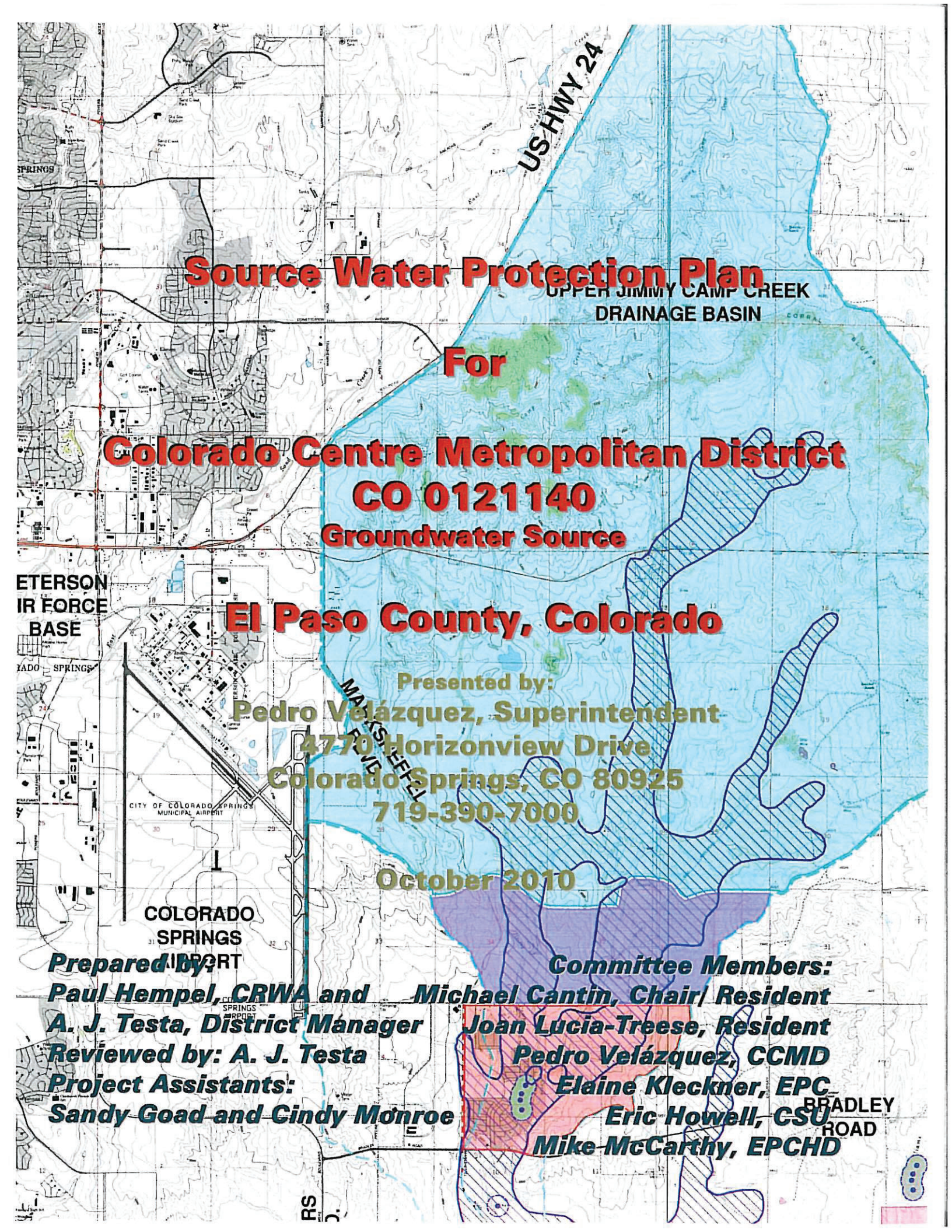

Source Water Protection Plan

For

Colorado Centre Metropolitan District

CO 0121140

Groundwater Source

El Paso County, Colorado

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EXECUTIVE SUMMARY

The potential financial and water supply risks related to the contamination of one or more of the community's water sources are a concern to the Colorado Centre Metropolitan District's (CCMD) Source Water Protection "Steering Committee". As a result, the Steering Committee believes the development and implementation of a Source Water Protection Plan (SWPP) for CCMD can help to reduce the risks posed by potential contamination of its water sources. This SWPP was developed to prioritize source water protection concerns and to identify local source water management approaches that can be implemented to protect the source water.

Because a Source Water Assessment was never accomplished by the Colorado Department of Public Health and Environment (CDPHE), CCMD created its own Source Water Assessment to be used as a starting point in developing the SWPP. The source water protection area defines the region where CCMD has chosen to implement its source water protection measures in an attempt to manage the susceptibility of their source water to potential contamination.

The Steering Committee adopted a two-step strategy recommended by the CDPHE for prioritizing the water sources and potential contaminant sources on which source water protection measures will be focused. The first step of the strategy prioritizes the water sources based on their total susceptibility and/or physical setting vulnerability, while the second step prioritizes the potential contaminant sources based on (1) their prevalence, (2) the potential threat they pose, or (3) how prevalent and threatening the potential contaminant sources are. In applying this strategy, the Steering Committee recommended focusing source water protection measures on a critical zone of protection around the groundwater intakes and protection zone 1 which incorporates the most threatening discrete contaminant sources and most prevalent dispersed contaminant sources contained in the source water protection areas for these water sources.

The Steering Committee reviewed and discussed several possible source water management approaches that could be implemented within the source water protection areas. These management approaches may help reduce the potential risks of contamination from the prioritized potential contaminant sources. The purpose of voluntarily implementing source water management approaches is to apply an additional level of protection to the drinking water supply by taking preventive measures at the local level (i.e., county and municipal level) to protect the source water. The Steering Committee established certain acceptance criteria as part of identifying and selecting the most feasible source water management approaches to implement locally. The Steering Committee recommends the following list of source water management tools to be implemented by CCMD:

- Educate the public via source water protection outreach materials.
- Eliminate septic systems within a five year period as properties develop within CCMD.
- Coordinate efforts with the El Paso County Department of Health and Environment, El Paso County Development Services Department, Colorado Springs Planning Department, City of Colorado Springs and Colorado Springs Utilities.
- Maintain good communication with potential contamination source operators/sites.
- Maintain good communication with the CDPHE.
- Maintain certified operators in charge with a good continuing education program.

The Steering Committee estimates that it will cost approximately $4,000 initially and $1,000 annually in time and materials to implement these management approaches. Funding to cover these costs will come from water department revenue and/or additional grants/funds from the State for implementation of source water

protection measures. The implementation of these management approaches is expected to begin in January 2011 and will be ongoing following their establishment. This source water protection plan also commits CCMD to (1) track and report on the effectiveness of the source water management approaches that have been implemented, (2) apply source water assessment and protection principles for planning new water sources, and (3) assist the CDPHE in making future refinements to their source water assessment and to revise their source water protection plan accordingly based on any major refinements.

INTRODUCTION

Purpose of Source Water Protection Plan Development

CCMD recognizes the likely financial and water supply risks related to the potential contamination of one or more of the community's water sources. In an effort to address the potential problems that could affect their untreated source water, CCMD, with guidance from Colorado Rural Water Association, appointed the Steering Committee. The Steering Committee advised CCMD in identifying local source water management approaches that can be voluntarily implemented to reduce the risks of potential contamination of the untreated source water.

The primary reason for developing and implementing source water management approaches is to apply an additional level of protection to the drinking water supply. Preventive measures at the local level (i.e., county and municipal level) may aid in the protection of the source water. These preventive measures will complement existing regulatory protection measures implemented at the state and federal governmental levels by filling protection gaps that can only be addressed at the local level.

The SWPP identifies the source water protection areas where the community has chosen to implement its source water protection measures. In addition, the SWPP establishes a strategy for prioritizing the water sources and potential contaminant sources to which the source water management approaches will be applied. The strategy is based on the source water assessment results that CCMD created as a starting point from which these priorities were identified. The SWPP also identifies the source water management approaches and associated tasks that will be implemented within the source water protection areas. Finally, as a companion to the SWPP, an emergency response plan or contingency plan was independently developed by CCMD as part of the overall source water management effort. The emergency response plan lays out a coordinated plan for responding rapidly, effectively, and efficiently to any emergency incident that threatens or disrupts the community water supply.

Public Participation and Steering Committee Establishment

Public participation has been important to the overall success of Colorado's SWAP program. Source water protection was founded on the concept that informed citizens, equipped with fundamental knowledge about their drinking water source and the threats to it, will be the most effective advocates for protecting this valuable resource. The state successfully used voluntary citizen advisory groups in the development of both the wellhead protection and source water assessment and protection program plans.

The state recommends that the public water supplier or any other well-suited local interest group take the lead in organizing public participation in the local source water protection planning effort. Effective public participation requires a well-organized effort to raise public awareness, to identify groups and individuals interested in helping, and to define and implement the necessary planning tasks. The Steering Committee adopted this public participation principle and encouraged the involvement of all types of stakeholders – individuals, groups, organizations and local decision-makers affected by or concerned with the community's drinking water – in the local source water protection planning and implementation effort. The Steering Committee believes that local support and acceptance of the plan is more likely where local stakeholders have been actively recruited and encouraged to participate in the development and implementation of the protection plan.

Protection Plan Development Process

The source water protection planning effort consisted of a structured process of work group meetings followed by public meetings. The Steering Committee's recommendations were developed from these work group meetings that were convened to establish the goals and objectives of the protection plan, evaluate the source water assessment results and establish protection priorities, and evaluate source water management approaches. Ultimately, the Steering Committee's recommendations were incorporated into a draft source water protection plan and presented at two public meetings for comment and discussion. A summary of the public meetings that were held is presented below.

