



#### 8.4.7. Water Supply Standards

##### (A) General

##### (1) Purpose

The purpose of this Section is to promote the health, safety, and welfare of the residents of El Paso County and is adopted pursuant to various State statutory authorities granted to counties, including, but not limited to, C.R.S. §§30-28-101, et seq., C.R.S. §§30-28-201, et seq., C.R.S. §§29-20-101, et seq., C.R.S. §§24-65.1-101, et seq., C.R.S. §§24-67-101, et seq., respectively.

This Section is not intended to enhance, diminish, displace, modify or supersede any applicable State Statutes or regulations regarding the initiation, adjudication, administration or use of water rights.

##### (2) Applicability

The requirements of this Section shall apply to any development application which results in the creation of new lots, except as otherwise provided, with the following clarifications:

- The effective date of this Section is originally November 20, 1986, and this Section shall fully apply to any subdivision which does not have preliminary plan approval prior to that date;

- Any proposed subdivision with a preliminary plan approval by the BoCC prior to November 20, 1986, but still in the process of obtaining plat approval, shall be subject to the previously existing water supply regulations in this Code and any controlling State statutory requirements regarding subdivision water supplies. Notwithstanding the foregoing, a subdivision proposing a change in its source of water which would result in a substantial decrease in the quality, quantity or dependability of the water supply or a substantial increase in the annual water demand shall be subject to this Section. In no case shall a change from a renewable to non-renewable source provide less than a 300-year water supply; and
- The requirements of this Section shall apply if there has been a substantial change in the water supply of the subdivision. The BoCC, with recommendations from the County Hydrogeologist or the OCA, shall determine if a substantial change in the water supply or water demand is proposed. Factors to be considered in the determination of a substantial change in the water supply or water demand include the percent increase or decrease in water demand or water availability and the absolute quantity increase or decrease in the water demand or water availability.

**(3) Exceptions**

The requirements set forth in this Section shall not apply to:

- Subdivisions which will not use water;
- Agricultural uses not associated with residential, commercial, or industrial activities requiring subdivision approval;
- A proposed subdivision which, by reason of the nature, type and extent of the proposed development, will not require a water supply as prescribed herein. Subdivisions meeting this requirement are not designed or developed for permanent occupation or habitation. The determination shall be made by the BoCC, following recommendations by the OCA, PCD Director, or County Hydrogeologist, on a case-by-case basis, and shall be based on a specific request and supporting evidence presented by the applicant along with recommendations of the Planning Commission. If exempted by the BoCC, any subsequent change in the subdivision as approved may require compliance with this Section;
- A vacation or vacation and replat of an existing subdivision or lots within an existing subdivision or any plat change, any of which will not result in significantly greater total water use than previously anticipated for the subdivision. All determinations as to the significance of the change in water use shall be made by the BoCC, with recommendations by the County Hydrogeologist or OCA; and

- The Planning Commission may recommend and the BoCC may, on a case-by-case basis, waive any or all of the requirements of this Section pursuant to a waiver application; however the finding of sufficiency for the quality, quantity, and dependability for water supplies shall not be waived; and

**(4) Terminology**

Unless specifically provided by this Code, water terminology within this Section shall have the same meaning, definition and application as set forth in C.R.S. §§37-90-101, et seq. and §§37-92-101, et seq.,

**(B) Water Resource Report**

**(1) General**

**(a) Purpose**

The purpose of the water resources report is to provide the data necessary for the Planning Commission and the BoCC to determine whether the proposed water supply is sufficient in terms of quality, quantity and dependability for the proposed subdivision.

**(b) Water Resources Report Required**

A water resources report as required by this Section shall be submitted with sketch plan, preliminary plan, final plat, and any subdivision applications which will create a new lot. A copy of the report will be kept on file in the El Paso County PCD.

**(c) Prepared by Qualified Professional**

The water resources report shall be prepared by a qualified hydrogeologist, hydrologist, licensed civil engineer, qualified groundwater geologist, or other qualified professional with appropriate experience.

**(d) Document Adequate Water Supply**

The Water Resources Report shall include adequate documentation that the proposed water supply is sufficient in terms of quantity, dependability, and quality for the proposed subdivision.

**(e) Enforcement**

In addition to any other remedies provided by law or this Code, the BoCC shall have the right to enforce compliance with the provisions of this Section, including any agreement provided pursuant to this Section, by means of withholding building permits within the subject subdivision or withholding plat approvals for additional development phases within the subject subdivision pending full compliance or other resolution.

**(2) Description Report Contents and When Required****(a) Sketch Plan Report**

The initial water resource report submitted with the sketch plan may be of a general nature, may be based on published and unpublished data and reports, and need not include site-specific hydrogeologic data. The purpose of the report included with the sketch plan is to identify probable compliance of the proposed subdivision with the water supply standards and to identify the need for additional water supplies which will be required for the subdivision.

**(b) Preliminary Plan Report**

The water resource report submitted with the preliminary plan shall include all of the data needed to determine whether the water supply is sufficient in terms of quality, quantity and dependability for the proposed subdivision. The report shall be based on engineering calculations and site-specific data and shall include a detailed discussion of the water demand, supply, quality, dependability, and supply facilities for the proposed project. The report shall identify those aspects of the water supply plan which are insufficient in terms of quantity, quality or dependability and shall identify the actions to remedy the deficiencies.

