HIGH DESERT
POWER PROJECT, LLC

High Desert Power Project, LLC

1044 N. 115 Street, Suite 400 I Omaha, Nebraska 68154-4446
402-691-9500 I FAX: 402-691-9526

February 4, 2009

Mr. Steve Munro
Compliance Project Manager
California Energy Commission MS-2000
1516 Ninth Street
Sacramento, CA 95814

Via Overnight Courier

RE: High Desert Power Project, LLC
Docket No. 97-AFC-1,
Petition for Modification to Use Reclaimed Water
Response to October 29, 2008 Data Requests

Dear Mr. Munro:

Enclosed please find High Desert Power Project's response to the California Energy Commission's data requests dated October 29, 2008. Should you have any questions or need additional information regarding this submittal, please contact me in Omaha at (402) 691-9736 or Jon Boyer at the plant at (760) 530-2303.

Sincerely,

M. Fred Strauss, P.G.
Director, Environmental Programs

Enclosure

High Desert Power Project, LLC
Response to California Energy Commission
October 29, 2008 Data Requests

Introduction

High Desert Power Project, LLC ("HDPP") is pleased to submit this response to data requests posed by the California Energy Commission ("CEC") in support of HDPP's petition ("Petition") to use reclaimed water dated August 12, 2008 at the High Desert Power Project facility (the "HDPP facility").

The Petition described the initial use of reclaimed water on a limited basis, with further treatment of the reclaimed water needed to improve the quality in order for the HDPP facility to operate fully on 100% reclaimed water. Consequently, a two-stage approach is needed to: (1) construct facilities as needed to permit use of up to 1,000 acre-feet/year of reclaimed water, begin use of up to 1,000 acre-feet/year of reclaimed water and study its effects on equipment and operations at the HDPP facility, and (2) construct and commission additional treatment works as necessary to permit use of 100% reclaimed water. This response addresses issues pertaining to the first stage only whereby HDPP will begin use of up to 1,000 acre-feet/year of reclaimed water. HDPP expects to obtain an "Initial Reclaimed Water Service Agreement" with the City of Victorville (the "City") for provision of this amount of reclaimed water.

HDPP anticipates that in the future a second petition will be filed for CEC approval that will address issues pertaining to the construction and operation of additional treatment works as needed for the use of 100% reclaimed water at the HDPP facility.

The following responses to data requests are in the order presented in the CEC's letter to HDPP dated October 29, 2008.

(1) Please provide the tasks and schedule you intend to implement if the amendment to Condition of Certification Soil and Water-1 is approved.

- Task 1 - Complete detailed engineering and design of the improvements described in the responses to Data Requests 3 and 4 below. December 1, 2008 through March 31, 2009.

- Task 2 – Complete Initial Reclaimed Water Service Agreement. December 2008 through February 28, 2009.

- Task 3 – Bid, evaluate and award construction contract(s) for such improvements. February 1, 2009 through March 31, 2009.

- Task 4 – Construction of improvements. 180 days after approval of amendments by CEC, or award of construction contract, whichever is later.

- Task 5 – Testing usage of reclaimed water at the HDPP facility. Up to two to three months after construction is completed.

The schedules above are estimates, particularly as to items to be performed by the City.

(2) Please describe your intended use, treatment and disposal of the recycled waste water.

Reclaimed water provided by the City will be tertiary-treated to satisfy the requirements at CCR Title 22, Division 4, Chapter 3, Article 1, Section 60301.230 and CCR Title 22, Division 4, Chapter 3, Article 3, Section 60306.

The reclaimed water will be pumped directly into the cooling tower basin and mixed with other treated State Water Project ("SWP") water circulating in the tower. Cooling tower blowdown (mixture of reclaimed water and SWP water) will continue to be directed into the Zero Liquid Discharge ("ZLD") system from which high-quality permeate is reused elsewhere in other water systems in the plant, and poor-quality reject water is solidified and hauled off-site for nonhazardous disposal.

(3) Please identify what equipment, construction and permits will be required to provide recycled waste water to the facility.

Tertiary-treated reclaimed water will be pumped via buried pipeline to the HDPP facility from the Victor Valley Water Reclamation Authority ("VVWRA"). An existing 16-inch diameter reclaimed water pipeline from VVWRA is in-place on the east side of the HDPP facility, along Perimeter Road. The City will build an 18-inch diameter, 1,060 lineal foot pipeline (the "City Pipeline") from the existing 16-inch reclaimed water pipeline to the "Reclaimed Water Metering Point" located near the northwest corner of HDPP facility. The City will construct, own, and operate this new pipeline, and will acquire all necessary construction permits.

