

Processing Materials

- Work copies of applicant-submitted information
- Deficiency letter
- Deficiency response
- Correct & complete determination
- Any correspondence with the applicant after application receipt and prior to sending the Draft PD

Processing Materials

THE MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

GOVERNOR GREG GIANFORTE



DNRC DIRECTOR AMANDA KASTER

Water Resources Division – Kalispell Regional Office
655 Timberwolf Pkwy, Ste. 4
Kalispell, MT 59901-1215
(406) 752-2288
DNRCKalispellWater@mt.gov

1/13/2025

KURTIS HAFFERMAN & KATHY MINER
PO BOX 1690
LIBBY MT 59923-5001

Subject: Correct and Complete Application for Beneficial Water Use Permit No. 76D 30170983

Dear Applicant,

The Department of Natural Resources and Conservation (Department) has determined that your application is correct and complete pursuant to ARM 36.12.1601. Please remember that correct and complete **does not mean that your application will be granted.** The purpose of this letter is to indicate that the Department has enough information to analyze your water right application.

The Department will issue a Draft Preliminary Determination within 60 days of the date of this letter per §85-2-307(2)(b), MCA.

Following issuance of the Draft Preliminary Determination, you (Applicant) will have 15 business days to request an extension of time to submit additional information, if desired pursuant to §85-2-307(3)(a), MCA.

If no extension of time is requested and the Draft Preliminary Determination decision is to grant your application or grant your application in modified form, the Department will prepare a notice of opportunity to provide public comment, per §85-2-307(4)(a), MCA.

If no extension of time is requested and the Draft Preliminary Determination decision is to deny your application, the Department will adopt the Draft Preliminary Determination as the final determination per §85-2-307(3)(d)(ii), MCA.

If you have any questions or concerns about the application process, please contact me.

Best,

Abigail Williams
Water Resource Specialist
Kalispell Regional Office
Abigail.Williams@mt.gov

Application Materials

- Application
- Any information submitted with Application including maps

Application Materials

POINT(S) OF DIVERSION

20. Describe the proposed location of the point(s) diversion to the nearest $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$ Section. Label each POD with the POD ID number used for the project map (question 17).

POD #	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	Sec.	Twp.	Rge.	County	Lot	Block	Tract	Subdivision	Gov. Lot
1	NW	NE	NE	36	31	31	Lincoln	8			MBMI Development Inc.	

PLACE OF USE

WORK COPY

21. What are the geocodes of the place of use?

56-4283-25-4-01-19-0000	

22. Describe the legal land description for the proposed place of use and, if applying for an irrigation or lawn and garden purpose, list the number of irrigated acres.

Acres	Gov. Lot	Block	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	Sec.	Twp.	Rge.	County
0.29			SW	SE	SE	25	31	31	Lincoln
0.57			NW	NW	NE	36	31	31	Lincoln
				NE					

PURPOSE AND DIVERSION INFORMATION**WORK COPY**14. ☐ Y ☒ N Is the proposed use temporary?

14.a. If yes, when will the appropriation cease? _____

15. Is the proposed source surface water or groundwater? Surface water16. What is the source name? Kootenai River

17. ☒ S Attach a map utilizing an aerial photograph or topographic map that shows the following: section corners; township and range; north arrow; scale bar; all proposed points of diversion labeled with a unique Point of Diversion (POD) ID number and, if applicable, GWIC number; all proposed places of use; all proposed conveyance facilities and or routes; all proposed places of storage labeled with a unique Storage ID number; and places of use (POU) for all overlapping water rights. More than one map may be submitted, if necessary to clearly convey all required information.

18. Fill out the table below. Means of diversion for surface water includes headgate, pump, dam, and others. Means of diversion for groundwater includes well, developed spring, pit pond, and others.

Purpose	Means of Diversion	Acres Irrigated (if appl.)	Period of Diversion (Month/Day - Month/Day)	Period of Use (Month/Day - Month/Day)	Flow Rate ☒ GPM ☐ CFS	Volume (Acre-Feet)
Irrigation	Pump	0.86	04/01-010/15	04/01-10/15	18	0.94
Lawn & Gardens						
Total Flow Rate and Volume Required					18	0.94

19. ☐ Y ☐ N Does the proposed use include on or more of the following purposes: domestic, multiple domestic, stock, or irrigation? If yes, fill out the following table, where applicable.

Purpose	Requested Information	Response
Domestic or multiple domestic	Number of dwellings	
Stock	Number of animal units	
Irrigation	Method of irrigation type (sprinkler or flood) and subtype (if flood: level border, graded border, furrow, contour ditch, or other; if sprinkler: center pivot, wheel line, or other)	Sprinkler, underground to sprinkler locations
Irrigation (flood only)	Design slope	



**APPLICATION FOR
BENEFICIAL WATER USE
PERMIT**
§ 85-2-302, MCA

Form No. 600 (02/2025)

For Department Use Only
RECEIVED
DNRC Water Resources

DEC 19 2025

FILING FEE

**\$2900/\$1600 – Inside a Basin Closure Area, Controlled
Groundwater Area or Compact Closure; without/with
filing fee reduction.**

**\$2500/\$1200 – Outside a Basin Closure Area; Controlled
Groundwater Area or Compact Closure; without/with
filing fee reduction.**

Kalispell Unit

INFORMATION

An application will be eligible for a filing fee reduction and expedited timelines if the applicant completes a preapplication meeting with the Department (ARM 36.12.1302(1)), which includes submitting any follow-up information identified by the Department (ARM 36.12.1302(3)(c)) and receiving either Department-completed technical analyses or Department review of applicant-submitted technical analyses (ARM 36.12.1302(4) and (5)). An application for the proposed project also must be submitted within 180 days of delivery of Department technical analyses or scientific credibility review and no element on the submitted application can be changed from the completed preapplication meeting form (ARM 36.12.1302(6)). If application is eligible for a filing fee reduction, \$500 paid for Form 600P-B will be credited toward filing fees shown above.

Application # 30170983 Basin 76D
Priority Date 12/19/25 Time 3:22 AM/PM PM
Rec'd By AW
Fee Rec'd \$ 700.00 Check # 29201
Deposit Receipt # KW261655
Payor _____
Refund \$ _____ Date _____

Applicant Information: Add more as necessary.

Applicant Name Kurtis Hafferman and Kathy Miner

Mailing Address P.O. Box 1690 City Libby State MT Zip 59923

Phone Numbers: Home _____ Work _____ Cell 406-212-0404

Email Address kurt@haffermanengineering.com kathyminer@me.com

Applicant Name _____

Mailing Address _____ City _____ State _____ Zip _____

Phone Numbers: Home _____ Work _____ Cell _____

Email Address _____

Applicant Name _____

Mailing Address _____ City _____ State _____ Zip _____

Phone Numbers: Home _____ Work _____ Cell _____

Email Address _____

Contact/Representative Information: Add more as necessary.

Contact/Representative is: ☒ Applicant ☒ Consultant ☐ Attorney ☐ Other

Contact/Representative Name _____

Mailing Address _____ City _____ State _____ Zip _____

Phone Numbers: Home _____ Work _____ Cell _____

Email Address _____

NOTE: If a contact person is identified as an attorney, all communication will be sent only to the attorney unless the attorney provides written instruction to the contrary (ARM 36.12.122(2)). If a contact person is identified as a consultant, employee, or lessee, the individual filing the water right form or objection form will receive all correspondences, and a copy may be sent to the contact person (ARM 36.12.122(3)).



Answer every question and applicable follow-up questions. Use the checkboxes to denote yes ("Y"), no ("N"), or not applicable ("NA"). Questions that require items to be submitted to the Department have a submitted ("S") checkbox, which is marked when the required item is attached to the Application. Label all submitted items with the question number for which they were submitted. Narrative responses that are larger than the space provided can be answered in an attachment. If an attachment is used, specify "see attachment" on this form, and label the attachment with the question number. Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Responses in the form of a table may be entered into the table provided on this form or in an attachment. If an attachment is used, the table must have the exact headings found on this form, and "see attachment" must be entered as a response to the relevant question. Clearly label all units in tables and narrative responses.

PREAPPLICATION AND TECHNICAL ANALYSES INFORMATION

1. ☒ Y ☐ N Do you elect for Department technical analyses to be used for criteria assessment?
2. ☒ Y ☐ N Did you have a preapplication meeting AND complete a Permit Preapplication Meeting Form Part A and Part B (Form 600P-A and 600P-B)?

IF QUESTION 2 IS NO, answer 2.a and 2.b:

- 2.a. ☒ S Submit the Technical Analyses Addendum (Form 600-TAA).
- 2.b. ☐ S ☐ NA Submit the technical analyses, if you elected in question 1 for Applicant technical analyses to be used for criteria assessment. Select "NA" if you elected for Departmental technical analyses.

IF QUESTION 2 IS YES, answer 2.c, 2.d, and 2.e:

- 2.c. ☐ Y ☒ N Has any element of the project described in this application changed from the mandatory elements of the project described in the completed form 600P? **If yes:**
2.c.i. Please explain.

- 2.c.ii. ☐ S Submit the Technical Analyses Addendum (Form 600-TAA).

- 2.d. ☒ Y ☐ N Are the technical analyses to be used for criteria assessment exactly the same as those completed during the preapplication process? **If no:**
2.d.i. Please explain.

- 2.d.ii. ☐ S Submit the Technical Analyses Addendum (Form 600-TAA).

- 2.e. ☒ Y ☐ N Did you elect in Question 1 for Department technical analyses to be used for criteria assessment? **If no:**
2.e.i. ☒ S Submit the technical analyses.

APPLICATION ADDENDA AND REVIEW

3. ☐ **S** ☒ **NA** If your application is for groundwater, not surface water, and one or more of your points of diversion are in a Basin Closure Area, then submit the Basin Closure Area Addendum (Form 600-BCA).
4. ☐ **S** ☒ **NA** If your application is for groundwater and one or more points of diversion are in a Basin Closure Area, then your project must have a Hydrogeologic Report that conforms with MCA 85-2-361 to comply with the requirements of § 85-2-360, MCA. A Hydrogeologic Report Addendum (Form 600-HRA) or Department Technical Analyses may be used to meet these requirements. Please mark the box below that best applies, then select "S" if submitting a Hydrogeologic Report or "NA" if one is not required. This question does not apply to surface water points of diversion in a Basin Closure Area.
- ☐ If you elected to conduct Technical Analyses, you must submit the Hydrogeologic Report Addendum (Form 600-HRA).
 - ☐ If you elected for DNRC to conduct Technical Analyses but did not have a preapplication meeting AND complete a Form 600P Permit Preapplication Meeting Form (or changes have occurred since the completed Form 600P), you must submit the Hydrogeologic Report Addendum (Form 600-HRA).
 - ☐ If you elected for DNRC to conduct Technical Analyses, had a preapplication meeting, completed a Form 600P, and the Technical Analyses remain unchanged since the preapplication meeting, you do not need to submit Form 600-HRA because the Department's Technical Analyses meet the report requirements of § 85-2-360 and § 85-2-361, MCA.
5. ☐ **S** ☒ **NA** If the project is for one or more groundwater points of diversion located in a Controlled Groundwater Area, then submit the Controlled Groundwater Area Addendum (Form 600-CGWA).
6. ☐ **S** ☒ **NA** If the project involves an appropriation that is greater than 5.5 CFS and 4,000 acre-feet, then submit a Criteria Addendum Application for Beneficial Water Use Permit for Appropriations Greater than 5.5 CFS and 4,000 AC-FT (Form 600-B).
7. ☐ **S** ☒ **NA** If the project involves out-of-state water use, then submit the Out-of-State Use Addendum (Form 600/606-OSA).
8. ☐ **S** ☒ **NA** If you require mitigation water to meet the criteria of issuance, then submit a Mitigation Purpose Addendum (Form 600/606-MIT).
9. ☐ **S** ☒ **NA** If the proposed purposes include marketing or selling water, (not marketing for mitigation/aquifer recharge), then submit the Marketing Purpose Addendum (Form 600/606-WMA).
10. ☐ **S** ☒ **NA** If the project involves one or more places of storage, then submit a Permit Storage Addendum (Form 600-SA). This does not include reservoirs, pits, pit-dams, or ponds with a capacity less than 0.1 AF; water tanks; or cisterns (ARM 36.12.113(6)).
11. ☐ **S** ☒ **NA** If the project is in designated sage grouse habitat, then submit a review letter from the Montana Sage Grouse Habitat Conservation Program.
12. ☐ **S** ☒ **NA** If the project includes a point of diversion and/or place of use on State of Montana Trust Land, submit documentation of consent from the DNRC Trust Lands Management Division.
13. ☐ **S** ☒ **NA** You must provide a written notice of the application to each owner of an appropriation right sharing a point of diversion or means of conveyance (e.g., canal, ditch, flume, pipeline, or constructed waterway) pursuant to §85-2-302(4)(c), MCA. Submit a copy of this notice and the recipient list.

PURPOSE AND DIVERSION INFORMATION

14. ☐ Y ☒ N Is the proposed use temporary?

14.a. If yes, when will the appropriation cease? _____

15. Is the proposed source surface water or groundwater? Surface water

16. What is the source name? Kootenai River

17. ☒ S Attach a map utilizing an aerial photograph or topographic map that shows the following: section corners; township and range; north arrow; scale bar; all proposed points of diversion labeled with a unique Point of Diversion (POD) ID number and, if applicable, GWIC number; all proposed places of use; all proposed conveyance facilities and or routes; all proposed places of storage labeled with a unique Storage ID number; and places of use (POU) for all overlapping water rights. More than one map may be submitted, if necessary to clearly convey all required information.

18. Fill out the table below. Means of diversion for surface water includes headgate, pump, dam, and others. Means of diversion for groundwater includes well, developed spring, pit pond, and others.

Purpose	Means of Diversion	Acres Irrigated (if appl.)	Period of Diversion (Month/Day - Month/Day)	Period of Use (Month/Day - Month/Day)	Flow Rate ☒ GPM ☐ CFS	Volume (Acre-Feet)
Irrigation	Pump	0.86	04/01-010/15	04/01-10/15	18	0.94
Total Flow Rate and Volume Required					18	0.94

19. ☐ Y ☐ N Does the proposed use include on or more of the following purposes: domestic, multiple domestic, stock, or irrigation? If yes, fill out the following table, where applicable.

Purpose	Requested Information	Response
Domestic or multiple domestic	Number of dwellings	
Stock	Number of animal units	
Irrigation	Method of irrigation type (sprinkler or flood) and subtype (if flood: level border, graded border, furrow, contour ditch, or other; if sprinkler: center pivot, wheel line, or other)	Sprinkler, underground to sprinkler locations
Irrigation (flood only)	Design slope	

POINT(S) OF DIVERSION

20. Describe the proposed location of the point(s) diversion to the nearest $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$ Section. Label each POD with the POD ID number used for the project map (question 17).

POD #	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	Sec.	Twp.	Rge.	County	Lot	Block	Tract	Subdivision	Gov. Lot
1	NW	NE	NE	36	31	31	Lincoln	8			MBMI Development Inc.	

PLACE OF USE

21. What are the geocodes of the place of use?

56-4283-25-4-01-19-0000	

22. Describe the legal land description for the proposed place of use and, if applying for an irrigation or lawn and garden purpose, list the number of irrigated acres.

Acres	Gov. Lot	Block	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	Sec.	Twp.	Rge.	County
0.29			SW	SE	SE	25	31	31	Lincoln
0.57			NW	NW	NE	36	31	31	Lincoln

SUPPLEMENTAL AND OVERLAPPING WATER RIGHTS

23. ☒ Y ☐ N Will other water rights supplement or overlap the place of use to contribute to the purpose(s)?

23.a. If yes, summarize how the supplemental and proposed water rights will be operated as a whole to serve the purpose(s).

See attached Form 600: 23-Supplemental Water Rights

24. For each supplemental or overlapping water right, please list the water right number, typical period of diversion and use (MM/DD-MM/DD), flow rate (GPM or CFS), and the volume of water (AF) contributed to the shared place of use.

Water Right #	Average Period of Diversion	Average Period of Use	Flow Rate	Volume Contributed
76D 30164146	4/1 to 10/31	4/1 to 10/31	15 gpm	0.5 AF

25. ☐ Y ☒ N Will this application supplement contract water from a Federal Project, ditch company, or other source?

25.a. If yes, explain.

ADVERSE EFFECT

26. Explain how you can control your diversion in response to a call being made.

See attached Form 600: 26-Adverse Effect

27. Describe any plans you have for ensuring existing water rights will be satisfied during times of water shortage.

As stated in attached Form 600: 26-Adverse Effect, the applicant will monitor the flow of the Kootenai River at the USGS Station 12301933 Kootenai River below Libby Dam to assure there is adequate water to satisfy all existing water rights before using water.

28. ☐ Y ☒ N Are you aware of any calls that have been made on the source of supply or, if groundwater, on nearby surface water sources?

28.a. If yes, explain.

29. ☐ Y ☒ N Does a water commissioner distribute water or oversee water distribution on your proposed source?

29.a. If yes, list the source(s).

30. ☐ Y ☒ N Do other water rights share any of the proposed points of diversion?

30.a. If yes, describe how the proposed project will not adversely affect these water rights.

31. ☐ Y ☒ N Do other water rights share any conveyance infrastructure associated with the proposed project?

31.a. If yes, describe how the proposed project will not adversely affect these water rights.

ADEQUATE MEANS OF DIVERSION AND OPERATION

32. ☒ **S** Submit a diagram of how you will operate your system from all proposed points of diversion to all proposed places of use.
33. Describe specific information about the capacity of all proposed diversionary structures. This may include, where applicable: pump curves and total dynamic head calculations, headgate design specifications, and dike or dam height and length.

See attached Form 600 33. Adequate Means of Diversion and Operation: Means of Diversion

34. Describe the size, materials, capacity, and configuration of infrastructure to convey water from all proposed points of diversion to all proposed places of use. This may include but is not limited to, pipelines and ditches. Include a description of any losses related to the proposed conveyance. Ditch conveyance losses may be estimated numerous ways, which include a ditch loss rate or Department standard methods.

See attached Form 600 34. Adequate Means of Diversion and Operation: Conveyance System

35. Describe how the proposed diversion and conveyance infrastructure can provide the required flow and volume, for the purposes plus any conveyance losses and storage, throughout the proposed period of diversion.

See attached Form 600 35. Adequate Means of Diversion and Operation: Adequacy of Diversion

36. Provide a plan of operations, which includes specific information about how water is delivered within the place of use. This may include, where applicable, the range of flow rates needed for a pivot.

See attached Form 600 36. Adequate Means of Diversion and Operation: Beneficial Use Operations

37. ☐ Y ☒ N Does the proposed conveyance require easements?

37.a. If yes, explain.

38. ☒ Y ☐ N Do you own the land where all proposed points of diversion are located?

38.a. ☐ S If no, submit documentation to show you have the right to use all points of diversion located on each property you do not own. This may include, but is not limited to, a well agreement, an easement, or permission of the party that owns the property where the proposed point(s) of diversion are located.

39. ☐ Y ☒ N Will your system be designed to discharge water from the project?

IF YES,

39.a. Explain the wastewater disposal method.

39.b. ☐ Y ☐ N ☒ NA Have the necessary permits been obtained to comply with §§ 75-5-410 and 85-2-364, MCA?

40. ☐ Y ☒ N Do you have any plans to measure your diversion and use?

40.a. If yes, describe the plan and the type of measurements you will take.

41. ☐ Y ☒ N Is the means of diversion for any proposed point of diversion a well?

IF YES,

41.a. ☐ Y ☐ N Have all wells been drilled?

41.b. For all wells that have been drilled, what is the name of the well driller and, if available, what is their license number?

41.c. ☐ Y ☐ N For all wells yet to be drilled, will a licensed well driller construct the wells?

41.d. ☐ S ☐ NA Submit any well logs not yet submitted to the Department.

BENEFICIAL USE

42. ☒ Y ☐ N Does the Department have a volume, period of diversion, or period of use standard for the purposes for which water is proposed? Department standards can be found in the DNRC Water Calculation Guide, ARM 36.12.112, and ARM 36.12.115.

42.a. ☒ Y ☐ N If yes, do all proposed beneficial uses fall within Department standards?

42.b. If no Department standard exists, or if any proposed beneficial use falls outside of Department standards, explain how the requested flow rate and volume are reasonable for the purpose.

43. ☐ Y ☒ N Will your proposed project be subject to DEQ requirements for a public water supply (PWS) system or Certificate of Subdivision Approval (COSA)?

44. ☐ Y ☒ N Are you proposing to use surface water for in-house domestic use?

44.a. ☐ Y ☐ N If yes, does a COSA exist for the proposed place of use?

44.a.i. ☐ S ☐ NA If yes, please submit the COSA.

44.a.ii. ☐ Y ☐ N If no, have you researched or consulted with DEQ regarding their requirements?

POSSESSORY INTEREST

45. ☐ Y ☒ N Do you meet one of the exceptions to possessory interest requirements, pursuant to ARM 36.12.1802? Exceptions include cases where the application is for sale, rental, distribution, or is a municipal use, or in any other context in which water is being supplied to another and it is clear that the ultimate user will not accept the supply without consenting to the use of water on the user's place of use.

45.a. If yes, explain.

46. ☒ Y ☐ N ☐ NA Do you own all proposed places of use? Mark "NA" if you meet one of the exceptions to the possessory interest requirement.

IF NO,

- 46.a. ☐ S Explain and submit documentation that shows you either have possessory interest or written permission of the parties with possessory interest of the place of use.

- 46.b. ☒ Y ☐ N Would you like the water right to be appurtenant to the land? Please note that if your water right is not appurtenant to land it will not transfer by default with the conveyance of the property, pursuant to § 85-2-403, MCA.

46.b.i. If no, explain.

PROPOSED COMPLETION PERIOD

47. How much time will be needed to complete this project and to submit to the DNRC a Project Completion Notice (Form 617)? 3 years after permit is issued

48. Please describe why this amount of time is needed to complete this project.
Spring 2027 after permit is issued (assumed to be issued late 2026) install point of diversion and means of distribution. Spring 2028-2029 plant any additional landscaping and lawn to be irrigated after water from well stops and start irrigation from river. File NOC December 2030

AFFIDAVIT & CERTIFICATION

Read carefully before you sign and review with legal counsel if you have any questions. All owners (or trustees) must sign the form. ***If the owner is a business or trust, include the title of the representative(s) signing the form (i.e., president, trustee, managing partner, etc.) and provide documentation that establishes the authority of the representative to sign the application.*

I affirm the information provided for this application is to the best of my knowledge true and correct. If a preapplication meeting form was submitted, I am aware that my application for this project will not qualify for a discounted filing fee and expedited timelines if upon submittal of the application to the Department, I changed any element of the proposed application from the preapplication meeting form and follow-up materials (ARM 36.12.1302(6)(a)).

I affirm I have possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use, unless this application meets an exception to the possessory interest requirements in ARM 36.12.1802(1)(b).

I understand that making a false statement under oath or affirmation in this application and official proceedings throughout the examination of my application may subject me to prosecution under § 45-7-202, MCA, a misdemeanor punishable by a jail term not to exceed 6 months or a fine not to exceed \$500, or both. I have read this Affidavit and understand the terms and conditions.

I declare under penalty of perjury and under the laws of the state of Montana that the foregoing is true and correct.

Printed Name Kathy M. Miner

Applicant Signature Kathy M. Miner Date: 12/15/2025

Printed Name Kurtis M. Hafferman

Applicant Signature Kurtis M. Hafferman Date: 12/19/2025

Printed Name _____

Applicant Signature _____ Date: _____

DNRC Form 600: 23- SUPPLEMENTAL WATER RIGHTS

There is a groundwater well that has been completed on the property. The notice of completion of groundwater development has been filed before this application and has been granted by the DNRC as water right 76D 30116146. The groundwater well has been used for domestic use and for irrigation use on the 0.86 acres of lawn irrigation. The well will continue to be used for irrigation until the water use permit from the Kootenai River is granted (Assumed 3 years). When the water right from the Kootenai River is granted, the water used from the groundwater well will be reduced to lawn and landscaping around the house (~0.1 ac.) and the surface water irrigation will be used for the remaining lawn and landscaping (0.76 ac.).

These water rights will be supplemental because they have an adjoining place of use but have different points of diversion and different means of diversion and they will not share the same pipeline and distribution system.

DNRC Form 600: 26-ADVERSE EFFECT

The applicant will monitor the flow of the Kootenai River at the USGS Station 12301933 Kootenai River below Libby Dam to assure there is adequate water to satisfy all existing rights before using water.

The point of diversion for the irrigation system uses an electric pump. Electricity for the pump is supplied from a 50 amp breaker in a 200 amp service panel with power from Flathead Electric Cooperative. In the event of a water shortage the power to the pump can be shut off and diversion of water will stop.

DNRC Form 600: ADEQUATE MEANS OF DIVERSION AND OPERATION

DNRC Form 600 - 33.-Means of Diversion: The point of diversion is shown in the attached Point of Diversion sketch. The Point of Diversion sketch pump system will consist of a standard 8-inch well casing buried in the stream bank of the Kootenai River above the ordinary high water mark¹. Hafferman and Miner will apply for a Lincoln Conservation District 310 permit, a USACOE 410 permit for placement of fill in the water body of the U.S., a MDEQ 318 permit to allow short term turbidity during excavation and a DNRC TLD Land Use license for placement of the point of diversion below the ordinary high water in a navigable stream in Montana.

There will be a 4-inch schedule 80 PVC pipe that exits the well casing approximately 6-ft. below the ordinary high water elevation and is placed into the bed of the Kootenai River. The pipe will be placed approximately 12 ft. from the edge of the ordinary high water and buried with river gravel to avoid interference with navigation. The end of the pipe will be capped and approximately 6 ft. of the end of the pipe will be slotted with 50-¼-inch slots to allow water into the pipe.

A Grundfos 22 SQ10-160 pump and motor will be suspended in the 8-inch well casing using 1-1/2" galvanized pipe set into a standard Boshart's 1-1/2" P-150-SS stainless steel pitless adapter that will allow for easy removal of the pump for service and connection to the 1-1/2" HDPE distribution system

¹ MCA 23-2-301 (9)

pipng outside the casing. The pump will be powered by a 220 V 60 Hz 50 amp power supply from the existing pump house.

DNRC Form 600 - 34.-Conveyance System: Water will be pumped to three separate zones as shown on the attached place of use map. Only one zone will operate at a time. Water will be distributed to the zones on the property through a 1-1/12" main line from the river to the north end of the property along the east side property line and then distributed to the sprinklers in the individual zones with 1" HDPE and ¾" HDPE will tee from the 1" HDPE to the individual sprinklers.

