



EXTERNAL MEMORANDUM

To: Ed Morgan, PLA, ASLA
William Gunman & Associates, Ltd.

From: Alan J. Leak, P.E.
Principal
RESPEC
720 South Colorado Blvd., Suite 410 S
Denver, CO 80246

Date: May 12, 2021

Subject: Mountains Edge Filing 1 Subdivision - Water Resource Report



This water supply report is for the proposed Mountains Edge subdivision located within the North Half of the North Half of the Southwest Quarter of Section 13, Township 12 South, Range 63 West of the 6th Principal Meridian in El Paso County, Colorado, within the Upper Black Squirrel Creek Designated Ground Water Basin and within the jurisdiction of Upper Black Squirrel Creek Designated Groundwater Management District (see Figure 1). The 30.613-acre undeveloped land (Property) is proposed to be subdivided into 5 residential lots (see Figure 2), with lot sizes of 6.7, 5.2, 5.5, 5.2 and 5.1 acres, respectively. This water supply report has been prepared in compliance with Section 8.4.7 of the El Paso County Land Development Code.

Water Quantity

The total water demand for the proposed subdivision is calculated to be 2.28 af/yr. (see Table 1). This water demand is based upon the following:

- A total of 1.30 af/yr water demand for in-house uses for the 5 lots (0.26 af/lot/yr).
- A total of 0.85 af/yr water demand for outside uses for the 5 lots (0.17 af/lot/yr), based on a unit water demand of 0.0566 af/1000 sq. ft. of landscaping with a maximum landscaping of 3000 sq. ft. per lot.
- A total of 0.13 af/yr water demand for livestock watering for the five lots (0.026 af/lot/yr), calculated assuming 2 head of livestock per lot and a water demand of 0.013 af/year/head.

These water uses result in a total water demand per lot of 0.456 af/yr.

Wastewater from the domestic uses will be discharged into an evaporative on-site wastewater treatment system (OWTS) which will be designed and constructed in compliance with the requirements of the El

720 SOUTH COLORADO BLVD.
SUITE 410 S
DENVER, CO 80246
303.757.3655



Paso County Department of Health and Environment (EPCDHE). We estimate that the return flows from landscape irrigation will be 0.17 af/yr which is 20% of the landscape water requirements.

The water supply for the proposed subdivision will be supplied through individual wells drilled into the non-renewable non-tributary Arapahoe formation aquifer. The amount of water available from the Arapahoe aquifer was determined in the Colorado Ground Water Commission's Findings and Order for Determination of Water Right No. 1484-BD (Basin Determination 1484-BD). 1484-BD concluded that the allowed average annual amount of withdrawal of ground water from the Arapahoe aquifer shall not exceed 13.3 acre-feet based upon a 100-year aquifer life on 40 acres of land. The proposed subdivision is being developed on 30.613 acres of the 40 acres used for 1484-BD. Using a straight ratio reduction of the allowed annual amount, the amount of groundwater available for use by the proposed subdivision is 10.18 af/yr. Based on the El Paso County 300-year water supply requirement, this amount translates to 3.39 af/yr. or 0.678 af/yr. per lot. Each of the 5 lots will be allocated 0.678 af/yr of water from Arapahoe aquifer.

Water will be supplied by individual wells placed, drilled, and developed within each individual lot and will be permitted and constructed in accordance with findings and order stated in 1484-BD. The wells shall be designed and constructed in accordance with the Colorado Rules and Regulations for Water Well Construction, Pump Installation, Cistern Installation, and monitoring and Observation Hole/Well (Well Construction Rules, 2 CCR 402-2). Wells drilled into the Arapahoe aquifer typical last 20 to 30 years before well rehabilitation may be required. The timing of well replacement will depend on the individual well owner's well maintenance activities. Each well will be constructed at the time that the construction of the residential unit is constructed on that lot. Well drilling logs, well completion reports, and data and analysis of constant rate and step test pump tests will be provided upon completion of the individual well. Return flow from landscape irrigation of 0.17 af/yr (or 7.5% of the total water demand of the subdivision) exceed the 2% required return flows from use of the Arapahoe aquifer. Arapahoe aquifer wells typically yield 10 gpm or greater which is adequate for the proposed domestic water uses of the proposed subdivision. An augmentation plan is not required for use of the Arapahoe aquifer at this location.

Water Quality

The water quality of the Arapahoe aquifer under the proposed subdivision has not been tested. However, water quality of the Arapahoe aquifer has been reported in the United States Geological Survey "Water Quality in the Denver Basin Aquifer System, Colorado, 2003-05", Circular 1357, to generally be in compliance with the minimum safe drinking water requirements set by the State of Colorado pursuant to the Colorado Water Quality Control Commission's Primary Drinking Water Regulations (Regulation #11) and the requirements of the EPCDHE. Arapahoe aquifer groundwater is used by numerous water suppliers for drinking water in public water supply systems throughout the aerial extent of the Arapahoe aquifer. It is unlikely but possible that Arapahoe aquifer water will contain levels of iron and/or manganese higher than the requirements of Regulation #11 or the requirements of the EPCDHE. Upon drilling of the first Arapahoe aquifer well within the subdivision, the well water will be sampled, tested, and the resultant water quality test results will be provided to the County. If any of the well water constituents exceeds the requirements of Regulation #11 or the requirements of EPCDHE, individual home treatment systems will be required for the portion of the water supply to be used for potable uses. The Arapahoe aquifer is not subject to water quality degradation from on-site and off-site sources as long as the well is constructed in accordance with the Well Construction Rules. Based