Public Meetings

Date	Location	Purpose / Description
08/22/10	4770 Horizonview Drive, Colorado Springs, CO 80925	Meeting to Discuss Draft Source Water Protection Plan
09/23/10	4770 Horizonview Drive, Colorado Springs, CO 80925	Meeting to Discuss Final Source Water Protection Plan

The general public was notified of the public meeting schedule – location, dates and times via the CCMD Newsletter (included with the utility invoice each month), posting of the meeting at the Fire Station, a legal notice in the Gazette and the CCMD web page (www.coloradocentre.org) prior to each meeting. Also, a direct invitation to attend and participate in these public meetings was extended to the entire community, commercial property owners within CCMD, the City of Colorado Springs, Colorado Springs Utilities, Colorado Springs Airport, Peterson Air Force Base, Widefield School District 3, Widefield Water and Sanitation District, El Paso County Environmental Health and Land Use Departments and others.

In developing the SWPP, CCMD held the following stakeholder and steering committee meetings:

Date	Meeting	Discussion
3/10/10	Stakeholder Meeting	Review of SWAP program
4/12/10	Individual Meeting with USGS	Define groundwater area
4/26/10	Steering Committee Meeting	Define SWAP area
5/24/10	Steering Committee Meeting	Prioritize psoc's
6/24/10	Stakeholder Meeting	Review draft SWPP, protection zones
7/22/10	Steering Committee Meeting	Identify potential management measures

* psoc's = potential sources of contamination

Steering Committee and Participants

The Board of Directors (BOD) of Colorado Centre Metropolitan District (CCMD) appointed a steering committee to advise them on the design and development of the source water protection plan for Colorado Centre's water supply. The table below lists the members of said Steering Committee.

Steering Committee

Name	Role/Responsibility	Title	Affiliation
Michael Cantin	Committee Chairman	Resident/Director	CCMD Consumer
Joan Lucia-Treese	Committee Member	Resident/Director	CCMD Consumer
Pedro Velazquez	Committee Member	Superintendent	CCMD Employee
Eric Howell	Committee Member	Interested Party	CSU/City
Mike McCarthy	Committee Member	Interested Party	EPC Department of Health and Environment
Elaine Kleckner	Committee Member	Interested Party	EPC Development Services Department
Support Staff			
Paul Hempel	Facilitator	Source Water Specialist	CRWA
Sandy Goad	Secretary/ notices/min	Administrative Assistant	CCMD
Cindy Monroe	Secretary	Assistant District Manager	CCMD
Al Testa	Tech & Report Support	District Engineer/ Mgr.	PCI Consultant

Other Participants

The source water protection planning process attracted interest and participation from a few other key entities. Input by these entities was greatly appreciated and was instrumental in developing the source water protection plan. These participants included:

FEDERAL	
United States Geological Survey	Ken Watts
Peterson Air Force Base	Dave Clapp/Bill Siegele
STATE	
Colorado State Patrol	Hal Butts
COUNTY	
El Paso County Sheriff Office/Haz Mat	Kathy Russell
CITY	
Colorado Springs Land Use Planning	Carl Schueler
Colorado Springs Public Works	Ken Winkler
OTHER	
Fountain Creek Watershed District	Gary Barber
DMSC LLC	Elise Bergsten
FMI Cuchares Ranch LLC	Tom Benkert

The following lists others who were invited to participate in the planning process but did not attend meetings:

DWR - WD 10 Water Commissioner
El Paso County Engineer (Roads)
El Paso County GIS/Mapping
Colorado Springs City Council
Colorado Springs Parks & Recreation
Colorado Springs Airport
CSU Cooperative Extension
El Paso County Water Authority
Widefield School District
El Paso County Conservation District
El Paso County Commissioner
El Paso County Parks Department
Colorado Springs Stormwater
Colorado Springs Public Works
Colorado Springs Emergency Planning
Colorado Springs Police Department
Colorado Department of Transportation
City of Fountain

WATER SUPPLY SETTING

Hydrogeographic Setting

Ground Water System

CCMD supplies drinking water to the residents of the CCMD community, which is located in El Paso County, Colorado. CCMD has a population of approximately 2,325 residents and workers and is a predominantly suburban based community. The District boundaries reflect several inclusions of land which are depicted in Figure 1. However, the majority of the CCMD area was annexed to the City of Colorado Springs in 1988. Figure 2 clearly depicts the current jurisdictional overlaps that exist in CCMD. All lands annexed to Colorado Springs are under the control and service of Colorado Springs Utilities and are therefore not a responsibility of CCMD anymore.

CCMD's service area outside the City is limited in growth to 1,132 residences, two elementary schools, one fire station, approximately 250 acres of commercial/office/industrial sites and 30 acres of parks and open space. To date, there are 749 single family homes, one fire station, about 40 acres of commercial/office/industrial and 30 acres of park and open space developed.

The source water area for CCMD's ground water source overlies the Jimmy Camp Creek alluvial aquifer. This is an unconfined aquifer consisting mostly of alluvial sand and gravel deposits. Please refer to Figure 3 for a general location of CCMD, the Jimmy Camp Creek Alluvium and the source water wells for CCMD. Historically, water yields from the Jimmy Camp Creek Alluvium Aquifer range from 75 to 640 gallons per minute, based on CCMD's tested pumping rates. However, the maximum pumping rates allowed by the well permits exceed these amounts and could well be supported. Topography within the source water area(s) is generally rolling terrain. The climate within the source water area(s) is generally semi-arid, temperate, with an estimated average annual precipitation amount of 15.8 inches. Figure 4 shows the various active well locations in CCMD.

Drinking Water Supply Operation

CCMD is a metropolitan district whose water system serves the Colorado Centre community, located in El Paso County, Colorado. The water system is operated by State certified employees of CCMD. The water supply consists of four constructed wells which are located in the central portion of the CCMD area (Refer to Figure 4). The raw water extracted from the wells is sent to a disinfection plant for treatment prior to distributing it as

potable drinking water to the water system's customers. The treatment system has a maximum capacity to treat approximately one million gallons of drinking water per day without making any modifications to the chlorine contact tank currently in use. This capacity can be increased by increasing the efficiency of the contact tank. The water system does not store its untreated source water prior to treatment, instead it detains its treated water in one storage tank (100,000 gallon chlorine contact and booster tank) prior to distributing the drinking water to the water system's customers and any excess water is stored in the District's 3.0 million-gallon reservoir. CCMD has a maximum capacity to store about 3.4 million gallons of treated drinking water which includes the aforementioned tanks plus about 370,000 gallons of in-line storage. Figure 5 depicts the CCMD's Process Schematic.

Water Supply Demands/Analysis

The water system currently serves an estimated 758 connections (residential, commercial, fire station and parks) and there are approximately 2,325 resident and employee users within the service area annually. The water system currently has the capacity of meeting a peak (i.e., maximum) daily demand of 900,000 gallons per day as it is being operated. Well pumping rights allow higher flow rates, but, the pumps installed are smaller than those allowed. Current estimates by the District indicate that the average daily demand by the water system's customers is approximately 215,000 gallons per day, and that the average peak daily demand is approximately 550,000 gallons per day. Using these estimates, the water system has a surplus average daily demand capacity of 335,000 gallons per day and a surplus average peak daily demand capacity of 350,000 gallons per day. Using the surplus estimates above, CCMD has evaluated its ability to meet the average daily demand and the average peak daily demand of its customers in the event the water supply from one or more of its water sources becomes disabled for an extended period of time due to potential contamination. The evaluation indicated that CCMD may not be able to meet the average daily demand of its customers if as few as two of the four wells became disabled for an extended period of time. The evaluation also indicated that CCMD may not be able to meet the average peak daily demand of its customers if as few as one of the wells became disabled for an extended period of time. The ability of CCMD to meet either of these demands for an extended period of time is also affected by the amount of treated water the water system has in storage at the time a water source becomes disabled. CCMD has a 3 million gallon tank that can add a few days of service under average or peak water demand conditions, in addition to providing for fire protection needs.

CCMD recognizes that contamination of its ground water source could potentially result in having to use advanced treatment methods for the ground water and/or abandoning the water source if treatment proves to be ineffective or too costly. All of CCMD's water sources are in the same alluvial aquifer and within two thousand feet of each other. So, any contamination of one source is likely going to show up in all sources in a relatively short amount of time. The alternatives that CCMD would have in the event of serious and untreatable contamination of its ground water source is to 1) re-drill its wells to a location that is not subject to contamination, 2) seek a new source of water such as Colorado Springs Utilities, Widefield Water and Sanitation District or some other entity willing to supply bulk water to CCMD, or 3) petition for annexation to the City of Colorado Springs.

The potential financial and water supply risks related to the long-term disablement of the community's water source are a concern to the Steering Committee. As a result, the Steering Committee believes the development and implementation of a SWPP for CCMD can help to reduce the risks posed by potential contamination of its water source.

Growth and Land Use Projections

CCMD's population is estimated based on a survey the district conducts annually. This survey tells us there are about 3 people per single family unit, with 721 single family homes in 2009 and approximately 160 workers. That yields a population and worker count of about 2,323 people. In 1992, CCMD had approximately 128 occupied homes and 30 total workers, for a total population of about 414 people. CCMD went into bankruptcy with that level of population and it did not grow again until the period from 1994 to 2000 where it added another 589 single family occupied homes and a couple of businesses. That brought the population estimate of the year 2000 to about 2,151 people. In 2009, CCMD included within its boundaries the Cuchares Ranch Development which will add another 415 single family homes to CCMD through 2014. Although CCMD has experienced significant growth over the past two decades, its service area is mostly land locked by the service area of the City of Colorado Springs. After the Cuchares Ranch develops, CCMD will have no more planned residential land available. So, the residential growth is expected to be capped at 1,132 units.

