

**Appendix F:
Hydrology Data**

THIS PAGE INTENTIONALLY LEFT BLANK

F.1 - Preliminary Grading and Drainage Report

THIS PAGE INTENTIONALLY LEFT BLANK

PRELIMINARY DRAINAGE REPORT

**WASTE CONNECTIONS
EL DORADO
MATERIALS RECOVERY FACILITY
SITE MASTER PLAN**

October 18, 2017

cta  **Engineering & Surveying**

Civil Engineering ■ Land Surveying ■ Land Planning

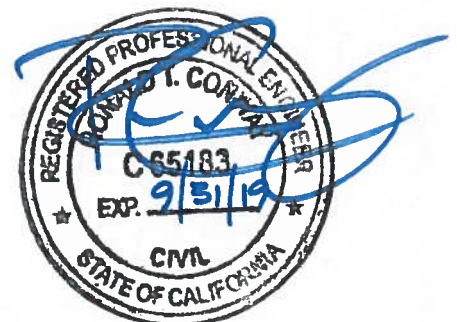


TABLE OF CONTENTS

Introduction	1
Existing Conditions	1
Post Development Conditions	1
Appendix	3
A-1	PRE-DEVELOPMENT DRAINAGE EXHIBIT
A-2	CHANGE IN IMPERVIOUS AREA EXHIBIT
A-3	POST-DEVELOPMENT DRAINAGE EXHIBIT

**PRELIMINARY DRAINAGE REPORT
for
WASTE CONNECTIONS MRF REDESIGN**

INTRODUCTION

The Waste Connections (WC) Materials Recovery Facility (MRF) has updated its site master plan to enhance the operational conditions and provide improved services. The new site plan includes 2 new buildings and demolition of a portion of the existing building. The redesigned site will provide a more efficient traffic circulation pattern which will reduce the time customers spend on-site and operate more efficiently by minimizing the amount of materials that need to be double handled.

The existing site is 10.17 acres, 5.99 acres of the site is impervious, with the remaining 4.18 acres as pervious. The proposed site will increase the impervious area by 1.85 acres, resulting in 7.84 acres of impervious area and 2.33 acres of pervious area.

EXISTING CONDITIONS

The existing site has 3 drainage outfalls. Above each outfall is a small surface basin. Outfall A is connected to a 12" drain pipe that flows north in Throwita Way and eventually flows into Weber Creek. Outfalls B & C are located on the northwest and southwest side respectively. Both outfalls B & C flow west into an un-named tributary, the tributary then flows north to Weber Creek. See "Pre-Development Drainage Exhibit"

POST-DEVELOPMENT CONDITONS

The site was previously used as a lime production plant, with sludge settling ponds situated throughout the site. Part of the facility improvements include a soil remediation phase. As part of the remediation, the site will be required to be paved, or made impervious to prevent surface water from migrating into the ground and ultimately into the ground water. The proposed site master plan will increase the impervious area by 1.85 acres and will utilize the 3 existing drain outfall locations. See "Change in Impervious Area Exhibit" The proposed improvements will be designed to meet the requirements of both El Dorado County and the State of California's MS4 permit.

El Dorado County's drainage manual dictates that the post development flow does not adversely impact the downstream properties, typically by matching post development flow rate to the pre development flow rate.

The State MS4 permit requires projects to implement Low Impact Development (LID) measures to reduce runoff, treat storm water and provide hydro-modification measures where practicable. Typical LID site design measures might include:

- Rooftop and impervious area disconnection
- Porous pavement
- Cisterns or rain barrels
- Vegetated swales

- Bio-retention swales
- Green roofs

The pH of the lime laden soil prevents the use of LID hydro-modification measures that encourage infiltration of storm water into the site soils. Therefore, site water quality treatment design will be limited to active control measures such as a Contech CDS “vault” system instead of the passive LID measures.

It is anticipated that the post-development drainage system will allow storm water to surface flow to drain inlets and then be conveyed through underground pipes into a “vault” system that will treat the storm water and discharge it at pre-development flow rates into the 3 existing outfall locations as identified on the pre-development drainage exhibit. See “Post-Development Drainage Exhibit”.