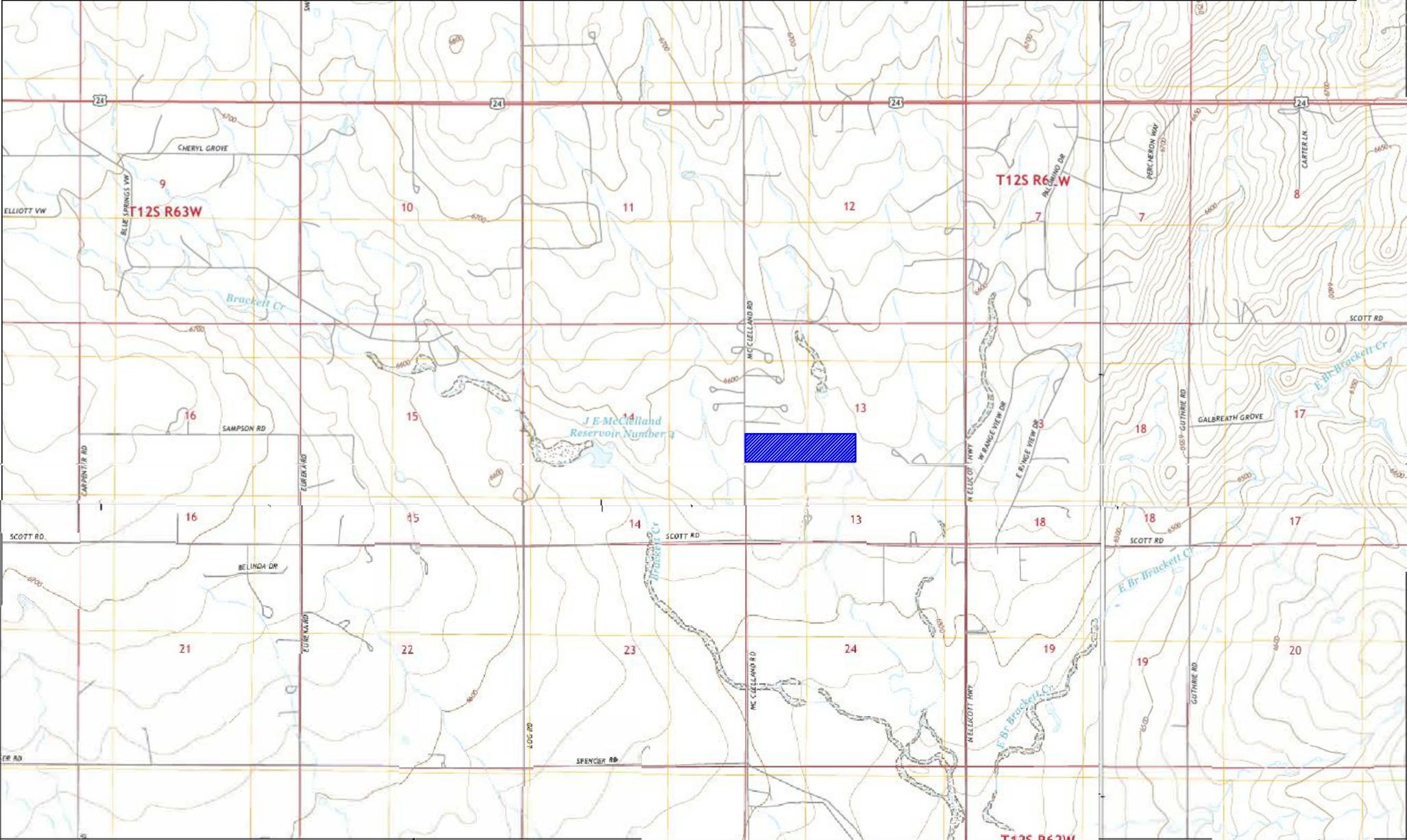
upon the available information the Arapahoe aquifer water will be suitable as a safe drinking water source for the subdivision.

Water Supply Dependability

The proposed source of water supply is the non-tributary Arapahoe aquifer. The Arapahoe aquifer water will be used in accordance with 1484-BD. The calculations provided in 1484-BD provide a scientific basis for estimating the life of the Arapahoe aquifer. When combined with the 300-year limitation by El Paso County requirements, the Arapahoe aquifer will be a dependable water supply for the proposed subdivision.

Conclusion

It is my opinion that the water supply available for this subdivision is of the quantity, quality, and dependability required by Section 8.4.7 of the El Paso County Land Development Regulations.




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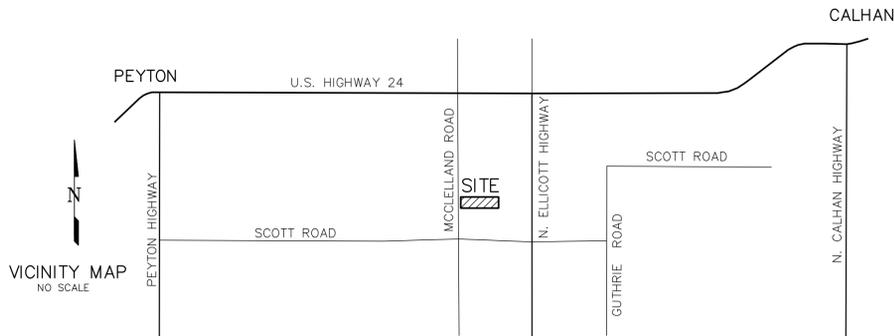
Mountains Edge

Property Location Map

Date: 03/10/2021

Figure 1

Scale: 1" = 2000'



MOUNTAIN'S EDGE FILING 1

THE NORTH HALF OF THE NORTH HALF
OF THE SOUTHWEST QUARTER OF SECTION 13, TOWNSHIP 12 SOUTH,
RANGE 63 WEST OF THE 6TH P.M., EL PASO COUNTY, COLORADO

NOTES, continued:

- Sewage treatment is the responsibility of each individual property owner. The El Paso County Department of Health and Environment must approve each system and, in some cases, the Department may require an engineer designed system prior to permit approval. These systems may cost more to design, install, and maintain.
- Individual wells are the responsibility of each property owner. Permits for individual wells must be obtained from the State Engineer who by law has the authority to set conditions for the issuance of these permits.

