

WATER AND WASTEWATER REPORT

FOR

**LORSON RANCH
SKETCH PLAN AMENDMENT**

December, 2018

Prepared for:

Lorson. LLC
212 N. Wahsatch, Suite 301
Colorado Springs, Colorado 80903
Contact: Jeff Mark
(719) 635-3200

Prepared by:

Core Engineering Group
15004 1st Avenue S.
Burnsville, MN 55306
719-570-1100

Project No. 100.060

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2016 WWSD ANNUAL WATER AND WASTEWATER REPORT, JDS
HYDRO

APPENDIX B

2005 WASTEWATER MASTER PLAN (PENTACOR ENGINEERING)

1.0 INTRODUCTION

The Lorson Ranch at Jimmy Camp Creek development community is located approximately 2 miles east of the intersection of Fontaine Blvd. and Powers Blvd. and is located directly east of the intersection of Fontaine Blvd. and Marksheffel Rd. The Lorson Ranch Sketch Plan totals 1,412 acres with a maximum 6,500 dwelling units permitted. The site is bounded on the west by Marksheffel Road, the east by existing ranch land and the future Meridian Road, the north by Banning Lewis Ranch/Rolling Hills Ranch, and on the south by Peaceful Valley Estates, a rural and urban residential subdivision and the Appletree golf course.

The original Lorson Ranch Sketch Plan was approved by the El Paso Board of County Commissioners on March 25, 2004. A subsequent Sketch Plan Amendment was approved by the El Paso County Planning and Community Department on April 21, 2016. The Lorson Ranch development is zoned Planned Unit Development which outlines the general land uses as shown on the Overall PUD Development and Phasing Plan, Reception No. 206035127 dated March 9, 2006. The PUD zone and general land uses will remain as approved in 2006.

The purpose of the Lorson Ranch Sketch Plan Amendment No. 2 is to revise and increase the existing approved land use designations on several of the remaining undeveloped areas within Lorson Ranch to increase the permitted density, most notably in the far eastern portions of the Lorson Ranch development. Since the last approved Sketch Plan Amendment in 2015, there have been several notable changes to the Lorson Ranch community including approval of preliminary plans and final plats east of the Jimmy Camp Creek East Tributary which require two bridges being built and utility extensions eastward. These approvals have opened large areas of Lorson Ranch for development. In addition, market demand and trends have shifted to a smaller lot size than previously offered within Lorson Ranch as well as the increasing demand for multi-family type housing such as townhomes and duplex style patio homes. As a result, many of the existing approved density and land use designations identified on the remaining developable portions of Lorson Ranch are too narrow and do not permit the more desirable small lot and multi-family housing types.

The revised land designations include more areas permitting RM 7-10 DU/ Acre (Residential Medium); RMH 10-13 DU/ Acre (Residential Medium/ High); and RH 17-20 DU/ Acre (Residential High). While the proposed Sketch Plan Amendment is transferring and increasing land use density designations within the eastern portion of the community, the overall maximum number of units previously approved remains at 6,500 dwellings. Secondly, the RLM (Residential Low/ Medium) land use designation will remain along the southern boundary with Peaceful Valley Estates.

Land Use Designation	2015 Approved Sketch Plan	Proposed Sketch Amend. #2	2015 Approved Sketch Plan	Proposed Sketch Amend. #2
	(Existing & Proposed)	(Existing & Proposed)	Proposed Number of Units	Proposed Number of Units
RLM 4-6 DU/ AC (Res. Low/ Medium)	551.9	212.7	3147	1248
RM 7-10 DU/ AC (Res. Medium)	480.3	744.6	2920	4154
RMH 10-13 DU/ AC (Res. Medium High)	41.3	60.96	387	559
RH 17-20 DU/ AC (Res. High)	5.2	39.6	46	539
TOTALS	1078.7	1057.86	6500	6500

2.0 WATER SUPPLY

The development is located within the service boundary of the Widefield Water and Sanitation District (WWSD). A commitment letter is included in Appendix A from WWSD for this project. Lorson Ranch is almost halfway built out and much of the offsite and on-site watermain infrastructure has been constructed.

Lorson Ranch watermain infrastructure is divided into two pressure zones. The middle pressure zone includes all watermain infrastructure from Marksheffel Road east to the electric transmission lines. Areas east of the electric transmission lines are undeveloped at this time and will be on the High Pressure Watermain Zone. The two watermain pressure zones are discussed below.

2.1 Middle Pressure Zone

The WWSD has an existing 16" diameter potable water main located on the west side of Marksheffel Road directly adjacent to Lorson Ranch. The 16" watermain connects to a 24" water main constructed from the Goldfield tanks (Powers Blvd.) to Marksheffel Road and is the primary source of potable watermain for all of Lorson Ranch including the high pressure zone. Existing on-site major watermain consists of an 18" & 24" watermain in Fontaine Boulevard and a 12" watermain in Lorson Boulevard. These large diameter watermains provide potable water to the middle pressure zone from Marksheffel Road east to the electric transmission lines and they supply water to the future high pressure zone. Nearly all of the watermain infrastructure and residential development within the middle pressure zone has been built or is currently in the preliminary plan process. No offsite watermain infrastructure is required for this pressure zone.

2.2 High Pressure Zone

The High Pressure Zone is supplied water from an existing 18" watermain in Fontaine Boulevard that extends north to an existing pump station constructed in 2018 by WWSD. The pump station pumps the water north to a small storage tank located on the VA Cemetery site. This existing offsite watermain and pump station will be the backbone of the high pressure watermain zone in Lorson Ranch. The small storage tank is only to be

used by the VA Cemetery and will not be sufficient to provide adequate fire flows to Lorson Ranch. Development in the Lorson Ranch high pressure zone will require offsite and on-site watermain infrastructure. Offsite infrastructure consists of a future storage tank and watermain located in Rolling Hills Ranch just northeast of the VA Cemetery site at Node 8. (see map in appendix from JDS Hydro). A small portion of the high pressure zone may be developed prior to construction of the future offsite watermain infrastructure and will be determined by WWSD. On-site watermain infrastructure consists of typical 12" watermain in Lorson Boulevard and Fontaine Boulevard. A high pressure zone watermain connection will be made to Peaceful Valley Ranch at Heritage Road which will provide that area with higher pressure for increased fire flows from existing watermain.

2.3 Water Demand

Water Demand calculations will be based on the proposed zoning and densities. Typical water demand is 0.39 ac-ft/year for each single family lot.

2.4 Water Serviceability

The WWSD's has a current developed physical water supply of 5246 ac-ft of water per year and the current demand is 2248 ac-ft per year which is roughly 43% of the existing physical supply.

2.4 Offsite Watermain Infrastructure Costs

The only offsite watermain infrastructure is the storage tank and associated watermain extension located in Rolling Hills. The estimated size of the storage tank ranges from 1 million gallons to two million gallons and could cost \$2,000,000 depending on the size. WWSD will determine the final size and location of the tank.

3.0 WASTEWATER COLLECTION

The development is located within the service boundary of the Widefield Water and Sanitation District (WWSD). A commitment letter is included in Appendix A from WWSD for this project. A wastewater master plan for Lorson Ranch was prepared in 2005 by Pentacor Engineering and is attached to this report.

Lorson Ranch is almost halfway built out and all of the offsite and most on-site sewer infrastructure has been constructed. Sanitary sewer extensions have been provided to future development areas east of the electric transmission lines and to future development south of the East Tributary of Jimmy Camp Creek. A future sewer main extension will be constructed by others at the East Tributary and the north property line of Lorson Ranch. There is a potential sewer lift station located in the southeast corner of Lorson Ranch which will be evaluated when the adjacent areas are developed.

All wastewater flows from Lorson Ranch southwest to an existing 24" sewer main located in Marksheffel Road. The offsite sewer main flows south and west to WWSD's existing treatment plant located on Mesa Ridge Parkway/State Highway 87 along Fountain Creek.

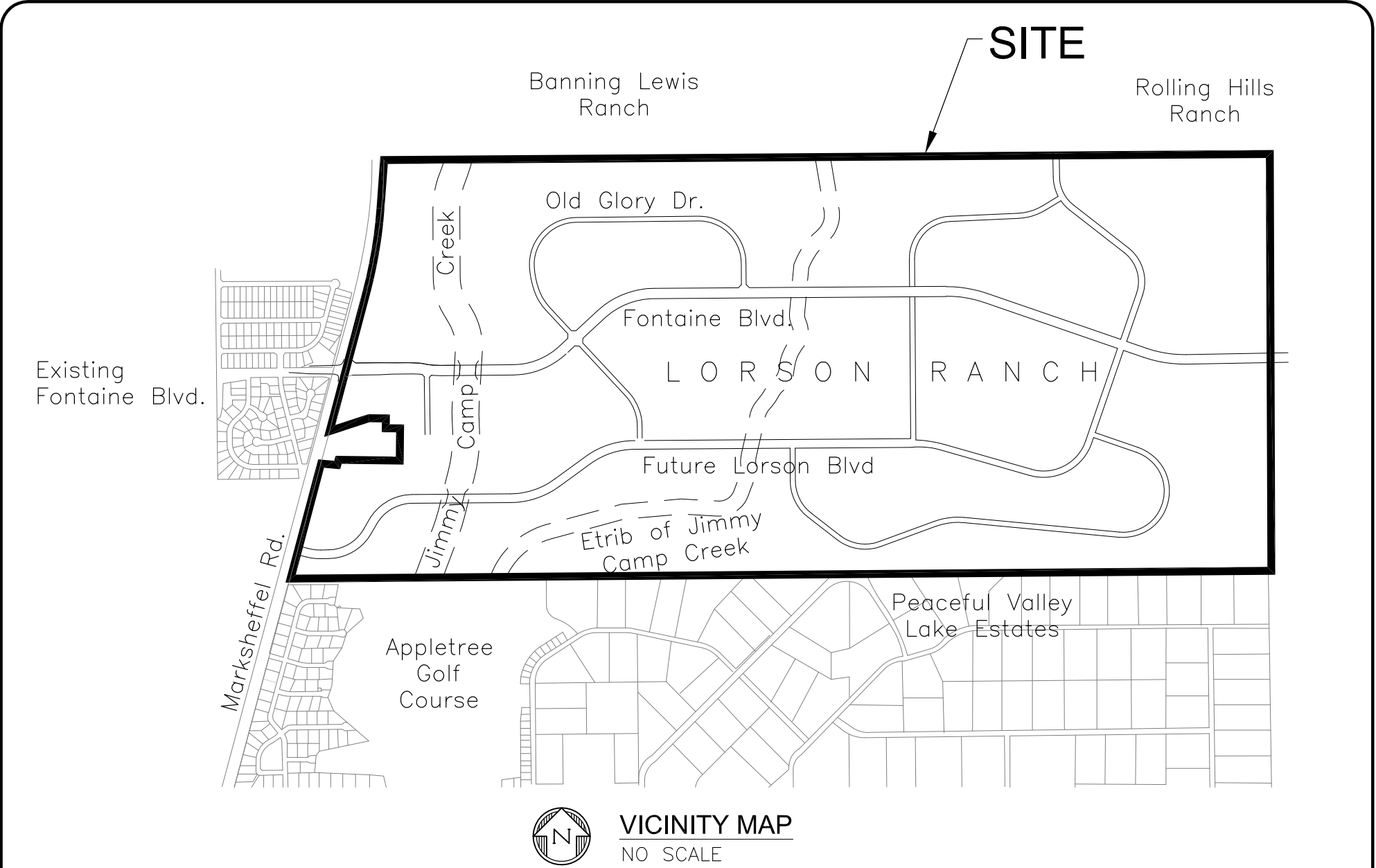
3.1 Wastewater Demand

Sewer loading calculations were completed based on the proposed zoning and densities. Sanitary loads of 205Gal/Unit for single family residential lots can be expected.

3.2 Wastewater Serviceability

The WWSD collects and treats wastewater from users within its service area at the WWCD treatment plant located near Mesa Ridge Parkway and Fountain Creek. The treatment plant has a current hydraulic capacity of **2.5 MGD**. Currently, the plant is operating at a capacity of **1.43 MGD**.

**APPENDIX A –
VICINITY MAP, COMMITMENT LETTER, WATER-SEWER MAP,
OFFSITE TANK MAP (JDS HYDRO),
SKETCH PLAN AMENDMENT (THOMAS & THOMAS)**



VICINITY MAP
NO SCALE



CORE
ENGINEERING GROUP

15004 1ST AVE. S.
BURNSVILLE, MN 55306
PH: 719.570.1100

CONTACT: RICHARD L. SCHINDLER, P.E.
EMAIL: Rich@ceg1.com

LORSON RANCH
VICINITY MAP

SCALE: NTS	DATE: OCTOBER, 2018	FIGURE NO. --
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8495 Fontaine Boulevard, Colorado Springs, Colorado 80925

November 28, 2018

Jeff Mark
Landhuis Company
212 North Wahsatch, Suite 301
Colorado Springs, Colorado 80903

Cole Emmons
County Attorney's Office
27 East Vermijo Avenue
Colorado Springs, Colorado 80903

Re: Letter of Intent regarding Sketch Plan Amendment #2 for "Lorson Ranch"

Dear Jeff and Cole:

The proposed change to the sketch plan for Lorson Ranch has been received and reviewed by the Widefield Water and Sanitation District. Since it is a sketch plan, Widefield does not make a formal numeric commitment to serve until either preliminary plans or plats are filed. The Widefield Water and Sanitation District has the water and wastewater capacities necessary to provide service to the area and this is a letter of intent to do so. Formal numeric commitments will be provided at the appropriate times, as preliminary plans and/or plats are submitted.

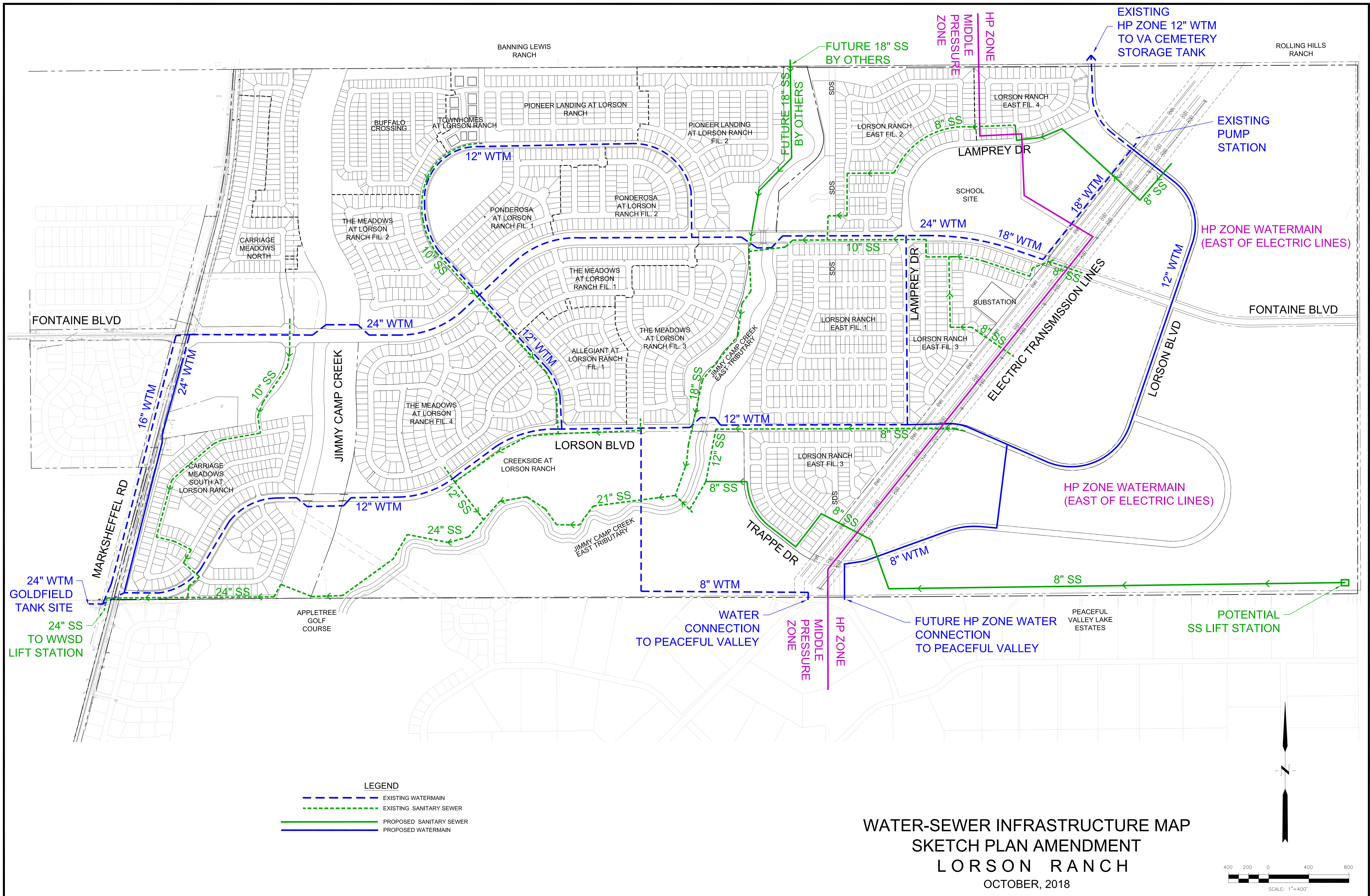
The Lorson Sketch Plan lands are wholly included within the Widefield Water and Sanitation District Service Area, are planned for urban level development, and are covered by an existing utility service agreement with the District. The changes in sketch plan proposed are not in-consistent with that agreement. Most of the off-site facilities required to serve the area are already in place.