APPENDIX

- A-1 PRE-DEVELOPMENT DRAINAGE EXHIBIT**
- A-2 CHANGE IN IMPERVIOUS AREA EXHIBIT**
- A-3 POST DEVELOPMENT DRAINAGE EXHIBIT**

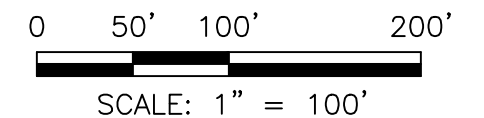
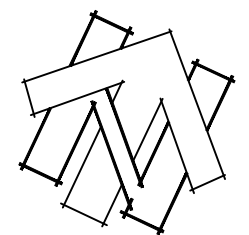
WASTE CONNECTIONS - EL DORADO MRF

CHANGE IN PERVIOUS / IMPERVIOUS AREAS EXHIBIT

EL DORADO COUNTY, CALIFORNIA
OCTOBER 18, 2017



PROPOSED IMPERVIOUS AREA	1.85 AC
(E) IMPERVIOUS AREA (TO REMAIN)	5.99 AC
(E) PERVIOUS AREA (TO REMAIN)	2.33 AC
PROPOSED IMPERVIOUS AREA(OFFSITE)	0.11 AC



cta Engineering & Surveying
 Civil Engineering ■ Land Surveying ■ Land Planning
 3233 Monier Circle, Rancho Cordova, CA 95742
 T (916) 638-0919 ■ F (916) 638-2479 ■ www.ctaes.net

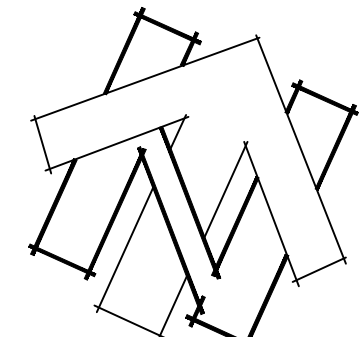
WASTE CONNECTIONS - MATERIALS RECOVERY FACILITY

PROPOSED DRAINAGE SHED MAP

EL DORADO COUNTY, CALIFORNIA

SCALE: 1"=40'