Water in the Denver Basin Aquifers is allocated based on a 100-year aquifer life; however, for El Paso County planning purposes, water in the Denver Basin Aquifer is evaluated based on a 300-year aquifer life. Applicants, the Home Owners Association and all future owners in the subdivision, should be aware that the economic life of a water supply based on wells in a given Denver Basin Aquifer may be less than either the 100 years or 300 years indicated due to anticipated water level declines. Furthermore, the water supply plan should not rely solely upon non-renewable aquifers. Alternative renewable water resources should be acquired and incorporated in a permanent water supply plan that provides future generations with a water supply.

- Geologic Hazard Note-Final Plat:** The following lots have been found to be impacted by geologic hazards. Mitigation measures and a map of the hazard area can be found in the report "Geology and Soils Report, Mountains Edge Development, El Paso County, Colorado" by Kumar & Associates, Inc. dated November 14, 2008 in file SP-10-002 available at the El Paso County Development Services Department:
 - Flooding, Bank Erosion and Sedimentation: Portions of Lots 2 and 3.
 - Accelerated Erosion: Portions of Lot 3.
 - Potentially Seasonally Shallow Groundwater: Portions of Lots 2 and 3.
 - Man Made Fill: Portions of Lots 4 and 5.
 - Shallow Bedrock: More prevalent on Lot 1 and the west portion of Lot 2.

Due to the potential for shallow groundwater in the area, all below grade construction such as basements and crawl spaces should be provided with an underdrain system. Requirements for a foundation underdrain system should be determined based on site-specific geotechnical engineering studies performed for the individual structures once the building location has been selected.

- The following reports have been submitted in association with the Preliminary Plan or Final Plat for this subdivision and are on file at the County Planning and Community Development Department (SF201): Transportation Impact Letter; Drainage Report; Water Resources Report; Wastewater Disposal Report; Geology and Soils Report; Fire Protection Report; Natural Features Report.
- All property owners are responsible for maintaining proper storm water drainage in and through their property. Public drainage easements as specifically noted on the plat shall be maintained by the individual lot owners unless otherwise indicated. Structures, fences, materials or landscaping that could impede the flow of runoff shall not be placed in drainage easements.
- There shall be no direct lot access to McClelland Road.
- Individual lot purchasers are responsible for constructing driveways, including necessary drainage culverts from Farmhouse Court per Land Development Code Section 6.3.3.C.2 and 6.3.3.C.3. Due to their length, some of the driveways will need to be specifically approved by the Peyton Fire Protection District.
- Developer shall comply with federal and state laws, regulations, ordinances, review and permit requirements, and other agency requirements, if any, of applicable agencies including, but not limited to, the Colorado Division of Wildlife, Colorado Department of Transportation, U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service regarding the Endangered Species Act, particularly as it relates to the listed species.
- (19339) - Indicates property address. The addresses exhibited on this plat are for informational purposes only. They are not the legal description and are subject to change.
- No driveway shall be established unless an access permit has been granted by El Paso County.
- Mailboxes shall be installed in accordance with all El Paso County and United States Postal Service regulations.
- No structures are permitted within designated "No-Build" AREA(S).
- Federal Emergency Management Agency, Flood Insurance Rate Map Number 08041C0585 G, effective date December 7, 2018, indicates the area in the vicinity of this parcel of land to be a Zone X (area determined to be out of the 500 year flood plain).
- At the time of approval of this project, this property is located within the Peyton Fire Protection District, which has adopted codes requiring fire mitigation requirements depending upon the level of fire risk associated with the property and structures.

The Developer shall install a 30,000 gallon cistern in the Peyton Fire Protection District Cistern Easement shown hereon in Lot 1 in accordance with Peyton Fire Protection District specifications. The Developer shall be responsible for filling the cistern the first time. Once inspected and accepted the Cistern shall be kept filled, owned and maintained by the Fire District.

The Peyton Fire Protection District Cistern Easement is for the District's use in operating and maintaining fire fighting facilities (30,000 gallon cistern). The Cistern shall be installed per the District's specifications. The easement and facilities shall be maintained by the District.

SURVEYOR'S CERTIFICATION:

I Daniel L. Kupferer, a duly registered Professional Land Surveyor in the State of Colorado, do hereby certify that this plat correctly represents the results of a survey made on date of survey, by me or under my direct supervision and accurately shows the subdivision thereof and that all monuments exist as shown hereon; that mathematical closure errors are less than 1:10,000; and that said plat has been prepared in full compliance with all applicable provisions of the El Paso County Land Development Code, and that the requirements of Title 38 of the Colorado Revised Statutes, 1973 have been met to the best of my professional knowledge, belief and opinion and that it is accordance with applicable standards of practice and this is not a guaranty or warranty, either expressed or implied.

