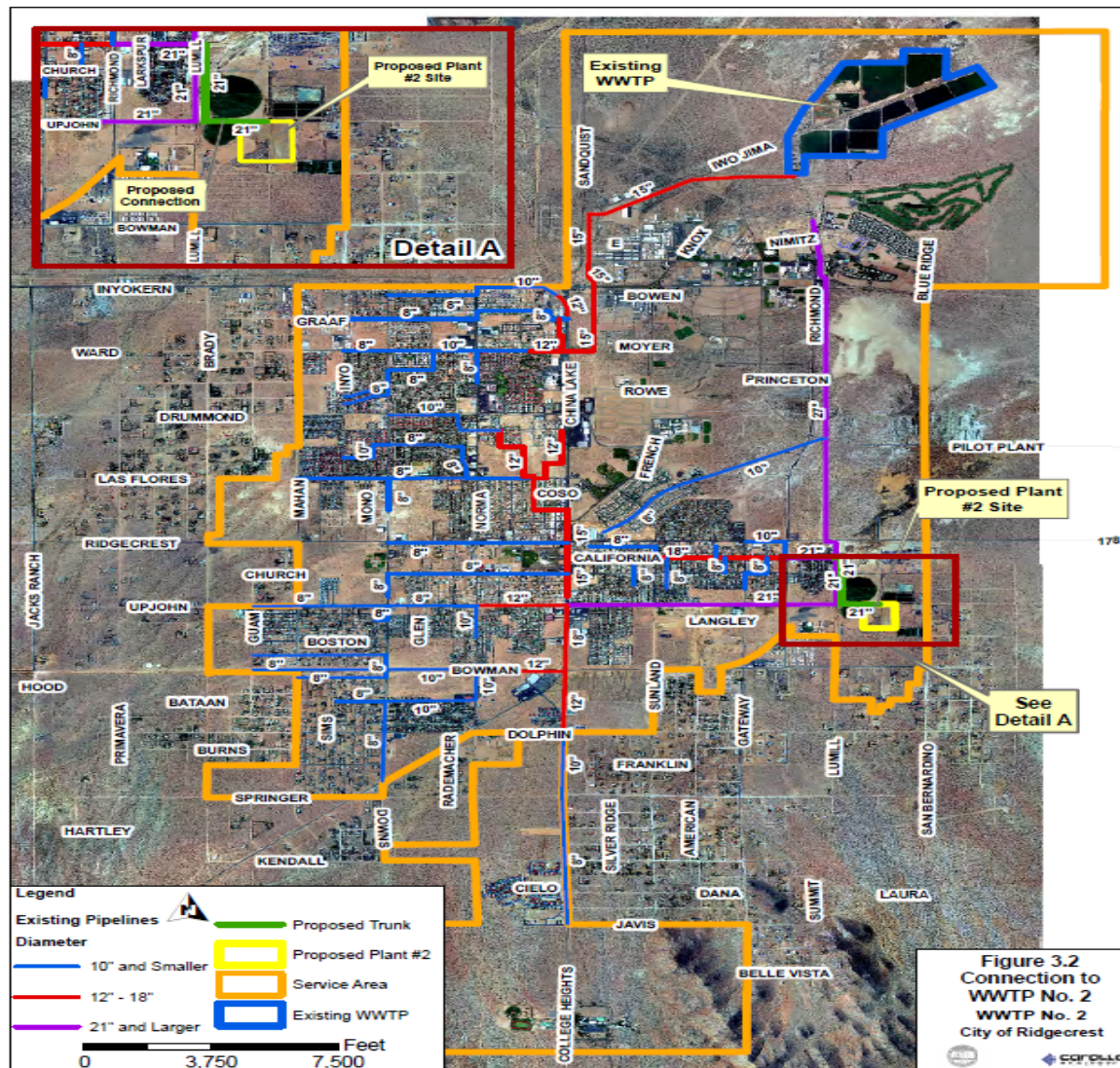
Current Sources of Wastewater and Recycled Water

- ▶ City of Ridgecrest collection system
 - ▶ City wastewater treatment plant (WWTP)
- ▶ Inyokern Community Services District (CSD) collection system
 - ▶ Inyokern CSD WWTP
- ▶ Septic systems



Ridgecrest Collection System

- ▶ WWTP annual average daily flow of 2.31 MGD
 - ▶ 2,588 acre-feet per year (AFY)
- ▶ Existing treatment process produces undisinfected secondary recycled water.
 - ▶ Primary treatment: Headworks (screens and grit chamber) and sedimentation tanks
 - ▶ Secondary treatment: Facultative ponds
- ▶ Water Quality Concerns
 - ▶ TDS
 - ▶ Nitrate as N
 - ▶ Chloride
 - ▶ Molybdenum (in sludge)
 - ▶ JP-5 (jet propellant fuel)
 - ▶ Nondomestic discharge into the plant



Carollo Engineers, City of Ridgecrest Wastewater Treatment Plant Final Project Report, September 2008.

Ridgecrest Collection System

- ▶ Minimum levels of treatment required for,
 - ▶ Non-Potable Reuse (landscape irrigation):
 - ▶ Filtration
 - ▶ Disinfection
 - ▶ Indirect Potable Reuse (surface applications):
 - ▶ Filtration
 - ▶ Disinfection
- ▶ Modifications to existing secondary treatment
- ▶ Additional treatment may be required to address other water quality issues.

Inyokern CSD Collection System

- ▶ Minimal level of treatment at WWTP
 - ▶ Influent from sewer system flows directly to lined facultative ponds (secondary treatment)
 - ▶ Final effluent flows to 6 evaporation ponds
- ▶ WWTP average daily flow of 0.029 MGD (32.5 AFY)
- ▶ Water Quality
 - ▶ As of October 2017:
 - ▶ BOD – 61 mg/L ; COD – 150 mg/L ; TDS – 650 mg/L ; oil and grease – Non-detect
- ▶ Inyokern CSD service area is sewerred except for a few individual homes.
 - ▶ North of Inyokern Road: older clay pipes
 - ▶ South of Inyokern Road: newer PVC pipes
- ▶ No WWTP effluent is currently put to any uses other than evaporation

Inyokern CSD Collection System

- ▶ Additional treatment required for Indirect Potable Reuse (surface applications):
 - ▶ Primary Treatment
 - ▶ Filtration
 - ▶ Disinfection
- ▶ Modifications to existing secondary treatment

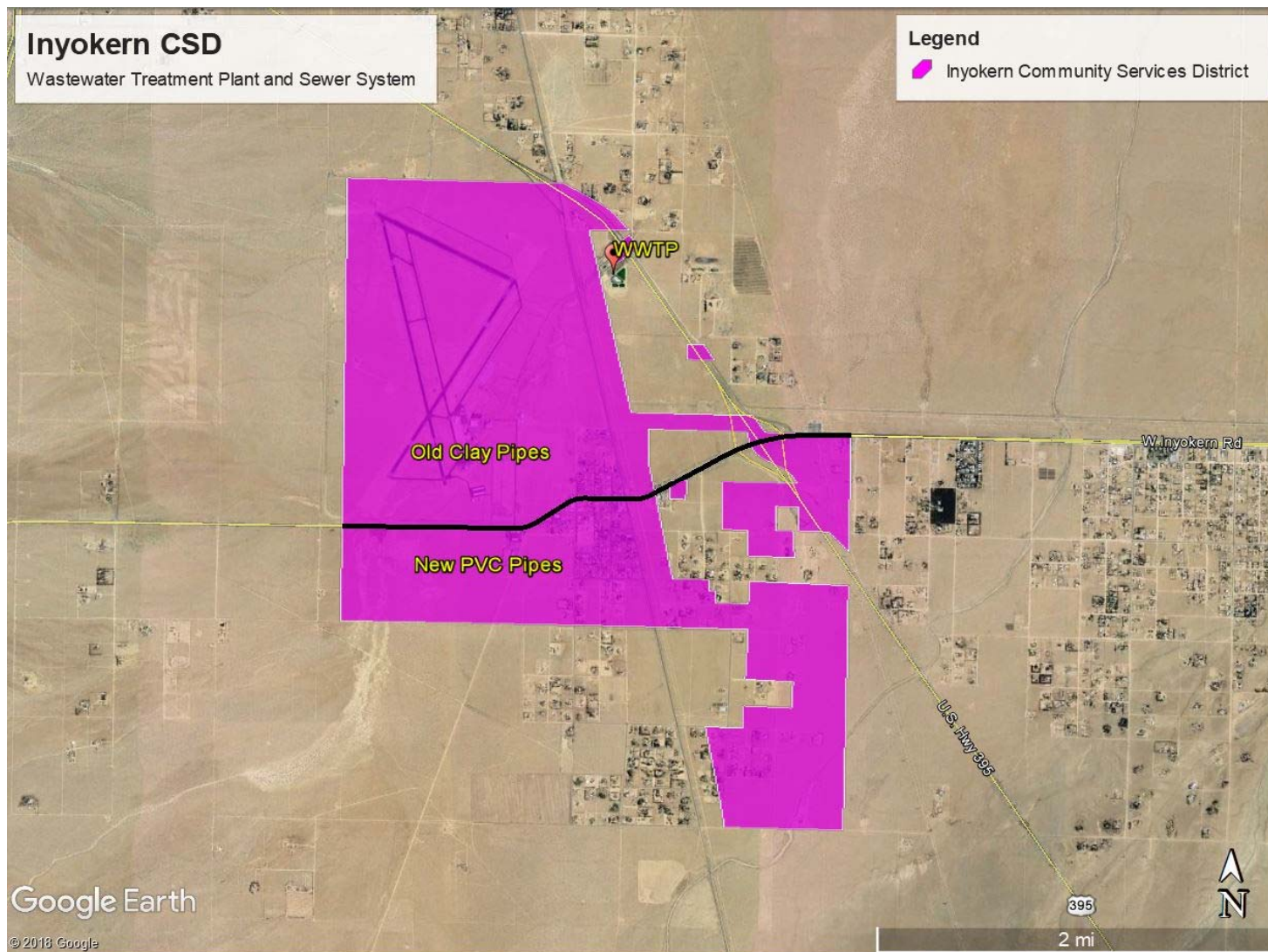
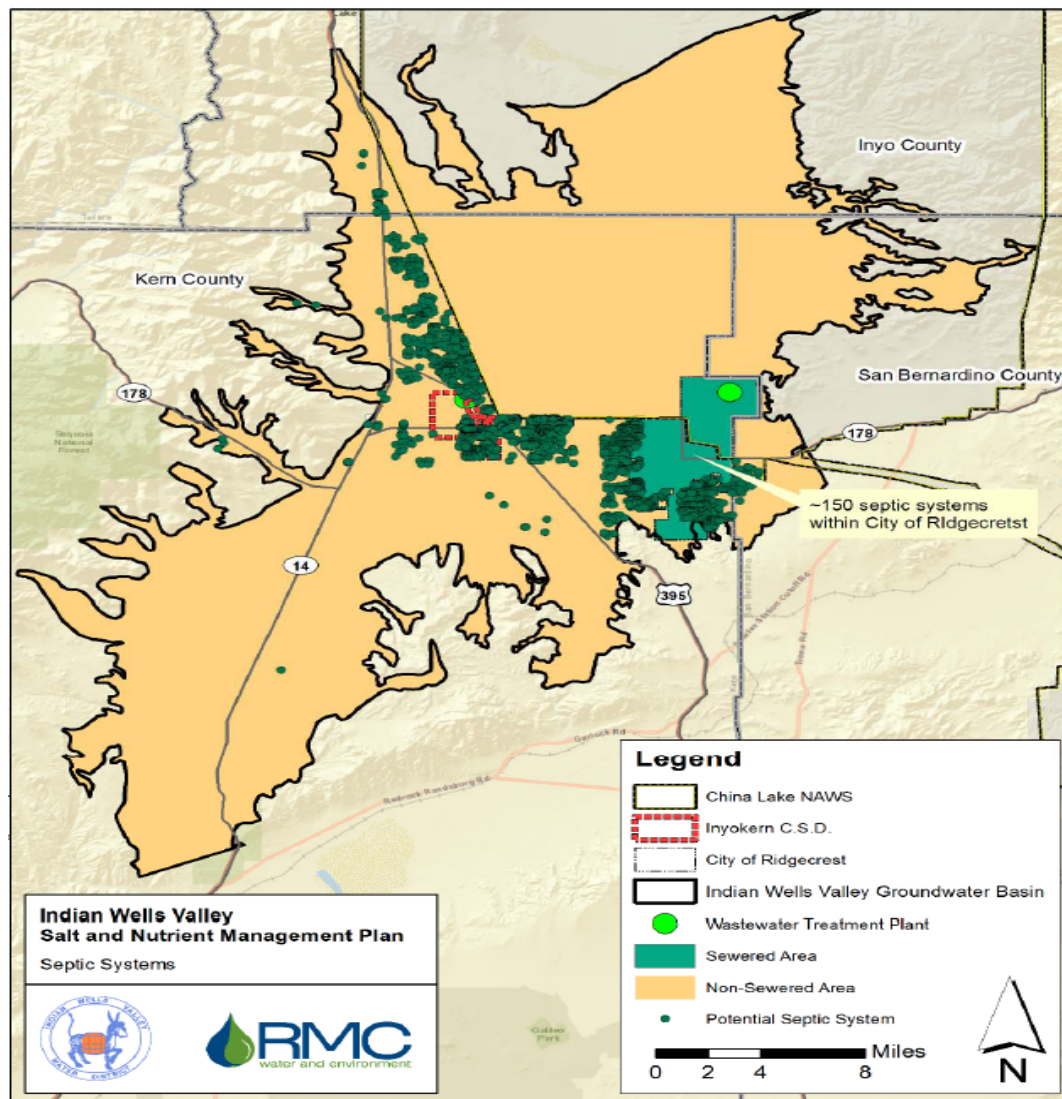