**(c) Final Plat and Replat Report**

The water resource report submitted with the final plat shall include all of the data needed to determine whether the proposed water supply is sufficient in terms of quality, quantity and dependability for the type of subdivision proposed. The report shall be based on engineering calculations and site-specific data and shall include a detailed discussion of the water demand, supply, quality, dependability, and supply facilities for the proposed subdivision.

A water resources report is not required if the BoCC made a finding that the proposed water supply plan of the preliminary plan was sufficient in terms of quantity, quality and dependability. However, an amended water resources report is required if there is a substantial change in either the water supply or the estimated water demand.

**(d) Residential Subdivisions of 4 Lots or Fewer**

A complete water resources report is not always required for minor subdivisions. State statute requires the State Engineer to review all proposed water supplies. The State Engineer requires at a minimum a narrative discussion and a Water Supply Information Summary Form.

**(3) Water Resource Report**

The water resource report shall document the requirements of this Section and shall include the following data, documentation, and analysis at a level of detail necessary to make the determinations of sufficiency:

**(a) Summary of the Proposed Subdivision**

The water resource report shall include a summary of the proposed subdivision with the following information:

- A location map including roads, Township and Range, a copy of all maps required with sketch and preliminary plan and final plat submittals, and legal description; and
- A description of subdivision including acreage of each proposed land use, number of dwelling units, etc. For phased projects the description shall clearly describe the acreages, land uses and number of units of each phase. The location of each proposed land use shall be shown on appropriate maps.

**(b) Information Regarding Sufficient Quantity of Water****(i) Calculation of Water Demand**

The water resource report shall include water demand calculations in separate calculations for the type, number and annual water requirements of existing, proposed and potential maximum uses of the subject property and a general timetable when the demands are expected. Acceptable methods of determining water demand are described in this Section.

**(ii) Calculation of Quantity of Water Available**

The water resource report shall identify and describe each source of water including: (1) a map showing the location of any off-site water to be used and the location of major water transmission lines, reservoirs, etc; (2) calculations of the quantity of water available from each source (on-site and off-site sources shall be determined separately); and (3) a description of groundwater sources.

**(iii) Groundwater Source Information**

The water resource report shall list each aquifer to be used. Each aquifer shall be identified as tributary, non-tributary, not non-tributary or from a designated basin, and as either renewable or non-renewable aquifers. The report shall discuss the need for and the status of any augmentation plans required to use the proposed supply. The report shall also describe the annual and the

300-year quantity of water available from each proposed aquifer.

(iv) **Production Wells Information**

The water resource report shall discuss location, construction and production details of existing and proposed production wells. The following shall be included: (1) estimated number, size and short- and long-term yields of wells necessary to serve the proposed subdivision; (2) estimated life expectancy of wells; (3) estimated short and long-term well development schedule indicating probable timing of bringing additional wells on line; (4) A map showing locations of wells to be used during the first 5 years of the subdivision and probable locations of wells in the following years; (5) Well drilling logs and well completion reports; and (6) Pumping test data and analysis, including data and analysis of constant rate and step drawdown tests.

(v) **Surface Water Sources**

The report shall list each surface water supply to be used. The report shall discuss the need for and the status of any augmentation plans required to use the proposed supply. In addition, the report shall describe the annual and the 300-year quantity of water available from each proposed surface water supply, and calculate the number of years of water supply. For phased projects, the calculation shall delineate the years of water available for each phase.

(c) **Information Regarding Sufficient Dependability of Water Supply**

The water resource report shall include the following information to allow a determination of sufficient dependability of the water supply to be established:

(i) **Proof of Ownership**

Proof of ownership or right of acquisition of use of existing or proposed water rights sufficient in quality, quantity and dependability to serve the proposed use including well permits, court decrees, well applications, export permits, etc.

(ii) **Financial Plan**

Financial plan and capital improvements plan of water provider.

- (iii) **Description of Water Supply**

Description of the water supply, location shown on maps, and, when appropriate, engineering designs of existing and proposed water supply facilities, including wells, storage facilities, major transmission lines, etc.
  - (iv) **Calculations Demonstrating Quantity**

Calculations and documentation demonstrating that the aquifers are capable of supplying the required quantity of water and analysis showing the wells are capable of producing the required water supplies, if groundwater is to be used.
  - (v) **Evidence of Water System Source**

If a public or private water system is to be used, evidence that the source can and will supply water to the proposed subdivision stating the amount of water available for use within the subdivision and the feasibility of extending service to the area. This evidence shall include the following information: (1) A letter indicating a commitment to serve (except in the case of a sketch plan); (2) Name and address of the municipality, quasi-municipality, or water company which will supply the water; (3) Current capacities of the existing system; (4) Total amount of current and committed use; and (5) Amount and timing of water to be supplied to the subdivision.

This requirement does not apply to subdivisions to be supplied by individual wells.
  - (vi) **Evidence of Short-Term Supply for Fire**

Evidence that short-term water supply needs of the subdivision can be met to satisfy fire demand and reduction of supplies as a result of flooding, and damaged or otherwise incapacitated systems. Short-term dependability can be satisfied by such features as reservoirs, cisterns, standby wells and standby connections with other water supply or distribution systems.
- (d) **Information Regarding Sufficient Quality**

The following shall be supplied: (1) Chemical analyses of proposed water from each proposed source; (2) Evidence of compliance with County and State water quality standards; and (3) Discussion of potential for water quality degradation from on-site and off-site sources.