The zones will be controlled by a Rainbird sprinkler system. The details of the system are attached in the Rainbird list of materials. The zone controller will be a Rainbird ARC8 App Based Residential Controller - 8 Zone. Sprinklers will be the Rainbird 42SA+ - Heavy Duty Simple Adjustable Professional ¾" Inlet Gear Drive Rotor Sprinkler and 1gpm 5000S+PCSR - 5000 Series Shrub Rotor with PRS Pressure Regulation and SAM Check Valve. Zone 1 will irrigate pasture grass with 6-2 gpm 42SA Sprinkler and 4- trees will be irrigated with 1gpm 5000S+PCSR - 5000 Series Shrub Rotor sprinkler equivalent to a maximum of 18 gpm. Zone 2 will use the 6-2 gpm 42SA sprinklers for pasture grass and 4- trees will be irrigated with 1gpm 5000S+PCSR sprinklers up to a maximum of 18 gpm. Zone 3 will irrigate pasture grass and lawn near the new house (to be constructed in 2023-2024) with 5-2 gpm 42SA+ sprinklers and 8-trees will be irrigated with 1 gpm 5000S+PCSR - 5000 Series Shrub sprinklers.

DNRC Form 600 - 35.-Adequacy of Diversion: A system curve was analyzed for Zone 1 which has the furthest distance from the pump. The Zone 1 system has been analyzed, assuming 20 ft. of vertical lift, 60 psi outlet pressure, 565 ft. of 1-1/2-inch HDPE pipe with approximately 37 ft. of minor equivalent pipe. The system curve was plotted on the Grundfos 22 SQ10-160 pump curve and the operation point was found to be a minimum 1.4 HP pump operating at 18 gpm at 62% efficiency allowing for 10 ft. of net positive suction head (NPSH). It is assumed that a standard 1.5 HP pump motor will be used with the 220 V power supply. The configuration of submersible pump in an 8-inch casing will require less than 10 ft. of NPSH. The pump-curve and system-curve graphs showing the most probable operation point at 18 gpm is attached.

DNRC Form 600- 36. Adequate Means of Diversion and Operation: Beneficial Use Operations

Using 18 gpm for flow rate will allow for efficient distribution of water to each zone and will allow for each zone to run the minimum amount of time each day of use. The source for the water is the Kootenai River which has an average daily flow rate of 16,100 cfs, and the average low recorded flow after the construction of Libby Dam is near 4,000 cfs. The requested flow rate is 0.00024% of the average flow rate and 0.001% of the low flow rate showing the flow capacity is readily available without adverse effects to stream flows. Using a high flow rate per acre will minimize pump runtime, sprinkler system use, have lower power costs and lengthen the system life.

The volume is based on a climatic area map from the DNRC WRD, which shows this property is in a moderately high consumptive use area. The climatic area map is attached with the POU shown as a dot on the map. ARM 36.12.112 Period of Diversion and Period of Use Standards shows for this area the period of use could be from April 1 to October 15 in any year. The maximum volume of water in this climatic area is defined in ARM 36.12.115 Water Use Standards to be between

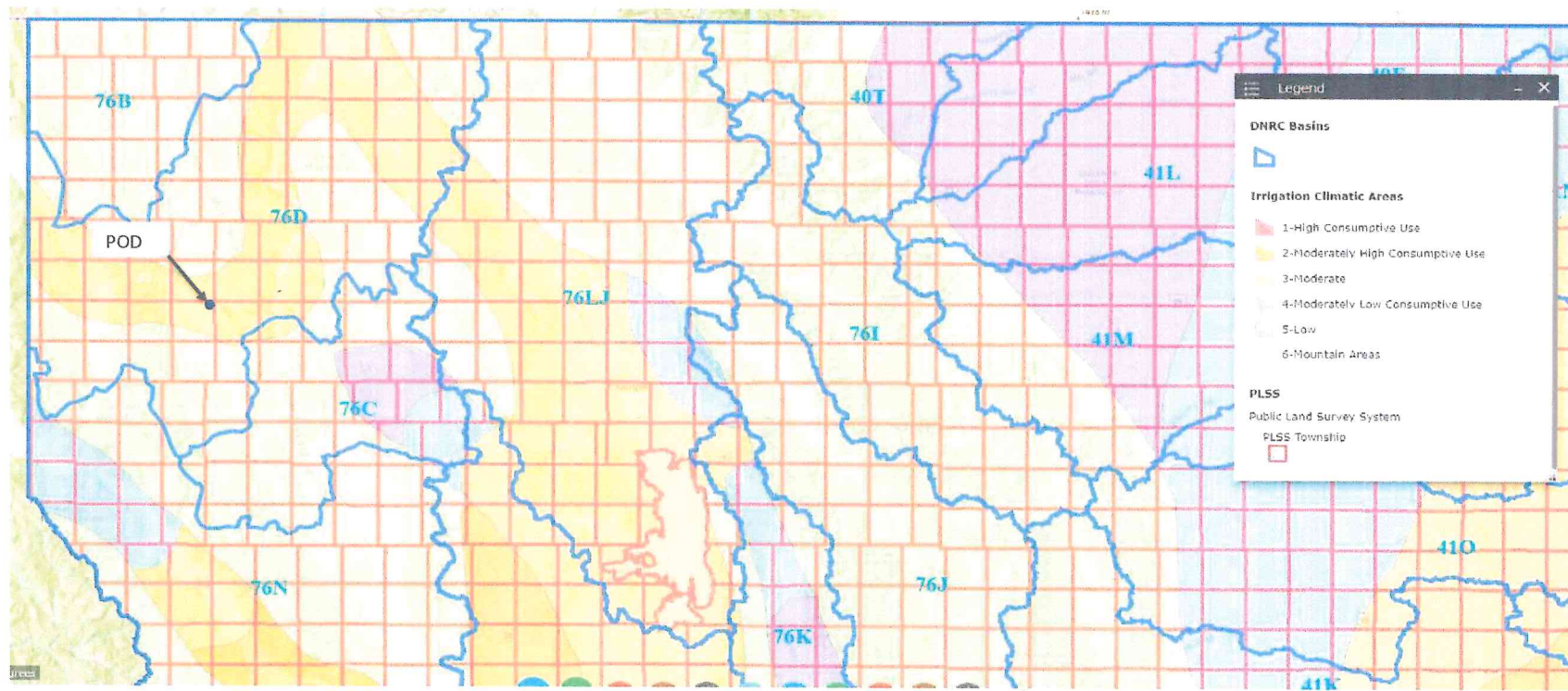
2.08 to 2.41 AF/ac./year. For the 0.86 ac proposed to be irrigated on the property that would be a maximum useable volume between 1.85 and 2.14 AF/year.

Water is planned to be used for ½ -hour each irrigated day which would have a maximum use of 1,620 gallons per day of use. The average amount of water used in a dry year is planned to be with irrigation every day throughout a 190 day irrigation period. This rate would divert a maximum of 0.94 AF/year for this property.

Therefore, the requested maximum flow rate of 18 gpm up to 0.94 AF per year from April 1 to October 15 each year is a reasonable flow rate and volume and is a beneficial use of water.

SURFACE WATER APPLICATION FOR BENEFICIAL WATER USE PERMIT: KOOTENAI RIVER
HAFFERMAN AND MINOR
149 Margaret Lane Libby, Montana
Geocode 56-4283-25-4-01-19-0000 Section 25 and Section 36, Township 31 North Range 31 West

DNRC Form 600: Climatic Area Map



SURFACE WATER APPLICATION FOR BENEFICIAL WATER USE PERMIT: KOOTENAI RIVER
HAFFERMAN AND MINOR
149 Margaret Lane Libby, Montana
Geocode 56-4283-25-4-01-19-0000 Section 25 and Section 36, Township 31 North Range 31 West

DNRC Form 600: Supplemental Water Rights

STATE OF MONTANA
DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION
1424 9TH AVENUE P.O. BOX 201601 HELENA, MONTANA 59620-1601

GENERAL ABSTRACT

Water Right Number: 76D 30164146 GROUND WATER CERTIFICATE

Version: 1 – ORIGINAL RIGHT

Version Status: ACTIVE

Owners: KURTIS M HAFFERMAN
PO BOX 1690
LIBBY, MT 59923-5001

KATHY M MINER
PO BOX 1690
LIBBY, MT 59923-1690

Priority Date: JULY 22, 2024 at 01:00 P.M.

Enforceable Priority Date: JULY 22, 2024 at 01:00 P.M.

Purpose (Use): DOMESTIC
LAWN AND GARDEN
LAWN AND GARDEN

Maximum Flow Rate: 15.00 GPM

Maximum Volume: 3.16 AC-FT

Maximum Acres: 0.86

Source Name: GROUNDWATER

Source Type: GROUNDWATER

Point of Diversion and Means of Diversion:

<u>ID</u>	<u>Govt Lot</u>	<u>Qtr Sec</u>	<u>Sec</u>	<u>Twp</u>	<u>Rge</u>	<u>County</u>
1		SWSESE	25	31N	31W	LINCOLN

Period of Diversion: JANUARY 1 TO DECEMBER 31

Diversion Means: WELL

Subdivision: MBMI DEVELOPMENT INC TRACT/LOT: 8

Purpose (Use): DOMESTIC

Households: 1

Volume: 1.00 AC-FT

Period of Use: JANUARY 1 to DECEMBER 31

Place of Use:

<u>ID</u>	<u>Acres</u>	<u>Govt Lot</u>	<u>Qtr Sec</u>	<u>Sec</u>	<u>Twp</u>	<u>Rge</u>	<u>County</u>
1			NWNENE	36	31N	31W	LINCOLN

Subdivision: MBMI DEVELOPMENT INC TRACT/LOT 8

Purpose (Use): LAWN AND GARDEN

Volume: 0.73 AC-FT

Period of Use: APRIL 1 to OCTOBER 31

Place of Use:

<u>ID</u>	<u>Acres</u>	<u>Govt Lot</u>	<u>Qtr Sec</u>	<u>Sec</u>	<u>Twp</u>	<u>Rge</u>	<u>County</u>
1	0.29		SWSESE	25	31N	31W	LINCOLN

Subdivision: MBMI DEVELOPMENT INC TRACT/LOT 8

Total: 0.29

Purpose (Use): LAWN AND GARDEN

Volume: 1.43 AC-FT

Period of Use: APRIL 1 to OCTOBER 31

Place of Use:

<u>ID</u>	<u>Acres</u>	<u>Govt Lot</u>	<u>Qtr Sec</u>	<u>Sec</u>	<u>Twp</u>	<u>Rge</u>	<u>County</u>
1	0.57		NWNENE	36	31N	31W	LINCOLN

Subdivision: MBMI DEVELOPMENT INC TRACT/LOT 8

Total: 0.57

Geocodes/Valid: 56-4283-25-4-01-19-0000 - Y

SURFACE WATER APPLICATION FOR BENEFICIAL WATER USE PERMIT: KOOTENAI RIVER
HAFFERMAN AND MINOR
149 Margaret Lane Libby, Montana
Geocode 56-4283-25-4-01-19-0000 Section 25 and Section 36, Township 31 North Range 31 West

DNRC Form 600: Possessory Interest Deed

291611 RECORDS BOOK:388 Page: 246 Pages: 2

STATE OF MONTANA, LINCOLN COUNTY

RECORDED:03/05/2021 08:23 AM KOI: DEED:17

Robin A. Benson CLERK AND RECORDER

FEE: \$14.00

BY:

Clyde E. R...

Deputy

T0:First American Title - Libby 120 W 6th Street Ste 5, Libby, Montana 59923

AND WHEN RECORDED MAIL TO:

Kurtis Hafferman and Kathy Miner

3610 MT Hwy 37
Libby, MT 59923

Filed for Record at Request of:

First American Title Company

Space Above This Line for Recorder's Use Only

Order No.: 958062-FT

Parcel No.: 0050473

WARRANTY DEED

(Joint Tenancy)

FOR VALUE RECEIVED,

MBMI Development, Inc., a closely-held corporation

hereinafter called Grantor(s), do(es) hereby grant, bargain, sell and convey unto

Kurtis Hafferman and Kathy Miner

whose address is: **Lot #8 Margaret Ln., Libby, MT 59923**

hereinafter called Grantees, as joint tenants (and not as tenants in common) and to the survivor of said named joint tenants, and to the heirs and assigns of such survivor, the following described premises, in **Lincoln County, Montana**, to-wit:

Lot 8 of MBMI Development Inc., according to the map or plat thereof on file in the office of the Clerk and Recorder, Lincoln County, Montana. Plat 7152

SUBJECT TO Covenants, Conditions, Restrictions, Provisions, Easements and encumbrances apparent or of record.

TO HAVE AND TO HOLD, the said premises, with its appurtenances unto the said Grantees, as joint tenants with the right of survivorship (and not as tenants in common) and to the heirs and assigns of the survivor of said named tenants forever. And the said Grantor(s) do(es) hereby covenant to and with Grantees, he/she or they) is/are the owner(s) in fee simple of said premises; that they are free from all encumbrances except for taxes and assessments for current and subsequent years and he (she or they) will warrant and defend same from all lawful claims whatsoever.

Dated: March 03, 2021

MBMI Development, Inc., a closely-held corporation

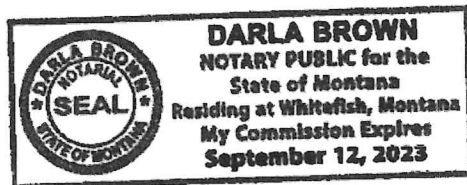
By: Walter Rucinski
Name: Walter Rucinski
Title: President

STATE OF Montana)
COUNTY OF Flathead)
SS.

On March 4, 2021, before me a Notary Public, personally appeared **Walter Rucinski**, known to me to be the President of MBMI Development, Inc..

[Signature]
Signature of Notarial Officer

Notary Public for the State of Montana
Residing at:
Commission Expires:



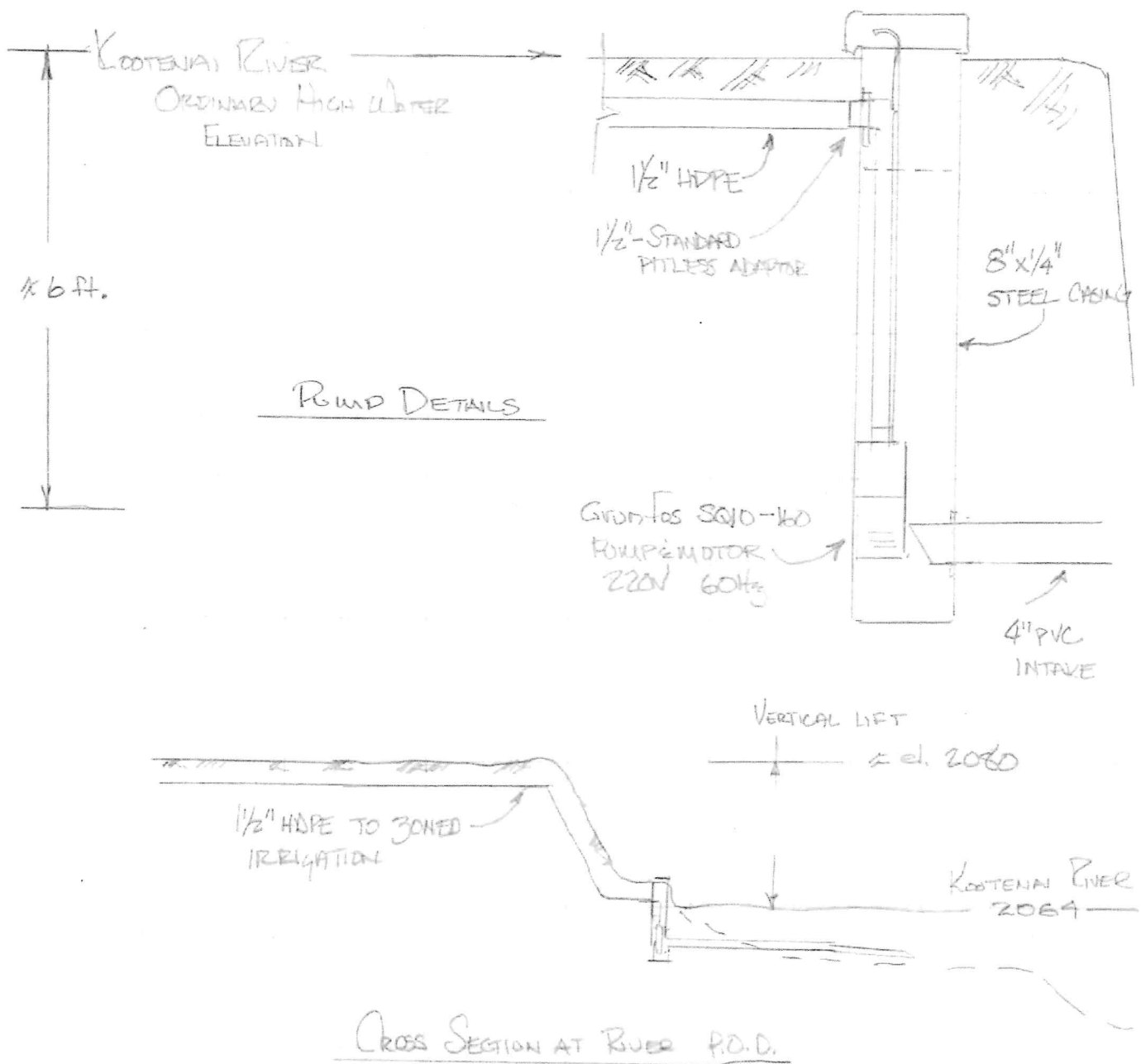
SURFACE WATER APPLICATION FOR BENEFICIAL WATER USE PERMIT: KOOTENAI RIVER
HAFFERMAN AND MINOR
149 Margaret Lane Libby, Montana
Geocode 56-4283-25-4-01-19-0000 Section 25 and Section 36, Township 31 North Range 31 West

DNRC Form 600 Adequate Means of Diversion Attachments

SURFACE WATER APPLICATION FOR BENEFICIAL WATER USE PERMIT: KOOTENAI RIVER
HAFFERMAN AND MINOR
149 Margaret Lane Libby, Montana
Geocode 56-4283-25-4-01-19-0000 Section 25 and Section 36, Township 31 North Range 31 West

DNRC Form 600 Adequate Means of Diversion: POD Design

Property Sketch — POINT OF DIVERSION



Mark:

- ☐ Water Meter or Pump Location
- ☐ Timer (Where you want it to be placed)
- ☒ Valve Manifold Locations (Where you want them)
- ☒ North

Accuracy is important. Mark the scale of your drawing:
(If the scale used is not one of the options below, please identify the scale used)

- ☐ 1 in. = 10 ft. For lots less than 80 ft. x 100 ft.
- ☐ 1 in. = 20 ft. For lots less than 160 ft. x 200 ft.
- ☐ 1 in. = 30 ft. For lots less than 240 ft. x 300 ft.

Rain Bird respects your privacy. This form is to gather information in order to do business with you. We do not sell, rent, loan or transfer any personal information. We may disclose this information if we believe that we are required to do so by law, such as in response to a government or court order, subpoena or other legal process. If you wish to correct information, you would like more information regarding privacy policies or do not wish to receive further communication from us, you can send an email to rbwebmaster@rainbird.com.

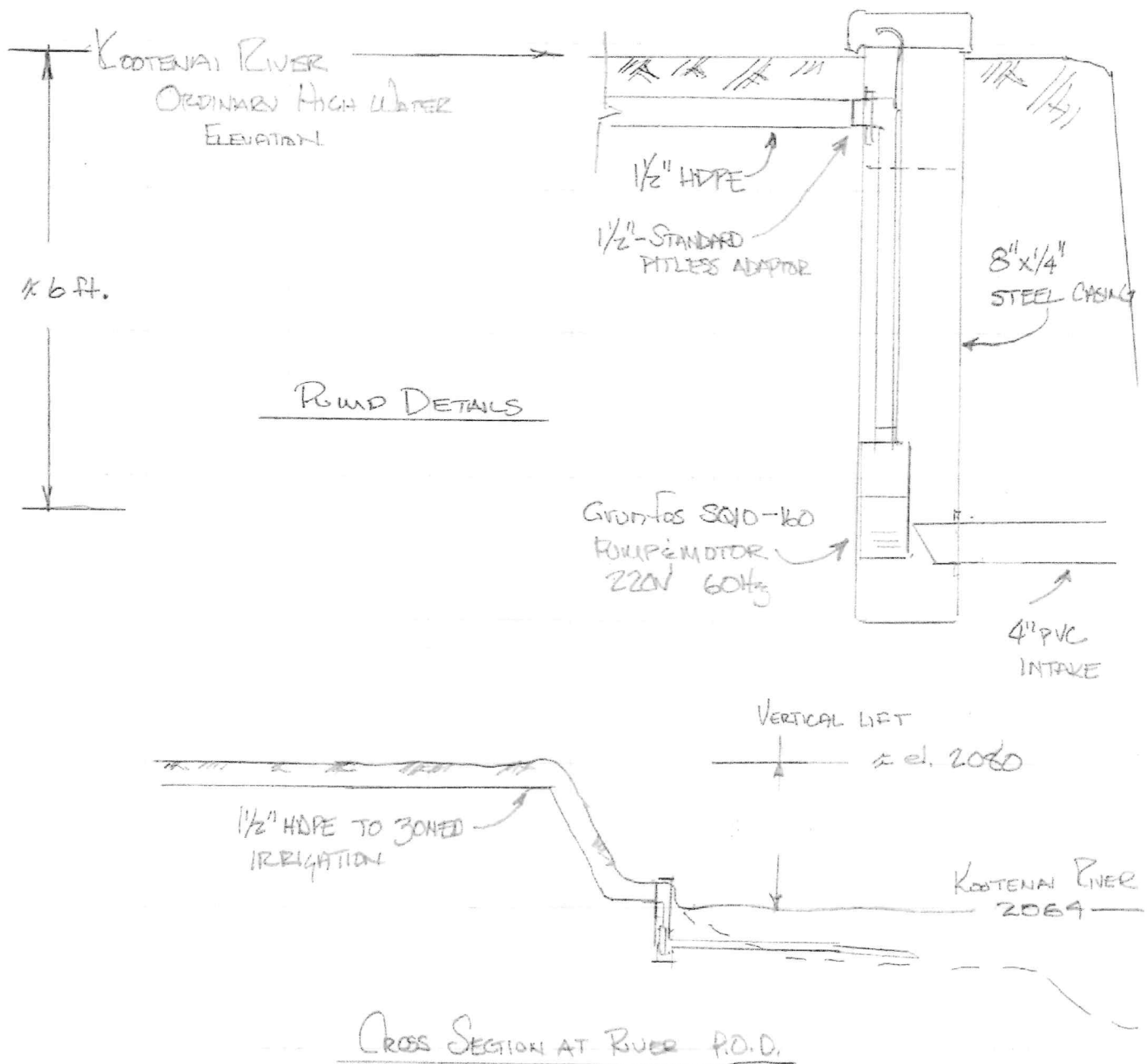
Name: HAFERMAN

Property: 149 MARGARET LANE, LIBBY, MONTANA

Lot Dimensions: 140' x 350'

Maximum yard size for a Rain Bird computerized design is 240' x 300'.

Property Sketch — POINT OF DIVERSION



Mark:

- ☐ Water Meter or Pump Location
- ☐ Timer (Where you want it to be placed)
- ☐ Valve Manifold Locations (Where you want them)
- ☐ North

Accuracy is important. Mark the scale of your drawing:

(If the scale used is not one of the options below, please identify the scale used)

- ☐ 1 in. = 10 ft. For lots less than 80 ft. x 100 ft.
- ☐ 1 in. = 20 ft. For lots less than 160 ft. x 200 ft.
- ☐ 1 in. = 30 ft. For lots less than 240 ft. x 300 ft.

Rain Bird respects your privacy. This form is to gather information in order to do business with you. We do not sell, rent, loan or transfer any personal information. We may disclose this information if we believe that we are required to do so by law, such as in response to a government or court order, subpoena or other legal process. If you wish to correct information, you would like more information regarding privacy policies or do not wish to receive further communication from us, you can send an email to rbwebmaster@rainbird.com.

Name: LAFFERMAN

Property: 149 MARGARET LANE, LIBBY, MONTANA Lot Dimensions: 140' x 35'

Maximum yard size for a Rain Bird computerized design is 240' x 300'.