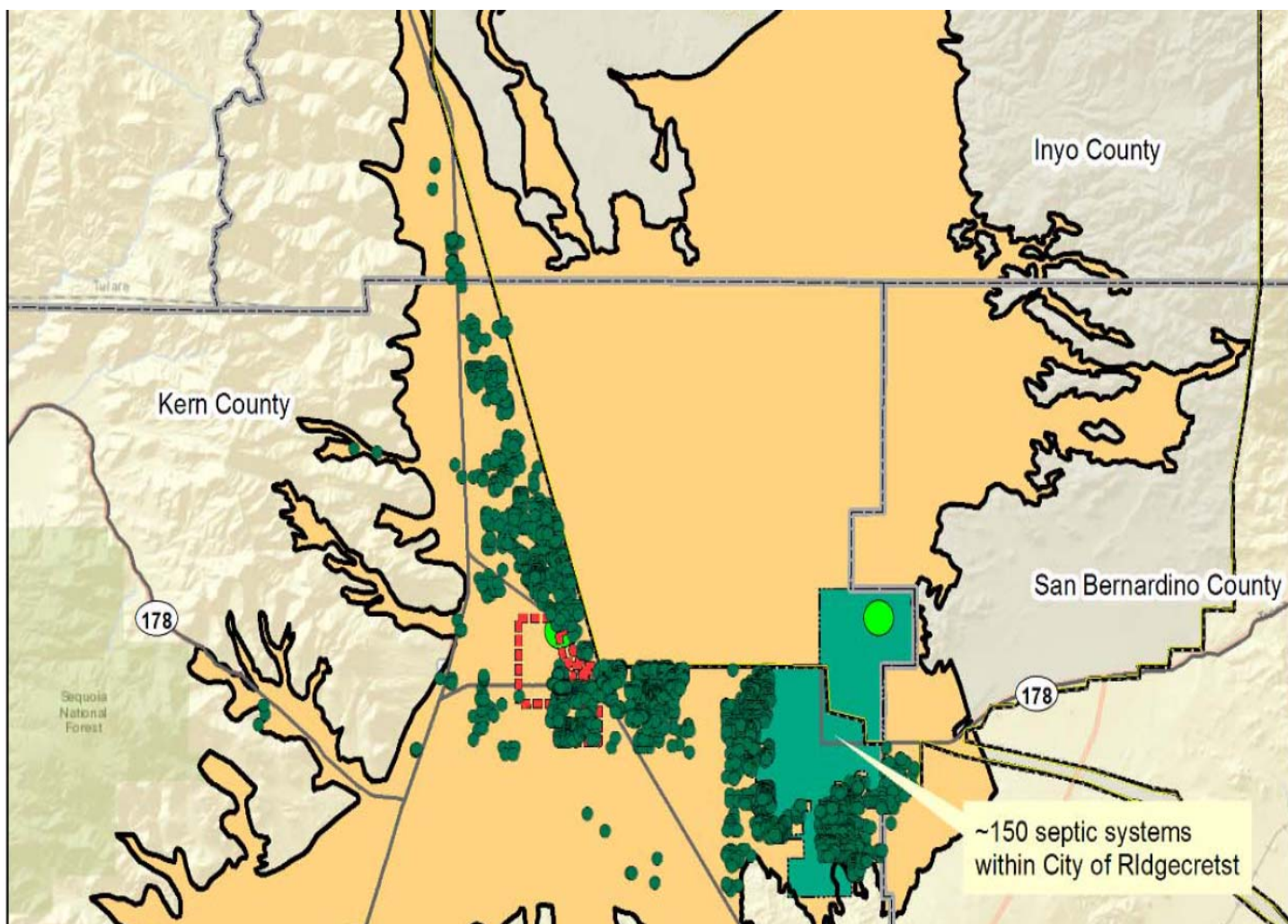
Image from Google Earth.

Septic Systems

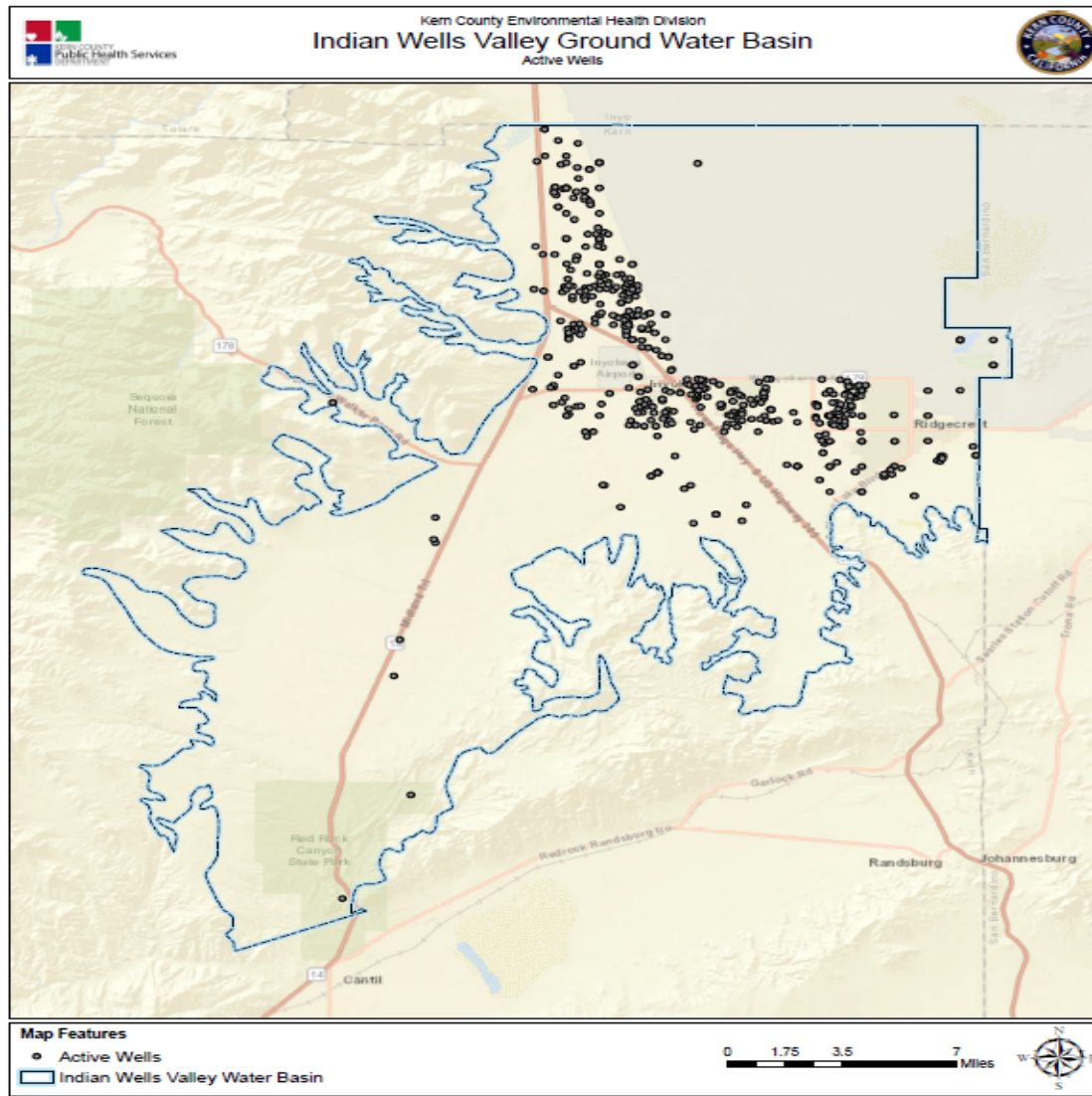




Indian Wells Valley Water District, *Salt and Nutrient Management Plan*, January 2018.



Indian Wells Valley Water District, Salt and Nutrient Management Plan, January 2018.



Kern County Environmental Health Division.

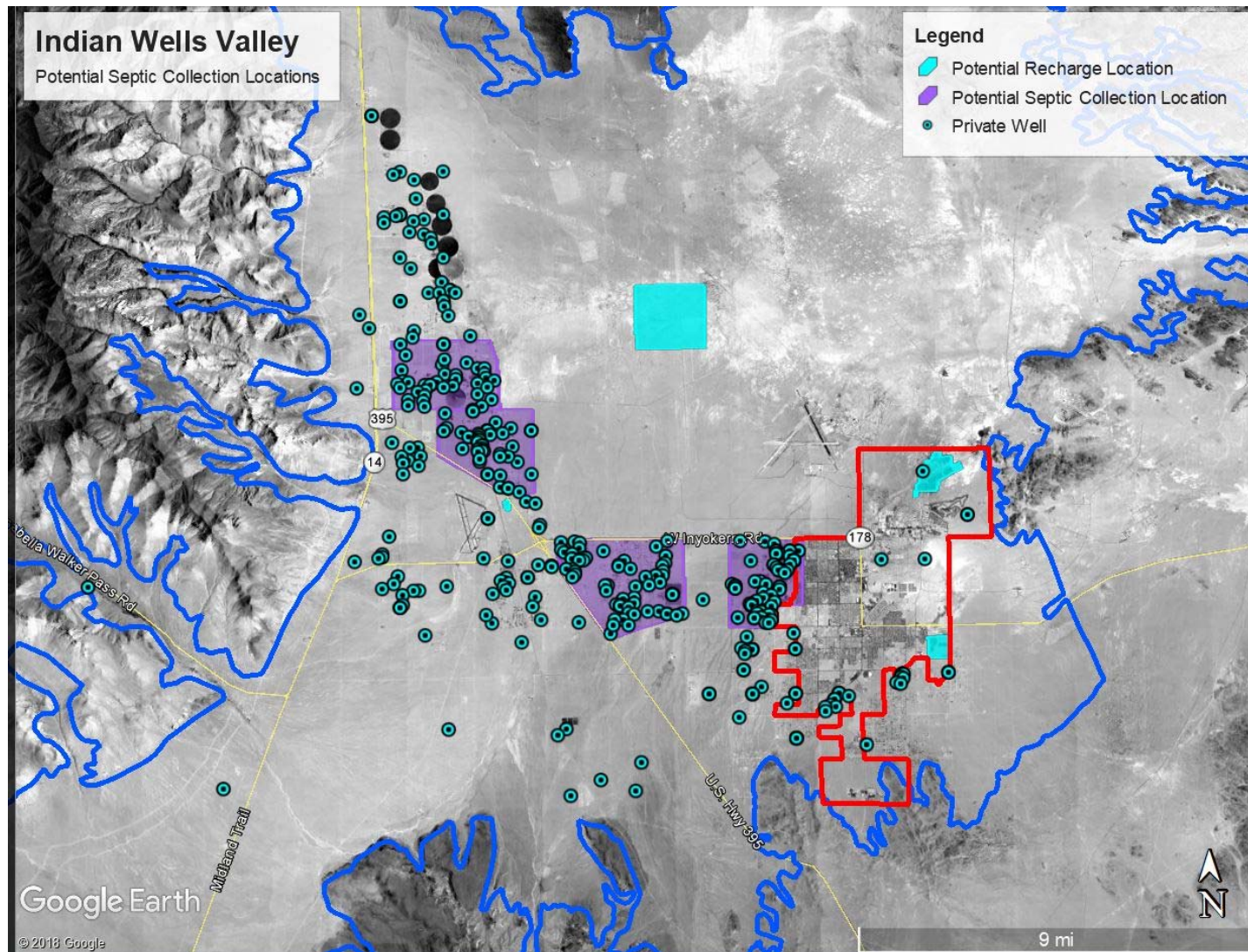


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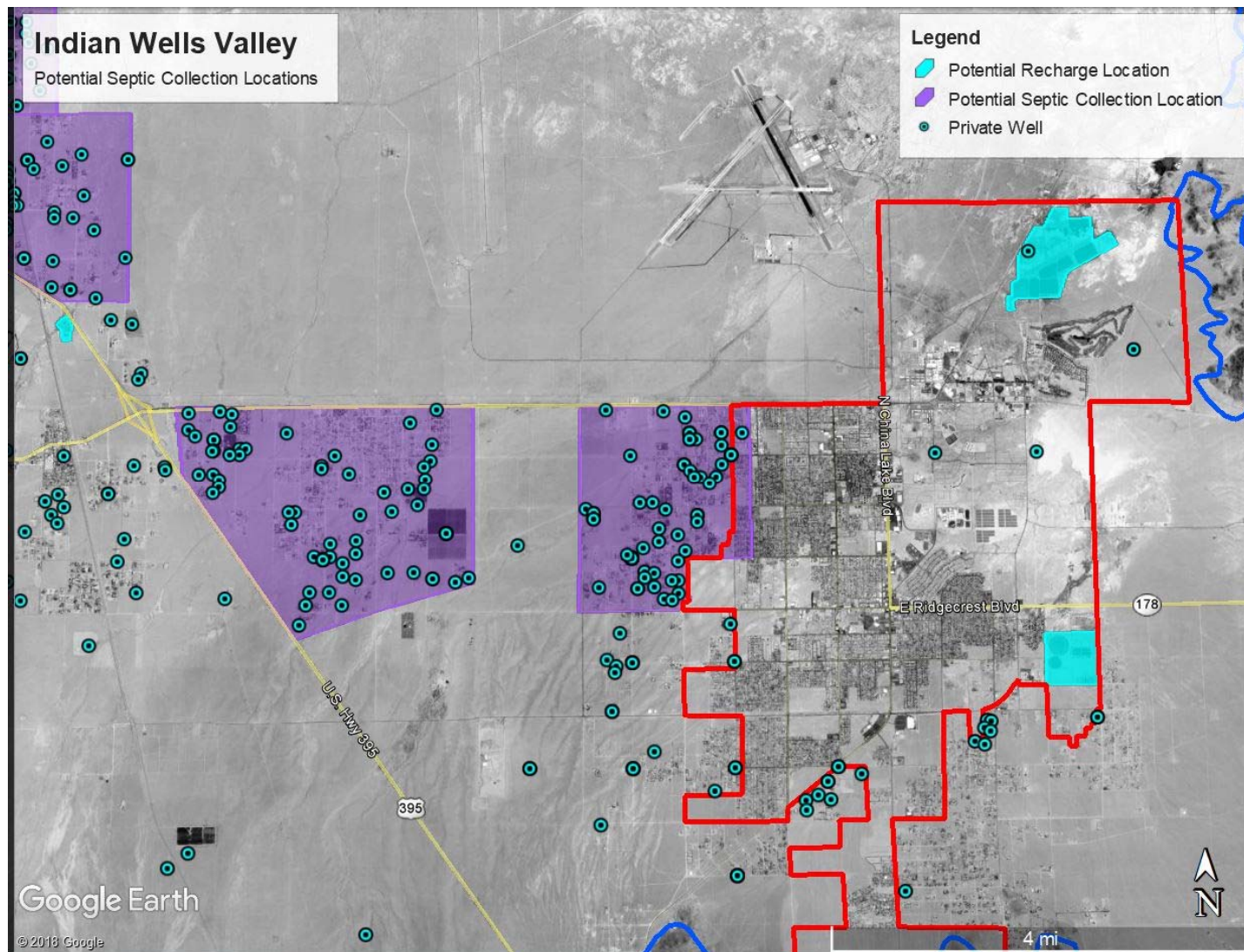


Image from Google Earth.