The commercial side still has significant growth potential. There are approximately 200 additional acres of commercial land inside the District that can develop. However, it is not predictable when development will take place as the history of this land shows no growth in the past twenty years and the economic future of the commercial lands in CCMD is uncertain due to the availability of similar properties in other areas of Colorado Springs.

Currently, CCMD estimates that 96% of the land area within the proposed source water protection areas for its water source is currently undeveloped. This undeveloped land is currently zoned for residential, commercial, industrial, parks and school uses, and public facilities. CCMD estimates the breakdown of land ownership within the proposed source water protection area(s) as follows:

- Private ownership (97.5 %),
- State or federal ownership (1 %),
- City or county ownership (1 %), and
- CCMD ownership 0.5 %.

Figure 6 shows a map of land uses within the CCMD service area.

The Steering Committee discussions have centered on those activities and facilities that could have the potential to contaminate the ground water source of CCMD and how to minimize the said potential. Most of the land in the assessment area has been master planned in the City of Colorado Springs or El Paso County for development. So, there will be significant residential, commercial, office, industrial, institutional, parks, open space and public facilities uses up-gradient from the current location of CCMD's water source. This means that the potential for contamination of the ground water from roofs, lawns, roads and other such facilities exists. Given that future growth is inevitable, it is the consensus of the Steering Committee that education of the public is the best tool to help prevent contamination of the ground water source. Since rural type development is no longer planned within the zones in this report, potential contamination from septic systems and open-range type activities is likely to not exist in the future.

OVERVIEW OF COLORADO's SWAP PROGRAM

Source water assessment and protection came into existence in 1996 as a result of Congressional reauthorization and amendment of the Safe Drinking Water Act. The 1996 amendments required each state to develop a source water assessment and protection (SWAP) program. The Water Quality Control Division, an agency of the Colorado Department of Public Health and Environment, assumed the responsibility of developing Colorado's SWAP program. The SWAP program protection plan will be integrated with the existing Colorado

Wellhead Protection Program that was established in amendments made to the federal Safe Drinking Water Act (SDWA, Section 1428) in 1986. Wellhead protection is a preventative concept that aims to protect public groundwater wells from contamination. The Wellhead Protection Program and the SWAP program have similar goals and will combine protection efforts in one merged program plan.

Colorado's SWAP program is an iterative, two-phased process (Figure 7) designed to assist public water systems in preventing potential contamination of their untreated drinking water supplies. The two phases include the Assessment Phase and the Protection Phase as depicted in the upper and lower portions of Figure 7, respectively.

Source Water Assessment Phase

As depicted in the upper portion of Figure 7, the Assessment Phase for all public water systems consists of four primary elements.

1. Delineating the source water assessment area for each drinking water source;
2. Conducting a contaminant source inventory to identify potential sources of contamination within each of the source water assessment areas;
3. Conducting a susceptibility analysis to determine the potential susceptibility of each public drinking water source to the different sources of contamination and;
4. Reporting the results of the source water assessment to the public water systems and the general public.

The Assessment Phase involves understanding where CCMD's source water comes from, what contaminant sources potentially threaten the water source(s), and how susceptible each water source is to potential contamination. The susceptibility of an individual water source is analyzed by examining the properties of its physical setting and potential contaminant source threats. The resulting analysis calculations are used to report an estimate of how susceptible each water source is to potential contamination.

Source Water Protection Phase

The Protection Phase is a voluntary, ongoing process in which CCMD is encouraged to voluntarily employ preventive measures to protect its water supply from the potential sources of contamination to which it may be most susceptible. The Protection Phase can be used to take action to avoid unnecessary treatment or replacement costs associated with potential contamination of the untreated water supply. Source water protection begins when local decision-makers use the source water assessment results and other pertinent information as a starting point to develop a protection plan. As depicted in the lower portion of Figure 7, the source water protection phase for all public water systems consists of four primary elements.

1. Involving local stakeholders in the planning process;
2. Developing a comprehensive protection plan for all of their drinking water sources;
3. Implementing the protection plan on a continuous basis to reduce the risk of potential contamination of the drinking water sources; and
4. Monitoring the effectiveness of the protection plan and updating it accordingly as future assessment results indicate.

The water system and the community recognize that the Safe Drinking Water Act grants no statutory authority to the Colorado Department of Public Health and Environment or to any other state or federal agency to force the adoption or implementation of source water protection measures. This authority rests solely with local communities and governments. The source water protection phase is an iterative process as indicated in Figure 7. The evolution of the SWAP program is to incorporate any new assessment information provided by the public water supply systems and update the protection plan accordingly.

SOURCE WATER ASSESSMENT RESULTS

The CDPHE assumed the lead role in conducting the source water assessments for most public water systems in Colorado. Although CCMD did not receive a source water assessment report from the state, it endeavored to assess its source water as part of and in conjunction with the source water protection plan. The Steering Committee is committed to using the assessment results determined herein as a starting point to guide the development of appropriate management approaches to protect the CCMD source water from potential contamination. The following sections provide a brief summary of the main findings from the three component phases of the assessment.

Source Water Assessment Area Delineation

Ground Water Systems

The source water assessment areas for CCMD's ground water source consist of a specified measured area overlying the Jimmy Camp Creek Alluvial Aquifer which is a tributary aquifer to the Fountain Creek drainage basin and aquifer. The source water assessment area for this water source is approximately 37.9 square miles in size. The source water assessment area was delineated using the hydrogeologic mapping approach (please see Figure 3).

The delineated source water assessment areas not only provide the basis for understanding where the community's source water and potential contaminant threats originate, but it also provides the basis for

establishing the source water protection areas under this source water protection plan. Further discussion is provided in a later section on the source water protection area(s) that was established under this plan.

Defining the Source Water Protection Area(s)

The source water protection area defines either the watershed region or the surface area overlying the local aquifer where the community has chosen to implement its source water protection measures in an attempt to manage the susceptibility of their source water to potential contamination.

The Steering Committee defined four source water protection areas based on the geomorphology of the land, immediacy of the potential contamination sources to the source water, existing and proposed land uses and the type of potential contaminants. Figure 3 depicts a critical zone, which is defined as the 500 –foot radius zone around the well heads, and zones 1, 2 and 3. For the purpose of this study, the 500 feet radius zone and zone 1 are assumed to be different but equally important because the Jimmy Camp Creek alluvium is a very fast running aquifer. Consequently, anything that happens one mile away or 500 feet away is likely to be a major concern to the source water.

Critical Zone (500' radius around well heads): Figure 8 shows these zones as concentric circles around the well heads. Although most of the areas near the well heads are either open space or residentially developed already, it is imperative that close attention be paid to all activities within the critical zones.

Zone 1 (refer to Figure 8, SWPP Zones 1 & 2 for more detail) encompasses an area of approximately 2 square miles which is generally upstream of the well locations. Most of Zone 1 is currently developed and/or planned as residential, retail, schools and open space/park land uses. Although may dispersed contaminant sources are identified within the area, it is the one discrete potential contaminant source presented by the fuel pipeline that runs east to west along Drennan Road's northerly right-of-way which presents the highest risk to the source water should a spill ever take place.

Zone 2 (again refer to Figure 8 for more detail) encompasses an area of about 2.3 square miles. Most of the relevance of this area is that it is still within two miles upstream of the Colorado Centre wells but upstream of the fuel pipeline. Although there are other facilities that could present a potential contamination source, i.e. one existing and one proposed electric substation, this area is only affected by dispersed potential contamination sources.

Zone 3 (refer to Figure 3) encompasses an area of around 33.6 square miles. Although there are several dispersed potential contamination sources, none of these is very threatening. The only discrete potential source of contamination is a sewer force main located along the State Highway 94 corridor. This sewer force main is approximately 5 miles away from the source water wells and because sewer spills must be addressed immediately and the deactivation of said line would isolate a very large population in the Cimarron Hills area, this makes it a highly unlikely extended contamination source and therefore, not a very threatening facility.

Contaminant Source Inventory

NOTICE

The information contained in this "Plan" is limited to that available from public records and the water supplier. Other "potential contaminant sites" or threats to the water supply may exist in the source water assessment areas that are not identified in this "Plan". Identification of a site as a "potential contaminant site" should not be interpreted as one that will necessarily cause contamination of the water supply.

The contaminant source inventory was conducted to identify whether or not selected potential sources of contamination might be present within the source water assessment area. CCMD inventoried discrete contaminant sources by field inspection of its entire service and tributary areas. The possible contaminant sources have been identified in Figures3 and 8.

Through this report, CCMD is reporting to the Colorado Department of Public Health and Environment its findings and how it would proceed in the event of contamination of its water source.

Discrete Potential Sources of Contamination

The following types of discrete contaminant sources were identified within the source water assessment areas for the ground water source analyzed:

- Oil and Gas Facilities (OGFAC)
- Electric Sub-Stations
- Sewer Force Main

Dispersed Potential Sources of Contamination

The contaminant source inventory results for CCMD indicate the following types of dispersed contaminant sources were identified within the source water assessment areas for the ground water source analyzed:

Land Uses:

- Commercial / Industrial / Transportation
- High Intensity Residential
- Low Intensity Residential
- Urban Recreational Grasses
- Public Facilities and Utilities
- Interim open range grazing

Other Types:

- Septic Systems
- Road Miles

Contaminant Health Concerns

The discrete and dispersed sources of contaminants can cause acute and chronic health concerns as indicated below. These categories of contaminants are most likely associated with the most threatening (discrete) and most prevalent (dispersed) sources identified in Tables 1-A and 1-B.