**(e) Public and Private Commercial Water Providers****(i) Information from Commercial Water Providers**

It is the responsibility of the applicant to provide information regarding the availability of water supplies from any source, including public and private commercial water providers. Should the subdivision fall within a water provider's service district, a general water resources report supplied by the provider may be used to evaluate available water resources provided the content meets or exceeds the requirement of the Water Resource Report.

**(ii) Water Providers Report**

In those cases where the water provider submits a general Water Resources Report, the water resource report shall be updated annually, by February of each year. Update information shall include:

- Volume of water sold in the previous year;
- New water acquisitions, commitments, augmentation plans, etc.;
- Water trades or other losses of water supplies;
- Anticipated water acquisitions for the upcoming year;
- Legal documentation accompanying new water acquisitions and augmentation plans;
- Major capital improvements accomplished during the past year and anticipated major capital improvements for the upcoming year; and
- Other information which would be useful in evaluating the availability of water supplies.

**(f) Review of Water Resource Report**

Water Resource Reports will be referred to the State Engineer and any applicable designated groundwater management district or water service provider, and reviewed by the County Hydrogeologist, OCA, EPCDHE, and PCD. When a proposed subdivision is located within a designated groundwater management district, El Paso County may receive comments and review recommendations from the district; however, the recommendations are not binding on the County.

**(i) Sketch Plan Report**

After receipt of the report, County staff and review agencies will submit a statement of their conclusions, finding and recommendations to the PCD.

Given the general and preliminary nature of water information available at the sketch plan stage, the OCA



will not provide recommendations or comments on the sufficiency of the water supply for sketch plan.

(ii) Preliminary Plan Report

The County Hydrogeologist will, in consultation with the OCA and the PCD, prepare a recommendation that the water supply be found sufficient or insufficient in terms of quantity and dependability. The EPCDHE will prepare a recommendation that the water supply is sufficient or insufficient in terms of quality. If the County Hydrogeologist, OCA or EPCDHE recommend that the proposed water supply be found insufficient they shall identify the deficiencies in the water supply plan to be corrected prior to submittal of the final plat.

(iii) Final Plat

The County Hydrogeologist will, in consultation with the OCA and the PCD, prepare a recommendation that the water supply be found sufficient or insufficient in terms of quantity and dependability. The EPCDHE will prepare a recommendation that the water supply is sufficient or insufficient in terms of quality. If the County Hydrogeologist, OCA or EPCDHE recommend that the proposed water supply be found insufficient they shall identify the deficiencies in the water supply plan.

**(4) Basis of Determination of Sufficiency**

**(a) General Provisions**

The Planning Commission shall, as part of its deliberations, make a recommendation regarding the sufficiency of the proposed water supply. The BoCC shall determine the sufficiency of the proposed water supply in terms of quantity, dependability, and quality based on the information presented and the recommendation of the Planning Commission.

In determining the sufficiency of a proposed water supply, the BoCC shall, at a minimum, consider the Water Resources Report, data and recommendations from the State Engineer's Office, OCA, the County staff, and the County Hydrogeologist; the recommendations of the Planning Commission; and public comment. In all cases the burden of proof in demonstrating sufficiency rests with the applicant, and it shall be the applicant's sole responsibility to document in the Water Resources Report that the proposed water supply is sufficient in terms of quantity, dependability, and quality.

**(b) Conditional Finding of Sufficiency**

Conditional findings of sufficiency can be made by the Planning Commission and the BoCC specifying conditions that shall be

met prior to recording the final plat. Some examples of conditions include, but are not limited to: written proof that a well has been abandoned or re-permitted, written proof that an applicant has voluntarily reduced the amount of withdrawal, completion of CDPHE Technical, Managerial and Financial (TMF) analysis and issuance of PWSID number for a new central water system, and formal annexation of the lot into a central water system's service area. Once these requirements are met, the conditional finding of sufficiency becomes a finding of sufficiency.

**(c) Exception to 300-Year Water Supply**

An exception to the 300-year water supply can be granted to those lot(s) not included in the Water and Sanitation or Metropolitan District's service area but the applicant desires to subdivide their land, annex into the District, and utilize the District's service for the new lot(s), which lot(s) may be granted an exception of the 300-year water supply requirement due to the fact that the District has effectively appropriated all the groundwater under the proposed subdivision by virtue of the cylinders of appropriation around its pre-1973 well(s). However, if exempt well(s) will continue to be used by an existing lot (and will not use the District's water service), the applicant must reduce the amount of withdrawal from their exempt well(s) to meet the County's 300-year supply life requirement.

**(d) Documents Needed for Review by the OCA**

The following documents shall be reviewed by the OCA:

- Water Supply Information Summary Form
- Letter of Commitment from Water District
- Copies of all well permits
- Copies of all Water Court Decrees
- Copies of all Colorado Groundwater Commission Determinations of Water Rights
- State Engineer's Office Opinion

**(e) Phases of Plan Approval**

**(i) Sketch Plan:**

Approval of a sketch plan by the Planning Commission and BoCC does not require a finding that the proposed water supply is sufficient in terms of quality, quantity and dependability.