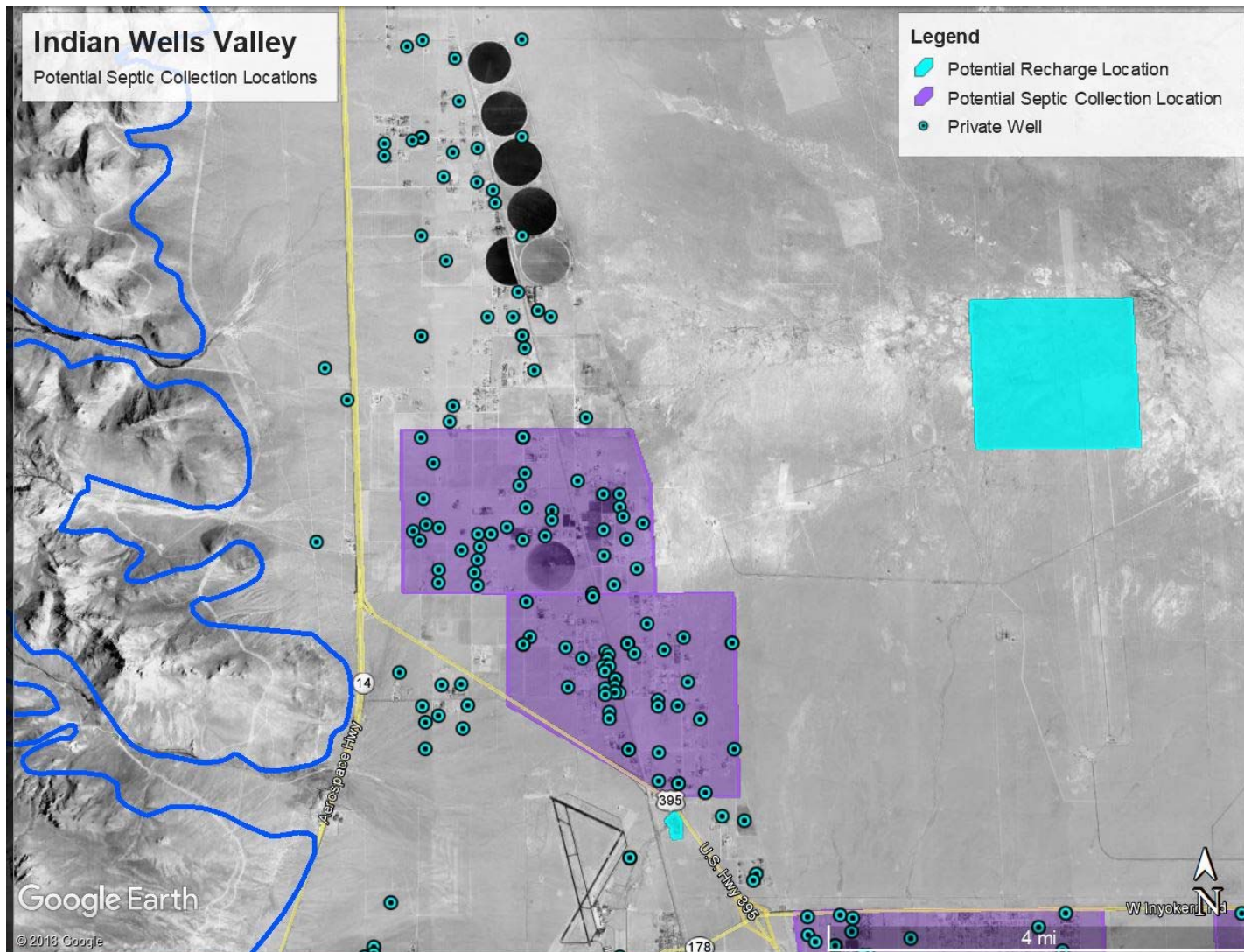


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 - ▶ Surface Applications: spreading grounds
 - ▶ Subsurface Applications: deep injection wells
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 - ▶ Confining clay layer between shallow and deep aquifer
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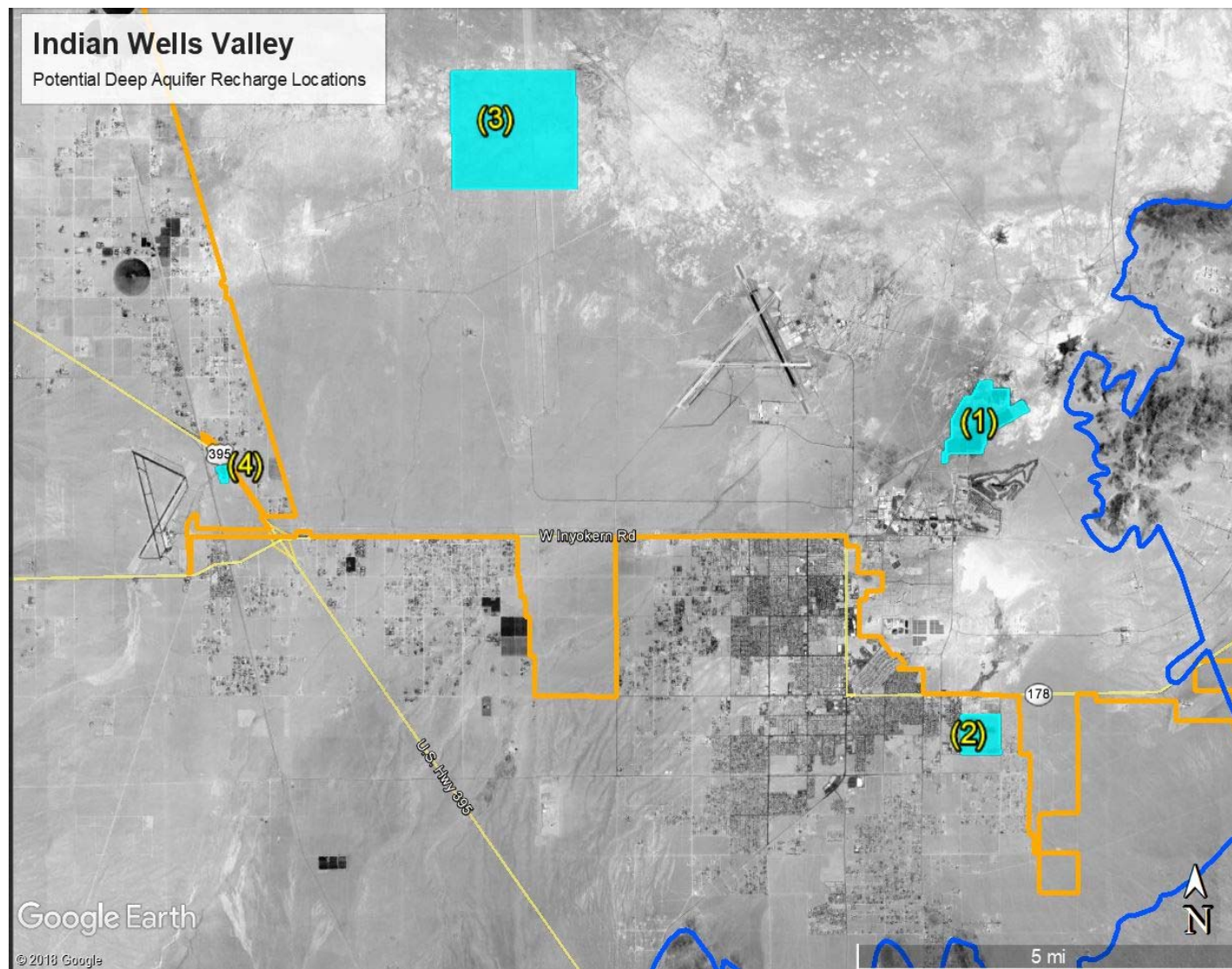
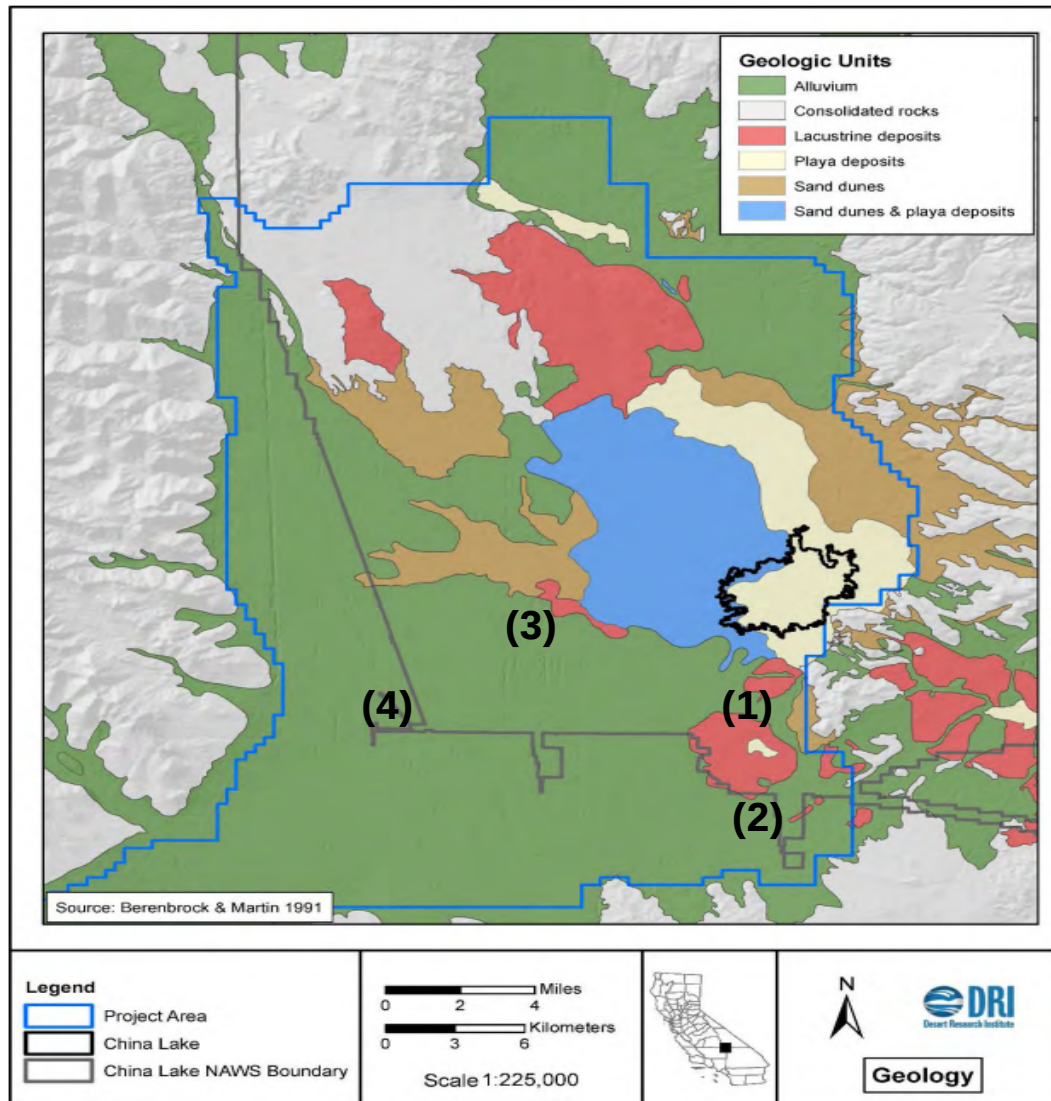
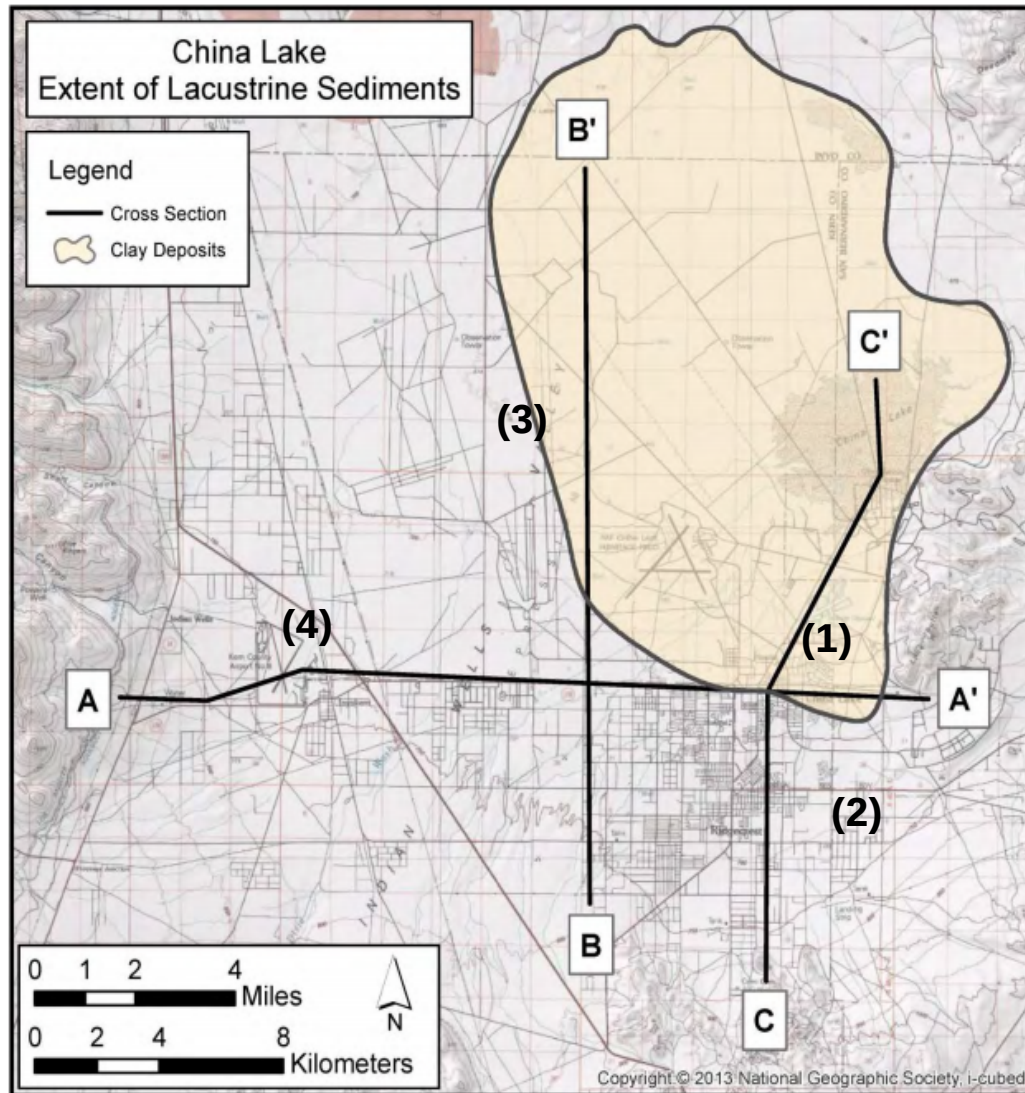