Sincerely,
Widefield Water and Sanitation District

A handwritten signature in blue ink that reads "Robert P. Bannister". The signature is written in a cursive style with a long, sweeping underline.

Robert Bannister, Director of Engineering and Operations

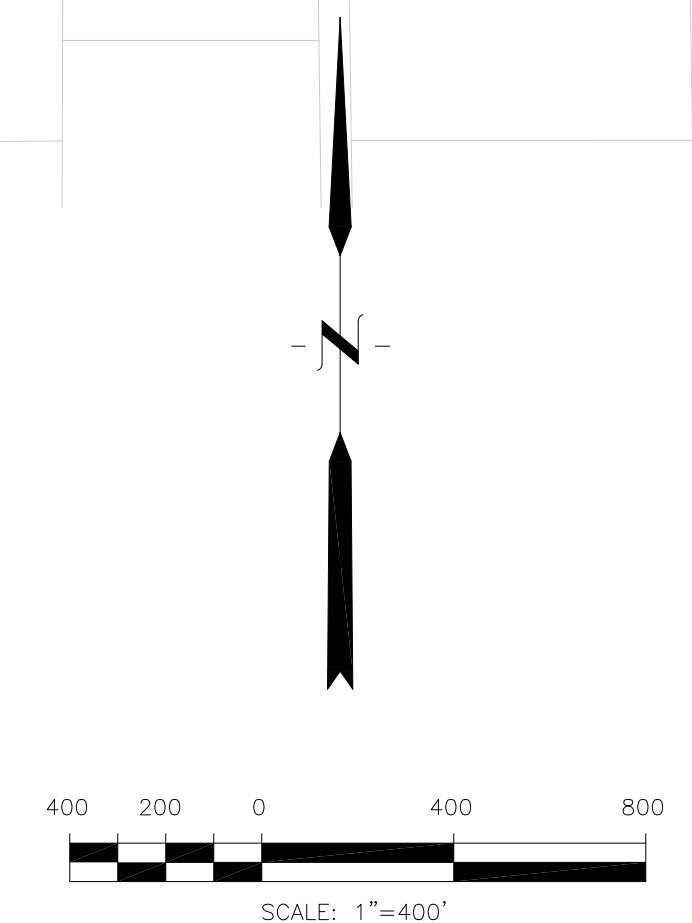
C: Steve Wilson, General Manager
Brandon Bernard, Water Division Manager
Jason Dresson, Wastewater Division Manager
John McGinn, District Engineer



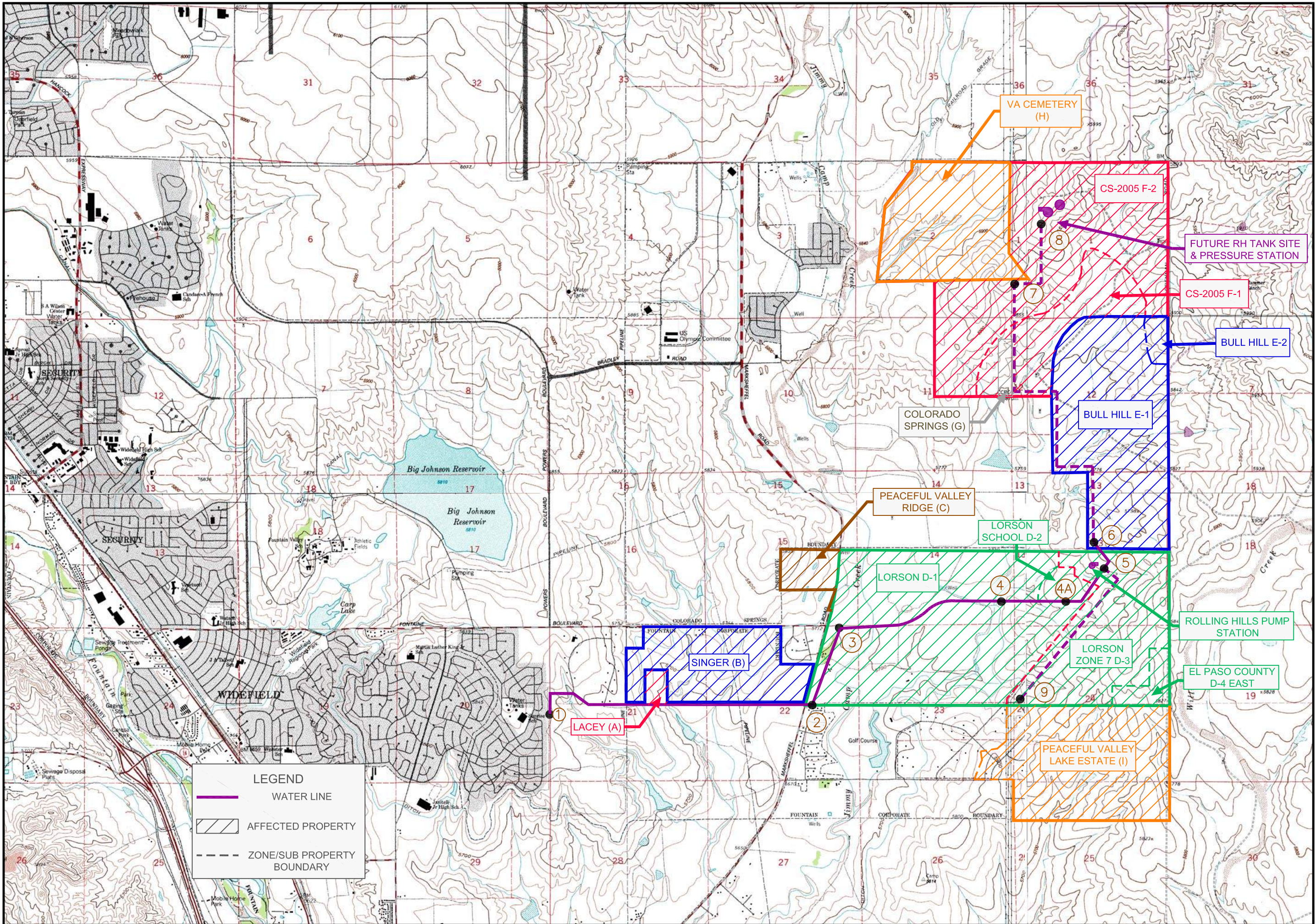
LEGEND

	EXISTING WATERMAIN
	EXISTING SANITARY SEWER
	PROPOSED SANITARY SEWER
	PROPOSED WATERMAIN




**WATER-SEWER INFRASTRUCTURE MAP
SKETCH PLAN AMENDMENT
LORSON RANCH
OCTOBER, 2018**



J:\JDS-Hydro\Project Files\102_Widefield Water And Son\102.106_VA_PNC Drawings\Exhibits\Cost Apportionment\102.106_Water_Allocation_2_13_17.dwg
 2018/02/13 9:03 AM By: JDS WaterCAD



LEGEND

-  WATER LINE
-  AFFECTED PROPERTY
-  ZONE/SUB PROPERTY BOUNDARY

JDS-HYDRO CONSULTANTS, INC.
 545 East Pikes Peak Avenue, Suite 300
 Colorado Springs, Colorado 80903
 (719) 227-0072

ZONE 7 AND 8 WATER SYSTEM IMPROVEMENTS
 COST ALLOCATION MAP
 EXHIBIT B - 1 (WATER)

Project No.:	102.106
Scale:	N.T.S.
Date:	12/19/17
Design:	JPM
Drawn:	ACH/GUS
Check:	JPM
Revised:	
GJD	02/12/18

LORSON RANCH

MINOR SKETCH PLAN AMENDMENT

A PORTION OF TOWNSHIP 15 SOUTH, RANGE 65 WEST OF THE 6TH P.M.,
EL PASO COUNTY, COLORADO.

SKETCH PLAN NOTES:

- THE SKETCH PLAN AMENDMENT IS ADOPTING THE GENERAL LAND USE CONCEPT AND OVERALL PUD DEVELOPMENT & PHASING PLAN (RECEPTION NO.: 206035127, MARCH 9, 2006). THE DENSITY RANGES ADOPTED WILL BE USED TO ESTABLISH A MAXIMUM DENSITY WITHIN THAT RANGE FOR INDICATED PORTIONS OF THE SITE, DEPENDING ON THE ULTIMATE PROVISION OF OPEN SPACE AND THE DESIGN OF THE HIGHER DENSITY AREAS.
- THIS SKETCH PLAN AMENDMENT WILL BE DEVELOPED IN ACCORDANCE WITH THE DEVELOPMENT AGREEMENT FOR LORSON RANCH, AS AMENDED.
- THE APPLICANT SHALL WORK WITH EL PASO COUNTY PARKS DEPARTMENT WITH FUTURE SUBMITTALS TO DETERMINE ACREAGE AND ACCEPTABLE LOCATIONS FOR PARK AREA OR AREAS AS REQUIRED. THE OPEN SPACE AS SHOWN MEETS THE REQUIREMENTS FOR ALL OF LORSON RANCH.
- BUFFERING BETWEEN THE COMMERCIAL AND RESIDENTIAL USES SHALL BE REFLECTED WITH ANY ZONING AND DEVELOPMENT PLAN REQUEST FOR THE COMMERCIAL PROPERTIES. BUFFERING SHALL BE PER THE EL PASO COUNTY LAND DEVELOPMENT CODE, AS AMENDED.
- BUFFERING OF THE HIGHER DENSITY RESIDENTIAL USES FROM INDUSTRIAL, LOWER DENSITY RESIDENTIAL USE, PROPOSED COMMERCIAL USES AND USES ADJACENT TO MARKSHEFFEL ROAD, FONTAINE BLVD. AND MERIDIAN ROAD CAN BE THROUGH THE USE OF SETBACKS, BERMS, LANDSCAPING AND OPAQUE SCREENING. CREATIVE LANDSCAPE DESIGN IS ENCOURAGED BUT IN NO INSTANCE SHALL THE MINIMUM BUFFERING AND LANDSCAPE REQUIREMENT BE LESS THAN THAT REQUIRED IN THE EL PASO COUNTY LAND DEVELOPMENT CODE, AS AMENDED. THE BUFFERING/ LANDSCAPING SHALL BE INCLUDED WITH ANY REZONING REQUESTS. SAID BUFFERS SHALL BE EXCLUSIVE OF ANY LOT AREA(S).
- THE MAXIMUM TOTAL RESIDENTIAL DENSITY SHALL NOT EXCEED THE 6,500 UNITS AS SHOWN WITHOUT REVIEW AND SUBSEQUENT APPROVAL OF A MAJOR AMENDMENT TO THE SKETCH PLAN.
- CLUSTERING OF UNITS AND DENSITY TRANSFERS WITHIN RESIDENTIAL DISTRICTS IS PERMITTED SO LONG AS THE OVERALL DENSITY LIMIT IS NOT EXCEEDED. THE USE OF CLUSTERING IS ENCOURAGED TO PROMOTE COMMON OPEN SPACE, PROTECT NATURAL FEATURES, AND PROVIDE CREATIVE AND FLEXIBLE DESIGN SOLUTIONS.
- CONSTRUCTION SHALL OBSERVE A MINIMUM SETBACK OF 20 FEET FROM THE BREAK IN SLOPE OF JIMMY CAMP CREEK AND THE EAST TRIBUTARY OF JIMMY CAMP CREEK, BOTH FOR PROTECTION AGAINST EROSION DURING FLOODS, AND TO PREVENT EROSION OF THE BANKS AS A RESULT OF DEVELOPMENT.
- INFORMATION REGARDING WILDLIFE PROTECTION MEASURES SHOULD BE PROVIDED INCLUDING FENCING REQUIREMENTS, GARBAGE CONTAINMENT, PETS, ENHANCEMENT/ MAINTENANCE OF NATURAL VEGETATION, WEED CONTROL, AND RIPARIAN/ WETLAND PROTECTION/ BUFFER ZONES AS APPROPRIATE. ADDITIONAL INFORMATION CAN BE OBTAINED FROM THE COLORADO DIVISION OF WILDLIFE.
- ROAD LOCATIONS AND CLASSIFICATIONS AS DEPICTED ON THE SKETCH PLAN ARE BASED ON THE BEST INFORMATION AVAILABLE AT THE TIME OF THIS AMENDMENT. FINAL DETERMINATIONS OF ALL ROAD CLASSIFICATIONS AND NECESSARY RIGHTS-OF-WAY WILL BE MADE AT THE PRELIMINARY PLAN STAGE WHEN MORE DETAILED LAND USE, TRAFFIC AND ROAD DESIGNS ARE AVAILABLE. CHANGES TO ROAD CLASSIFICATION, NECESSARY RIGHTS-OF-WAY WIDTHS, AND CHANGES IN ALIGNMENT SHALL NOT REQUIRE A NEW SKETCH PLAN AMENDMENT.

