ORDER OF THE STATE ENGINEER
HORSE CREEK BASIN

INTRODUCTION

The State Engineer, on his own motion, held a duly noticed public hearing on Friday, April 12, 2013, to determine whether the ground and surface water resources of the Horse Creek Basin, located in southern Goshen and northern Laramie Counties, Wyoming, are adequate for the needs of all appropriators in the area, and to determine whether any of the corrective controls provided under Wyoming Statute § 41-3-915 may be required for the proper administration of ground and surface water resources in the drainage. The State Engineer, having reviewed and considered evidence in the records of the State Engineer’s Office, having heard from affected appropriators in the basin, and having considered the written comments submitted by interested parties, does hereby provide the following Background and Applicable Law, and make the following Findings and Order:

BACKGROUND

1. Over the past several decades, disputes have existed between some ground and surface water irrigators in extreme northeastern Laramie and southeastern Goshen Counties within the Horse Creek Basin. This situation has arisen, in large part, due to the relatively sparse water supply of the basin (in many years) and the growth since about 1960 of irrigation using water wells completed in a shallow aquifer known locally as the LaGrange Aquifer.

2. In 2009, the State Engineer's Office was approached by a group of surface water irrigators seeking the regulation of junior-priority groundwater wells. No regulation occurred, however, as the connection between the LaGrange Aquifer and the surface waters of Horse Creek was not well understood and had not been fully investigated.

3. The State Engineer commissioned a study of the Horse Creek Basin intended to specifically address the relationship between groundwater and surface water in the reach described in paragraph 4 below. That report is entitled “Horse Creek Groundwater / Surface Water Connection Investigation, Goshen and Laramie Counties, Wyoming,” and was prepared by Hinckley Consulting and AMEC Earth & Environmental, dated October, 2011. Hereinafter, this report is referred to as the “Hinckley Report.”

4. Culminating from this history, the State Engineer has obtained or developed information indicating conflicts will arise with regard to the use and administration of the groundwater and surface water resources of the Horse Creek Basin. Those conflicts are primarily present in the middle reaches of the basin, roughly from below the area around Meriden (the Rutledge & Hellman Ditch) downstream to approximately Springer Reservoir (the Goshen Hole Supply Canal).
5. The area where conflicts occur is described as the “LaGrange Area” in the Hinckley Report and has been the subject of earlier US Geological Survey research. The Hinckley Report was presented at a public meeting on November 1, 2011, at the LaGrange Community Center.

6. Meetings were held on December 3, 2012, January 9, and March 14, 2013 between representatives of ground and surface water users in hopes of developing a voluntary operation agreement wherein their needs for water could be met through mutual cooperation. On May 20, 2013, one representative each from the Horse Creek Conservation District (HCCD) and the groundwater users met with the State Engineer and two representatives of the Wyoming Department of Agriculture’s Agriculture and Natural Resource Mediation Board. Those meetings, and the attempt at mediation, have not resulted in an agreement.

7. A difficulty in developing a voluntary agreement is not all appropriators affected by such an instrument have been in attendance at any meetings where voluntary administration in this drainage was discussed. It would be impossible to bind affected non-parties to any agreement so struck.

8. For the State Engineer to implement the corrective controls provided in Wyoming Statute § 41-3-915, where a connection exists between groundwater and surface water as provided in Wyoming Statute § 41-3-916, a public hearing was necessary. Invoking those controls is the only way, absent an agreement among all appropriators in the affected area, to manage conjunctively the groundwater/surface water resource as a whole. This Order is the instrument by which such conjunctive management will occur. Absent such an Order, only priority of appropriation would dictate administration.

9. On June 18, 2013, a call for regulation from HCCD was received. Beginning on June 25, Hydrographer Gibson honored the call and began regulating off certain surface water diversions with inadequate headgates or measuring devices. He also regulated junior irrigation wells in the LaGrange Area. Mr. Gibson did not regulate the junior municipal wells serving the Town of LaGrange nor did he regulate off any small stock or domestic wells. On or about June 28, 2013, several appeals of this decision were presented to Superintendent Brian Pugsley. On July 2, 2013, Superintendent Pugsley overturned Hydrographer Gibson’s decision finding that HCCD’s call for regulation was a futile call. In his decision, Mr. Pugsley noted no observed increase in inflows to Hawk Springs Reservoir, nor any increase in its water storage elevation, following Mr. Gibson’s initiation of regulation. He also noted the actions of some groundwater users in declining to divert surface flows from December 15, 2012 to February 16, 2013 in an attempt to mitigate their groundwater pumping effects on flows in Horse Creek and storables in HSR.