Daniel L. Kupferer
Colorado Professional Land Surveyor No. 18465
For and on behalf of LDC, Inc



NOTES(continued):

- Notice: According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon.
- A design-level subsurface geotechnical investigation should be conducted at each building site prior to building. Foundation and septic designs may require mitigation based on the findings of this investigation.
- A site-specific investigation should be conducted prior to building to determine design criteria, including depth to seasonal groundwater and percolation rates. Engineered septic systems may be required for some lots.
- Seasonally shallow groundwater may be present in areas of this site. Appropriate subsurface drainage should be established for utility lines and subsurface construction expected within 5 feet of the seasonally high groundwater table.
- No lot or interest therein, shall be sold, conveyed, or transferred whether by deed or by contract, nor shall building permits be issued, until and unless either the required public and common development improvements have been constructed and completed and preliminarily accepted in accordance with the Subdivision Improvements Agreement between the applicant/owner and El Paso County as recorded under Reception Number _____ in the Office of the Clerk and Recorder of El Paso County, Colorado or, in the alternative, other collateral is provided to make provision for the completion of said improvements in accordance with the El Paso County Land Development Code and Engineering Criteria Manual. Any such alternative collateral must be approved by the Board of County Commissioners or, if permitted by the Subdivision Improvements Agreement, by the Planning and Community Development Department Director and meet the policy and procedure requirements of El Paso County prior to the release by the County of any lots for sale, conveyance or transfer. This plat restriction may be removed or rescinded by the Board of County Commissioners or, if permitted by the Subdivision Improvements Agreement, by the Planning and Community Development Department Director upon either approval of an alternative form of collateral or completion and preliminary acceptance by the El Paso County Board of County Commissioners of all improvements required to be constructed and completed in accordance with said Subdivision Improvements Agreement. The partial release of lots for sale, conveyance or transfer may only be granted in accordance with any planned partial release of lots authorized by the Subdivision Improvements Agreement.
- Water wells will be supplied from the Arapahoe Aquifer, and must be constructed with the Determination of Water Rights No., 1484-BD. Each well owner shall submit annual diversion records to the UBS District.
- Well spacing within the subdivision must comply with UBS District rule/regulation 14.
- The existing Denver Aquifer well will be abandoned, and the UBS District copied on the abandonment report.
- Onsite Wastewater Systems (OWS)/individual septic systems shall be designed and utilized consisting of membrane and evaporative drain field technology as required by the Upper Black Squirrel Groundwater Management District, constructed with an impermeable liner to prevent sewage effluent from entering underlying soils and groundwater. Evapotranspiration fields shall be located in an area of unobstructed sunshine. Monitoring and maintenance of OWS must be per manufacturer/designer recommendation, with records submitted to the UBS District.
- Additional chemical analysis shall be required at time of individual well drilling meeting all EPCH standards.
- TRAFFIC IMPACT FEE:** The subdivider agrees on behalf of himself and any development or builder successors and assigns, shall be required to pay traffic impact fees in accordance with the countywide transportation improvement fee resolution (Resolution 19-471), as amended, at or prior to building permit submittals. The fee obligation, if not paid at final plat recordation, shall be documented on all sales documents and on plat notes to ensure that a title search would find the fee obligation before sale of the property. The road impact fee is based on the established rate at the time of building permit application and will be paid by the applicant at that time. No Public Improvement District (PID) is requested.

APPROVALS:

BOARD OF COUNTY COMMISSIONERS CERTIFICATE:

This plat of MOUNTAIN'S EDGE was approved for filing by the El Paso County, Colorado, Board of County Commissioners on the _____ day of _____, 20____, subject to any notes specified hereon and any conditions included in the resolution of approval. The dedications of land to the public for streets and easements are accepted, but the public improvements thereon will not become the maintenance responsibility of El Paso County until preliminary acceptance of the public improvements in accordance with the requirements of the Land Development Code and Engineering Criteria Manual, and the Subdivision Improvements Agreement.

Chair, Board of County Commissioners Date _____

Executive Director, El Paso County Planning and Community Development Department Date _____

RECORDING:

STATE OF COLORADO }
COUNTY OF EL PASO } SS

I hereby certify that this instrument was filed in my office on this _____ day of _____, 20____

and was recorded at Reception Number _____ of the records of El Paso County, Colorado

CHUCK BROERMAN
CLERK AND RECORDER

By: _____
Deputy

FEES:

Park Fee: _____ Drainage Fee: _____

School Fee: _____ Bridge Fee: _____

PCD File No. SF201

KNOW ALL MEN BY THESE PRESENTS:

That OGC RE2, LLC, a Colorado Limited Liability Company, being the owner of the following described tract of land to wit:

A part of the North Half of the North Half of the Southwest Quarter (N1/2 N1/2 SW1/4) of Section 13, Township 12 South, Range 63 West of the 6th P.M., situate in El Paso County, Colorado, more particularly described as follows:

Beginning at the West Quarter Corner of said Section 13;
thence S87°49'24"E along the North line of said N1/2 N1/2 SW1/4, 1833.46 feet;
thence S17°31'18"E, 104.90 feet;
thence S20°22'39"E, 138.52 feet;
thence S36°14'11"E, 202.46 feet;
thence S33°20'14"E, 179.89 feet;
thence S21°49'13"E, 136.76 feet to a point on the South line of said N1/2 N1/2 SW1/4;
thence N87°48'59"W along the South line of said N1/2 N1/2 SW1/4, 2179.90 feet to the Southwest corner of said N1/2 N1/2 SW1/4;
thence N00°15'44"W along the West line of said N1/2 N1/2 SW1/4, 657.01 feet to the Point of Beginning;

Containing 30.613 acres, more or less.