Please see Figure 1 for the location of the existing facilities and the improvements described above.

(4) Please identify what equipment, construction and permits will be required to treat and use recycled waste water at the facility.

HDPP expects that the City will build the City Pipeline to the Reclaimed Water Metering Point as described in item No. 3 above. From the Reclaimed Water Metering Point, HDPP will, through a construction contractor, furnish and install piping, valves, and controls from the Reclaimed Water Metering Point to the plant's cooling tower, as depicted in Figure 2. HDPP's contractor will obtain the necessary construction permit to install the piping and equipment on site.

Pursuant to the California Water Recycling Criteria (CCR Title 22 Sections 60301 through 60355), an engineering report will be prepared and submitted to the Regional Water Quality Control Board and the Department of Health Services prior to using reclaimed water. The engineering report will describe the manner by which the HDPP facility will comply with the Water Recycling Criteria.

(5) Please provide an estimate of the quantity of waste water you intend to use. If you intend to increase the use of recycled waste water through time, please also provide a schedule and identify how these additional flows will be used.

The quantity of reclaimed water used in the cooling tower cannot be precisely determined at this time because it will be based on the specific conductivity (which is an indicator of Total Dissolved Solids) of the SWP water as well as the specific conductivity and silica content of the reclaimed water needed to achieve an acceptable blend. HDPP anticipates that the specific conductivity of the reclaimed water will be approximately 25% to 40% higher than average SWP water; consequently, an increase in cooling tower blowdown will be required to meet the PM_{10} air emissions permit conditions. Cooling tower blowdown is ultimately limited by the capacity of the ZLD treatment system. Consequently, HDPP will endeavor to maximize the use of reclaimed water; however, the usable quantity will be limited due to water chemistry considerations and is expected to not exceed 1,000 acre-feet/year.

Permeate from the cooling tower blowdown treatment system (i.e., the ZLD) provides sufficient water for all other plant water systems (except potable needs which will continue to be provided by the City).

(6) Please provide a schematic showing how recycled water will be incorporated into the current water supply system.

As depicted in Figure 3, reclaimed water will be directed into the cooling tower basin.

(7) Please provide a schematic drawing for each of the water systems that include the water treatment method for each system.

See Figure 3.

(8) Please provide the water quality requirements for each water system.

Reclaimed water will be mixed with treated SWP water in the cooling tower basin. The quality of the mixture must not be worse than the design basis for the HDPP facility's water systems. Consequently, HDPP does not expect to use more than 1,000 acre-feet/year of reclaimed water due to the lower quality of reclaimed water compared to treated SWP water.

(9) Please explain any additional water treatment planned and the schedule for implementation.

See response to Data Request No. 2 above.

(10) Please provide, in its entirety and appropriately referenced, the condition or conditions of certification you wish to amend, add, or delete with proposed changes indicated as follows: deletions in ~~strikeout~~ and additions in <u>bold underline</u>.

Changes to two Conditions of Certification are necessary as shown below:

SOIL&WATER-1 ~~The only~~ ~~w~~**<u>W</u>**ater used for project operation (except for domestic purposes) shall be State Water Project (SWP) water obtained by the project owner consistent with the provisions of the Mojave Water Agency's (MWA) Ordinance 9 **<u>and/or reclaimed water.</u>**

a. Whenever SWP water is available to be purchased from MWA **<u>or reclaimed water is available,</u>** the project owner shall use direct delivery of such water for project operation.

b. Whenever **<u>SWP</u>** water is not available ~~to be purchased~~ from the MWA **<u>and/or reclaimed water is not available in sufficient quantities to operate the project,</u>** the project owner may use **<u>banked</u>** SWP water ~~banked~~ in the ~~seven~~ HDPP wells ~~identified in Figure Number 1 of the Addendum Number 1 to the Evaluation of Alternative Water Supplies for the High Desert Power Project (Bookman-Edmonston 1998)~~ as long as the amount of **<u>banked</u>** water used does not exceed the amount ~~of~~

~~water~~ determined to be available to the project pursuant to SOIL&WATER-5.

c. If there is ~~no~~ **insufficient SWP** water available ~~to be purchased~~ from the MWA **to operate the project,** and **if** there is **insufficient reclaimed water available to operate the project, and if there is insufficient** ~~no~~ banked water available to **operate** the project~~,~~ as determined pursuant to SOIL&WATER-5, **and if any combination thereof is insufficient to operate the project, then** no groundwater shall be pumped, and the project shall not operate. At the project owner's discretion, dry cooling may be used instead, if an amendment to the Commission's decision allowing dry cooling is approved.