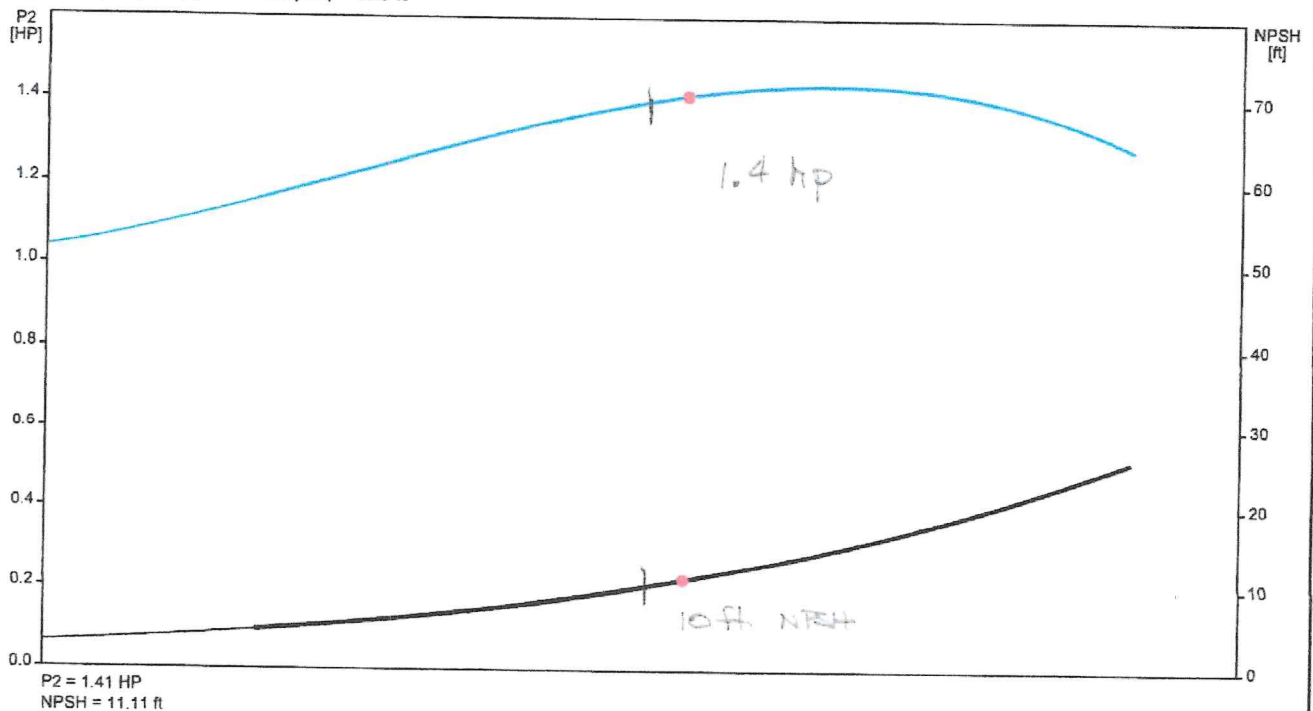
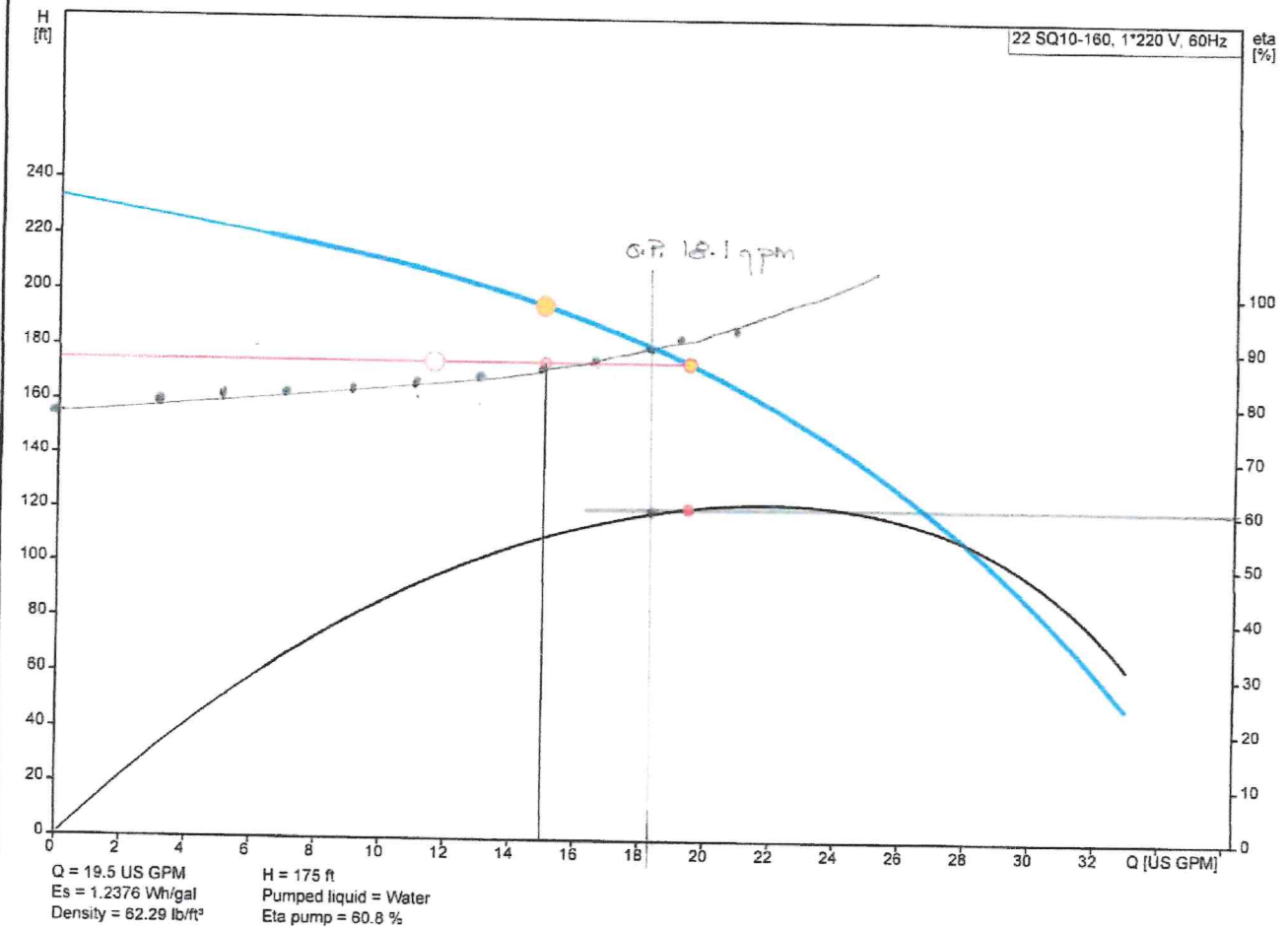
SURFACE WATER APPLICATION FOR BENEFICIAL WATER USE PERMIT: KOOTENAI RIVER
HAFFERMAN AND MINOR

149 Margaret Lane Libby, Montana

Geocode 56-4283-25-4-01-19-0000 Section 25 and Section 36, Township 31 North Range 31 West

DNRC Form 600 Adequate Means of Diversion: POD Design Pump Operation and System Curve

96160156 22 SQ10-160 60 Hz

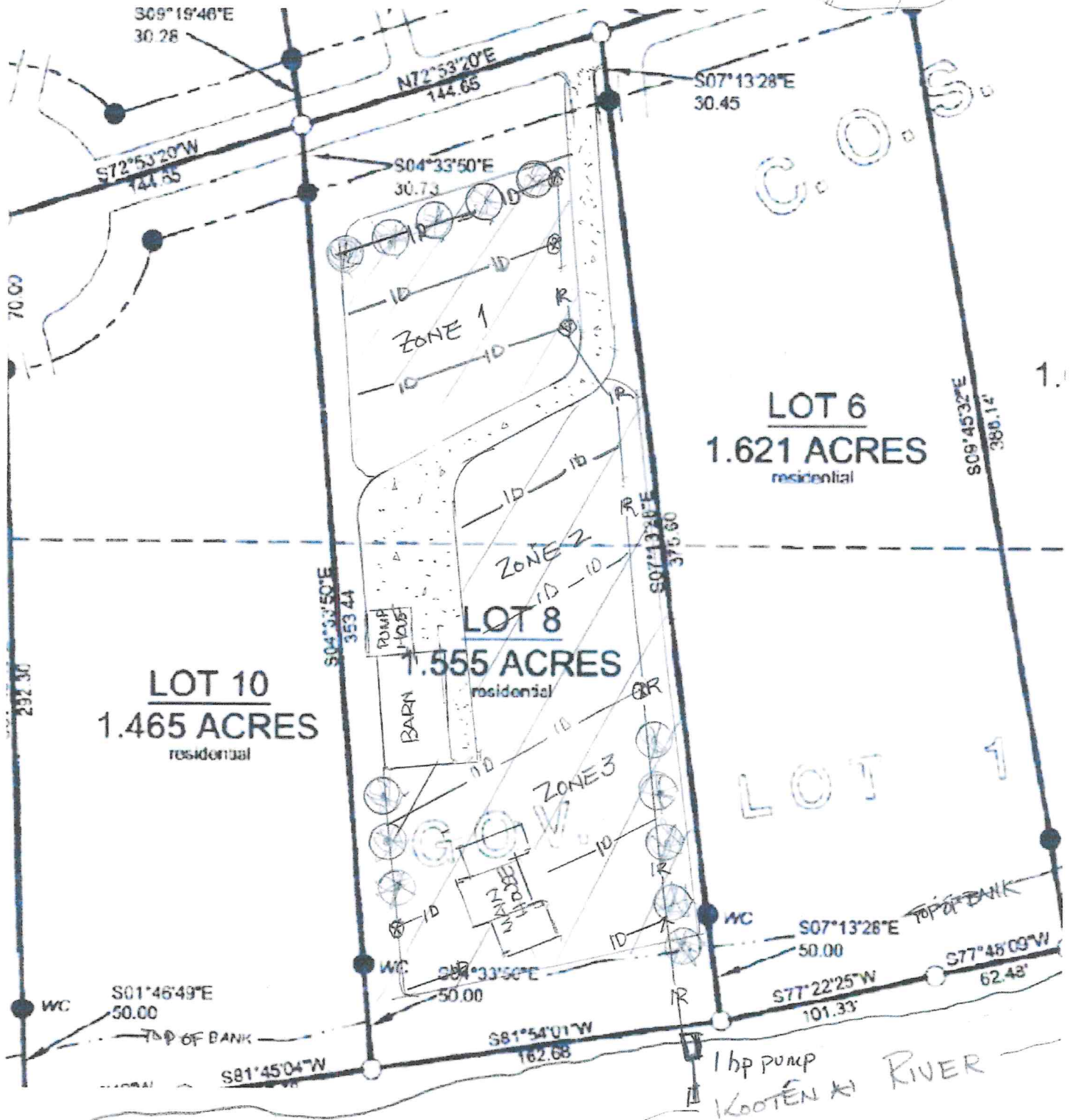


SURFACE WATER APPLICATION FOR BENEFICIAL WATER USE PERMIT: KOOTENAI RIVER
HAFFERMAN AND MINOR
149 Margaret Lane Libby, Montana
Geocode 56-4283-25-4-01-19-0000 Section 25 and Section 36, Township 31 North Range 31 West

DNRC Form 600 Adequate Means of Diversion: Irrigated Acres

1 1/2" - MAIN IRRIGATION PIPE - IR - AUTUMN MAPLE - 
 1" - DISTRIBUTION PIPE - ID - IRRIGATED LAWN - 

SCALE 1" = 60'



PLACE OF USE MAP

SURFACE WATER APPLICATION FOR BENEFICIAL WATER USE PERMIT: KOOTENAI RIVER

HAFFERMAN AND MINOR

149 Margaret Lane Libby, Montana

Geocode 56-4283-25-4-01-19-0000 Section 25 and Section 36, Township 31 North Range 31 West

DNRC Form 600 Adequate Means of Diversion: System Specifications and Cost

Hafferman-Miner

Irrigation System Demand and Rainbird Comonenets and cost

gallons per minute 18 gpm
 (minutes per day/zone)*3 90 min.
 gallons per day 1620 cfs
 days per irrigation season 95 days
 cubic feet per second 0.040 cfs
 time per day (90 minutes/1440 minutes per day) 0.0625 days
 acre feet per year=(gallons per day*95 days)/325851 gallons/AF 0.94 AF/year

0.0002490005

0.0010022272

Detail	Unit Cost	#Units	Subtotal		Comments
Zone Valve	\$ 344.75	3	\$ 1,034.25	Zone Valve	Rainbird; 200PESB - 2 in. Inlet Inline Plastic Industrial Irrigation Valve
Controller	\$ 179.99	1	\$ 179.99	Controller	Rainbird: ARC8 App Based Residential Controller - 8 Zone
42SA Sprinklers	\$ 14.99	18	\$ 269.82	42SA Sprinklers	42SA+ - Heavy Duty Simple Adjust Professional ¾" Inlet Gear Drive Rotor Sprinkler
Shrub Rotor on Riser	\$ 30.00	15	\$ 450.00	Shrub Rotor on Riser	5000S+PCSR - 5000 Series Shrub Rotor with PRS Pressure Regulation and SAM Check Valve
1-1/2" Poly Pipe/100 ft	\$ 207.00	4	\$ 828.00	2" Poly Pipe/100 ft.	1-1/2 in. x 100 ft. IPS 100 psi NSF Poly Pipe: Home Depot
1" Poly Pipe/100 ft.	\$ 176.00	3	\$ 528.00	1" Poly Pipe/100 ft.	1 in. x 100 ft. IPS 100 psi NSF Poly Pipe: Home Depot
90 degree	\$ 1.49	12	\$ 17.88	90 degree	1-1/2 in. Barb Insert Blue Twister Polypropylene 90-Degree Elbow
Pipe to Pipe coupling	\$ 0.94	11	\$ 10.34	Pipe to Pipe coupling	1-1/2 in. Barb Insert Blue Twister Polypropylene Coupling Fitting
Barb to 2" thread	\$ 1.00	13	\$ 13.00	Barb to 2" thread	1-1/2 in. Barb Insert Blue Twister Polypropylene x MPT Adapter
3-barb tee 1-1/2"-1"	\$ 1.76	25	\$ 44.00	3-barb tee	1-1/2" to 1" reducer from mainline to zonesBlue Twister Polypropylene Tee Fitting
3-barb tee 1"-3/4"	\$ 1.12	20	\$ 22.40	3-barb tee	1"-3/4" reducer from zones to sprinkler Blue Twister Polypropylene Tee Fitting
Trench Length total	\$ 2.00	565	\$ 2,030.00	Trench excavation	Cost of excavation and backfill labor, materials and excavator rental.
Subtotal Materials and Excavtion and burial			\$ 5,427.68		
10% contingency			\$ 542.77		
Total Estimated irrigation system cost			\$ 5,970		

SURFACE WATER APPLICATION FOR BENEFICIAL WATER USE PERMIT: KOOTENAI RIVER
HAFFERMAN AND MINOR
149 Margaret Lane Libby, Montana
Geocode 56-4283-25-4-01-19-0000 Section 25 and Section 36, Township 31 North Range 31 West

DNRC Form 600 Adequate Means of Diversion: Conveyance System Specifications



Home > 42SA+ - Heavy Duty Simple Adjust Professional 1/2" Inlet Gear Drive Rotor Sprinkler

42SA+ - Heavy Duty Simple Adjust Professional 1/2" Inlet Gear Drive Rotor Sprinkler

★★★★★ 7 Reviews [Ask a question](#)

\$14.99

List Price ~~\$29.79~~

IN570C
SKU#: W4201

Qty [Add to Cart](#)

[ADD TO WISH LIST](#)

[ADD TO COMPARE](#)

- Improve coverage consistency and reduce cycle times with this rotor's Rain Curtain nozzle technology that distributes water more evenly throughout the pattern
- More effective close-in coverage solves problems with dry spots around the heads of your rotor zone
- Water lubricated, gear driven design is quiet and trouble-free
- Self-flushing at pop-down to clear debris and maintain spray efficiency
- Easy to adjust spray distance from 25 to 38 ft
- 3/4 in. female inlet threads
- Additional o-rings and seals for extra protection in "gritty" water
- Easy to adjust arc from 40 to 360 degrees for part or full operation
- Heavy-duty stainless steel retract spring assures positive pop-down
- 4 in. pop up height to clear tall grass

[42SA Adjustment](#)

[How to change Rotor Nozzles](#)

[Rotor Selection Guide](#)

[Rotor Performance Chart](#)

Save
49%



Details

This professional grade Rain Bird 42SA+ rotor sprinkler features superior durability plus exceptional watering uniformity of patented Rain Curtain nozzle technology, resulting in a greener and more even lawn with reduced watering time.

The rotor distributes larger water droplets that cover evenly throughout the pattern, also reducing wind-blown overspray.

Nozzle micro ramps direct a portion of the spray near the head, adding gentle close-in coverage with reduced watering velocity that won't wash out new seed.

Simple top adjustments for arc and distance help you keep water on the grass, not spraying on the house, sidewalk or driveway.

The rotor also features a rugged dual-action, positive stop wiper seal that protects internals from debris and, together with a heavy duty stainless steel spring, assures positive retraction for leak-free performance.

It installs on a standard 3/4 in. riser for simple replacement of older rotors.

Rain Bird 42SA Rotor Sprinklers



Warranty

If a purchaser of any new Rain Bird consumer product becomes dissatisfied with it for any reason, he may return it to the retailer where it was purchased within a reasonable time for a full refund. Rain Bird's obligation is limited to this refund for any product that does not meet a purchaser's expectations. Other than its satisfaction policy, there are no warranties on Rain Bird consumer products, express or implied, nor will Rain Bird be responsible for any economic or consequential damages.

More Information

Frequently Bought Together



This Item: 42SA+ - Heavy Duty Simple Adjust Professional 1/2" Inlet Gear Drive Rotor Sprinkler \$14.99 List Price ~~\$29.79~~

[42SA+/4PKS - Heavy Duty Simple Adjust Professional 1/2" Inlet Gear Drive Rotor Sprinkler - 4 Pack](#) \$51.99 List Price ~~\$97.47~~

[4252GZPK - Rotor Nozzle Trim for 42SA+, 52SA & 5000+ Rotors](#) \$2.99 List Price ~~\$9.91~~

[32SA/4PK - 32SA Simple Adjust Series Closed-Cone 1/2" Inlet Gear Drive Rotor Sprinkler - 4 Pack](#) \$53.99 List Price ~~\$95.79~~

[3252GZPK - 32SA Rotor Nozzle Trim](#) \$2.82

[55T400in - 4-Station Indoor SST "Simple to Set" Irrigation Timer](#) \$69.99 List Price ~~\$125.00~~

[Add All to Cart](#) Total price \$194.77



Chat with us



[Home](#) > 5000S+PCSR - 5000 Series Shrub Rotor with PRS Pressure Regulation and SAM Check Valve

5000S+PCSR - 5000 Series Shrub Rotor with PRS Pressure Regulation and SAM Check Valve

★★★★★ 1 Review [Ask a question](#)

\$30.00

~~Hot Price \$37.50~~

IN STOCK
SKU#: Y6555

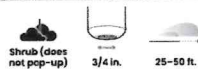
Qty [Add to Cart](#)

[ADD TO WISH LIST](#)

[ADD TO COMPARE](#)

- 5000 Series Shrub Rotor with SAM Check Valve, ideal for watering shrubs and hillsides
- **NOTE: Shrub rotors do not pop up --- mount above ground on a 3/4" fixed threaded riser**
- Includes locking screw to fasten shrub rotor to the riser and Secure Ribs™ to assist in staking.
- Heavy-duty cover assembly for extra durability
- Top-adjust arc adjustment requiring only a flat-blade screwdriver
- 40 - 360° arc rotation and reversing full circle rotation in one
- Radius adjustment screw allows up to 25% radius reduction without changing nozzles
- Rain Curtain™ Nozzles
- Faster maintenance with a new self-cleaning arc adjustment screw
- Slip clutch mechanism for quick adjustment on installation
- Additional O-rings and seals for extra protection in "gritty" water
- Seal-A-Matic (SAM) check valve holds up to 7 feet (2.1m) of elevation change to prevent puddling and erosion caused by low head drainage
- Pressure Regulating Stem (PRS) which regulates pressure at the head, assuring optimum performance

Save
20%



Details

Relax with the knowledge your landscape is being watered by reliable 5000 Series Rotors and industry-leading Rain Curtain Nozzle Technology. Rain Bird® 5000 Series Shrub Rotors are ideal for medium to large-size shrub areas and hillsides and evenly distribute water from 25 to 50 feet.

Outstanding Results

Superior Distribution Uniformity. 5000 Series Rotors with Rain Curtain Technology are engineered to deliver a uniform spray pattern, giving you a consistently green lawn throughout.

Superior Wind Resistance

The larger water droplets produced by Rain Curtain technology prevent misting and airborne evaporation so the right amount of water is delivered to the right place, saving you water and money.

Superior Close-In Watering

Gentle close-in watering eliminates dry spots around the rotor, prevents seed washout and allows plants to grow healthy with no matting or bending.

More Information



[Chat with Us](#)



200PESB - 2 in. Inlet Inline Plastic Industrial Irrigation Valve

☆☆☆☆ Write a review 1 Questions 11 Answers
\$344.75

Home > 200PESB - 2 in. Inlet Inline Plastic Industrial Irrigation Valve

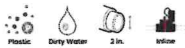
IN570C
SKU#: 8352

Qty < 1 > Add to Cart

ADD TO WISHLIST

ADD TO COMPARE

- 2 in. (50/60) plastic industrial irrigation valve
- Durable glass-filled nylon construction with fabric-reinforced rubber diaphragm for long life and reliable performance
- Globe configuration
- Normally closed, forward flow design
- Slow closing to prevent water hammer and subsequent system damage
- Low flow capability for a wide range of applications
- One-piece solenoid design with captured plunger and spring for easy servicing; prevents loss of parts during field service
- Flow control handle adjusts water flows as needed
- * Solenoid handle is not included *



Details

Valve Information

Model	200PESB
Active Size	2 in.
Active Type	Inline
Material	Plastic
Active Inlet/Outlet Configuration	NPT Female x NPT Female Threaded
Active Options	Dirty Water
Active Series	PES/PESB
Operating Temperature	Up to 150° F (50° C)
Dimensions	8 1/2" x 4" x 4" (8,8 cm) x (10,2 cm) x (10,2 cm)
Electrical Specifications	24 VAC 50/60 Hz (cycles per second) solenoid Inrush current: 0.34A (8.8VA) Holding current: 0.14A (3.42VA) Coil resistance: 30-39 Ohms
Flow Range	Flow without PES-D option: 0.25 to 200 GPM (0,08 to 45 m3/h; 0,02 to 12,60 l/s) Flow with PES-D option: 5 to 200 GPM (14 to 45 m3/h; 0,22 to 12,60 l/s)
Operating Pressure	20 to 200 psi (1,4 to 13,8 bar)

Frequently Bought Together



This item: 200PESB - 2 in. Inlet Inline Plastic Industrial Irrigation Valve \$344.75

- ✓ SOLAS504 - Solenoid Repair Kit for PES, PEA, FFB-CP, BFC/BFS and 60 Valves \$37.80 list-price \$59.50
- ✓ 20PESB504 - 200 PESB Valve Replacement Diaphragm Assembly and Bonnet Assembly \$22.80 list-price \$39.40
- ✓ F4PC - Falcon 6504 Rotor Pop-Up Sprinkler - Part-Circle Pattern Nozzle \$70.00
- ✓ A6-S - Max-Flow Pop-Up 1/2" or 3/4" Inlet Impact Rotor Sprinkler with Blue Nozzle \$55 \$21.99 list-price \$45.99
- ✓ ET/TK - Irrigator Installation Tool \$9.99 list-price \$29.99

Add All to Cart Total price \$404.59



ENGLISH EN ES FR

Wi-Fi Smart Controller User Manual

Feature	Description
Maximum zones	8
Automatic programs	4
Start times per program	At least 1
Custom run days	Yes
Master valve control	Yes
Rain delay	Yes
Rain/freeze sensor control	Yes
Seasonal adjust	Yes
Manual zone run	Yes
Manual program run	Yes
Manual test all zones	Yes
Zone advance	Yes
Built-in WiFi	Yes
AP Hotspot	Yes

Installation

If You're Replacing an Existing Controller

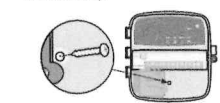
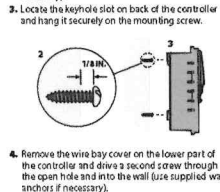
- Take a photo of the wiring details, which will be useful for reference when installing the new controller.
- Unplug the power cord from the AC power outlet and disconnect wires from the controller.

Mount New Controller

- Unless installing with custom wiring, choose a mounting location on a wall within six feet of an AC power outlet and at least 15 feet away from major appliances or air conditioners.

WARNING
Install the controller with the power supply cord not side extending downwards to avoid ingress of water.

- Drive a mounting screw into the wall, leaving an 1/8-inch gap between the screw head and the wall surface (use supplied wall anchors if necessary).
- Locate the keyhole slot on back of the controller and hang it securely on the mounting screw.



Connect Valve Wiring

- With the wire bay cover removed, route all field wires through the opening at the bottom of the controller.

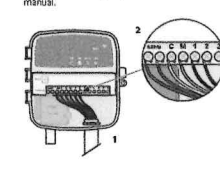
WARNING
DO NOT route valve wires through the same opening as power wires.

- Connect one wire from each valve to one of the numbered zone terminals (1-8) on the controller.

NOTICE
DO NOT connect more than one valve to the same zone terminal (1-8).

- Connect a field common wire to the common terminal (C) on the controller.

- For connection of optional accessories (rain or rain/freeze sensor, master valve, pump start relay), refer to the appropriate section within this manual.



Connect Custom Wiring (optional)

WARNING

- Ensure that AC power is disconnected before replacing wiring.
- The strain-relief bar must be resecured for safety and proper function.
- When using field wiring to main supply, the installation must incorporate a disconnection device.
- DO NOT supply power until you have completed and checked all wiring connections.
- DO NOT attempt to load two or more controllers together using a single transformer.

- If desired, the provided power cord can be removed and replaced with custom wiring.

- Remove the wire bay cover on the lower part of the controller.

- Locate the transformer box in the left-hand corner of the wire bay and unscrew the wiring compartment cover.

- Unscrew the wire nuts connecting the AC power cord and the transformer wires. Remove the power cord wires from the transformer box.

- Remove the factory installed power cord by loosening the two screws securing the metal strain-relief box.

- Route the three wires from an external power source into the wiring compartment.

- Connect the external power supply wiring using the wire nuts and secure the metal strain relief bar by tightening the two screws.

Power Wiring Connections 120 VAC

- Black supply wire (v) to the black transformer wire.
- White supply wire (neutral) to white transformer wire.
- Green supply wire (ground) to the green transformer wire.

Connect Rain/Freeze Sensor (optional)

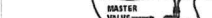
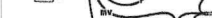
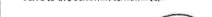
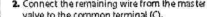
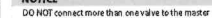
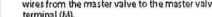
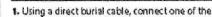
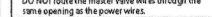
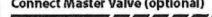
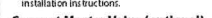
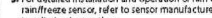
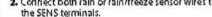
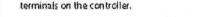
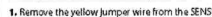
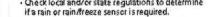
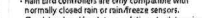
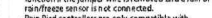
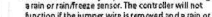
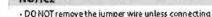
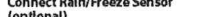
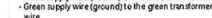
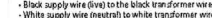
NOTICE

- DO NOT remove the jumper wire unless connecting a rain or rain/freeze sensor. The controller will not function if the jumper wire is removed and a rain or rain/freeze sensor is not connected.

- Rain Bird controllers are only compatible with normally closed rain or rain/freeze sensors.

- Check local and/or state regulations to determine if a rain or rain/freeze sensor is required.

- Remove the yellow jumper wire from the SENS terminals on the controller.



Connect Pump Start Relay (optional)

WARNING

- DO NOT route the pump start relay wires through the same opening as the power wires.

NOTICE

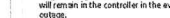
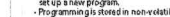
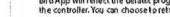
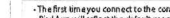
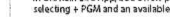
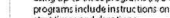
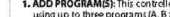
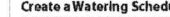
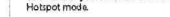
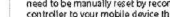
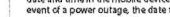
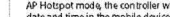
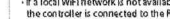
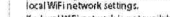
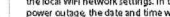
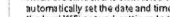
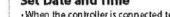
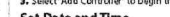
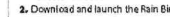
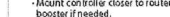
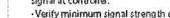
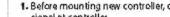
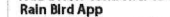
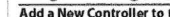
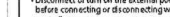
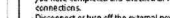
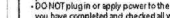
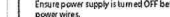
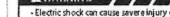
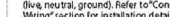
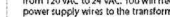
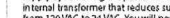
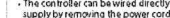
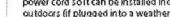
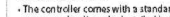
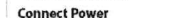
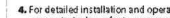
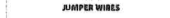
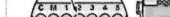
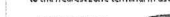
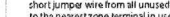
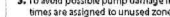
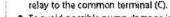
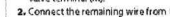
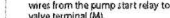
- A pump start relay connects to the controller in the same way as a master valve, but connects differently at the water source.

- This controller DOES NOT provide power for a pump. A relay must be wired according to pump manufacturer's installation instructions.

- Using a direct burial cable, connect one of the wires from the pump start relay to the master valve terminal (M).

- Connect the remaining wire from the pump start relay to the common terminal (C).

- To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.



- SET PROGRAM START TIMES:** This controller is scheduled using up to four independent start times per program. The start time(s) is the time of day at which the program will begin. Each start time will run every zone for its scheduled duration within that program.
 - In the Rain Bird App, add a program start time by selecting the **Q** icon.
 - Set the zone(s) and watering duration(s) associated with the start time by selecting the **Q** icon.

NOTICE
Start times apply to the entire program, not individual zones. Depending on landscaping needs, multiple start times may be assigned for that program. Once the start time is set, the controller begins the watering cycle with the first zone; the other zones in the program follow in sequence.

- SET PROGRAM RUN DAYS:** Run days are the specific days of the week in which watering occurs. In the Rain Bird App, set the watering frequency by selecting **Od** (days of the week). Even (days of the week), Custom or Cyclic (specific intervals).

NOTICE
Watering days apply to the entire program, not the individual zones.

- SEASONAL ADJUST** changes the watering duration (as a percent) for all zones associated with run times in an individual program. This may be manually adjusted in the Rain Bird App using the slider in the program settings.

