

**BEFORE THE DEPARTMENT OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA**

IN THE MATTER OF PETITION FOR)	
ESTABLISHMENT OF THE SYPES)	
CANYON CONTROLLED GROUND)	FINAL ORDER
WATER AREA NO. 41H-115474)	

Pursuant to the Montana Water Use Act, §§ 85-2-506 and -507, MCA, and after notice required by law, a hearing was held on February 12, 2008, in Bozeman, Montana, to present the facts gathered during the study period to determine if the Department of Natural Resources and Conservation (DNRC or Department) should allow the Sypes Canyon controlled ground water area (CGWA) temporary designation to expire, or make the designation permanent and to apply conditions, controls, and/or modifications. The Department has fully considered the record consisting of all testimony, evidence and argument submitted in this matter.

PARTIES

All persons who were previous Parties in this matter, testified at the hearing, or submitted written comment prior to the record closing are considered Parties for purposes of this Final Decision. All comment, testimony and data presented were given under affirmation and are part of the official record in this matter. Appearing and testifying at the hearing conducted February 12, 2008, were the following proponents in favor of the permanent CGWA designation: Kathy Gallagher, on behalf of the Sypes Canyon Homeowners Coalition (SCHC), Holly Franz, counsel for SCHC; Bobbi J. Geise; Alan English, Manager, Gallatin Local Water Quality District (GLWQD); and Don Woody. Individuals who provided written comments or written testimony in favor of the permanent CGWA designation were: Kathy Gallagher, on behalf of the SCHC; Holly Franz, counsel for SCHC; Bobbi J. Geise; Cynthia Ann Bowker; David Wanderer; J. Terrence Wilson; Gary Buehler; S. Craig Deaton; Brian Grossenbacher; William H. Burr; Jim Amidon; and Annie Bertagnolli. (Parties referenced above are collectively referred to as Petitioners or Proponents).

Appearing and testifying at the hearing were the following opponents to the permanent CGWA designation: Bonnie Jackson; Andrew Jackson; Marc Yeley; Valerie Vance; Roy Garrigues; and Sarah Nash Zimmer, counsel for Russell and Sheryl Westlake, Sylvia Osterman, and Westlake Farms (Westlakes). Individuals who provided written comments or written testimony opposing the

permanent CGWA designation were: Sarah Nash Zimmer, counsel for Westlakes; and Bonnie Jackson. (Parties referenced above are collectively referred to as Opponents).

Persons neither Proponents nor Opponents testifying at the hearing include the following: Russell Levens, DNRC Hydrogeologist and the DNRC appointed staff expert. Mr. Levens answered questions regarding the December 2007 report entitled “*Ground Water Conditions at the Sypes Canyon Temporary Controlled Ground Water Area*,” (DNRC Report) and his technical opinion in the matter.

EXHIBITS

Exhibits offered by the Petitioners and accepted into evidence were the following:

- Article from Colorado Water, Newsletter of the Water Center of Colorado State University, Vol. 24, Issue 4 (August/September 2007) entitled “*Consumptive loss from an Individual Sewage Disposal System (ISDS) in a Semi-Arid Mountain Environment*,” by William Paul, Eileen Poeter, and Roy Laws (submitted by Holly Franz);
- DNRC *Upper Missouri Water Availability Analysis* (December 1997) (submitted by Holly Franz, counsel for SCHC);
- Pre-filed testimony of residents in the Sypes Canyon CGWA consisting of 66 pages from *Application for Beneficial Use Permit No. 41H-11548700 by PC Development* (Autumn Ridge development) (submitted by Holly Franz, counsel for SCHC);
- Gallatin County Commissioners’ Proposed Findings of Fact and Order in *In the Matter of the Application of Autumn Ridge Company for Preliminary Plat Approval for the Autumn Ridge Major Subdivision* (FOF ¶¶ 1-4, pp. 1-3) (submitted by Holly Franz, counsel for SCHC); and
- Memorandum to Ms. Kathy Gallagher, Sypes Canyon Homeowners Coalition, from Michael Jones, Senior Hydrologist with John Shomaker & Associates, Inc. (Albuquerque, New Mexico), entitled “*Review of Ground-Water-Flow Model*”, dated February 7, 2008 (Jones Report) (submitted by Kathy Gallagher).

Exhibits offered by the Opponents and accepted into evidence include the following:

- Map of the Westlake Properties located within the Sypes Canyon CGWA, T1S R6E, Gallatin County, MT, Bridger Engineers, Inc. (submitted by Sarah Nash Zimmer, counsel for Westlakes).

Petition documents, DNRC processing documents, and the DNRC Report are already part of the record and are not labeled as exhibits.

PRELIMINARY MATTERS

Official notice was taken of all documents in the record, those submitted into evidence at the hearing, and upon request of Holly Franz, counsel for SCHC, official notice was also taken of DNRC's Proposal for Decision, June 10, 2003; and DNRC's Final Order, March 2003, denying *Application for Beneficial Use Permit No. 41H-11548700 by PC Development*, and the DNRC Water Management Bureau's Memorandum to the Montana Legislature Water Policy Interim Committee, dated February 2008, entitled "*Effects of Exempt Wells on Existing Water Rights.*"

The record was left open after hearing to receive post-hearing filings and additional exhibits from Holly Franz, counsel for SCHC, and Sarah Nash Zimmer, counsel for Westlakes. The Hearing Examiner received said post-hearing filings on February 13, 2008. Additionally, the record was left open to receive Mr. Levens' written evaluation of the post-hearing filings and additional exhibits, and technical evidence received and presented at the hearing. Mr. Levens' post-hearing written evaluation is entitled "*Review of technical information for Sypes Canyon Controlled Ground Water Area*", and dated February 19, 2008 (Levens February 19, 2008 Memorandum). Therefore, the record in this matter is considered to have closed as of that date.

ISSUE

At issue in the current proceeding is whether the Sypes CGWA designation should expire or become permanent pursuant to § 85-2-507, MCA, and if permanent, what conditions, corrective controls, and/or modifications pertaining to said permanent designation shall be applied.

Being well and fully advised, the undersigned Hearings Examiner makes the following Findings of Fact (FOF), Conclusions of Law (COL), and Order.

FINDINGS OF FACT

Background

1. The Petition for a CGWA was filed with DNRC on March 15, 2001, for the area designated as Sypes Canyon. The Petition was submitted by the SCHC, on behalf of the Petitioners, with signatures of at least 20 or one-fourth of the users of ground water from within the proposed area, in which there were alleged to be one or more facts showing the criteria in §§ 85-2-506(2)(a-g), MCA, were occurring. (Department file; §§ 85-2-506 and -507, MCA)
2. DNRC designated the Sypes Canyon temporary CGWA on April 26, 2002, after hearing pursuant to §§ 85-2-506 and -507, MCA (2001), for a period of two years. DNRC found there was evidence that there had been a substantial increase in water withdrawals within the CGWA, but it did not find enough evidence to show that withdrawals are excessive. The Department determined the

temporary designation was necessary to collect and analyze additional evidence on ground water levels, streamflows, aquifer characteristics, aquifer recharge, and aquifer withdrawals to determine whether a permanent CGWA was warranted. (Department file; *In the Matter of Petition for Establishment of the Sypes Canyon Controlled Water Area No. 41H-115474*, Proposal for Decision, January 4, 2002; Final Order, April 26, 2002)

3. The temporary CGWA was extended for another two years by the Department on March 31, 2004, to provide time to collect and analyze further facts to help designate, or reject a permanent CGWA. (Department file; *Notice of 2-Year Extension of Sypes Canyon Temporary CGWA*, March 31, 2004; §§ 85-2-506 and -507, MCA (2003)). On April 10, 2006, the temporary CGWA was extended an additional two years to collect and analyze further facts to help designate, or reject a permanent CGWA. (Department file; *Notice of 2-Year Extension of Sypes Canyon Temporary CGWA*, April 10, 2006; §§ 85-2-506 and -507, MCA (2005)). The two-year extension terminates on April 26, 2008. (Department file; *Notice of 2-Year Extension of Sypes Canyon Temporary CGWA*, April 10, 2006; § 85-2-507, MCA)