GENERAL NOTES:

- EXISTING ZONING IS PUD- PLANNED UNIT DEVELOPMENT (EL PASO COUNTY).
- SCHOOL DISTRICT: WIDEFIELD SCHOOL DISTRICT NO. 3
- UTILITY PROVIDERS:
 - WATER & SEWER: WIDEFIELD WATER & SANITATION DIST.
 - ELECTRICAL POWER: MOUNTAIN VIEW ELECTRIC ASSOCIATION
 - GAS: BLACK HILLS ENERGY
- FIRE PROTECTION: SECURITY FIRE PROTECTION DISTRICT
- POLICE PROTECTION: EL PASO COUNTY SHERIFF'S DEPT.
- COMMERCIAL SITES TOTALING 25.3 ACRES ARE ALLOWED WITHIN LORSON RANCH BETWEEN MARKSHEFFEL ROAD AND JIMMY CAMP CREEK.
- COMMERCIAL USES SHALL BE PERMITTED TO DEVELOPED INDEPENDENT OF THE PHASING PLAN.
- A 25 ACRE SCHOOL SITE HAS BEEN DEDICATED TO WIDEFIELD SCHOOL DISTRICT NO. 3 AT THE NORTHEAST CORNER OF FONTAINE BOULEVARD AND LAMPREY DRIVE AS SHOWN ON THE SKETCH PLAN.
- THE EXISTING LORSON RANCH METROPOLITAN DISTRICT SHALL BE RESPONSIBLE FOR THE OWNERSHIP AND MAINTENANCE OF PARKS, OPEN SPACE, COMMON AREAS, COMMON LANDSCAPE PLANTINGS AND OTHER PUBLIC AREAS.
- THIS PROJECT WILL DETAIN STORMWATER RUN-OFF TO HISTORIC FLOWS.
- ROAD RIGHTS-OF-WAY WILL BE DEDICATED AS NECESSARY.
- ALL FUTURE ROAD RIGHTS-OF-WAY ARE CONCEPTUAL ONLY AND ARE PERMITTED TO BE MODIFIED UP UNTIL FINAL PLATTING SO LONG AS THE GENERAL LOCATION, SIZE AND ACCESS INTENT ARE MAINTAINED.
- THE SOUTH WESTERN MOST INTERSECTION OF MARKSHEFFEL ROAD AND LORSON RANCH BOULEVARD WILL BE A FULL MOVEMENT INTERSECTION AS APPROVED WITH CARRIAGE MEADOWS SOUTH (PUDSP 16-002).
- THE NORTH EASTERN MOST INTERSECTION WITH LORSON RANCH AND MERIDIAN ROAD WILL BE A FULL MOVEMENT INTERSECTION.
- THE DEVELOPER AGREES TO ABIDE BY EXTERIOR LIGHTING POLICIES AND REGULATIONS IN EXISTENCE IN THE COUNTY AT THE TIME OF PLATTING.

OPEN SPACE:

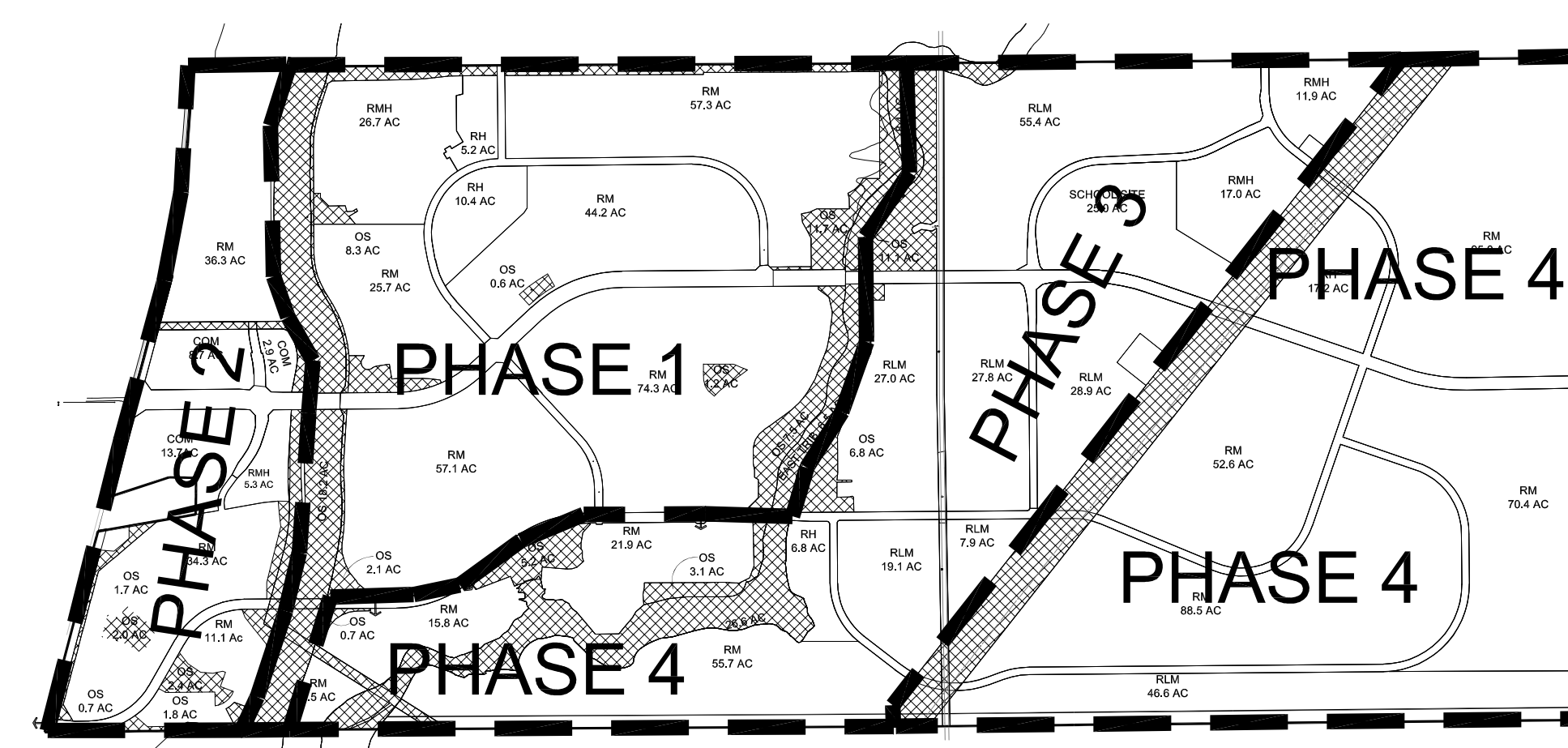
- OPEN SPACE REQUIRED, AND TO BE PROVIDED AT FULL BUILD OUT, FOR THE LORSON RANCH PROJECT IS 212 TOTAL ACRES (15%). TOTAL OPEN SPACE REQUIREMENTS WILL RANGE BETWEEN 187-212 TOTAL ACRES. THE DEVELOPER ANTICIPATES MEETING THESE REQUIREMENTS EITHER BY DESIGNATED OPEN SPACE, LAND DEDICATION OR A COMBINATION OF LAND DEDICATION AND FEES IN LIEU OF LAND DEDICATION.
- TOTAL OPEN SPACE PROVIDED TO DATE IS 211.93 ACRES OR 15.0%. THE OPEN SPACE CONSISTS OF PARKS, PLAYGROUNDS, NATURAL OPEN SPACE, TRAILS; JIMMY CAMP CREEK MAIN CHANNEL OPEN SPACE; JIMMY CAMP CREEK EAST TRIBUTARY OPEN SPACE; THE POWER LINE EASEMENT OPEN SPACE; SOUTHERN DELIVER SYSTEM EASEMENT OPEN SPACE WITHIN LORSON RANCH; AND THE FOUNTAIN MUTUAL IRRIGATION COMPANY DITCH EASEMENT OPEN SPACE.
- PARKS, PLAYGROUNDS, TRAILS, ETC. MAY BE PLACED WITHIN ANY OPEN SPACE AREAS PER THE EL PASO COUNTY LAND DEVELOPMENT CODE, AS AMENDED.
- FUTURE OPEN SPACE AND PARK SITE AREAS MAY BE INCLUDED WITH FUTURE DEVELOPMENTS AS DETAILED DESIGN TAKES PLACE, INCREASING THE TOTAL OPEN SPACE ACREAGE PROVIDED.
- PHYSICAL OPEN SPACE OR PARK IMPROVEMENTS PROVIDED BY THE DEVELOPER MAY BE APPLIED TO LAND DEDICATION AND/ OR FEES IN LIEU OF LAND DEDICATION REQUIREMENTS AS APPROVED BY EL PASO COUNTY.

GENERAL LAND DESCRIPTION - SKETCH PLAN

A TRACT OF LAND BEING ALL THAT PART OF THE NORTH ONE-HALF (N1/2) OF SECTION 23, THE NORTH ONE-HALF (N1/2) OF SECTION 24, THE SOUTH ONE-HALF (S1/2) OF SECTION 13, THE SOUTH ONE-HALF (S1/2) OF SECTION 14, THAT PORTION OF THE SOUTHEAST ONE-QUARTER (SE1/4) OF SECTION 15 LYING EASTERLY OF THE EASTERLY RIGHT-OF-WAY LINE OF THE COUNTY ROAD KNOWN AS MARKSHEFFEL ROAD AND THE NORTHEAST ONE-QUARTER (NE1/4) OF SECTION 22 LYING EASTERLY OF THE EASTERLY RIGHT-OF-WAY LINE OF SAID MARKSHEFFEL ROAD, EXCEPT ANY PORTION OF LOT 2 OF BROWNSVILLE SUBDIVISION NO. 2, AS RECORDED IN PLAT BOOK H-6 AT PAGE 81 OF THE RECORDS OF THE EL PASO COUNTY CLERK AND RECORDER, ALL LYING WITHIN TOWNSHIP 15 SOUTH, RANGE 65 WEST OF THE 6TH P.M., EL PASO COUNTY, COLORADO.

SAID TRACT OF LAND CONTAINS 1,412 ACRES OF LAND, MORE OR LESS.

PHASING PLAN



SKETCH PLAN SITE DATA

LAND USE	ACRES±	%	TOTAL DUS	GROSS DU/AC
JIMMY CAMP CREEK MAIN CHANNEL (OPEN SPACE)	36.1	2.6		
JIMMY CAMP CREEK EAST TRIBUTARY (OPEN SPACE)	41.5	2.9		
POWER LINE EASEMENT (OPEN SPACE)	50.3	3.6		
COS SOUTHERN DELIVERY SYSTEM (SDS) EASEMENT (OPEN SPACE)	7.5	0.5		
FMC DITCH EASEMENT (OPEN SPACE)	6.6	0.6		
MVEA ELECTRICAL SUBSTATION (OUT PARCEL)	2.0	0.1		
OPEN SPACE (OPEN SPACE/ TRAILS/ PARKS/ DETENTION FACILITIES)	68.1	4.8		
COMMERCIAL	25.3	1.8		
DEDICATED SCHOOL SITE	25.0	1.8		
RH- RESIDENTIAL HIGH DENSITY (EXISTING)	5.2	0.4	46	17-20 DU/ AC
RLM- RESIDENTIAL MEDIUM HIGH DENSITY (EXISTING)	26.7	1.9	204	7-10 DU/ AC
RM- RESIDENTIAL MEDIUM DENSITY (EXISTING)	382.4	27.1	1,559	4-6 DU/ AC
RLM - LOW/ MEDIUM RESIDENTIAL FOR SF RES. (EXISTING)	166.1	11.8	1,061	4-6 DU/ AC
RH- RESIDENTIAL HIGH DENSITY (PROPOSED)	34.4	2.4	493	17-20 DU/ AC
RLM - LOW/ MEDIUM RESIDENTIAL FOR SF RES. (PROPOSED)	46.6	3.3	187	4-6 DU/ AC
RM - MEDIUM RESIDENTIAL FOR SF RES. (PROPOSED)	362.2	25.7	2,595	7-10 DU/ AC
RLM - MEDIUM/ HIGH RESIDENTIAL FOR SF OR MF RES. (PROPOSED)	34.2	2.4	355	10-13 DU/ AC
ROADWAY RIGHT-OF-WAY (EXISTING)	64.5	4.6		
ROADWAY RIGHT-OF-WAY (PROPOSED)	25.3	1.7		
TOTALS	1,412	100%	6,500	4-6 DU/ AC

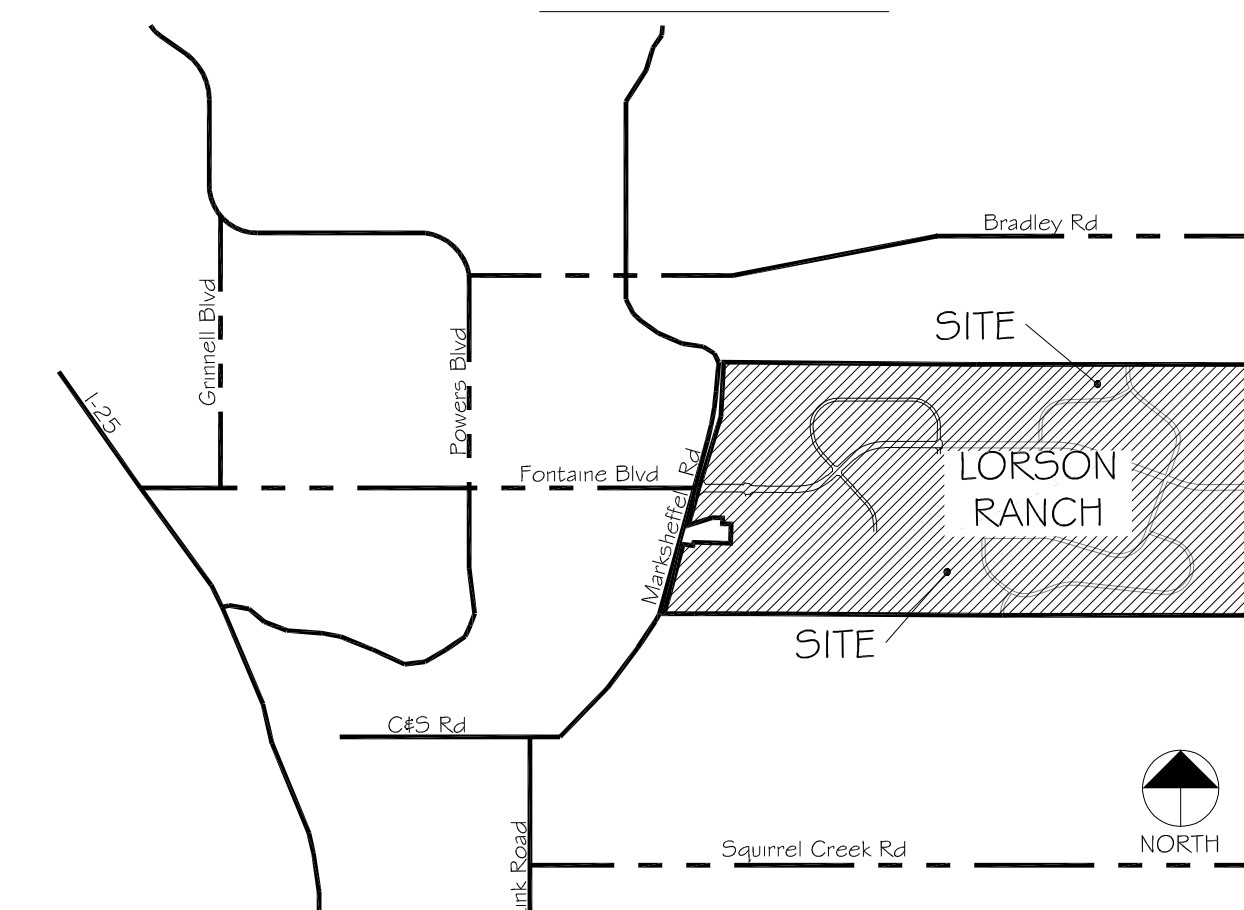
Existing Development includes completed or in-progress developments as follows:
Ponderosa Filings 1 & 2; Townhomes at Lorson Ranch, Buffalo Crossing Filings 1 & 2, Pioneer Landing Filings 1, 2 & 3; The Meadows Filings 1-4; Allegiant at Lorson; Carriage Meadows North and South; Lorson Ranch East Filings 1 & 2.

NOTE:
PROJECTED GROSS UNIT COUNTS ARE CALCULATED BY MULTIPLYING THE RESIDENTIAL GROSS DENSITY USE BY THE ACREAGE.