NOTICE
The controller must be connected to WiFi to make automatic adjustments.

- An adjustment value of 100% is representative of irrigation during the average hottest time of year, so even if you're experiencing warm weather on a summer day, you may not see an adjustment above 100%.

- RAIN DELAY:** In the Rain Bird App, manually turn off automatic watering for a fixed number of days when it rains without a rain sensor.

- An adjustment value of 100% is representative of irrigation during the average hottest time of year, so even if you're experiencing warm weather on a summer day, you may not see an adjustment above 100%.

- SEASONAL ADJUST** changes the watering duration (as a percent) for all zones associated with run times in an individual program. This may be manually adjusted in the Rain Bird App using the slider in the program settings.

NOTICE
The controller must be connected to WiFi to make automatic adjustments.

- An adjustment value of 100% is representative of irrigation during the average hottest time of year, so even if you're experiencing warm weather on a summer day, you may not see an adjustment above 100%.

- RAIN DELAY:** In the Rain Bird App, manually turn off automatic watering for a fixed number of days when it rains without a rain sensor.

- An adjustment value of 100% is representative of irrigation during the average hottest time of year, so even if you're experiencing warm weather on a summer day, you may not see an adjustment above 100%.

- SEASONAL ADJUST** changes the watering duration (as a percent) for all zones associated with run times in an individual program. This may be manually adjusted in the Rain Bird App using the slider in the program settings.

NOTICE
The controller must be connected to WiFi to make automatic adjustments.

- An adjustment value of 100% is representative of irrigation during the average hottest time of year, so even if you're experiencing warm weather on a summer day, you may not see an adjustment above 100%.

- RAIN DELAY:** In the Rain Bird App, manually turn off automatic watering for a fixed number of days when it rains without a rain sensor.

- An adjustment value of 100% is representative of irrigation during the average hottest time of year, so even if you're experiencing warm weather on a summer day, you may not see an adjustment above 100%.

- SEASONAL ADJUST** changes the watering duration (as a percent) for all zones associated with run times in an individual program. This may be manually adjusted in the Rain Bird App using the slider in the program settings.

NOTICE
The controller must be connected to WiFi to make automatic adjustments.

- An adjustment value of 100% is representative of irrigation during the average hottest time of year, so even if you're experiencing warm weather on a summer day, you may not see an adjustment above 100%.

- RAIN DELAY:** In the Rain Bird App, manually turn off automatic watering for a fixed number of days when it rains without a rain sensor.

- An adjustment value of 100% is representative of irrigation during the average hottest time of year, so even if you're experiencing warm weather on a summer day, you may not see an adjustment above 100%.

- SEASONAL ADJUST** changes the watering duration (as a percent) for all zones associated with run times in an individual program. This may be manually adjusted in the Rain Bird App using the slider in the program settings.

NOTICE
The controller must be connected to WiFi to make automatic adjustments.

- An adjustment value of 100% is representative of irrigation during the average hottest time of year, so even if you're experiencing warm weather on a summer day, you may not see an adjustment above 100%.

- RAIN DELAY:** In the Rain Bird App, manually turn off automatic watering for a fixed number of days when it rains without a rain sensor.

- An adjustment value of 100% is representative of irrigation during the average hottest time of year, so even if you're experiencing warm weather on a summer day, you may not see an adjustment above 100%.

- SEASONAL ADJUST** changes the watering duration (as a percent) for all zones associated with run times in an individual program. This may be manually adjusted in the Rain Bird App using the slider in the program settings.

Manual del Usuario del Controlador Inteligente WiFi

Característica	Descripción
Máximo de zonas	8
Programas automáticos	3
Horarios de inicio por programa	4
Días de exposición por sensorizados	SI
Control de válvula maestra	SI
Retardador por lluvia	SI
Control de sensor de lluvia/congelamiento	SI
Ajuste estacional	SI
Operación manual de zona	SI
Operación manual de programa	SI
Prueba manual de todas las zonas	SI
Avance de zona	SI
WiFi incorporado	SI
Punto de acceso inalámbrico	SI

Instalación

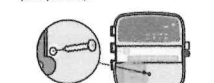
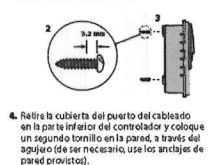
Si está reemplazando un controlador existente

1. Tome una fotografía de las relaciones del cableado, lo cual será útil para usar como referencia cuando instale el controlador nuevo.
2. Desenchufe el cable de alimentación del tomacorriente de CA y desconecte los cables del controlador.

Coloque el controlador nuevo
 Coloque la instalación sea con cableado a la medida, ella colocará en un lugar de la pared dentro de los 1.8 m de distancia del anclaje y por lo menos 4.5 m de distancia de electrodomésticos o equipos de aire acondicionado grandes.

ADVERTENCIA
 Instale el controlador con la salida del cable eléctrico apuntando hacia abajo, si evita el riesgo de agua.

2. Coloque un tornillo de montaje en la pared, dejando un espacio de 3.2 mm entre la cabeza del tornillo y la superficie de la pared (de ser necesario, use los anclajes de pared provistos).
3. Ubique la ranura de montaje en la parte trasera del controlador y cúlelo de manera segura sobre el tornillo de montaje.



Conecte el cableado de la válvula

1. Después de retirar el puerto del cableado, para todos los cables de campo por la abertura en la parte inferior del controlador.

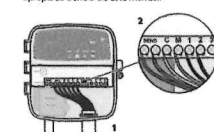
ADVERTENCIA
 NO pase los cables de la válvula por la misma abertura que los cables de energía.

2. Conecte cada cable de cada válvula en cada uno de los terminales de zona numerados (1-8) en el controlador.

AVISO
 NO conecte más de una válvula en el mismo terminal de zona (1-8).

3. Conecte un cable común de campo al terminal común (C) en el controlador.

Para conectar accesorios opcionales (sensor de lluvia o lluvia/congelamiento, válvula maestra, relé de inicio de bomba), consulte la sección apropiada dentro de este manual.



Conecte cableado a la medida (opcional)

- ADVERTENCIA**
- Asigne a cada cable de alimentación de corriente está desconectado antes de reemplazar el cableado.
 - El alivador de tensión debe volver a asegurarse para un funcionamiento seguro y adecuado.
 - Cuando se usa una conexión directa a la alimentación eléctrica, la instalación debe incorporar un dispositivo de desconexión.
 - NO exponga hasta que haya completamente verificado todos los conexiones del cableado.
 - Mantenga en cuenta los cables de controladores usando un solo transformador.

1. Si lo desea, puede retirar el cable de cable de alimentación provisto y reemplazarlo con un cable a medida.
2. Retire la cubierta del puerto del cableado en la parte inferior del controlador.
3. Coloque la caja del transformador en la esquina izquierda del puerto del cableado y desmonte la cubierta del compartimento del cableado.
4. Desmonte las tuercas de cable que conectan el cable de alimentación de corriente y los cables del transformador. Retire los cables de corriente de la caja del transformador.
5. Retire el cable de alimentación instalado de fábrica atornillando los dos tornillos que fijan el alivador de tensión de mano.
6. Pase los tres cables de una fuente de corriente externa hasta el compartimento del cableado.
7. Conecte los cables de suministro de corriente externa usando los lazos de cable y luego vuelva a asegurar el alivador de tensión de metal ajustando los dos tornillos.

Conexiones de cableado de corriente 120V

- Cable de suministro negro (fase) para el cable de transformador negro
- Cable de suministro blanco (neutro) para el cable de transformador blanco
- Cable de suministro verde (tierra) para el cable de transformador verde

Conecte el sensor de lluvia/congelamiento (opcional)

- AVISO**
- No retire el cable sensor a menos que conecte un sensor de lluvia o lluvia/congelamiento. El controlador no funcionará si se retira el cable para corriente y no hay un sensor conectado.
 - Los controladores Rain Bird solo son compatibles con sensores de lluvia normalizados cerrados.
 - Revise los dispositivos locales y/o estatales para determinar si se requiere un sensor de lluvia o lluvia/congelamiento.

ADVERTENCIA
 Retire el cable positivo amarillo de los terminales SENS en el controlador.

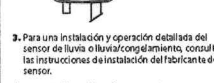
1. Retire el cable positivo amarillo de los terminales SENS en el controlador.



2. Conecte ambos cables del sensor de lluvia o lluvia/congelamiento a los terminales SENS.



3. Para una instalación y operación detallada del sensor de lluvia o lluvia/congelamiento, consulte las instrucciones de instalación del fabricante del sensor.



Conecte la válvula maestra (opcional)

- ADVERTENCIA**
- NO pase los cables de la válvula maestra por la misma abertura que los cables de energía.

1. Con un cable de enterramiento directo, conecte uno de los cables de la válvula maestra al terminal de la válvula maestra (M).

AVISO
 NO conecte más de una válvula en el terminal de la zona maestra (M).

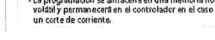
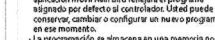
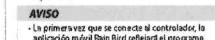
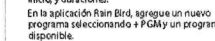
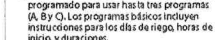
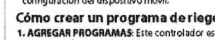
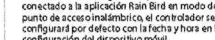
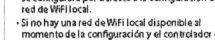
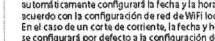
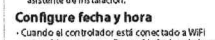
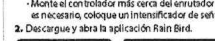
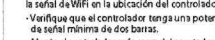
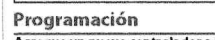
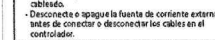
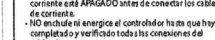
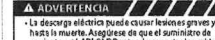
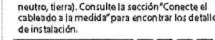
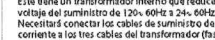
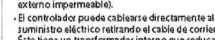
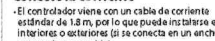
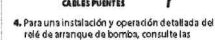
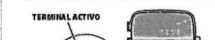
2. Conecte el cable restante de la válvula maestra al terminal común (C).



Conecte el relé de arranque de bomba (opcional)

- ADVERTENCIA**
- NO pase los cables del relé de arranque de bomba por la misma abertura de los cables de corriente.
- AVISO**
- Un relé de arranque de bomba se conecta al relé de arranque de la misma forma que una válvula maestra pero se conecta a través de la fuente de agua.
 - El controlador HO proporciona corriente para una bomba. Dado cableado un relé de acuerdo con las instrucciones de instalación del fabricante de la bomba.

1. Con un cable de enterramiento directo, conecte uno de los cables de la válvula maestra al terminal de la válvula maestra (M).
2. Conecte el cable restante del relé de arranque de bomba en el terminal común (C).
3. Para evitar posible daño en la bomba, en el caso de que se asignen horas de operación en zonas no utilizadas, conecte un cable puente corto desde todos los terminales de zona no utilizados hasta el terminal de zona en uso más cercano.



2. CONFIGURE LOS HORARIOS DE INICIO DEL PROGRAMA

Este controlador está programado para utilizar hasta cuatro programas de inicio independientes por programa. Los horarios de inicio se la hora del día en la que comenzará el programa. Cada hora de inicio operará todos los zonas por la duración programada dentro de ese programa.

En la aplicación Rain Bird, agregue un horario de inicio de cada programa a través de la aplicación. Configure las zonas y duraciones de riego asociadas con el horario de inicio seleccionando el icono (C).

AVISO
 Los horarios de inicio aplican al programa completo, no a zonas individuales. Dependiendo de las necesidades del paisaje, pueden asignarse varios horarios de inicio para ese programa. Un vist que se configura el horario de inicio, el controlador comienza el ciclo.

3. CONFIGURE LOS DÍAS DE OPERACIÓN DEL PROGRAMA
 Los días de operación con los días específicos de la semana en que ocurre el riego. Configure la frecuencia de riego al seleccionar Impedir (días de la semana). Pasa (días de la semana). Personalizado o Ciclo (intervalos de tiempo específicos).

AVISO
 Los días de riego aplican a todo el programa, no a las zonas individuales.

4. EL AJUSTE ESTACIONAL cambia la duración de riego (como porcentaje) para todas las zonas asociadas con los horarios de exposición en un programa individual. Esto puede ajustarse manualmente en la aplicación Rain Bird usando el deslizador en la configuración del programa.

ADVERTENCIA
 El controlador debe estar conectado a WiFi para hacer ajustes automáticos.

Un valor de ajuste del 100% representa la irrigación durante el tiempo estándar de riego. Si el ajuste es menor de 100%, el controlador reducirá la duración de riego. Si el ajuste es mayor de 100%, el controlador aumentará la duración de riego.

5. RETARDO POR LLUVIA En la aplicación Rain Bird, apague manualmente el riego automático durante una cantidad fija de días cuando llueva, incluso sin un sensor de lluvia.

• Suspensión de riego por hasta 14 días seleccionando el icono (C) en la configuración del controlador.

• Deslice la barra hasta la cantidad de días de suspensión de riego automático.

• Seleccione "Grabar" para guardar la configuración.

AVISO
 La cantidad máxima de días para retener el riego es 14. Después de la expiración de los días, se reanuda la irrigación automática de acuerdo con el horario programado.

Riego manual EN EL CONTROLADOR

- Oprima el botón (C) para iniciar el riego manual.
- Por defecto, cada zona operará durante 10 minutos; usted puede elegir mantener o cambiar la duración del riego en la aplicación Rain Bird.
- La luz LED parpadeará para indicar que la zona que está activa.

- Oprima el botón (C) para avanzar a la siguiente zona.
- Oprima el botón (C) para detener el riego manual en el controlador.

EN LA APLICACIÓN RAIN BIRD

- Seleccione el icono (C) y seleccione preferencias de riego manuales para iniciar el riego manual.
- Oprima el botón (C) para avanzar a la siguiente zona.
- Oprima el botón (C) para detener el riego manual en el controlador.

Riego automático EN EL CONTROLADOR

AVISO
 Cuando opere en modo automático, cada programa operará de acuerdo con los horarios de inicio, y como los días y horarios de operación de cada zona en segundos, hasta que se haya realizado el tiempo programado.

- Oprima (C) para iniciar el riego automático de acuerdo con los programas asignados.
- La luz LED parpadeará para indicar que la zona que está activa.
- Oprima el botón (C) para avanzar a la siguiente zona.
- Oprima el botón (C) para detener el riego automático en el controlador.

EN LA APLICACIÓN RAIN BIRD

- Seleccione el icono (C) y seleccione preferencias de riego manuales para iniciar el riego manual.
- Oprima el botón (C) para avanzar a la siguiente zona.
- Oprima el botón (C) para detener el riego automático en el controlador.

ADVERTENCIA
 El controlador debe estar conectado a WiFi para hacer ajustes automáticos.

5. RETARDO POR LLUVIA En la aplicación Rain Bird, apague manualmente el riego automático durante una cantidad fija de días cuando llueva, incluso sin un sensor de lluvia.

• Suspensión de riego por hasta 14 días seleccionando el icono (C) en la configuración del controlador.

• Deslice la barra hasta la cantidad de días de suspensión de riego automático.

• Seleccione "Grabar" para guardar la configuración.

AVISO
 La cantidad máxima de días para retener el riego es 14. Después de la expiración de los días, se reanuda la irrigación automática de acuerdo con el horario programado.

ADVERTENCIA
 El controlador debe estar conectado a WiFi para hacer ajustes automáticos.

Un valor de ajuste del 100% representa la irrigación durante el tiempo estándar de riego. Si el ajuste es menor de 100%, el controlador reducirá la duración de riego. Si el ajuste es mayor de 100%, el controlador aumentará la duración de riego.

• Suspensión de riego por hasta 14 días seleccionando el icono (C) en la configuración del controlador.

Manuel d'utilisation du programmeur intelligent WiFi

Zonification	Description
Caractéristiques	8
Programmes automatiques	3
Heures de début par programme	4
Jours d'exposition par zone	OUI
Contrôle de la vanne principale	OUI
Décalage de phase	OUI
Contrôle du capteur de pluie/gel	OUI
Ajustement saisonnier	OUI
Arrêtage manuel de zone	OUI
Test manuel de toutes les zones	OUI
Avance de zone	OUI
WiFi intégré	OUI
Point d'accès AP	OUI

Installation

Si vous remplacez un programmeur existant

1. Prenez une photo des détails de câblage, qui seront utiles pour référence lors de l'installation du nouveau programmeur.
2. Débranchez le cordon d'alimentation de la prise secteur et déconnectez les fils du transformateur.

Monter le nouveau programmeur

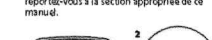
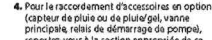
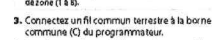
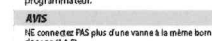
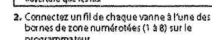
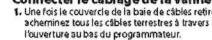
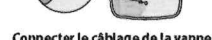
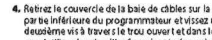
1. À moins d'installer avec un câblage personnalisé, choisissez un emplacement de montage sur un mur à moins de 1,8 m d'une prise de courant alternatif et à au moins 4,5 m à l'écart de gros appareils électroménagers ou de réfrigérateur.

• Choisissez la fréquence de riego al seleccionar Impedir (días de la semana). Pasa (días de la semana). Personalizado o Ciclo (intervalos de tiempo específicos).

ADVERTENCIA
 Instale el controlador con la salida del cable eléctrico hacia abajo, para evitar el riesgo de agua.

2. Serrez une vis de montage dans le mur en laissant un espace de 3,2 mm entre la tête de la vis et la surface du mur (utiliser les chevilles fournies si nécessaire).

• Localisez la fonte en tout de serrure à l'arrière du programmeur et accrochez-le solidement sur la vis de montage.



Connecter le câblage personnalisé (en option)

- ADVERTISSEMENT**
- Assurez-vous que l'alimentation CA est débranchée avant de manipuler le câblage.
 - La terre sécurisée doit être reliée pour un fonctionnement sûr et correct.
 - Lors de l'installation d'un câblage Rain Bird à l'installation principale, l'installation doit intégrer un dispositif de déconnexion.
 - NE mettez PAS sous tension tant que vous n'avez pas terminé et vérifié toutes les connexions de câblage.
 - Nevez PAS de filer deux programmes ou plus à l'aide d'un seul transformateur.

1. Si vous le souhaitez, le cordon d'alimentation fourni peut être retiré et remplacé par un câblage personnalisé.
2. Retirez le couvercle de la baie de câblage sur la partie inférieure du programmeur.
3. Répérez le boîtier du transformateur dans le cougrouche de la baie de câblage et dévissez le couvercle du compartiment de câblage.
4. Dévissez les serre-fils reliant le cordon d'alimentation CA et les fils du transformateur. Retirez les fils du cordon d'alimentation du boîtier du transformateur.
5. Retirez le cordon d'alimentation installé en usine en desserrant les trois vis fixant la barre métallique anti-tension.
6. Accrochez les deux fils d'une source d'alimentation externe dans le compartiment de câblage.

• Connectez les câbles d'alimentation externe à l'aide des serre-fils, puis fixez à nouveau la barre anti-tension métallique en serrant les vis.

Connexions du câblage d'alimentation 120 VCA

- Fil d'alimentation noir (phase) au fil noir du transformateur.
- Fil d'alimentation blanc au fil blanc du transformateur.
- Fil d'alimentation vert (terre) au fil vert du transformateur.

Brancher l'alimentation

Le programmeur actif avec un cordon d'alimentation type 1,8 m qui peut être installé à l'intérieur ou à l'extérieur (il est branché sur une prise externe branchée).

Le programmeur peut être branché directement à une source d'alimentation en reliant le cordon d'alimentation. Il possède un transformateur interne qui réduit la tension d'alimentation de 120 VCA à 24 VDC. Vous devez raccorder les fils d'alimentation aux trois fils du transformateur (phase, neutre, terre). Reportez-vous à la section « Connexion du câblage personnalisé » pour les détails sur l'installation.

ADVERTISSEMENT

- Un choc électrique peut entraîner des blessures graves ou la mort. Assurez-vous que l'alimentation est débranchée avant de brancher les câbles d'alimentation.
- NE branchez PAS ou NE retirez PAS sous tension tant que vous n'avez pas terminé et vérifié toutes les connexions de câblage.
- Déconnectez ou coupez la source d'alimentation externe avant de brancher ou de débrancher les fils du programmeur.

AVIS

- Ne retirez PAS le fil de recouvrement à moins de connecter un capteur de pluie ou de pluie/gel.
- Le programmeur Rain Bird ne sera compatible qu'avec les capteurs de pluie normalisés.
- Consultez les réglementations locales et/ou nationales pour déterminer si un capteur de pluie ou de pluie/gel est nécessaire.

AVIS

- Ne retirez PAS le fil de recouvrement à moins de connecter un capteur de pluie ou de pluie/gel.
- Le programmeur Rain Bird ne sera compatible qu'avec les capteurs de pluie normalisés.
- Consultez les réglementations locales et/ou nationales pour déterminer si un capteur de pluie ou de pluie/gel est nécessaire.

AVIS

- Ne retirez PAS le fil de recouvrement à moins de connecter un capteur de pluie ou de pluie/gel.
- Le programmeur Rain Bird ne sera compatible qu'avec les capteurs de pluie normalisés.
- Consultez les réglementations locales et/ou nationales pour déterminer si un capteur de pluie ou de pluie/gel est nécessaire.

AVIS

- Ne retirez PAS le fil de recouvrement à moins de connecter un capteur de pluie ou de pluie/gel.
- Le programmeur Rain Bird ne sera compatible qu'avec les capteurs de pluie normalisés.
- Consultez les réglementations locales et/ou nationales pour déterminer si un capteur de pluie ou de pluie/gel est nécessaire.

AVIS

- Ne retirez PAS le fil de recouvrement à moins de connecter un capteur de pluie ou de pluie/gel.
- Le programmeur Rain Bird ne sera compatible qu'avec les capteurs de pluie normalisés.
- Consultez les réglementations locales et/ou nationales pour déterminer si un capteur de pluie ou de pluie/gel est nécessaire.

AVIS

- Ne retirez PAS le fil de recouvrement à moins de connecter un capteur de pluie ou de pluie/gel.
- Le programmeur Rain Bird ne sera compatible qu'avec les capteurs de pluie normalisés.
- Consultez les réglementations locales et/ou nationales pour déterminer si un capteur de pluie ou de pluie/gel est nécessaire.

AVIS

- Ne

SURFACE WATER APPLICATION FOR BENEFICIAL WATER USE PERMIT: KOOTENAI RIVER
HAFFERMAN AND MINOR
149 Margaret Lane Libby, Montana
Geocode 56-4283-25-4-01-19-0000 Section 25 and Section 36, Township 31 North Range 31 West

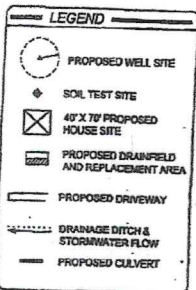
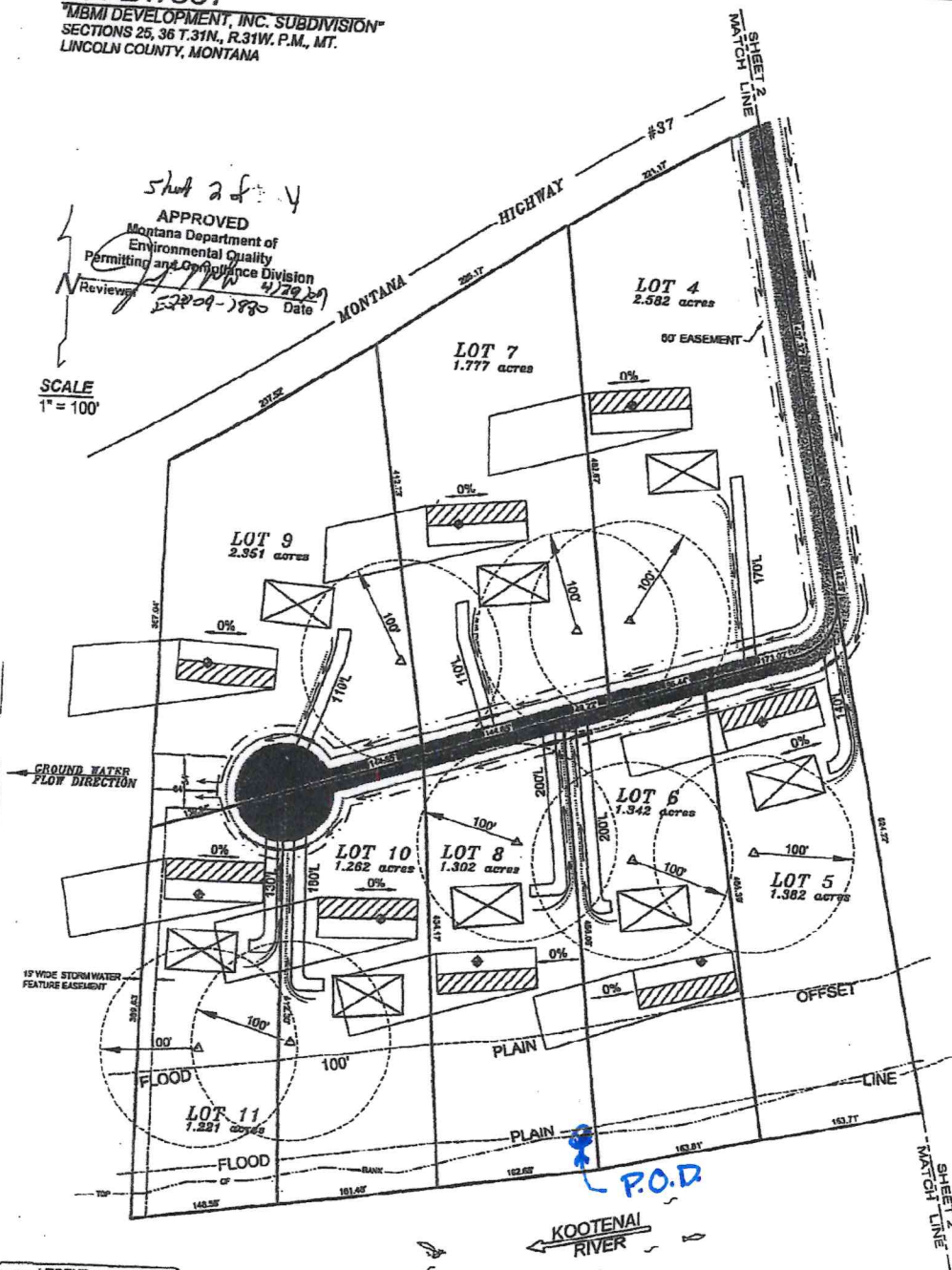
DNRC Form 600 Site Map

LOT LAYOUT

"MBMI DEVELOPMENT, INC. SUBDIVISION"
SECTIONS 25, 36 T.31N., R.31W. P.M., MT.
LINCOLN COUNTY, MONTANA

Sheet 2 of 4
APPROVED
Montana Department of
Environmental Quality
Permitting and Compliance Division
Review 4/29/89 Date
52809-1890

SCALE
1" = 100'

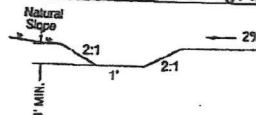


NOTES

REFER TO APPROVED ENGINEERED ROAD DESIGN AND STORM WATER DRAINAGE PLAN BY 48" NORTH CIVIL ENGINEERING SERVICES FOR DESIGN DETAILS.