OWNER CERTIFICATION:

The undersigned, being all the owners, mortgagees, beneficiaries of deeds of trust and holders of other interests in the land described herein, have laid out, subdivided, and platted said lands into lots, road rights-of-way and easements as shown hereon under the name and subdivision of MOUNTAIN'S EDGE. The road rights-of-way are hereby dedicated to El Paso County for public use. All public improvements easements so platted are hereby dedicated to public use and said owner does hereby covenant and agree that the public improvements will be constructed to El Paso County standards and that proper drainage and erosion control for same will be provided at said owner's expense, all to the satisfaction of the Board of County Commissioners of El Paso County, Colorado. Upon acceptance by resolution, all public improvements so constructed will become matters of maintenance by El Paso County, Colorado. The utility easements shown hereon are hereby dedicated for public utilities and communication systems and other purposes as shown hereon. The entities responsible for providing the services for which the easements are established are hereby granted the perpetual right to use said easements for ingress and egress from and to adjacent properties for installation, maintenance, and replacement of utility lines and related facilities.

IN WITNESS WHEREOF:

The aforementioned, OGC RE2, LLC, a Colorado Limited Liability Company, has executed this

instrument this _____ day of _____, 20____A.D.

OGC RE2, LLC, a Colorado Limited Liability Company

By: _____
_____, Manager

NOTARIAL:

STATE OF _____ }
COUNTY OF _____ } SS

Acknowledged before me this _____ day of _____, 20____ A.D.,

by _____ Manager of OGC RE2, LLC, a Colorado Limited Liability Company.

Witness my hand and seal _____

My commission expires _____

NOTES:

- This survey does not constitute a title search by LDC, Inc. to determine ownership or easements of record. For all information regarding easements, rights-of-way and title of record, LDC, Inc. relied upon a Title Report for Title Insurance, prepared by COMMONWEALTH LAND TITLE INSURANCE COMPANY, Title Report No. H0540225-710-CTO-SSC dated July 14, 2018 at 6:00 P.M.
- Basis of Bearings: All bearings are based upon the North line of the Southwest Quarter of Section 13, Township 12 South, Range 63 West of the 6th P.M., monumented as shown and assumed to bear S87°49'24"E, a distance of 2602.49 feet.
- Unless otherwise indicated, all side, front and rear lot lines are hereby platted on either side with a 10 foot public utility and drainage easement unless otherwise indicated. All exterior subdivision boundaries are hereby platted with a 20 foot public utility and drainage easement. The sole responsibility for maintenance of these easements is hereby vested with the individual property owners.

CALL BEFORE YOU DIG . . .



DIAL 811
48 HOURS BEFORE YOU DIG. CALL UTILITY LOCATORS FOR LOCATING AND MARKING GAS, ELECTRIC, WATER AND WASTEWATER.

No.	By	Date	Description
1	RDG	06/24/10	COUNTY COMMENTS
2	RDG	08/03/10	COUNTY COMMENTS
3	JAR	8/26/10	COUNTY COMMENTS
4	DLK	06/29/10	REVISED OWNERS NAME
5	JLG	07/31/18	REVISED PLAT NOTES: TITLE
6	JLG	5/6/2021	REVISED PLAT NOTES: TITLE

H Scale: 1" = 100'
V Scale: N/A
Designed By: N/A
Drawn By: KLWRDQ
Checked By: _____
Date: 01/09/09

Land Development Consultants, Inc.
PLANNING • SURVEYING
www ldc inc com • TEL: (719) 528-6133 • FAX: (719) 528-8548
3888 MAZELAND ROAD • COLORADO SPRINGS, CO 80909