DEVELOPMENT STANDARDS AND GUIDELINES

- RL - LOW RESIDENTIAL WITH A GROSS DENSITY (1-2 DU/AC) FOR RURAL-RESIDENTIAL UNITS.
- RLM - LOW/ MEDIUM RESIDENTIAL WITH A GROSS DENSITY (4-6 DU/AC) FOR SINGLE FAMILY RESIDENTIAL LOTS.
- RM - MEDIUM RESIDENTIAL WITH A GROSS DENSITY (7-10 DU/AC) FOR SINGLE FAMILY RESIDENTIAL LOTS.
- RLM - MEDIUM/ HIGH RESIDENTIAL WITH A GROSS DENSITY (10-13 DU/AC) FOR SINGLE OR MULTI FAMILY RESIDENTIAL LOTS.
- RH - HIGH RESIDENTIAL WITH A GROSS DENSITY (17-20 DU/AC) FOR MULTI-FAMILY RESIDENTIAL UNITS.
- COMM - COMMERCIAL RELATED USES

VICINITY MAP



STATEMENT OF DIRECTOR OF DEVELOPMENT SERVICES APPROVAL

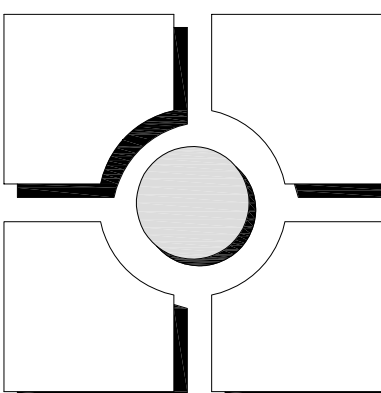
This Minor Sketch Plan Amendment was approved by the Director of Development Services of El Paso County, Colorado on the _____ day of _____, 20____.

Director, Development Services Department Date

OWNER/ APPLICANT: LORSON LLC
Attn: Jeff Mark
212 N. Wahsatch Ave., Suite 301
Colorado Springs, Co 80903
(719) 635-3200

PREPARED BY: THOMAS + THOMAS, INC.
PLANNING, URBAN DESIGN, LANDSCAPE ARCHITECTURE, INC.
702 N. TEJON STREET
Colorado Springs, Co 80903
(719) 578-8777

DSD FILE NO.:

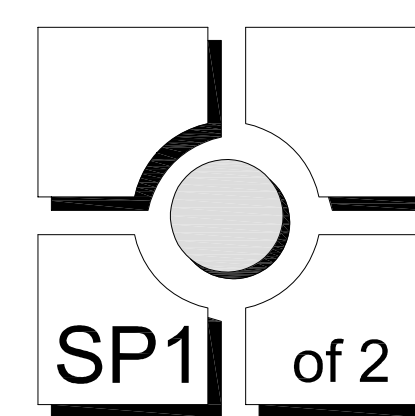


THOMAS + THOMAS
PLANNING, URBAN DESIGN, LANDSCAPE ARCHITECTURE, INC.
702 N. TEJON STREET
COLORADO SPRINGS, COLORADO 80903
(719) 578-8777

REV #	REVISIONS	DATE	DRAWN	CHECKED	APPROVED
1					
2					
3					
4					
5					
6					

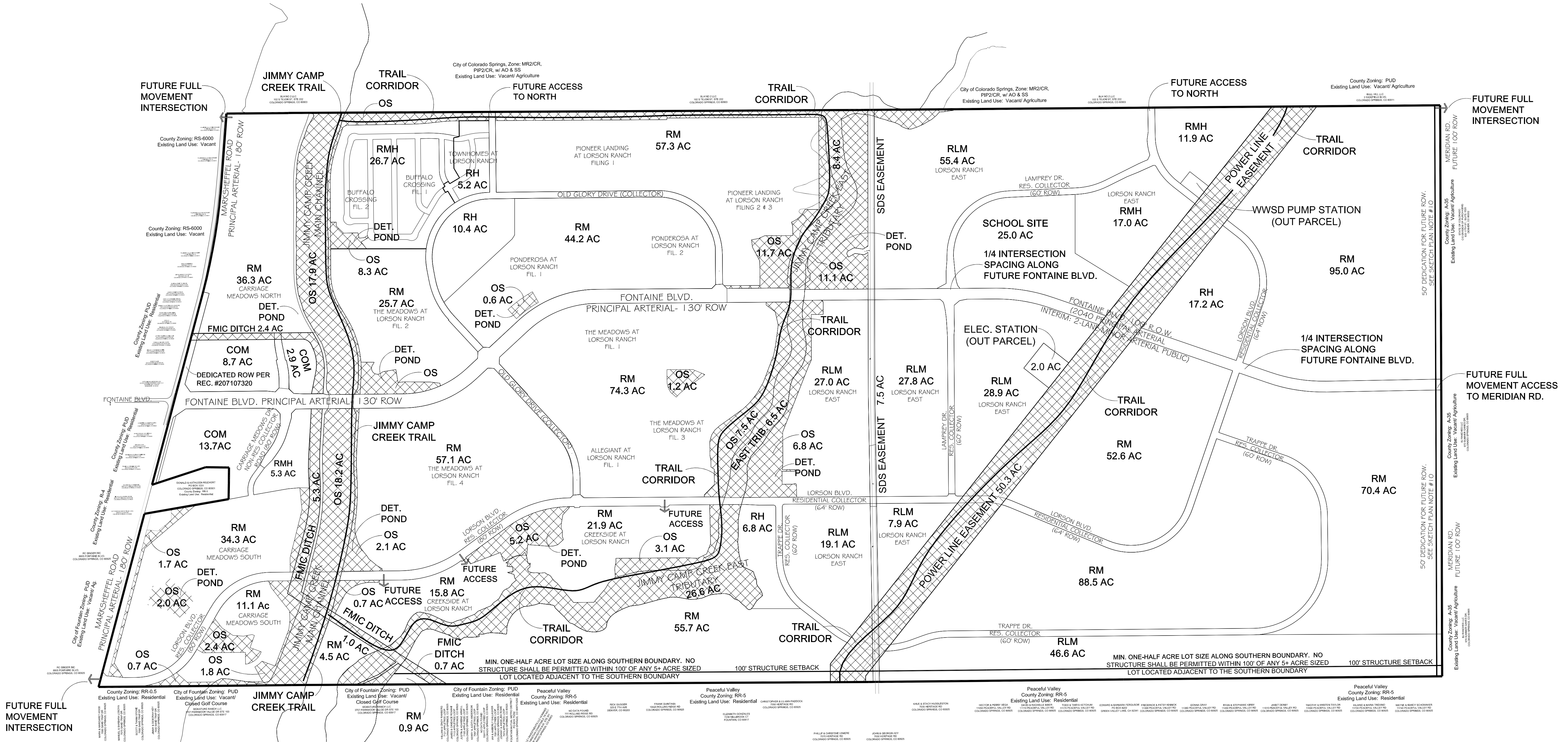
DESIGNED	JRA	01.28.15
DRAWN	JRA	01.28.15
CHECKED	LMT	01.28.15
PROJECT NUMBER:		2816.09
SCALE:		AS NOTED

Lorson Ranch
Colorado Springs, CO
Sketch Plan Amendment



LORSON RANCH

MINOR SKETCH PLAN AMENDMENT



DEVELOPMENT STANDARDS AND GUIDELINES

- RL - LOW RESIDENTIAL WITH A GROSS DENSITY (1-2 DU/AC) FOR RURAL-RESIDENTIAL UNITS.
- RLM - LOW/ MEDIUM RESIDENTIAL WITH A GROSS DENSITY (4-6 DU/AC) FOR SINGLE FAMILY RESIDENTIAL LOTS.
- RM - MEDIUM RESIDENTIAL WITH A GROSS DENSITY (7-10 DU/AC) FOR SINGLE FAMILY RESIDENTIAL LOTS.
- RMH - MEDIUM/ HIGH RESIDENTIAL WITH A GROSS DENSITY (10-13 DU/AC) FOR SINGLE OR MULTI FAMILY RESIDENTIAL LOTS.
- RH - HIGH RESIDENTIAL WITH A GROSS DENSITY (17-20 DU/AC) FOR MULTI-FAMILY RESIDENTIAL UNITS.
- COMM - COMMERCIAL RELATED USES



DSD FILE NO.:

THOMAS THOMAS
 Planning
 Landscape Architecture
 7025 North Taylor
 Colorado Springs, Colorado 80903
 (719) 574-8777

REV #	REVISIONS	DATE	DRAWN	CHECKED	APPROVED
1					
2					
3					
4					
5					
6					

DESIGNED	JRA	01.28.15
DRAWN	JRA	01.28.15
CHECKED	LMT	01.28.15
PROJECT NUMBER:		2816.09
SCALE:		AS NOTED

Lorson Ranch
 Colorado Springs, CO
 Sketch Plan Amendment

**APPENDIX B –
2016 WWSD ANNUAL WATER AND WASTEWATER REPORT, JDS HYDRO**

WIDEFIELD WATER AND SANITATION DISTRICT

37 Widefield Blvd

Security, CO 80911

District Water and Wastewater Report

Annual Update

Date of Update January 1, 2016

Update Author John P. McGinn, PE;

District Engineer for Widefield Water and Sanitation District,
JDS-Hydro Consultants, Inc.

Attachments

- Widefield Water Facilities Map (2 sheets)
- Widefield 2015 Water Quality Consumer Confidence Report
- End of 2015 Year Commitment Balance Sheet

1. Water General

The Widefield Water and Sanitation District's Water System was originally created in the 1960's and has been expanded for nearly 50 years. The system serves approximately 8000 single family equivalent households.

All water supply is based on surface water rights, renewable groundwater, and a mix of various sources. The system does not rely on any non-renewable water sources.

The current Legal Water Supply Holdings of the District are estimated at 9495 annual acre-feet.

The current Developed Physical Supply is 5246 annual acre-feet. The three year running average actual use is 2248 acre-feet which is roughly 43% of the existing available physical supply.

A revised table of active commitments, and completed subdivisions is attached. This table is valid as of January 1, 2016.

2. **Recent Water Volumes Used** The recent three years water use and tap data are as follows;

Year	Annual Use (Acre-feet)	Single Family Equivalent (Taps in SFE)
2013	2318	7632 (corrected)
2014	2309.	7797 (corrected)
2015	2117	8058

3. **Water Supply**

Changes in Water Supply There have been NO RECENT CHANGES in the Widefield Water Supply Inventory in the last 3 years, since the last Full Report. All existing sources have been previously documented on file at County Attorney’s office.

Listing of Water Supplies:

Renewable Groundwater; All sources previously documented at County Attorney’s office

- Widefield Aquifer; Widefield is allocated the use of 2575 annual acre-feet through the Widefield Aquifer Stipulation
- Jimmy Camp Aquifer; Widefield is allocated 650 annual acre-feet through the Widefield Aquifer Stipulation
- Vennetucci Lease: Widefield is perpetually leased an allocation of 596 annual acre-feet through a Public Trust Partnership which provides for funding of the Vennetucci Trust Farm through water revenues on a perpetual basis. This is currently subleased to the City of Fountain through the year 2017.

Surface Water Supplies: Sources documented at County Attorney’s Office

- Widefield owns 1500 annual acre-feet of the Fountain Valley Authority Project which safely yields 1425 annual acre-feet of fully consumable water.
- Widefield has 812 shares of Fountain Mutual Irrigation Water and is the owner/operator of the Crews Gulch Augmentation Station as this supply is used in augmentation or leased out on an annual basis, as it has never been fully needed.

- Widefield owns roughly 1025 annual acre-feet of return flows from CSU's portion of the FVA project. This is used in augmentation, but is mostly leased out annually because demand has not required the need.
- Widefield owns a mix of senior surface water supplies and out-of-priority water supplies that total 1351 annual acre-feet. This is the fully consumable portion and this water is leased out and has not been developed into physical supply.

Potential or intended Future Supplies

Although Widefield does have active cases that are intended to extend supplies, the District does not wish to disclose the volumes or nature of those supplies that are in active acquisition states.

Legal Documentation accompanying new water acquisitions and augmentations plans

None

4. Widefield Water Quality

The water quality provided by the Widefield Water and Sanitation District meets or exceeds all required State and Federal Drinking Water Standards. For a detailed water quality report, please see the Widefield Consumer Confidence Report which is updated annually and accessible at <http://wwsdonline.com/index.php?page=consumer-confidence-report>. A 2015 copy is attached.

5. Widefield Physical Water System

The Widefield System is too large to show all lines and facilities, the attachment shows the major facilities. The Widefield Water System consists of:

Service area of roughly 10 square miles.

Pipelines over 550,000 linear feet varying in size from 4 to 30 inches in diameter

Seven Water Tanks totaling roughly 10.0 Million Gallons

Five Pressure Zones

Three Booster Stations

24 Inch Transmission from FVA

Participation in Pueblo Reservoir and Frying Pan Arkansas Water project

Two Water Treatment Plants

Eleven Active Wells (not including inactive or the Vennetucci System)

6. Major capital improvements accomplished during recent years and anticipated improvements for the upcoming years

- Most Recent Three Years Upgrades to water facilities include the following:
 - Begin Development of West to East Transmission Line: This project includes certain transmission line upgrades which will continue over the next 10 years
 - Replacement of well equipment in three Widefield and Jimmy Camp wells. (No addition to sources)
 - Repair and Rehabilitation of a 2.1 MG Tank
- Expected Upcoming 3 Years Improvements - These are all system-wide capital projects.
 - No additional Sources
 - Phase IV West to East Transmission System
 - Repair and changes to Well C-1
 - Demolition of two older tanks and reconstruction of one tank
 - Relocation of JHW-2 Well
 - Well Manifolding

Wastewater Report Update

1. Wastewater General

The Widefield Water and Sanitation District's Wastewater System was originally created in the 1960's and has been expanded for nearly 50 years. The system serves over 8000 single family equivalent households.

The current hydraulic capacity of the Widefield Wastewater Treatment Plant is 2.50 MGD. *Note—WWTP are rated on the basis of Average daily Maximum Monthly Flow, which differs from Max Day Flow.* There have been no increases to plant capacity since 2001.

The treatment plant discharges to Lower Fountain Creek.

Current 3 year running average loading is 1.43 MGD which is roughly 58% of Plant Capacity.

Current projected use plus active commitments are projected to be roughly 1.69 MGD which represents about 66% of Current Hydraulic Plant Capacity. *Note—WWTP are rated on the basis of Average daily Maximum Monthly Flow, which differs from Max Day Flow.*

2. Actual Wastewater Volumes Treated

The recent three years wastewater plant loads and tap data are as follows:

Year	Average Daily Flow (MGD)	Single Family Equivalent (Taps in SFE)
2013	1.47	7724 (Corrected)
2014	1.44	7885 (Corrected)
2015	1.40	8131

Note; Widefield provided wastewater treatment to Colorado Centre Metropolitan District from late 2011 through mid 2014.

3. Existing Widefield Wastewater System

The Widefield Water System consists of:

Service area of roughly 10 square miles.

Pipelines over 570,000 linear feet varying in size from 8 to 24 inches in diameter

Five Lift Stations

Wastewater Treatment Plant—2.5 MGD Capacity

The existing wastewater plant remains in compliance with CDPHE Discharge Standards.