TABLE 1-A
CONTAMINANT TYPES ASSOCIATED WITH REGULATED DISCRETE CONTAMINANT SOURCES

Discrete Contaminant Source Type	Acute Health Concerns							Chronic Health Concerns									Aesthetic Concerns
	Microorganisms	Nitrate/Nitrite	Pesticides	Semi-volatile Organic Compounds (SVOCs)	Volatile Organic Compounds (VOCs)	Lead	Ammonia / Nitric Acid	Herbicides	Pesticides	Volatile Organic Compounds (VOCs)	Non-metal Inorganic Compounds	Metals - Primary Drinking Water (other than lead)	Radionuclides	Turbidity	Other Inorganic Compounds	Other Organic Compounds	Secondary Drinking Water Contaminants
Oil and Gas Facilities				x	x					x					x	x	x
Pipeline Companies					x		x	x		x	x	x			x	x	x
Electric Companies				x	x	x	x	x		x	x	x			x	x	x
Gas Companies					x		x	x		x	x	x			x	x	x
Water & Sewage Companies - Utilities	x	x		x	x	x	x	x		x	x	x			x	x	x
Lawn and Grounds Maintenance		x	x					x	x						x	x	
Seeding and Fertilizing Contractors		x	x					x	x						x	x	
Septic Tanks/Systems-Cleaning/Repairing	x	x													x	x	x
Garbage Collection	x	x	x	x	x	x		x	x	x	x	x		x	x	x	x
Pet Boarding	x	x					x								x		x

TABLE 1-B
CONTAMINANT TYPES ASSOCIATED WITH DISPERSED CONTAMINANT SOURCES

Dispersed Contaminant Source Type	Acute Health Concerns							Chronic Health Concerns									Aesthetic Concerns
	Microorganisms	Nitrate/Nitrite	Pesticides	Semi-volatile Organic Compounds (SVOCs)	Volatile Organic Compounds (VOCs)	Lead	Ammonia / Nitric Acid	Herbicides	Pesticides	Volatile Organic Compounds (VOCs)	Non-metal Inorganic Compounds	Metals - Primary Drinking Water (other than lead)	Radionuclides	Turbidity	Other Inorganic Compounds	Other Organic Compounds	Secondary Drinking Water Contaminants
LAND USES:																	
Commercial / Industrial / Transportation		x	x	x	x	x	x	x	x	x		x			x	x	x
High Intensity Residential	x	x	x					x	x					x	x	x	
Low Intensity Residential	x	x	x					x	x					x	x	x	
Urban Recreational Grasses		x	x					x	x					x	x	x	
Pasture / Hay	x							x	x					x			
Septic Systems	x	x	x				x	x	x						x		
Road Miles	x	x	x	x	x		x	x	x	x	x		x	x	x	x	x

Source Water Protection Priority Strategy

After reviewing the source water assessment results presented herein for CCMD, the Steering Committee adopted the two-step strategy recommended by the Colorado Department of Public Health and Environment for prioritizing the water sources and potential contaminant sources on which source water protection measures will be focused.

The strategy calls for water sources with total susceptibility ratings or physical setting vulnerability ratings of Moderately High or High to be prioritized as the first step in the process. A Moderately High or High total susceptibility rating indicates that the water source is proportionately more susceptible to potential contamination overall when compared to other similar types of water sources around the state. Higher total susceptibility ratings most typically result for water sources with highly vulnerable physical settings and a source water assessment area containing several potential contaminant sources that pose a significant threat to potential contamination. A Moderately High or High physical setting rating indicates a diminished ability of the physical setting of the source water assessment area to buffer contaminant concentrations in the source water below acceptable levels and, therefore it is more vulnerable to potential contamination. Even in cases where few if any potential contaminant sources are currently present, a water source with a highly vulnerable physical setting could be very susceptible to future contamination depending on the type of potential contaminant source(s) that might be introduced.

The strategy also outlines three options for prioritizing discrete and dispersed potential contaminant sources for source water protection measures as the second step of the process. These options include prioritizing source water protection measures based on:

1. Most prevalent contaminant sources. Under this option, protection measures would be focused on the discrete and dispersed contaminant sources that occur most frequently in the water system's source water protection areas, regardless of the individual susceptibility ratings they may have received.

2. Most threatening contaminant sources. Under this option, protection measures would be focused on the individual discrete and dispersed contaminant sources in the water system's source water protection areas to which the water source is most susceptible. The most threatening contaminant sources are defined as any potential contaminant source receiving a Moderately High or High individual susceptibility rating.

3. Most prevalent and threatening contaminant sources. Under this option, protection measures would be focused on the most frequently occurring discrete and dispersed contaminant sources in the water system's source water protection areas that received a Moderately High or High individual susceptibility rating.

In applying this strategy, the CCMD Steering Committee recommended focusing source water protection measures on CCMD's wells (critical zone), and the most threatening discrete contaminant sources and the most prevalent dispersed contaminant sources contained in Zone 1 of the source water protection areas for CCMD's groundwater intakes.

Source Water Protection Susceptibility Analysis

Notice

The susceptibility analysis provides a screening-level evaluation of the likelihood that a potential contamination problem could occur rather than an indication that a potential contamination problem has or will occur. The analysis is NOT a reflection of the current quality of the untreated source water, nor is it a reflection of the quality of the treated drinking water that is supplied to the public.

The subjective susceptibility review was conducted by CCMD to identify how susceptible an untreated water source could be to contamination from potential sources of contamination inventoried within its source water assessment area. Table 2 presents the priority strategy and the susceptibility analysis results for selected water sources for CCMD. The table summarizes the total susceptibility and physical setting vulnerability results for the wells (all in close proximity of each other), and the susceptibility results for each source water protection zone associated with the discrete and dispersed contaminant sources that have been prioritized for source water protection measures under this plan. As a starting point, these water sources have been prioritized based on the source water protection priority strategy recommended by the Steering Committee.

Table 2. Source Water Protection Priority Strategy and Susceptibility Results

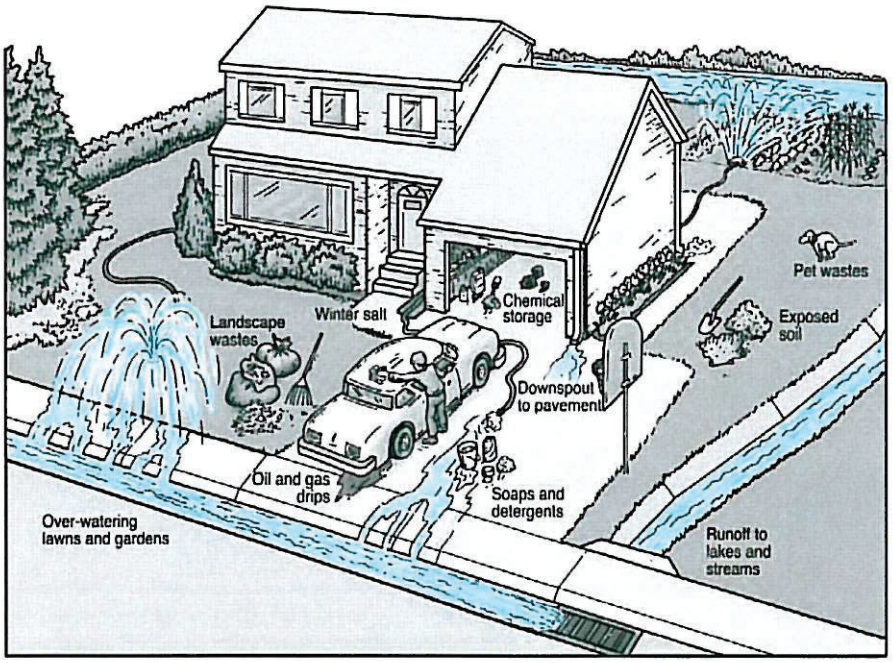
SOURCE ID	CO0121140-001	Critical Zone	ZONE 1	ZONE 2	ZONE 3
Source Name	210, 211, 214, 217				
Source Type	GW				
Total Susceptibility Rating	Moderate	High	High	Moderately Low	Low
Physical Setting Vulnerability	Moderate				
MOST THREATENING DISCRETE CONTAMINANT SOURCES					
EPA Chemical Inventory/Storage	1		1		
Oil and gas Facilities	2		1	1	1
TOTAL	3		2	1	1
MOST PREVALENT DISPERSED CONTAMINANT SOURCES					
Commercial/Industrial/Transportat	X		X	X	X
High Intensity Residential	X	X	X	X	X
Low Intensity Residential	X	X			X
Urban Recreational Grasses	X	X	X	X	X
Pasture/Hay	X			X	X
Mixed Forest	X				X
Septic Systems	X		X	X	X
Road Miles	X		X	X	X
TOTAL	8	3	5	6	8

Discussion of Issues of Concern

Primary Issues

1. Residential Practices/Public Education

The implementation of best management practices (BMPs) to reduce polluted runoff requires education, public involvement, and people motivated to help in the effort. Educating the CCMD community is a challenge and cornerstone of this protection plan. Public education will help people understand the potential threats to their drinking water source and motivate them to participate as responsible citizens to protect their valued resource. The CCMD Steering Committee recommends developing a public education plan for the CCMD community on ways they can help to prevent contamination of their water source.



2. Fuel Pipeline

Information received by the Steering Committee about the operation of this facility and the pipeline operator's knowledge of this study should help provide the necessary conduits to avert a contamination catastrophe.

Secondary Issues

1. Septic Tanks

Currently, there are five residences within the Source Water Protection Area with septics, also called individual sewage disposal systems (ISDSs). If managed improperly, these residential septic systems can contribute excessive nutrients, bacteria, pathogenic organisms, and chemicals to the

groundwater. Fortunately, any future development within CCMD will not include septic systems and all current septic systems will be eliminated within the next five years. The Steering Committee has recommended public education on proper septic maintenance as a method to protect their source water.