**(ii) Preliminary Plan**

- Action of the Planning Commission: The Planning Commission shall make a recommendation that the proposed water supply is or is not sufficient in terms of quantity, dependability, and quality. Separate recommendations may be made. A preliminary plan

may be approved even if a recommendation of insufficiency is made. The Planning Commission shall identify the deficiencies in its recommendations to the BoCC.

- Action of the BoCC: The BoCC shall make a finding that the proposed water supply is or is not sufficient in terms of quantity, dependability, and quality. Separate findings may be made. A preliminary plan may be approved even if a finding of insufficiency is made. The BoCC shall identify the deficiencies with respect to the water supply plan.

(iii) Final Plat

- No final plat shall be approved by the Planning Commission or the BoCC without a finding that the proposed water supply is sufficient in terms of quality, quantity and dependability for the proposed subdivision.
- For subdivisions with 4 lots or more whose water supply consists of wells, and particularly where there are water augmentation or replacement obligations, the applicant shall establish a HOA or other entity approved by the OCA that shall be responsible to carry out the obligations under the water court decree, Colorado Groundwater Determination, and any related augmentation or replacement plans. For subdivisions with 3 lots or less, while creation of an HOA is preferred, responsibility for the obligations may be placed on the individual lot owners in the covenants or in a Joint Use Well-Sharing and Easement Agreement. Unless the water court or Colorado Groundwater Commission authorizes differently, no more than 6 lots shall share a well in a joint-use well sharing arrangement. Plat notes concerning the responsibility for the obligations and for conveyances of water rights shall be included on the face of the final plat. Prior to recording the final plat for any such subdivision, the applicant shall provide to PCD and the OCA for review and approval documents including, but not limited to, water court decrees and plans for augmentation signed by the Water Judge; determinations of water rights and replacement plans signed by the Colorado Groundwater Commission; deeds to cure defects in title to water rights; form deeds conveying water rights to individual lot owners; deeds conveying water rights for augmentation or replacement to the HOA (or to lot owners for

subdivisions with 3 lots or less); Joint Use Well Sharing and Easement Agreements (where applicable); restrictive covenants; and documents creating the HOA including articles of incorporation, certificate of incorporation by the Secretary of State, and bylaws.

**(5) Finding of Sufficient Dependability**

The proposed water supply shall meet the following criteria to be found sufficient in terms of dependability:

- The supply is of sufficient quantity to meet the needs of the proposed subdivision for 300 years;
- The proposed water supply system and water supply is capable of meeting the average annual and peak daily demand of the proposed subdivision; and
- The applicant has provided adequate evidence of ownership or the right of acquisition or use of existing or proposed water rights sufficient in quantity, dependability, and quality to serve the proposed uses within the subdivision; and (1) the legal capability to accomplish any changes in the uses or points of diversion of the rights with quantities and dependability necessary to serve the proposed subdivision without material injury to vested water rights; or (2) adequate evidence that the public or private water provider can and will supply the proposed subdivision with water of adequate quality, quantity and dependability.

**(6) Adequate Proof of Ownership or Right of Acquisition**

No final plat will be approved without adequate proof of ownership or the right of acquisition or use of existing and proposed water rights.

Following are the minimum requirements of each type of water supply as proof of ownership or the right of acquisition of or use of existing and proposed water rights of surface or groundwater:

**(a) Surface Water**

For surface water and underground water defined in C.R.S. §37-92-103 (11), the following shall be considered adequate proof of ownership or right of acquisition:

- Copies of appropriate well permits or court decrees for water rights, changes of water rights, and augmentation plans or State Engineer approved temporary exchange plans; or
- If the decree or historic use and priority does not provide for a probable uninterrupted supply, the applicant shall submit a legally binding alternative supply plan, such as reserve groundwater.

**(b) Groundwater Outside the Designated Groundwater Basins**

For groundwater outside the designated groundwater basins and subject to C.R.S. §37-90-137(4) (S.B.-5 and S.B.-213), the following shall be considered adequate proof of ownership or right of acquisition:

- Copies of well permits, court decrees for the intended type of use and quantity, or determinations made by the State Engineer under rules and regulations adopted pursuant to C.R.S. §37-90-137(9) in response to water court request pursuant to C.R.S. §37-92-302(2), and in the referral and review process of C.R.S. §30-28-136(1) (h)(I);
- With respect to groundwater classified as not non-tributary, a court decree approving a plan of augmentation is required.

**(c) Designated Groundwater****(i) Alluvial Groundwater**

For alluvial groundwater, permits or determinations issued by the Colorado Groundwater Commission for the intended type of use or court decrees shall be considered adequate proof of ownership or right of acquisition. If appropriate, export permits are required.

**(ii) Bedrock Groundwater**

For bedrock groundwater, permits or determinations issued by the Colorado Groundwater Commission for the intended type of use, or court decrees and estimates of the quantity of groundwater in Denver Basin formations shall be considered adequate proof of ownership or right of acquisition. Either a permit or a court decree is required for water which will be used during the first 20 years of the proposed project. Denver Basin formation estimates are only permissible for those deeper aquifers which will not be needed during the first 20 years of the project life. If appropriate, export permits are required.

- **Perfected Groundwater Rights (1973):** For groundwater rights perfected prior to enactment of Senate Bill 213 (July 6, 1973) and not defined in §37-92-103 (11), C.R.S., a court decree or well permits for the intended types of use shall be considered adequate proof of ownership or right of acquisition.