4. A *Notice of Expiration of Sypes Canyon Temporary Controlled Ground Water Area and Hearing to Decide Whether to Allow the Temporary Designation to Expire or to Make the Designation Permanent in the Matter of Petition to the Department of Natural Resources and Conservation for Establishment of the Sypes Canyon Controlled Ground Water Area No. 41H-115474* (Notice) was published in the Bozeman Daily Chronicle on December 31, 2007. The Notice set forth the alleged basis in the Petition for the Sypes Canyon temporary CGWA, the legal description of all lands proposed to be included within the CGWA, and the time, place, and purpose of the hearing. Additionally, DNRC served the Notice by first-class mail on individual home owners, water users, well drillers, entities, public agencies, and other persons or entities that DNRC determined might be interested in or affected by the CGWA. The Notice also stated that any interested person could present oral or written comments, evidence or testimony relevant to the DNRC Report and any issues relevant to the determination of designating or rejecting a permanent CGWA. (Department file)

5. The Sypes Canyon temporary CGWA encompasses 4.7 square miles approximately two miles north of Bozeman, Montana, on the west facing foothills of the Bridger Mountains. The legal land description of the temporary CGWA is as follows: SE1/4 of Section 13, E1/2NW1/4, E1/2 of Section 24, Township 01 South, Range 05 East; S1/2SW1/4 of Section 07, all of Sections 17, 18, 19, and 20,

Township 01 South, Range 06 East, Gallatin County, Montana. See Attachment No. 1 of this Final Decision for a temporary CGWA boundary map. (Department File; DNRC Report)

6. Approximately 300 residences in established subdivisions are located within the temporary CGWA, with an average lot size of 2.5 acres. The remainder of the temporary CGWA is undeveloped with a few scattered individual residences. (Department file; DNRC Report)

7. The Sypes Canyon temporary CGWA is located within the upper Missouri River basin closure area, which consists of the drainage area of the Missouri River and its tributaries above Morony Dam. (§ 85-2-343, MCA). Ground water appropriations that do not exceed 35 gallons per minute (gpm) and 10 acre-feet per year do not have to meet the requirements of §§ 85-2-360 through -364, or § 85-2-311, MCA. Also, DNRC's prior approval for replacing such wells is not required. (§§ 85-2-306, -311, -342, -343, -360, and -370, MCA; Admin. R. M. 36.12.120).

8. The Petitioner's basis for a CGWA alleged in their Petition and noticed to the public are: (1) groundwater withdrawals are in excess of recharge to the aquifer or aquifers within the area; (2) excessive ground water withdrawals are very likely to occur in the near future because of consistent and significant increases in withdrawals from within the ground water area; and (3) ground water levels or pressures in the area are declining or have declined excessively. (Department File; Petition; Testimony of Gallagher, Franz, counsel for SCHC; *Petitioner's Brief Supporting Establishment of CGWA*; § 85-2-506(2)(a), (b) and (d), MCA)

9. Petitioners propose DNRC establish the following summarized corrective controls for the Sypes Canyon CGWA:

(a) Establish preferences, pursuant to § 85-2-507(4)(c), MCA, without reference to relative priorities, as follows:

(1) in-house domestic and livestock use;

(2) tree and shrub watering;

(3) lawn watering; and

(4) existing ponds;

The establishment of a preference system will govern calls during times of limited water availability and ensure that domestic use receives the highest priority;

(b) Restrict summer lawn watering to every other day;

- (c) Allow only one well per lot. Those existing lots with more than one well would not be allowed to drill an additional well unless deepening or replacement is necessary;
- (d) Close the CGWA to new appropriations, with the exception that new wells would be allowed for existing platted single family lots for domestic (including lawns, gardens, trees) and livestock use only. The lawn and garden portion of domestic use would be limited to no more than one-quarter acre, and replacement wells or deepening existing wells would be limited to those domestic and livestock uses;
- (e) If new wells are not limited to existing platted single family lots, then require permits for all new wells on tracts or parcels created after the establishment of a permanent CGWA from the Department, limit use to domestic and livestock and no more than one-quarter acre lawns, and disallow ground water permits for ponds;
- (f) Reduce the exemption from the permitting process to new wells diverting no more than 10 gallons per minute not to exceed 1.63 acre-feet per year for domestic and livestock use with no more than one-quarter acre of lawn. In times of shortages, reduce the permissible diversion for all single family wells, including existing wells and replacement wells, to 10 gallons per minute not to exceed 1.63 acre-feet per year with no more than one-quarter acre of lawn;
- (g) Continue the requirement to contact the GLWQD prior to construction of new or replacement wells and before deepening any existing well so the geologic and aquifer information can be logged. A certificate indicating proper abandonment of a replaced well must be filed with the Department; and
- (h) These provisions would supersede existing covenants and zoning.

(Department file; Petition; Testimony of Gallagher, Franz, counsel for SCHC; *Petitioner's Brief Supporting Establishment of CGWA*; § 85-2-507, MCA)

10. The statutory criteria of § 85-2-506(2)(e), (f), (g), MCA, dealing with water quality issues, and § 85-2-507(2)(b)(i) and (ii), MCA, pertaining to wasteful use of water or undue interference with existing wells, and substantial interference with existing surface water or ground water rights, were not alleged in the Petition nor included in the Notice provided to all interested persons in this matter. (Department file)

11. Ms. Gallagher presented general testimony that ground water withdrawals adversely affecting the water quality are likely to occur, and that the water quality within the CGWA is not suited for a

specific beneficial use defined by § 85-2-102(2)(a), MCA. She cited generally to examples of residents having to haul water due to shallower water supplies or springs, that water quality in the deeper bedrock aquifers near the mountain front do not meet several primary and secondary drinking water standards, and that declines in inflows to the East Gallatin River due to upgradient single or community well development could result in declines in water quality in the river. She further testified that the Bozeman Water Treatment Plant is located on the East Gallatin River, and is providing a larger expansion; thus, any declines to inflows, which provide dilution to the discharged water, may lead the City to exceed standards at their mixing zone boundary. Ms. Gallagher did not provide any specific data regarding water quality, wasteful use of water or undue interference with existing wells, or substantial interference with existing surface water or ground water rights. I find there is not sufficient evidence presented to evaluate these concerns. (Gallagher testimony)

Ground Water Study and Model

12. During the temporary CGWA, Mr. Levens, in cooperation with Alan English and Tammy Crone, GLWQD; Dr. John Bredehoeft, consultant for the Petitioners; Scott Compton, Manager, Bozeman DNRC Regional Office; other DNRC staff; and Kathy Gallagher, SCHC, gathered information on the Sypes Canyon aquifer in a ground water study and model. The purpose of the ground water study and model was to provide an understanding of the hydrogeology of the aquifer system and causes of ground water level changes as a result of fluctuating recharge and increasing withdrawals, estimate a budget of aquifer recharge and withdrawals, and evaluate the effects of increased withdrawals due to future developments. In October 2005, the modeling approach followed in the DNRC Report was presented to this working group. Dr. Bredehoeft reviewed working versions of the models, advised on the modeling approach, and commented on drafts of the DNRC Report. Kathy Gallagher and Alan English reviewed and commented on a preliminary draft of the DNRC Report during August and September 2007. (Department file; DNRC Report; Levens February 19, 2008 Memorandum)

13. As described in the DNRC Report, data on streamflows, ground water levels, precipitation and snowpack, geology and water consumption was compiled from data published by the U.S. Geological Survey and the Montana Bureau of Mines and Geology, relevant masters theses, investigations conducted for water right applications, the National Weather Service, and GLWQD. (Department file; DNRC Report, pp. 4-5, 42-44)

14. A water balance was calculated and modeling conducted for a study area that is larger than the temporary CGWA in order to incorporate sources of recharge and aquifer boundaries that influence ground water levels and the effects of pumping within the CGWA. The study area

encompasses approximately 27 square miles and is bounded by bedrock of the Bridger Mountains on the east, alluvium of the East Gallatin River on the west, Bridger Creek on the south, and a line generally perpendicular to the estimated ground-water flow in a south-west direction on the north.