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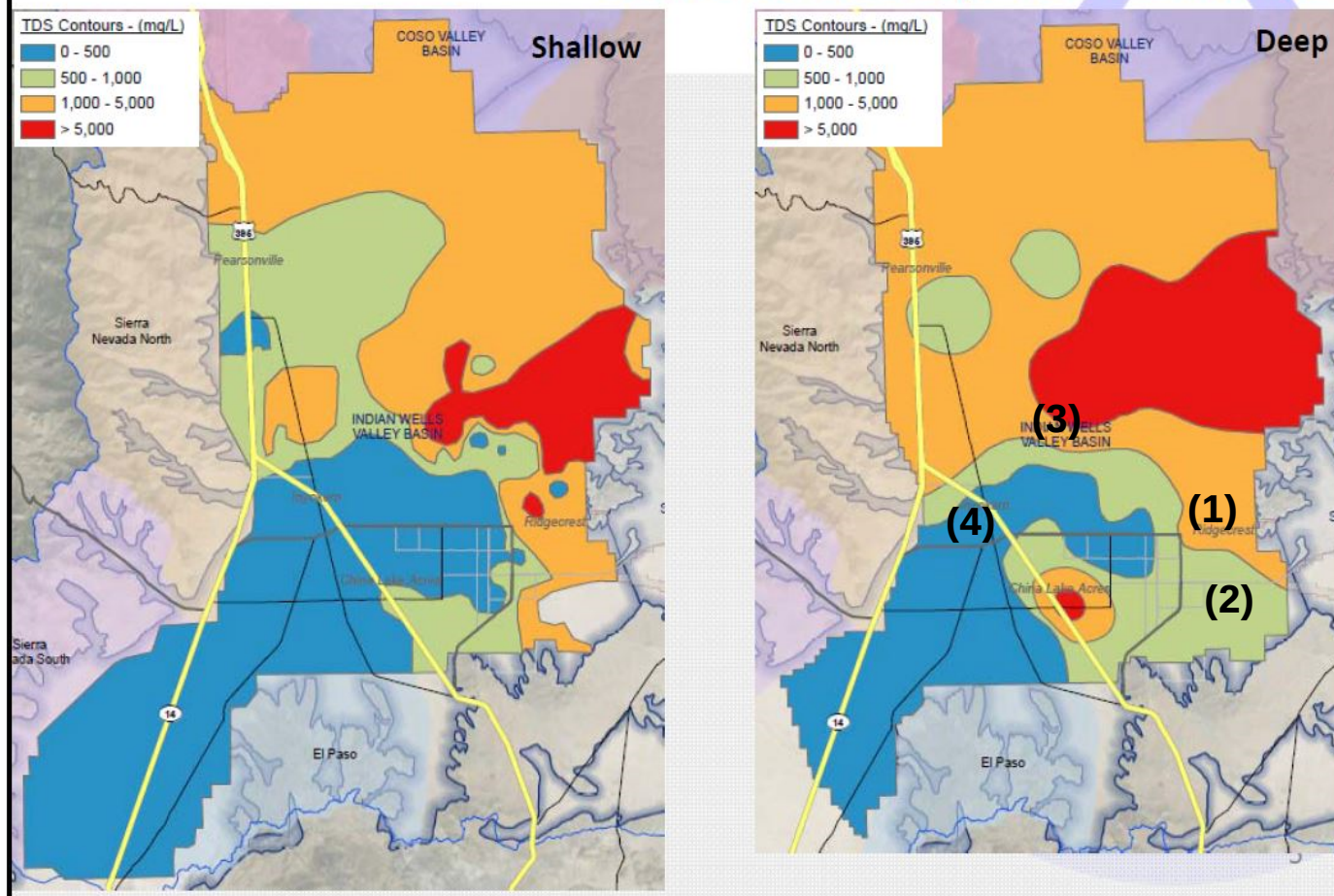
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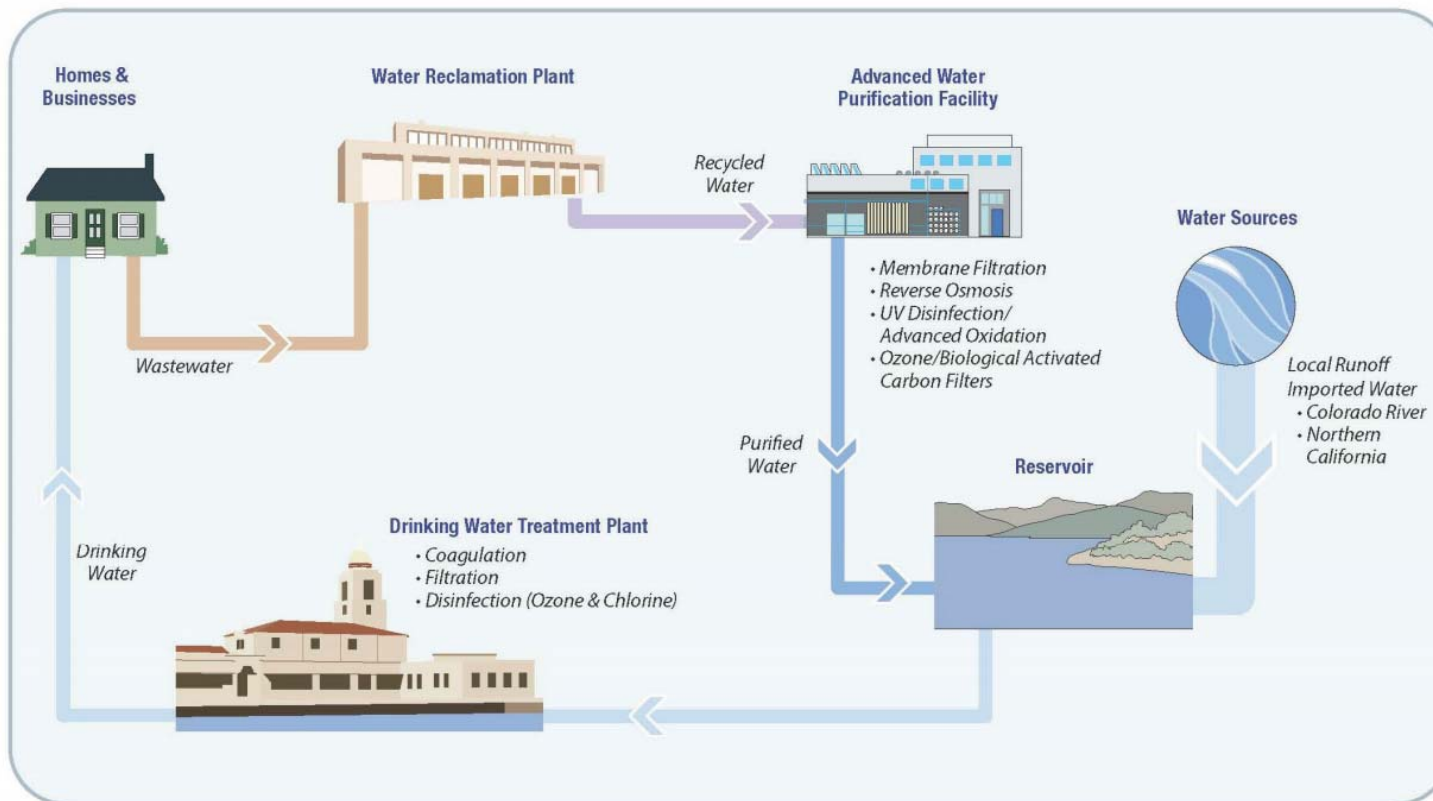
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Water Purification Process



City of San Diego Urban Water Management Plan, 2015.

Conclusions

- ▶ Ridgecrest WWTP
 - ▶ Landscape irrigation
 - ▶ Surface spreading
 - ▶ Direct Potable Reuse (IWWWD, Searles, Trona)
- ▶ Inyokern CSD WWTP
 - ▶ Surface spreading
- ▶ Septic Tank Collection
 - ▶ Surface spreading



Next Steps

- ▶ Comparison of Recycled Water Opportunities
 - ▶ 20-Year Economic Feasibility: treatment plant, infrastructure, retrofits, etc.
 - ▶ Capital (construction) costs
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Recycled Water Opportunities and Constraints Evaluation

**Indian Wells Valley Groundwater Authority
Technical Advisory Committee Meeting**

April 5, 2018

Outline

- ▶ Update: Current Sources of Wastewater and Recycled Water
- ▶ Opportunities
 - ▶ Non-Potable Reuse
 - ▶ Indirect Potable Reuse
 - ▶ Potential basin recharge locations
 - ▶ Direct Potable Reuse
 - ▶ Indian Wells Valley Water District
 - ▶ Searles Valley Minerals and City of Trona
- ▶ Regulatory Analysis
 - ▶ Regional Water Quality Control Board – Lahontan Region
 - ▶ California State Water Resources Control Board (SWRCB)
 - ▶ Non-Potable Reuse
 - ▶ Indirect Potable Reuse
 - ▶ Direct Potable Reuse
- ▶ Conclusions
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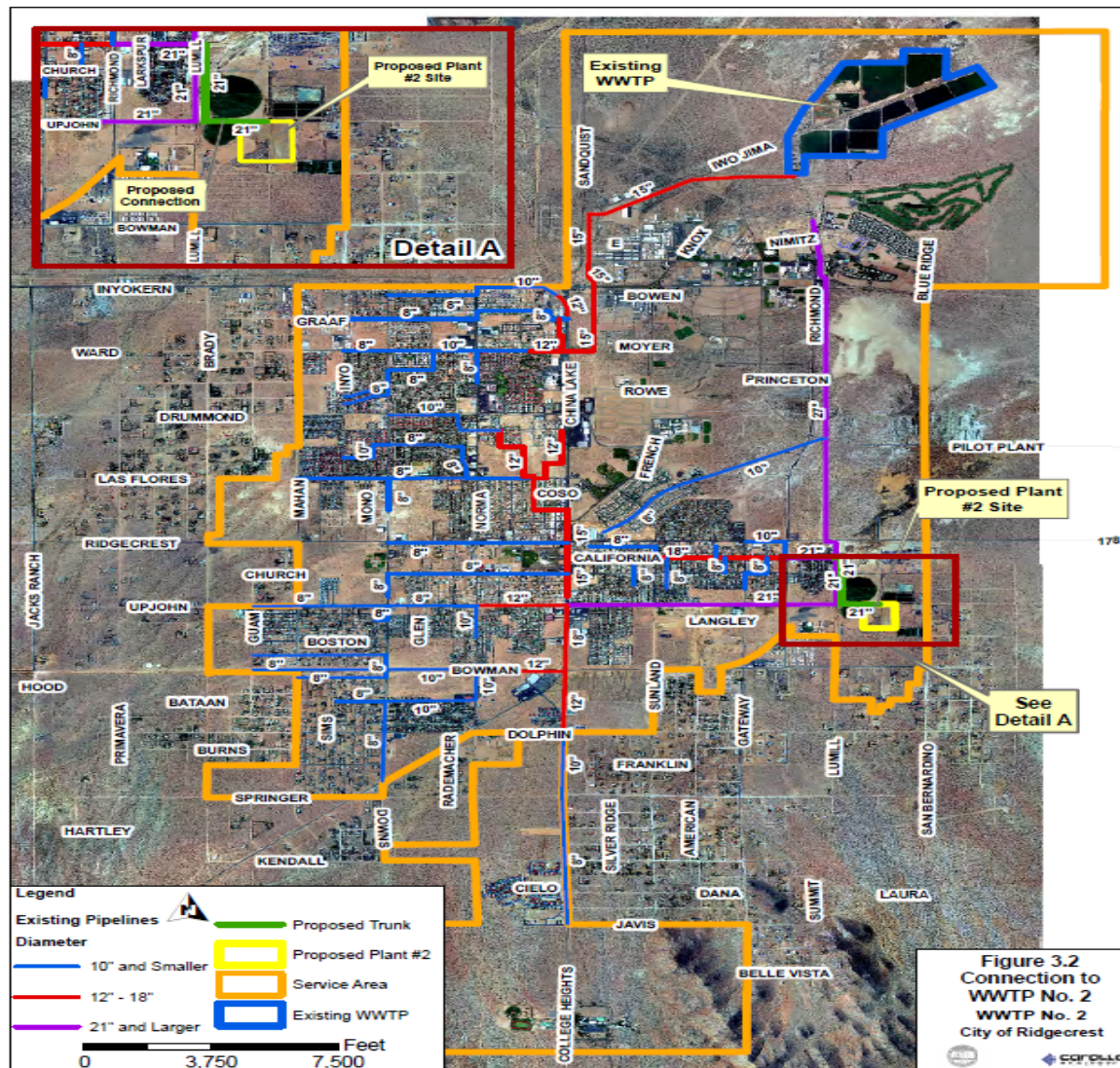
Current Sources of Wastewater and Recycled Water

- ▶ City of Ridgecrest collection system
 - ▶ City wastewater treatment plant (WWTP)
- ▶ Inyokern Community Services District (CSD) collection system
 - ▶ Inyokern CSD WWTP
- ▶ Septic systems



Ridgecrest Collection System

- ▶ WWTP annual average daily flow of 2.31 MGD
 - ▶ 2,588 acre-feet per year (AFY)
- ▶ Existing treatment process produces undisinfected secondary recycled water.
 - ▶ Primary treatment: Headworks (screens and grit chamber) and sedimentation tanks
 - ▶ Secondary treatment: Facultative ponds
- ▶ Water Quality Concerns
 - ▶ TDS
 - ▶ Nitrate as N
 - ▶ Chloride
 - ▶ Molybdenum (in sludge)
 - ▶ JP-5 (jet propellant fuel)
 - ▶ Nondomestic discharge into the plant



Carollo Engineers, City of Ridgcrest Wastewater Treatment Plant Final Project Report, September 2008.

Ridgecrest Collection System

- ▶ Minimum levels of treatment required for,
 - ▶ Non-Potable Reuse (landscape irrigation):
 - ▶ Filtration
 - ▶ Disinfection
 - ▶ Indirect Potable Reuse (surface applications):
 - ▶ Filtration
 - ▶ Disinfection
- ▶ Modifications to existing secondary treatment
- ▶ Additional treatment may be required to address other water quality issues.