2. Land Uses

Future development within CCMD will occur over the next five years. The Steering Committee recommends that all land use decision-makers within the CCMD area be encouraged to consider source water protection of the CCMD wells when making land use decisions and that these decisions minimize the impacts to the water quality of the alluvial aquifer. The Steering Committee suggests working closely with the City of Colorado Springs and El Paso County Development Services staff and provide them with a map of the protection area, GIS data sets, and a copy of the final plan. It is suggested that CCMD is notified via the land use referral process when a major development permit application is submitted so that they may provide comments on the application.

3. Roads

Many spills occur in Colorado each year on highways and local roads. Chemicals from accidental spills, are often diluted with water, potentially washing the chemicals into the soil or nearby surface water and increasing the potential for contamination. The CCMD Steering Committee is concerned with vehicular spills contaminating their groundwater intakes and recommends educating the public on how to respond to a hazardous spill as well as working with local emergency response teams to ensure that any spills within the protection areas be effectively contained.

SOURCE WATER PROTECTION MEASURES

The Steering Committee reviewed and discussed several possible source water management approaches that could be implemented within the source water protection area(s) to help reduce the potential risks of contamination of the community's source water. The purpose of voluntarily implementing source water management approaches is to apply an additional level of protection to the drinking water supply by taking preventive measures at the local level (i.e. district, county and municipal level) to protect the source water. These local preventive measures will compliment regulatory protection measures already being implemented at the state and federal governmental levels by filling protection gaps that can only be addressed at the local level. The Steering Committee is confident that applying these management approaches is a cost-effective and common sense approach in helping to reduce the risks of costly service disruptions resulting from potential contamination of the source water.

The Steering Committee established certain acceptance criteria as part of identifying and selecting the most feasible source water management approaches to implement locally. The approaches selected were based on interviewing the District's staff and some residents about what would be the best way to reach customers. The selected approaches were discussed in two public hearings to seek input from the interested public. The end result is that the District feels that it already has the best way to reach the interested public through its monthly newsletter. This newsletter will be used to present summary actions that can be taken to ensure water quality. Links to the District's web site and to literature at the District's office will provide the readers with access to all the relevant information.

Community events may be used to disseminate information also. The Steering Committee recommends the following table of source water management tools to be implemented by CCMD and suggested to the El Paso County and City of Colorado Springs Planning Departments where applicable in the source water protection area(s). The list is prioritized in the order of importance to the Steering Committee.

The following web sites will be cross–referenced at the District's web site so that customers may find more detailed information about water quality and protection issues:

www.cabmphandbooks.com, www.npscolorado.com, www.epa.gov/watertrain/www.epa.gov/safewater/dwa/electronic/ematerials.html#SWP, www.epa.gov/owow/nps/forestrymgmt/.

Source Water Management Approaches

Priority Issue	Management Approach	Implementer
Residential Practices		
Public Education	1. Conduct public education through the District's newsletter and website to encourage practices that will protect CCMD's drinking water source. Topics will include: household hazardous waste storage and disposal, fertilizer usage, pet waste cleanup, water conservation, car washing and other activities. 2. Host community outreach nights in conjunction with Board meetings or independently, as deemed necessary by the Board. 3. Install signage, as necessary, to guide the public as to what is or is not permitted in certain areas of the District.	CCMD
Hazardous Materials	1. Educate the community about proper disposal of any hazardous materials including: local waste oil, solvents, lubricants, and degreasers, etc., and encourage collection and recycling of used oil, batteries, tires, pesticide containers and other agricultural chemical containers. 2. Continue to provide residents with contact numbers for the City's and County's hazardous materials hotlines.	CCMD
Fuel Pipeline		
Owners and Operators of gas and fuel pipelines	1. Notify the owners and operators of the pipeline companies of: Source Water Protection plan, their site being identified as a potential source of contamination to the water source, and the importance of preventing contamination of the source water.	CCMD

Secondary Issue	Management Approach	Implementer
Septic Systems		
Future Development	1. CCMD will work closely with all departments of El Paso County and the City of Colorado Springs, as necessary, to ensure that all development ties into the central sewer system, when feasible. 2. The few existing residences that now have septic systems will be connected to central sewer as soon as feasible. 3. All new construction will be encouraged to use sewer within CCMD service boundaries. Sewer services will be required for all non-residential construction and residential lots smaller than 2.5 acres.	CCMD El Paso County City of CS CCMD CCMD El Paso County City of CS
Land Use Planning and Controls	1. El Paso County and City of Colorado Springs land use planners will be encouraged to overlay the source water protection areas on their land use map and to refer to it during the development application review. 2. El Paso County Commissioners and City of Colorado Springs government officials will be encouraged to consider source water protection when making land use decisions or when adopting zoning and subdivision regulations. Land use controls may include requiring central services or site planning that specifically addresses the issue. 3. CCMD will provide government officials within the SWP area a map and GIS data sets.	El Paso County City of CS El Paso County Commissioners City of CS CCMD
Roads and Vehicular spills	1. Assess current County and other emergency service provider procedures in response to a 911 report of a spill on a roadway and collaboratively develop a response plan. 2. Meet with CCMD Fire Department to discuss their emergency response to vehicular spills of both contaminating materials and hazardous materials. Include this information in a contingency plan for each water system. 3. Educate the public on how to call "911" to report any spills within the SWP area Zone 1 both on public and private lands.	CCMD El Paso County City of CS CCMD CCMD

Source Water Protection Area Commitment

In an effort to ensure the safety and quality of its water sources, CCMD will endeavor to do the following:

1. Track and report to the public, CDPHE and CWRA on the effectiveness of the source water management approaches that have been implemented,
2. Apply source water assessment and protection principles to siting new water sources, and
3. Assist the Colorado Department of Public Health and Environment in making future refinements to their source water assessment and to revise their source water protection plan accordingly based on any major refinements.

CCMD is committed to developing a tracking and reporting system to gauge the effectiveness of the various source water management approaches that have been implemented. The purpose of tracking and reporting the effectiveness of the source water management approaches is to update water system managers, consumers, and other interested entities on whether or not the intended outcomes of the various source water management approaches are being achieved, and if not, what adjustments to the protection plan will be taken in order to achieve the intended outcomes.

Many requirements exist from the land use responsible agencies and the Colorado Department of Health and the Environment that relate to the safe delivery of water to customers, so CCMD will endeavor to:

- Continue testing its source water and that delivered to customers as per the State's guidelines;
- Continue to ensure that a Certified operator is on hand for the Water Department;
- Stay at the forefront of development activity that may impact the District's water sources;
- Provide interested agencies any requested information that may assit them in knowing what is or is not happening within the District's service area.

CCMD is voluntarily committed to applying source water assessment and protection principles to siting and protecting new water sources in the future. This is part of the larger ongoing commitment to providing the highest quality drinking water to CCMD consumers.

CCMD is voluntarily committed to assisting the Colorado Department of Public Health and Environment in making future refinements to their source water assessment and to revise the source water protection plan accordingly based on any major refinements. By making this commitment, CCMD is assuring that future assessment results are consistent with the available data and that source water management approaches are appropriate for the susceptibility concerns.

CCMD will ensure that future reviews or reassessments include all data accumulated and relevant information of which it is aware and will share it with the Colorado Department of Public Health and the Environment.