(Department file; DNRC Report, Fig. 1, p. 6)

15. A steady-state numerical model was constructed to improve estimates of aquifer properties, recharge, evapotranspiration, and aquifer boundary conditions. The steady-state model was constructed using the following: estimates of recharge from precipitation (using data from the MSU weather station and GIS spatial coverage of annual and monthly precipitation from the Natural Resource Information Service (NRIS)), stream losses (using relevant streamflow measurements by J.E. Hay (1997) and O.M. Hackett (1960), supplemented by DNRC), seepage from bedrock (using a ground water flux calculation), existing consumption withdrawals from wells (using standard guidelines and metered withdrawal records, reference information on plant irrigation requirements, and return flows through septic waste disposal systems), and estimates of aquifer properties (from aquifer testing and analysis of water level fluctuations). (Department file; DNRC Report, pp. 4, 27-30)

16. Water levels in wells were measured by the GLWQD on roughly a quarterly basis in approximately 130 wells within and nearby the CGWA during the temporary CGWA, and estimates for other wells were calibration targets for the steady-state model. (DNRC Report, pp. 4-5, 27-30)

17. Levens also developed four separate transient models during the study period, representing different 50-year duration pumping scenarios to predict the potential impacts of increased withdrawals due to future development within the CGWA and extended drought on ground water levels.

(Department file; DNRC Report, pp. 4-5, 31-36) A summary of the four models is as follows:

- a. **Transient Model #1:** Withdrawals from additional wells within the CGWA were simulated using wells in 41 cells located in layer two, that represent pumping for approximately nine households within each of the 984-foot square cells. Drawdown from pumping the additional wells emulated the seasonal fluctuations of withdrawals. Eighty percent (80%) of maximum drawdown was shown to occur in the first year, and increased gradually each year as drawdown expands. Drawdown at the end of irrigation season of the 50th year is approximately 50 feet within the center of the new pumping wells, and up to 20 feet in the area of existing wells (Section 20, Township 01 South, Range 06 East). Drawdown in wells monitored by GLWQD is predicted to decline between 0.10 feet in a well in layer one to 45 feet in a well in the Autumn Ridge subdivision. Excluding the Autumn Ridge subdivision wells, drawdown is predicted to exceed 5 feet in 15 wells with a maximum of 36 feet in Well

01S06E20BBBC, approximately 500 feet from the nearest simulated well. (DNRC Report, pp. 31-32, Fig. 30-32, pp. 33-34)

- b. Transient Model #2:** The purpose of this model was to investigate whether drilling new wells to greater depths than most existing wells will significantly reduce drawdown in the existing wells. Simulated pumping wells were moved to layer three and recharge wells placed in layer one. The results indicate that drawdown in layer two is about half as large as when the pumping wells are in layer two; however, drawdown still exceeds 5 feet in 15 wells monitored by GLWQD, with a maximum of 22 feet in Well 01S06E20BBBC. (DNRC Report, pp. 31-32, Fig. 33, p. 35)
- c. Transient Model #3:** The purpose of this model was to investigate the effects of off-site wastewater disposal. Simulated pumping wells were moved to layer three; however, domestic return flows are eliminated. Maximum drawdown in layer two within the simulated well field is 36 feet; drawdown simulated in this model again exceeds 5 feet in 15 wells with a maximum of 26 feet in Well 01S06E20BBBC. (DNRC Report, p. 33, Fig. 34, p. 36)
- d. Transient Model #4:** Five hypothetical public water supply wells were placed in layer three along the west boundary of the CGWA. Recharge from domestic and irrigation return flows were simulated by recharge wells in layer one. The purpose of this model was to investigate whether locating wells farther from existing wells and nearer to the East Gallatin River will reduce drawdown in wells within the CGWA. Maximum drawdown in layer two is 17 feet, and drawdown in all of the wells monitored by GLWQD is less than 5 feet. (DNRC Report, p. 33, Fig. 35, p. 37, Fig. 36-37, p. 39)

18. After compilation of the data, Mr. Levens completed a report in December 2007, including the data and scenarios and entitled "*Ground Water Conditions at the Sypes Canyon Temporary Controlled Ground Water Area.*" (Department file; DNRC Report)

19. Michael Jones, Senior Hydrologist with John Shomaker & Associates, Inc., a consulting firm in Albuquerque, New Mexico, provided written comments on the modeling in the DNRC Report in a Memorandum to Kathy Gallagher, entitled "*Review of Ground-Water-Flow Model*", dated February 7, 2008. Mr. Jones did not attend the hearing and was not available for questioning. (Department file; Jones Report) Petitioners presented no other expert hydrology analysis at the hearing. (Department file)

SECTION 85-2-506(2), MCA, FACTORS:

Ground Water Withdrawals Are In Excess of Recharge To The Aquifer Or Aquifers In The CGWA (§ 85-2-506(2)(a), MCA)

20. The water source for the temporary CGWA is an alluvial fan aquifer system. The alluvial fan surface gently slopes from the Bridger Range (elevation of approximately 9,000 feet) to the alluvial plain of the East Gallatin River (elevation of approximately 4,500 feet), a distance of approximately three miles. Vegetation on the undeveloped land on the alluvial fan consists of grass, shrubs and dry land grains. Mountain vegetation west of the temporary CGWA is comprised of evergreen forests. The East Gallatin alluvial plain vegetation consists of irrigated hay and riparian vegetation, mixed with residential development. (Department file; DNRC Report; p. 5)

21. Annual average precipitation within the CGWA is estimated to range from 15 to 28 inches, with precipitation greatest in the spring and early fall. Recharge is greatest during the months of April and May due to direct infiltration from snowmelt when the ground is thawed and from spring rains, and to a lesser extent during September and October, after evapotranspiration stops and fall rains occur. (Department file; DNRC Report, pp. 5-6)

22. The Bridger Mountains immediately east of the CGWA are characterized as folded and faulted steeply dipping Paleozoic- to Mesozoic- age sedimentary rocks and Archean -age metamorphic rocks. Down-dropped bedrock units are buried by an undetermined thickness of alluvial fan deposits to the west of steep normal faults along the mountain front. Alluvial fan and fluvial sediment facies in the vicinity of the temporary CGWA were identified as mostly discontinuous poorly-sorted coarse-grained debris flow deposits (QTdf, Qafd, Qafdo) near the mountain front and better-sorted fluvial fine-grained sediments at greater distances from the front (Qafs, QTafs). (Department file; DNRC Report, pp. 8-24, 40, Table 1, p. 9, Fig. 5, p. 10)

23. Investigations by Hay (1997), Erikson (1996), and Katzmarek (2001) conclude that the aquifer system within and nearby the temporary CGWA acts as a single system of multiple interconnected water-bearing zones within which pumping from wells can affect water levels in wells completed in water-bearing zones at other depths. (Department file; DNRC Report, pp. 8-24, 41; Levens testimony)

24. Aquifer tests support that water could be produced from well depths greater than 500 feet and that pumping from that depth causes drawdown in shallower intervals. This response indicates leakage, and that the alluvial fan aquifer system responds generally as an interconnected unconfined

aquifer over seasonal or multi-year pumping periods. (Department file; DNRC Report, pp. 8-24, 41; Levens testimony)

25. Aquifer tests in the developed regions in the alluvial fan near the East Gallatin River indicate fairly high transmissivity, production, and stabilization rates; in other parts of the alluvial fan system or more distant from the mountain front, transmissivity is not as high due to the poorly-sorted sediments. (Department file; DNRC Report, pp. 8-24, 41; Levens testimony)

26. Aquifer recharge cannot be measured directly and therefore studies to define the nature and distribution of recharge and discharge are often difficult and can be inconclusive. Results from the water budget constructed by Mr. Levens for the Sypes Canyon temporary CGWA show that ground water in the temporary CGWA is recharged through direct infiltration from precipitation and snow melt on the surface of the alluvial fan, leakage from Sypes Creek and seepage losses from streams draining along the western front of the Bridger Range, and inflow from bedrock aquifers in the Bridger Range. Discharge components consist of the consumptive use of water from well withdrawals and ground water outflow to alluvium of the East Gallatin River. (Department file; DNRC Report, pp. 25-26, 41; Levens testimony)

27. Recharge from bedrock to the alluvial fan is concentrated at shallower depths, because water transmission from fractures and faults in the gneiss decreases with depth and because clay in the range-front fault may dam water in some areas. (Department file; DNRC Report, pp 13-15, 25-26, 40; Testimony of Levens, English)

28. A physical water balance and chloride mass-balance calculated by Hay (1997) yield estimates of recharge to the aquifer system of 5,100 acre-feet per year, and 3,000 acre-feet per year, respectively. Hay's study area encompasses approximately the north half of the aquifer system included in the DNRC study and includes contributions to the CGWA and the area to the north of the CGWA that receives recharge from Middle Cottonwood Creek. (Department file; DNRC Report, p. 9)