Inyokern CSD Collection System

- ▶ Minimal level of treatment at WWTP
 - ▶ Influent from sewer system flows directly to lined facultative ponds (secondary treatment)
 - ▶ Final effluent flows to 6 evaporation ponds
- ▶ WWTP average daily flow of 0.029 MGD (32.5 AFY)
- ▶ Water Quality
 - ▶ As of October 2017:
 - ▶ BOD – 61 mg/L ; COD – 150 mg/L ; TDS – 650 mg/L ; oil and grease – Non-detect
- ▶ Inyokern CSD service area is sewerred except for a few individual homes.
 - ▶ North of Inyokern Road: older clay pipes
 - ▶ South of Inyokern Road: newer PVC pipes
- ▶ No WWTP effluent is currently put to any uses other than evaporation

Inyokern CSD Collection System

- ▶ Additional treatment required for Indirect Potable Reuse (surface applications):
 - ▶ Primary Treatment
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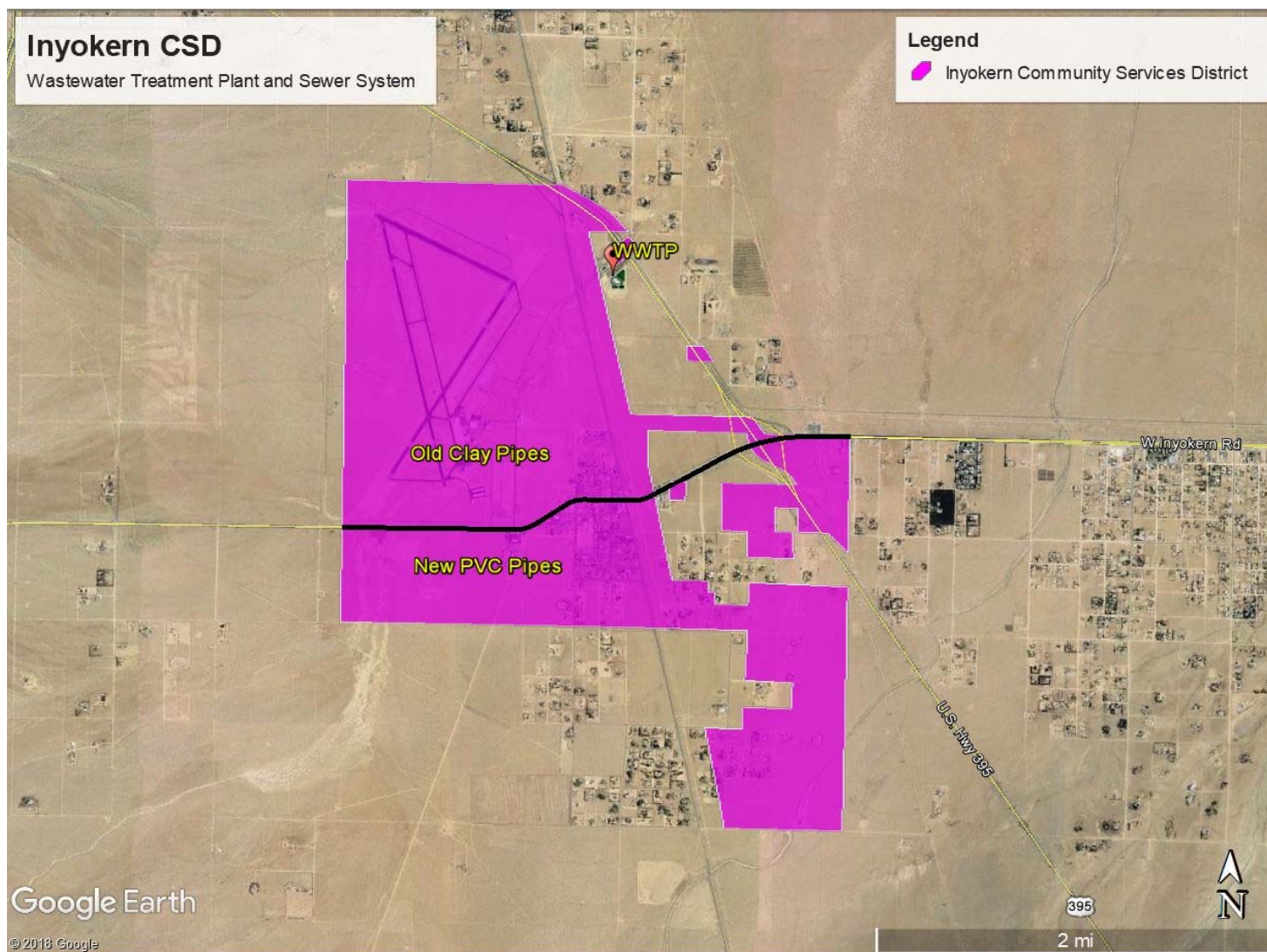
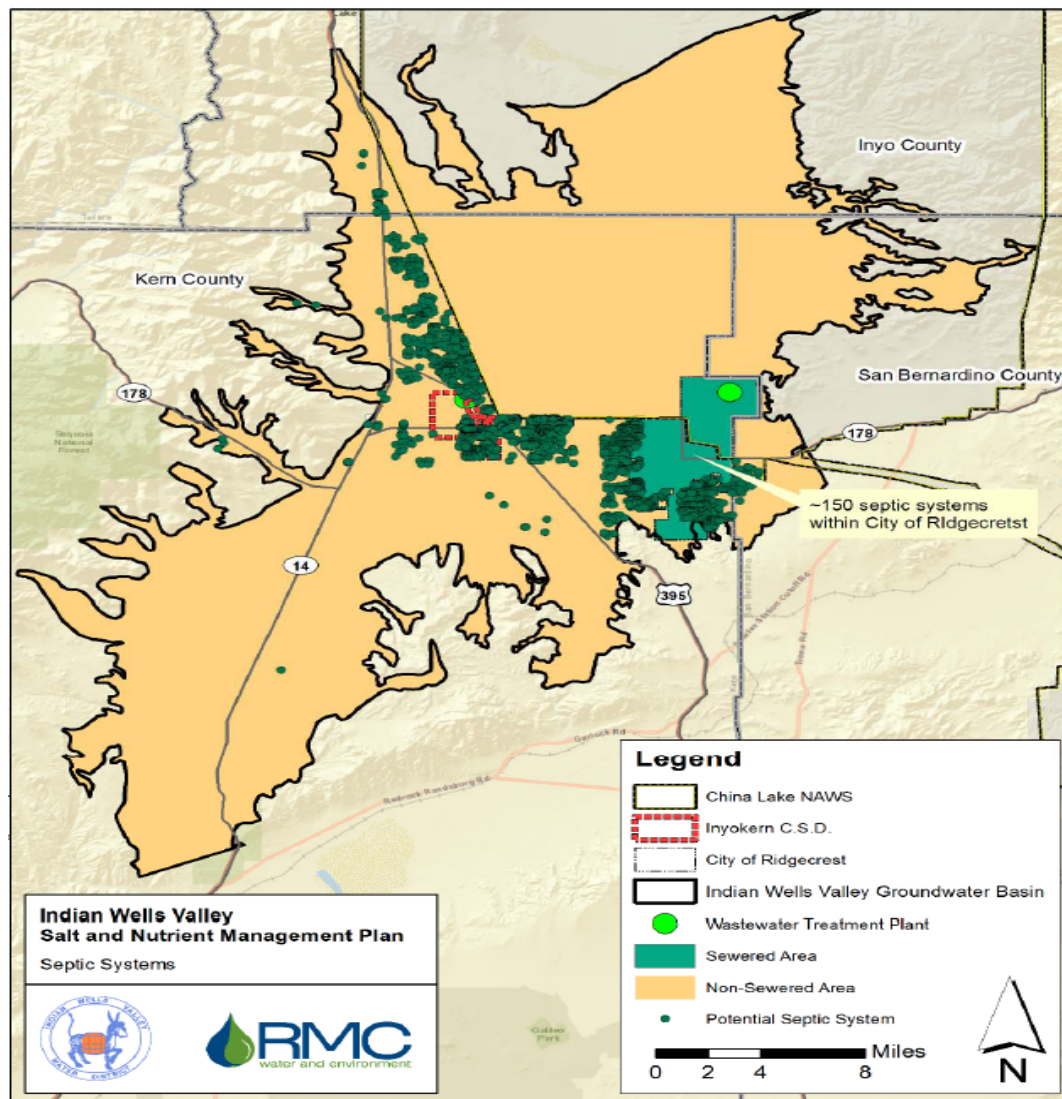


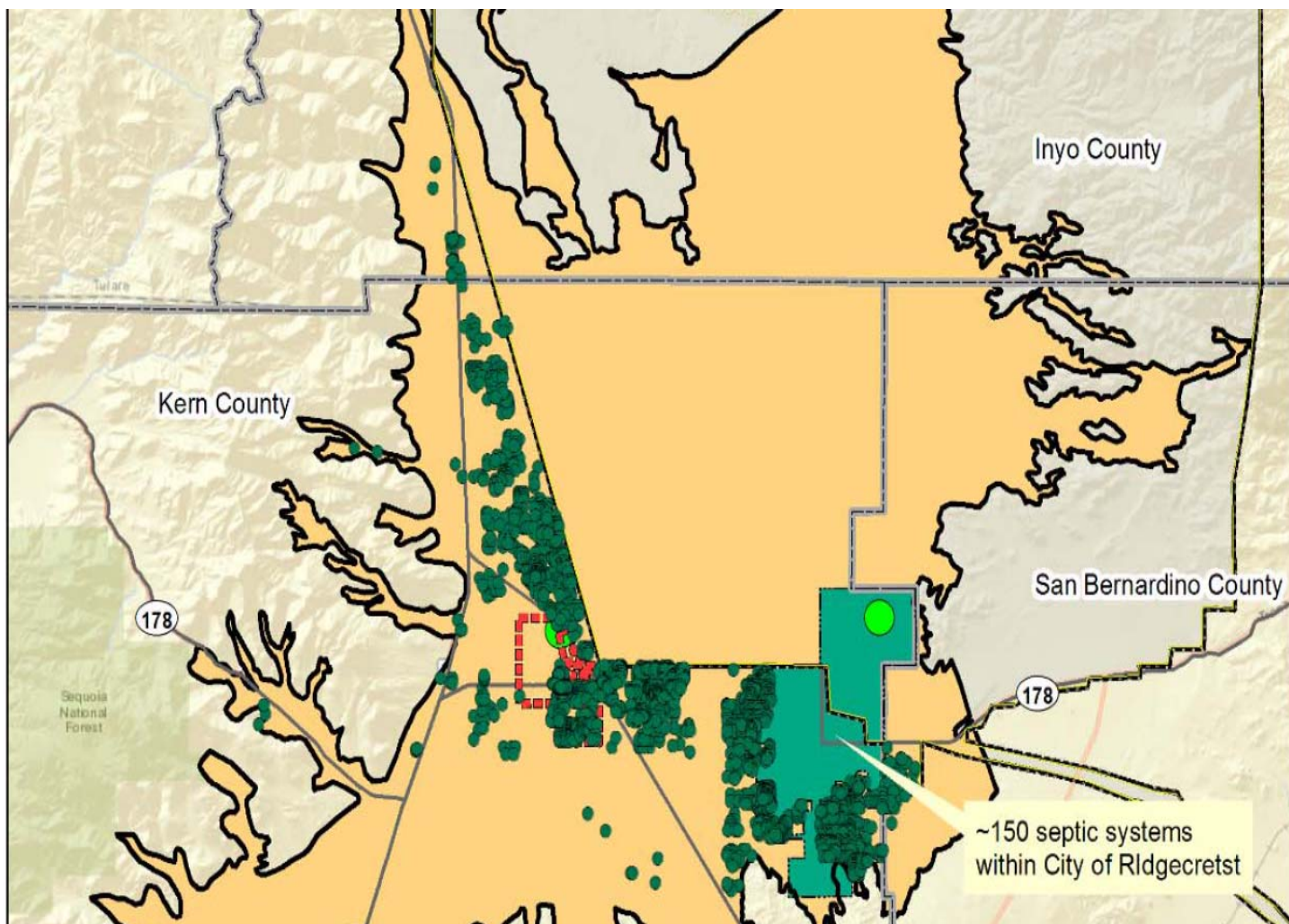
Image from Google Earth.

Septic Systems

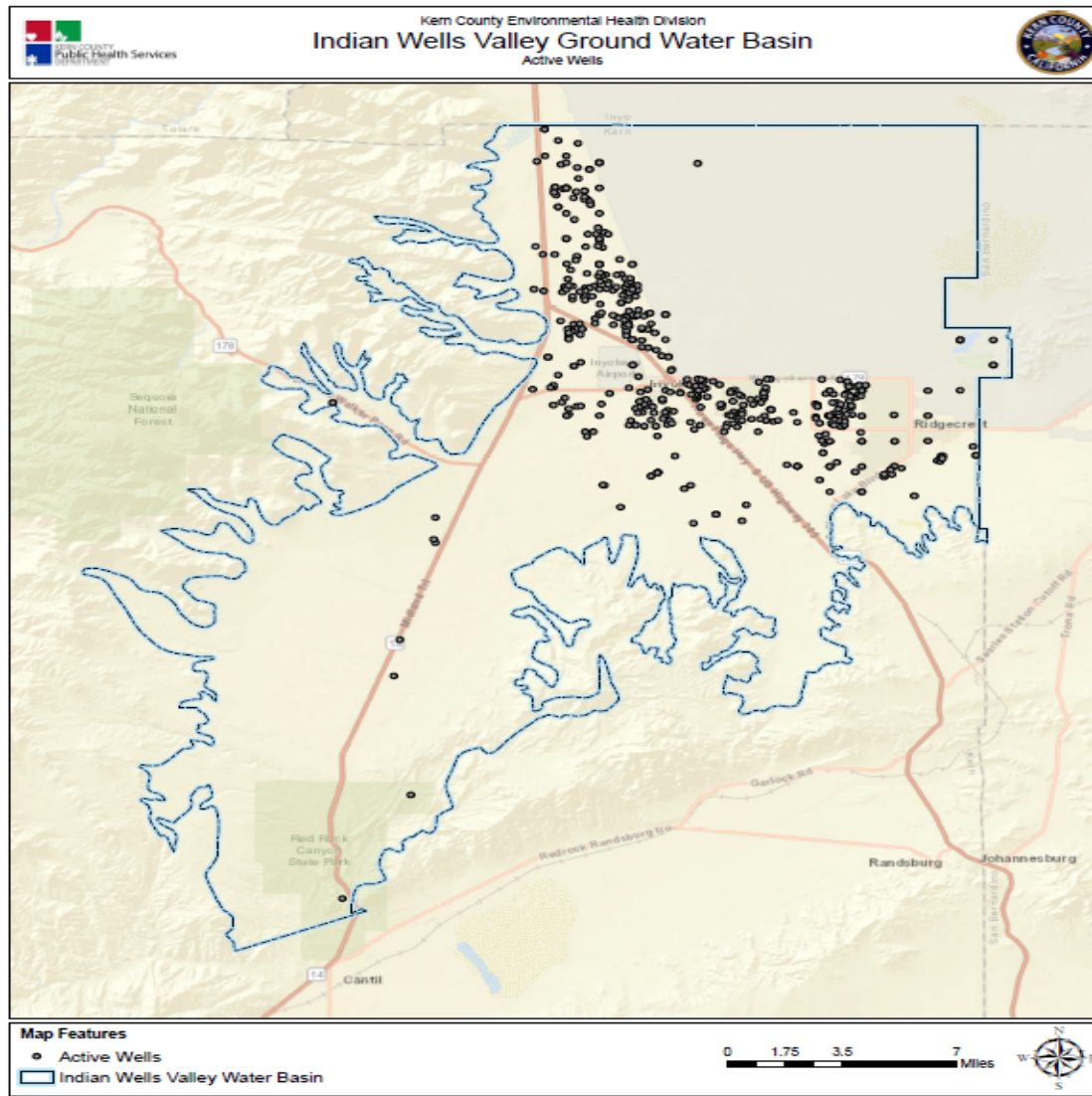




Indian Wells Valley Water District, *Salt and Nutrient Management Plan*, January 2018.



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Kern County Environmental Health Division.