THERE ARE NO WELLS OR DRAINFIELDS WITHIN 100' OF PROPERTY BOUNDARY. HOMEOWNERS ARE RESPONSIBLE FOR THE MAINTENANCE OF STORMWATER DRAINAGE FEATURES ON THEIR OWN LOTS. THE HOMEOWNERS ASSOCIATION IS RESPONSIBLE FOR THE MAINTENANCE OF STORMWATER FEATURES SHARED BY THE HOMEOWNERS.

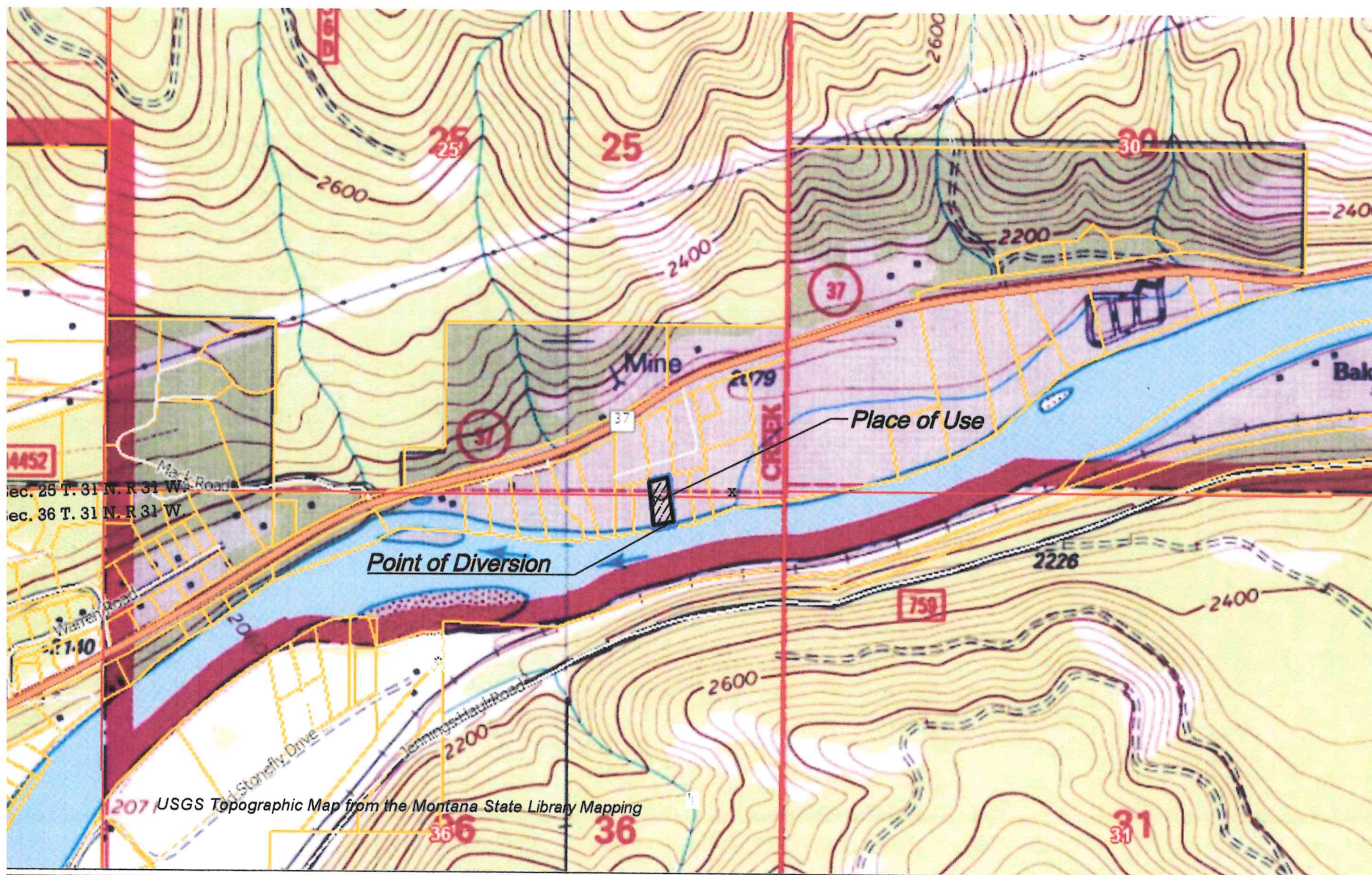
Driveway Ditch Diagram



KOOTENAI
SURVEYORS, INC.

PREPARED BY: JUDY K. PETERSON

NORTH CAROLINA STATE UNIVERSITY



LOT 8 MBMI SUBDIVISION
IRRIGATION POD and POU

HAFFERMAN - MINER

© 2007 The Authors
Journal compilation © 2007 Blackwell Publishing Ltd



HAFFERMAN ENGINEERING, INC.
PO Box 1620
Libby, Montana 59903
PHONE: (406) 232-0404
EMAIL: kurt@libby.haffermaneng.com
OIRLITE: <http://www.oirlite.com>

COPYRIGHT © 2008 HAFFERMAN
ENGINEERING, INC.
ALL DRAWN AND WRITTEN INFORMATION
HEREIN AND HEREON IS UNCLASSIFIED
AND REMAINS THE PROPERTY OF HAFFERMAN
ENGINEERING, INC. AND AS SUCH SHALL
NOT BE DUPLICATED IN ANY FORM,
DISCLOSED OR OTHERWISE USED
WITHOUT THE EXPRESS WRITTEN
CONSENT OF HAFFERMAN
ENGINEERING, INC.

DRAWING TITLE:	
LEGAL LOCATIONS POD and POD USGS Topographic Map	
SCALE:	
DATE:	
PROJECT NO:	
DRAWING NUMBER:	

SURFACE WATER APPLICATION FOR BENEFICIAL WATER USE PERMIT: KOOTENAI RIVER
HAFFERMAN AND MINOR
149 Margaret Lane Libby, Montana
Geocode 56-4283-25-4-01-19-0000 Section 25 and Section 36, Township 31 North Range 31 West

DNRC Form 600: 2.e.i. Technical Analysis

THE MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

GOVERNOR GREG GIANFORTE



DNRC DIRECTOR AMANDA KASTER

Water Resources Division – Kalispell Regional Office
655 Timberwolf Pkwy, Ste. 4
Kalispell, MT 59901-1215
(406) 752-2288
DNRCKalispellWater@mt.gov

July 2, 2025

KURTIS HAFFERMAN AND KATHY MINER
PO BOX 1690
LIBBY MT 59923-5001

Subject: Completed Technical Analyses Report for Beneficial Water Use Permit Preapplication No. 76D 30170983

Dear Applicants,

As designated on the submitted Preapplication Meeting Form per §85-2-302(3)(b), MCA, the Department of Natural Resources and Conservation (Department) has completed the technical analyses for Beneficial Water Use Permit Preapplication No. 76D 30170983 based on the information provided in your Preapplication Meeting Form accepted by the Department on May 29, 2025. The technical analyses can be found in the attached report.

This Technical Analyses Report **IS:** A collection of facts that the DNRC has gathered, including content provided in the Preapplication Meeting Form materials. The Department will use these data to analyze the criteria in §85-2-311, MCA if you submit a Form 600 for the project described in the completed Preapplication Meeting Form.

This Technical Analyses Report **IS NOT:** An analysis or discussion of whether the Preapplication Meeting Form as filed meets the criteria in §85-2-311, MCA.

You have 180 days to submit the Beneficial Water Use Permit Application Form 600 considering the information provided in the technical analyses and Preapplication Meeting Form. If the Application Form is not submitted to the Kalispell Regional Office by December 29, 2025, a new preapplication meeting will be required to process the Application with expedited timelines (ARM 36.12.1302(6)(b)). If any details described in the submitted Application are changed from that of the submitted Preapplication Meeting Form, the discounted filing fee and expedited timelines will not apply (ARM 36.12.1302(6)(a)). Please note that the technical analyses will expire one year from the date of this letter (ARM 36.12.1302(8)).

Please contact me at (406) 752-2746 or Travis.Wilson@mt.gov if you have any questions about the application process.

Sincerely,

A handwritten signature in blue ink, appearing to read "Travis Wilson".

Travis Wilson
Water Resource Specialist
Kalispell Regional Office

Encl.: Surface Water Permit Technical Analyses Report for Beneficial Water Use Permit Preapplication No. 76D 30170983



DNRC.MT.GOV



Surface Water Permit Technical Analyses Report

Department of Natural Resources and Conservation (DNRC or Department)
Water Resources Division

Travis Wilson, Water Resource Specialist, Kalispell Regional Office

Application No.	76D 30170983	Proposed Point of Diversion	NWNENE S36 T31N R31W LINCOLN
Applicant	HAFFERMAN, KURTIS M. & MINER, KATHY M.		

Overview

This report analyzes data submitted by the Applicant in support of Application No. 76D 30170983. This report provides technical analyses as required under the Administrative Rules of Montana (ARM) 36.12.1303 in support of the water rights criteria assessment as required in §85-2-311, Montana Code Annotated (MCA).

This Surface Water Permit Technical Analyses Report contains the following sections:

Overview.....	1
Variances.....	2
1.0 Application Details	2
2.0 Surface Water Analysis.....	2
2.1 Source Description	2
2.2 Method of Estimation.....	3
2.3 Monthly Flow Rate and Volume.....	3
3.0 Area of Potential Impact (AOPI) Analysis	4
Review	5
References.....	5
Appendix A: Water Rights within the Area of Potential Impact.....	6



Variances

No variances were requested.

1.0 Application Details

The Applicant proposes to divert water from the Kootenai River at a point in the NWNENE of Section 36, Township 31N, Range 31W, Lincoln County, Montana. The requested period of diversion and period of use is from April 1 to October 15 at a rate of 18.0 gallons per minute (GPM) up to 0.94 acre-feet (AF) of volume for irrigation of 0.86 acres of lawn and garden. The place of use in the SWSESE of Section 25 (0.29 acres) and the NWNENE of Section 36 (0.57 acres) in Township 31N, Range 31W, Lincoln County, Montana, which is further described as Lot 8 of the MBMI Development, Inc. subdivision (Figure 1).

2.0 Surface Water Analysis

2.1 Source Description

Proposed Source of Water: Kootenai River

Proposed Source Type: Perennial

Proposed Point of Diversion (POD): NWNENE of Section 36, Township 31N, Range 31W, Lincoln County, Montana.

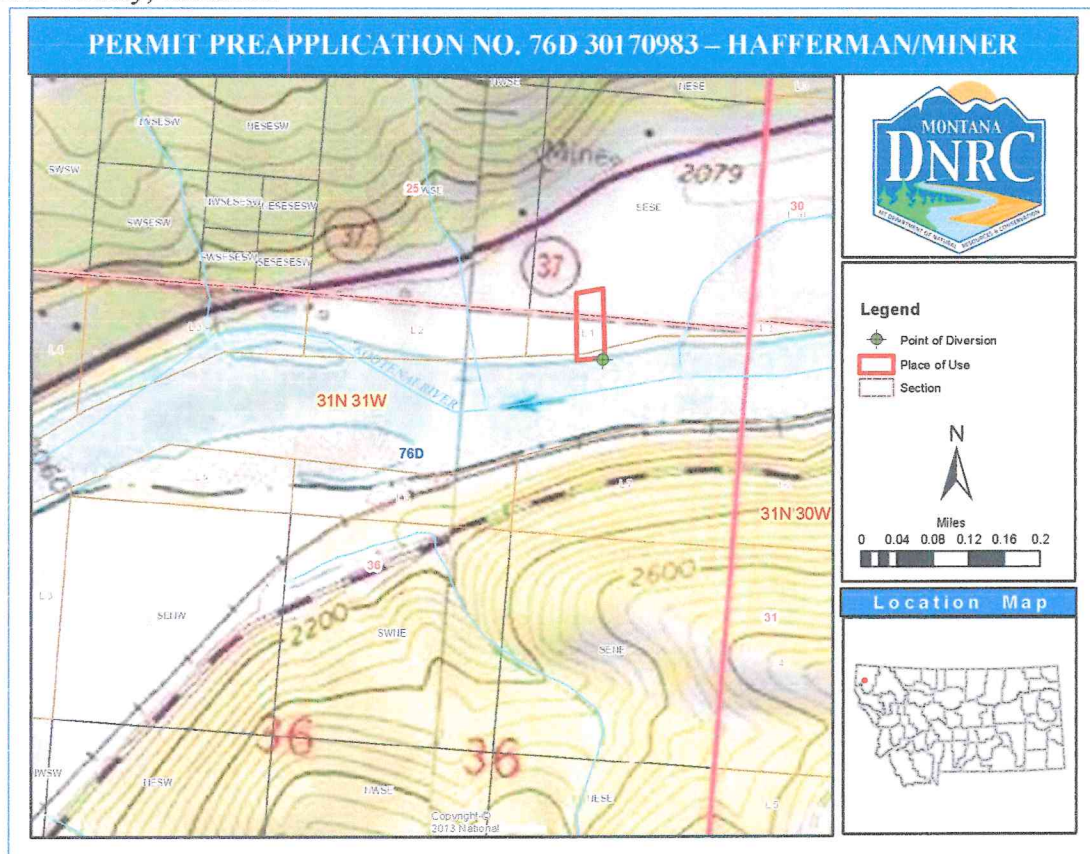


Figure 1: Map of the proposed POD on the source and proposed place of use.



2.2 Method of Estimation

The Kootenai River is a perennial stream with available measurement records.

USGS Gaging Station Name: Kootenai River below Libby Dam near Libby, MT

USGS Gaging Station Number: 12301933

Period of Record: October 1, 1971 to January 31, 2025

Why this gage is considered an appropriate data source: USGS Gaging Station No. 12301933 is located approximately 15.8 miles upstream of the proposed POD and approximately 0.7 miles downstream of Libby Dam, which largely controls the flow of this reach of the Kootenai River. The next closest gaging station on the Kootenai River is USGS Gaging Station No. 12305000 Kootenai River at Leonia, ID, which is approximately 46 miles downstream of the proposed POD.

2.3 Monthly Flow Rate and Volume

Methodology used to quantify monthly physical availability of Kootenai River water at the POD during the period of diversion and use (April 1 – October 15):

The Department calculated median of the mean monthly flow rates in cubic feet per second (CFS) for the Kootenai River using USGS Gaging Station No. 12301933 records for each month of the proposed period of diversion (Table 2, column B). Those flow rates were converted to monthly volumes in AF (Table 2, column C) using the following equation found in the DNRC Water Calculation Guide: median of the mean monthly flow in CFS $\times$ 1.98 AF/day/1.0-CFS $\times$ days per month = AF/month.

The Department calculated the monthly flow rates appropriated by existing users between USGS Gaging Station No. 12301933 and the proposed POD (Table 2, column D) by:

- i. Generating a list of existing water rights from USGS Gaging Station No. 12301933 down to the proposed POD (Table 1);
- ii. Designating uses as occurring during their recorded period of diversion; and,
- iii. Assuming that the flow rate of each existing right is continuously diverted throughout each month of its period of diversion. This assumption is necessary due to the difficulty of differentiating the distribution of appropriated volume over the period of diversion. This leads to an overestimation of legal demands on the physical volume of water. The Department finds this an appropriate measure of assessing existing rights as it protects existing water users.

Since the gage used is upstream of the proposed POD, the Department subtracted out the flow rates of the existing rights between USGS Gaging Station No. 12301933 and the proposed POD (Table 2, column D) from the median of the mean monthly gage values (Table 2, column B) to determine physically available flows and volumes at the POD (Table 2, columns E-F).



Table 1: Existing Legal Demands between the POD and USGS Gaging Station No. 12301933

Water Right Number	Purpose	Flow Rate (CFS)
76D 31188 00	IRRIGATION	0.02
76D 99744 00	IRRIGATION	1.33
76D 304 00	INDUSTRIAL	6.68
76D 42395 00	LAWN AND GARDEN	0.02
76D 33744 00	LAWN AND GARDEN	0.12
76D 33287 00	LAWN AND GARDEN	0.06
76D 216044 00	IRRIGATION	0.23
76D 30023375	IRRIGATION	0.12

Table 2: Physical Availability of the Kootenai River at the Point of Diversion

A	B	C	D	E	F
Month	Median of the Mean Monthly Flow at USGS Gaging Station 12301933 (CFS)	Median of the Mean Monthly Volume at USGS Gaging Station 12301933 (AF)	Existing legal demands between USGS Gaging Station 12301933 and the POD (CFS)	Physically Available Water at POD (CFS)	Physically Available Water at POD (AF)
April	4,254.00	252,687.60	8.56	4,245.44	252,179.14
May	9,169.00	562,793.22	8.58	9,160.42	562,266.58
June	14,600.00	867,240.00	8.58	14,591.42	866,730.35
July	10,900.00	669,042.00	8.58	10,891.42	668,515.36
August	9,524.00	584,583.12	8.58	9,515.42	584,056.48
September	8,504.00	505,137.60	8.58	8,495.42	504,627.95
October	6,785.50	416,493.99	7.11	6,778.39	416,057.58

3.0 Area of Potential Impact (AOPI) Analysis

The Area of Potential Impact for this application is:

The Kootenai River from the proposed POD downstream to the Montana-Idaho border. There are 25 water rights within the AOPI (Appendix A).

Why this is an appropriate Area of Potential Impact:

Diversion of Kootenai River water at the proposed POD would reduce the flow and volume of water in the reach of the Kootenai River extending from the proposed POD downstream to the Montana-Idaho border.

Methodology:

The Department selected the entire reach of the Kootenai River within Montana downstream of the proposed POD as the AOPI.



Review

This document was reviewed by the Department on July 2, 2025.

References

Department Standard Practice for Determining Physical Availability of Surface Water.

- DNRC Technical Memorandum: Physical Availability of Surface Water with Gage Data (Elison, Mann, Dolan, Heffner, Brickl, November 1, 2019).

Department Standard Practice for Determining Area of Potential Impact.



Appendix A: Water Rights within the Area of Potential Impact

Appendix A: Water rights on the Kootenai River within the AOPI		
Water Right Number	Purpose	Flow Rate (CFS)
76D 43355 00	IRRIGATION	0.06
76D 115793 00	LAWN AND GARDEN	0.03
76D 100384 00	IRRIGATION	0.44
76D 140178 00	IRRIGATION	0.36
76D 143762 00	IRRIGATION	0.11
76D 30158132	LAWN AND GARDEN	0.22
76D 109346 00	IRRIGATION	0.08
76D 141356 00	INDUSTRIAL	1.11
76D 31798 00	IRRIGATION	0.13
76D 140846 00	IRRIGATION	0.16
76D 5948 00	IRRIGATION	0.11
76D 92427 00	LAWN AND GARDEN	0.03
76D 216064 00	IRRIGATION	0.16
76D 141359 00	IRRIGATION	0.35
76D 29845 00	IRRIGATION	0.02
76D 100385 00	IRRIGATION	0.06
76D 100383 00	STOCK	0.04
76D 29844 00	IRRIGATION	0.01
76D 114086 00	LAWN AND GARDEN	0.02
76D 2715 00	IRRIGATION	2.00
76D 22286 00	IRRIGATION	0.05
76D 56444 00	LAWN AND GARDEN	0.06
76D 141302 00	IRRIGATION	0.15
76D 43067 00	IRRIGATION	0.04
76D 30051149	LAWN AND GARDEN	0.02
76D 30063810	INSTREAM FISHERY	38,573*

*This is the maximum flow rate. The enforceable levels of this water right are individual for each calendar day of the year and are identified in the technical documentation filed with water right 76D 30063810 (see scanned file in the DNRC water rights database). The ability to enforce this water right shall be suspended so long as the Libby Dam remains in existence and the Army Corps of Engineers' operation of that dam are conducted consistently with the 2008 Federal Columbia River Power System Biological Opinion, and the 2010 updated Biological Opinion.

Technical Analyses Report/ Scientific Credibility Review

- Departmental Technical Analyses Report/ Scientific Credibility Review
- Any correspondence relating to the Technical Analyses Report

Technical Analyses
Report /
Scientific Credibility
Review

THE MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

GOVERNOR GREG GIANFORTE



DNRC DIRECTOR AMANDA KASTER

Water Resources Division – Kalispell Regional Office
655 Timberwolf Pkwy, Ste. 4
Kalispell, MT 59901-1215
(406) 752-2288
DNRCKalispellWater@mt.gov

July 2, 2025

KURTIS HAFFERMAN AND KATHY MINER
PO BOX 1690
LIBBY MT 59923-5001

Subject: Completed Technical Analyses Report for Beneficial Water Use Permit Preapplication No. 76D 30170983

Dear Applicants,

As designated on the submitted Preapplication Meeting Form per §85-2-302(3)(b), MCA, the Department of Natural Resources and Conservation (Department) has completed the technical analyses for Beneficial Water Use Permit Preapplication No. 76D 30170983 based on the information provided in your Preapplication Meeting Form accepted by the Department on May 29, 2025. The technical analyses can be found in the attached report.

This Technical Analyses Report **IS:** A collection of facts that the DNRC has gathered, including content provided in the Preapplication Meeting Form materials. The Department will use these data to analyze the criteria in §85-2-311, MCA if you submit a Form 600 for the project described in the completed Preapplication Meeting Form.

This Technical Analyses Report **IS NOT:** An analysis or discussion of whether the Preapplication Meeting Form as filed meets the criteria in §85-2-311, MCA.

You have 180 days to submit the Beneficial Water Use Permit Application Form 600 considering the information provided in the technical analyses and Preapplication Meeting Form. If the Application Form is not submitted to the Kalispell Regional Office by December 29, 2025, a new preapplication meeting will be required to process the Application with expedited timelines (ARM 36.12.1302(6)(b)). If any details described in the submitted Application are changed from that of the submitted Preapplication Meeting Form, the discounted filing fee and expedited timelines will not apply (ARM 36.12.1302(6)(a)). Please note that the technical analyses will expire one year from the date of this letter (ARM 36.12.1302(8)).

Please contact me at (406) 752-2746 or Travis.Wilson@mt.gov if you have any questions about the application process.

Sincerely,

Travis Wilson
Water Resource Specialist
Kalispell Regional Office

Encl.: Surface Water Permit Technical Analyses Report for Beneficial Water Use Permit Preapplication No. 76D 30170983



DNRC.MT.GOV



Surface Water Permit Technical Analyses Report

Department of Natural Resources and Conservation (DNRC or Department) Water Resources Division

Travis Wilson, Water Resource Specialist, Kalispell Regional Office

Application No.	76D 30170983	Proposed Point of Diversion	NWNENE S36 T31N R31W LINCOLN
Applicant	HAFFERMAN, KURTIS M. & MINER, KATHY M.		

Overview

This report analyzes data submitted by the Applicant in support of Application No. 76D 30170983. This report provides technical analyses as required under the Administrative Rules of Montana (ARM) 36.12.1303 in support of the water rights criteria assessment as required in §85-2-311, Montana Code Annotated (MCA).

This Surface Water Permit Technical Analyses Report contains the following sections:

Overview	1
Variances	2
1.0 Application Details	2
2.0 Surface Water Analysis	2
2.1 Source Description	2
2.2 Method of Estimation	3
2.3 Monthly Flow Rate and Volume	3
3.0 Area of Potential Impact (AOPI) Analysis	4
Review	5
References	5
Appendix A: Water Rights within the Area of Potential Impact	6



Variances

No variances were requested.

1.0 Application Details

The Applicant proposes to divert water from the Kootenai River at a point in the NWNENE of Section 36, Township 31N, Range 31W, Lincoln County, Montana. The requested period of diversion and period of use is from April 1 to October 15 at a rate of 18.0 gallons per minute (GPM) up to 0.94 acre-feet (AF) of volume for irrigation of 0.86 acres of lawn and garden. The place of use in the SWSESE of Section 25 (0.29 acres) and the NWNENE of Section 36 (0.57 acres) in Township 31N, Range 31W, Lincoln County, Montana, which is further described as Lot 8 of the MBMI Development, Inc. subdivision (Figure 1).

2.0 Surface Water Analysis

2.1 Source Description

Proposed Source of Water: Kootenai River

Proposed Source Type: Perennial

Proposed Point of Diversion (POD): NWNENE of Section 36, Township 31N, Range 31W, Lincoln County, Montana.

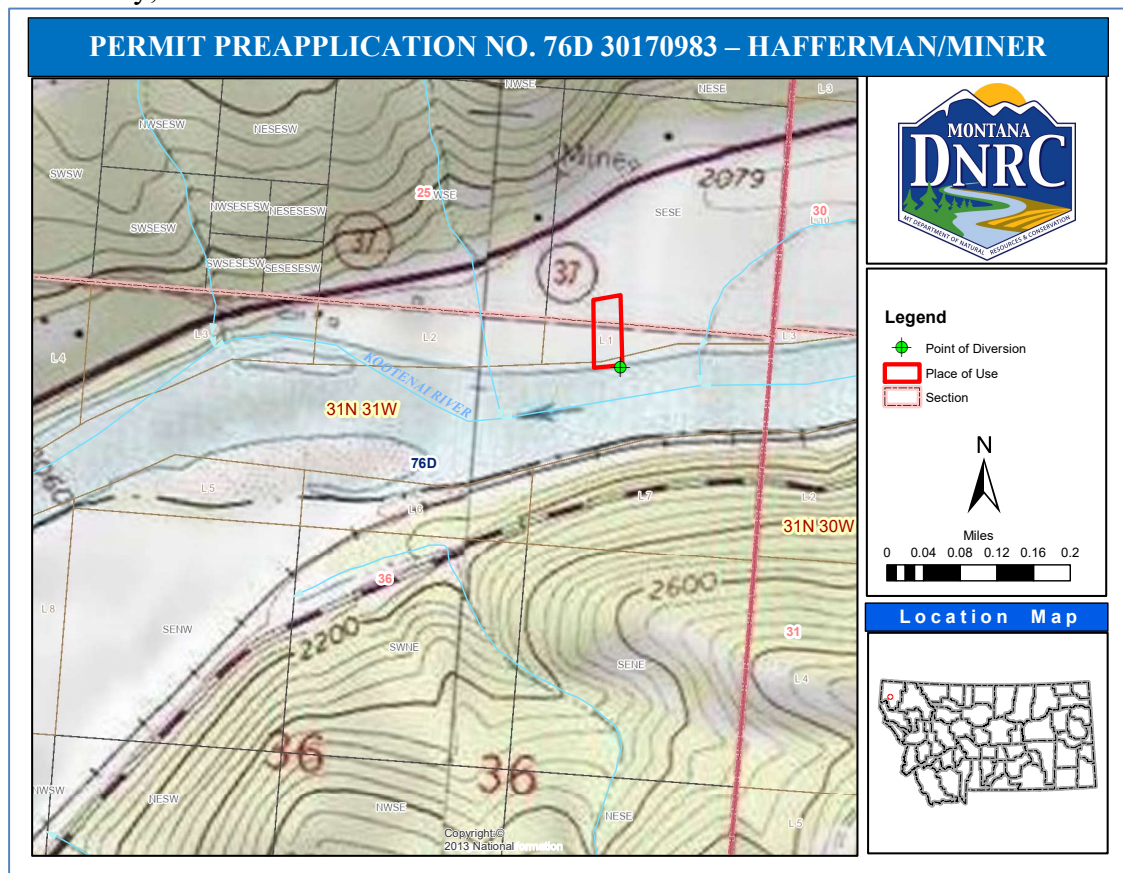


Figure 1: Map of the proposed POD on the source and proposed place of use.