~~d. The project shall not use treated water from the Victor Valley Wastewater Authority.~~

SOIL&WATER-4 Injection Schedule:

a. The project owner shall inject one thousand (1000) acre-feet of SWP water within twelve (12) months of the commencement of the project's commercial operation.

b. By the end of four years and two months from the start of commercial operation, the project owner shall install and begin operation of a pre-injection ultraviolet (UV) disinfection system.

c. By the end of the fifth year of commercial operation, the project shall submit a report to the CPM demonstrating that HDPP has maintained an average THM concentration level consistent with the WDR permit requirements.

~~d. The project shall install and implement a pre-injection reverse osmosis treatment system within one (1) year if any water banking milestone is not met as defined in the following table.~~

~~Table of Milestones for Calculated Water Bank Reserve (1)~~

~~Water Banking Year~~	~~Anniversary Date (2)~~	~~End of Year Milestones (3)~~	~~Contingency Plan: Criteria for Installation of Reverse Osmosis~~
~~8~~	~~April 21, 2011~~	~~Water Banking Goal~~	~~Calculated Water Bank Reserve < 2,500 ac-ft~~
~~9~~	~~April 21, 2012~~	~~Water Banking Goal~~	~~Calculated Water Bank Reserve < 5,400 ac-ft~~
~~10~~	~~April 21, 2013~~	~~Water Banking Goal~~	~~Calculated Water Bank Reserve < 8,300 ac-ft~~

11	April 21, 2014	Water Banking Goal	Calculated Water Bank Reserve < 9,200 ac-ft
12	April 21, 2015	Water Banking Goal	Calculated Water Bank Reserve < 10,100 ac-ft
13	April 21, 2016	Water Banking Goal	Calculated Water Bank Reserve < 11,000 ac-ft
14	April 21, 2017	Water Banking Goal	Calculated Water Bank Reserve < 12,000 ac-ft
15	April 21, 2018	Water Banking Goal	Calculated Water Bank Reserve < 13,500 ac-ft

(1) Calculated Water Bank Reserve = Injection minus Extraction minus Dissipation. (Amount of water available to HDPP is equal to Injection minus Extraction minus Dissipation minus 1000 acre-feet, as defined in SOIL&WATER-6.)
(2) Start of Commercial Operation: April 22, 2003.
(3) Milestones are designed to determine if injection falls significantly behind schedule.