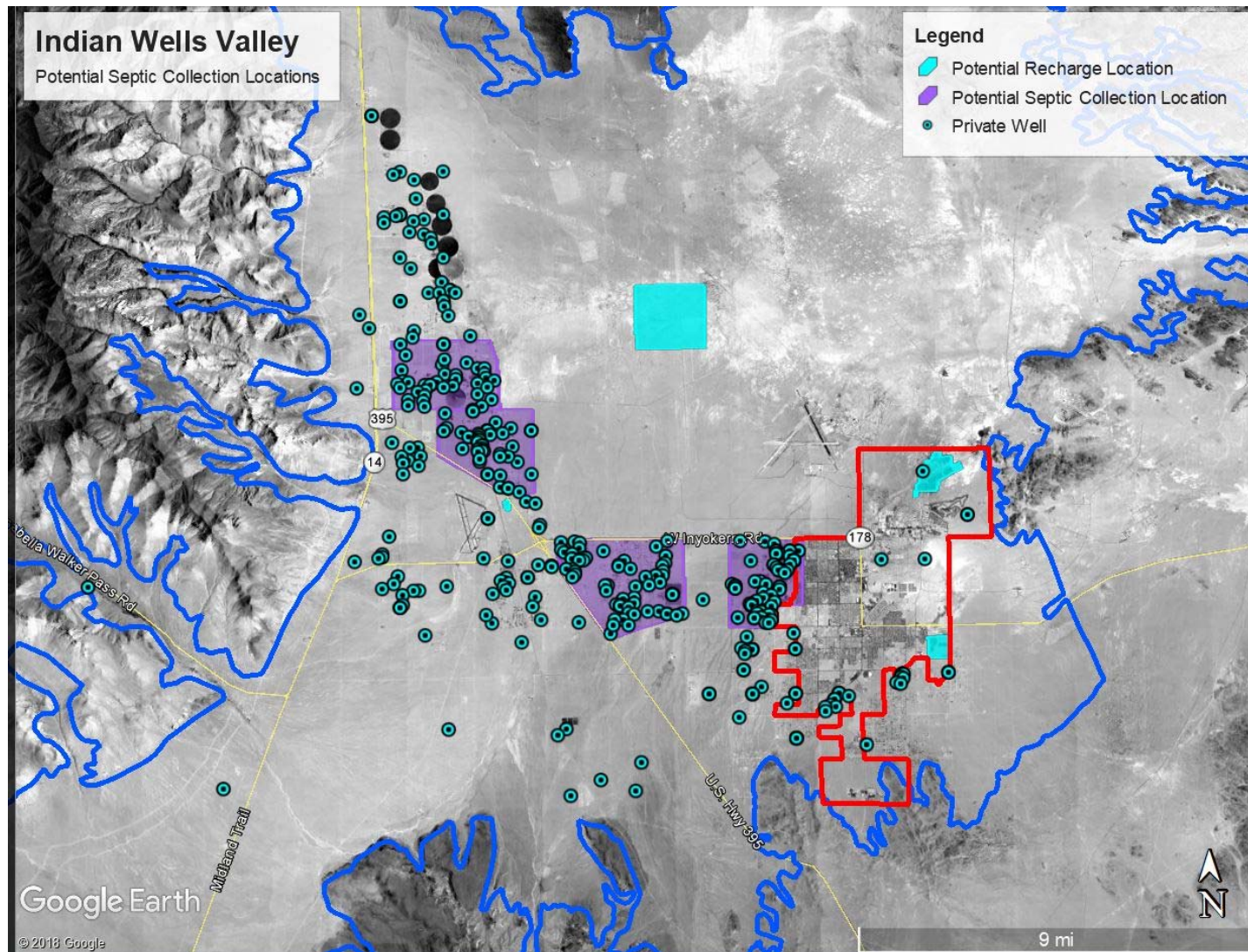


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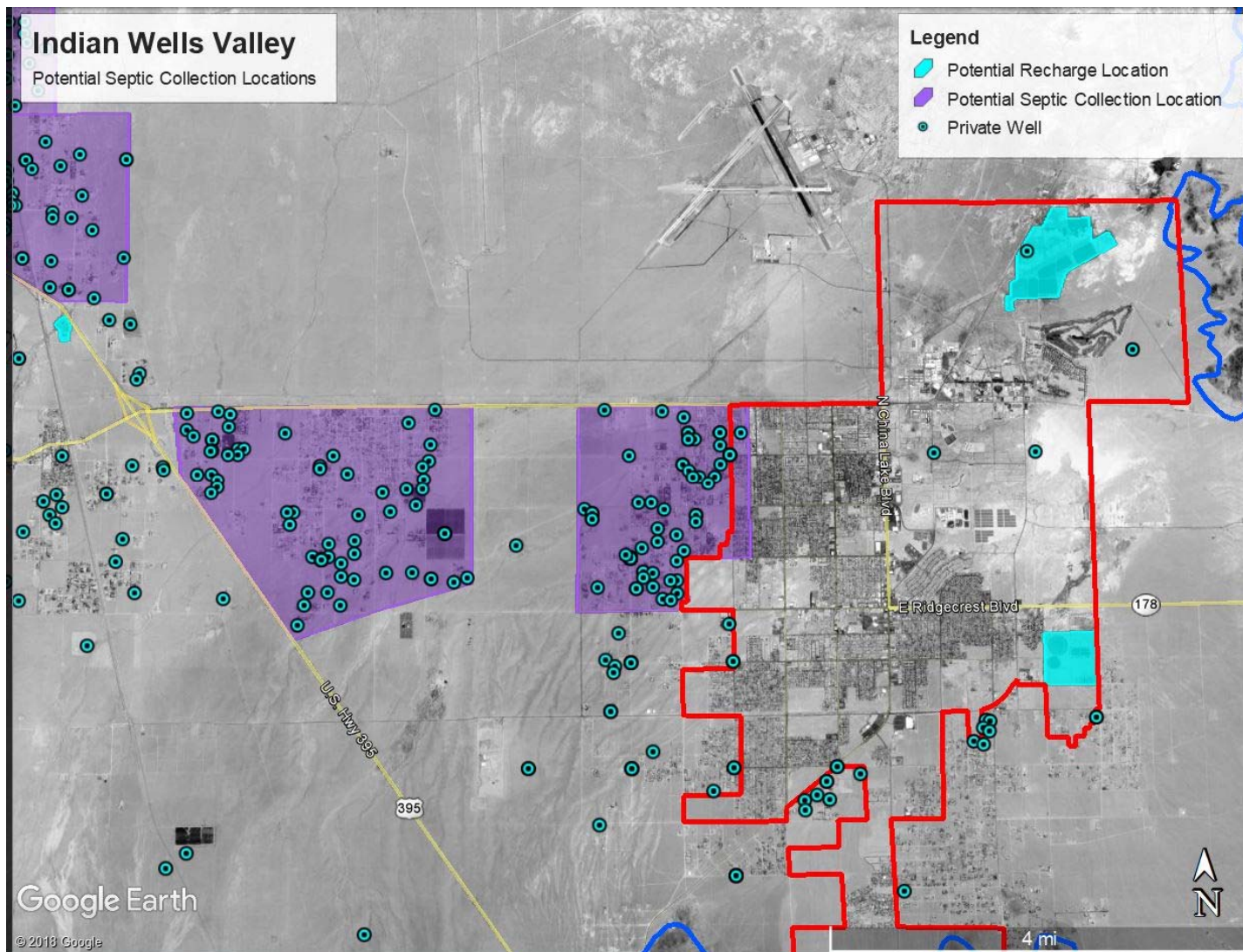


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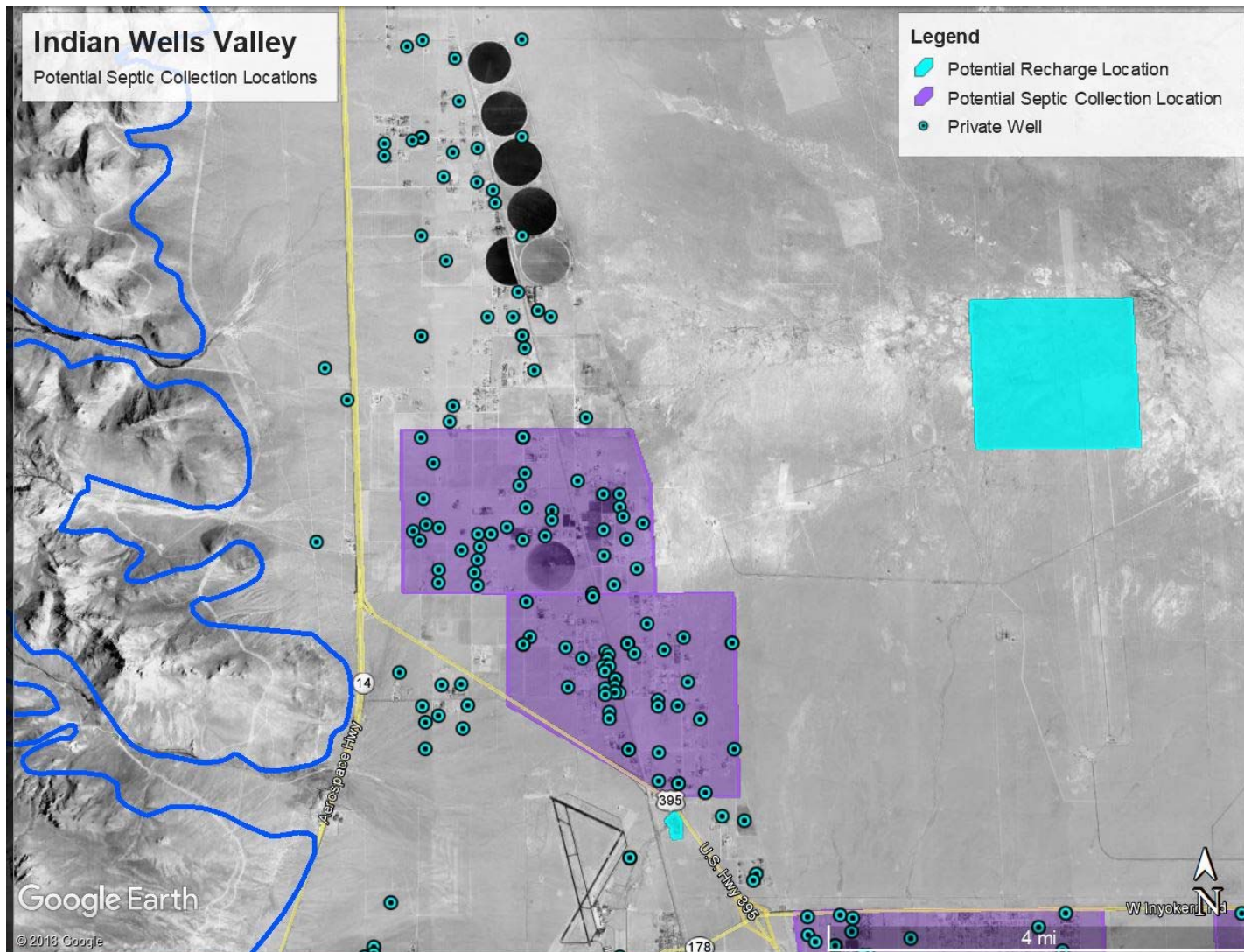


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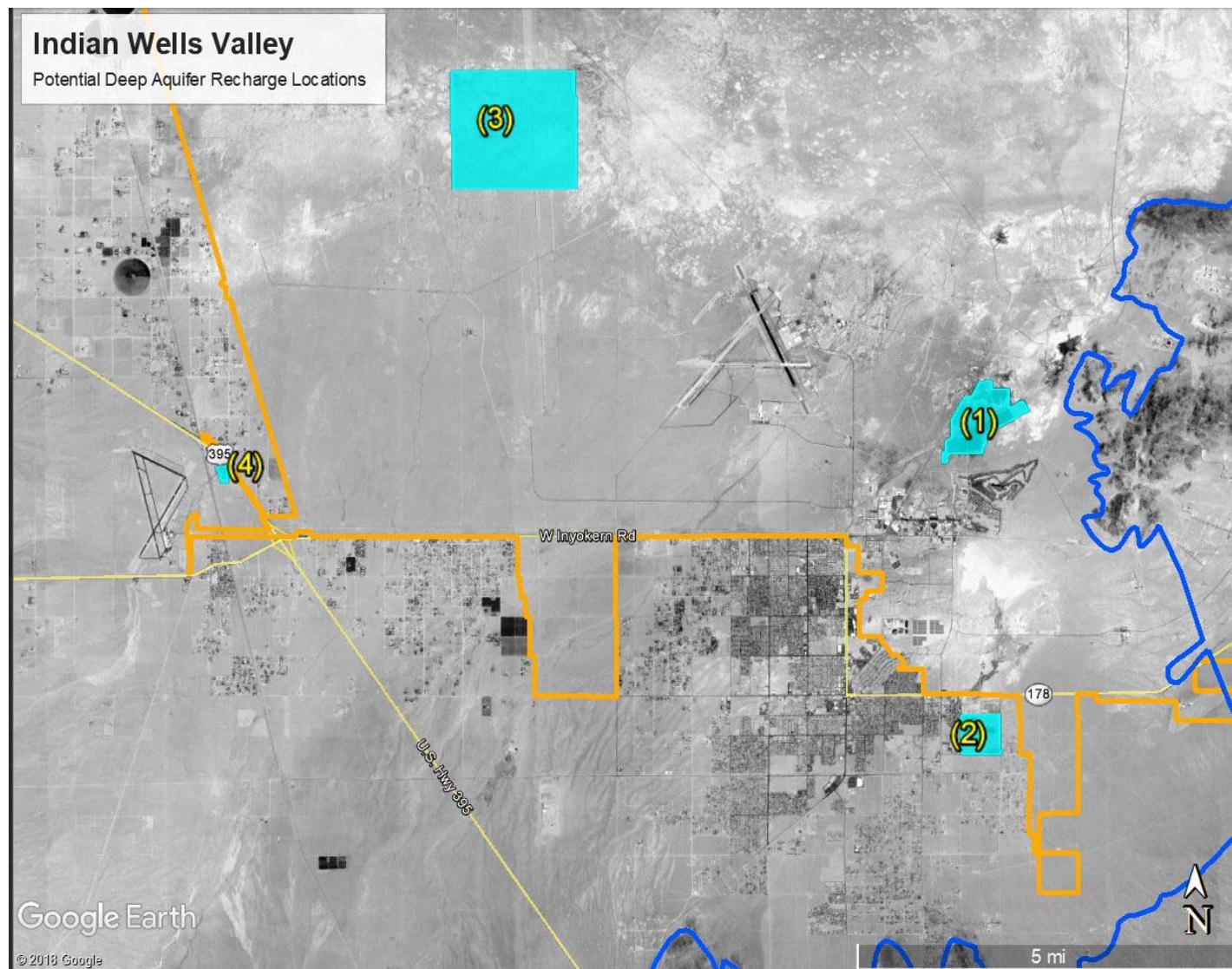
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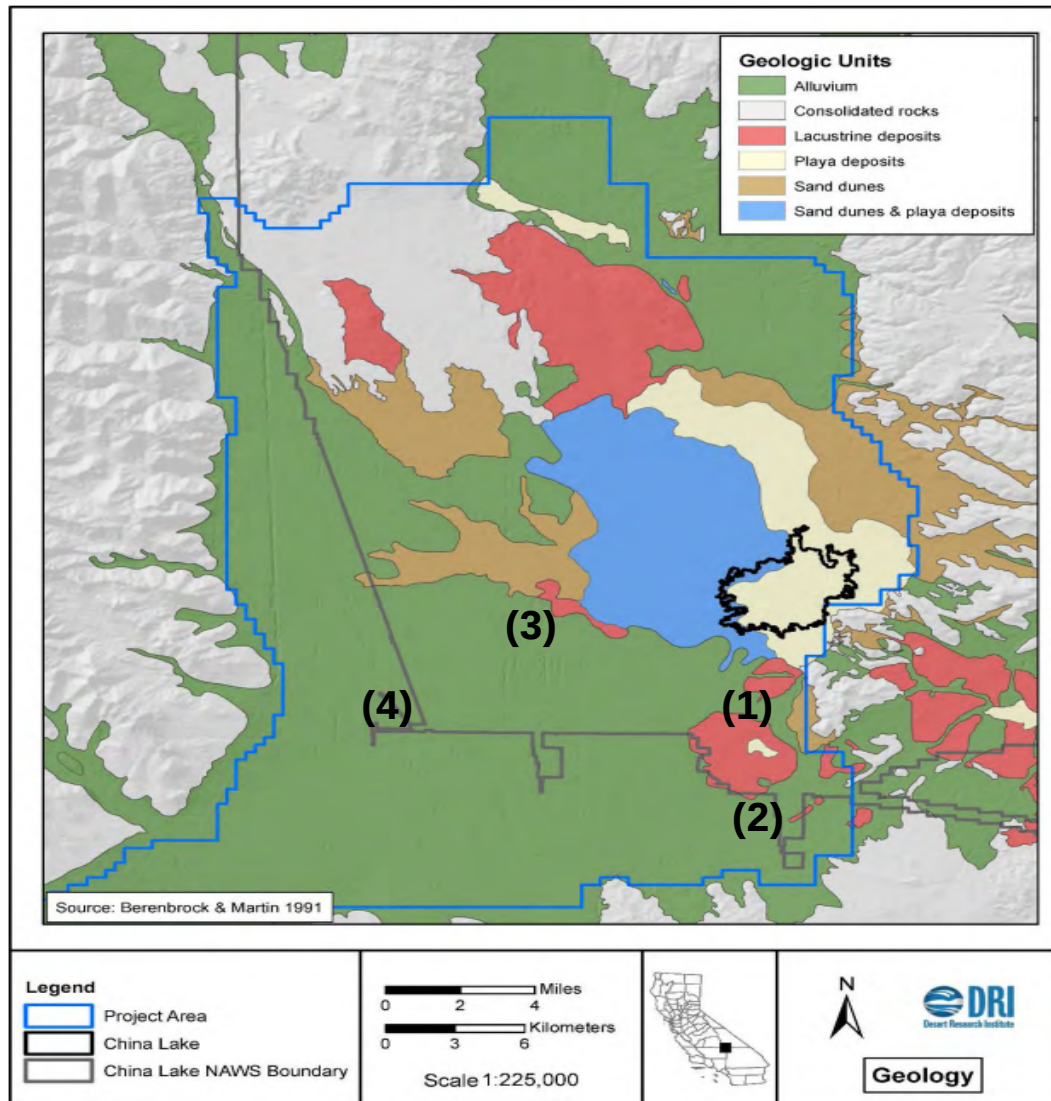
Indian Wells Valley