2.2 Method of Estimation

The Kootenai River is a perennial stream with available measurement records.

USGS Gaging Station Name: Kootenai River below Libby Dam near Libby, MT

USGS Gaging Station Number: 12301933

Period of Record: October 1, 1971 to January 31, 2025

Why this gage is considered an appropriate data source: USGS Gaging Station No. 12301933 is located approximately 15.8 miles upstream of the proposed POD and approximately 0.7 miles downstream of Libby Dam, which largely controls the flow of this reach of the Kootenai River. The next closest gaging station on the Kootenai River is USGS Gaging Station No. 12305000 Kootenai River at Leonia, ID, which is approximately 46 miles downstream of the proposed POD.

2.3 Monthly Flow Rate and Volume

Methodology used to quantify monthly physical availability of Kootenai River water at the POD during the period of diversion and use (April 1 – October 15):

The Department calculated median of the mean monthly flow rates in cubic feet per second (CFS) for the Kootenai River using USGS Gaging Station No. 12301933 records for each month of the proposed period of diversion (Table 2, column B). Those flow rates were converted to monthly volumes in AF (Table 2, column C) using the following equation found in the DNRC Water Calculation Guide: median of the mean monthly flow in CFS $\times 1.98 \text{ AF/day/1.0-CFS} \times \text{days per month} = \text{AF/month}$.

The Department calculated the monthly flow rates appropriated by existing users between USGS Gaging Station No. 12301933 and the proposed POD (Table 2, column D) by:

- i. Generating a list of existing water rights from USGS Gaging Station No. 12301933 down to the proposed POD (Table 1);
- ii. Designating uses as occurring during their recorded period of diversion; and,
- iii. Assuming that the flow rate of each existing right is continuously diverted throughout each month of its period of diversion. This assumption is necessary due to the difficulty of differentiating the distribution of appropriated volume over the period of diversion. This leads to an overestimation of legal demands on the physical volume of water. The Department finds this an appropriate measure of assessing existing rights as it protects existing water users.

Since the gage used is upstream of the proposed POD, the Department subtracted out the flow rates of the existing rights between USGS Gaging Station No. 12301933 and the proposed POD (Table 2, column D) from the median of the mean monthly gage values (Table 2, column B) to determine physically available flows and volumes at the POD (Table 2, columns E-F).



Table 1: Existing Legal Demands between the POD and USGS Gaging Station No. 12301933

Water Right Number	Purpose	Flow Rate (CFS)
76D 31188 00	IRRIGATION	0.02
76D 99744 00	IRRIGATION	1.33
76D 304 00	INDUSTRIAL	6.68
76D 42395 00	LAWN AND GARDEN	0.02
76D 33744 00	LAWN AND GARDEN	0.12
76D 33287 00	LAWN AND GARDEN	0.06
76D 216044 00	IRRIGATION	0.23
76D 30023375	IRRIGATION	0.12

Table 2: Physical Availability of the Kootenai River at the Point of Diversion

A	B	C	D	E	F
Month	Median of the Mean Monthly Flow at USGS Gaging Station 12301933 (CFS)	Median of the Mean Monthly Volume at USGS Gaging Station 12301933 (AF)	Existing legal demands between USGS Gaging Station 12301933 and the POD (CFS)	Physically Available Water at POD (CFS)	Physically Available Water at POD (AF)
April	4,254.00	252,687.60	8.56	4,245.44	252,179.14
May	9,169.00	562,793.22	8.58	9,160.42	562,266.58
June	14,600.00	867,240.00	8.58	14,591.42	866,730.35
July	10,900.00	669,042.00	8.58	10,891.42	668,515.36
August	9,524.00	584,583.12	8.58	9,515.42	584,056.48
September	8,504.00	505,137.60	8.58	8,495.42	504,627.95
October	6,785.50	416,493.99	7.11	6,778.39	416,057.58

3.0 Area of Potential Impact (AOPI) Analysis

The Area of Potential Impact for this application is:

The Kootenai River from the proposed POD downstream to the Montana-Idaho border. There are 25 water rights within the AOPI (Appendix A).

Why this is an appropriate Area of Potential Impact:

Diversion of Kootenai River water at the proposed POD would reduce the flow and volume of water in the reach of the Kootenai River extending from the proposed POD downstream to the Montana-Idaho border.

Methodology:

The Department selected the entire reach of the Kootenai River within Montana downstream of the proposed POD as the AOPI.



Review

This document was reviewed by the Department on July 2, 2025.

References

Department Standard Practice for Determining Physical Availability of Surface Water.

- DNRC Technical Memorandum: Physical Availability of Surface Water with Gage Data (Elison, Mann, Dolan, Heffner, Brickl, November 1, 2019).

Department Standard Practice for Determining Area of Potential Impact.



Appendix A: Water Rights within the Area of Potential Impact

Appendix A: Water rights on the Kootenai River within the AOPI		
Water Right Number	Purpose	Flow Rate (CFS)
76D 43355 00	IRRIGATION	0.06
76D 115793 00	LAWN AND GARDEN	0.03
76D 100384 00	IRRIGATION	0.44
76D 140178 00	IRRIGATION	0.36
76D 143762 00	IRRIGATION	0.11
76D 30158132	LAWN AND GARDEN	0.22
76D 109346 00	IRRIGATION	0.08
76D 141356 00	INDUSTRIAL	1.11
76D 31798 00	IRRIGATION	0.13
76D 140846 00	IRRIGATION	0.16
76D 5948 00	IRRIGATION	0.11
76D 92427 00	LAWN AND GARDEN	0.03
76D 216064 00	IRRIGATION	0.16
76D 141359 00	IRRIGATION	0.35
76D 29845 00	IRRIGATION	0.02
76D 100385 00	IRRIGATION	0.06
76D 100383 00	STOCK	0.04
76D 29844 00	IRRIGATION	0.01
76D 114086 00	LAWN AND GARDEN	0.02
76D 2715 00	IRRIGATION	2.00
76D 22286 00	IRRIGATION	0.05
76D 56444 00	LAWN AND GARDEN	0.06
76D 141302 00	IRRIGATION	0.15
76D 43067 00	IRRIGATION	0.04
76D 30051149	LAWN AND GARDEN	0.02
76D 30063810	INSTREAM FISHERY	38,573*

*This is the maximum flow rate. The enforceable levels of this water right are individual for each calendar day of the year and are identified in the technical documentation filed with water right 76D 30063810 (see scanned file in the DNRC water rights database). The ability to enforce this water right shall be suspended so long as the Libby Dam remains in existence and the Army Corps of Engineers' operation of that dam are conducted consistently with the 2008 Federal Columbia River Power System Biological Opinion, and the 2010 updated Biological Opinion.

Preapplication Materials

- Preapplication Meeting Request
- Preapplication Meeting Form
- All attachments
- All correspondence prior to application receipt

Preapplication Materials

THE MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

GOVERNOR GREG GIANFORTE



DNRC DIRECTOR AMANDA KASTER

Water Resources Division – Kalispell Regional Office
655 Timberwolf Pkwy, Ste. 4
Kalispell, MT 59901-1215
(406) 752-2288
DNRCKalispellWater@mt.gov

May 29, 2025

KURTIS HAFFERMAN & KATHY MINER
PO BOX 1690
LIBBY MT 59923-5001

Subject: Complete Preapplication Form for Beneficial Water Use Permit Application No. 76D 30170983

Dear Applicant,

The Kalispell Regional Office of the Department of Natural Resources and Conservation (DNRC or Department) received your Preapplication Meeting Form 600P-A/B and preapplication meeting fee on May 22, 2025, and the Department deems the submitted Preapplication Meeting Form to be successfully completed per ARM 36.12.1302 on May 29, 2025.

As designated on the submitted Preapplication Meeting Form per § 85-2-302(3)(b), MCA, the Department will produce the technical analyses based on the parameters included in the Preapplication Meeting Form (ARM 36.12.1302(4)) by July 13, 2025, which is 45 days from May 29, 2025.

If you have any questions, please contact me at (406) 752-2746 or Travis.Wilson@mt.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "T. Wilson".

Travis Wilson
Water Resource Specialist
Kalispell Regional Office



DNRC.MT.GOV



**PREAPPLICATION MEETING
FORM: PART A
PERMIT**
§ 85-2-302, MCA
Form No. 600P-A (Revised 03/2025)

PREAPPLICATION MEETING FEE

\$ 500

FILING FEE REDUCTION & EXPEDITED TIMELINE

An application will be eligible for a filing fee reduction and expedited timelines if the applicant completes a preapplication meeting with the Department (ARM 36.12.1302(1)), which includes submitting any follow-up information identified by the Department (ARM 36.12.1302(3)(c)) and receiving either Department-completed technical analyses or Department review of applicant-submitted technical analyses (ARM 36.12.1302(4) and (5)). An application for the proposed project also must be submitted within 180 days of delivery of Department technical analyses or scientific credibility review and no element on the submitted application can be changed from the completed preapplication meeting form (ARM 36.12.1302(6)).

For Department Use Only

Application # 30170983 Basin # 76D
Meeting Date 05/22/2025 Time 10:00
Variance Request Deadline 10/07/2025
Completed Form Deadline 11/18/2025

RECEIVED

05/22/2025

**DNRC
KALISPELL WATER RESOURCES**

The Department will fill out Permit Preapplication Meeting Form Part A (Form 600P-A) and will identify items for follow-up during the preapplication meeting. The Department and Applicant will sign the Preapplication Meeting Affidavit and Certification within 10 business days. Within 180 days of the preapplication meeting, the Applicant will complete Preapplication Meeting Form Part B (Form 600P-B), including identified follow-up, any amended responses, and Follow-up and Amended Responses Affidavit & Certification. Variance requests must be submitted on Form 653 to the Department on or before the Variance Request Deadline, which is day 138 of the 180 day-deadline for a completed preapplication meeting form. Form 653 may be submitted earlier than the Variance Request Deadline. The Department has 30 business days to process the Form 653.

Applicant Information: Add more as necessary.

Applicant Name Kurtis M. Hafferman and Kathy M. Miner
Mailing Address P.O. Box 1690 City Libby State MT Zip 59923
Phone Numbers: Home _____ Work _____ Cell 406-212-0404
Email Address kurt@haffermanengineering.com kathyminer@me.com

Applicant Name _____
Mailing Address _____ City _____ State _____ Zip _____
Phone Numbers: Home _____ Work _____ Cell _____
Email Address _____

Contact/Representative Information: Add more as necessary.

Contact/Representative is: ☐ Applicant ☐ Consultant ☐ Attorney ☐ Other (describe) _____
Contact/Representative Name _____
Mailing Address _____ City _____ State _____ Zip _____
Phone Numbers: Home _____ Work _____ Cell _____
Email Address _____

NOTE: If a contact person is identified as an attorney, all communication will be sent only to the attorney unless the attorney provides written instruction to the contrary (ARM 36.12.122(2)). If a contact person is identified as a consultant, employee, or lessee, the applicant will receive all correspondences, and a copy may be sent to the contact person (ARM 36.12.122(3)).

Meeting Attendees: Add more as necessary.

Name	Role	Name	Role
Kurtis M. Hafferman	Owner		
Jim Ferch	KRO Manager		
Joseph Howerton	Water Resources Specialist		
Travis Wilson	Water Resources Specialist		



Table of Contents

APPLICATION DETAILS	3
SURFACE WATER.....	8
Surface Water Analysis	8
Surface Water Analysis: Perennial or Intermittent	8
Surface Water Analysis: Ephemeral.....	14
Surface Water Analysis: Lakes	15
Surface Water Analysis: Other	15
Area of Potential Impact Analysis	16
GROUNDWATER.....	17
Groundwater Analysis for Permits	17
Groundwater Analysis for Permits: Well/Pumping Pit	17
Groundwater Analysis for Permits: Developed Spring.....	19
Groundwater Analysis for Permits: Pond.....	20
Surface Water Depletion Analysis	20
Surface Water Analysis of Depleted Surface Water.....	22
Area of Potential Impact Analysis of Depleted Surface Water.....	28
Hydrogeologic Report.....	28
MANDATORY PROJECT-SPECIFIC QUESTIONS	30
Project-Specific Questions: Controlled Groundwater Areas and Basin Closures	30
NON-MANDATORY QUESTIONS FOR CRITERIA ANALYSIS	32
Adverse Effect	32
Adequate Diversion Means and Operation	33
Beneficial Use	35
Possessory Interest.....	36
Non-Mandatory Project Specific Questions	37
Place of Storage	37
Project-Specific Questions: Water Marketing	38
FOLLOW-UP	39
PREAPPLICATION MEETING AFFIDAVIT & CERTIFICATION	41

APPLICATION DETAILS

The following questions are mandatory and must be filled out before the Preapplication Meeting Form is determined to be complete. Narrative responses that are larger than the space provided can be answered in an attachment. If an attachment is used, mark the see attachment ("A") checkbox on this form and label the attachment with the question number. Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Responses in the form of a table may be entered into the table provided on this form or in an attachment. If an attachment is used, the table must have the exact headings found on this form, and the see attachment ("A") checkbox must be marked. Label units in narrative responses and tables. Questions that require Applicant to submit items to the Department have a submitted ("S") checkbox, which is marked when the required item is attached to the Preapplication Meeting Form. Label all submitted items with the question number for which they were submitted. For all questions where follow-up is necessary, mark the "F" checkbox in the "Follow-Up" column and write the question number on the "Follow-Up Page".

S = Submitted. Use when required item is included with form.

A = See attachment. Use when additional space is needed to answer a question.

F = Follow-up. Use when follow-up is necessary.

Questions, Narrative Responses, and Tables	Check-boxes	Follow-up
1. Do you elect to have DNRC conduct Technical Analyses?	☒ Y ☐ N	☐ F
2. Provide a map created on an aerial photograph or topographic map that shows the following: section corners, township and range, scale bar, north arrow, all proposed points of diversion labeled with a unique POD ID number (include GWIC ID, if available, for wells), all proposed places of use, all proposed conveyance structures (including ditches and pipelines), all proposed places of storage, and places of use for all overlapping water rights. More than one map may be submitted, if necessary to clearly convey all required information.	☒ S	☐ F
3. Is the project located in a Controlled Groundwater Area or Basin Closure Area? If yes, immediately go to Mandatory Project-Specific questions 54 to 56 because Form 600 may be the incorrect form, or this project may not meet the requirements for the Department to accept a Form 600.	☐ Y ☒ N	☐ F
4. Is the proposed use temporary?	☐ Y ☒ N	☐ F
a. If yes, when will the appropriation cease? _____	☐ A	☐ F



5. Describe the proposed purpose information, including period of diversion (MM/DD-MM/DD), period of use (MM/DD-MM/DD), flow rate (GPM or CFS) and volume (AF).	☐ A	☐ F
---	----------------------------	----------------------------

Purpose	Period of Diversion	Period of Use	Flow Rate			Volume
	(MM/DD-MM/DD)	(MM/DD-MM/DD)	Flow Rate	GPM	CFS	(AF)
Irrigation	04/01-10/15	04/01-10/15	18.0	☒	☐	0.94
				☐	☐	
				☐	☐	
				☐	☐	
				☐	☐	
Total			18.0	☐	☐	0.94

6. Does the proposed use include one or more of the following purposes: domestic, multiple domestic, stock, or irrigation? If yes, fill out the following table, where applicable.	☐ Y ☐ N	☐ F
--	---	----------------------------

Purpose	Requested Information	Response
Domestic or multiple domestic	Number of dwellings	
Stock	Number of animal units	
Irrigation	Method of irrigation type (sprinkler or flood) and subtype (if flood: level border, graded border, furrow, contour ditch, or other; if sprinkler: center pivot, wheel line, or other)	Sprinkler; Underground to sprinkler locations
Irrigation (flood only)	Design slope	

7. Describe the proposed location of the point(s) diversion to the nearest 10 acres, if source is groundwater (GW) or surface water (SW), source name, and means of diversion (e.g., pump, headgate, well). Label each POD with the POD # used for the project map (question 2).	☐ A	☐ F
--	----------------------------	----------------------------

POD #	¼	¼	¼	Sec	Twp	Rge	County	Lot	Block	Tract	Subdivision	Gov Lot	SW or GW	Source Name	Means
1	NW	NE	NE	36	31	31	Lincoln	8			MBMI		SW	Kootenai River	Pump



8. What are the geocodes of the place of use?		☐ A	☐ F
56-4283-25-4-01-19-0000			

9. Describe the legal land description for the proposed place of use and, if an irrigation or lawn and garden purpose, list the number of irrigated acres.		☐ A	☐ F
--	--	----------------------------	----------------------------

Acres	Gov't Lot	Block	¼	¼	¼	Sec	Twp	Rge	County
0.29			SW	SE	SE	25	31	31	Lincoln
0.57			NW	NE	NE	36	31	31	Lincoln
0.86	Total								

10. Will other water rights supplement or overlap the place of use to contribute to the purpose(s)?		☒ Y ☐ N	☐ F
a. If yes, summarize how the water rights will be operated as a whole to serve the purpose(s). The groundwater well has been used for domestic use and for irrigation use on the 0.86 acres. The well will continue to be used for irrigation until the water use permit is granted (Assumed 3 years). When the Kootenai River is granted, the water used from the groundwater well will be reduced to lawn and landscaping around the house (~0.1 ac.) and the surface water irrigation will be used for the remaining lawn and landscaping (0.76 ac.).		☐ A	☐ F



11. For each supplemental or overlapping water right, please list the water right number, purpose, typical period of diversion and use (MM/DD-MM/DD), flow rate (GPM or CFS), and the volume of water (AF) contributed.	☐ A	☐ F
---	----------------------------	----------------------------

Water Right No.	Avg. Period of Diversion	Avg. Period of Use	Flow Rate			Volume Contributed
	<i>MM/DD-MM/DD</i>	<i>MM/DD-MM/DD</i>	<i>Flow Rate</i>	<i>GPM</i>	<i>CFS</i>	<i>AF</i>
76D 30164146	04/01-10/15	04/01-10/15	15	☒	☐	0.5
				☐	☐	
				☐	☐	
				☐	☐	
				☐	☐	

12. Will this application supplement contract water from a Federal Project, ditch company, or other source?	☐ Y ☒ N	☐ F
a. If yes, explain. 	☐ A	☐ F
13. Does the project involve one or more places of storage? This does not include reservoirs, pits, pit-dams, or ponds with a capacity less than 0.1 AF; water tanks; or cisterns (ARM 36.12.113(6)). If yes, answer the following questions once for each place of storage. Use an "Additional Place of Storage (600P)" sheet if more than one. Additionally, you may choose to answer non-mandatory questions 76 to 80 for place of storage.	☐ Y ☒ N	☐ F
a. Is this application to enlarge an existing reservoir? If yes, list the water right numbers for the existing reservoir.	☐ Y ☒ N	☐ F
b. Is the place of storage located on-stream?	☐ Y ☐ N	☐ F
c. What is the capacity of the proposed place of storage or the existing place of storage after it is enlarged? Use bathymetry data, survey, or engineering plans for capacity. Submit the data source used with this form. In lieu of these data sources, use the following equation: $Surface\ Acres \times Maximum\ Depth\ (FT) \times 0.5 = Capacity\ (AF)$	☐ A	☐ F



d. What is the surface area of the place of storage? _____ _____	☐ A	☐ F
14. Will your system be designed to discharge water from the project?	☐ Y ☒ N	☐ F
a. If yes, explain the wastewater disposal method. A discharge permit may be required to comply with §§ 75-5-410 and 85-2-364, MCA. _____ _____ _____	☐ A	☐ F
15. Does the project involve an appropriation that is greater than 5.5 CFS and 4,000 AF? If yes, you must submit a Criteria Addendum Application for Beneficial Water Use Permit for Appropriations Greater than 5.5 CFS and 4,000 AF (Form 600-B) with application submittal. The criteria are found in §85-2-311(3), MCA.	☐ Y ☒ N	☐ F
16. Will you be transporting water for use outside of Montana? If yes, you must submit an Out-of-State Use Addendum (Form 600/606-OSA) with the application. The out-of-state use criteria are outlined in §85-2-402(6), MCA.	☐ Y ☒ N	☐ F
17. Does the project include the water marketing purpose? If yes, you may choose to answer non-mandatory questions 81 to 85 for water marketing. A Water Marketing Purpose Addendum (Form 600/606-WMA) will be required with application submittal.	☐ Y ☒ N	☐ F
18. Are you proposing a point of diversion and/or place of use on State of Montana Trust Land? If yes, documentation of consent from the DNRC Trust Lands Management Division will be required at application submittal.	☐ Y ☒ N	☐ F
19. Is the project located in designated sage grouse habitat? If yes, a review letter from the Montana Sage Grouse Habitat Conservation Program will be required at application submittal.	☐ Y ☒ N	☐ F



SURFACE WATER

☐ **Applicable**, move on to question 20. ☐ **Not Applicable**, skip to question 30.

The following questions are mandatory for surface water permit applications and must be filled out before the Preapplication Meeting Form is determined to be complete.

Surface Water Analysis

Questions, Narrative Responses, and Tables							Check-boxes	Follow-up
20. What is the flow rate (GPM or CFS), volume (AF), period of diversion start date and end date (MM/DD-MM/DD), and source type (e.g., perennial, ephemeral) at each point of diversion? Use the same POD # as the project map (question 2) to label each point of diversion.							☐ A	☐ F
POD #	Flow Rate			Volume	Period Start	Period End		
	Flow Rate	GPM	CFS	AF	MM/DD	MM/DD		
1	18	☒	☐	0.94	04/01	10/15		
		☐	☐					
		☐	☐					
		☐	☐					
		☐	☐					

21. Is the source type of the diversion perennial or intermittent, ephemeral, lake, or other? Perennial _____							☐ A	☐ F
Perennial or intermittent	Answer questions 22 to 25	Ephemeral	Answer question 26	Lake	Answer question 27	Other	Answer questions 28 to 29	

Surface Water Analysis: Perennial or Intermittent

☐ **Applicable** ☐ **Not Applicable**

22. Are stream gage data available?	☒ Y ☐ N	☐ F
a. If yes, answer question 23.		
b. If no, answer question 24.		



23. Stream gage data are available.		
a. Is one stream gage located above the most upstream POD and one stream gage located below the most upstream POD?	☒ Y ☐ N	☐ F
i. If no, is only one stream gage located near the most upstream POD?	☐ Y ☐ N	☐ F
1. If yes, is the stream gage located upstream or downstream? _____		☐ F
b. List the gage name(s). Write "N/A" for Gage 2 if one gage is available. Gage 1: <u>USGS 12301933</u> Gage 2: <u>USGS 12303000 (inoperable as of 1991); 12305000 (Leonia ID; recommended)</u>		☐ F
c. What is the distance between the gage(s) and the most upstream POD? Write "N/A" for Gage 2 if one gage is available. Gage 1: <u>8.7 mi.</u> Gage 2: <u>5.1 mi. (this will change)</u>		☐ F
d. Is there a limiting or controlling factor on the source between the stream gage(s) and the most upstream POD? This includes dams that control the flow and streams with large gaining and/or losing reaches. If you have questions about this, the Regional Office may provide assistance.	☒ Y ☐ N	☐ F
i. If yes, explain. <u>Libby Dam is upstream</u> _____ _____	☐ A	☐ F
e. How long is the period of record? Write "N/A" for Gage 2 if one gage is available. Gage 1: <u>2007-10-01 2025-05-20</u> Gage 2: <u>October 1, 1910 - September 29, 1991</u>		☐ F
f. Who operates and maintains the gage(s)? Write "N/A" for Gage 2 if one gage is available. Gage 1: <u>USGS</u> Gage 2: <u>USGS</u>		☐ F

g. Is each available stream gage operated and maintained by USGS or DNRC?	☒ Y ☐ N	☐ F
i. If yes, skip to question 23.h.		
ii. If no, answer the following questions for each gage not operated and maintained by USGS or DNRC.		
1. How frequently are stage data recorded? Write "N/A" for Gage 2 if only one gage is not operated or maintained by USGS. Gage 1: _____ Gage 2: _____		☐ F
2. If data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?		
a. Gage 1. _____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F
3. Was the rating curve established and maintained throughout the duration of the period of record using measurements taken near the reference gage and stage recorder according to USGS protocols?		
a. Gage 1. _____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F
4. Were requirements established and followed for maintaining a permanent gage datum and meeting specified accuracy limits?		
a. Gage 1. _____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F

h. Do the data for one or more available stream gages meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion?	☒ Y ☐ N	☐ F
i. If yes, record how many meet the standard, then skip to question 54 because this section is complete. <u>2</u>		☐ F
ii. If no, answer question 24.		
24. If no gage data are available or if available gage data do not meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion, is the source otherwise measured?	☐ Y ☐ N	☐ F
a. If no, measurements may be necessary. The Department cannot deem the preapplication meeting form adequately completed until the Department receives gage data and/or measurements that meet the requirements of ARM 36.12.1702 or, in combination with an approved variance request, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria. Skip to question 25.		
b. If yes,		
i. Submit available measurements to the Department.	☐ S	☐ F
ii. Who collected the measurements? _____	☐ A	☐ F
iii. With what method were the data collected? _____ _____	☐ A	☐ F
iv. What is the period of record? _____		☐ F
v. What is the frequency of measurement? _____		☐ F
vi. Are there gaps in the data?	☐ Y ☐ N	☐ F

1. If yes, what is the nature of the gaps and how are gaps handled to ensure data quality? _____ _____ _____	☐ A	☐ F
vii. Is there a process for maintaining the data and meeting specified accuracy limits?	☐ Y ☐ N	☐ F
1. If yes, explain. _____ _____ _____	☐ A	☐ F
viii. Do available measurement data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion?	☐ Y ☐ N	☐ F
1. If yes, this section is complete. Skip to question 54.		
2. If no, answer question 25.		
25. Do the available measurement data, gage and/or otherwise measured, meet the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for validation of a Department-accepted estimation technique?	☐ Y ☐ N	☐ F
a. If yes,		
i. Describe how the measurements are representative of high, moderate, and low flows. _____ _____ _____ _____	☐ A	☐ F
ii. Describe the estimation technique. _____ _____ _____ _____ _____ _____	☐ A	☐ F
b. If no, but a Department-accepted estimation technique will be appropriate for the source:		



i. Will measurements be collected prior to submission of Form 600P-B that meet the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for calibration of a Department-accepted estimation technique?	☐ Y ☐ N	☐ F
1. If yes,		
a. With what method will the data be collected? _____ _____	☐ A	☐ F
b. What will be the interval of measurement? _____		☐ F
c. Describe the proposed estimation technique. _____ _____ _____ _____ _____	☐ A	☐ F
2. If no, do you plan on requesting a variance from measurement requirements pursuant to ARM 36.12.1702(1)(b)? If you plan to request a variance, you must submit Form 653 on or before the Variance Request Deadline. The Department cannot deem the preapplication meeting form adequately completed until the Department receives measurements that meet the requirements of ARM 36.12.1702(1)(b) or, in combination with an approved variance request, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N	☐ F
c. If no, because no Department-accepted estimation technique will be appropriate for the source:		
i. Describe why no Department-accepted estimation technique is appropriate for the source characteristics. _____ _____ _____	☐ A	☐ F
ii. Do the available measurement data, gage and/or otherwise measured, meet the Department's standard for monthly measurements throughout the proposed period of diversion pursuant to ARM 36.12.1702(4)?	☐ Y ☐ N	☐ F



1. If no, will measurements be collected prior to submission of a completed Form 600P that meet the Department's standard of monthly measurements throughout the proposed period of diversion?	☐ Y ☐ N	☐ F
a. If yes, with what method will the data be collected? _____ _____	☐ A	☐ F
b. If no, do you plan on requesting a variance from measurement requirements pursuant to ARM 36.12.1702(4)? If you plan to request a variance, you must submit Form 653 on or before the Variance Request Deadline. The Department cannot deem the preapplication meeting form adequately completed until the Department receives measurements that meet the requirements of ARM 36.12.1702(4) or, in combination with an approved variance request, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N	☐ F

Surface Water Analysis: Ephemeral

☐ Applicable ☐ Not Applicable

26. Did you elect for the Department to conduct the Technical Analyses?	☐ Y ☐ N	☐ F
a. If yes, do you have climate or drainage area data you would like the Department to consider during Technical Analyses?	☐ Y ☐ N	☐ F
i. If yes, submit this information to the Department.	☐ S	☐ F
b. If no,		
i. Describe the estimation technique you propose to use to estimate physical availability at the point of diversion. _____ _____ _____	☐ A	☐ F
ii. What is the net annual precipitation? Include the source of this information. _____ _____	☐ A	☐ F



iii. What is the drainage area upstream of the point of diversion and how was this figure calculated? _____ _____ _____	☐ A	☐ F
--	----------------------------	----------------------------

Surface Water Analysis: Lakes

☐ **Applicable** ☐ **Not Applicable**

27. Has the lake volume been quantified by a qualified entity based on bathymetric data?	☐ Y ☐ N	☐ F
a. If yes, provide this information to DNRC.	☐ S	☐ F
b. If no, answer the following questions,		
i. When do you plan to collect this information? _____		☐ F
ii. What data collection method will you use? _____ _____	☐ A	☐ F

Surface Water Analysis: Other

☐ **Applicable** ☐ **Not Applicable**

28. Explain why the source type is "other". _____ _____	☐ A	☐ F
29. Have you measured the source?	☐ Y ☐ N	☐ F
a. If yes, answer the following questions,		
i. With what method was the measurement data collected? _____ _____	☐ A	☐ F



ii. What is the measurement interval? _____		☐ F
1. Does the interval meet the Department's standard for monthly measurements throughout the proposed period of diversion pursuant to ARM 36.12.1702(4)?	☐ Y ☐ N	☐ F
a. If no, do you plan on requesting a variance from measurement requirements pursuant to ARM 36.12.1702(4)? If you plan to request a variance, you must submit Form 653 on or before the Variance Request Deadline.	☐ Y ☐ N	☐ F
b. If no,		
i. When do you plan to measure? _____		☐ F
ii. What data collection method will be used? _____ _____ _____	☐ A	☐ F
iii. Do you plan on requesting a variance from measurement requirements pursuant to ARM 36.12.1702(4)? If you plan to request a variance, you must submit Form 653 on or before the Variance Request Deadline. The Department cannot deem the preapplication meeting form adequately completed until the Department receives measurements that meet the requirements of ARM 36.12.1702(4) or, in combination with an approved variance request, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N	☐ F

Area of Potential Impact Analysis

No additional information needed for Technical Analyses.