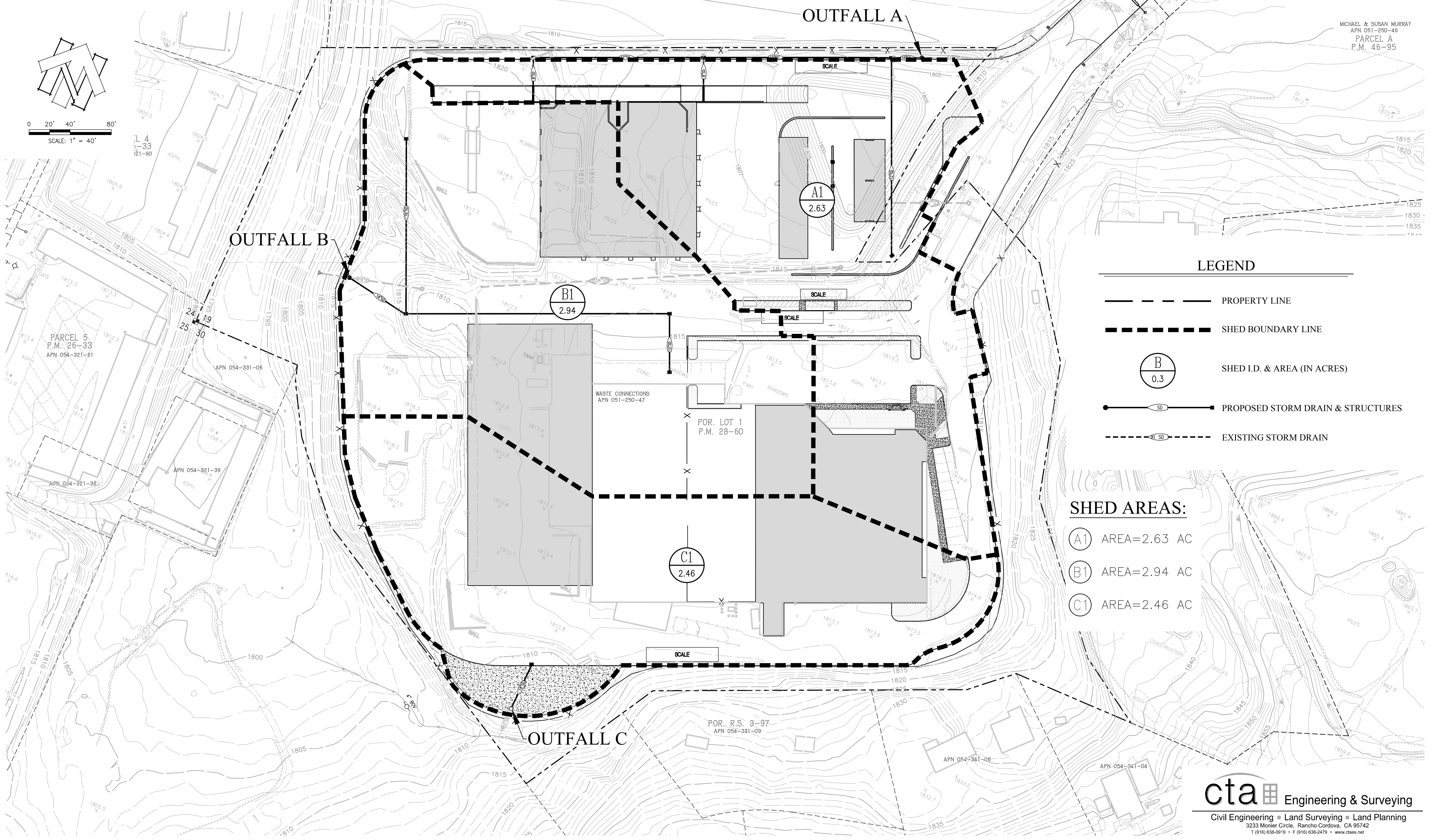
OCTOBER, 2017



0 20' 40' 80'
SCALE: 1" = 40'

L 4
1-33
121-60

MICHAEL & SUSAN MURRAY
APN 051-250-46
PARCEL A
P.M. 46-95



LEGEND

- PROPERTY LINE
- SHED BOUNDARY LINE
- SHED I.D. & AREA (IN ACRES)
- PROPOSED STORM DRAIN & STRUCTURES
- EXISTING STORM DRAIN

SHED AREAS:

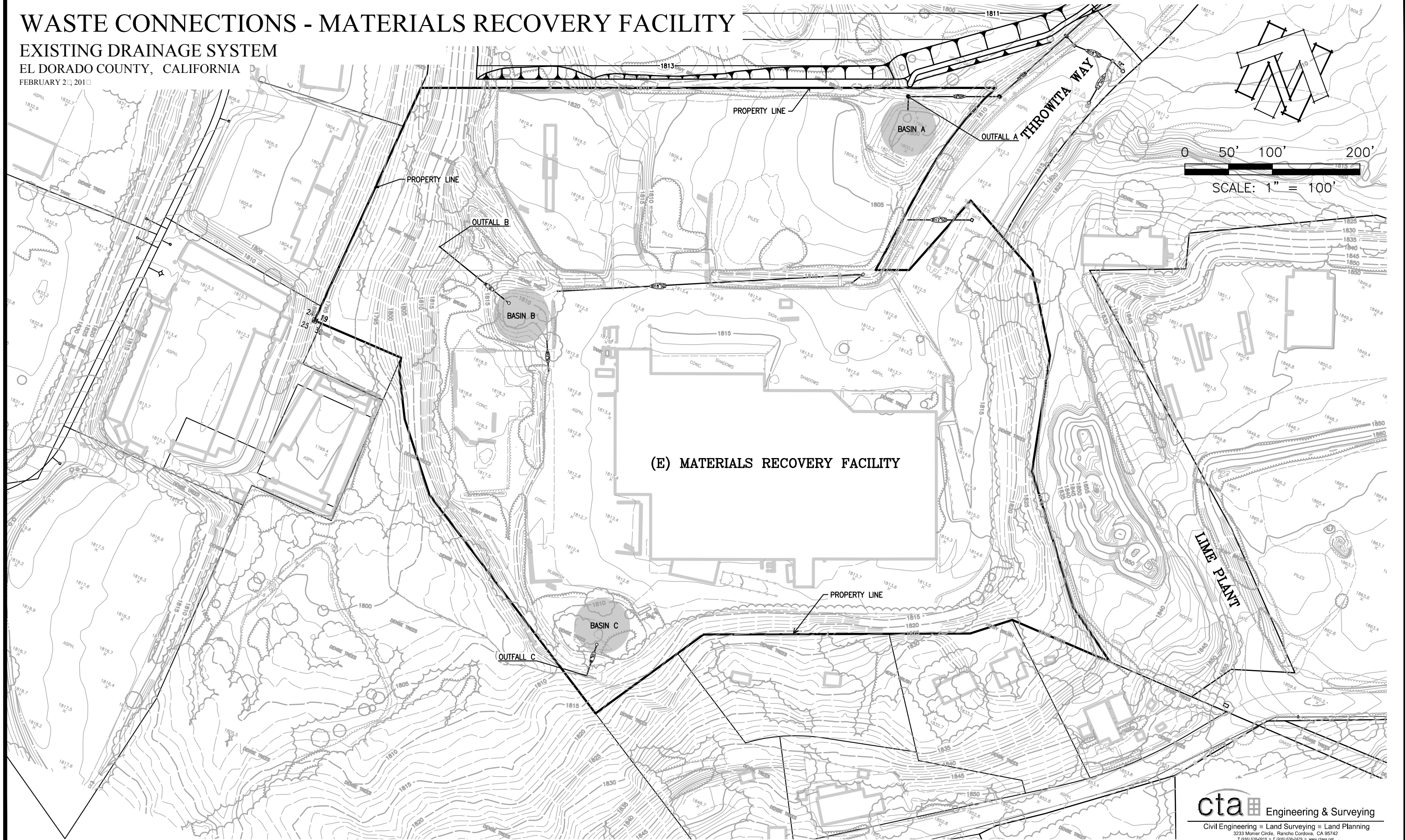
- (A1) AREA=2.63 AC
- (B1) AREA=2.94 AC
- (C1) AREA=2.46 AC

WASTE CONNECTIONS - MATERIALS RECOVERY FACILITY

EXISTING DRAINAGE SYSTEM

EL DORADO COUNTY, CALIFORNIA

FEBRUARY 2010



cta Engineering & Surveying
Civil Engineering ■ Land Surveying ■ Land Planning
3233 Monier Circle, Rancho Cordova, CA 95742
T (916) 638-0919 ■ F (916) 638-2479 ■ www.cta.net

F.2 - Facility Improvement Letter

THIS PAGE INTENTIONALLY LEFT BLANK



Letter No.: DS1217-247

December 11, 2017

VIA FIRST-CLASS MAIL

Waste Connections El Dorado Disposal
Sue VanDelinder
4100 Throwita Way
Placerville, CA 95667

Subject: Facility Improvement Letter (FIL), El Dorado Materials Recovery Facility Renovation
Assessor's Parcel No. 051-250-47 (Diamond Springs)

Dear Ms. VanDelinder:

This letter is in response to your request dated October 18, 2017 and is valid for a period of three years. If facility improvement plans for your project are not submitted to El Dorado Irrigation District (EID or District) within three years of the date of this letter, a new Facility Improvement Letter will be required.

Design drawings for your project must be in conformance with the District's *Water, Sewer and Recycled Water Design and Construction Standards*.

This proposed project consists of 2 new commercial buildings and several structures on 10.18 acres. Water service, private fire service and fire hydrants are requested. The property is within the District boundary.

This letter is not a commitment to serve, but does address the location and approximate capacity of existing facilities that may be available to serve your project.

Water Supply

As of January 1, 2017, there were 12,630 equivalent dwelling units (EDUs) of water supply available in the Western/Eastern Water Supply Region. Your project as proposed on this date would require 16 EDUs of additional water supply.