On July 10, 2013, the State Engineer received notice that an appeal of Superintendent Pugsley’s decision was forthcoming from HCCD. As promised, through a Notice of Appeal dated July 15, 2013, HCCD appealed Superintendent Pugsley’s decision to the State Engineer pursuant to Wyoming Statute § 41-3-603. HCCD asserts that Superintendent Pugsley’s futile call determination is contrary to the findings expressed in the Hinckley Report, and asks all groundwater wells in the basin be equipped with measuring devices and be regulated in priority, or through some system of regulation whereby HCCD receives its water according to its priority.
1. The Wyoming Constitution declares the control of water to be vested "in the state, which, in providing for its use, shall equally guard all the various interests involved." Wyo. Const. art. 1, § 31.
2. "Priority of appropriation for beneficial uses shall give the better right." Wyo. Const. art. 8, § 3.
3. "Beneficial use shall be the basis, the measure and limit of the right to use water at all times, not exceeding the statutory limit[.]" Wyo. Stat. Ann. § 41-3-101.
4. "The volume of water to which an appropriator is entitled at any particular time is that quantity, within the limits of the appropriation, which he can and does apply to the beneficial uses stated in his certificate of appropriation. It may be more at one time than at another[.]" Parshall v. Cowper, 143 p. 302, 304 (Wyo. 1914).
5. "The showing that all of the water of the stream had been at times used or allowed to flow upon the land does not necessarily prove an appropriation of all of it for a beneficial use, for the appropriation must be limited to the amount reasonably required for the proper and successful cultivation of the land or other use to which the water is applied." Nichols v. Hufford, 133 P. 1084, 1088 (Wyo. 1913).
6. The Wyoming Constitution charges the State Engineer with the general supervision of the waters of the state and of the officers connected with its distribution. Wyo. Const. art. 8, § 5.
7. Water division superintendents "shall, under the general supervision of the state engineer, execute the laws relative to the distribution of water in accordance with the rights of priority of appropriation, and perform such other functions as may be assigned to him by the state engineer." Wyo. Stat. Ann. § 41-3-503.
8. Water of all streams, springs, lakes or other sources of water shall be divided and regulated as will prevent the waste of water or its use in excess of the volume to which the appropriator is lawfully entitled. Wyo. Stat. Ann. § 41-3-603(a).
9. Water is to be "divided among the several appropriators in strict accord with adjudicated or determined rights of priority and to prevent any one from taking water to which he is not entitled under such a right, to the injury of others." Mitchell Irr. Dist. v. Sharp, 121 F.2d 964, 967-968 (10th Cir. 1941).
10. The owners of any ditch or canal shall maintain, to the satisfaction of the division superintendent, a substantial and lockable headgate at the point where the water is diverted, and shall construct and maintain flumes or other measuring devices at such points along such ditch as may be necessary for the purpose of assisting the water commissioner in determining the amount of water that is to be diverted into said ditch. Additionally, any owner or manager of a reservoir shall be required to construct and maintain, when required by the division superintendent, flumes or measuring devices above and below the reservoir. Wyo. Stat. Ann. § 41-3-613.
11. It is the duty of the division superintendent "to regulate and control the storage and use of water under all rights of appropriation which have been adjudicated by the board of control or by the courts, and to regulate and control the storage and use of water under all permits approved by

12. Water hydrographer/commissioners have "the authority to require the filling of any reservoir whenever practical and whenever water is available for storage from the stream from which the appropriation is established." Wyo. Stat. Ann. § 41-3-603(a).


15. Where underground waters and surface waters are so interconnected as to constitute in fact one source of supply, as described in Wyoming Statute § 41-3-916, a single, correlated schedule of priorities relates to the whole common water supply.

16. Where underground and surface water constitute in fact one source of supply, the State Engineer may by order adopt any of the corrective controls specified in Wyoming Statute § 41-3-915. Wyo. Stat. Ann. § 41-3-916.