4. Major capital improvements accomplished during the past year and anticipated improvements for the upcoming year

- Most Recent Three Years: Upgrades to wastewater facilities include the following:

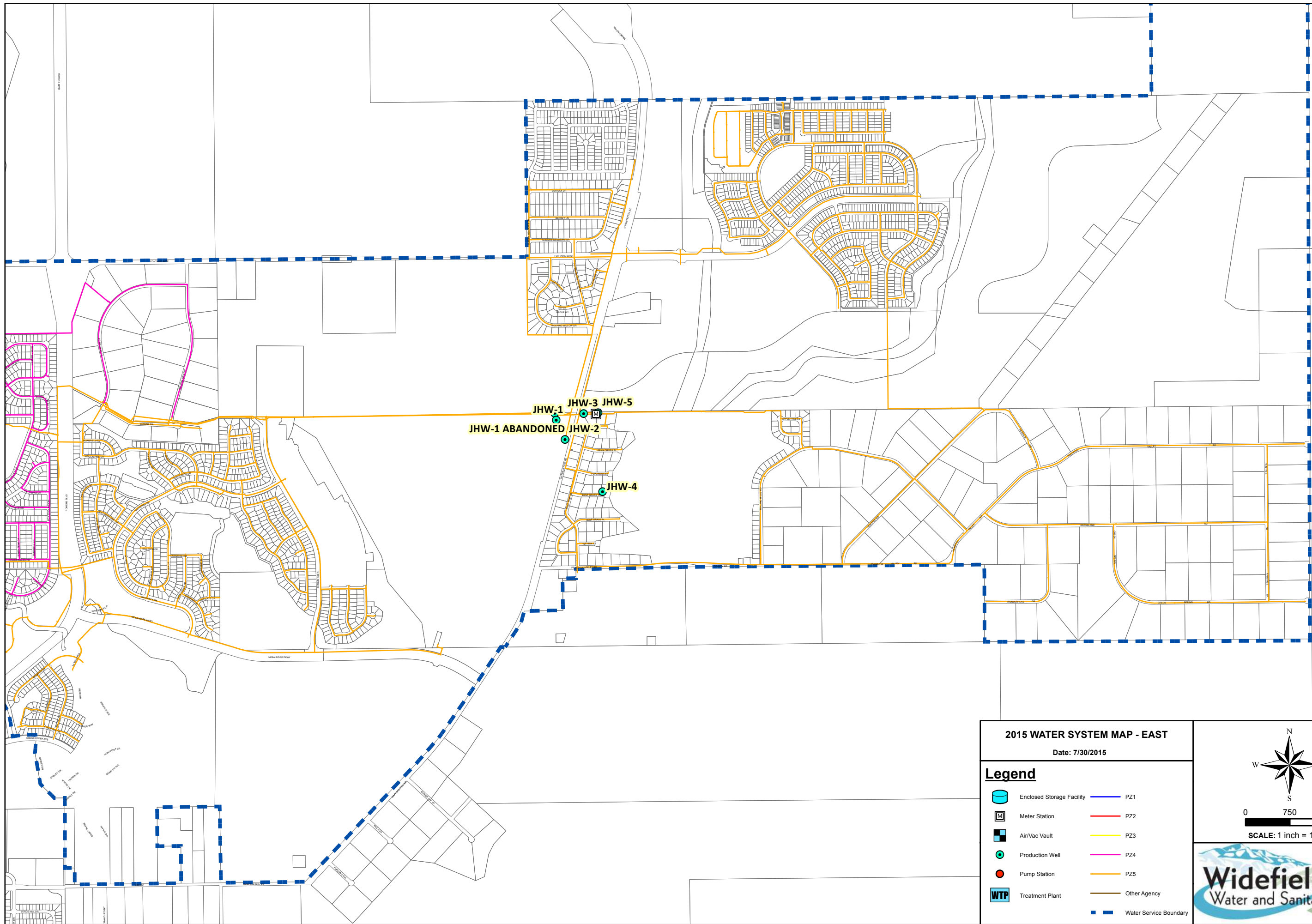
Some replacement of older lines in older areas of the District

- Expected Upcoming Three Years Improvements














Upgrade of Treatment systems to meet future Regulation 85 requirements. This upgrade includes Bio-nutrient Removal required by 2019. This is not expected to include increases in capacity.

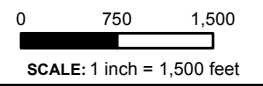
Continued Line replacement of older lines

Upgrades of solids handling



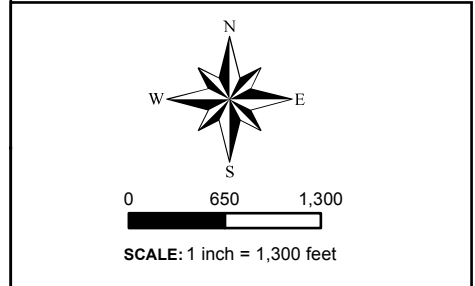
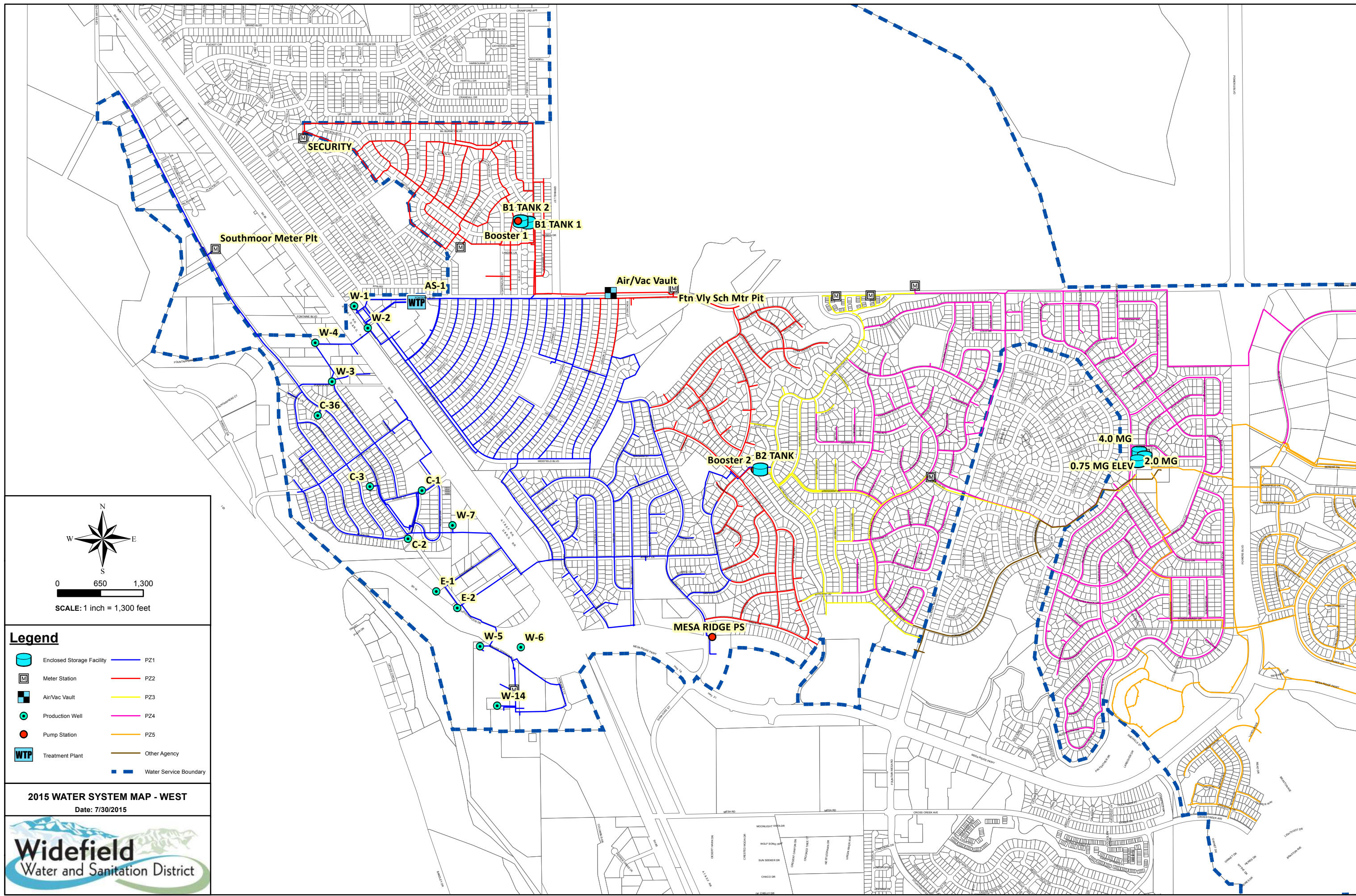
2015 WATER SYSTEM MAP - EAST
Date: 7/30/2015

- Legend**
-  Enclosed Storage Facility
 -  Meter Station
 -  Air/Vac Vault
 -  Production Well
 -  Pump Station
 -  Treatment Plant
 -  PZ1
 -  PZ2
 -  PZ3
 -  PZ4
 -  PZ5
 -  Other Agency
 -  Water Service Boundary



SCALE: 1 inch = 1,500 feet





Legend

	Enclosed Storage Facility		PZ1
	Meter Station		PZ2
	Air/Vac Vault		PZ3
	Production Well		PZ4
	Pump Station		PZ5
	Treatment Plant		Other Agency
			Water Service Boundary

2015 WATER SYSTEM MAP - WEST
 Date: 7/30/2015



WIDEFIELD Water and Sanitation District's 2016 Drinking Water Quality Report For Calendar Year 2015

Public Water System ID: CO0121900

Esta es información importante. Si no la pueden leer, necesitan que alguien se la traduzca.

We are pleased to present you with this year's water quality report. Our constant goal is to provide you with a safe and dependable supply of drinking water. Please contact BRANDON BERNARD at 719-955-0548 with any questions about the Drinking Consumer Confidence Rule (CCR) or for public participation opportunities that may affect the water quality.

General Information

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791) or by visiting <http://water.epa.gov/drink/contaminants>.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV-AIDS or other immune system disorders, some elderly, and infants can be particularly at risk of infections. These people should seek advice about drinking water from their health care providers. For more information about contaminants and potential health effects, or to receive a copy of the U.S. Environmental Protection Agency (EPA) and the U.S. Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and microbiological contaminants call the EPA Safe Drinking Water Hotline at (1-800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- J **Microbial contaminants:** viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- J **Inorganic contaminants:** salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- J **Pesticides and herbicides:** may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses.
- J **Radioactive contaminants:** can be naturally occurring or be the result of oil and gas production and mining activities.
- J **Organic chemical contaminants:** including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and also may come from gas stations, urban storm water runoff, and septic systems.

In order to ensure that tap water is safe to drink, the Colorado Department of Public Health and Environment prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Lead in Drinking Water

If present, elevated levels of lead can cause serious health problems (especially for pregnant women and young children). It is possible that lead levels at your home may be higher than other homes in the community as a result of materials used in your home's plumbing. If you are concerned about lead in your water, you may wish to have your water tested. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. Additional information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

Source Water Assessment and Protection (SWAP)

The Colorado Department of Public Health and Environment has provided us with a Source Water Assessment Report for our water supply. For general information or to obtain a copy of the report please visit <http://wqcdcompliance.com/ccr>. The report is located under "Source Water Assessment Reports", and then "Assessment Report by County". Select EL PASO County and find 121900; WIDEFIELD WSD or by contacting BRANDON BERNARD at 719-955-0548. The Source Water Assessment Report provides a screening-level evaluation of potential contamination that **could** occur. It **does not** mean that the contamination **has or will** occur. We can use this information to evaluate the need to improve our current water treatment capabilities and prepare for future contamination threats. This can help us ensure that quality finished water is delivered to your homes. In addition, the source water assessment results provide a starting point for developing a source water protection plan. Potential sources of contamination in our source water area are listed on the next page.

Please contact us to learn more about what you can do to help protect your drinking water sources, any questions about the Drinking Water Consumer Confidence Report, to learn more about our system, or to attend scheduled public meetings. We want you, our valued customers, to be informed about the services we provide and the quality water we deliver to you every day.

Our Water Sources

<u>Source</u>	<u>Source Type</u>	<u>Water Type</u>	<u>Potential Source(s) of Contamination</u>
W4 WELL	Well	Groundwater	Environment, Industry
W2 WELL	Well	Groundwater	Environment, Industry
W3 WELL	Well	Groundwater	Environment, Industry
WELL C1	Well	Groundwater	Environment, Industry
W7 WELL	Well	Groundwater	Environment, Industry
WELL E2	Well	Groundwater	Environment, Industry
WELL C3	Well	Groundwater	Environment, Industry
WELL C36	Well	Groundwater	Environment, Industry

JHW5R WELL	Well	Groundwater	Environment, Prairie
JHW4R WELL	Well	Groundwater	Environment, Prairie
W1 WELL	Well	Groundwater	Environment, Industry
PURCHASED FOUNTAIN VALLEY 121300 SW	Consecutive Connection	Surface Water	Soil runoff, erosion of natural deposits.

Terms and Abbreviations

- J **Maximum Contaminant Level (MCL)** – The highest level of a contaminant allowed in drinking water.
- J **Treatment Technique (TT)** – A required process intended to reduce the level of a contaminant in drinking water.
- J **Action Level (AL)** – The concentration of a contaminant which, if exceeded, triggers treatment and other regulatory requirements.
- J **Maximum Residual Disinfectant Level (MRDL)** – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- J **Maximum Contaminant Level Goal (MCLG)** – The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- J **Maximum Residual Disinfectant Level Goal (MRDLG)** – The level of a drinking water disinfectant, below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- J **Violation (No Abbreviation)** – Failure to meet a Colorado Primary Drinking Water Regulation.
- J **Formal Enforcement Action (No Abbreviation)** – Escalated action taken by the State (due to the risk to public health, or number or severity of violations) to bring a non-compliant water system back into compliance.
- J **Variance and Exemptions (V/E)** – Department permission not to meet a MCL or treatment technique under certain conditions.
- J **Gross Alpha (No Abbreviation)** – Gross alpha particle activity compliance value. It includes radium-226, but excludes radon 222, and uranium.
- J **Picocuries per liter (pCi/L)** – Measure of the radioactivity in water.
- J **Nephelometric Turbidity Unit (NTU)** – Measure of the clarity or cloudiness of water. Turbidity in excess of 5 NTU is just noticeable to the typical person.
- J **Compliance Value (No Abbreviation)** – Single or calculated value used to determine if regulatory contaminant level (e.g. MCL) is met. Examples of calculated values are the 90th Percentile, Running Annual Average (RAA) and Locational Running Annual Average (LRAA).
- J **Average (x-bar)** – Typical value.
- J **Range (R)** – Lowest value to the highest value.
- J **Sample Size (n)** – Number or count of values (i.e. number of water samples collected).
- J **Parts per million = Milligrams per liter (ppm = mg/L)** – One part per million corresponds to one minute in two years or a single penny in \$10,000.
- J **Parts per billion = Micrograms per liter (ppb = ug/L)** – One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
- J **Not Applicable (N/A)** – Does not apply or not available.



Detected Contaminants

WIDEFIELD Water and Sanitation District routinely monitors for contaminants in your drinking water according to Federal and State laws. The following table(s) show all detections found in the period of January 1 to December 31, 2015 unless otherwise noted. The State of Colorado requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. Therefore, some of our data, though representative, may be more than one year old. Violations and Formal Enforcement Actions, if any, are reported in the next section of this report.

Note: Only detected contaminants sampled within the last 5 years appear in this report. If no tables appear in this section then no contaminants were detected in the last round of monitoring.