Water Facilities

There are 6-inch and 10-inch water lines located on the parcel to be developed (see enclosed System Map). The Diamond Springs/El Dorado Fire Protection District has determined that the minimum fire flow for this project is 2375 GPM for a 4-hour duration while maintaining a 20-psi residual pressure. According to the District's hydraulic model, the existing system can deliver

the required fire flow. In order to provide this fire flow and receive service, you must construct a water line extension connecting to the 10-inch waterline located on the project parcel. The 6-inch line and fire located along the eastern property boundary can only provide a 1,000 GPM fire flow. The hydraulic grade line for the existing water distribution facilities is 2,047 feet above mean sea level at static conditions and 1,965 feet above mean sea level during fire flow and maximum day demands.

Based on the preliminary site plans it appears that some of the new structures/improvements will be in conflict with existing water lines. You will be required to relocate any water lines found to be in conflict with the proposed improvements.

The flow predicted above was developed using a computer model and is not an actual field flow test.

Sewer Facilities

There is an inactive 8-inch sewer line located in Throwita Way. This sewer line is not available for service at this time. The District will need to review any proposed septic system improvements in order to verify adequate separation from District owned potable water facilities.

Easement Requirements

Proposed water lines, sewer lines and related facilities must be located within an easement accessible by conventional maintenance vehicles. When the water lines or sewer lines are within streets, they shall be located within the paved section of the roadway. No structures will be permitted within the easements of any existing or proposed facilities. The District must have unobstructed access to these easements at all times, and generally does not allow water or sewer facilities along lot lines.

Easements for any new District facilities constructed by this project must be granted to the District prior to District approval of water and/or sewer improvement plans, whether onsite or offsite. In addition, due to either nonexistent or prescriptive easements for some older facilities, any existing onsite District facilities that will remain in place after the development of this property must also have an easement granted to the District.

Environmental

The County is the lead agency for environmental review of this project per Section 15051 of the California Environmental Quality Act Guidelines (CEQA). The County's environmental document should include a review of both offsite and onsite water and sewer facilities that may be constructed by this project. You may be requested to submit a copy of the County's environmental document to the District if your project involves significant off-site facilities. If the County's environmental document does not address all water and sewer facilities and they

are not exempt from environmental review, a supplemental environmental document will be required. This document would be prepared by a consultant. It could require several months to prepare and you would be responsible for its cost.

Summary

Service to this proposed development is contingent upon the following:

- The availability of uncommitted water supplies at the time service is requested;
- Approval of the County's environmental document by the District (if requested);
- Executed grant documents for all required easements;
- Approval of an extension of facilities application by the District;
- Approval of facility improvement plans by the District;
- Construction by the developer of all onsite and offsite proposed water and sewer facilities
- Acceptance of these facilities by the District; and
- Payment of all District connection costs.

Services shall be provided in accordance with El Dorado Irrigation District Board Policies and Administrative Regulations, as amended from time-to-time. As they relate to conditions of and fees for extension of service, District Administrative Regulations will apply as of the date of a fully executed Extension of Facilities Agreement.

If you have any questions, please contact Marc Mackay at (530) 642-4135.

Sincerely,



Michael J. Brink, P.E.
Supervising Civil Engineer

MB/MM:ms

Enclosures: System Map

cc w/ System Map:

Kenneth Earle – Deputy Chief / Fire Marshal
Diamond Springs / El Dorado Fire Department
Via email - kearle@diamondfire.org