**(d) Other Information Required**

In addition to the above requirements, the applicant shall provide any other pertinent information and documentation which further

expands, restricts or modifies (or which could potentially expand, restrict, or modify) the existence, ownership and right to use the subject water rights for the proposed subdivision.

**(e) Written Evidence Required**

The applicant shall provide written evidence satisfactory to the BoCC that documented water rights have been committed to and will be retained for subdivision use to the fullest extent necessary to satisfy the water demand of the proposed subdivision as required by this Section. The written evidence may include one or a combination of the following:

- An adequate letter of commitment from an established water provider agreeing to provide water service to the proposed subdivision, and stating the amount of water available for use within the proposed subdivision and the feasibility of extending service to that area;
- A legally binding agreement between the BoCC and the applicant or water provider setting forth and prescribing the terms, conditions, limitations and restrictions as to the commitment and retention of documented water rights necessary to satisfy the present and anticipated future water demand of the proposed subdivision or the respective filing thereof in accordance with this Section; or
- A plat note conveying or identifying the documented water rights committed to the proposed subdivision, and restricting the further conveyance, sale, transfer, or change in use of the committed water rights.

In determining the appropriate means to accomplish the foregoing, the BoCC shall consider, among other factors, the legal classification of the water involved, the type of water system proposed, and the water provider's history of experience and reliability of providing service.

**(f) Written Documentation Recorded Prior to Plat Approval**

The written documentation required by the BoCC pursuant to this Section 8.4.7, shall be finalized, fully executed and recorded prior to or concurrent with the recording of the final plat for the subject property, except that the letter of commitment shall not be recorded. HOA documents shall be recorded, to the extent that the HOA is in existence at the time of plat recording.

**(g) Adequate Proof from Water Provider**

**(i) General**

Adequate proof is required of the capability of the water provider to serve the proposed subdivision and pre-

existing subdivisions, if any, with adequate quantity, dependability, and quality at average annual and at peak daily demand. The 300-year water supply requirement does not apply to pre-existing (prior to November 20, 1986) subdivisions.

- (ii) **Financial and Capital Improvement Plan**

The financial plan and capital improvements plan shall include a program for future wells if future groundwater development is planned and shall show that necessary financial resources have been satisfactorily committed to extend water service to the proposed subdivision and to adequately maintain and operate the water supply system. Projects in which each residence will be served by an individual well are not required to have a financial or capital improvement plan.
- (iii) **Water Bearing Capacity of Aquifers**

Proof shall be provided that the water bearing properties of aquifers (i.e., hydraulic conductivity, transmissivity, storativity, storage coefficient, etc.) are adequate to yield the quantity of water which is proposed to be extracted from the aquifer.
- (iv) **Physical Facilities and Technical Capabilities Adequate**

Proof shall be provided that physical facilities, or the necessary financial and technical resources and legal commitments and authority to construct a system, for raw water acquisition, collection, storage and treatment, and for treated storage and distribution and maintenance or water pressure are sufficient to serve the needs of the proposed subdivision.
- (v) **Water Demands for Fire**

Proof shall be provided that water demands needed to satisfy fire demand, replacement of supplies reduced due to flooding, damaged or otherwise incapacitated systems can be met. This short term dependability is satisfied by such features as reservoirs, cisterns, standby wells and standby connections with other water supply or distribution systems.
- (vi) **Compliance with Drinking Water Regulations**

When a new community water system subject to the Colorado Primary Drinking Water Regulations is proposed in conjunction with a subdivision, a conditional finding of sufficiency may be issued by the Planning Commission and BoCC in the approval of a preliminary plan or final plat subject to the following:

- CDPHE TMF capacity, analysis and approval thereof, as evidenced by issuance of a Public Water System Identification (PWSID) number;
- Adequate construction surety for the proposed water system which includes all waterworks identified in the CDPHE TMF analysis;
- Restrictions on the sale of lots and the issuance of building permits until the water system is constructed and certified are included on the final plat; and
- An entity acceptable to the water court, or Colorado Groundwater Commission or the CDPHE shall be formed or engaged to assure operation of the community water system.

**(7) Finding of Sufficient Quantity**

**(a) Sources of Water**

Water shall be supplied from legally and physically available water sources and may be supplied from on-site sources, off-site sources, or both.

**(b) Required Water Supply**

The water supply shall be of sufficient quantity to meet the average annual demand of the proposed subdivision for a period of 300 years. Sketch plans are not required to include documented evidence that the proposed water supply will meet the needs of the proposed subdivision for a period of 300 years.

**(c) Determination of Water Demand**

**(i) Sketch Plan**

The total 300-year water demand shall be estimated for the entire subdivision. Each phase of a subdivision shall be estimated independently. It is recognized that this estimate will be based on the general concept of the proposed subdivision and not final engineering plans. Acreages of community landscaping, lawn sizes, specific types of commercial and industrial uses, etc., may be based on estimates.

**(ii) Preliminary Plan and Final Plat**

Estimates shall be based on actual acreages and densities, engineering plans and designs, land surveys and restrictive covenants, as applicable.

**(d) Presumptive Use Values**

In the absence of data on water use to the contrary or other minimum values established as acceptable by the State Engineer, the following presumptive values will be used to calculate the annual water demand:



- Residential inside use 0.26 acre feet per year for single family residences and 0.20 acre feet per year for each occupancy unit in multiple family residences other than single family. A duplex contains 2 occupancy units, a triplex contains 3 occupancy units, etc;
- Residential and commercial landscaping use 0.0566 acre feet per 1,000 square feet of landscaping;
- Commercial and industrial inside use 0.1 gallon per day for each square foot of developed space; and
- Miscellaneous irrigation (landscaping, golf courses, etc.) use 2.46 acre feet per acre per year.