FIGURES

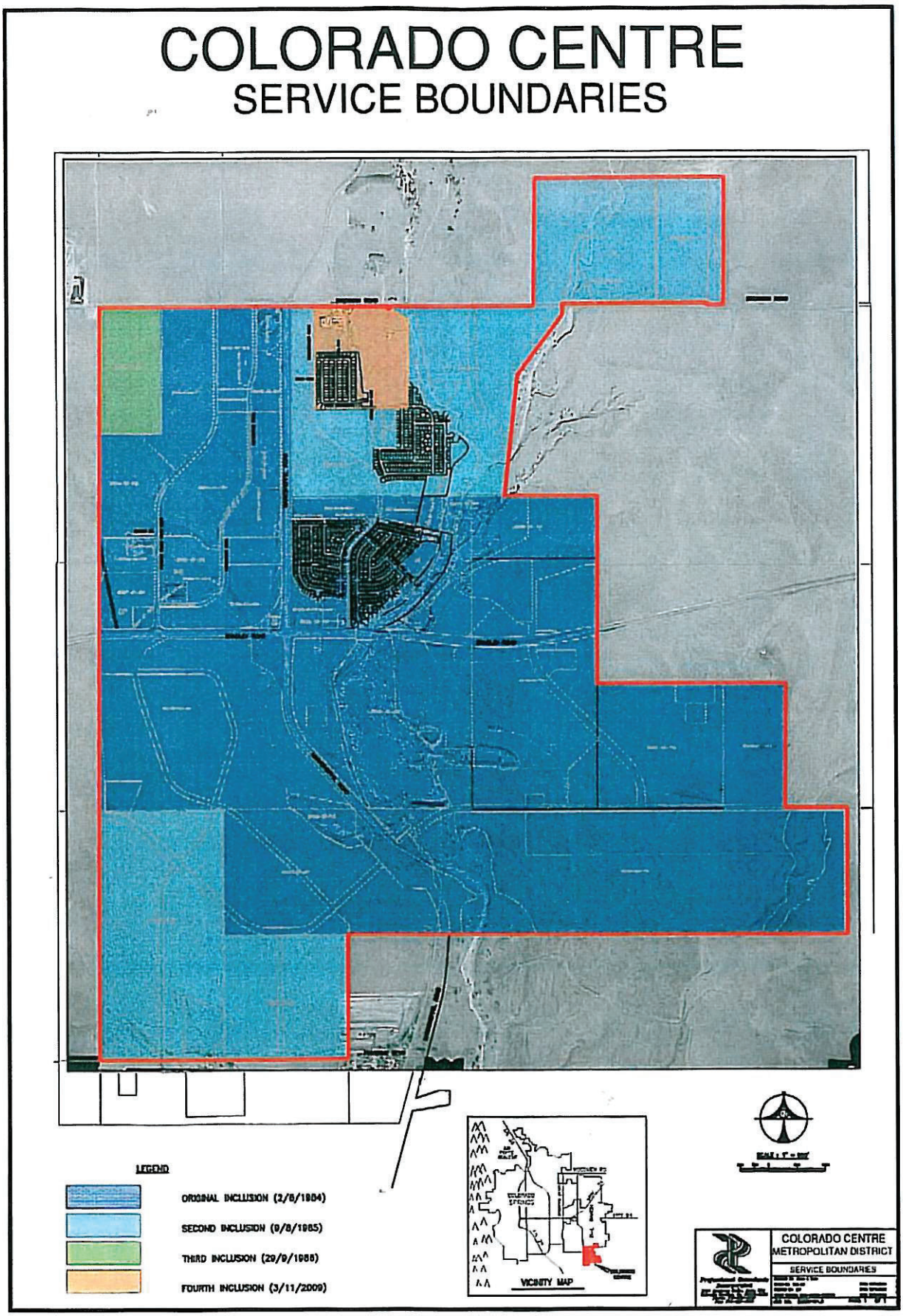


Figure 1: Colorado Centre MD Service Boundaries

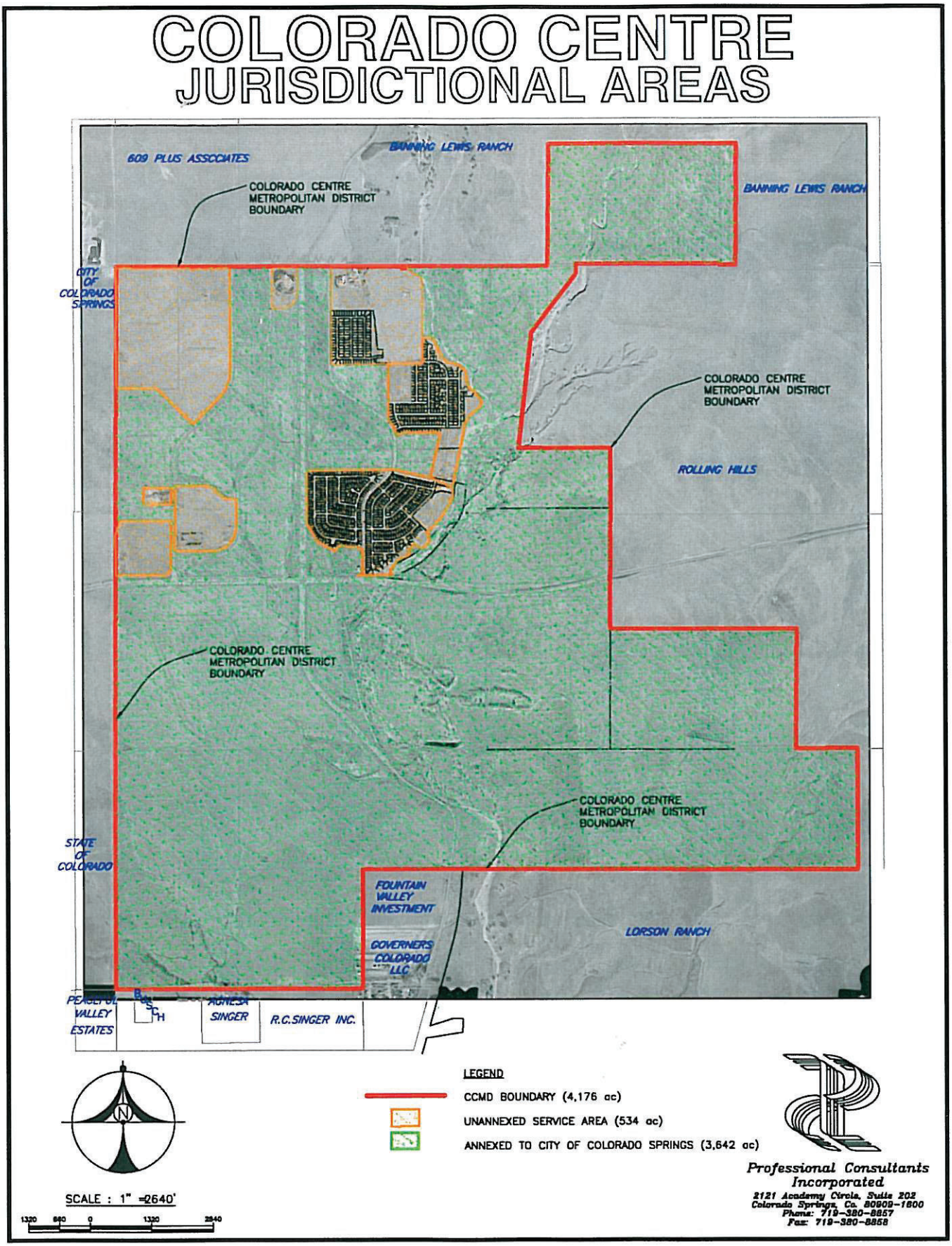


Figure 2: Colorado Centre MD Jurisdictions

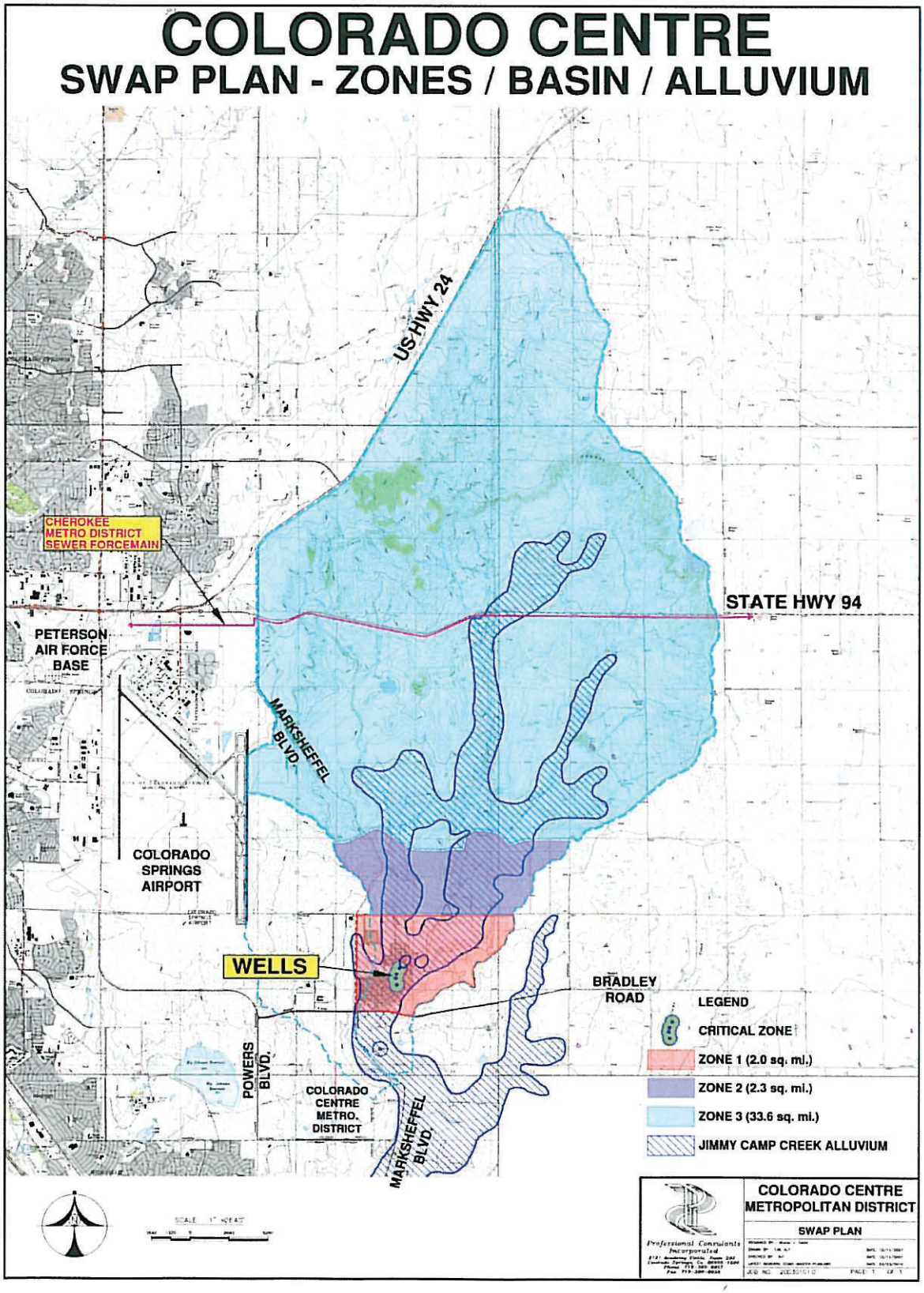