GROUNDWATER

☐ **Applicable**, move on to question 30. ☐ **Not Applicable**, skip to question 54.

The following questions are mandatory for groundwater permit applications and must be filled out before the Preapplication Meeting Form is determined to be complete.

Groundwater Analysis for Permits

Questions, Narrative Responses, and Tables					Check-boxes	Follow-up
30. What is the type of groundwater diversion? _____					☐ A	☐ F
Well/Pumping Pit	Answer questions 31 to 35	Developed Spring	Answer question 36	Pond	Answer questions 37 to 39	

Groundwater Analysis for Permits: Well/Pumping Pit

☐ Applicable ☐ Not Applicable

31. Per ARM 36.12.121 a 24- or 72-hour aquifer test is required; do you propose not to conduct the test? An 8-hour test will be required, if no aquifer test is completed.	☐ Y ☐ N	☐ F
a. If yes, explain. The Department will let you know if the request is reasonable and identify additional data needs. _____ _____ _____ _____ _____	☐ A	☐ F



32. Submit Aquifer Test Data Form (Form 633). If a variance is requested, Form 633 must be submitted on or before the Variance Request Deadline. If no variance is requested, Form 633 is due by the time the preapplication meeting form is complete but may be submitted earlier. However, if the Department determines a variance is needed and the Variance Request Deadline has passed, to submit the Form 653 you must reschedule the preapplication meeting or submit the application without expedited fees and timelines (ARM 36.12.1302(6)).	☐ S	☐ F
33. Submit the Aquifer Testing Addendum (Form 600/606-ATA) and associated materials (e.g., well logs). If you request a variance, Form 600/606-ATA must be submitted on or before the Variance Request Deadline. If no variance is requested, Form 600/606-ATA is due by the time the preapplication meeting form is complete but may be submitted earlier. However, if the Department determines a variance is needed and the Variance Request Deadline has passed, to submit the Form 653 you must reschedule the preapplication meeting or submit the application without expedited fees and timelines (ARM 36.12.1302(6)).	☐ S	☐ F
34. Are you requesting a variance from ARM 36.12.121? If you are unsure if a variance request will be needed, mark follow-up and answer this question once Form 600/606-ATA and Form 633 are complete. A variance must be requested by the Variance Request Deadline.	☐ Y ☐ N	☐ F
a. If yes, submit Form 653, Form 600/606-ATA, and Form 633 together on or before the Variance Request Deadline.	☐ S	☐ F
b. If no, you may choose to submit Form 600/606-ATA and Form 633 before the Variance Request Deadline, and the Department will review these two forms. However, if the Department determines a variance is needed after the Variance Request Deadline, to submit the Form 653 you must reschedule the preapplication meeting or submit the application without expedited fees and timelines (ARM 36.12.1302(6)).		
35. Have all proposed wells/pumping pits been constructed?	☐ Y ☐ N	☐ F
a. If no, answer the following questions:		
i. Submit a list of the POD IDs for all wells/pumping pits and mark whether they have or have not been constructed.	☐ S	☐ F
ii. When will all proposed wells/pumping pits be constructed? _____		☐ F
iii. Is the requested volume for each proposed well/pumping pit known?	☐ Y ☐ N	☐ F
1. If yes, list the flow rate and volume requested for each proposed well/pumping pit. Label with POD ID. _____ _____ _____	☐ A	☐ F

2. If no, what is the total requested volume (AF) and the number of proposed PODs? _____		☐ F
---	--	----------------------------

Groundwater Analysis for Permits: Developed Spring

☐ Applicable ☐ Not Applicable

36. Have you measured the source?	☐ Y ☐ N	☐ F
a. If yes, submit the measurements and answer the following questions,	☐ S	☐ F
i. Do you have flow rate (GPM or CFS) and volume measurements?	☐ Y ☐ N	☐ F
ii. With what method were measurements collected? _____ _____	☐ A	☐ F
iii. What is the interval of measurements? _____		☐ F
iv. Is the interval of measurements sufficient to comply with ARM 36.12.1703(1)?	☐ Y ☐ N	☐ F
b. If no, or if measurements do not comply with ARM 36.12.1703(1), answer the following questions. The Department cannot deem the preapplication meeting form adequately completed until the Department receives measurements that meet the requirements of ARM 36.12.1703(1). Variances from ARM 36.12.1703(1) are not allowed.		
i. When do you plan to measure? _____		☐ F
ii. With what method and at what interval will measurements be collected? _____ _____	☐ A	☐ F



Groundwater Analysis for Permits: Pond

☐ Applicable ☐ Not Applicable

37. Submit Form 653 to apply for a variance from ARM 36.12.121 for the Aquifer Test on or before the Variance Request Deadline.	☐ S	☐ F
38. Submit pond bathymetry data, survey, or engineering plans to the Department.	☐ S	☐ F
39. Is the pond fed or drained by surface water?	☐ Y ☐ N	☐ F
a. If yes,		
i. Explain.	☐ A	☐ F

ii. Submit measurements of the connected surface water source. These may include inflow and outflow measurements.	☐ S	☐ F

Surface Water Depletion Analysis

40. Is the type of groundwater diversion for your proposed project a developed spring? If yes, skip to question 45 because this section is complete. If no, move onto question 41.	☐ Y ☐ N	☐ F
41. Is the type of groundwater diversion for your proposed project a pond? If yes, answer question 41.a, then skip to question 45 because this section is complete. If no, move onto question 42.	☐ Y ☐ N	☐ F
a. Will any of the ponds have diversions for out-of-pond use that differ from, if year-round use, an allocation of diverted volume by the number of days in the month, or, if irrigation/lawn and garden use, the 80% dry year net irrigation requirement (IWR, NRCS 2003)?	☐ Y ☐ N	☐ F
i. If yes, provide a schedule of the diversions for out-of-pond use in the table below. Use the same POD # as the project map (question 2). Attach any additional schedules with POD # labeled.	☐ A	☐ F

POD #			
Month	Diversions for Out-of-Pond Use Volume (AF)	Month	Diversions for Out-of-Pond Use Volume (AF)
January		July	
February		August	
March		September	
April		October	
May		November	
June		December	



42. What is the flow rate (GPM or CFS), volume (AF), and period of diversion required (MM/DD-MM/DD) at each well/pumping pit? What is the well/pumping pit depth (FT), if available, or estimated well/pumping pit depth (FT). Please use the same POD # as the project map (question 2) to match this information with the location information.	☐ A	☐ F
---	----------------------------	----------------------------

POD #	Flow Rate			Volume	Period of Diversion	Depth	Measured or Estimated
	Flow Rate	GPM	CFS	AF	MM/DD-MM/DD	FT	
		☐	☐				
		☐	☐				
		☐	☐				
		☐	☐				
		☐	☐				

43. Will any of the <i>new</i> wells/pumping pits have a monthly pumping schedule that differs from, if year-round use, an allocation of diverted volume by the number of days in the month, or, if irrigation/lawn and garden use, the 80% dry year net irrigation requirement (IWR, NRCS 2003)?	☐ Y ☐ N	☐ F
a. If yes, provide the alternative pumping schedule(s) in the table below. Use the same POD # as the project map (question 2). Attach any additional pumping schedules with POD # labeled.	☐ A	☐ F

POD #				POD #			
Month	Volume (AF)	Month	Volume (AF)	Month	Volume (AF)	Month	Volume (AF)
January		July		January		July	
February		August		February		August	
March		September		March		September	
April		October		April		October	
May		November		May		November	
June		December		June		December	

44. Will one or more <i>existing</i> wells/pumping pits be used for the proposed project?	☐ Y ☐ N	☐ F
a. If yes, will any of the <i>existing</i> wells/pumping pits have a monthly pumping schedule, before or after the proposed project, that differs from an allocation of diverted volume by the number of days in the month (if year-round use) or the 80% dry year net irrigation requirement (if irrigation/lawn and garden use) (IWR, NRCS 2003)?	☐ Y ☐ N	☐ F
i. If yes, provide the pumping schedules before and after the proposed project in the table below. Use the same POD # as the project map (question 2). Attach any additional pumping schedules with POD # and before/after proposed project labeled.	☐ A	☐ F

Before proposed project: POD #				After proposed project: POD #			
Month	Volume (AF)	Month	Volume (AF)	Month	Volume (AF)	Month	Volume (AF)
January		July		January		July	
February		August		February		August	
March		September		March		September	
April		October		April		October	
May		November		May		November	
June		December		June		December	

Surface Water Analysis of Depleted Surface Water

45. Based on the preliminary net depletion data provided by the Department at this preapplication meeting, what are the hydraulically connected surface water source(s)? <i>*Net depletion data provided by the Department at the preapplication meeting is preliminary and is subject to change during Technical Analyses. If the source or location of net depletion data changes during Technical Analyses, then surface water analysis of depleted surface water source(s) will reflect the Technical Analyses; this will not constitute a change of any element to the proposed application pursuant to ARM 36.12.1302(6)(a).</i> If the type of groundwater diversion for your proposed project is a developed spring, write "NA" and skip to question 51 because this section is complete.	☐ A	☐ F
46. Answer the questions in this section one time for each hydraulically connected source. Use the "Additional Hydraulically Connected Source (600P)" sheet, as necessary. For which hydraulically connected source are you answering questions 47 to 50? _____		☐ F
47. Are stream gage data available?	☐ Y ☐ N	☐ F
a. If yes, answer question 48.		
b. If no, answer question 49.		



48. Stream gage data are available		
a. Is one stream gage located above and one stream gage located below the start of the depleted reach?	☐ Y ☐ N	☐ F
i. If no, is only one stream gage located near the start of the depleted reach?	☐ Y ☐ N	☐ F
1. If yes, is the stream gage upstream or downstream? _____		☐ F
b. List the gage name(s). Write "N/A" for Gage 2 if one gage available. Gage 1: _____ Gage 2: _____		☐ F
c. What is the distance between the gage(s) and the start of the depleted reach? Write "N/A" for Gage 2 if one gage available. Gage 1: _____ Gage 2: _____		☐ F
d. Is there a limiting or controlling factor on the source between the stream gage(s) and the start of the depleted reach? This includes dams that control the flow and streams with large gaining and/or losing reaches. If you have questions about this, the Regional Office may provide assistance.	☐ Y ☐ N	☐ F
i. If yes, explain. _____ _____ _____	☐ A	☐ F
e. How long is the period of record? Write "N/A" for Gage 2 if one gage is available. Gage 1: _____ Gage 2: _____		☐ F
f. Who operates and maintains the gage(s)? Write "N/A" for Gage 2 if one gage is available. Gage 1: _____ Gage 2: _____		☐ F
g. Is each available stream gage operated and maintained by USGS or DNRC?	☐ Y ☐ N	☐ F
i. If yes, skip to question 48.h.		
ii. If no, answer the following questions for each gage not operated and maintained by USGS or DNRC.		



1. How frequently is stage data recorded? Write "N/A" for Gage 2 if only one gage is not operated or maintained by USGS. Gage 1: _____ Gage 2: _____		☐ F
2. If data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?	☐ Y ☐ N	☐ F
a. Gage 1. _____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F
3. Was the rating curve established and maintained throughout the duration of the period of record using measurements taken near the reference gage and stage recorder according to USGS protocols?	☐ Y ☐ N	☐ F
a. Gage 1. _____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F
4. Were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	☐ Y ☐ N	☐ F
a. Gage 1. _____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F
h. Do the data for one or more available stream gages meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the months with net depletions?	☐ Y ☐ N	☐ F
i. If yes, record how many meet the standard, then skip to question 54 because this section is complete. _____		
ii. If no, answer question 49.		
49. If no gage data are available or if available gage data do not meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the months with net depletions, is the source otherwise measured?	☐ Y ☐ N	☐ F

a. If no, measurements may be necessary. The Department cannot deem the preapplication meeting form adequately completed until the Department receives gage data and/or measurements that meet the Department's measurement standards or, in combination with an approved request to deviate from the Department's standards, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria. Skip to question 50.		
b. If yes,		
i. Submit measurements to the Department.	☐ S	☐ F
ii. Who collected the measurements? _____	☐ A	☐ F
iii. With what method was the data collected? _____ _____	☐ A	☐ F
iv. What is the period of record? _____		☐ F
v. What is the frequency of measurement? _____		☐ F
vi. Are there gaps in the data?	☐ Y ☐ N	☐ F
1. If yes, what is the nature of the gaps and how are gaps handled to ensure data quality? _____ _____ _____	☐ A	☐ F
vii. Is there a process for maintaining the data and meeting specified accuracy limits?	☐ Y ☐ N	☐ F
1. If yes, explain. _____ _____ _____	☐ A	☐ F
viii. Do available measurement data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the months with net depletions?	☐ Y ☐ N	☐ F
1. If yes, this section is complete. Skip to question 54.		
2. If no, answer question 50.		



50. Do the available measurement data, gage and/or otherwise measured, meet the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for calibration of a Department-accepted estimation technique?	☐ Y ☐ N	☐ F
a. If yes,		
i. Describe how the measurements are representative of high, moderate, and low flows. _____ _____ _____ _____	☐ A	☐ F
ii. Describe the estimation technique. _____ _____ _____ _____ _____	☐ A	☐ F
b. If no, but a Department-accepted estimation technique will be appropriate for the hydraulically connected surface water source:		
i. Will measurements be collected prior to submission of a completed Form 600P-B that meet the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for calibration of a Department-accepted estimation technique?	☐ Y ☐ N	☐ F
1. If yes,		
a. With what method will the data be collected? _____ _____	☐ A	☐ F
b. What will be the interval of measurement? _____		☐ F



c. Describe the proposed estimation technique. _____ _____ _____ _____ _____	☐ A	☐ F
2. If no, do you plan on requesting to deviate from the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for calibration of a Department-accepted estimation technique? The Department's technical analyses or scientific credibility review of your technical analyses cannot commence until the Department receives measurements that meet Department measurement standards, or in combination with a request to deviate, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N	☐ F
c. If no, because no Department-accepted estimation technique will be appropriate for the hydraulically connected surface water source:		
i. Describe why no Department-accepted estimation technique is appropriate for the source characteristics. _____ _____ _____	☐ A	☐ F
ii. Do the available measurement data, gage and/or otherwise measured, meet the Department's standard for monthly measurements throughout the months with net depletions?	☐ Y ☐ N	☐ F
1. If no, will measurements be collected prior to submission of a completed Form 600P that meet the Department's standard of monthly measurements throughout the months with net depletions?	☐ Y ☐ N	☐ F
a. If yes, with what method will the data be collected? _____ _____	☐ A	☐ F



b. If no, do you plan on requesting to deviate from the Department's standard for monthly measurements throughout the months with net depletions? The Department's technical analyses or scientific credibility review of your technical analyses cannot commence until the Department receives measurements that meet Department measurement standards, or in combination with a request to deviate, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N	☐ F
--	---	----------------------------

Area of Potential Impact Analysis of Depleted Surface Water

All information for area of potential impact of depleted surface water was collected in previous questions.

Hydrogeologic Report

51. Does your project include one or more wells, pumping pits, or ponds that are in a basin closure area? If yes, fill out questions 52 to 53. Your project must have a Hydrogeologic Report that conforms with § 85-2-361 to comply with the requirements of § 85-2-360, MCA. A Hydrogeologic Report Addendum (Form 600-HRA) or Department Technical Analyses may be used to meet these requirements.	☐ Y ☐ N	☐ F
52. Did you elect in question 1 for the Department to conduct the Technical Analyses?	☐ Y ☐ N	☐ F
a. If yes, the Basin Closure Area Addendum (Form 600-BCA), Form 600-HRA, and Hydrogeologic Report are not required at this time. The Department's Technical Analyses will meet requirements of §85-2-360, MCA for a Hydrogeologic Report and Form 600-HRA. Form 600-BCA will be required with application submittal.		
b. If no, submit the Basin Closure Area Addendum (Form 600-BCA) and Hydrogeologic Report Addendum (600-HRA) with your Technical Analyses.	☐ S	☐ F
53. If the Hydrogeologic Report indicates that the proposed groundwater use will impact a surface water source, identify and explain which of the following three options best describes your plan to mitigate depletions of hydraulically connected surface water and respond to the relevant questions below. ☐ Application to Change a Water Right to mitigate the adverse effects created ☐ Alternative mitigation plan ☐ Documentation to show a mitigation plan is not required		
a. Application to Change a Water Right to mitigate the adverse effects created: Submit a summary of your initial proposal. <i>A separate Preapplication Meeting will be required for each Application to Change a Water right to a mitigation or aquifer recharge purpose to qualify for expedited timelines and reduced filing fees for the project per ARM 36.12.1302(7)(a).</i>	☐ S	☐ F
b. Alternative mitigation plan: Submit a summary of your initial proposal.	☐ S	☐ F



i. Do you propose to use water with a marketing for mitigation/aquifer recharge purpose?	☐ Y ☐ N	☐ F
1. If yes,		
a. List the change authorization number(s) for all water rights proposed for use. _____	☐ A	☐ F
b. What is the area defined for marketing for all water rights proposed for use? _____	☐ A	☐ F
c. If Marketing for aquifer recharge, submit the analysis of the monthly accretions to hydraulically connected surface water(s); otherwise write "NA". _____	☐ S	☐ F
c. Documentation to show a mitigation plan is not required: Submit all documentation.	☐ S	☐ F



MANDATORY PROJECT-SPECIFIC QUESTIONS

The following questions are mandatory when applicable and must be filled out before the Preapplication Meeting Form is determined to be complete.

Project-Specific Questions: Controlled Groundwater Areas and Basin Closures

Questions, Narrative Responses, and Tables	Check-boxes	Follow-up
54. Does the project include one or more groundwater points of diversion located in the East Valley Controlled Groundwater Area (EVCGWA)?	☐ Y ☒ N	☐ F
a. If yes, is the use over 35 GPM or 10 AF/YR?	☐ Y ☐ N	☐ F
i. If no, this is the incorrect form. Use instead Form 600-EVCGWA: East Valley Controlled Groundwater Area Permit Application.		
ii. If yes, how does this project meet the specific requirements of the East Valley Controlled Groundwater Area? Include any relevant documentation. _____ _____ _____ _____	☐ A	☐ F
b. If no, skip to question 55.		
55. Does the project include one or more groundwater points of diversion located in the Yellowstone Controlled Groundwater Area?	☐ Y ☒ N	☐ F
a. If yes, is the proposed flow rate and volume over 35 GPM or 10 AF/YR?	☐ Y ☐ N	☐ F
i. If no, this is the incorrect form. Use instead Form 600-YCGA: Yellowstone Controlled Groundwater Area Permit Application.		
ii. If yes, answer the remaining parts of question 55 and submit <i>Form 600 YCGA: A Yellowstone Controlled Groundwater Area Addendum Over 35 gallons per minute</i> with the application.		
1. Does the proposed use require a point of diversion with water temperature of 60 degrees Fahrenheit or more?	☐ Y ☐ N	☐ F
2. If an application is in a basin tributary to a category 3 or 4 stream (generally in or upstream of Yellowstone National Park), submit with the application a report prepared by a qualified professional verifying that the appropriation is not hydrologically connected to surface flow that is tributary to the reserved portion of category 3 or 4 streams.		
b. If no, skip to question 56.		



56. Is the project for surface water or groundwater and subject to one or more of the Controlled Groundwater Areas; administrative, Department ordered, or legislative basin closures; or compact closures listed on the Department's website (https://dnrc.mt.gov/Water-Resources/Water-Rights/Basin-Closures-Stream-Depletion-Controlled-Ground-Water-Areas) not covered in questions 54 to 55?	☐ Y ☐ N	☐ F
a. If yes, identify each area and describe how the proposed project meets its requirements. An application must meet the specific requirements of the Controlled Groundwater Area or closure to be accepted by the Department. _____ _____ _____ _____ _____ _____ _____ _____ _____	☐ A	☐ F



NON-MANDATORY QUESTIONS FOR CRITERIA ANALYSIS

The following questions are not mandatory. They should be discussed in the Preapplication Meeting, but do not need to be filled out before the Preapplication Meeting Form is determined to be complete.