17. Under Wyoming Statute § 41-3-915(a), if after public hearing the state engineer finds that the water supply is insufficient for all appropriators, he may adopt one or more of the following corrective controls:

   (i) He may close the controlled area to any further appropriation of underground water, in which event he shall thereafter refuse to grant any applications for a permit to appropriate underground water in that area, provided, that such area may be reopened to appropriations at any time the state engineer shall find on the basis of additional evidence that there is unappropriated water in the area, in which event the state engineer shall reconsider all applications for permits refused on the grounds of the order closing the area;

   (ii) He may determine the permissible total withdrawal of underground water in the control area for each day, month or year, and, insofar as may be reasonably done, he shall apportion such permissible total withdrawal among the appropriators holding valid rights to the underground water in the control area in accordance with the relative dates of priority of such rights;

   (iii) If he finds that withdrawals by junior appropriators have a material and adverse effect upon the supply available for and needed by senior appropriators, he may order such junior appropriators to cease or reduce withdrawals forthwith;

   (iv) If he finds that cessation or reduction of withdrawals by junior appropriators will not result in proportionate benefits to senior appropriators, he may require and specify a system of rotation of use of underground water in the controlled area;

   (v) He may institute well spacing requirements if permits are granted to develop new wells.

18. The State Engineer shall encourage and promote agreements amongst the appropriators of a common supply which establish a method or scheme of control of withdrawals, well spacing, apportionment, rotation or proration. Wyo. Stat. Ann. § 41-3-915(c).

19. The State Engineer has the authority to consider approval or rejection of permit applications as prescribed by law. Wyo. Stat. Ann. §§ 41-4-503, 41-3-931 and 932.

20. In the administration and enforcement of Wyoming's groundwater law, the State Engineer may require such annual reports from underground water users as may be necessary or

21. In the administration and enforcement of Wyoming’s groundwater law, the State Engineer may make such investigations as may be necessary or desirable. Wyo. Stat. Ann. § 41-3-909(a)(iv).

22. The State Engineer, with the concurrence of the Board of Control, may order the adjudication of any groundwater appropriation in the state. Wyo. Stat. Ann. § 41-3-935(d).

23. "It is an express condition of each underground water permit that the right of the appropriator does not include the right to have the water level or artesian pressure at the appropriator's point of diversion maintained at any level or pressure higher than that required for maximum beneficial use of the water in the source of supply." Wyo. Stat. Ann. § 41-3-933.

24. Appropriations of underground water for stock or domestic use where the yield does not exceed twenty-five gallons per minute have a preferred right over rights for all other uses, regardless of their dates of priority. Wyo. Stat. Ann. § 41-3-907.

25. The State Engineer may determine the area and boundaries of districts overlying the various aquifers yielding underground waters and assign to each district a distinctive name or number. He may establish subdistricts when parts of an aquifer require or may require separate regulations from the rest. He may establish different districts for different aquifers that overlie each other in whole or in part. Wyo. Stat. Ann. § 41-3-910.


**FINDINGS**

1. Horse Creek rises in eastern Albany County, Wyoming and flows eastward through central and northern Laramie County before turning north into Goshen County through which it flows to cross into Nebraska a few miles above its confluence with the North Platte River.

2. The Hawk Springs Reservoir (permits 1307 Res., priority date May 25, 1908 and 2568 Enl., priority date October 13, 1913) sits in the Horse Creek Basin. The total permitted capacity of the reservoir is 16,735 acre-feet. It is filled through diversions from Horse Creek, primarily in January through April each year (Hinckley Report page 3-10), and underflow to springs known as the Hawk Springs.

3. A search of the State Engineer's Office database and records reveals approximately 133 high capacity (greater than 25 gallons per minute, or gpm) groundwater permits for wells to withdraw water from the LaGrange Aquifer. Of those permits, 119 are for irrigation use, of which 97 are original permits and 22 are enlargements. Of the remainder, three are for municipal use, and 11 are for miscellaneous use. Of all 133 permits, approximately 100 are adjudicated, 25 are unadjudicated, and 8 are expired. The groundwater at issue is located in and produced from water-bearing materials variously referred to as the Horse Creek, LaGrange, Alluvial, fractured Brule, or High Plains Aquifer. For purposes of this Order, and for consistency with authors such as Hinckley (2011) and Borchert (1985), the term LaGrange Aquifer will be used throughout. These wells are junior in priority to all senior surface water rights analyzed in the study, including those for the Hawk Springs Reservoir.