**(e) Calculation of Unusual Water Demands**

Unusual water demands for residential projects, such as large swimming pools, lakes, large fountains, irrigation of golf courses, greenbelts and pasture land, shall be determined and calculated separately.

**(f) Water Use for Uses Not Itemized**

For uses not itemized above the applicant shall conduct a site specific study.

**(g) Water Demand of Comparable Projects**

The applicant may also submit an estimate of annual water demand based on the water use of comparable projects, water reuse, groundwater recharge, water conservation, or other innovative methods. Complete documentation shall accompany these estimates, and it shall be the applicant's sole responsibility to demonstrate the validity of water demand estimates made from alternative calculations. If alternative calculations are included, calculations using the above presumptive values shall also be included. The BoCC will make the final determination of water demand.

**(h) Adjustments to Water Demand Calculations**

At the preliminary plan and final plat stage of a subdivision, the calculations of the water demand may be adjusted for the time required for subdivision buildout. The adjustment shall be in increments of whole years and the adjustment period shall not exceed 20 years from the date of final plat approval.

**(8) Determination of Available Water**

**(a) Sketch Plan**

Existing and potential water supplies shall be estimated for the entire subdivision. Proposed quantities of available water are considered general estimates and need not be based on court decrees, well permits or final engineering plans. The quantity of

water available from each proposed on-site and off-site source and each aquifer shall be determined and described separately. For phased projects the supply for each phase shall be estimated independently. The quantities of available water shall be expressed in acre feet per year and total acre feet for the proposed subdivision to evidence a 300-year supply. Because substantial differences may exist between the estimates included with the sketch plan submittal and actual water supplies available for preliminary plan and final plat submittals, acceptance of the estimates accompanying the sketch plan will not guarantee the number of dwelling units permissible in later stages of the subdivision approval process.

**(b) Preliminary Plan and Final Plat**

The quantity of water available from each proposed on-site and off-site source and each aquifer shall be determined and described separately. Calculations shall be based on court decrees, well permits, approved augmentation plans and determinations by the State Engineer. The quantities of available water shall be expressed in acre feet per year and total acre feet for the proposed subdivision to evidence a 300-year supply.

**(9) Water Calculation by Category of Water Type**

**(a) Surface and Undergroundwater as Defined by Statute**

Available surface and undergroundwater as defined in C.R.S. §37-92-103(11) are calculated as follows.

**(i) Renewable Water Sources**

Certain water as defined in C.R.S. §37-92-103(11) which is provided from surface water and underground sources is considered to be annually renewable and is therefore considered to have a minimum life of 300 years.

**(ii) Well Permits and Court Decrees**

The quantities of water available shall be derived from appropriate well permits, court decrees for water rights, changes of water rights, augmentation plans, and State Engineer approved temporary water exchange plans which will be legally and physically available for the proposed subdivision. In the event the court decreed quantity or well sited quantity of water has historically been unavailable at times because of a junior priority or for other reasons, the water supply may only be counted if an alternative supply, of equal quantity, is available when the surface supply is not. For example, if the priority of a surface water supply is such that water is only available seasonally, then an equal supply of reliable alternative water shall be available when the surface supply is not available.

(iii) **Calculation of Quantity**

The quantity of water available shall be calculated by multiplying the annual appropriation, in acre feet, times 300 years. If a supplemental water supply is required, reduce the number of years by the percentage of time the supply is not available. For example, if a supply of surface water is not available for 6 months out of the year, then the quantity of surface water available shall be reduced by 50%. The supplemental source shall be documented independently.

(b) **Groundwater Outside Designated Basins**

Available groundwater outside designated groundwater basins and subject to C.R.S. §37-90-137(4) (S.B. 5 (July 1, 1985) and S.B. 213 (July 6, 1973) groundwater) is calculated as follows:

(i) **Quantity of Nontributary and Not-Nontributary Groundwater**

The quantity of nontributary and not nontributary groundwater available is that quantity prescribed by court decrees, wells, or quantity determinations made by the State Engineer under rules and regulations adopted pursuant to C.R.S. §37-90-137(9), in response to water court request pursuant to C.R.S. §37-92-302(2) and in the referral and review process of C.R.S. §30-28-136(1)(h)(l). With respect to groundwater classified as not nontributary, the applicant shall furnish a court decree approving a plan of augmentation.

(ii) **Calculation of Quantity**

The quantity is calculated by multiplying the annual appropriation by 100 years. The quantity shall be adjusted for the quantity of groundwater used in prior years. Calculations of the quantity of groundwater available shall be based on the following priority: first, court decrees; second, well permits; and third, State Engineer's recommendations.

(c) **Available Designated Groundwater**

(i) **Not Exceed Quantity Allocated by Commission or Court**

The quantity of groundwater may not exceed the quantity of groundwater allocated by permits or determinations approved by the Colorado Groundwater Commission, or the quantity exhibited by court decrees plus the quantity of groundwater which occurs beneath the project site in Denver Basin formations for which the Colorado Groundwater Commission has not approved well permits.