Lead and Copper Sampled in the Distribution System								
Contaminant Name	Time Period	90 th Percentile	Sample Size	Unit of Measure	90 th Percentile AL	Sample Sites Above AL	90 th Percentile AL Exceedance	Typical Sources
Copper	08/05/2014 to 08/21/2014	0.32	30	ppm	1.3	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	08/05/2014 to 08/21/2014	5	30	ppb	15	1	No	Corrosion of household plumbing systems; Erosion of natural deposits

Disinfection Byproducts Sampled in the Distribution System										
Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	Highest Compliance Value	MCL Violation	Typical Sources
Total Haloacetic Acids (HAA5)	2015	11.66	1.6 to 29.3	16	ppb	60	N/A	29.3	No	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM)	2015	30.72	6.27 to 61.4	16	ppb	80	N/A	61.4	No	Byproduct of drinking water disinfection

Radionuclides Sampled at the Entry Point to the Distribution System									
Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
Gross Alpha	2014	1.31	0 to 2.63	2	pCi/L	15	0	No	Erosion of natural deposits
Combined Radium	2014	0.05	0 to 0.1	2	pCi/L	5	0	No	Erosion of natural deposits
Combined Uranium	2014	12.5	11 to 14	2	ppb	30	0	No	Erosion of natural deposits

Inorganic Contaminants Sampled at the Entry Point to the Distribution System

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
Barium	2015	0.08	0.05 to 0.1	4	ppm	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	2015	1.05	0.66 to 1.5	4	ppm	4	4	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate	2015	5.27	0.76 to 7.8	10	ppm	10	10	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Nitrate: *Nitrate in drinking water at levels above 10 ppm* is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

Volatile Organic Contaminants Sampled at the Entry Point to the Distribution System

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
Tetrachloroethylene	2015	0.5	0 to 1.5	10	ppb	5	0	No	Discharge from factories and dry cleaners

Secondary Contaminants**

**Secondary standards are non-enforceable guidelines for contaminants that may cause cosmetic effects (such as skin, or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water.

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	Secondary Standard
Total Dissolved Solids	2014	1105	1100 to 1110	2	ppm	500

Unregulated Contaminants***

EPA has implemented the Unregulated Contaminant Monitoring Rule (UCMR) to collect data for contaminants that are suspected to be present in drinking water and do not have health-based standards set under the Safe Drinking Water Act. EPA uses the results of UCMR monitoring to learn about the occurrence of unregulated contaminants in drinking water and to decide whether or not these contaminants will be regulated in the future. We performed monitoring and reported the analytical results of the monitoring to EPA in accordance with its Third Unregulated Contaminant Monitoring Rule (UCMR3). Once EPA reviews the submitted results, the results are made available in the EPA's National Contaminant Occurrence Database (NCOD) (<http://www.epa.gov/dwucmr/national-contaminant-occurrence-database-ncod>) Consumers can review UCMR results by accessing the NCOD. Contaminants that were detected during our UCMR3 sampling and the corresponding analytical results are provided below.

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure
1,4-Dioxane	2014-2015	0.059	0.07-0.13	17	ppb
Chlorate	2014-2015	45	25-390	49	ppb
Chromium	2014-2015	0.19	0.2-1.1	49	ppb
Hexavalent Chromium (Dissolved)	2014-2015	0.14	0.032-0.62	53	ppb
Molybdenum	2014-2015	3.5	1.3-6.0	49	ppb
PFOS	2014-2015	0.033	0.042-0.21	18	ppb
PFHxS	2014-2015	0.098	0.046-0.33	18	ppb
PFHpA	2014-2015	0.0096	0.011-0.024	18	ppb
PFOA	2014-2015	0.017	0.021-0.048	18	ppb
Strontium	2014-2015	447	300-570	49	ppb

Unregulated Contaminants***

EPA has implemented the Unregulated Contaminant Monitoring Rule (UCMR) to collect data for contaminants that are suspected to be present in drinking water and do not have health-based standards set under the Safe Drinking Water Act. EPA uses the results of UCMR monitoring to learn about the occurrence of unregulated contaminants in drinking water and to decide whether or not these contaminants will be regulated in the future. We performed monitoring and reported the analytical results of the monitoring to EPA in accordance with its Third Unregulated Contaminant Monitoring Rule (UCMR3). Once EPA reviews the submitted results, the results are made available in the EPA's National Contaminant Occurrence Database (NCOD) (<http://www.epa.gov/dwucmr/national-contaminant-occurrence-database-ncod>) Consumers can review UCMR results by accessing the NCOD. Contaminants that were detected during our UCMR3 sampling and the corresponding analytical results are provided below.

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure
Vanadium	2014- 2015	0.45	0.2-0.96	49	ppb

***More information about the contaminants that were included in UCMR3 monitoring can be found at: <http://www.drinktap.org/water-info/whats-in-my-water/unregulated-contaminant-monitoring-rule.aspx>. Learn more about the EPA UCMR at: <http://www.epa.gov/dwucmr/learn-about-unregulated-contaminant-monitoring-rule> or contact the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/contact.cfm>.



Violations, Significant Deficiencies, and Formal Enforcement Actions

No Violations or Formal Enforcement Actions



Fountain Valley Authority (PWSID # CO0121300)
2016 Water Quality Report Information for:
City of Fountain (PWSID # CO0121275)
Colorado Springs Utilities (PWSID # CO0121150)
Security Water District (PWSID # CO0121775)
Stratmoor Hills Water District (PWSID # CO0121800)
Widefield Water District (PWSID # CO0121900)

WATER SOURCE INFORMATION

Fountain Valley Authority treats surface water received from the Fryingpan-Arkansas Project. The Fryingpan-Arkansas Project is a system of pipes and tunnels that collects water in the Hunter-Fryingpan Wilderness Area near Aspen. Waters collected from the system are diverted to the Arkansas River, near Buena Vista, and then flow approximately 150 miles downstream to Pueblo Reservoir. From Pueblo Reservoir, the water travels through a pipeline to the water treatment plant.

STATE SOURCE WATER ASSESSMENT

The **Colorado Source Water Assessment and Protection (SWAP)** program is a preventative approach to protecting public drinking water supplies. The Colorado Department of Public Health & Environment (CDPHE) provided us with a Water Assessment Report for our water source.

Potential sources of contamination to our source water area:

- EPA Superfund Sites
- EPA Abandoned Contaminated Sites
- EPA Hazardous Waste Generators
- EPA Chemical Inventory/Storage Sites
- EPA Toxic Release Inventory Sites
- Permitted Wastewater Discharge Sites
- Aboveground, Underground and Leaking Storage Tank Sites
- Solid Waste Sites
- Existing/Abandoned Mine Sites
- Concentrated Animal Feeding Operations
- Other Facilities
- Commercial/Industrial Transportation
- High and Low Intensity Residential
- Urban Recreational Grasses
- Quarries/Strip Mines/Gravel Pits
- Agricultural land (row crops, small grain, pasture/hay, orchards/vineyards, fallow & other)
- Forest
- Septic Systems
- Oil/Gas Wells
- Road Miles

Fountain Valley Authority is dedicated to protecting our source water and ensuring quality treated water is delivered to our customers. The results of the source water assessment are not a reflection of our treated water quality received at the system connections, but rather a rating of the susceptibility of contamination under the guidelines of the Colorado SWAP program.

For source water assessment information or to download a complete report, visit the CDPHE's website at <https://www.colorado.gov/pacific/cdphe/source-water-assessment-and-protection-swap>. The report is located under "Source Water Assessment Reports by County".

POSSIBLE WATER CONTAMINANTS

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides that may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and also may come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, that can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The US Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

FLUORIDE INFORMATION

Fluoride is a compound found naturally in many places, including soil, food, plants, animals and the human body. It is also found naturally in Fountain Valley Authority's water source. Fountain Valley Authority does not add additional fluoride to the treated water. Any fluoride in the treated water results from what occurs naturally in the source water.

LEAD INFORMATION

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Fountain Valley Authority is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When water has been sitting for several hours, minimize the potential for lead exposure by flushing the tap for 30 seconds to 2 minutes before using the water for drinking or cooking. If there is a concern about lead in the water, the water may be tested. Information on lead in drinking water, testing methods, and steps to take to minimize exposure is available from the EPA Safe Drinking Water Hotline at 1-800-426-4791 or visit www.epa.gov.

MICROBIOLOGICAL INFORMATION

Fountain Valley Authority performs a Microscopic Particulate Analysis (MPA) at its treatment plant. The MPA determines particulate removal, expressed as a log reduction, between the source water entering the filters and the treated water exiting the filters. For 2015, the log reduction for Fountain Valley Authority was 4.5, which can be equivalently expressed as 100%.

Cryptosporidium is a microbial pathogen found in surface water throughout the United States. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. No cryptosporidia were detected in the treated water distributed from our water treatment plant. Current test methods do not allow us to determine if the organisms found in the source water are dead or if they are capable of causing disease. Ingestion of cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immunocompromised people are at greater risk of developing the life-threatening illness. We encourage immunocompromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

VULNERABLE POPULATIONS ADVISORY

Some individuals may be more vulnerable to contaminants in drinking water than the public in general. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV-AIDS or other immune system disorders, some elderly, and infants can be particularly at risk of infections. These people should seek advice about drinking water from their health care providers. For more information about contaminants and potential health effects, or to receive a copy of the EPA and Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and microbiological contaminants, call the EPA Safe Drinking Water Hotline at 1-800-426-4791 or visit www.epa.gov.

WANT MORE INFORMATION

For questions concerning this report, please call (719) 668-4560.

DEFINITIONS

- ❖ Maximum Contaminant Level (MCL): The “maximum allowed” is the highest level of a contaminant that is allowed in drinking water. The MCL is set as close to the MCLG as feasible using the best available treatment technology.
- ❖ Maximum Contaminant Level Goal (MCLG): The “goal” is the level of a contaminant in drinking water, below which there is no known or expected risk to health. The MCLG allows for a margin of safety.
- ❖ N/A: Not applicable
- ❖ Nephelometric Turbidity Unit (NTU): Nephelometric turbidity unit is a measure of the clarity of water. Turbidity (cloudiness) in excess of five NTU is just visible to the average person.
- ❖ Parts per billion (ppb) or micrograms per liter ($\mu\text{g/L}$): One part per billion corresponds to one minute in 2,000 years or one penny in \$10,000,000.
- ❖ Parts per million (ppm) or milligrams per liter (mg/L): One part per million corresponds to one minute in two years or one penny in \$10,000.
- ❖ Picocuries per liter (pCi/L): A measure of radioactivity in water.
- ❖ Running Annual Average (RAA): Based on the monitoring requirements, the average of 12 consecutive monthly averages or the average of 4 consecutive quarter averages.
- ❖ Treatment Technique (TT): A treatment technique is a required process intended to reduce the level of a contaminant in drinking water to comply with regulations.
- ❖ Waiver: State permission not to test for a specific contaminant.

TABLE OF DETECTED CONTAMINANTS

Fountain Valley Authority is required to monitor for certain contaminants less than once a year because the concentration of the contaminants are not expected to vary significantly from year to year, or the drinking water system is not considered vulnerable to this type of contamination. Some of the data, though representative, may be more than one year old.

Fountain Valley Authority has been issued waivers for asbestos, cyanide, dioxin, glyphosate, nitrite and all unregulated inorganic contaminants. The table on the following page shows the results of our monitoring for the period of January 1 through December 31, 2015, unless otherwise noted.

Detected Contaminants Table

Fountain Valley Authority (PWSID CO0121300)

Monitored at the Treatment Plant (entry point to the transmission system)

Contaminant	MCL	MCLG	Units	Level Detected	MCL Violation	Sample Dates	Possible Source(s) of Contamination
Barium	2	2	ppm	0.0580	No	April 2015	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium	100	100	ppb	1.1	No	April 2015	Discharge from steel and pulp mines; Erosion of natural deposits
Fluoride	4	4	ppm	0.43	No	April 2015	Erosion of natural deposits; discharge from fertilizer and aluminum factories
Nickel	N/A	N/A	ppb	1.0	N/A	April 2015	Erosion of natural deposits; discharge from industries; discharge from refineries and steel mills
Nitrate (as Nitrogen)	10	10	ppm	0.33	No	April 2015	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Radium, Combined 226, 228	5	0	pCi/L	0.1	No	Mar 2011	Erosion of natural deposits
Selenium	50	50	ppb	3.9	No	April 2015	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sodium	N/A	N/A	ppm	15.5	No	April 2015	Erosion of natural deposits
Thallium	2	0.5	ppb	0.2	No	April 2015	Leaching from ore processing sites; discharge from electronics, glass and drug factories
Total Organic Carbon (TOC)¹	TT	N/A	N/A	N/A	No	Running Annual Average	Naturally present in the environment
Turbidity²	TT ≤0.3 in 95% of monthly samples	N/A	NTU	Highest turbidity 0.33 (Mar 2015) 100% of samples ≤0.3	No	Jan – Dec 2015	Soil Runoff
Uranium	30	0	ppb	1.1	No	Mar 2011	Erosion of natural deposits

¹The Disinfectants and Disinfection Byproducts Rule provides several alternative compliance criteria besides the TOC removal ratios. We did not report TOC removal ratios because we demonstrated compliance with alternative criteria. The alternative compliance criteria that we use is 40CFR §141.135(a)(2)(ii); our treated water TOC levels are <2.0ppm calculated quarterly as a running annual average.

²Turbidity is a measure of the cloudiness of the water and has no known health effects. We monitor turbidity because it is a good indicator of the effectiveness of our filtration system. Compliance with the TT of 95% of samples ≤0.3NTU is calculated using combined filter effluent turbidity results taken 6 times per day at 1:00, 5:00 and 9:00 a.m. and p.m.

Long Term 2 Enhanced Surface Water Treatment Rule Monitoring

Monitored raw source water right before it enters the Treatment Plant

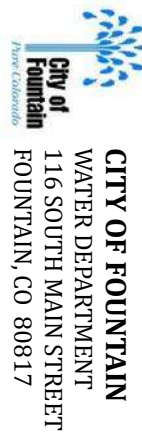
Contaminant	MCL	MCLG	Units	Level Detected Range	MCL Violation	Sample Dates	Possible Source(s) of Contamination
Turbidity	N/A	N/A	NTU	1.1 - 50	N/A	Apr. – Dec. 2015	Soil Runoff

CITY OF FOUNTAIN 2016 DRINKING WATER QUALITY REPORT

(WATER TESTING PERFORMED IN 2015)



CONSUMER CONFIDENCE
REPORT
PUBLIC WATER SYSTEM
ID# CO0121275



Fountain is pleased to present to you its 2016 Drinking Water Quality/Consumer Confidence Report (CCR) for Calendar Year 2015. In 2015, Fountain's Water Department distributed 826,433,000 gallons of water to our customers. The City of Fountain's Water Department works around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources. To better keep our community informed, we encourage and welcome you to attend Fountain's City Council Meetings held on the 2nd and 4th Tuesday of each month, at 6:00 p.m., in Fountain's Council Chambers, located at City Hall, 116 South Main Street. If you would like more information concerning this CCR report or for public participation opportunities that may affect the water quality, please contact the City of Fountain's Water Department (Ron Woolsey at 719-322-2071 or Nick Zaiger at 719-322-2073) or write to: City of Fountain Water Department, 116 South Main Street, Fountain, CO 80817 or visit the City of Fountain Water Department's website located at: www.fountaincolorado.org/department/?fDD=17-0 for more information related specifically to our water quality. **Español (Spanish)** Esta es información importante. Si no la pueden leer, necesitan que alguien se la traduzca.

Vulnerable Populations Advisory:

Some individuals may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV-AIDS or other immune system disorders, some elderly, and infants can be particularly at risk of infections. These people should seek advice about drinking water from their health care providers. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. For more information about contaminants and potential health effects, or to receive a copy of the EPA and CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and microbiological contaminants, you may call the EPA Safe Drinking Water Hotline at 1-800-426-4791 or you can visit their website at <http://water.epa.gov/drink/contaminants> or at www.epa.gov for additional EPA resources.