29. The water budget estimated that the sum of seepage from small streams draining to the Bridger Mountains and ground water inflow within the study area was between approximately 18,000 and 23,000 acre-feet per year (25 to 31 cubic feet per second (cfs)) from a contributing area of approximately 11,000 acres. (Department file; DNRC Report, pp. 25-26, 41; Levens testimony)

30. Total withdrawals from domestic wells within the study area were estimated to be approximately 1,700 acre-feet per year based on development of one household per 2.5 acre tracts,

with irrigation of ½-acre lawns; total net consumption (withdrawal minus return flow) was estimated to be 938 acre-feet per year (1.3 cfs). (Department file; DNRC Report, pp. 29, 41; Levens testimony)

31. Kathy Gallagher testified that the measurements in the DNRC Report were one time events or taken from studies that are dated by approximately 10 years. Further, she stated that if 938 acre-feet per year of water is removed from the ground water system upgradient, this means that 938 acre-feet per year of water will not make it to the streams and rivers downgradient. Use of a steady-state model implies that if recharge and discharge are currently balanced, then any additional change in discharge, with recharge holding steady, would result in discharge (including withdrawals) exceeding recharge. (Gallagher testimony) Mr. Levens stated that this can be said about any aquifer and, therefore has no bearing on the sustainability of development within the CGWA relative to anywhere else. (Levens February 19, 2008 Memorandum)

32. As general support for the Petition, Ms. Gallagher provided a Memorandum with her written testimony from Michael Jones, Senior Hydrologist with John Shomaker & Associates, Inc., a consulting firm in Albuquerque, New Mexico, the subject of which is entitled "*Review of Ground-Water-Flow Model*", dated February 7, 2008. (Gallagher testimony; Jones Report). The Jones Report suggests that the use of a steady-state model in this matter assumes that present conditions are balanced. This is not supported by any data. Mr. Jones further states calibration of a transient model would improve the analysis of the causes of ground water level changes. In response, Mr. Levens commented that it may appear a calibrated transient model could yield a better representation of the hydrogeologic system near the mountain front; however, it is not necessary for the purposes of this study because the number of wells with long-term water-level records or the frequencies of measurements for those wells are not adequate to calibrate a transient model. Further, Mr. Levens stated the effects of seasonal recharge on ground-water levels are dampened with distance from the mountain front and the primary undeveloped part of the CGWA. (Gallagher testimony; Jones Report; Levens February 19, 2008 Memorandum)

33. The Jones Report further states that the DNRC Report overestimates recharge and underestimates current ground water withdrawals, by not including an analysis of pumping from bedrock from the water balance or bedrock water level changes, and because the current balance between recharge and pumping remain unknown. (Gallagher Testimony; Jones Report). Mr. Jones did not state by how much recharge may be overestimated or withdrawals underestimated. Mr. Jones

did not quantify recharge or ground water inflow, or provide a water budget. (Jones Report). Mr. Jones did not appear at the hearing and was not available for questioning.

34. Mr. Levens states that evidence in the record indicates there is insufficient data to model the bedrock aquifer, and those minor withdrawals from bedrock have a small effect on the alluvial aquifer system that was the focus of this modeling. Mr. Levens notes that recharge from bedrock inflow is the most uncertain element of the water balance because of limited information available on conditions within the bedrock aquifer. However, recharge from streams flowing from the Bridger Mountains is more certain and accounts for approximately half of the rate of recharge estimated in the DNRC report. (Gallagher testimony; Jones Report; Levens February 19, 2008 Memorandum)

35. The contribution to total recharge to the study area attributed to ground water inflow from bedrock in the Bridger Mountains is estimated between 7,300 to 9,600 acre-feet per year. The contribution to recharge from bedrock is uncertain and is disputed in the Jones Report; however, other more certain sources of recharge are substantially in excess of current withdrawals. (Department file; DNRC Report; Levens February 19, 2008 Memorandum)

36. Recharge in the CGWA may be affected if temperature, precipitation, and/or timing of runoff change in the future. Precipitation between 1998 and 2004 that was approximately 85 percent (85%) of the long-term average, reduced recharge and lowered ground water levels. Future increases in summer precipitation relative to snowfall and higher average temperatures that are predicted to occur in the Gallatin Valley (Aber, 2007) will likely lead to reduced snowpack, early runoff, decreased recharge from small streams draining along the Bridger Mountains, and lower ground water levels. (Department file; DNRC Report, p. 38, Fig. 38, p. 40)

37. I find the evidence does not support that ground water withdrawals are in excess of recharge to the aquifer. The evidence in the record is that the ground water inflow within the study area was between approximately 18,000 and 23,000 acre-feet per year; 1,700 acre-feet is withdrawn by wells, and the amount consumed is approximately 938 acre-feet per year. Estimated recharge for an area smaller than the temporary CGWA, but partially contained within the temporary CGWA, was 3,000 to 5,100 acre-feet per year. While the Jones Report stated that recharge is overestimated and current withdrawals are underestimated, it offered no other estimates, nor was Mr. Jones available for questioning at the hearing. Taking half of the projected recharge for the temporary CGWA (9,000 acre-feet a year), recharge is still almost 10 times the current consumptive use. Even allowing for variations in assumptions, I cannot find that withdrawals exceed recharge.

Excessive Ground Water Withdrawals Are Very Likely To Occur In The Near Future Due To Consistent And Significant Increases In Withdrawals From Within The CGWA (§ 85-2-506(2)(b), MCA)

38. Simulations using a transient model to evaluate the effects of increased withdrawals from future development predict that continued development at the existing density (2.5 acre lots with ½-acre irrigated lawns), and at depths similar to existing wells could lower water levels up to an additional 20 feet in certain areas, within a simulated period of 50 years. Pumping from individual wells at greater than existing densities or with larger lawn sizes is predicted to result in proportionally greater drawdown. There does not appear to be any data on well water columns in the record. (Department file; DNRC Report, pp. 31-37, 39, 41-42)

39. Transient modeling predicts that the effect in a semi-confined aquifer system when new wells are simulated at depths greater than approximately 400 feet, compared to existing wells that are simulated at depths between 262 feet and 400 feet, could reduce the drawdown effects to existing wells pumping, e.g., drawdown in existing wells would be less if the new wells are drilled greater than 400 feet. (Department file; DNRC Report, pp. 31-37, 39, 41-42)

40. For purposes of the transient modeling, additional pumping wells were added to the steady-state model to simulate transient drawdown by increased withdrawals of 439 acre-feet per year (with 248 acre-feet of that amount consumed) from future development of approximately 365¹ additional households. The addition of 365 homes in the transient model simulations brings the average overall density within the CGWA to one household per every 2.5 acres, which is equivalent to the average household density in existing developed subdivisions within the CGWA. Certain areas were not considered as having potential for more development within the CGWA (see Fig. 30). Therefore, the *overall* density in the CGWA is not 2.5 acres – only in the existing and projected developed areas. (Department file; DNRC Report, pp. 31-37, 39)

¹ There appears to be an error in the DNRC Report in the number of additional homes added to the transient models. Simulations in the transient models used 41 cells with nine households, which does not add up to 450 additional homes. The correct number of homes modeled is 365 homes. The withdrawals (365 x 1.2 AF = 439 AF), consumptive use (365 x 0.68 AF = 248 AF), 2.5 acre lot sizes (in undeveloped areas) and number of wells shown in Fig. 30 of the DNRC Report are correct. The density of homes in developed subdivisions in the CGWA is approximately 2.5 acres, which is what was used for the proposed new development shown in Fig. 30. (DNRC Report, pp. 31-37)

41. The transient models predict that a continuing drought or changes in temperature and precipitation due to climate change and at the assumed continued density of 2.5 acres will impact recharge and lower ground water levels by as much as 30 feet near the mountain front. (Department file; DNRC Report, pp. 31-39, 41-42)

42. The transient models predict that drawdown caused by new withdrawals within the CGWA will propagate in all directions causing net depletion to flows in the East Gallatin River and Bridger Creek, and other surface waters in the Gallatin Valley that are hydraulically connected to ground water, by reducing ground water levels at those waters. The rate of depletion simulated by the transient models fluctuate with seasonal variation of withdrawals and increases as drawdown increases and propagates away from the simulated pumping wells. Net depletion to surface water will approach a constant year-over-year with time as a balance between recharge and discharge is reestablished and the contribution from storage reduces to zero. (Department file; DNRC Report, p. 38, 41-42)