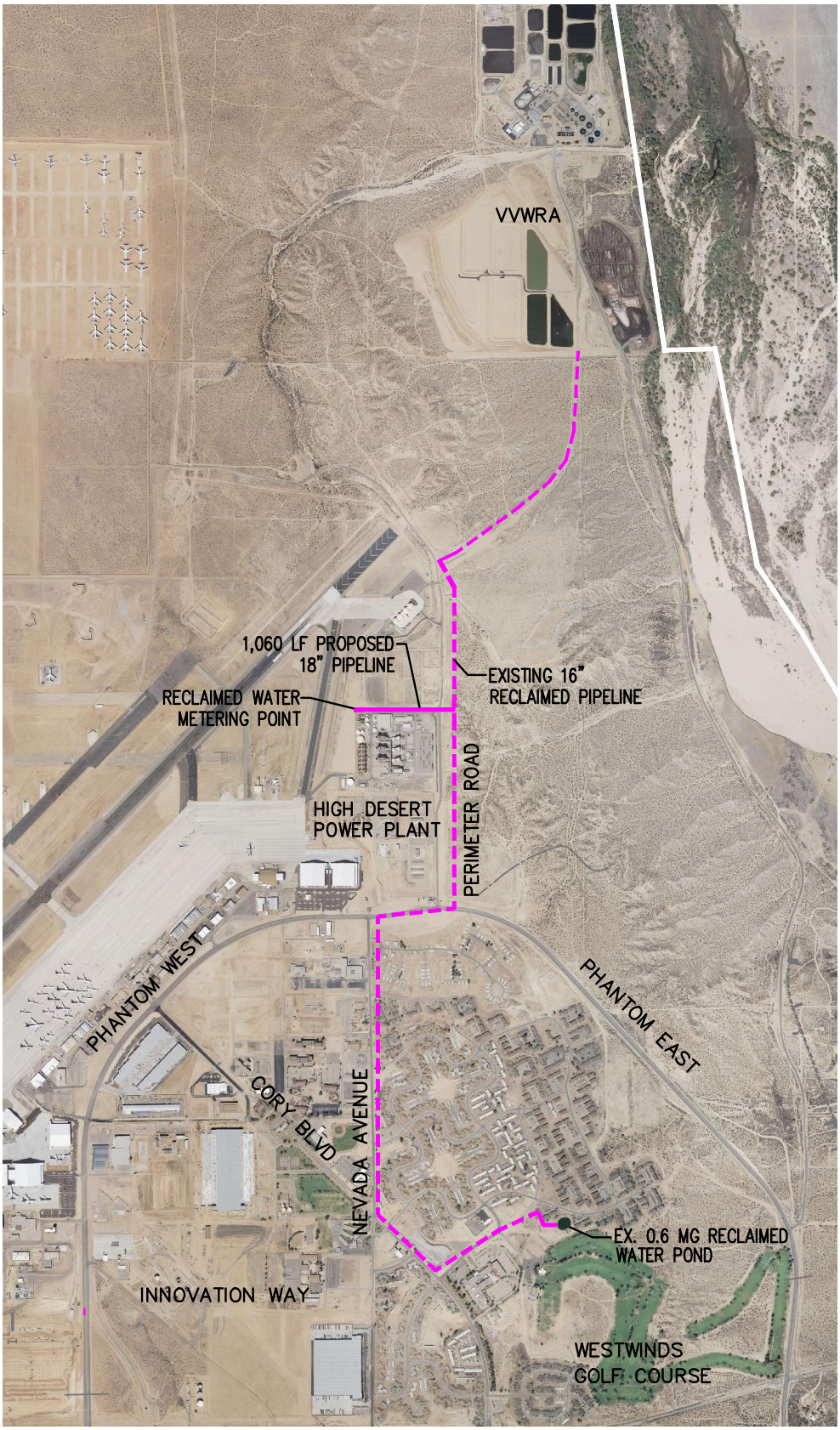
e. No later than the end of the fifteenth (15) year of commercial operation, the amount of water injected minus the amount of banked groundwater used for project operation, minus the amount of dissipated groundwater shall meet or exceed thirteen thousand (13,000) acre-feet.

f. After the requirement of section e has been satisfied and until three (3) years prior to project closure, the project owner shall replace banked groundwater used for project operation as soon as SWP water is available for sale by MWA. The project owner may choose to delay replacement of a limited quantity of banked groundwater used for project operations during aqueduct outages until the cumulative amount of groundwater withdrawn from the bank reaches one thousand (1,000) acre-feet.

Once the limit of one thousand (1,000) acre-feet has been reached, the project owner shall replace banked groundwater used for project operation during aqueduct outages as soon as SWP water is available for sale by MWA.