Lead Information:

If present, elevated levels of lead can cause serious health problems (especially for pregnant women and young children). It is possible that lead levels at your home may be higher than other homes in the community as a result of materials used in your home's plumbing. If you are concerned about lead in your water, you may wish to have your water tested. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. Additional information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or on their website at: <http://www.epa.gov/safewater/lead>.

Sources of Drinking Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presences of animals or from human activity. In order to ensure tap water is safe to drink, the Colorado Department of Public Health & Environment prescribes regulations, limiting the amount of certain contaminants in water provided by public water systems. The Food & Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health. Contaminants that may be present in source water include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.

2015 Monitoring Results for City of Fountain

The table below displays the levels of contaminants detected from water samples taken throughout the 2015 calendar year from the City of Fountain's (COF) four (4) of five (5) well sites. This table also reflects Fountain Valley (FVA) Authority's (PWSID #CO0121300) test results for 2015 as the City of Fountain purchases 70% of its drinking water from Fountain Valley Authority (FVA). If you have any questions regarding FVA's results, please call (719) 668-4403. The City of Fountain joined with Security Water District and Widefield Water & Sanitation District on a water exchange joint project; therefore, Security and Widefield's CCR information has also been included. If you would like a complete copy of their CCR, you are welcome to contact them directly at: Security Water District (PWSID #CO0121775) at (719) 392-3475; or Widefield Water & Sanitation District (PWSID #CO0121900) at (719) 955-0548. If you would like to view all test results for the City of Fountain's Water Department, they are available at 301 East Iowa Avenue, Fountain, CO during normal business hours, 8:00 a.m. to 4:30 p.m., Monday thru Friday with the exception of holidays and weekends. NOTE: Only detected contaminants sampled within the last 5 years appear in this report. If no tables appear in this section, that means the City of Fountain did not detect any contaminants in the last round of monitoring.

INORGANIC CONTAMINANTS (Sampled at the Entry Point to the Distribution System)	Unit	Date	Average	MCLG	MCL	Sample Size	COF Range Low to High	Security Range Low to High	FVA Range Low to High	Widefield Range Low to High	Violation (Yes/No)	Typical Source
BARIUM	ppm	2014 – 2015	0.04 – 0.05	2	2	4	0.04 to 0.05	0.07 to 0.12	0.0580	0.05 to 0.1	NO	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
CHROMIUM	ppb	2014 – 2015	0.9 – 1.4	100	100	4	0 to 1.4	1 – 1.1	1.1	N/A	NO	Discharge from steel and pulp mills; erosion of natural deposits.
FLUORIDE	ppm	2014 – 2015	0.43 – 1.83	4	4	4	1.6 – 2	1.2 – 2	0.43	0.66 – 1.5	NO	Erosion of natural deposits; Water additive to promote strong teeth; Discharge from fertilizer and aluminum factories.
NICKEL	ppb	2015	1.0	N/A	N/A	N/A	N/A	N/A	1.0	N/A	NO	Erosion of natural deposits; discharge from industries, refineries and steel mills.
NITRATE	ppm	2015	0.33 – 1.41	10	10	7	0.7 – 2.4	3.8 – 7.9	0.33	0.76 – 7.8	NO	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
NITRATE-NITRITE	ppm	2015	4.65	10	10	2	N/A	4.5 – 4.8	N/A	N/A	NO	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
SELENIUM	ppb	2014 – 2015	5.88	50	50	4	3.1 – 8.4	2.8 – 3.9	3.9	N/A	NO	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.
SODIUM	ppm	2015	15.5	N/A	N/A	N/A	N/A	N/A	15.5	N/A	NO	Erosion of natural deposits.
THALLIUM	ppb	2015	0.2	0.5	2	N/A	N/A	N/A	0.2	N/A	NO	Leaching from one processing sites; discharge from electronics, glass and drug factories.
TETRACHLOROETHYLENE	ppb	2015	0.5 – 1.5	0	5	72	N/A	0 – 1.5	N/A	0 – 1.5	NO	Discharge from factories and dry cleaners.
TRICHLOROETHYLENE	ppb	2015	0.03	0	5	72	N/A	0 – 0.6	N/A	N/A	NO	Discharge from metal degreasing sites and other factories.
RADIONUCLIDES (Sampled at the Entry Point to the Distribution System)	Unit	Date	Average	MCL	MCLG	Sample Size	COF Range Low to High	Security Range Low to High	FVA Range Low to High	Widefield Range Low to High	Violation (Yes/No)	Typical Source
GROSS ALPHA	pCi/L	2014	4.28	15	0	4	2.8 – 7.8	0 – 6.7	N/A	0 – 2.63	NO	Erosion of natural deposits.
RADIUM, COMBINED (226, 228)	pCi/L	2012	0.99	5	0	4	0.62 – 1.38	0.24 – 2.9	0.1	0 – 0.1	NO	Erosion of natural deposits.
URANIUM – COMBINED	ppb	2014	5.7	30	0	4	2.6 – 7.2	3.1 – 15	1.1	11 – 14	NO	Erosion of natural deposits.
GROSS BETA PARTICLE ACTIVITY*	pCi/L*	2011	5.85	50	0	4	4.4 – 8.7	5.8 – 5.8	N/A	N/A	NO	Decay of natural and man-made deposits. Erosion of natural deposits. *The MCL for Gross Beta Particle Activity is 4 mrem/year. Since there is no simple conversion between mrem/year and pCi/L EPA considers 50 pCi/L to be the level of concern for Gross Beta Particle Activity.
DISINFECTION BY-PRODUCTS (Sampled in the Distribution System)	Unit	Date	MCL EPA'S Limits	AVERAGE		Samples Size	COF Range Low to High	Security Range Low to High	FVA Range Low to High	Widefield Range Low to High	Violation (Yes/No)	Typical Source
TOTAL HALOACETIC ACIDS (HAA5)	ppb	2015	60	37.01		21	3.9 – 86	0 – 65	N/A	1.6 – 29.3	NO	By-product of drinking water disinfection.
TOTAL TRIHALOMETHANES (TTHM)	ppb	2015	80	50.43		21	19.5 – 91.2	7 – 75.8	N/A	6.27 – 61.4	NO	By-product of drinking water disinfection.
LEAD & COPPER (Sampled in the Distribution System)	Unit	Date	90th Percentile AL Exceedance		Sample Size	Sample Sites Above AL	COF 90th Percentile AL	Security 90th Percentile	FVA 90th Percentile	Widefield 90th Percentile	Violation (Yes/No)	Typical Source
COPPER	ppm	2013 – 2014	1.3		30	1	0.49	0.56	N/A	0.32	NO	Corrosion of household plumbing systems; erosion of natural deposits.
LEAD	ppb	2013 - 2014	15		30	3	14	1.4	N/A	5	NO	Corrosion of household plumbing systems; erosion of natural deposits.

DETECTED CONTAMINANTS: The State of Colorado requires all water distributors to list any detected contaminants that appear; reason of detected contaminants; and, corrective measures taken to prevent from reoccurring. The following water providers were given the notification of the State's findings regarding any and all violations, if any, with the results listed below:

- THE CITY OF FOUNTAIN HAD NO (0) VIOLATIONS FOR 2015 WATER TESTING PERIOD.
- FOUNTAIN VALLEY AUTHORITY HAD NO (0) VIOLATIONS FOR 2015 WATER TESTING PERIOD.
- SECURITY WATER DISTRICT HAD NO (0) VIOLATIONS FOR 2015 WATER TESTING PERIOD.
- WIDEFIELD WATER DISTRICT HAD NO (0) VIOLATIONS FOR 2015 WATER TESTING PERIOD.

ADDITIONAL HEALTH INFORMATION:

FLUORIDE: Fluoride is a compound found naturally in many places including soil, food, plants, animals and the human body. It is also found naturally in Fountain Valley Authority's water source. The City of Fountain and Fountain Valley Authority do not add additional fluoride to your drinking water. Any fluoride in the drinking water results from what occurs naturally in the source water. At low levels, fluoride can help prevent cavities, but children under nine years old drinking water containing more than 2 milligrams per liter (mg/L) of fluoride may develop cosmetic discoloration and/or pitting of their permanent teeth (Dental Fluorosis). This problem occurs only in developing teeth, before they erupt from the gums. Children under nine years of age should be provided with alternative sources of drinking water or water that has been treated to remove the fluoride to avoid the possibility of staining and pitting of their permanent teeth. You may also want to contact your dentist about proper use by young children of fluoride-containing products. Older children and adults may safely drink the water. Drinking water containing more than 4 mg/L of fluoride can increase your risk of developing bone disease. Your drinking water does not contain more than 4 mg/L of fluoride, but we're required to notify you when we discover that the fluoride levels in your drinking water exceed 2 mg/L because of this cosmetic dental problem. Some home water treatment units are also available to remove fluoride from drinking water. To learn more about available home water treatment units, you may call NSF International at 1-877-8-NSF-HELP.

NITRATE:

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

CITY OF FOUNTAIN'S WATER SOURCES

SOURCE	SOURCE TYPE	WATER TYPE	LOCATION
Goldfield CC – Received from Widefield	Consecutive Connection	Surface Water	N/A
Mesa Ridge CC – Received from Widefield	Consecutive Connection	Surface Water	N/A
Purchased FVA 121300 SW Pueblo Reservoir via Pipeline	Consecutive Connection	Surface Water	Ray Nixon Road
Rice Lane CC – Received from Security	Consecutive Connection	Surface Water	N/A
Well No. 1 North Park Well	Well	Groundwater	North end of Park; 507 El Paso St.
Well No. 2 South Park Well	Well	Groundwater	South end of Park; 213 W. Alabama
Well No. 3 Shop Well	Well	Groundwater	South Main St. & Missouri Ave.; 120 E. Missouri Ave.
Well No. 4 Dale Street	Well	Groundwater	Corner of Dale St./Linda Vista: 625 Dale St.

The City of Fountain routinely monitors for contaminants in your drinking water according to Federal and State laws. The table(s) show detections found in the period of January 1 through December 31, 2015 unless otherwise noted. The State of Colorado requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. Therefore, some of our data, though representative, may be more than one year old. Violations and Formal Enforcement Actions, if any, are reported in the next section of this report. **Note:** Only detected contaminants sampled within the last 5 years appear in this report. If no tables appear in this section then no contaminants were detected in the last round of monitoring.

Fountain's Water Sources

The City of Fountain purchases 70% of its water from the Frypan-Arkansas Project via Pueblo Reservoir through a system of pipes and tunnels that collects water in the Hunter-Frypan Wilderness area near Aspen. Water collected from the system is diverted to the Arkansas River, near Buena Vista, and then flows approximately 150 miles downstream to Pueblo Reservoir. From Pueblo Reservoir, the water travels through a pipeline to the water treatment facility where it is treated by Fountain Valley Authority and then sent via pipeline to Fountain's water storage tanks. 30% of Fountain's water comes from the City's four (4) of five (5) groundwater wells, which draw from the Fountain Creek Alluvium. Our purchased pretreated surface water comes from Fountain Valley Authority (FVA - PWSID #CO0121300), and they are required to attach/include water quality data in this report. The City also occasionally purchases additional water during peak water demands from Security and Widefield Water Districts; therefore, their testing results is also included in this report. The City's five (5) well water sources come specifically from: Well No. 1 (North Park Well) is groundwater; Well No. 2 (South Park Well) is groundwater; Well No. 3 (Shop Well) is groundwater; Well No. 4 (Dale Street) is groundwater; and, Well No. 5 is inactivated. In order to ensure that the tap water is safe to drink, the Colorado Department of Public Health & Environment prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. The Food & Drug Administration regulations establish limits for contaminants in order to provide the same protection for public health. All water systems must complete a Source Water Assessment Plan (SWAP). The SWAP provides a screening level evaluation of potential contamination that could occur, **which does not mean that the contamination has or will occur.** Your water is treated using disinfection and filtration to remove or reduce harmful contaminants that may come from our water source. The Source Water Assessment Plan (SWAP) indicates the potential sources of contamination in our source water area to include: aboveground, underground and leaking storage tank sites; exiting/abandoned mine sites; facilities; commercial/ industrial/transportation; high intensity residential; low intensity residential; urban recreational grasses; row crops; pasture/hay; septic systems and road miles. If you would like a copy of the SWAP Report, please visit: <http://wgcdcompliance.com/ccr> clicking on El Paso County and selecting website #121275 for the City of Fountain.

Definitions:

- Maximum Contaminant Level (MCL):** The "maximum allowed" is the highest level of a contaminant that is allowed in drinking water. The MCL is set as close to the MCLG as feasible using the best available treatment technology.
- Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- Action Level (AL):** The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements.
- Maximum Residual Disinfectant Level Goal (MRDLG):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- Average (x-bar):** Typical value.
- Range (R):** The lowest value to the highest value.
- Sample Size (n):** Number or count of values (i.e., number of water samples collected).
- Nephelometric Turbidity Units (NTU):** Measure of the clarity or cloudiness of water. Turbidity in excess of 5 NTU is just noticeable to the typical person.
- Running Annual Average (RAA):** an average of monitoring results for the previous 12 calendar months.
- Picocuries per liter (pCi/L):** Measure of the radioactivity in water.
- Violation (No Abbreviation):** Failure to meet a Colorado Primary Drinking Water Regulation.
- Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

- Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant, below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- Not Applicable (N/A):** Does not apply.
- Parts per Million = Milligrams per liter (ppm – mg/L):** One part per million corresponds to one minute in two years or a single penny in \$10,000.
- Parts per Billion = Micrograms per liter (ppb – ug/L):** One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
- Parts per Trillion = Nanograms per liter (ppt – ng/L):** One part per trillion corresponds to one minute in 2,000,000 years or a single penny in \$10,000,000,000.
- Parts per Quadrillion = Picograms per liter (ppg = pg/L):** One part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.
- Fountain Valley Authority (FVA):** Water treatment facilitator.
- City of Fountain (COF):** Fountain water provider.
- Waiver:** State permission not to test for a specific contaminant.
- Gross Alpha (No Abbreviation):** Gross alpha particle activity compliance value. It includes radium-226, but excludes radon 222 and uranium.
- Variance and Exemptions (V/E):** Department permission not to meet an MCL or a treatment technique under certain conditions.
- Formal Enforcement Action (No Abbreviation):** An escalated action taken by the State (due to the number and/or severity of violations) to bring a non-compliant water system back into compliance.
- Compliance Value (No Abbreviation):** Single or calculated value used to determine if regulatory contaminant level (e.g., MCL) is met. Examples of calculated values are the 90th Percentile, Running Annual Average (RAA) and Locational Running Annual Average (LRAA).

CITY OF FOUNTAIN - SYNTHETIC ORGANIC CONTAMINANTS SAMPLED AT THE ENTRY POINT TO THE DISTRIBUTION SYSTEM

CONTAMINANT NAME	UNIT	DATE	AVERAGE OF INDIV. SAMPLES	NUMBER OF SAMPLES	COF Range LOW - HIGH	MCL	MCLG	VIOLATIONS	TYPICAL SOURCES
OXAMYL (VYDATE)	ppb	2014	0.01	8	0 to 0.1	200	200	NO	Runoff/leaching from insecticide used on apples, potatoes and tomatoes.
PENTACHLOROPHENOL	ppb	2014	0.04	8	0 to 0.1	1	0	NO	Discharge from wood preserving factories.