43. Mr. Levens testified that pumping from wells at greater densities than the assumed existing density of 2.5 acre tracts or with irrigated lawns larger than ½-acre, e.g., if the average lawn size is closer to 1-acre and these 1-acre lawns are irrigated, the estimated drawdown will likely double. (DNRC Report, pp. 27-39, 41-42; *Petitioners' Brief Supporting Establishment of Controlled Ground Water Area*; Levens testimony)

44. Holly Franz, counsel for SCHC, testified that future development within the CGWA will cause excessive withdrawals. Ms. Franz submits that the evidence shows within the CGWA there were 271 lots until 1993; from 1993-2002, there were an additional 195 lots; and from 2002-2006, there were 50 new wells drilled with controls in place. She further stated that the Autumn Ridge subdivision was going to add another 183 new lots. (Department file; Franz testimony; *Petitioners' Brief Supporting Establishment of Controlled Ground Water Area*)

45. Kathy Gallagher testified that there have been inadequate studies on the cumulative impacts to ground water and surface water as a result of unchecked development in the temporary CGWA, including seven major subdivisions within the study area (Grandview Heights, Grandview Heights II, and The Ranch subdivisions are located south of Sypes Canyon Road; Harvest Hills, part of The Ranch, Summer Ridge, Sypes Canyon, and Spirit Hills subdivisions are located north of Sypes Canyon Road). Ms. Gallagher further testified that although there are no major subdivisions awaiting plat approval at this time, there are approximately 760 acres of agricultural land downgradient from the temporary CGWA that are for sale and have the potential for development, and there have been a

number of inquiries for land for minor subdivisions along the mountain front. Ms. Gallagher also expressed concern that several residents had recently applied for permits for approximately ½-acre ponds that would be fed by ground water, and there had been property divided via the family transfer provisions and wells had been developed on subdivided land. She asserts that the DNRC Report affirms that declines in ground water levels have already occurred and development will cause additional declines, which will result in senior water rights holders from exercising their water rights. (Gallagher testimony)

46. The Jones Report further asserts that predictions of future ground water drawdown and surface water depletion are understated, as are seasonal water level fluctuations and impacts of drought. This is based on the assertions that the DNRC Report underestimates seasonal extremes of water level decline and water level drawdown caused by drought and future pumping. It is also asserted that the DNRC Report overestimates aquifer storage, and future projections of ground water drawdown and surface water depletion in the DNRC Report do not include the future effects of current ground water pumping. (Gallagher testimony; Jones Report)

47. Based upon Mr. Levens review of the Jones Report and the technical evidence submitted in this matter, it appears that the specific storage value used in modeling was lower than the actual conditions, not higher as the Jones Report states. Therefore, the seasonal extremes of water level declines is likely overestimated, not underestimated. (Levens February 19, 2008 Memorandum)

48. Mr. Levens in the DNRC Report conservatively estimated consumption by lawn and garden irrigation, based upon the estimate of future lawns that are ½-acre or less, on 2.5 acre lots. The effect is that conservative assumptions regarding withdrawals for domestic purposes and subsequent septic effluent returns lead to an overestimate of drawdown and surface water depletion. Additionally, the effects of current withdrawals are mostly (90 percent (90%) or more) reflected in current water levels, and future effects from current withdrawals will be small relative to future withdrawals. (Levens February 19, 2008 Memorandum)

49. Mr. Levens stated that the amount of irrigated acreage is the biggest factor in terms of impacts to ground water levels (e.g., if a household irrigates the entire lot, the volume of consumption will increase), and reducing the maximum pumping rate or the number of wells on a parcel will have little effect on ground water levels in other wells. (Levens testimony; Levens February 19, 2008 Memorandum)

50. Official notice was taken of the February 2008 DNRC Water Management Bureau Memorandum entitled “*Effects of Exempt Wells on Existing Water Rights.*” The February 2008 Memorandum was drafted for purposes of the Montana Legislature Water Policy Interim Committee’s meeting in Hamilton, Montana, regarding the potential effects of exempt wells on existing water rights. The findings in the Memorandum support that ground water pumping and use in closed basins has been shown to deplete surface water flows. It is estimated that 300 homes using exempt wells with ½-acre of irrigation will consume 204 acre-feet per year, which is equivalent to an estimated 207 acre-feet consumed by one center pivot used to irrigate 138 acres of alfalfa. (DNRC Water Management Bureau Memorandum)

51. I find the evidence does not support that future growth within the proposed CGWA will result in excessive ground water withdrawals in the near future. No new subdivisions are in the plat approval process. While agricultural land may possibly be subdivided in the future, it is downgradient of the temporary CGWA boundaries. With a modeled addition of 365 homes, the consumptive use would be approximately 1,186 acre-feet per year (938 + 248 = 1,186). Even taking half of the projected recharge for the temporary CGWA (9,000 acre-feet per year), recharge would be over 7 times the projected consumptive use. Based on the evidence in the record, I cannot find that the aquifer will not sustain future growth with the current pattern of development, such that withdrawals will be excessive. Neither can it be said that this growth pattern demonstrates that consistent or significant increases in withdrawals will occur.

Ground Water Levels Or Pressures In The CGWA Are Declining Or Have Declined Excessively (§ 85-2-506(2)(d), MCA)

52. Ground water levels in wells in the alluvial fan aquifer system within or near the CGWA are estimated to be 5 to 20 feet lower than approximately 10 years ago, spanning periods of above-and below-average precipitation. (Department file; DNRC Report, pp. 13-24, 41; Levens testimony)

53. Approximately 50 additional wells have been permitted within the CGWA since 2002; however, water level trends correlate to precipitation trends and the effects of withdrawals from the new wells on water levels in pre-existing wells cannot be distinguished separately. (Department file; DNRC Report, pp. 13-24; Levens testimony)

54. Studies show that water levels in wells near the range-front fault tend to fluctuate seasonally in response to recharge from small streams and discharge from bedrock aquifers, correlating to 48-

month Standard Precipitation Index (SPI) and seasonal precipitation patterns. In contrast, these seasonal fluctuations in wells completed in poorly connected water-producing intervals or further from the primary sources of recharge are delayed or absent completely, correlating to longer-period precipitation trends (96-month SPI). (DNRC Report, pp. 13-24, 41)

55. Aquifer testing supports that water-producing intervals at different depths within the alluvial fan aquifer system are hydraulically connected; however, water levels indicate the presence of low hydraulic conductivity layers that create semi-confined conditions, inhibiting but not preventing vertical communication. Water levels in alluvium of the East Gallatin have remained relatively constant with small seasonal fluctuations. (DNRC Report, pp. 13-24, 41)

56. Holly Franz, counsel for SCHC, argues the DNRC Report shows water level declines of 5 to 20 feet in the last 10 years, without considering future development, and if development occurs as modeled in the DNRC Report, it is predicted that ground water levels will decline an additional 20 feet in some areas, up to 50 feet at the center of development. She further states that combining that with continuing drought, and water levels could decline an additional 30 feet. Ms. Franz asserts this would be occurring in areas that are already experiencing problems, such as wells near the mountain front that cannot be further deepened due to limited aquifer depths. Further, she argues that the Jones Report disagrees with the predictions of drawdown in the DNRC Report for the reason that it was underestimated. (DNRC Report, pp. 31-37, 41; Jones Report; Franz testimony; *Petitioners' Brief Supporting Establishment of Controlled Ground Water Area*)

57. The findings in the DNRC Report support that the greatest declines were shown in existing wells in the Spirit Hills and Summer Ridge subdivisions, most likely from pumping. The effects of drought would be greatest along the mountain front and the effects of new development would be concentrated in the western half of the CGWA; therefore, the greatest water-level declines and the greatest potential future declines due to drought and development will not occur in any one place. Thus, one cannot add the 5-20 feet of drawdown that likely occurred in the past 10 years, to the 20 additional feet of drawdown that may occur with development, plus 30 feet of additional drawdown that may occur due to long-term drought, because they will not likely occur in the same place. (DNRC Report, pp. 31-37, 41-42; Levens testimony; Levens February 19, 2008 Memorandum)

58. Alan English, a hydrogeologist and manager of the GCLWQD, testified that Mr. Levens overestimated the water budget on the basis that the Bridger Range recharge could be lower, as there is a lot of clay material in the range front fault zone. He concurred that precipitation and climate are

major factors in water level changes in the CGWA, but that future wells and existing wells will likely add to that impact, even though one cannot differentiate between drought and well interference. Since he started working in 2000, Mr. English stated every call he received from this area complained about a well/spring gone dry or concerns about water levels. While he stated he wants to maintain neutrality in this matter, Mr. English does think that some sort-of oversight or control from DNRC would be appropriate because it is an area of concern. (English testimony) Mr. English did not present any numerical hydrologic analysis or data to support this testimony.