5. Wintertime diversions in this basin are practiced upstream of Hawk Springs Reservoir under valid direct flow water rights by, principally, the Horse Creek No. 1 Ditch (21.63 cfs, 9/18/1884), and at times other smaller ditches (e.g. the Babbit ditch). Hinckley Report page 5-2. These practices primarily serve to replenish groundwater levels in the vicinity of groundwater pumping. Hinckley Report page 2-11 and 2-12.

6. Wintertime diversions, for purposes of groundwater recharge, can deprive Horse Creek of storable flows for Hawk Springs Reservoir in that time of year. In State Board of Control Order Record No. 23, page 367, the Board states “subirrigation as practiced...from the Horse Creek No. 1 Ditch...is contrary to law to the extent that...it allows for the recharge of the underlying aquifer, which recharge is not a use for which the right was appropriated.”

7. Irrigators who use groundwater accessed through LaGrange Aquifer wells also often have senior surface water rights. Hinckley Report Figure 3-2. In some cases, like the Horse Creek No. 1 ditch, diversions by senior appropriators upstream mean that no water is typically available at this headgate during the irrigation season. Accordingly, these surface appropriators divert water when it is available, predominately outside of the typical growing season.

8. Groundwater in the LaGrange Aquifer and surface water in the study reach are interconnected and the use of one affects the other. Hinckley Report pages 2-19, 7-1, 7-2 and 7-4. Because the groundwater modeling performed under contract with the State Engineer’s Office has indicated the local groundwater is so interconnected with surface water as to constitute one source of supply, the State Engineer may enter an Order as provided by Wyoming Statute § 41-3-915.

9. There are approximately 7,387 acres irrigated from groundwater in the LaGrange Area either as original or additional supply. Hinckley Report, Table 3.1.

10. There is little use of groundwater north of Hawk Springs Reservoir because the LaGrange Aquifer is absent and the underlying Lance Formation is relatively unproductive. Hinckley Report pages 2-5, 2-6, and 2-19.

11. In 1985, Borchert (1985) found an approximate use of 7,000 acre-feet of groundwater irrigation serving LaGrange Area lands. Hinckley Report pages 3-11 and 3-12. With little growth in irrigated acreage since that time, such use represents approximately 11.4 inches (0.95 feet) of water applied annually over each of the 7,387 acres currently irrigated under normal operations.

12. Data from Borchert (1976) indicate an average annual groundwater application rate equal to approximately one foot of water (1.03 foot) over an average of 6,220 acres for the years 1972-1974.

13. Pochop et al (1992) lists estimated consumptive use and consumptive irrigation requirements (CIR) for various crops grown in the LaGrange Area. Although somewhat more is required for alfalfa and grass hay, an application rate of approximately one foot is sufficient to meet at least the minimum consumptive irrigation requirement for most LaGrange area crops, including spring grains, winter wheat, corn, dry beans, potatoes, and sugar beets.
14. The withdrawal volume, crop demand, or even historic activity, on an individual groundwater well, permit, or priority basis are not currently monitored for the LaGrange Area. Also, the ultimate results of future adjudications are not known until they are completed. Therefore, accurately apportioning a permissible total withdrawal of underground water as contemplated in Wyoming Statute § 41-3-915(a)(ii), in accordance with the relative dates of priority of such rights, cannot be reasonably done at this time.

15. No unappropriated water exists in the Horse Creek Basin in normal or dry years. This is evidenced through both the history of surface water regulation and the findings of the Hinckley Report, pages 3-4 and 7-5; See also Horse Creek Conservation Dist. v. Lincoln Land Co., 92 P.2d 572 (Wyo. 1939).


17. Based upon all available information, groundwater wells have never been regulated under a single schedule of priorities with surface water priorities in the Horse Creek Basin prior to 2013. Hinckley Report, page 3-13.

18. Because both annual groundwater pumping volumes (from wells) and surface water diversion amounts are not currently known with certainty, no objectively determined use volumes exist with which to improve mass water balance calculations in the study area. Therefore, the primary objective of this initial order is to manage water uses under a reasonable conjunctive use plan while focusing an effort on gathering data for subsequent refining of this order.