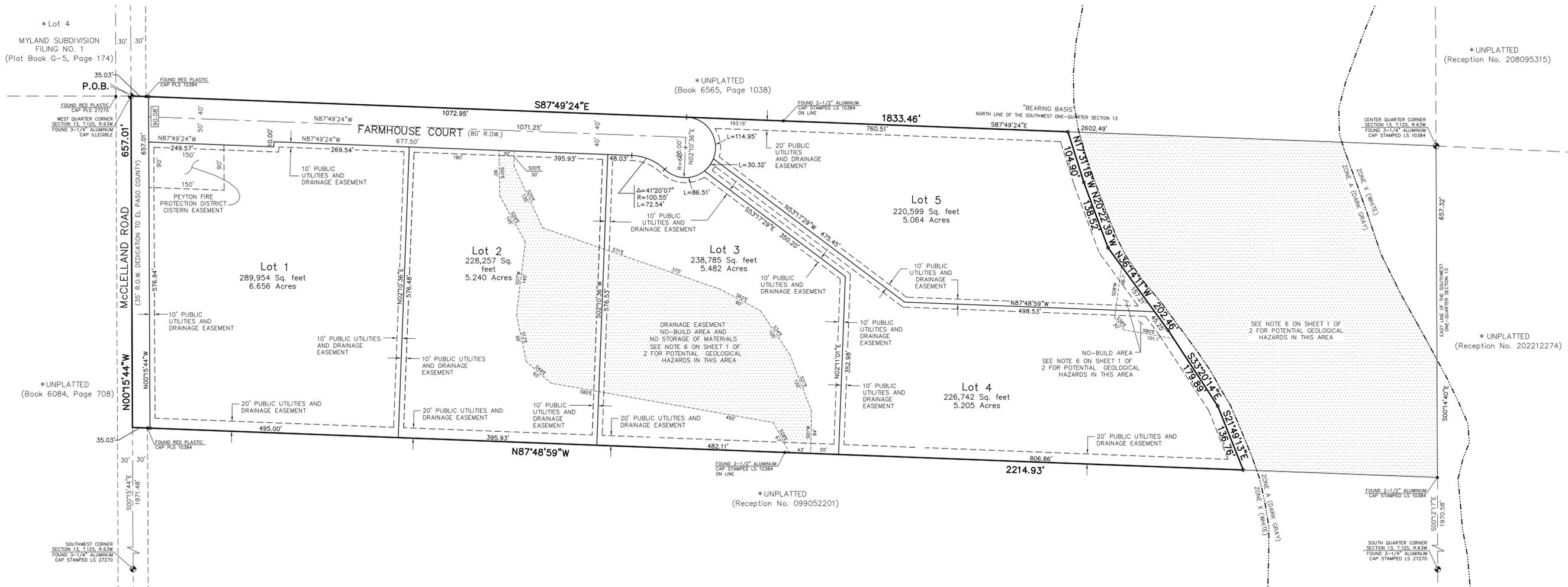
FINAL PLAT
MOUNTAIN'S EDGE FILING 1

Project No.: 08019

Sheet: 1 of 2

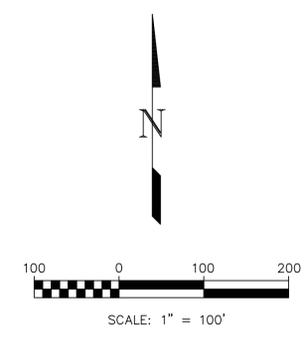
MOUNTAIN'S EDGE

THE NORTH HALF OF THE NORTH HALF
OF THE SOUTHWEST QUARTER OF SECTION 13, TOWNSHIP 12 SOUTH,
RANGE 63 WEST OF THE 6TH P.M., EL PASO COUNTY, COLORADO



LEGEND:

- - Indicates survey monument set with a #4 rebar with Surveyor's Cap, PLS #20681.
- - Indicates recovered survey monument as noted.
- * - Indicates not a part of this subdivision.
- - Indicates FEMA flood hazard delineation line
- ▨ - Indicates NO-BUILD area



*Lot 4
MYLAND SUBDIVISION
FILING NO. 1
(Plat Book G-5, Page 174)

*UNPLATTED
(Book 6565, Page 1038)

*UNPLATTED
(Reception No. 208095315)

*UNPLATTED
(Book 6084, Page 708)

*UNPLATTED
(Reception No. 099052201)

*UNPLATTED
(Reception No. 202212274)

CALL BEFORE YOU DIG . . .

811
DIAL 811

48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS FOR LOCATING AND MARKING GAS, ELECTRIC, WATER AND FIBER OPTIC

No.	Date	By	Description
1	06/03/10	RJD	COUNTY COMMENTS
2	08/26/10	JAR	COUNTY COMMENTS
3	06/12/19	DLK	REV. EBBY AND LOTS

H Scale:	1" = 100'
V Scale:	N/A
Designed By:	N/A
Drawn By:	KLWRDG
Checked By:	DLK
Date:	01/09/09

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**FINAL PLAT
MOUNTAIN'S EDGE**

Project No.: **08019**

Sheet: **2** of **2**

PCD File No. SF201

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Table 1
Mountains Edge Filing 1 Subdivision

Summary of Estimated Demands and Consumptive Use

Water Demand Parameters	
Total Number of EQRs	5
In-house Demand per EQR (Based on 0.26 af/lot/yr)	232 gal/day
Percent of In-house Water Used Consumptively - (Evaporative OWTS)	100 %
Number of Livestock	10
Daily Usage for Livestock	12 gal/day
Consumptive Use Percentage for Livestock	100%
Irrigated Outside Use Area	0.34 acres
Annual Crop Application Rate (Based on 0.0566 af/1000 sq.ft.)	2.47 af/ac
Irrigation Efficiency	80%

(Page 37, EP Land Use Code 5/2016)

(Page 37, EP Land Use Code 5/2016)

Months	(1) (2) (3) (4) Water Demands				(5) (6) (7) (8) Water Consumption				(9) (10) (11) (12) (13) Return Flows				
	In-house	Irrigated Outside	Livestock Use	Total	In-house	Irrigated Outside	Livestock Use	Total	In-house	Irrigated Outside Use	Total		
	(acre-ft)	(acre-ft)	(acre-ft)	(acre-ft)	(acre-ft)	(acre-ft)	(acre-ft)	(acre-ft)	(acre-ft)	(gpm)	(acre-ft)	(gpm)	(acre-ft)
January	0.11	0.00	0.01	0.12	0.11	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00
February	0.10	0.00	0.01	0.11	0.10	0.00	0.01	0.11	0.00	0.00	0.00	0.00	0.00
March	0.11	0.00	0.01	0.12	0.11	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00
April	0.11	0.04	0.01	0.15	0.11	0.03	0.01	0.15	0.00	0.00	0.01	0.05	0.01
May	0.11	0.12	0.01	0.24	0.11	0.10	0.01	0.22	0.00	0.00	0.02	0.18	0.02
June	0.11	0.18	0.01	0.29	0.11	0.14	0.01	0.26	0.00	0.00	0.04	0.27	0.04
July	0.11	0.19	0.01	0.31	0.11	0.15	0.01	0.27	0.00	0.00	0.04	0.27	0.04
August	0.11	0.14	0.01	0.26	0.11	0.11	0.01	0.23	0.00	0.00	0.03	0.21	0.03
September	0.11	0.13	0.01	0.25	0.11	0.10	0.01	0.22	0.00	0.00	0.03	0.20	0.03
October	0.11	0.06	0.01	0.18	0.11	0.05	0.01	0.17	0.00	0.00	0.01	0.09	0.01
November	0.11	0.00	0.01	0.12	0.11	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00
December	0.11	0.00	0.01	0.12	0.11	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00
Annual	1.30	0.85	0.13	2.28	1.30	0.68	0.13	2.11	0.00	average 0.00	0.17	average 0.10	0.17