Potential Deep Aquifer Recharge Locations

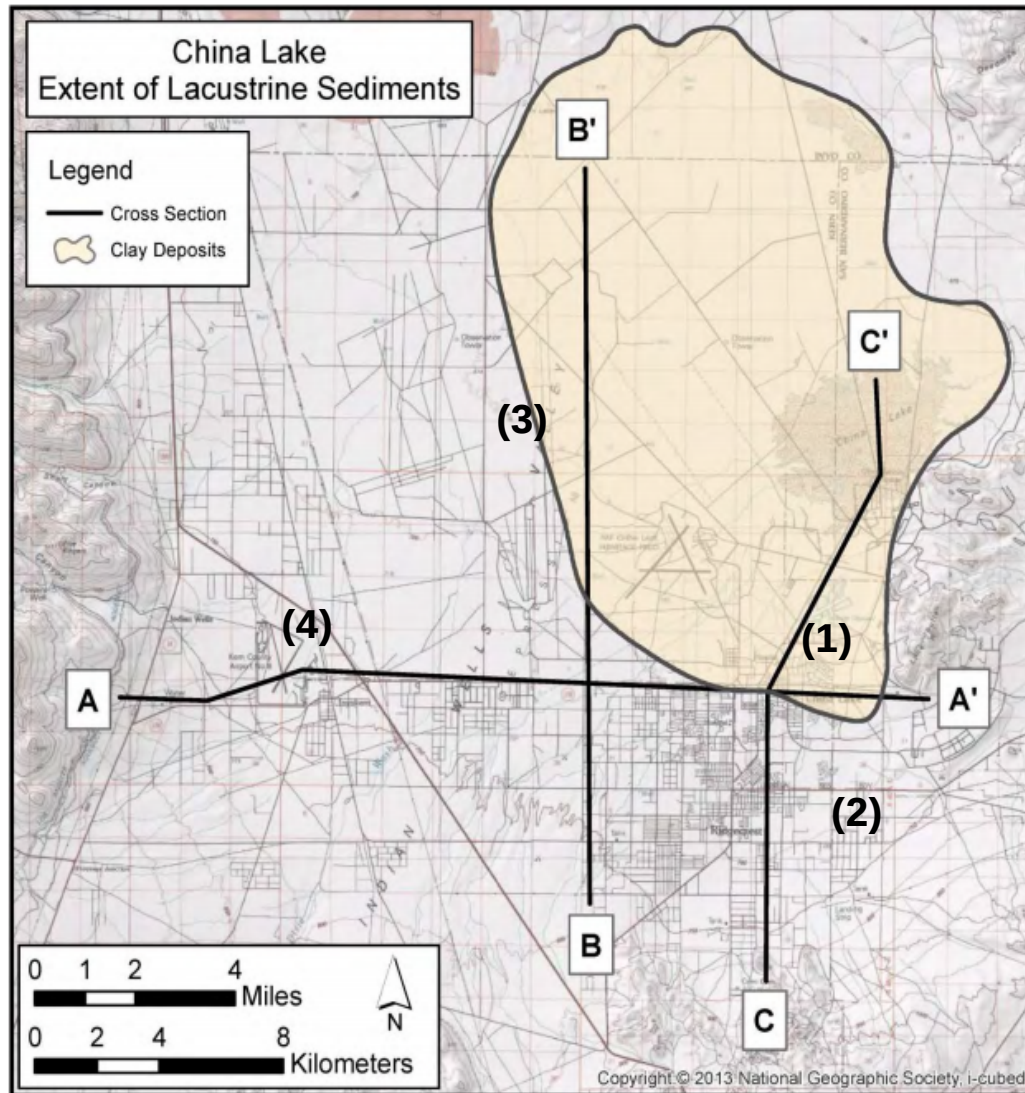
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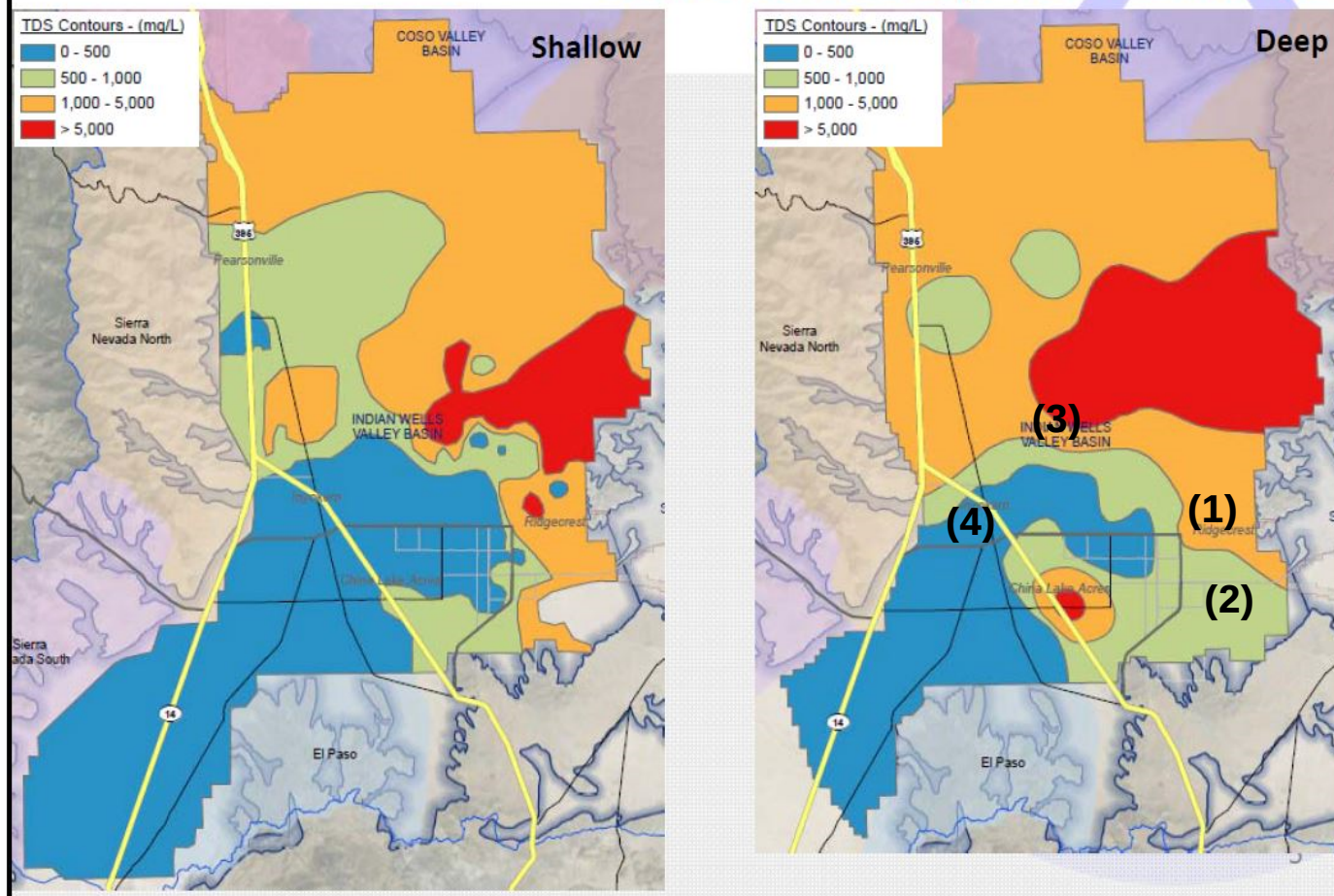
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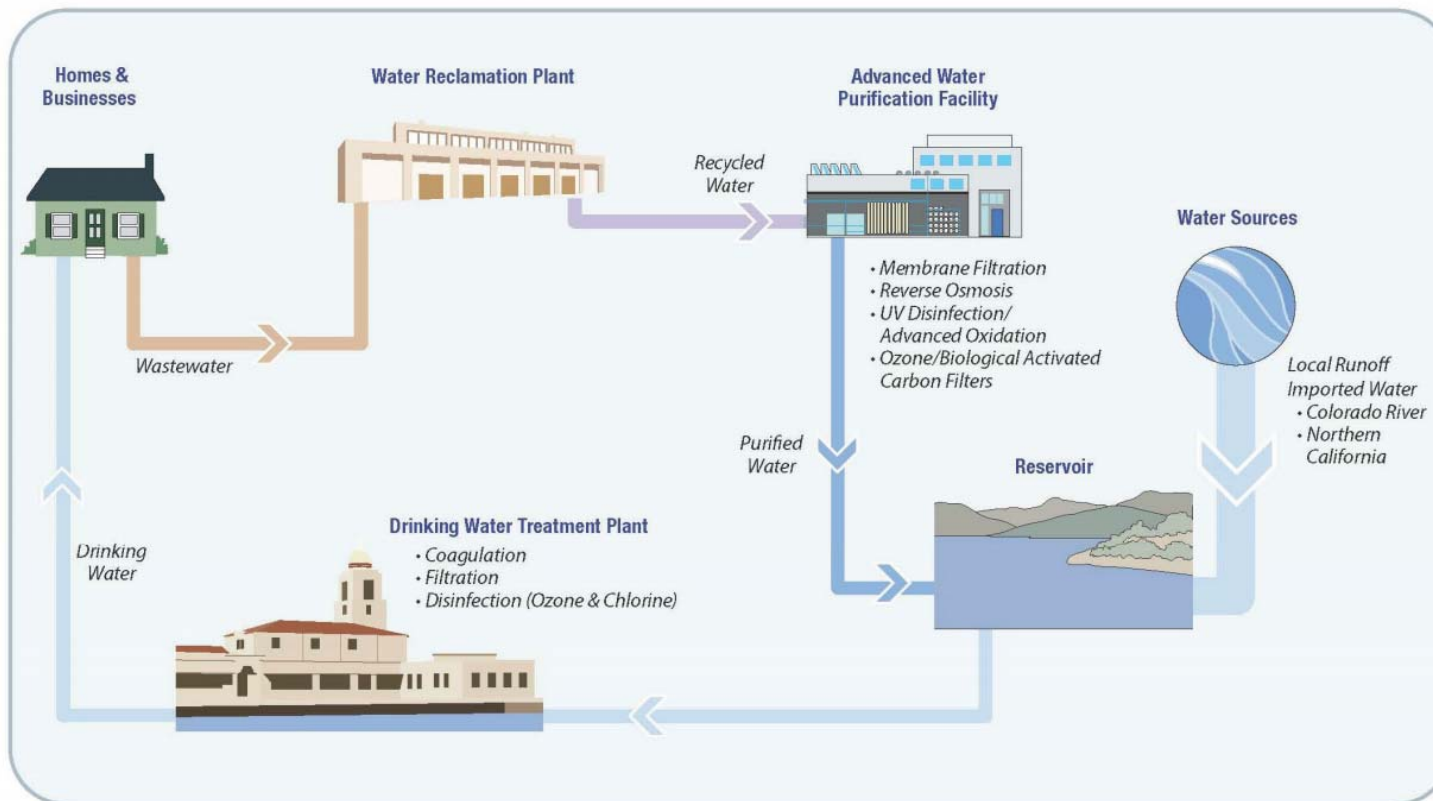
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Phone: (626) 967-6202 • FAX: (626) 331-7065 • Web site: www.stetsonengineers.com

Northern California • Southern California • Arizona • Colorado

Reply to: Covina

Memorandum

TO: Indian Wells Valley Groundwater Authority
Technical Advisory Committee (TAC)

FROM: Stetson Engineers Inc.