19. The Town of LaGrange owns 3 adjudicated groundwater rights for wells to provide the town with municipal water (Permit Nos. U.W. 55678 and U.W. 55679 for the LaGrange #1 and #2 [both with priority 9/5/1980], and Permit U.W. 74020 for the enlarged LaGrange #2 [priority 2/11/1987]). These rights are junior in priority to Hawk Springs Reservoir, and their use is constrained by typical municipal demands. The 2011 Wyoming Water Development Commission’s Water System Survey Report indicates a municipal groundwater production for the Town of LaGrange of 9,125,000 gallons or 28 acre-feet of water. The State Engineer finds that to include such wells in an overall apportionment of groundwater use is not necessary or appropriate at this time.

20. There is an ongoing need for stock and domestic wells throughout rural Wyoming, including the area both upstream and downstream of LaGrange in the Horse Creek Basin. Stock and domestic wells, permitted for an instantaneous pumping rate less than 25 gallons per minute, typically are considered deminimus uses. Under Wyoming Statute § 41-3-907, these rights have a preferred right over all other uses. The State Engineer finds that to include such wells in an overall apportionment of groundwater use is not necessary or appropriate at this time.

21. Insufficient data are currently collected to fully understand the inflow/outflow characteristics of Hawk Springs Reservoir. Currently, only the elevation of stored water in the reservoir is routinely recorded. Surface water inflows through the Hawk Springs Supply Ditch have not been continuously monitored, and spring flows into the reservoir basin via the inundated Hawk Springs are unmeasured. Evaporation, seepage, spring flows, other underflows,
and bank storage all are unmeasured, can be significant, and all contribute to uncertainty as to
whether or when Hawk Springs Reservoir may have received its one fill as allowed by rule of the
Board of Control (Regulations and Instructions, Part IV, November 2011).
22. Insufficient or ineffective control and measurement structures exist on many surface
water diversions, reservoir supply canals, and on reservoirs themselves in the study area (Jack
Gibson and Brian Pugsley, personal communication, July 10, 2013).
23. Some groundwater users holding senior surface rights above Hawk Springs Reservoir
intentionally declined to pursue winter time diversions from December 15, 2012 until February
16, 2013.
24. Both the groundwater users in the area (Agreement dated March 14, 2013 and attached to
the Hageman letter of April 11, 2013) and the HCCD (The “Horse Creek Alluvium Proposal”
dated March 4, 2013) have crafted proposals for future operations, although neither proposal was
acceptable to the opposing side. Briefly, those proposals included:
   a. Groundwater users’ proposal: Based on the Hinckley Report, these users felt that
      if they declined to divert on the order of 2,146 acre-feet (AF) of surface water in
      the winter season (primarily for groundwater recharge), their effects on storage in
      Hawk Springs Reservoir would be mitigated. In exchange for declining to divert,
      they sought an agreement by HCCD not to place a call for regulation. These users
      also sought to preclude or limit future groundwater irrigation well permitting in
      the area.
   b. HCCD proposal: District representatives sought to create a groundwater control
      area, place a moratorium on future groundwater permits for irrigation, develop an
      equitable allocation methodology for all users, and review water allocations
      annually.
25. As stated above, some groundwater appropriators also hold surface water rights senior to
and upstream of Hawk Springs Reservoir. To the extent a call for regulation by Hawk Springs
Reservoir successfully sought to curtail groundwater irrigation from junior wells, the possibility
exists that some of those senior surface water rights could be activated and divert water,
resulting in reduced water accruing to Hawk Springs Reservoir (Hageman letter of April 11,
2013, page 7). While this management scenario was not modeled in the Hinckley Report, the
State Engineer’s Office has the ability to run Hinckley’s digital model with inputs revised to
reflect this and other conditions, if the need arises.
26. The State Engineer finds that withdrawals and depletions by junior groundwater
appropriators from the LaGrange Aquifer have a material and adverse effect on the supply
available for and needed by senior surface water appropriators, including Hawk Springs
Reservoir.
27. The State Engineer finds, after a public hearing held on April 12, 2013, that the common
water supply in the subject reach of Horse Creek is insufficient for all appropriators.
28. The State Engineer considered the following data, reports, comments, or other
information in creating this Order:
   a. Transcript of the April 12, 2013 hearing in LaGrange.
b. Written comments submitted at the public hearing or during the 30-day comment period following the April 12, 2013 hearing.

c. The "Agreement" dated March 14, 2013 presented by the groundwater users, as well as previous versions of the Agreement and related documents provided by the groundwater users.

d. The "Horse Creek Alluvium Proposal" dated March 4, 2013 provided by HCCD.

e. The spreadsheet maintained by Water Division I which tracks storage accounts in the Hawk Springs Reservoir.