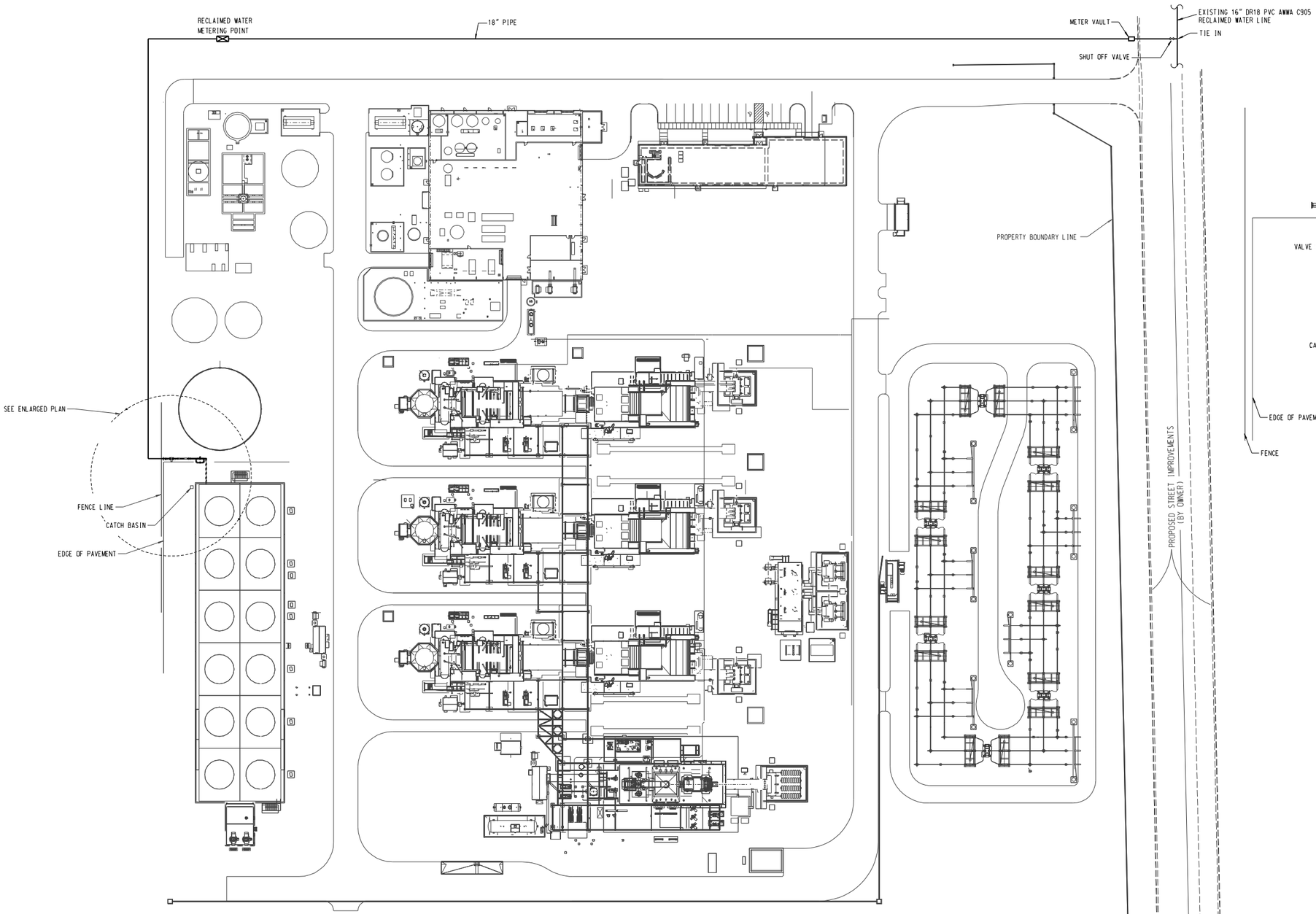
FIGURES

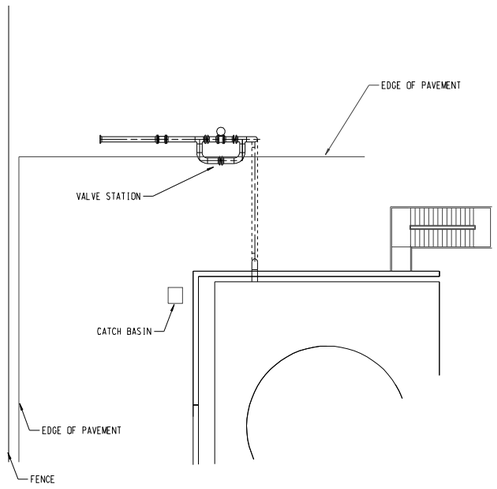
Figure 1
Site Layout
January 28, 2009



SCALE: 1" = 2000'

FIGURE 2





ENLARGED PLAN

60 0 60 120
SCALE IN FEET
SCALE: 1" = 60'-0"