Figure 3: Jimmy Camp Creek Alluvium and SWAP Zones

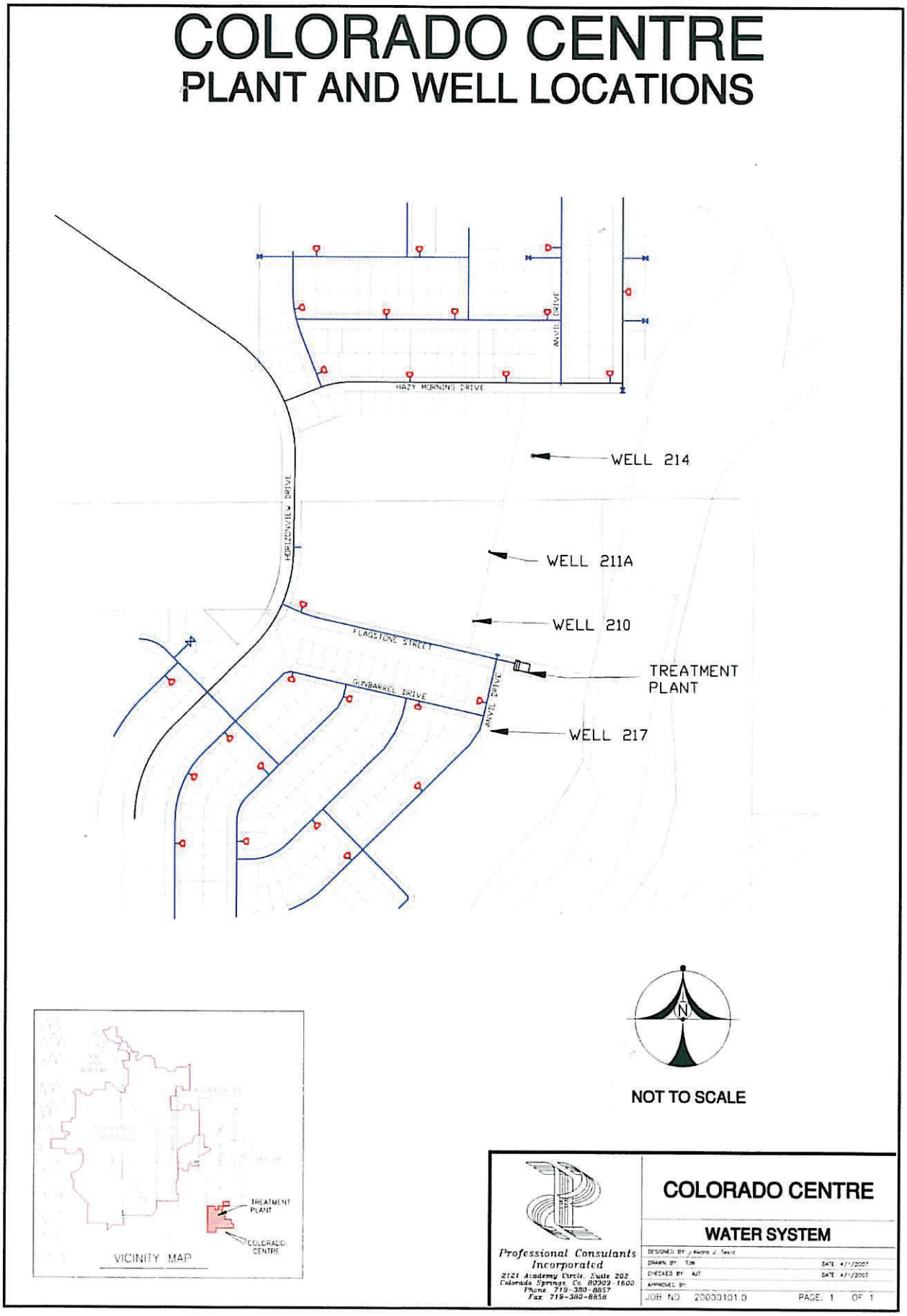


Figure 4: Well and Treatment Plant Locations

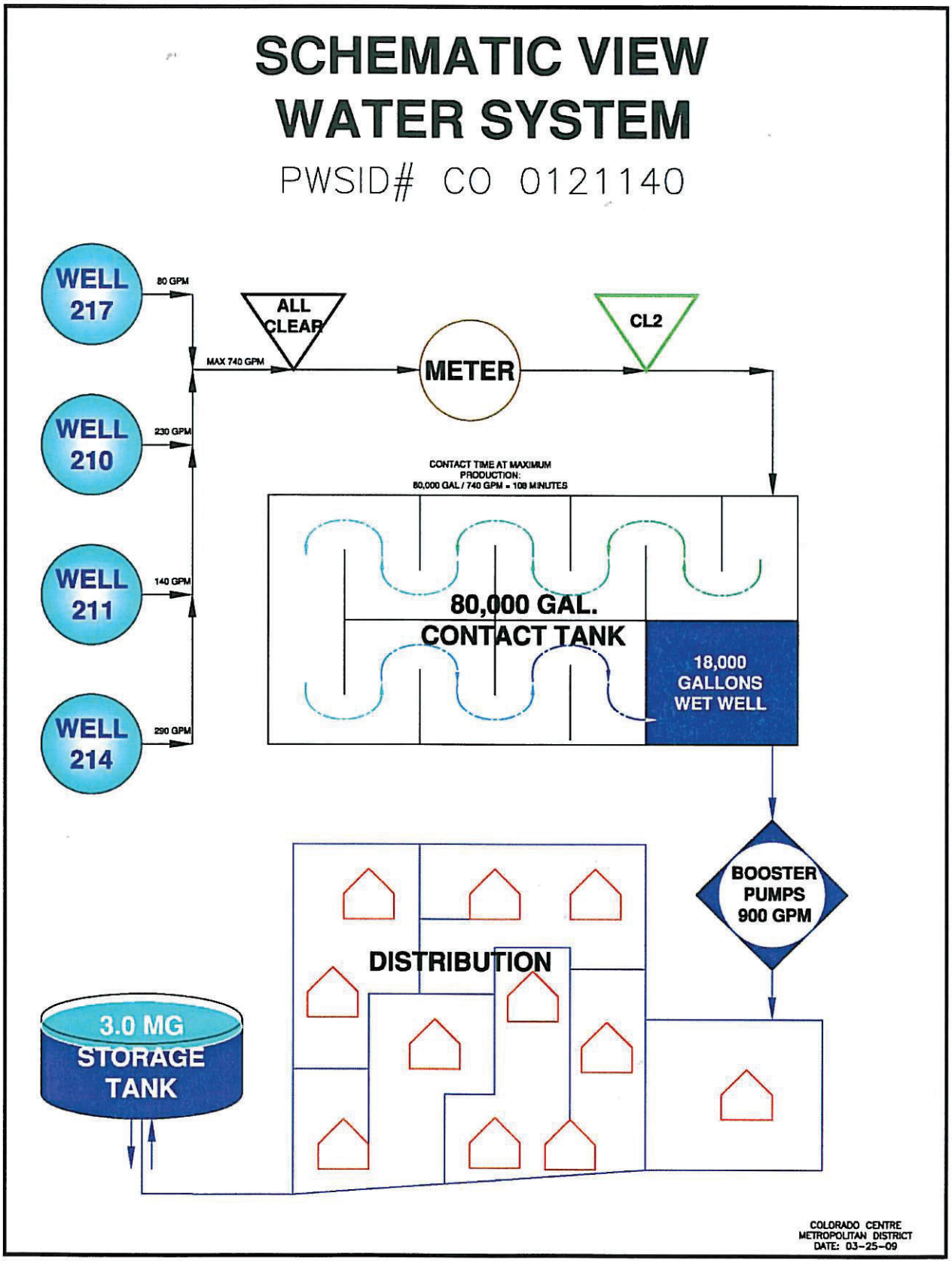


Figure 5: Colorado Centre MD Water Systems Process Schematic