59. Bobbi Geise testified that they are experiencing problems with their well, including sucking air and grit, drawing down to the pump, and spurted water pressure, most often occurring during the summer months when their neighbors are irrigating their lawns. Ms. Geise also testified that in the five years they have lived in their house, two new homes were built with deeper wells (within the Summer Ridge development). In 1985, her well was 245 feet deep, with static water level of 150 feet, yielding 14 gpm. In 2006, the static water level dropped to 179 feet, yielding 8 gpm, with recharge at 6.5 gpm. Ms. Geise also stated they have had significant well water drawdown, based upon measurements taken from her meter installed on the well, which is 275 feet deep. (Geise testimony)

60. Annie Bertagniolli submitted written testimony, stating that their well drew down more quickly than previously, and that on three occasions, pumped to sand and required up to 7 hours to recharge. She further stated that other users were having water problems and some were hauling water, and that her spring-fed pond was drying up. (Bertagniolli testimony)

61. Attached to the post-hearing brief submitted by Petitioners as Exhibit 3, are approximately 66 pages of pre-filed testimony from various home owners and/or water users in the CGWA area, submitted in the *Application for Beneficial Use Permit No. 41H-11548700 by PC Development* hearing. (*Petitioners' Brief Supporting Establishment of Controlled Ground Water Area*). This information generally states there were "problems" with the home owner wells, but does not provide any specific data with the testimony.

62. Kathy Gallagher provided general testimony that there will be potential impacts to surface water rights in the basin, and water pressures are declining. However, no analysis on impacts to surface water rights or declining pressures, other than the general conclusion that surface water rights will be impacted and pressures are declining, was presented. (Gallagher testimony)

63. Sarah Nash Zimmer, counsel for Westlakes, testified that although the DNRC Report indicates there are varying water levels within the aquifer, it could not differentiate between ground water levels

correlating with precipitation trends and impacts from the 50 additional wells drilled within the aquifer. Ms. Nash Zimmer further testified the Gallatin County Commission governs residential and commercial development of units less than 160 acres in size under the Montana Subdivision and Platting Act (§76-3-103(15), MCA; 76-3-501, *et seq.*, MCA), and under Gallatin County's adopted guidelines, any significant development would likely require central water systems and central wastewater systems. Central water systems would be required to go through the Department's permitting process. (DNRC Report, p. 15; Nash Zimmer testimony; *Brief of Russell Westlake, Sheryl Westlake, Sylvia Osterman, and Westlake Farms*)

64. The evidence shows that ground water levels within the proposed CGWA are declining, but the evidence does not support that they are lowering to a significant level to prohibit anyone from reasonably exercising their water rights such that the public health, safety or welfare would require corrective controls. There was general testimony suggesting water users are experiencing well problems and impacts to surface water, causing some water users to deepen or drill replacement wells. I find there is insufficient evidence to show the extent of the problems; the specific impacts and cause of the well problems is simply not known. Although there was limited testimony of pressure declines in individual wells, I find there was insufficient evidence of a pressure decline throughout the temporary CGWA.

SECTION 85-2-507(2), MCA, FACTORS:

Public Health, Safety Or Welfare Requires A Corrective Control To Be Adopted (§ 85-2-507(2)(a), MCA)

65. The public health, safety or welfare requires corrective controls to allow the reasonable exercise of water rights for the purposes for which they are intended. The evidence in this matter does not show that water right holders cannot reasonably exercise their water rights. (Department file; DNRC Report)

66. Several persons testified against the permanent designation of the CGWA in this matter on the grounds that it would be an undue burden and very costly pursuant to the requirements in House Bill (HB) 831 (§§ 85-2-360 to -364, MCA, hydrogeologic assessment), if DNRC requires a permit for all new ground water development and replacement wells. Others testified that a CGWA should not be used to regulate growth in a closed basin. It was suggested that single-family homes be omitted from any permitting requirements, or that the boundaries, which appear to be arbitrary, be changed to remove some existing lots to include future lots within the CGWA. There were also concerns about

being able to feed livestock on one well. It was suggested that DNRC not limit the number of wells on a lot. (Testimony of Woody, B. Jackson, A. Jackson, Yeley, Vance, Garrigues, Nash Zimmer).

67. It is necessary that there be facts sufficient to show that the public health, safety, or welfare requires corrective controls to be adopted to ensure adequate and safe supplies of ground water are maintained in the aquifer in the proposed Sypes Canyon CGWA for beneficial uses of water, within the capacity of the aquifer. While the Hearing Examiner recognizes the concerns of the Petitioners, the facts in this case do not show that water right holders cannot reasonably exercise their water rights and thus, the public health, safety, or welfare does not require corrective controls to be adopted.

CONCLUSIONS OF LAW

General

1. The Petition was properly filed pursuant to § 85-2-506, MCA. (§§ 85-2-506, and -507, MCA; FOF No. 1)
2. The Department has jurisdiction over the parties and the subject matter herein. (§§ 85-2-506, and -507, MCA)
3. The Department provided proper notice of this proceeding. Substantive procedural requirements of law or rule have been fulfilled. (§§ 85-2-506, and -507, MCA; FOF Nos. 1-4)
4. Facts gathered during the 2-year temporary CGWA designation and any extension (study period) must be presented at a hearing before the Department prior to the designation or modification of a permanent controlled ground water area. The Department presented the facts gathered during the study period. (§§ 85-2-506, and -507, MCA; FOF No. 1-4)
5. After the conclusion of the hearing, the Department shall declare the area in question to be a controlled ground water area if the Department finds on the basis of the hearing that:
 - (a) the public health, safety, or welfare requires a corrective control to be adopted; **and**
 - (b)(i) there is a wasteful use of water from existing wells or undue interference with existing wells; **or**
 - (ii) any proposed use or well will impair or substantially interfere with existing rights to appropriate surface water or ground water by others; **or**
 - (iii) the facts alleged in the Petition, as required by § 85-2-506(2), MCA, are true. In this case, the facts alleged in the Petition are as follows:
 - (1) ground water withdrawals are in excess of recharge to the aquifer or aquifers within the

CGWA;

(2) excessive ground water withdrawals are very likely to occur in the near future because of consistent and significant increases in withdrawals from within the CGWA; and

(3) ground water levels or pressures in the area in question are declining or have declined excessively.

(§§ 85-2-506(2)(a), (b), (d) and -507(2), MCA; FOF Nos. 4, 8-9)

6. The Department may take official notice of judicially cognizable facts and generally recognized technical or scientific facts within the agency's specialized knowledge. Parties may contest the materials so noticed. (E.g., Matter of Establishment and Organization of Ward Irr. Dist. (1985), 216 Mont. 315, 701 P.2d 721; see § 2-4-612, MCA; Admin. R. M. 36.12.221)

7. The Sypes Canyon temporary CGWA is located within the upper Missouri River basin closure area. In Montana, ground water appropriations by means of a well or developed spring with maximum appropriations of 35 gpm or less, not to exceed 10 acre-feet per year, are not required to have a permit before appropriating water. For ground water appropriations exceeding 35 gpm or 10 acre-feet per year, a permit is required before appropriating water. The Department's permitting process requires an applicant to meet stringent statutory criteria, including: physical water availability; legal water availability; lack of adverse affect to existing water rights (both ground water and surface water rights); adequate diversion works; beneficial use of water; possessory interest in the place of use; and that water quality of a prior appropriator will not be adversely affected. Administrative rules further require those seeking a permit for ground water to submit aquifer testing analysis and address whether the source aquifer is hydraulically connected to surface water. If the appropriation of water may adversely affect senior water rights, a mitigation plan is required. I find that statutory and administrative rule requirements provide sufficient protection for existing ground water users and surface water users in the upper Missouri River basin for permitting purposes. The remainder of this Final Decision addresses only potential appropriations under exceptions to the permitting process found in §85-2-306 MCA. (§§ 85-2-306, -311, -342, -343, -360, and -370, MCA; Admin. R. M. 36.12.120; *In The Matter Of Application For Beneficial Water Use Permit No. 41I-11495000 By Fieldstone Estates; Final Order* (2005), FOF No. 7)