Letter No.: DS1217-247

To: Waste Connections-El Dorado Disposal

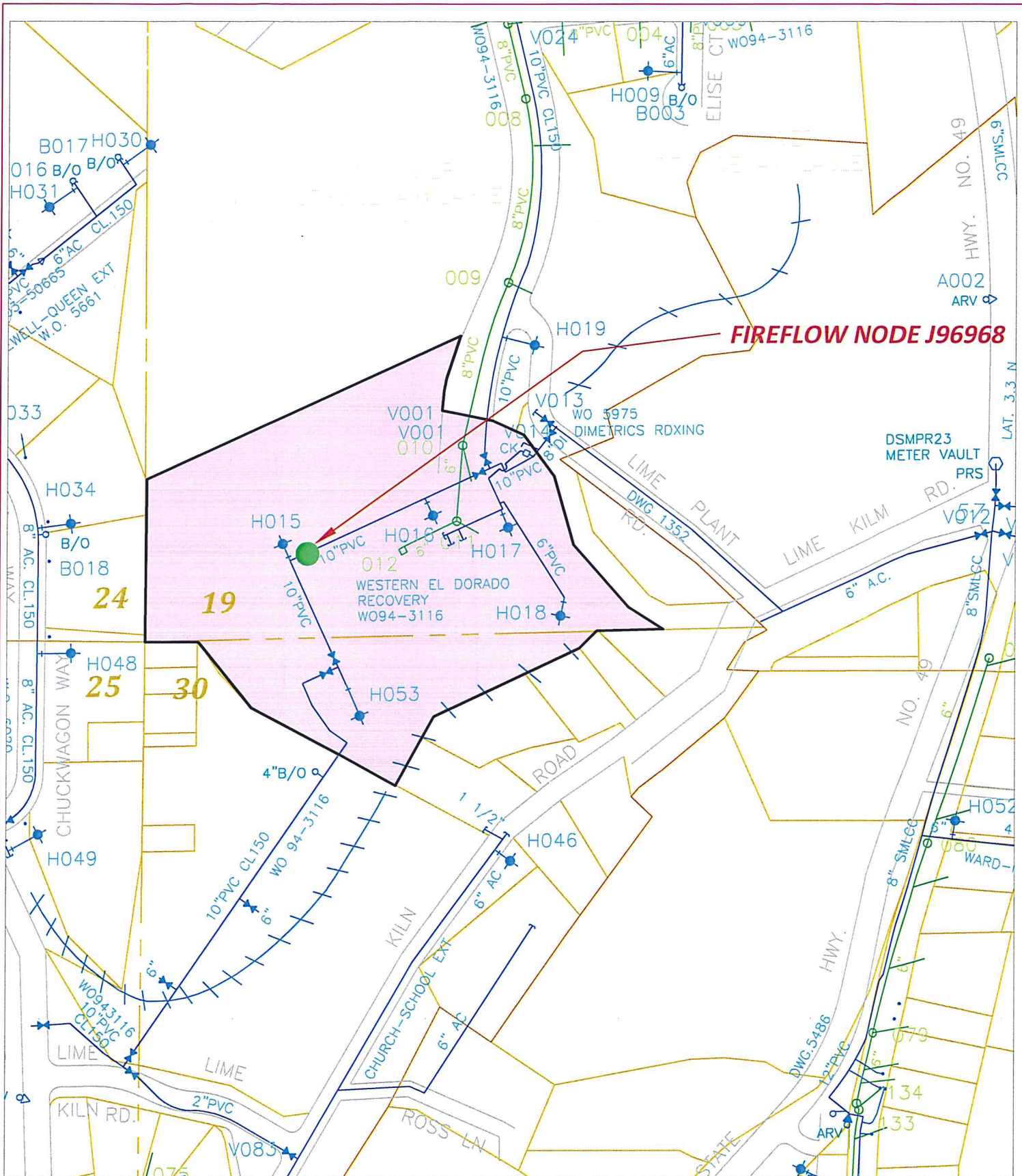


December 11, 2017

Page 4 of 4

Roger Trout, Director
El Dorado County Development Services Department
Via email - roger.trout@edcgov.us

Janna Waligorski
First Carbon Solutions
Via email - jwaligorski@fcs-intl.com



El Dorado Irrigation District
System Map

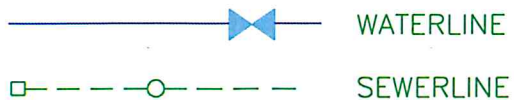
DATE: December 8, 2017

WARNING: For schematic purposes only.
Exact pipe location must be
field verified.

El Dorado MRF Renovation



Scale: 1" = 250'



APN: 051-250-47
18-1646 J 19 of 20

THIS PAGE INTENTIONALLY LEFT BLANK