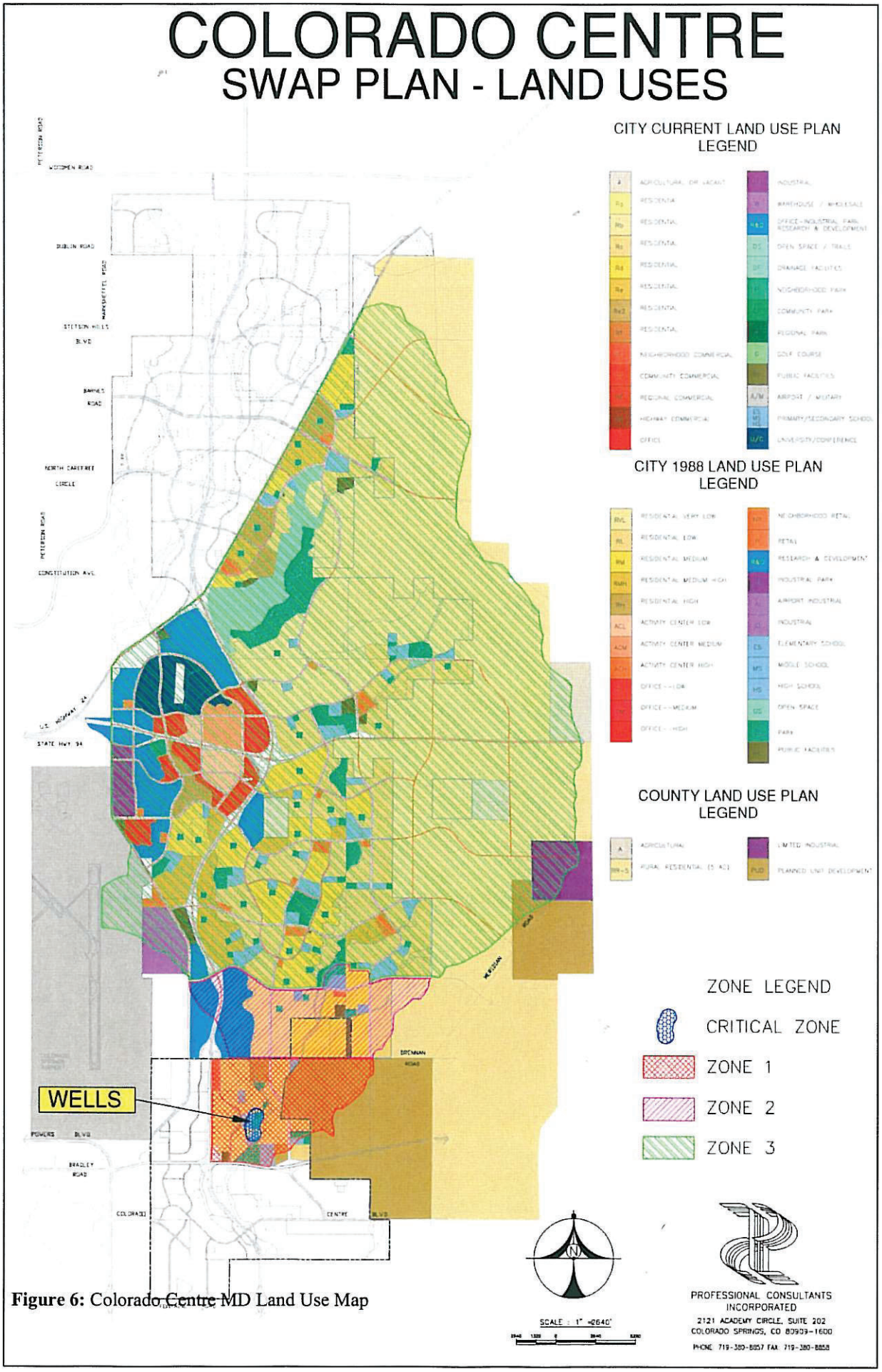


Figure 6: Colorado Centre MD Land Use Map

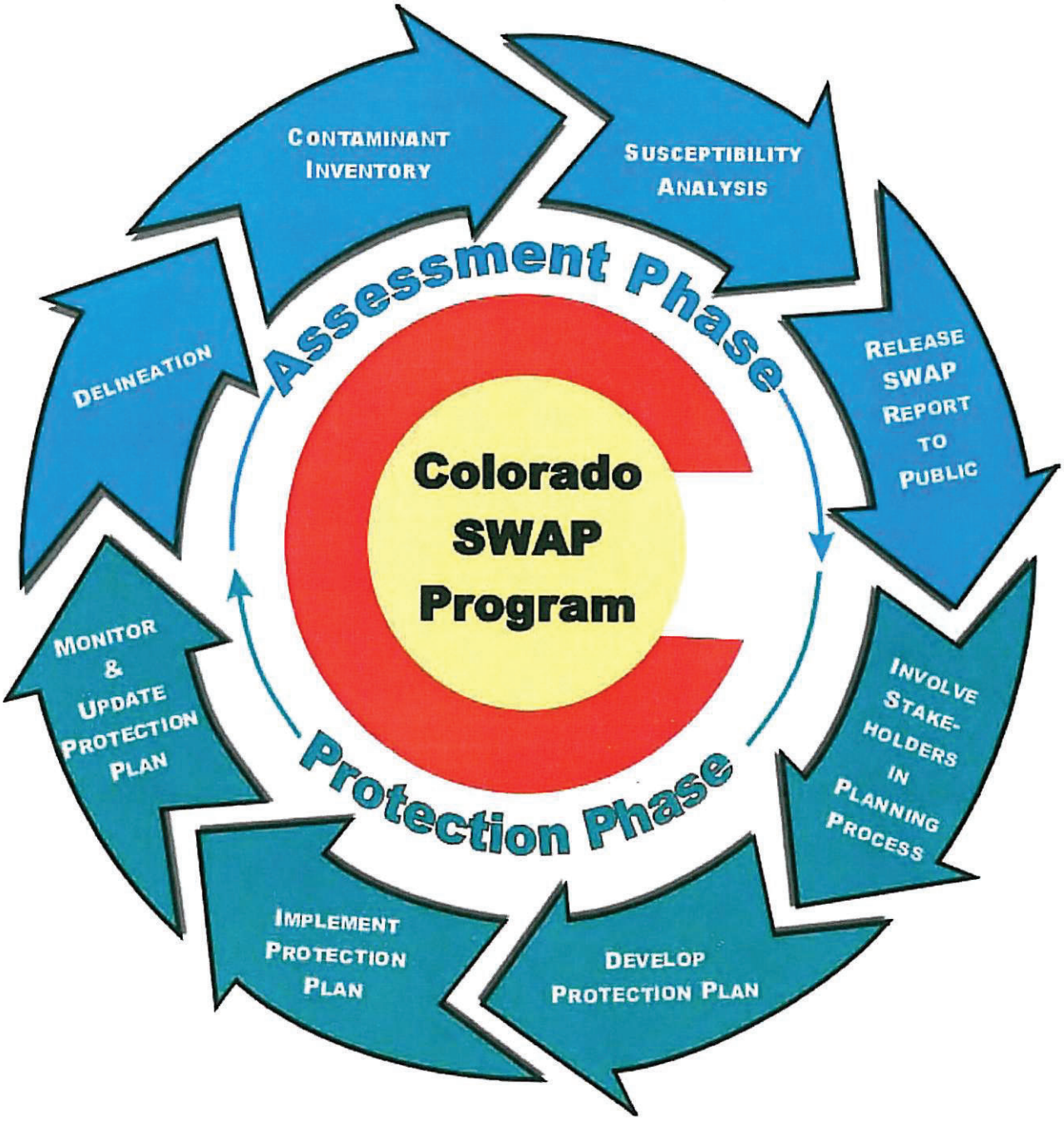


Figure 7: SWAP Diagram

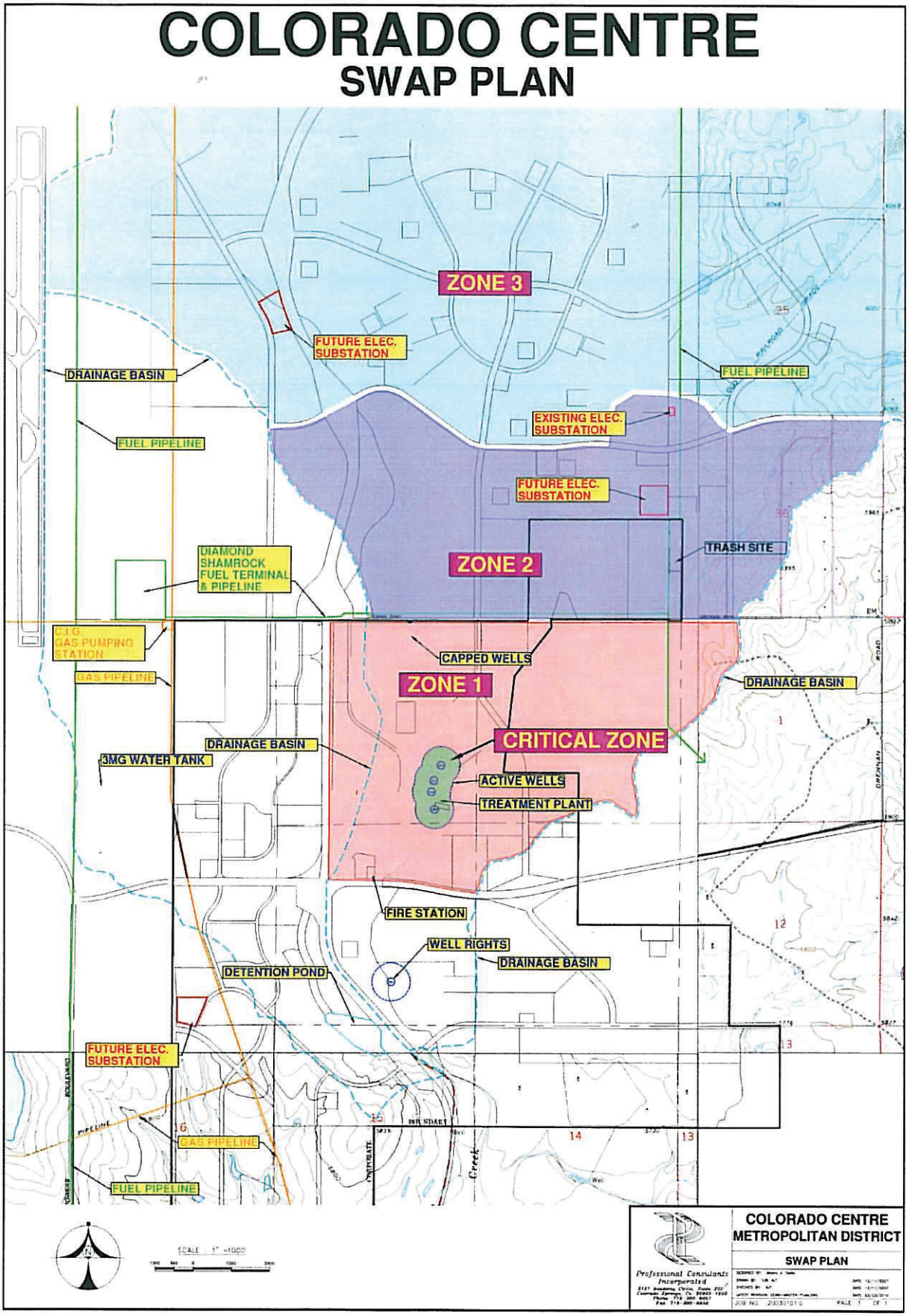


Figure 8: SWAP Zones 1 & 2