8. The Petitioners brought this Petition to establish a permanent CGWA. The burden of proof rests with Petitioners to demonstrate the criteria for a permanent CGWA are met. This means that the Petitioners have the burden, duty and responsibility of initially coming forth with evidence to establish that the facts alleged in the Petition are true. After the Petitioners have presented their case,

Petitioners still have the ultimate burden of persuasion, that is, after all evidence both for and against the establishment of a CGWA has been presented, the Hearing Examiner must be persuaded that the statutory allegations of the Petitioners are probably true. (§§ 85-2-506, and -507, MCA; E.g., In The Matter Of The Smith Valley Petition For Controlled Ground Water Area No. 76LJ 30015063); In The Matter Of The Green Meadow Petition For Controlled Ground Water Area No. 41I 30022395 (Proposal for Decision, adopted Final Order (2008)); see also §§ 26-1-401 and -402, MCA)

9. Because of the complexity of ground water cases, and the difficulty of proof associated therein, the DNRC has the authority to deal with each case according to its own set of specific facts, as shown by the available expert opinion and studies conducted. (*In the Matter of the Designation of the Larson Creek Controlled Ground Water Area as Permanent, 76H-S103814, Proposal for Designation*, October 7, 1988, adopted Final Order, November 14, 1988)

10. I find that the Petitioners have not met their burden of proof. There is insufficient information in the record to enter an order permanently designating the Sypes Canyon area in issue as a CGWA. (§§ 26-1-401 and -402, MCA; §§ 85-2-506, and -507, MCA)

Public Health, Safety, Or Welfare Requires A Corrective Control To Be Adopted (§ 85-2-507(2)(a), MCA)

11. The legislature authorizes the Department to declare an area a permanent controlled ground water area if it finds, on the basis of the hearing, that the public health, safety, or welfare requires a corrective control to be adopted. (§ 85-2-507(2)(a), MCA)

12. Statutes which are enacted for the protection and preservation of public health, safety or welfare are to be construed liberally. State ex rel. Florence-Carlton School Dist. No. 15-6 v. Board of County Commissioners of Ravalli County (1978), 180 Mont. 285, 590 P.2d 602 (legislation promoting public health, safety or welfare is entitled to “liberal construction with a view towards the accomplishment of its highly beneficent objectives”) *quoting* 3 Sutherland, Statutory Construction, s 71.01 (4th Ed., 1974); Hall v. Union Light, Heat & Power (1944), 53 F.Supp. 817, 818 (E.D.KY) (“no rule of statutory construction is more readily applied by the courts than public statutes dealing with the welfare of the whole people are to have a liberal construction”).

13. Montana water law does not prohibit appropriations by junior or future water users simply because there has been a reduction of ground water levels. Montana recognizes the western water law principle that a prior appropriator must have a reasonably efficient diversion and cannot “command the source” simply so that they may have a convenient diversion, such as artesian flow. (§

85-2-401, MCA; *In the Matter of Application for Beneficial Water Use Permit No. 25170-g41B by East Bench Grain & Machinery*, Final Order, p. 31 (1983); *In the Matter of Application for Beneficial Water Use Permit No. 75997-G76L by Carr*, Proposal for Decision, p.13 (1991); City of Colorado Springs v. Bender, 148 Colo. 458, 462, 366 P.2d 552, 555 (Colo.1961) (not entitled to command the whole or a substantial flow of the stream merely to facilitate his taking the fraction of the whole flow to which he is entitled); *In The Matter Of The Smith Valley Petition For Controlled Ground Water Area No. 76LJ 30015063*, Proposal for Decision, adopted Final Order (2007)).

14. Only reasonably efficient means of diversion have historically been protected. State v. ex rel Crowley v. District Court (1939), 108 Mont. 89, 88 P.2d 23 (surface water right, diversion dams reasonable); City of Colorado Springs, supra; Doherty v. Pratt, 124 P. 574 (Nev. 1912); Alamosa-LaJara Water Users protection Association v. Gould, 674 P.2d 914 (Colo. En Banc 1983). As consistently recognized by the Department in its decisions:

To hold that an appropriator is entitled to maintain a shallow pumping depth or artesian flow against subsequent appropriators would allow a single appropriator or a limited number of appropriators to control an entire aquifer simply to make their own means of diversion easier. *In the Matter of Application for Beneficial Water Use Permit No. 72948-G76L by Cross*, Final Order (1991), Proposal for Decision, pp. 9-10; *Carr*, Proposal for Decision, p. 12.

The Montana Water Use Act recognizes this doctrine in § 85-2-401, MCA, which provides in relevant part:

85-2-401. Priority -- recognition and confirmation of changes in appropriations issued after July 1, 1973. (1) As between appropriators, the first in time is the first in right. Priority of appropriation does not include the right to prevent changes by later appropriators in the condition of water occurrence, such as the increase or decrease of streamflow or the lowering of a water table, artesian pressure, or water level, if the prior appropriator can reasonably exercise the water right under the changed conditions. . . .

(Emphasis added).

By its own terms, this section makes clear that one does not have a right to protect artesian pressure or the lowering of the water table as long as he can reasonably exercise his water right. E.g., Ravalli County v. Erickson, 2004 MT 35, ¶¶ 11 and 12, 320 Mont. 31, 85 P.3d 772 (intention of the legislature determined from the plain meaning of the words used); Highlands Golf Club v. Ashmore, 2002 MT. 8, ¶20, 308 Mont. 111, 36 P.3d 697 (where the statute is clear and unambiguous, the statute speaks for itself and the court neither inserts what has been omitted or omits what has been

inserted, § 1-2-101, MCA). If a water right holder can reasonably exercise their water right, there is no adverse effect.

“Reasonably exercise” must be evaluated against the backdrop of Montana’s policy to put water to beneficial use. As aptly stated in *Carr*:

The principle that no appropriator should be allowed to “command the source” simply so that he may have a convenient method of diversion, is consistent with the State of Montana’s policy of maximizing the beneficial use of water. See § 85-2-101(3), MCA.

Carr, Proposal for Decision, p. 13. The Montana Constitution expressly recognizes in relevant part that:

(1) All existing rights to the use of any waters for any useful or beneficial purpose are hereby recognized and confirmed. (2) The use of all water that is now or may hereafter be appropriated for sale, rent, distribution, or other beneficial use . . . shall be held to be a public use. (3) All surface, underground, flood, and atmospheric waters within the boundaries of the state are the property of the state for the use of its people and are subject to appropriation for beneficial uses as provided by law.

Mont. Const. Art. IX, §3. While the Montana Constitution recognizes the need to protect senior appropriators, it also recognizes a policy to promote the development and use of the waters of the state by the public. This policy is further expressly recognized in the water policy adopted by the Legislature codified at § 85-2-102, MCA, which states in relevant part:

(1) Pursuant to Article IX of the Montana constitution, the legislature declares that any use of water is a public use and that the waters within the state are the property of the state for the use of its people and are subject to appropriation for beneficial uses as provided in this chapter. . . .

(3) It is the policy of this state and a purpose of this chapter to encourage the wise use of the state's water resources by making them available for appropriation consistent with this chapter and **to provide for the wise utilization, development, and conservation of the waters of the state for the maximum benefit of its people** with the least possible degradation of the natural aquatic ecosystems. In pursuit of this policy, the state encourages the development of facilities that store and conserve waters for beneficial use, for the maximization of the use of those waters in Montana . . .

(Emphasis added.)