N

– PRELIMINARY –
NOT FOR CONSTRUCTION

REV	DESCRIPTION	DWN	CHK	APP	DATE
A	ISSUED FOR REVIEW	RER			OPEN

HIGH DESERT POWER PROJECT

RECLAIMED WATER CONNECTION

Kiewit

Kiewit Power
8455 Lenexa Drive
Lenexa, Kansas 66214

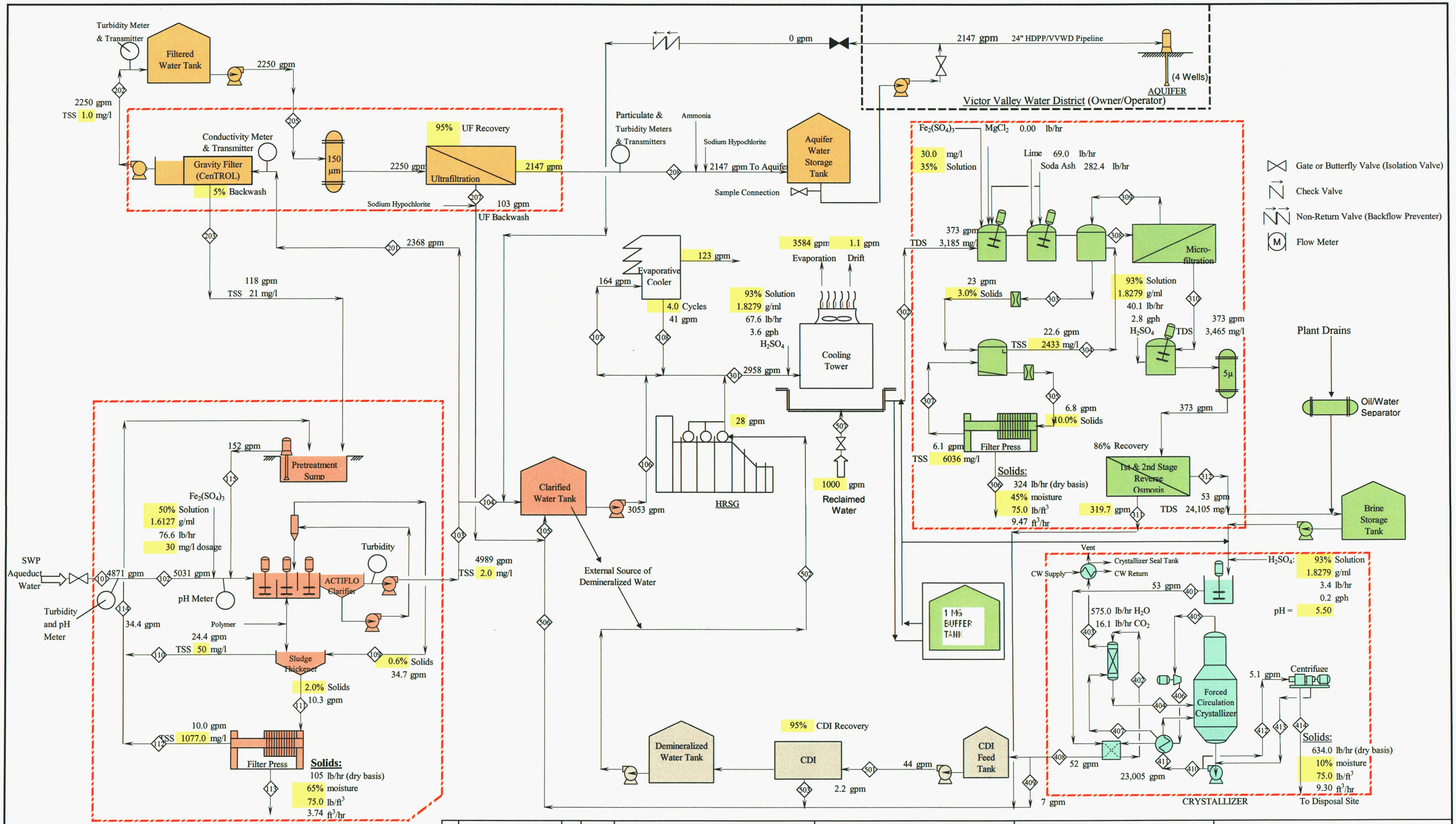
PLOT PLAN

	by	date
DESIGNED	RER	12-03-08
DRAWN		
CHECKED		
APPROVED		

DRAWING NUMBER

SKM-2008041-PP-120308-01

2/4/2009 8:38:34 AM Brad.Reiken J:\2008041\ARCs\SKM-Sketches\SKM-2008041-PP-120308-01.dgn



REV.	DESCRIPTION		
G	Addition of Reclaimed Water	BMC	11-19-08
F	Issued for Start-up Planning	LDH	4-24-02
Δ	Added Instrumentation	JRB	8-2-01
D	Revised for Permit	JRB	6-28-01
C	Issued for Permit	JRB	6-14-01
B	Revised ABS	JRB	3-19-01
A	ISSUED FOR APPROVAL	JRB	3-15-01

KIEWIT INDUSTRIAL CO.
A Kiewit Company

HIGH DESERT POWER PROJECT LLC

HIGH DESERT POWER PROJECT

Bibb and associates
A KIEWIT COMPANY

Water Treatment System Water Balance 1 MG Buffer Tank

Figure 3

SHEET 1 of 1

DRAWING NUMBER