- (1) Equals Number of EQRs times In-House Demand per EQR times the Days in the month divided by 325,851.
- (2) Equals Equivalent Outside Use Area times Monthly CIR divided by Irrigation Efficiency.
- (3) Equals Number of Livestock times Livestock Usage times the Days in the month divided by 325,851.
- (4) Equals the total of Column (1 thru 3).
- (5) Equals Column (1) times the Percent of In-House Water Used Consumptively.
- (6) Equals Column (2) times Irrigation Efficiency
- (7) Equals Column (3) times Livestock Use Percentage

- (8) Equals the total of Column (5 thru 7).
- (9) Equals Column (1) minus Column (5).
- (10) Equals Column (9) divided by days in the month divided by 1.98 times 449.
- (11) Equals Column (2) minus Column (6).
- (12) Equals Column (7) divided by days in the month divided by 1.98 times 449.
- (13) Equals Column (4) minus Column (8).

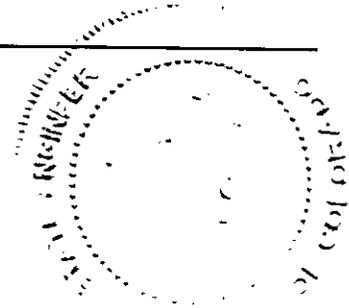
**COLORADO GROUND WATER COMMISSION
FINDINGS AND ORDER**

IN THE MATTER OF AN APPLICATION FOR DETERMINATION OF WATER RIGHT TO ALLOW THE WITHDRAWAL OF GROUND WATER IN THE UPPER BLACK SQUIRREL CREEK DESIGNATED GROUND WATER BASIN

APPLICANT: TKB PROPERTIES, LLC

AQUIFER: ARAPAHOE

DETERMINATION NO.: **1484-BD**



In compliance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, TKB Properties, LLC (hereinafter "applicant") submitted an application for determination of water right to allow the withdrawal of designated ground water from the Arapahoe Aquifer.

FINDINGS

1. The application was received complete by the Colorado Ground Water Commission on December 21, 2007.
2. The applicant requests a determination of rights to designated ground water in the Arapahoe Aquifer (hereinafter "aquifer") underlying 40 acres, generally described as the N $\frac{1}{2}$ of the N $\frac{1}{2}$ of the SW $\frac{1}{4}$ of Section 13, Township 12 South, Range 63 West of the 6th Principal Meridian, in El Paso County. According to a signed statement dated December 17, 2007, the applicant owns the 40 acres of land, as further described in said affidavit which is attached hereto as Exhibit A, and claims control of the ground water in the aquifer underlying this land area.
3. The proposed annual amount of ground water to be allocated and withdrawn from the aquifer for intended beneficial uses is the maximum allowable amount.
4. The above described land area overlying the ground water claimed by the applicant is located within the boundaries of the Upper Black Squirrel Creek Designated Ground Water Basin and within the Upper Black Squirrel Creek Ground Water Management District. The Colorado Ground Water Commission (hereinafter "Commission") has jurisdiction.
5. The applicant intends to apply the allocated ground water to the following beneficial uses: domestic, commercial, industrial, irrigation, stock watering and replacement supply. The applicant's proposed place of use of the allocated ground water is the above described 40 acre land area.
6. The quantity of water in the aquifer underlying the 40 acres of land claimed by the applicant is 1,326 acre-feet. This determination was based on the following as specified in the Designated Basin Rules:
 - a. The average specific yield of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 17 percent.

- b. The average thickness of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 195 feet.
7. At this time, there is no substantial artificial recharge that would affect the aquifer within a one hundred year period.
 8. Pursuant to Section 37-90-107(7), C.R.S., and in accordance with the Designated Basin Rules, the Commission shall allocate ground water in the aquifer based on ownership of the overlying land and an aquifer life of one hundred years. Therefore, the maximum allowed average annual amount of ground water in the aquifer that may be allocated for withdrawal pursuant to the data in the paragraphs above for the 40 acres of overlying land claimed by the applicant is 13.3 acre-feet.
 9. A review of the records in the Office of the State Engineer has disclosed that none of the water in the aquifer underlying the land claimed by the applicant has been previously allocated or permitted for withdrawal.
 10. Pursuant to Section 37-90-107(7)(c)(III), C.R.S., an approved determination of water right shall be considered a final determination of the amount of ground water so determined; except that the Commission shall retain jurisdiction for subsequent adjustment of such amount to conform to the actual local aquifer characteristics from adequate information obtained from well drilling or test holes.
 11. The ability of wells permitted to withdraw the authorized amount of water from this non-renewable aquifer may be less than the one hundred years upon which the amount of water in the aquifer is allocated, due to anticipated water level declines.
 12. In accordance with Rule 5.3.6 of the Designated Basin Rules, it has been determined that withdrawal of ground water from the aquifer underlying the land claimed by the applicant will not, within one hundred years, deplete the flow of a natural stream or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the ground water is nontributary ground water as defined in Rule 4.2.19 of the Designated Basin Rules. No more than 98% of the amount of ground water withdrawn annually shall be consumed, as required by the Designated Basin Rules.
 13. In accordance with Section 37-90-107(7), C.R.S., upon Commission approval of a determination of water right, well permits for wells to withdraw the authorized amount of water from the aquifer shall be available upon application, subject to the conditions of this determination and the Designated Basin Rules and subject to approval by the Commission.
 14. On January 24, 2008, in accordance with Rule 9.1 of the Designated Basin Rules, a letter was sent to the Upper Black Squirrel Creek Ground Water Management District requesting written recommendations concerning this application. No written recommendations from the district were received.
 15. The Commission Staff has evaluated the application relying on the claims to control of the ground water in the aquifer made by the applicant.