15. The provisions of § 85-2-507, MCA, must be read consistently with the Montana Water Use Act (Title 85 Chapter 2, Parts 3 and 4, MCA) and common law. Sections 85-2-506, and -507, MCA, are part of the 1961 Ground Water Code. The history of § 85-2-506, MCA, is as follows: en. Sec. 4, Ch. 237, L. 1961; amd. Sec. 168, Ch. 253, L. 1974; R.C.M. 1947, 89-2914; amd. Sec. 2, Ch. 561, L. 1979; amd. Sec. 1, Ch. 189, L. 1985; amd. Sec. 4, Ch. 460, L. 1993; amd. Sec. 460, Ch. 418,

L. 1995; amd. Sec. 13, Ch. 391, L. 2007. The history of § 85-2-507, MCA, is as follows: en. Sec. 5, Ch. 237, L. 1961; amd. Sec. 41, Ch. 452, L. 1973; amd. Sec. 169, Ch. 253, L. 1974; R.C.M. 1947, 89-2915; amd. Sec. 3, Ch. 561, L. 1979; amd. Sec. 148, Ch. 370, L. 1987; amd. Sec. 461, Ch. 418, L. 1995; amd. Sec. 5, Ch. 161, L. 2005. These provisions predate the Montana Water Use Act passed in 1973. (Ch. 452, L. 1973). The terms of §§ 85-2-506, and -507, MCA, must be read in light of § 85-2-401, MCA, and the historic common law protections afforded to reasonably exercise one's water right. State v. Heath, 2004 MT 126, ¶¶24 and 27, 321 Mont. 280, 90 P.3d 426 (statutory construction is holistic endeavor, and must account for statute's text, language, structure, and object; statutes must be read and considered in their entirety and the legislative intent may not be gained from the wording of any particular section or sentence, but only from a consideration of the whole) (citations omitted).

16. Thus, the requirement in § 85-2-507(2)(a), MCA, that the public health, safety, or welfare requires corrective controls must be read to require controls to allow the reasonable exercise of water rights for the purposes for which they are intended. (§ 85-2-401, MCA)

17. Petitioners have the burden to show that it is in the interest of the public health, safety, or welfare, as set forth in § 85-2-507, MCA, to permanently designate the Sypes Canyon area as a controlled ground water area, to ensure that ground water is preserved as a source of water for residents in the proposed CGWA. In doing so, Petitioners must also show that the facts alleged in the Petition are true. (§§ 85-2-506(2), and -507(2), MCA). At this time, there are insufficient facts to enter an order adopting permanent area-wide corrective controls in the Sypes Canyon CGWA. (FOF Nos. 65-67)

SECTION 85-2-506(2), MCA, FACTORS:

Ground Water Withdrawals Are In Excess Of Recharge To The Aquifer Or Aquifers Within The CGWA (§ 85-2-506(2)(a), MCA)

18. The evidence in the record supports that recharge to approximately the northern half of the study area is 3,000 to 5,100 acre-feet per year, and that total recharge to the entire study area is estimated between 18,000 and 23,000 acre-feet per year; 1,700 acre-feet is withdrawn by wells, and the amount consumed is approximately 938 acre-feet per year. The contribution to total recharge to the study area attributed to ground-water inflow from bedrock in the Bridger Mountains is estimated between 7,300 to 9,600 acre-feet per year. The contribution to recharge from bedrock is uncertain

and is disputed in the Jones Report; however, other more certain sources of recharge are substantially in excess of current withdrawals. I find the evidence does not support that ground water withdrawals are in excess of recharge to the aquifer. (§ 85-2-506(2)(a), MCA; E.g., In The Matter Of The Smith Valley Petition For Controlled Ground Water Area No. 76LJ 30015063; Final Order; FOF Nos. 20-37)

Excessive Ground Water Withdrawals Are Very Likely To Occur In The Near Future Because Of Consistent And Significant Increases In Withdrawals From Within The Ground Water Area (§ 85-2-506(2)(b), MCA)

19. There is insufficient evidence to show that excessive ground water withdrawals are likely to occur due to consistent and significant increases in withdrawals from within the CGWA. The transient model predicted an additional consumptive use of 248 acre-feet per year for an additional 365 households, based on a density of 2.5 acres and ½-acre of irrigated lawn (in existing and projected developed areas). Petitioners have not proven the level of future increases in ground water withdrawals are excessive, e.g., that the expected level of future development could not be sustained by ground water resources within the CGWA, or that water users could not reasonably exercise their water rights in the future. Therefore, Petitioners have not met their burden of proving that future ground water withdrawals will be excessive. (§ 85-2-506(2)(b), MCA; FOF Nos. 38-51)

Ground Water Levels Or Pressures In The CGWA Are Declining Or Have Declined Excessively (§85-2-506(2)(d)), MCA)

20. The evidence supports a finding that water levels in some wells within the CGWA are declining. On average, water levels have dropped from 5 to 20 feet over 10 years in certain areas. However, ground water levels appear to fluctuate primarily in response to seasonal and longer-period fluctuations in recharge. Effects of withdrawals from 50 additional wells permitted within the CGWA since 2002 on pre-existing wells cannot be distinguished from water-level trends correlating to precipitation trends. The record does not support that the declines have risen to a level that poses a public health, welfare or safety concern because water right holders can reasonably exercise their water rights. (§ 85-2-506(2)(d), MCA; § 85-2-507(2)(a), MCA; FOF Nos. 52-64)

21. Because a well owner is experiencing problems may not mean the aquifer should be closed to additional appropriations. Appropriators have a responsibility to construct an adequate means of

diversion that reasonably penetrates the aquifer. To hold that an appropriator is entitled to maintain wells that penetrate only the upper portion of an aquifer against subsequent appropriators, would be to allow a single appropriator or a limited number of appropriators to control an entire aquifer simply to make their own means of diversion easier. See In The Matter of Application 41R-31441 by McAllister, Proposal for Decision, (1985); 41B-71133 by Hildreth, Proposal for Decision (1989); 41QJ-78511 by Big Stone Colony, Proposal for Decision, (1992); § 85-2-401, MCA). Therefore, I find the evidence does not support that these declines are excessive. (§ 85-2-506(2)(d), MCA)

22. Petitioners cite to the findings in DNRC's Final Order in *Application for Beneficial Use Permit No. 41H-11548700 by PC Development*, in support of the argument that the water in this area is overappropriated. In the *PC Development* matter, DNRC denied the beneficial use permit application not on the basis that water is overappropriated in this area; rather, the Hearing Examiner found the Applicant had not met its burden to show water was legally available under § 85-2-311, MCA. The Hearing Examiner concluded the Applicant showed water was physically available in non-drought years, but it failed to determine the existing legal demand within the projected cone of depression. Thus, the Applicant "has not proven water can reasonably be considered legally available during the period in which the Applicant was seeking to appropriate, and in the amount requested, based on an *analysis* of the evidence on physical water availability and the existing legal demands on the supply of water." (§ 85-2-311, MCA; *Application for Beneficial Use Permit No. 41H-11548700 by PC Development, Final Order*, p. 9, emphasis added)

23. The statutory criteria of § 85-2-506(2)(c), (e), (f), (g), MCA, and § 85-2-507(2)(b)(i) and (ii), MCA, were not issues in this proceeding. These criteria were not alleged in the Petition nor noticed for hearing. Section 85-2-506(4)(c), MCA, requires the Department to provide notice of the "purpose of the hearing." The purpose of this CGWA hearing was to hear evidence regarding the facts alleged in the Petition as a basis for a permanent CGWA. The intent of the notice is to apprise potentially interested persons of the proceeding, which necessarily includes the basis for the permanent CGWA, such that these persons might have sufficient information to determine whether or not to participate in the proceeding. (§ 85-2-506(2) and (4)(c), MCA; § 85-2-507, MCA; FOF Nos. 8, 10, 11) I further find there is insufficient evidence presented to evaluate concerns of water quality, wasteful use of water or undue interference with existing wells, or substantial interference with existing surface water or ground water rights, even if properly part of this proceeding. (FOF Nos. 10, 11)

WHEREFORE, based upon the foregoing findings of fact and conclusions of law, the Hearing Examiner makes the following:

ORDER

Petition No. 41H-115474 for the permanent designation of a Sypes Canyon CGWA is hereby **DENIED**.

DATED this 27th day of April, 2008.

/ORIGINAL SIGNED BY JOLYN E. EGGART/

Jolyn E. Eggart, Hearing Examiner
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and Conservation
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Att: CGWA Boundary Map

APPEAL

The Department's Final Order is a final decision of the agency and may be appealed by filing a petition in the appropriate court within 30 days after service of the Final Order or within such period as may be allowed by applicable law. If a petition for judicial review is filed, the Department will transmit a copy of the audio record of the oral proceedings to the District Court along with documentary evidence in the file. If a party to the proceeding elects to have a written transcription prepared, that party may purchase the audio record and have a transcript prepared.