f. Monitoring well information gathered and maintained by the State Engineer's Office Ground Water Division staff for monitoring wells in the LaGrange Aquifer.

g. The Division I tabulation of adjudicated water rights.

h. Permit documents, certificate records and Board of Control records related to the various water rights in the Horse Creek Basin.

i. Bern Hinckley, electronic mail communication, July 9, 2013.


k. Documentation and correspondence provided by Superintendent Pugsley and Hydrographer/Commissioner Gibson related to the 2013 request for regulation.


m. Scientific publications including:


n. Governmental publications including:


   ii. “Amended and Restated Districtwide Ground Water Management Area Rules and Regulations” Amended and Restated by the South Platte
ORDER

IT IS THEREFORE ORDERED:

1. This Order applies to surface water appropriations in that part of the Horse Creek Basin from and including the Brown & LaGrange Ditch headgate in Goshen County down to the intersection of Horse Creek and the Fort Laramie Canal in Goshen County, and all tributaries in between.

2. This Order also applies to the groundwater basin and aquifer supplying irrigation wells near and upgradient of Hawk Springs Reservoir within the numerical groundwater model domain for the LaGrange Aquifer depicted in the Hinckley Report.

3. Hereinafter the general area of applicability of this order shall be the “subject area.”

4. The LaGrange Aquifer is hereby closed to the issuance of any new groundwater well permits, including, but not limited to, irrigation, municipal and miscellaneous permits, but excepting those for stock and domestic wells with an instantaneous permitted withdrawal rate of 25 gallons per minute or less.

5. Subject to concurrence of the Board of Control, I order adjudication of all unadjudicated irrigation and miscellaneous use wells in the LaGrange Aquifer. If concurrence is received, all unadjudicated wells in the LaGrange Aquifer, except for stock and domestic wells with an instantaneous permitted withdrawal rate of 25 gallons per minute or less, must be adjudicated by March 1, 2015. Failure to adjudicate will result in a well being tagged and locked and foreclosed from use until adjudication is complete.

6. Upon receiving the advice and consent of the Board of Control and pursuant to Wyoming Statute § 41-3-909(a)(iii) and (iv), I order such annual reports from underground water users as may be necessary or desirable, and order such additional investigations as may be necessary or desirable for future groundwater management in the subject area, with or without governmental or private cooperators, as set forth herein.

7. For the remainder of water year 2013, through September 30, 2013, groundwater use from the LaGrange Aquifer may continue in accordance with permitted and adjudicated rights.

8. Beginning November 1, 2013 all surface water appropriations for irrigation which divert water from within the subject area covered by this Order, when in priority, and when diverting between November 1 and March 31 of each year, are limited to that amount of water which can be and is applied to the beneficial uses and on the lands stated in the certificate of appropriation or permit, which water must be spread across the land for irrigation for the purpose of saturating the holding capacity of local soils, and is the amount reasonably required for the proper and successful cultivation of the land. Beneficial use, for purposes recognized on the permits or certificates of adjudication, is at all times the basis, measure, and limit of the right to use water. In addition to priority regulation during the typical irrigation season, the Hydrographer/Commissioner for District 2 of Water Division 1 is charged with regulating any
diversions so made between November 1 and March 31 and may close or cause to be closed the headgates of any ditch applying water in violation of this Order.

9. The Hydrographer/Commissioner for District 2 of Water Division I shall issue a fill order to Hawk Springs, Springer, Hughes, Little Willow, 66 Pastures and Bump Sullivan Reservoirs on October 1 of each year requiring those reservoirs to fill in priority whenever practical and whenever water is available for storage from Horse Creek.

10. The Hydrographer/Commissioner for District 2 of Water Division I shall not, other than in accordance with this Order, regulate any groundwater appropriation subject to this Order for the benefit of Hawk Springs Reservoir, or any other reservoir or surface water diversion, so long as this Order is in effect.

11. As he may determine necessary for proper accounting of water storage and use, the Superintendent of Water Division I shall order the installation of facilities and instrumentation to provide for management and control of supply canal deliveries, and the continuous recording of inflows, releases, and water levels for Hawk Springs, Springer, Hughes, Little Willow, 66 Pastures and Bump Sullivan Reservoirs, and any other reservoir he determines necessary. Construction costs of any diversion and control structure and any flow measuring devices, including monitoring and telemetry equipment if so ordered, necessary to comply with this Order shall be the owner’s responsibility. Construction of such facilities shall be complete and operational, to the satisfaction of the Superintendent of Water Division I, by November 1, 2013.