FOUNTAIN VALLEY AUTHORITY (FVA) MICROBIOLOGICAL CONTAMINANTS

MICROBIOLOGICAL CONTAMINANTS	UNITS OF MEASURE	AVERAGE	SAMPLE SIZE	DATE	TT REQUIREMENTS	RANGE LOW - HIGH	FOUNTAIN VALLEY AUTHORITY INFORMATION / TESTING		VIOLATIONS	TYPICAL SOURCE
TURBIDITY	NTU	---	---	Dec. 2015	Max 1 NTU for any single measurement	Mar. 2015 Highest Single Measurement 0.33 NTU	100% of Samples 0.3 NTU Turbidity is a measure of the cloudiness of the water. We monitor turbidity because it is a good indicator of the effectiveness of our filtration system.		NO	Soil runoff.
TURBIDITY	NTU	---	---	Apr. - Dec. 2015	Level Found: Lowest monthly percentage of samples meeting TT requirement for our technology: 100%		1.1 to 50 NTU		NO	Soil Runoff
URANIUM, COMBINED	ppb	1.1	1	Mar. 2011	30	1.1 to 1.1	<u>MCL</u> 30	<u>MCLG</u> 0	NO	Erosion of natural deposits.
COMBINED RADIUM	pCi/L	0.1	1	2011	---	0.1 to 0.1	5	0	NO	Erosion of natural deposits.

WIDEFIELD WSD SECONDARY CONTAMINANTS**

CONTAMINANT NAME	DATE	AVERAGE	SAMPLE SIZE	UNIT OF MEASURE	SECONDARY STANDARD	RANGE	VIOLATION	TYPICAL SOURCES	
TOTAL DISSOLVED SOLIDS	2014	1105	2	ppm	500	1100 TO 1110	NO	**See Note Below	
CONTAMINANT NAME	DATE	AVERAGE	SAMPLE SIZE	UNIT OF MEASURE	SECONDARY STANDARD	CITY OF FOUNTAIN RANGE LOW - HIGH	SECURITY RANGE LOW - HIGH	VIOLATION	TYPICAL SOURCES
SULFATE	2014	73	1	Ppm	250	N/A	73 TO 73	NO	**See Note Below

**Secondary standards are non-enforceable guidelines for contaminants that may cause cosmetic effects (such as skin, or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water.

2015 UNREGULATED CONTAMINANTS***

EPA has implemented the Unregulated Contaminant Monitoring Rule (UCMR) to collect data for contaminants that are suspected to be present in drinking water and do not have health-based standards set under the Safe Drinking Water Act. EPA uses the results of UCMR monitoring to learn about the occurrence of unregulated contaminants in drinking water and to decide whether or not these contaminants will be regulated in the future. We performed monitoring and reported the analytical results of the monitoring to EPA in accordance with its Third Unregulated Contaminant Monitoring Rule (UCMR3). Once EPA reviews the submitted results, the results are made available in the EPA's [National Contaminant Occurrence Database \(NCOD\)](http://www.epa.gov/dwucmr/national-contaminant-occurrence-database-ncod) (<http://www.epa.gov/dwucmr/national-contaminant-occurrence-database-ncod>). Consumers can review UCMR results by accessing the NCOD. Contaminants that were detected during our UCMR3 sampling and the corresponding analytical results are provided below.

CONTAMINANT NAME	Unit of Measure	Year	Average	Sample Size	COF Range Low to High	Security Range Low to High	FVA Range Low to High	Widefield Range Low to High
1, 4 DIOXANE	ppb	2014 – 2015	0.059	17	0 – 0.19	0 – 0.17	N/A	0.07 – 0.13
CHLORATE	ppb	2014 – 2015	45	49	N/A	0 – 1200	N/A	25 – 390
CHROMIUM	ppb	2014 – 2015	0.19	49	0 – 0.2	0 – 0.9	N/A	0.2 – 1.1
COBALT	ppb	2014 - 2015	0.03	48	0 – 1.35	0 – 1.1	N/A	N/A
HEXAVALENT CHROMINUM (DISSOLVED)	ppb	2014 – 2015	0.14	53	0 – 0.05	0.11 – 0.89	N/A	0.032 – 0.62
MOLYBDENUM	ppb	2014 – 2015	3.5	49	0 – 7.07	0 – 5.8	N/A	1.3 – 6.0
PFOS	ppb	2014 – 2015	0.033	18	0 – 0.1	0 – 1.3	N/A	0.042 – 0.21
PFHxS	ppb	2014 – 2015	0.098	18	0 – 0.06	0 – 0.44	N/A	0.046 – 0.33
PFHPA	ppb	2014 – 2015	0.0096	18	0 – 0.01	0 – 0.07	N/A	0.011 – 0.024
PFOA	ppb	2014 – 2015	0.017	18	0.02 – 0.04	0 – 0.09	N/A	0.021 – 0.048
STRONTIUM	ppb	2014 – 2015	447	49	460 – 640	110 – 520	N/A	300 – 570
VANADIUM	ppb	2014 – 2015	0.45	49	0 – 0.05	0 – 0.8	N/A	0.2 – 0.96

More information about the contaminants that were included in UCMR3 monitoring can be found at: <http://www.drinktap.org/water-info/whats-in-my-water/unregulated-contaminant-monitoring-rule.aspx>

Learn more about the EPA UCMR at: <http://www.epa.gov/dwucmr/learn-about-unregulated-contaminant-monitoring-rule> or contact the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/contact.cfm>

Appendix C Water Commitment Summary

Widefield Water and Sanitation District

Tabulation of Water Supply vs Active Subdivisions⁵

Existing Water Use ¹	Current Water (Acre-Feet)	Current SFE Dec 31 2015		Comments
	2248	8058		
Development		Subdivisions		
		Commitment SFE	Unused Commitment Acre-Feet	
Lorson--Complete				
Pioneer Landing 1	Done	118		
Ponderosa 1	Done	102		
Ponderosa 2	Done	102		
Allegiant	Done	97		
Townhomes at Lorson Filing #1-Phase One	Done	46		
Buffalo Crossing Filing #1	Done	55		
Buffalo Crossing Filing #2	Done	145		
Meadows at Lorson Filing #1	Done	97		
Meadows at Lorson Filing #2	Done	110		
Meadows at Lorson Filing #3	Done	138		plus Pocket Park
Glen--Complete				
Glen 6A	Done	68		
Glen 6B	Done	77		
<u>In Construction/Buildout</u>				
The Glen 6C		81	31.59	Issuing Taps
Meadows at Lorson Filing #4		241	46.02	Issuing Taps
<u>In for Final Platting</u>				
Peaceful Valley Ridge	Re-activated ²	275	107.25	
Widefield Commercial Center Filing #1		22.5	8.78	
Residence at Widfield Park	INACTIVE	27	10.53	No Activity since 2010
Glen 7		0	0.00	Part of Glen East
Glen 8	New	0	0.00	Part of Glen East
Pioneer Landing 2	New	170	66.30	Lorson
<u>Preliminary Plan</u>				
Glen East		603	235.17	
Carriage Meadows	INACTIVE	161	62.79	No Activity since 2007
Rolling Hills Ranch Phase I	ABANDONED ³	671.18	261.76	No Activity since 2007
Totals		2,248	1,393	418
Actual SFE plus Active Commitments			9,451	3686
Current System Water Supply		5,246		5246
Excess Water Supply				1560

Note 1; The 3 year running average dropped from 2464 Acre-feet (2012, 2013, 2014) to 2248 Acre-feet (2013, 2014, 2015)

Record low usage in 2015, due to continued conservation awareness and extremely wet year

Note 2; Peaceful Valley Ridge returned to active status in January, 2015. Lines under construction in 2016

Note 3; Rolling Hills Ranch Phase I was mostly abandoned in 2012 due to large portion transferred to US for future VA Cemetery

Note 4; Widefield continues to use the planning figure of 0.39 Acre-feet per SFE as a planning figure.

However, Widefield's unit use characteristic continues to drop with conservation awareness. Widefield's current

10 year running average unit user characteristic is 0.328 acre-feet per SFE. We expect to make a change in planning figures within the next few years

Note 5; Water use and completed/uncompleted subdivision completions--as of December 31, 2015. Additional 2016 commitments are noted in blue

JDS-Hydro Consultants, Inc

**APPENDIX C –
2005 WASTEWATER MASTER PLAN FOR LORSON RANCH
(PENTACOR ENGINEERING)**

WASTEWATER MASTER PLAN

FOR

LORSON RANCH

September, 2005

Prepared for:

The Landhuis Company
212 N. Wahsatch Ave, Suite 301
Colorado Springs, Colorado 80903

Prepared by:

Pentacor Engineering, LLC
Contact: Richard Schindler, P.E.
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Project No. 6000.0002

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APPENDIX A

- VICINITY MAP
- CALCULATIONS
- TABLE 1: BASIN/SEWER LOAD TABLE
- TABLE 2: LORSON RANCH + OFFSITE WW FLOWS
- TABLE 3: LORSON RANCH + OFFSITE + NORRIS WW FLOWS
- FIGURE 1: WASTEWATER SERVICE AREAS
- FIGURE 2: ZONING MAP

MAP POCKET

- FIGURE 3: LORSON RANCH WASTEWATER MASTER PLAN

I. LOCATION:

The proposed 1,361.4 acre Lorson Ranch Development is located within El Paso County north of Fountain, Colorado and south of Colorado Springs. The property is bounded on the west by Marksheffel Road, on the east by the future Meridian Road, the south by the City of Fountain (Peaceful Valley and Golf Course), and the north by Banning Lewis Ranch (undeveloped), a major future development within the City of Colorado Springs. The current zoning of the site is RR3 (rural residential district) per El Paso County Code.

The legal description for the property is:

A tract of land located in portions of the north half of Section 23, the north half of Section 24, the south half of Section 13, the south half of Section 14 and the northeast quarter of Section 22 east of the county road known as Marksheffel Road, except any portion of said northeast quarter within the plat of Brownsville Subdivision No. 2 as recorded in plat book H-6 at page 81 of the County of El Paso, State of Colorado Records. The site consist of 1,361.4 acres, more or less, all in Township 15 South, Range 65 West of the 6th P.M., County of El Paso, State of Colorado.

II. PURPOSE:

The purpose of this report is to prepare a Wastewater Master Plan that will serve as a guide to provide the proposed Lorson Ranch Development with gravity sewer service. This report includes loading, sizing calculations, and routing for the proposed major sewer mains that will provide gravity sewer service to the entire development. Lorson Ranch will be located within the Widefield Water and Sanitation District and will provide treatment of all sewage from this development. The proposed outfall for Lorson Ranch is a regional lift station located west of the intersection of the future Mesa Ridge Parkway and Marksheffel Road which will be constructed by Widefield Water and Sanitation District.

III. DESIGN REQUIREMENTS AND ASSUMPTIONS:

The design of the Wastewater Master Plan is based on the Widefield Water and Sanitation District Wastewater Standard Specifications, adopted January 8, 2003. Supplementary design requirements have been supplied by Mr. John McGinn, P.E. of JDS-Hydro Consultants, Inc, the District Engineer. The information supplied by the District Engineer included residential and commercial sewage generation rates, school populations, offsite flows, and necessary peaking factors for wastewater main design.

Pipe sizing was based on the minimum allowable pipe slopes given in Section 3.12 of the Standards, an allowable flow depth of 75% of the pipe diameter during peak hour flows, a 2.0 feet/second self cleansing velocity. A minimum pipe slope of 0.3 % was used for all trunk wastewater lines. All pipes were designed to match existing ground elevations while providing gravity service to areas within Lorson Ranch.

Densities in units per acre and land use were obtained from the proposed zoning for Lorson Ranch prepared by Guman & Associates, September, 2005. The proposed project build-out schedule is expected to be approximately 275 units per year, but could be as high as 450 units per year with an aggressive schedule. Phasing of the trunk wastewater lines should be in accordance with this master plan.

Inflow and infiltration was not included in these calculations but can be added if so desired by the district.

IV. CALCULATIONS:

Sewer loading calculations were completed based on the proposed zoning and densities. Sanitary loads of 225 Gal/DU for single-family residential, 10 Gal/Day per Student-Faculty for schools, and 3,200 Gal/Acre-Day for commercial areas to account for the possibility of a large generator of wastewater. A multi-family residential demand of 140 Gal/Unit-Day was used based on a density of 3.2 Persons/Unit for single-family and 2.0 Persons/Unit for multi-family. Per the District Engineer, elementary schools are assumed to have a maximum population of 600 people, and Junior / Middle / High schools to have a maximum population of 1,100 people. The school population numbers include students and all faculty/staff.

The wastewater mains are designed for the Peak Hour Flow (PHF) and are based on a peaking factor using the Average Daily Flow (ADF) average daily flow (gal/day). The formula specified by the District for peaking the ADF to PHF is: $2.3/[(ADF/645,120)^{.18}]$ with the ADF in gallons per minute. The minimum allowable peaking factor is 1.9. All hydraulic calculations for main sizing were completed using SEWERCAD 5.5, a hydraulic sewer modeling program by Haestad Methods

The first step for master planning Lorson Ranch was to divide the entire site into Wastewater Service Basins which reflect how each basin will be served with gravity sewer service. The Lorson Ranch has been divided into 9 major basins (Basins A-I) and with several sub-basins within each major basin. See **Figure 3** in Map Pocket. The next step was to calculate how much sewage (ADF) is generated for each basin and add it to a node on the overall wastewater system. See **Table 1** in Appendix A. SEWERCAD 5.5 was then used to develop pipe sizes, location, and slope necessary to convey the sewage generated by each basin to the regional lift station on Mesa Ridge Parkway.

Also included in this report is additional offsite areas that will also be served by the trunk wastewater main installed by Lorson Ranch. See **Table 1 and Figure 1** in Appendix A.

Allocation of the cost of the trunk wastewater mains is not discussed in this report but can utilize the Single Family Equivalent (SFE) in Table 1 for Lorson Ranch and offsite flows.

See Appendix A for calculation details.

V. **RESULTS:**

Based on the analysis results, the average daily flow for full build out of the Lorson Ranch Development will be approximately 1.586 mgd (2.45 cfs). During peak hour, the flow will increase to 3.01 mgd (4.65 cfs). When combined with the offsite flows, the average daily flow at the regional lift station will be approximately 1.936 mgd (2.996 cfs). During peak hour, the flow will increase to 3.68 mgd (5.692 cfs).

This flow will require an 18" sewer main at a minimum of 0.3% to be constructed in Marksheffel Blvd. from the Lorson Ranch sewer outfall down to the regional lift station. Pipe sizes, locations, and basin locations can be found in **Figure 3** in the Map Pocket. See **Table 2** in Appendix A for detailed hydraulic calculations from SEWERCAD 5.5 for all pipes. A summary of the sewer loads for the project are included in **Table 1** in Appendix A.

Also included in this report is a brief analysis of the impacts of future development to the north of Lorson Ranch (Norris Ranch). For the purposes of this report, roughly 8685 SFE have been assigned to Node MH-ET26 and 1723 SFE have been assigned to Node MH-PV18 per the district engineer. The additional flows will increase the pipe size on the trunk line on the East Tributary of Jimmy Camp Creek and the trunk line on Marksheffel Road. Detailed hydraulic calculations for pipe sizes can be found in **Table 3** in Appendix A. All other on-site mains will not be impacted by the inclusion of the Norris off-site service areas.

VI **CONCLUSIONS:**

Based on the design requirements provided by the Widefield Water and Sanitation District the proposed Lorson Ranch Development can be served by a gravity wastewater system. The minimum allowable pipe slopes per the Wastewater Standard Specifications for the District are not violated and the required cleaning velocities are maintained. This report is only to be used as a guide to the placement of trunk wastewater mains within Lorson Ranch. Minor changes are expected and can be reasonably accommodated with this plan.

The Lorson Ranch Development will be provided sanitary sewer service by the Widefield Water and Sanitation District as shown in the approved Sketch Plan.