(ii) **Priority of Wells a Factor**

If a court or the Colorado Groundwater Commission has decreed a priority appropriation list of wells in the basin, the priority and significance of the priority of the proposed wells to any condition of basin over-appropriation shall be a factor in determining sufficiency.

(iii) **Quantity of Alluvial Groundwater**

The quantity of renewable alluvial groundwater is calculated by multiplying the annual well appropriation or court decree, in acre feet, by 300 years. The appropriation shall be adjusted, if necessary, to account for a junior priority appropriation.

(iv) **Quantity of Bedrock Groundwater**

The quantity of nonrenewable bedrock groundwater is calculated by multiplying the annual appropriation, as specified in the Colorado Groundwater Commission determination or court decrees and well permits, in acre feet, by 100 years. The appropriation shall be adjusted, if necessary, to account for groundwater previously appropriated or extracted. Denver Basin groundwater underlying the project site for which Colorado Groundwater Commission determinations or court decrees or well permits have not been issued may be counted as part of the water supply. The estimates of Denver Basin groundwaters are only permissible for those deep aquifers which will not be needed during the first 20 years of the project.

**(d) Available Perfected Groundwater**

Available groundwater from groundwater rights perfected prior to enactment of Senate Bill 213 (July 6, 1973) is calculated as follows:

(i) **Calculating Quantity of Groundwater**

If renewable (i.e. alluvial) multiply the annual appropriation by 300 years; if nonrenewable (i.e. Denver Basin aquifers) multiply the annual appropriation by 100 years. If appropriate make adjustments for the 3/7 rule on the Arkansas River or other extraction limitations.

(ii) **Calculating Quantity of Pre-1973 Court Decree and Groundwater**

The quantity of groundwater from pre-1973 court decrees and well permits shall be calculated independently, and when appropriate the cylinder of appropriation of the well shall be subtracted from the area of other groundwater calculations.

**(10) Finding of Sufficient Quality**

In conjunction with applicable State and federal water quality standards and requirements, the proposed water supplies shall meet the following requirements:

**(a) Chemical Analysis Required**

A chemical analysis shall be performed on a representative water sample from every bedrock groundwater source which will be utilized by the subdivision during the first 5 years and from every non-bedrock source to be used by the subdivision. Large subdivisions may require multiple samples from the same source (not the same well) to ensure representative water quality analyses.

**(b) Contaminant Levels to Meet Drinking Water Requirements**

Maximum permissible contaminant levels shall meet the requirements of the Colorado Primary Drinking Water Regulations, as clarified by the EPCDHE.

**(c) Analysis of Major Ions**

Analyses of the major ions calcium, magnesium, potassium, sodium, bicarbonate/carbonate, chloride and sulfate may be required by the EPCDHE.

**(d) Collection Techniques**

Samples shall be collected by qualified personnel using standard collection and preservation methods and shall be analyzed within the limits of standard holding times. A chain of custody shall be maintained and documented from sampling to a laboratory analysis. Samples shall be analyzed by a Colorado certified testing laboratory.

**(e) Sampling Location**

Samples from bedrock aquifers shall be collected within ½ mile of the project site or off-site source. If the bedrock source will not be used during the first 5 years of the project and if wells are not available for sampling, the requirement for bedrock aquifer water quality analysis may be deferred as a condition of approval by the BoCC. Samples from shallow alluvial aquifers shall be collected within 500 feet of the project site or off-site source and shall be collected from the closest up-gradient well. All samples shall be representative of the source.

**(f) Water Quality Not Meeting Standards**

If the quality of the source water does not meet the standards specified in the Colorado Primary Drinking Water Regulations, as clarified by the EPCDHE, the applicant shall demonstrate that treatment facilities will be constructed and maintained which will bring the water within the standards.

**(g) Presumption of Water Quality**

In the absence of evidence to the contrary, a presumption is made that residential subdivisions of 4 or fewer lots will meet the water quality standards. In the absence of evidence to the contrary, it is presumed that water supplied from an existing Community Water Supply, which operates in conformance with the Colorado Primary Drinking Water Regulations and the CDPHE requirements, as clarified by the EPCDHE, is determined to meet the water quality standards as required by the section.

**(h) Future Water Quality to Meet Standards**

Under foreseeable and likely future conditions, the quality of the proposed water supply shall meet or exceed the water quality standards established herein. Both on-site and off-site source conditions shall be considered.

**(i) Compliance Not to Diminish Other State and Federal Standards**

Compliance with this Section is not intended to modify, displace, supersede or diminish compliance with other State and federal water quality requirements.

**(C) General Requirements (Clarifications)**

**(1) Renewable Groundwater Life 300 Years**

Water provided from renewable groundwater sources is considered to be annually renewable and, therefore, is considered to have a minimum life of 300 years.

**(2) Recharge Not Used to Modify Bedrock Calculations**

Groundwater recharge may not be used to modify the calculations of the quantity of extractable groundwater in bedrock aquifers unless it is included in court decrees, well permits, approved augmentation plans or determinations by the Colorado Groundwater Commission and the State Engineer.

**(3) Alternative Supplies May be Considered Renewable**

Alternative water supplies such as treated effluent may be considered renewable or nonrenewable and shall be evaluated on a case-by-case basis.

**(4) Private Arrangements and Agreements**

Any private or public arrangements, agreements or contracts that modify, limit, or condition the use of any water rights or water supplies may result in a reduction of the water calculated to be available for subdivision use.