12. The Superintendent of Water Division I shall order the installation of a lockable, controllable diversion structure and flow measuring device, in a manner satisfactory to him, near the diversion points for the Horse Creek No. 1, Brown and LaGrange, Lowe Cattle No. 1, Lowe Cattle No. 2, Spy, and Wye Cross ditches. Construction costs of any diversion and control structure and any flow measuring devices, including monitoring and telemetry equipment if so ordered, necessary to comply with this Order shall be the owner’s responsibility. All such facilities shall be constructed and capable of operation prior to any surface water diversion in water year 2014. Except where instrumentation allows direct transmittal of real-time data to the State Engineer’s Office, monthly and annual total diversions, in acre-feet, through each of the named ditches shall be reported to the State Engineer’s Office no later than November 15 of each year. For example, total monthly and annual diversions for any such ditch during water year 2014 (October 1, 2013 through September 30, 2014) will be due in the State Engineer’s Office by November 15, 2014. Nothing in this Order shall prevent the Superintendent of Water Division I from ordering the installation of diversion structures and flow measuring devices on additional diversions as he may deem necessary.

13. The Superintendent of Water Division I shall investigate possible locations for a streamgage along Horse Creek in the vicinity of the Brown and LaGrange ditch headgate. He shall report to the State Engineer on possible locations and estimated costs by March 1, 2014.

14. Prior to commencing irrigation in the spring of 2014, all irrigation, municipal, or miscellaneous use wells completed in the LaGrange Aquifer are required to be fitted with functional and accurate flow meters properly sized for the flowrate of the well pump and approved by the Water Division I Superintendent. All such meters will be kept in proper

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working order and maintained to his satisfaction. Wells without an approved flowmeter shall not be pumped in water year 2014 or after unless such measuring capability is present. Upon receiving the advice and consent of the Board of Control, monthly and annual reports on total pumpage for the immediately prior water year, in gallons or acre-feet, for each well so metered, must be delivered to the State Engineer’s Office no later than November 15 of each year. For example, total monthly and annual well pumpage for any such well during water year 2014 (October 1, 2013 through September 30, 2014) will be due in the State Engineer’s Office by November 15, 2014.

15. Beginning with water year 2014, the permissible total withdrawal of underground water for irrigation from the LaGrange Aquifer shall be a nominal 12 acre-inches per permitted or adjudicated acre per year. Acres with either underlying surface water rights or overlapping groundwater rights are only allowed withdrawal of a total of 12 acre-inches per permitted or adjudicated acre per year from all groundwater appropriations combined. LaGrange Aquifer groundwater appropriations are allotted a total of 36 acre-inches of groundwater withdrawal, as measured by a flow meter, per permitted or adjudicated acre for the initial three (3) water-year period (the initial period being water year 2014 through water year 2016) for all groundwater irrigation use. Appropriate persons may use this total allotment flexibly during the three-year period, but shall not exceed 15 acre-inches per acre in any one water year. Use in excess of this total allotment by or prior to the end of water year 2016 will result in a reduction of their future period allotment in an amount equal to the excess. Use in excess of the total allotment by six acre-inches per acre or more will subject the appropriator to a penalty for violation of this Order as provided under Wyoming Statute § 41-3-616. Appropriate persons who use less than their total allotment during any three-year period may carry the unused amount over to the following three-year period, but in no case can more than six acre-inches of water unused in the previous three-year period be carried over to a subsequent three-year period.

16. Beginning November 16, 2016 the State Engineer will review the effects of the first three years of operation under this Order and determine, following a public hearing and comment period, whether or not the terms of this Order shall continue to apply or whether a new order should be issued.

17. If no new order is issued by April 1, 2017, the terms of this Order will continue in force, for consecutive three-year periods, until a new order is issued.

18. This Order shall remain in place until and unless rescinded, superseded or augmented by another order of the State Engineer, or replaced by an operating agreement entered into by all parties subject to this Order and approved by the State Engineer. At any time, the State Engineer may issue clarifying guidance or interpretations related to this Order without the need for an additional public hearing or comment period.

Dated this 19th day of July, 2013.

[Signature]

Patrick T. Tyrrell, State Engineer

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