16. In accordance with Sections 37-90-107(7) and 37-90-112, C.R.S., the application was published in the Ranchland News newspaper on January 31 and February 7, 2008.
17. No objections to the determination of water right and proposed allocation of ground water were received within the time limit set by statute.
18. In order to prevent unreasonable impairment to the existing water rights of others within the Upper Black Squirrel Creek Designated Ground Water Basin it is necessary to impose conditions on the determination of water right and proposed allocation of ground water. Under conditions as stated in the following Order, no unreasonable impairment of existing water rights will occur from approval of this determination of water right or from the issuance of well permits for wells to withdraw the authorized amount of allocated ground water from the aquifer.

ORDER

In accordance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, the Colorado Ground Water Commission orders that the application for determination of rights to designated ground water in the Arapahoe Aquifer underlying 40 acres of land, generally described as the N $\frac{1}{2}$ of the N $\frac{1}{2}$ of the SW $\frac{1}{4}$ of Section 13, Township 12 South, Range 63 West of the 6th Principal Meridian, is approved subject to the following conditions:

19. The allowed average annual amount of withdrawal of ground water from the aquifer shall not exceed 13.3 acre-feet. The allowed maximum annual amount of withdrawal may exceed the allowed average annual amount of withdrawal as long as the total volume of water withdrawn does not exceed the product of the number of years since the date of approval of this determination times the allowed average annual amount of withdrawal.
20. To conform to actual aquifer characteristics, the Commission may adjust the allowed average annual amount of ground water to be withdrawn from the aquifer based on analysis of geophysical logs or other site-specific data if such analysis indicates that the initial estimate of the volume of water in the aquifer was incorrect.
21. The applicant may pump the allowed average annual amount of withdrawal and the allowed maximum annual amount of withdrawal from one or more wells of a well field in any combination, so long as the total combined withdrawal of the wells does not exceed the amounts described in this Order.
22. No more than 98% of the ground water withdrawn annually shall be consumed. The Commission may require well owners to demonstrate periodically that no more than 98% of the water withdrawn is being consumed.
23. The use of ground water from this allocation shall be limited to the following beneficial uses: domestic, commercial, industrial, irrigation, stock watering and replacement supply. The place of use shall be limited to the above described 40 acre land area.

24. The applicant, or subsequent persons controlling this water right, shall record in the public records of the county - in which the claimed overlying land is located - notice of transfer of any portion of this water right to another within sixty days after the transfer, so that a title examination of the above described 40 acre land area, or any part thereof, shall reveal the changes affecting this water right. Such notice shall consist of a signed and dated deed which indicates the determination number, the aquifer, a description of the above described land area, the annual amount of ground water (acre-feet) transferred, name of the recipient, and the date of transfer.
25. Subject to the above conditions, well permits for wells to withdraw the allocated annual amount of water from the aquifer shall be available upon application subject to approval by the Commission and the following conditions:
 - a. The wells shall be located on the above described 40 acre overlying land area.
 - b. The wells must be constructed to withdraw water from only the Arapahoe Aquifer. Upon application for a well permit to construct such a well, the estimated top and base of the aquifer at the proposed well location will be determined by the Commission and indicated on the approved well permit. Plain non-perforated casing must be installed, grouted and sealed to prevent diversion of ground water from other aquifers and the movement of ground water between aquifers.
 - c. The entire depth of each well must be geophysically logged prior to installing the casing as set forth in Rule 9 of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7.
 - d. Each well shall be constructed within 200 feet of the location specified on the approved well permit, but must be more than 600 feet from any existing large-capacity well completed in the same aquifer.
 - e. A totalizing flow meter or other Commission approved measuring device shall be installed on each well and maintained in good working order by the well owner. Annual diversion records shall be collected and maintained by the well owner and submitted to the Commission or the Upper Black Squirrel Creek Ground Water Management District upon their request.
 - f. The well owner shall mark the well in a conspicuous place with the permit number and the name of the aquifer. The well owner shall take necessary means and precautions to preserve these markings.
26. A copy of this Findings and Order shall be recorded by the applicant in the public records of the county in which the claimed overlying land is located so that a title examination of the above described 40 acre overlying land area, or any part thereof, shall reveal the existence of this determination.

Applicant: TKB Properties, LLC
Aquifer: Arapahoe
Determination No.: 1484-BD

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Dated this 12th day of Month, 2008.

Dick Wolfe

Dick Wolfe, P.E.
Executive Director
Colorado Ground Water Commission

By: *Keith Vander Horst*
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Prepared by: SKR