SUBJECT: Request for Proposal Residential and Commercial Rebate Program

JOB NO.: 2652

DATE: March 29, 2018

The Proposition 1 grant funding application submitted for the Indian Wells Valley Groundwater Authority under the California Department of Water Resources Sustainable Groundwater Planning grant program included two projects for Severely Disadvantaged Communities. One of these projects was the Indian Wells Valley Groundwater Basin Water Conservation Rebate Program. This program is intended to be pilot program to determine if water conservation programs in the SDACs are effective and to evaluate whether such programs should be included in the management actions for the Groundwater Sustainability Plan. The attached draft Request for Proposal (RFP) to obtain a contractor to conduct a Residential and Commercial Rebates Program was prepared in accordance with the Prop 1 grant application workplan and is provided for your review and comment.

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REQUEST FOR PROPOSALS

Residential and Commercial Rebates Program

May 2018

Proposal Submission Deadline:

May ____, 2018 – 3:00 PM PT

Make all inquiries and send all questions to:

Karen Brunelle, Stetson Engineers Inc.

861 S. Village Oaks Drive, Suite 100, Covina, CA 91724

Telephone: 626-967-6202

E-mail: karenb@stetsonengineers.com

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Attachments

Attachment A: Scope of Services

Attachment B: Standard IWVGA Contractor Agreement

Attachment C: Standard IWVGA Confidentiality Agreement

I. Introduction

Indian Wells Valley Groundwater Authority (IWVGA) is requesting proposals for residential and commercial rebate program administration from qualified firms. IWVGA intends to issue a contract for these services that would end by December 2019. The rebate program will benefit the Severely Disadvantaged Communities (SDACs) of Inyokern and China Lake Acres in the Indian Wells Valley groundwater basin and could ultimately expand into other SDACs in the Indian Wells Valley groundwater basin area. This document outlines the requirements and minimum qualifications, selection process, and documentation necessary to submit a Proposal.

A. Background

The Indian Wells Valley groundwater basin is located east of the southern Sierra Nevada Range in southern California with an area of approximately 382,000 acres underlying portions of Inyo, Kern, and San Bernardino Counties. The Indian Wells Valley groundwater basin is identified by the Department of Water Resources (DWR) as Basin 6-54 in Bulletin No. 118. In July 2016, the IWVGA was formed through a Joint Exercise of Powers Agreement for the purpose of forming a Groundwater Sustainability Agency (GSA) to manage the Indian Wells Valley groundwater basin and to implement Sustainable Groundwater Management Act (SGMA) requirements, including the development of the Groundwater Sustainability Plan (GSP). The IWVGA consists of the following voting member agencies:

1. City of Ridgecrest (a public agency)
2. Indian Wells Valley Water District (a public utility)
3. County of Kern (a public agency)
4. County of Inyo (a public agency)
5. County of San Bernardino (a public agency)

along with the United States Department of the Interior Bureau of Land Management and the United States Navy, Naval Air Weapons Station China Lake as non-voting associate members.

B. Purpose of the Request

IWVGA is looking for a firm, hereafter known as the Program Administrator (PA), to provide an IWVGA-branded, user-friendly online marketplace for residential and commercial customers to find products that qualify for IWVGA's rebates and access the rebate application. The PA will also manage rebate submission, verification, processing, payment, and reporting of information back to IWVGA. The rebate offerings shall include washing machines, dishwashers, high-efficiency toilets and waterless urinals. IWVGA expects to receive 300-500 applications in the first year of operation.

II. Scope of Services

Attachment A is the Scope of Services listing major work tasks that may be requested.

III. Proposal Format

A. RFP Manager

All questions and correspondence regarding the proposal documents and proposal should be directed in writing referencing "IWVGA Residential and Commercial Rebates Program" to:

Stetson Engineers Inc.
861 S. Village Oaks Drive, Suite 100
Covina, CA 91724
Attention: Karen Brunelle
Phone: 626-967-6202
E-Mail: karenb@stetsonengineers.com

Pre-proposal questions will be accepted via email no later than 3:00 p.m. on Monday, May 14, 2018. All questions received will be answered electronically via email to all participating Proposers. All Proposers interested in submitting a proposal must email their intention by May 14, 2018, to guarantee receipt of IWVGA's answers to all pre-proposal questions. Proposers must also acknowledge receipt of pre-proposal clarifications in their proposal.

B. Timetable

Responses to this Request for Proposal (RFP) with sealed proposals are due and must be received in Stetson Engineers' Office, 861 S. Village Oaks Drive, Suite 100, Covina, CA 91724, no later than 3:00p.m., Pacific Time, on Thursday, May 31, 2018. No proposals shall be accepted after that time. IWVGA assumes no responsibility for delays caused by delivery service. Postmarking by the due date will not substitute for actual receipt. Hand delivery before the deadline is recommended. Proposals received after the time and date listed above shall be returned to the proposer unopened.

The following schedule has been established for this RFP:

RFP Release Date	Tuesday, May 1, 2018
Proposers Submittal of Interest/Pre-Proposal Questions Due	Monday, May 14, 2018
Proposals Due	Thursday, May 31, 2018
Interviews Scheduled	Week of June 18, 2018
Consultant Selected	Tuesday, July 3, 2018
Final Contract Negotiations	Tuesday, July 10, 2018
IWVGA Board Approval of Contract	Monday, July 16, 2018
Projected Contract Start Date	Thursday, July 19, 2018

C. Proposal Submission Instructions

All proposals must meet the content requirements and format guidelines listed below in the "Proposal Content Guidelines" section. The complete proposal shall be submitted by the due date in a sealed envelope marked "PROPOSAL FOR IWVGA Residential and Commercial Rebates Program". A total of two (2) complete double-sided copies on paper containing a minimum of 20% post-consumer recycled

content and one (1) electronic copy of the proposal. Proposals must be submitted in a sealed envelope, which details the business name, business address and contact person of the respondent. Responses must be addressed to the attention of Karen Brunelle, Stetson Engineers Inc.

D. Proposal Content Guidelines

Proposals must be submitted with all documents required by this Request for Proposal. Proposals not submitted with all the required information may be considered incomplete and rejected by IWVGA. Proposals may be rejected if they show any alterations of form, additions not called for, conditional or alternative proposals, incomplete proposals, erasures, or irregularities of any kind. Any statement or qualification in proposal form, or attached to, or included therewith, serving to qualify proposal, or containing conflicting statements, or otherwise rendering proposal ambiguous or uncertain, will disqualify the proposal. IWVGA reserves the rights to reject any or all proposals.

1. Introduction

Proposals should include the following:

- a) A letter of introduction briefly describing an understanding of the requested scope of work and qualifications to undertake this work such as experience in providing like services, background of the firm(s) including and resumes of the principals involved.
- b) Additional material such as brochures and photos, promotional material, references, and supplemental graphics, applicable to the content of the proposal.
- c) Signature by an individual authorized by the firm or partnership to bind the firm or partnership to the proposal.

2. Project Team

- a) Prime team members: Name of entity submitting the proposal, its mailing address, telephone number, facsimile number, email address, the name of contact individual as well as the signature of principal/owner/officer in case of joint venture or other. Describe business and background, including the size, location, capacity, type of firm, and year established.
- b) If applicable, subcontractors: List subcontractors with individual addresses, telephone numbers, facsimile numbers, email addresses, and areas of expertise.
- c) Briefly describe the project responsibility of each team member.

3. Project Personnel

Description of organization, management, and team members. Provide a description of the PA's organization and a work plan that identifies the personnel to be assigned to each task. The organization description should clearly identify the project manager and the day-to-day contact person for the project. Contract terms will not permit substitution of lead personnel without prior approval by IWVGA. Description of qualifications of the professional personnel to be employed with a summary of similar works performed and a resume for each professional.

4. References, Related Experience and Examples of Work

Provide at least three client references (contact name, title, company name, address, phone number, and e-mail address) for relevant work. Specify the client, location, type of work, implementation results or status, examples of work, and other relevant information as needed.

Provide a minimum of two examples of similar solutions the PA has deployed for other utilities (web address). When components of the tool are inaccessible due to the need for a login, account number, or address, provide screen shots of the customer interface screens.

5. Additional Documents Required

In addition to the information required in the previous sections, the response must include the following:

- a) A statement that the firm is financially sound and has financial resources sufficient to successfully execute the contract.

6. Fee Schedule

Provide fee structure and schedule for the included services. Include year one and subsequent years, if there is an initial service setup fee. Provide an itemized fee list in the proposal. If needed, assume 400 rebates processed per year.

7. Contract

Comments and exceptions, if any, to IWVGA's standard contractor agreement and insurance requirements should be noted. It is understood that prospective consultants have reviewed the agreements (Attachment B) and will take exception only to those items identified in the proposals. If there are any concerns or proposed exceptions requested to the standard contractor agreement, these issues are to be discussed at the time of the interview.

IV. Selection Process

A. Qualifications

All proposals received by the due date will be evaluated by IWVGA. Only information which is received in response the RFP and input from references will be evaluated. IWVGA will judge responses of each proposing firm in several critical areas.

The selection process shall proceed as follows:

1. Based upon the submitted written responses to this RFP, the IWVGA selection panel shall select up to three Program Administrators to interview.
2. At the interview, the selection panel will expect the PA to give a presentation of the proposed solution with a software demonstration, if applicable. The project manager/main contact for this

program must be present for the interview/presentation. The presentation will be followed by a question and answer period by the selection team. IWVGA will conduct interviews by conference call and screen sharing, and/or in face-to-face meetings based on the availability of the Proposer selected for interviews. IWVGA reserves the right to reject any and all proposals at its discretion, thus not awarding the contract to any firm. IWVGA reserves the right to modify this RFP or the criteria for selection in any manner, to cancel this RFP, or to reject any one or more or all submittals.

IWVGA retains sole discretion to evaluate proposals and make an award to the Proposer that IWVGA deems to have the most responsive proposal. IWVGA reserves the right to invite the top candidate(s) for an oral interview, or to request additional clarifying information. The firm with the highest rating may be invited to negotiate a final agreement. If an agreement is not reached, negotiations may be terminated and commenced with the next most qualified firm. The recommendation of IWVGA shall be submitted to the IWVGA Board for award of contract.

Upon the approval of the IWVGA Board, IWVGA will issue the Notice of Award and deliver the signed contract to the awarded Proposer.

B. Selection Criteria

IWVGA will select the most qualified proposal based on the following factors.

1. Relevant qualifications and experience for comparable implementation and operation of energy efficiency rebate programs.
2. Conceptual and proposed solutions and past performance on comparable engagements, including ease-of-use for residential and commercial customers for other utilities and website appearance.
3. Ability to provide services outlined in the Request for Proposal and demonstration an understanding of IWVGA's needs.
4. Total Program Cost, while not determinative, may be considered in the selection process. The selected firm will be expected to maintain the proposed billing rates throughout the term of the contract.
5. Willingness to Comply with the Proposed Agreement Terms. A sample agreement is attached as Attachment B. Proposals will be rated based on the exceptions taken to the proposed contract.

V. Conditions of Request

A. General Conditions

IWVGA reserves the right to cancel or reject all or a portion or portions of the request for proposals without notice. Further, IWVGA makes no representations that any agreement will be awarded to any organization submitting a proposal. IWVGA reserves the right to reject any and all proposals submitted in response to this request or any addenda thereto. Any changes to the proposal requirements will be made by written addendum.

B. Limitations

All reports and pertinent data or materials shall be the sole property of the IWVGA, and may not be used or reproduced in any form without the explicit written permission of IWVGA. IWVGA reserves the right to extend the time allotted for the proposal, to verbally examine the Proposer in person, request copies of previous work prepared by the consultant, and to request a best and final offer, should IWVGA deem that it is in its best interests to do so.

This RFP does not commit IWVGA to award a contract, or to pay any costs incurred in the preparation of the proposal. IWVGA reserves the right to accept or reject any or all proposals received as a result of this request, to negotiate with any qualified consultant, or to cancel this request in part or in its entirety. IWVGA may require the selected consultant to participate in negotiations and to submit such technical, price, or other revisions of their proposals as may result from negotiations. IWVGA reserves the right to negotiate all final terms and conditions of any contract entered into.

C. Liability of Costs and Responsibility

IWVGA shall not be liable for any costs incurred in response to this request for proposals. All costs shall be borne by the person or organization responding to the request. Proposers are liable for all errors and omissions contained in their proposals. The person or organization responding to the request shall hold IWVGA harmless from any and all liability, claim or expense whatsoever incurred by or on behalf of that person or organization. All submitted material becomes the property of IWVGA.

The selected PA will be required to assume responsibility for all services offered in the proposal whether or not they possess them within their organization. The selected PA will be the sole point of contact with regard to contractual matters, including payment of any and all charges resulting from the contract.

D. Validity

The proposer agrees to be bound by its proposal for a period of ninety (90) days commencing May 31, 2018, during which time IWVGA may request clarification or correction of the proposal for the purpose of evaluation. Amendments or clarifications shall not affect the remainder of the proposal, but only that portion so amended or clarified.

E. Standard Contractor Agreement

A sample contractor agreement has been provided in Attachments B for the proposer's review and comment. If a proposer wishes to take exception to any of the terms and conditions contained in the standard contractor agreement, these should be identified specifically; otherwise it will be assumed that the proposer is willing to enter into the agreement as it is written. Failure to identify contractual issues of dispute can later be the basis for IWVGA disqualifying a proposer.

Any exceptions to terms, conditions, or other requirements must be clearly stated. Otherwise, IWVGA will consider that all items offered are in strict compliance with the RFP, and the successful proposer will be responsible for compliance. IWVGA will consider such exceptions as part of the evaluation process

which may constitute the sole grounds for rejection of the proposal. The contractor agreement will not be executed by IWVGA without first being signed by the proposer.

F. Permits and Licenses

Proposer, and all of proposer's subcontractor, at its and/or their sole expense, shall obtain and maintain during the term of any agreement, all appropriate permits, certificates and licenses including, but not limited to, a City Business License which will be required in connection with the performance of services hereunder.

G. Oral and Written Explanations

IWVGA shall not be bound by oral explanations or instructions given at any time during the process or after the award. Oral explanations given during the review process and after award become binding when confirmed in writing by an authorized IWVGA official. Written responses to question(s) asked by one proposer will be provided to all proposers who received Requests for Proposals.

H. Proposer's Representative

The person signing the proposal must be a legal representative of the firm authorized to bind the firm to an agreement in the event of the award.

I. Deliverables

Deliverables depend upon the task assigned. In general, 2 copies of administrative draft reports are required upon completion of each task. Following approval by the staff, 3 copies of each final report are required. One unbound copy of each final document and an electronic file containing all final documents and all information are to be provided. The consultant will develop a system to assemble, organize, store and utilize data in an electronic format. At the outset of the agreement, the consultant will submit a description of the software to be used in preparation of the reports and graphics.

J. Insurance

General Liability, Automobile, Professional Liability, and Worker's compensation insurance are required in the amount set forth in the attached sample contractor agreement.