**(5) Nonrenewable Water from Off-Site**

When nonrenewable water is provided to a development from an off-site location, the calculation of water for purposes of this Section is at the

point of delivery to the development or customer, rather than at the point of pumping of the well.

**(D) Post-Approval Compliance**

**(1) Prior to Authorization of Building Permits**

Prior to authorization by the PCD for the issuance of building permits, the following shall be accomplished. This provision does not apply to subdivisions supplied by individual wells.

- All required step drawdown tests shall be performed on production wells.
- For new community water supply systems a certification shall be issued by a qualified professional (knowledgeable with the water system) certifying that the water system is operational for the intended use. CDPHE TMF capacity analysis and approval thereof, as evidenced by issuance of a public water system Identification (PWSID) number shall be provided.
- For existing and established community water supply systems the certification may come from the water supplier's engineer or may be satisfied by the district or supplier's acceptance of the facilities.

**(2) Proof of Well Permit Prior to Approval of Building Permits**

Subdivisions subject to this Section shall provide proof of a well permit prior to the PCD's authorization for the issuance of building permits for residential usage for properties located within the designated groundwater basins and for individual lots within a subdivision dependent on an individual on lot well system.

**(3) Water Provider No Longer Able to Supply**

In the event that the applicant or his water provider is no longer able to supply the subdivision with the quality, quantity, or dependability of water identified in this Section and in the final plat and associated documents approved for the subdivision, the issuance of building permits for the subdivision may be limited by the BoCC until the problem is resolved to the satisfaction of the BoCC.

**(4) Production Well Testing**

The following shall apply:

**(a) Step Drawdown Test Performed**

A step drawdown test shall be performed on each production well which will be needed to meet the daily and peak water needs of the proposed subdivision and which meet the following criteria: (1) The well or anticipated production rate is for 40 gpm or more, or (2) The well is a community well and will ultimately serve more than 50 acres or 100 dwelling units or an equivalent commercial or industrial project which is subject to the provisions of this Section.

Step drawdown testing is encouraged for all wells. Step drawdown tests shall be an appropriate number of steps of adequate duration to allow evaluation of the production potential of the well. Step drawdown testing is not required for approval of sketch plans. It is recommended that the test results be included with the preliminary plan and final plat submittals.

**(b) Test Results to Determine Capacity**

Test results will be used to determine whether the production wells have adequate capacity to supply the needs of the subdivision. If test results indicate additional production wells are necessary, the additional wells shall be installed and tested prior to authorization by the PCD for issuance of building permits for the subdivision. Prior to issuance of building permits, the County Hydrogeologist shall review the test results and shall certify that the test results indicate that the production wells have, at the time of certification, adequate production capability to supply the needs of the subdivision.

**(c) Sufficient Production Wells Required Before Approval of Building Permits**

The PCD shall not authorize the issuance of a building permit for an approved subdivision until sufficient production wells needed to supply the subject phase of the subdivision are installed,, tested, and conveyance is established..

**(5) Water Level Monitoring**

The following monitoring and reporting is required until all plats for a proposed subdivision have been approved and all building permits for the subdivision have been issued:

- Monthly pumping volumes from each community production well shall be reported to the PCD semiannually;
- Water level and piezometric level monitoring is required for all projects using community or commercial wells. The purpose of this monitoring is to develop historical data of long-term water level changes. Measurements will usually be taken monthly. Monitoring shall be done in accordance with a monitoring plan approved by the County Hydrogeologist. It is anticipated that most monitoring programs will use existing wells. Deep bedrock wells may not be required for monitoring purposes only; and
- All required water level monitoring devices shall be maintained in good working order and the wells shall be available to County staff at reasonable times for water level measurements. The water supplier will be responsible for maintaining the water level monitoring devices.



**(E) Substantial Change In Water Supply****(1) Substantial Change Requires Compliance**

A substantial change in the water supply for a subdivision shall require compliance with this Section. A substantial change to the water supply includes, but is not limited to, the following:

- A change in the source of water which would result in a substantial decrease in the quality, quantity or dependability of the water supply;
- A change in the subdivision which would result in an increase in the annual water demand exceeding 10%;
- A change from a central water system to individual wells;
- A change from individual wells to a central water system;
- A change that causes modifications to an approved and recorded subdivision plat, covenants as they relate to water supply, a decree, or an augmentation plan;
- A change that results in the water being supplied from a different aquifer from that which was proposed in the review and approval of the subdivision; or
- A change from a renewable source of water to a non-renewable source which would provide less than a 300 year water supply.

**(2) Administrative Determination of Whether Change is Substantial**

The administrative determination whether the change in water supply is considered substantial shall be made by the PCD Director, in consultation with OCA and County staff. Factors to consider in this determination include, but are not limited to:

- The percent increase or decrease in water demand or water availability; or
- The absolute quantity increase or decrease in the water demand or water availability.

**(3) Substantial Change Requires New Final Plat Submittal**

In the event that the change is determined to be substantial, the application for a substantial change in water supply may be a customized submittal as determined by OCA and County Staff, and processed as a platting action which may require submittal of new plat documents, and which is subject to approval by the Board of County Commissioners.

**(4) Administrative Approval of Change Granted**

In the event that the change is determined to be not substantial, administrative approval of the change may be granted along with any other modifications to implement the administrative approval.