Adverse Effect

Questions, Narrative Responses, and Tables	Check-boxes
57. Describe your plan to ensure that existing water rights will be satisfied during times of water shortage. The applicant will monitor the flow of the Kootenai River at the USGS Station 12301933 Kootenai River below Libby Dam to assure there is adequate water to satisfy all existing rights before using water. _____ _____ _____ _____ _____ _____	☐ A
58. Explain how you can control your diversion in response to call being made. The point of diversion for the irrigation system uses an electric pump. Electricity for the pump is supplied from a 50 amp breaker in a 200 amp service panel with power from Flathead Electric Cooperative. In the event of a water shortage the power to the pump can be shut off and diversion of water will stop. _____ _____	☐ A
59. Are you aware of any calls that have been made on the source of supply or depleted surface water source?	☐ Y ☒ N
a. If yes, explain. _____ _____ _____	☐ A
60. Does a water commissioner distribute water or oversee water distribution on your proposed source or depleted surface water source?	☐ Y ☒ N



61. Will the point of diversion or conveyance infrastructure be shared with one or more existing water rights?	☐ Y ☒ N
a. If yes, explain how capacity of the shared point of diversion and/or conveyance infrastructure is sufficient for all water rights. 	☐ A

Adequate Diversion Means and Operation

62. Submit a diagram of how you will operate your system from the point of diversion to the place of use.	☒ S
63. Describe specific information about the capacity of the diversionary structure(s). This may include, where applicable: pump curves and total dynamic head calculations, headgate design specifications, and dike or dam height and length. Attachment Adequate Means of Diversion: Adequacy of Diversion 	☒ A



64. Describe the size, materials, capacity, and configuration of infrastructure to convey water from point of diversion to place of use. This may include but is not limited to, pipelines and ditches. Include a description of any losses related to the proposed conveyance. Ditch conveyance losses may be estimated numerous ways, which include a ditch loss rate or Department standard methods. You may work with the Department to estimate ditch conveyance losses but will need to provide sufficient baseline information; which includes ditch slope, dimensions, length, lining material, soil type, and location. Conveyance System	☒ A
65. Describe how the proposed diversion and conveyance infrastructure can provide the required flow and volume, for the purposes plus any conveyance losses and storage, throughout the proposed period of diversion. Beneficial Use	☒ A
66. Provide a plan of operations, which includes specific information about how water is delivered within the place of use. This may include, where applicable, the range of flow rates needed for a pivot. Benefical Use	☒ A



67. Does the proposed conveyance require easements?	☐ Y ☒ N
a. If yes, explain. _____ _____ _____	☐ A
68. Do you own the land where all proposed points of diversion are located?	☒ Y ☐ N
a. If no, documentation to show you have the right to use all points of diversion located on each property you do not own will be required upon application submittal. This may include, but is not limited to, a well agreement, an easement, or permission of the party that owns the property where the proposed point(s) of diversion are located.	
69. Describe any places of storage, including whether drainage devices will be installed, and provide preliminary designs, if available. Preliminary designs will be required at application submittal. _____ _____ _____ _____	☐ A
70. Do you have any plans to measure your diversion and use?	☐ Y ☒ N
a. If yes, describe the plan and the type of measurements you will take. _____ _____ _____	☐ A

Beneficial Use

71. Does the Department have a standard for any of the purposes for which water is used? Department standards can be found in ARM 36.12.112 and ARM 36.12.115.	☒ Y ☐ N
a. If yes, list the purposes for which the Department has a standard and note whether the proposed use falls within or outside the standard. _____ _____	



72. If no Departmental standard exists for any proposed purpose, or if any proposed purpose falls outside of Department standards, explain how the use is reasonable for that purpose. _____ _____ _____ _____ _____ _____	☐ A
73. Will your proposed project be subject to DEQ requirements for a public water supply (PWS) system or Certificate of Subdivision Approval (COSA)?	☐ Y ☒ N
a. If yes,	
i. Have you researched or consulted with DEQ regarding those requirements?	☐ Y ☐ N
74. Are you proposing to use surface water for in-house domestic use?	☐ Y ☒ N
a. If yes, does a COSA exist for the proposed place of use?	☐ Y ☐ N
i. If yes, please submit the COSA.	☐ S
ii. If no, have you researched or consulted with DEQ regarding their requirements?	☐ Y ☐ N

Possessory Interest

75. Do you meet one of the exceptions to possessory interest requirements, pursuant to ARM 36.12.1802? Exceptions include cases where the application is for sale, rental, distribution, or is a municipal use, or in any other context in which water is being supplied to another and it is clear that the ultimate user will not accept the supply without consenting to the use of water on the user's place of use.	☐ Y ☒ N
a. If yes, explain. _____ _____ _____ _____	☐ A



b. If no,	
i. Do you own all proposed places of use?	☒ Y ☐ N
1. If no,	
a. Explain. Documentation that shows you either have possessory interest or written permission of the parties with possessory interest of the place of use will be required at application submittal. 	☐ A
b. Would you like the water right to be appurtenant to the land? Please note that if your water right is not appurtenant to land it will not transfer by default with the conveyance of the property, pursuant to § 85-2-403.	☒ Y ☐ N
i. If no, explain. 	☐ A

Non-Mandatory Project Specific Questions

Place of Storage

76. Does the proposal include at least one place of storage? If yes, answer questions 77 to 80 for each individual place of storage (use "Additional Place of Storage (600P)" sheet for additional places of storage). A Permit Storage Addendum (Form 600-SA) will be required at application submittal. If no, this section is complete, and you can skip to question 81.	☐ Y ☒ N
77. Are preliminary designs available? Preliminary designs will be required at application submittal.	☐ S
a. If yes, submit preliminary designs.	☐ Y ☐ N
78. Will the place of storage be lined?	☐ Y ☐ N
79. What is the annual net evaporation of water from the place of storage, based on the Department's gridded net evaporation layer? If you propose a different method, attach an explanation and justification of the method. 	☐ A



80. Is the place of storage capacity calculated to be greater than 50 AF?	☐ Y ☐ N
a. If yes, have you made an application to the DNRC Water Operations Bureau for a determination of whether the dam or reservoir is a high-hazard dam? This will be required by application submittal.	☐ Y ☐ N

Project-Specific Questions: Water Marketing

81. Does the proposal include water marketing? If yes, please answer the questions in this section (questions 82 to 85). A Water Marketing Addendum Purpose Addendum (600/606-WMA) will be required at application submittal. If no, this section is complete.	☐ Y ☒ N
82. For what purpose(s) will the marketed water be used? _____ _____ _____	☐ A
83. How will you control or limit access to the water? _____ _____ _____	☐ A
84. Do you have contracts for the entire volume and flow rate sought?	☐ Y ☐ N
85. Provide a service area map. Create map on an aerial photograph or topographic map and show the following: general service area boundary, section corners, township and range, scale bar, and north arrow.	☐ S



FOLLOW-UP

The tables below will identify all questions marked for follow-up. Applicant follow-up will be submitted with the completed Preapplication Meeting Form: Part B (Form 600P-B). Applicant will provide all responses to questions marked for follow-up on a separate document entitled "Follow-up Responses." At the preapplication meeting, the Department may offer to provide the Applicant with information pertinent to identified follow-up. In this case, record in the notes column what information the Department will provide and the date by which the Department will email this information to the Applicant. This information will supplement but not replace Applicant follow-up. It is the responsibility of the Applicant to provide all follow-up, including questions supplemented by Department information, in the "Follow-up Responses" document.

The "Follow-up Responses" document must conform to the following standards. Label all responses with the question number. Answer questions in the same format as the form. For responses in the form of checkboxes, write "Y", "N", "S". Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Label units in narrative responses and tables. Tables must have the exact headings found on the form. Questions that require items to be submitted to the Department may be marked "S" when the required item is attached to the Preapplication Meeting Form. Label all submitted items with the question number for which they were submitted.

The Applicant may not alter the Preapplication Meeting Form: Part A (Form 600P-A) signed at the Preapplication Meeting. Instead, the Applicant must use the Amended Responses procedure defined in Form 600P-B. Do not include additional information for questions that were not marked for follow-up on this table; instead include any additional information pursuant to the process for amending responses defined in Form 600P-B.

QUESTION #	NOTES



PREAPPLICATION MEETING AFFIDAVIT & CERTIFICATION

"We attest that the information on this form accurately describes the proposed project discussed during the preapplication meeting, and that the items marked for follow-up will require the Applicant to provide additional information before the form is deemed complete."

"Applicant acknowledges that any information provided by the Department during the preapplication meeting is preliminary and subject to change."

"Applicant acknowledges that if the follow-up information provided to the Department substantially changes the proposed project, for example in a way that alters which sections of the form are applicable or which technical analyses are required, or who is to complete the technical analyses, the applicant will need to schedule a new preapplication meeting so that the Department can identify any additional information necessary for completion of the technical analyses (ARM 36.12.1302(3)(c))."

Upon Department receipt of the completed form (within 180 days following the meeting), the Department reserves five business days to return the form to the applicant if:

- 1 – the completed form does not include all necessary follow-up information identified in the meeting, OR
- 2 – the completed form is not adequate for the Department to proceed with technical analyses, OR
- 3 – the applicant has elected to complete technical analyses and has not submitted each piece of technical analysis required, OR
- 4 – the applicant has substantially changed the details of the proposed project, such as in a way that alters which sections of the form are applicable, which technical analyses are required, or who is to complete the technical analyses.

If the Department returns the form to the Applicant within these five days due to reasons 1-3 above, the Applicant can use the balance of their 180-day period in ARM 36.12.1302(4) or (5) to gather the remaining follow-up information needed. If there is no time remaining in the 180-day period, the Applicant can submit a written request for a new preapplication meeting, pursuant to ARM 36.12.1302(2). Even if there is still time remaining, the Applicant can choose to schedule a new preapplication meeting. The Department shall transfer the \$500 payment received to the new preapplication meeting or refund the payment to the Applicant if the Applicant desires. If the Department returns the form to the Applicant within these five days due to reason (4) above, the Applicant must submit a written request for a new preapplication meeting, pursuant to ARM 36.12.1302(2). The Department shall transfer the \$500 payment received to the new preapplication meeting or refund the payment to the Applicant if the Applicant desires.

Applicant Signature

Date

5-22-2025

Applicant Signature

Date

Joseph P. Howerton

5-22-2025

Department Signature

Date



FORM 600P-A

PREAPPLICATION MEETING AFFIDAVIT & CERTIFICATION



**PREAPPLICATION MEETING
FORM: PART B
PERMIT**
§ 85-2-302, MCA
Form No. 600P-B (Revised 02/2025)

For Department Use Only

Application # 30170983 Basin 76D
Form Received TW
Fee Rec'd \$ 500.00 Check # _____
Deposit Receipt # KLU2523530
Payor Kurtis Hafferman
Form Returned _____
Refund \$ _____ Date _____

PREAPPLICATION MEETING FEE
\$ 500

FILING FEE REDUCTION & EXPEDITED TIMELINE

An application will be eligible for a filing fee reduction and expedited timelines if the Applicant completes a preapplication meeting with the Department (ARM 36.12.1302(1)), which includes submitting any follow-up information identified by the Department (ARM 36.12.1302(3)(c)) and receiving either Department-completed technical analyses or Department review of Applicant-submitted technical analyses (ARM 36.12.1302(4) and (5)). An application for the proposed project also must be submitted within 180 days of delivery of Department technical analyses or scientific credibility review and no element on the submitted application can be changed from the completed preapplication meeting form (ARM 36.12.1302(6)).

RECEIVED
05/22/2025
DNRC
KALISPELL WATER RESOURCES

The Applicant is responsible for providing a "Follow-up Responses" document for all follow-up identified in Preapplication Meeting Form Part A (Form 600P-A). The Applicant may not alter Form 600P-A. If a response has changed to a question answered at the preapplication meeting, the Applicant can provide a new response in a separate document entitled "Amended Responses" with the question number labeled.

The following guidelines are applicable to both the "Follow-up Responses" and "Amended Responses" documents. Clearly label all question numbers. Answer questions in the same format as Form 600P-A. For responses in the form of checkboxes, write "Y", "N", or "S". Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Label units in narrative responses and tables. Tables must have the exact headings found on the form. Questions that require items to be submitted to the Department may be marked "S" when the required item is included with the document.

1. ☐ Y ☒ N Are you submitting this form in response to a determination by the Department that a previously submitted Form 600P-B was inadequately completed?

If yes,

- a. Date form was returned ("Form Returned" date found in "For Department Use Only" box on the previously submitted Form 600P-B): _____
- b. If a "Follow-up Responses" or "Amended Responses" document is required by questions 2 or 3, submit complete updated documents with responses that stand-alone. The Department will only use the most recently submitted "Follow-up Responses" and "Amended Responses" documents for departmental technical analyses or scientific credibility review; the Department will not use multiple versions of a document.

2. ☐ Y ☒ N Were any questions identified as requiring follow-up on Form 600P-A?

If yes,

- a. ☐ S Submit "Follow-up Responses" document for all questions requiring follow-up.



FOLLOW-UP AND AMENDED RESPONSES AFFIDAVIT & CERTIFICATION

"I attest that this preapplication meeting form (Form 600P-A and Form 600P-B), follow-up, and amended responses accurately portray the proposed project. I am aware that my application for this project will not qualify for a discounted filing fee and expedited timelines if, upon submittal of the application to the department, I change any element of the proposed application from the preapplication meeting form, amended responses, or follow-up materials (ARM 36.12.1302(6)(a))."


Applicant Signature

5-22-2025

Date

Applicant Signature

Date

"We confirm that the preapplication form (Form 600P-A and Form 600P-B), amended responses, and follow-up information are adequate for the Department to proceed with technical analyses in ARM 36.12.1303. Or, if the Applicant has elected to complete technical analyses, we confirm they have submitted each required element of technical analysis based on the proposed project and the Department is able to proceed with the scientific credibility review (ARM 36.12.1303(8))."



05/22/2025

Department Signature

Date

Department Signature

Date



DNRC Form 600: 23- SUPPLEMENTAL WATER RIGHTS

There is a groundwater well that has been completed on the property. The notice of completion of groundwater development has been filed before this application and has been granted by the DNRC as water right 76D 30116146. The groundwater well has been used for domestic use and for irrigation use on the 0.86 acres of lawn irrigation. The well will continue to be used for irrigation until the water use permit from the Kootenai River is granted (Assumed 3 years). When the water right from the Kootenai River is granted, the water used from the groundwater well will be reduced to lawn and landscaping around the house (~0.1 ac.) and the surface water irrigation will be used for the remaining lawn and landscaping (0.76 ac.).

These water rights will be supplemental because they have an adjoining place of use but have different points of diversion and different means of diversion and they will not share the same pipeline and distribution system.

DNRC Form 600: 26-ADVERSE EFFECT

The applicant will monitor the flow of the Kootenai River at the USGS Station 12301933 Kootenai River below Libby Dam to assure there is adequate water to satisfy all existing rights before using water.

The point of diversion for the irrigation system uses an electric pump. Electricity for the pump is supplied from a 50-amp breaker in a 200-amp service panel with power from Flathead Electric Cooperative. In the event of a water shortage the power to the pump can be shut off and diversion of water will stop.

DNRC Form 600: ADEQUATE MEANS OF DIVERSION AND OPERATION

DNRC Form 600 - 33.-Means of Diversion: The point of diversion is shown in the attached Point of Diversion sketch. The Point of Diversion sketch pump system will consist of a standard 8-inch well casing buried in the stream bank of the Kootenai River above the ordinary high-water mark¹. Hafferman and Miner will apply for a Lincoln Conservation District 310 permit, a USACOE 410 permit for placement of fill in the water body of the U.S., a MDEQ 318 permit to allow short term turbidity during excavation and a DNRC TLD Land Use license for placement of the point of diversion below the ordinary high water in a navigable stream in Montana.

There will be a 4-inch schedule 80 PVC pipe that exits the well casing approximately 6-ft. below the ordinary high-water elevation and is placed into the bed of the Kootenai River. The pipe will be placed approximately 12 ft. from the edge of the ordinary high water and buried with river gravel to avoid interference with navigation. The end of the pipe will be capped and approximately 6 ft. of the end of the pipe will be slotted with 50-¼-inch slots to allow water into the pipe.

A Grundfos 22 SQ10-160 pump and motor will be suspended in the 8-inch well casing using 1-1/2" galvanized pipe set into a standard Boshart's 1-1/2" P-150-SS stainless steel pitless adapter that will allow for easy removal of the pump for service and connection to the 1-1/2" HDPE distribution system

¹ MCA 23-2-301 (9)

pipng outside the casing. The pump will be powered by a 220 V 60 Hz 50-amp power supply from the existing pump house.

DNRC Form 600 - 34.-Conveyance System: Water will be pumped to three separate zones as shown on the attached place of use map. Only one zone will operate at a time. Water will be distributed to the zones on the property through a 1-1/2" main line from the river to the north end of the property along the east side property line and then distributed to the sprinklers in the individual zones with 1" HDPE and 3/4" HDPE will tee from the 1" HDPE to the individual sprinklers.

The zones will be controlled by a Rainbird sprinkler system. The details of the system are attached to the Rainbird list of materials. The zone controller will be a Rainbird ARC8 App Based Residential Controller - 8 Zone. Sprinklers will be the Rainbird 42SA+ - Heavy Duty Simple Adjustable Professional 3/4" Inlet Gear Drive Rotor Sprinkler and 1gpm 5000S+PCSR - 5000 Series Shrub Rotor with PRS Pressure Regulation and SAM Check Valve. Zone 1 will irrigate pasture grass with 6-2 gpm 42SA Sprinkler and 4- trees will be irrigated with 1gpm 5000S+PCSR - 5000 Series Shrub Rotor sprinkler equivalent to a maximum of 18 gpm. Zone 2 will use the 6-2 gpm 42SA sprinklers for pasture grass and 4- trees will be irrigated with 1gpm 5000S+PCSR sprinklers up to a maximum of 18 gpm. Zone 3 will irrigate pasture grass and lawn near the new house (to be constructed in 2023-2024) with 5-2 gpm 42SA+ sprinklers and 8-trees will be irrigated with 1 gpm 5000S+PCSR - 5000 Series Shrub sprinklers.

DNRC Form 600 - 35.-Adequacy of Diversion: A system curve was analyzed for Zone 1 which has the furthest distance from the pump. The Zone 1 system has been analyzed, assuming 20 ft. of vertical lift, 60 psi outlet pressure, 565 ft. of 1-1/2-inch HDPE pipe with approximately 37 ft. of minor equivalent pipe. The system curve was plotted on the Grundfos 22 SQ10-160 pump curve and the operation point was found to be a minimum 1.4 HP pump operating at 18 gpm at 62% efficiency allowing for 10 ft. of net positive suction head (NPSH). It is assumed that a standard 1.5 HP pump motor will be used with the 220 V power supply. The configuration of submersible pump in an 8-inch casing will require less than 10 ft. of NPSH. The pump-curve and system-curve graphs showing the most probable operation point at 18 gpm are attached.

DNRC Form 600- 36. Adequate Means of Diversion and Operation: Beneficial Use Operations

Using 18 gpm for flow rate will allow for efficient distribution of water to each zone and will allow for each zone to run the minimum amount of time each day of use. The source for the water is the Kootenai River which has an average daily flow rate of 16,100 cfs, and the average low recorded flow after the construction of Libby Dam is near 4,000 cfs. The requested flow rate is 0.00024% of the average flow rate and 0.001% of the low flow rate showing the flow capacity is readily available without adverse effects to stream flows. Using a high flow rate per acre will minimize pump runtime, sprinkler system use, have lower power costs and lengthen the system life.

The volume is based on a climatic area map from the DNRC WRD, which shows this property is in a moderately high consumptive use area. The climatic area map is attached with the POU shown as a dot on the map. ARM 36.12.112 Period of Diversion and Period of Use Standards shows for this area the period of use could be from April 1 to October 15 in any year. The maximum volume of water in this climatic area is defined in ARM 36.12.115 Water Use Standards to be between

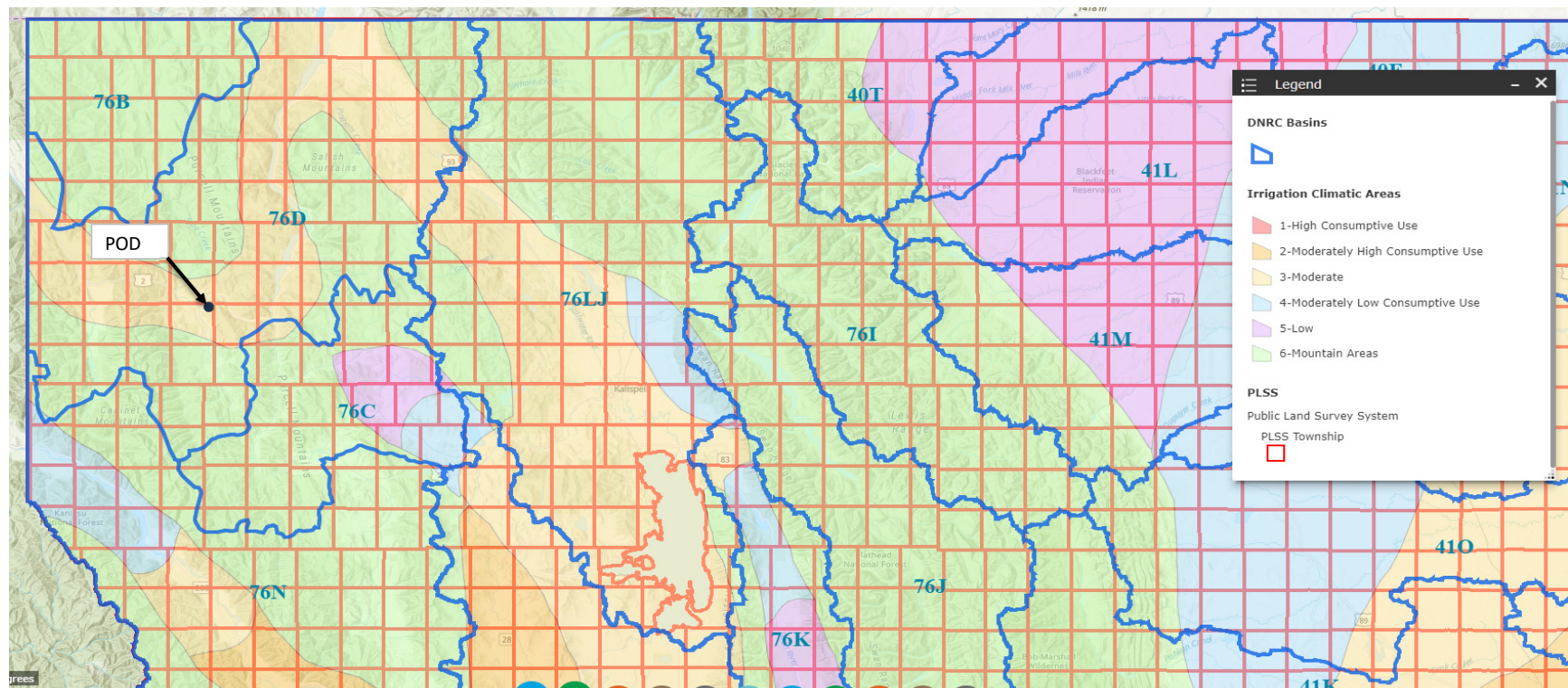
2.08 to 2.41 AF/ac./year. For the 0.86 ac proposed to be irrigated on the property that would be a maximum useable volume between 1.85 and 2.14 AF/year.

Water is planned to be used for ½ -hour each irrigated day which would have a maximum use of 1,620 gallons per day of use. The average amount of water used in a dry year; it is planned to be irrigation every day throughout a 190-day irrigation period. This rate and time would divert a maximum of 0.94 AF/year for this property.

Therefore, the requested maximum flow rate of 18 gpm up to 0.94 AF per year from April 1 to October 15 each year is a reasonable flow rate and volume and is a beneficial use of water.

SURFACE WATER APPLICATION FOR BENEFICIAL WATER USE PERMIT: KOOTENAI RIVER
HAFFERMAN AND MINOR
149 Margaret Lane Libby, Montana
Geocode 56-4283-25-4-01-19-0000 Section 25 and Section 36, Township 31 North Range 31 West

DNRC Form 600: Climatic Area Map



SURFACE WATER APPLICATION FOR BENEFICIAL WATER USE PERMIT: KOOTENAI RIVER
HAFFERMAN AND MINOR
149 Margaret Lane Libby, Montana
Geocode 56-4283-25-4-01-19-0000 Section 25 and Section 36, Township 31 North Range 31 West

DNRC Form 600: Supplemental Water Rights

STATE OF MONTANA
DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION
1424 9TH AVENUE P.O. BOX 201601 HELENA, MONTANA 59620-1601

GENERAL ABSTRACT

Water Right Number: 76D 30164146 GROUND WATER CERTIFICATE

Version: 1 -- ORIGINAL RIGHT

Version Status: ACTIVE

Owners: KURTIS M HAFFERMAN
PO BOX 1690
LIBBY, MT 59923-5001

KATHY M MINER
PO BOX 1690
LIBBY, MT 59923-1690

Priority Date: JULY 22, 2024 at 01:00 P.M.

Enforceable Priority Date: JULY 22, 2024 at 01:00 P.M.

Purpose (Use): DOMESTIC
LAWN AND GARDEN
LAWN AND GARDEN

Maximum Flow Rate: 15.00 GPM

Maximum Volume: 3.16 AC-FT

Maximum Acres: 0.86

Source Name: GROUNDWATER

Source Type: GROUNDWATER

Point of Diversion and Means of Diversion:

<u>ID</u>	<u>Govt Lot</u>	<u>Qtr Sec</u>	<u>Sec</u>	<u>Twp</u>	<u>Rge</u>	<u>County</u>
1		SWSESE	25	31N	31W	LINCOLN

Period of Diversion: JANUARY 1 TO DECEMBER 31

Diversion Means: WELL

Subdivision: MBMI DEVELOPMENT INC TRACT/LOT: 8

Purpose (Use): DOMESTIC

Households: 1

Volume: 1.00 AC-FT

Period of Use: JANUARY 1 to DECEMBER 31

Place of Use:

<u>ID</u>	<u>Acres</u>	<u>Govt Lot</u>	<u>Qtr Sec</u>	<u>Sec</u>	<u>Twp</u>	<u>Rge</u>	<u>County</u>
1			NWNENE	36	31N	31W	LINCOLN

Subdivision: MBMI DEVELOPMENT INC TRACT/LOT 8

Purpose (Use): LAWN AND GARDEN

Volume: 0.73 AC-FT

Period of Use: APRIL 1 to OCTOBER 31

Place of Use:

<u>ID</u>	<u>Acres</u>	<u>Govt Lot</u>	<u>Qtr Sec</u>	<u>Sec</u>	<u>Twp</u>	<u>Rge</u>	<u>County</u>
1	0.29		SWSESE	25	31N	31W	LINCOLN

Subdivision: MBMI DEVELOPMENT INC TRACT/LOT 8

Total: 0.29

Purpose (Use): LAWN AND GARDEN

Volume: 1.43 AC-FT

Period of Use: APRIL 1 to OCTOBER 31

Place of Use:

<u>ID</u>	<u>Acres</u>	<u>Govt Lot</u>	<u>Qtr Sec</u>	<u>Sec</u>	<u>Twp</u>	<u>Rge</u>	<u>County</u>
1	0.57		NWNENE	36	31N	31W	LINCOLN

Subdivision: MBMI DEVELOPMENT INC TRACT/LOT 8

Total: 0.57

Geocodes/Valid: 56-4283-25-4-01-19-0000 - Y

SURFACE WATER APPLICATION FOR BENEFICIAL WATER USE PERMIT: KOOTENAI RIVER
HAFFERMAN AND MINOR
149 Margaret Lane Libby, Montana
Geocode 56-4283-25-4-01-19-0000 Section 25 and Section 36, Township 31 North Range 31 West

DNRC Form 600: Possessory Interest Deed

STATE OF MONTANA, LINCOLN COUNTY

RECORDED:03/05/2021 08:23 AM KOI: DEED:17

Robin A. Benson CLERK AND RECORDER

FEE: \$14.00

BY: *Clyde E. Rm*

Deputy

TO:First American Title - Libby 120 W 6th Street Ste 5, Libby, Montana 59923

AND WHEN RECORDED MAIL TO:

Kurtis Hafferman and Kathy Miner

*3610 MT Hwy 37
Libby, MT 59923*

Filed for Record at Request of:

First American Title Company

Space Above This Line for Recorder's Use Only

Order No.: 958062-FT

Parcel No.: 0050473

**WARRANTY DEED
(Joint Tenancy)**

FOR VALUE RECEIVED,

MBMI Development, Inc., a closely-held corporation

hereinafter called Grantor(s), do(es) hereby grant, bargain, sell and convey unto

Kurtis Hafferman and Kathy Miner

whose address is: **Lot #8 Margaret Ln., Libby, MT 59923**

hereinafter called Grantees, as joint tenants (and not as tenants in common) and to the survivor of said named joint tenants, and to the heirs and assigns of such survivor, the following described premises, in **Lincoln County, Montana**, to-wit:

Lot 8 of MBMI Development Inc., according to the map or plat thereof on file in the office of the Clerk and Recorder, Lincoln County, Montana. Plat 7152

SUBJECT TO Covenants, Conditions, Restrictions, Provisions, Easements and encumbrances apparent or of record.

TO HAVE AND TO HOLD, the said premises, with its appurtenances unto the said Grantees, as joint tenants with the right of survivorship (and not as tenants in common) and to the heirs and assigns of the survivor of said named tenants forever. And the said Grantor(s) do(es) hereby covenant to and with Grantees, he(she or they) is/are the owner(s) in fee simple of said premises; that they are free from all encumbrances except for taxes and assessments for current and subsequent years and he (she or they) will warrant and defend same from all lawful claims whatsoever.

Dated: March 03, 2021

MBMI Development, Inc., a closely-held corporation

By: Walter Rucinski

Name: Walter Rucinski

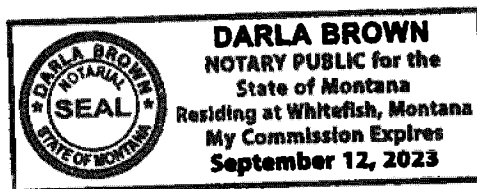
Title: President

STATE OF Montana)
COUNTY OF Flathead)
SS.

On March 4, 2021, before me a Notary Public, personally appeared **Walter Rucinski**, known to me to be the President of MBMI Development, Inc.

[Signature]
Signature of Notarial Officer

Notary Public for the State of Montana
Residing at:
Commission Expires:



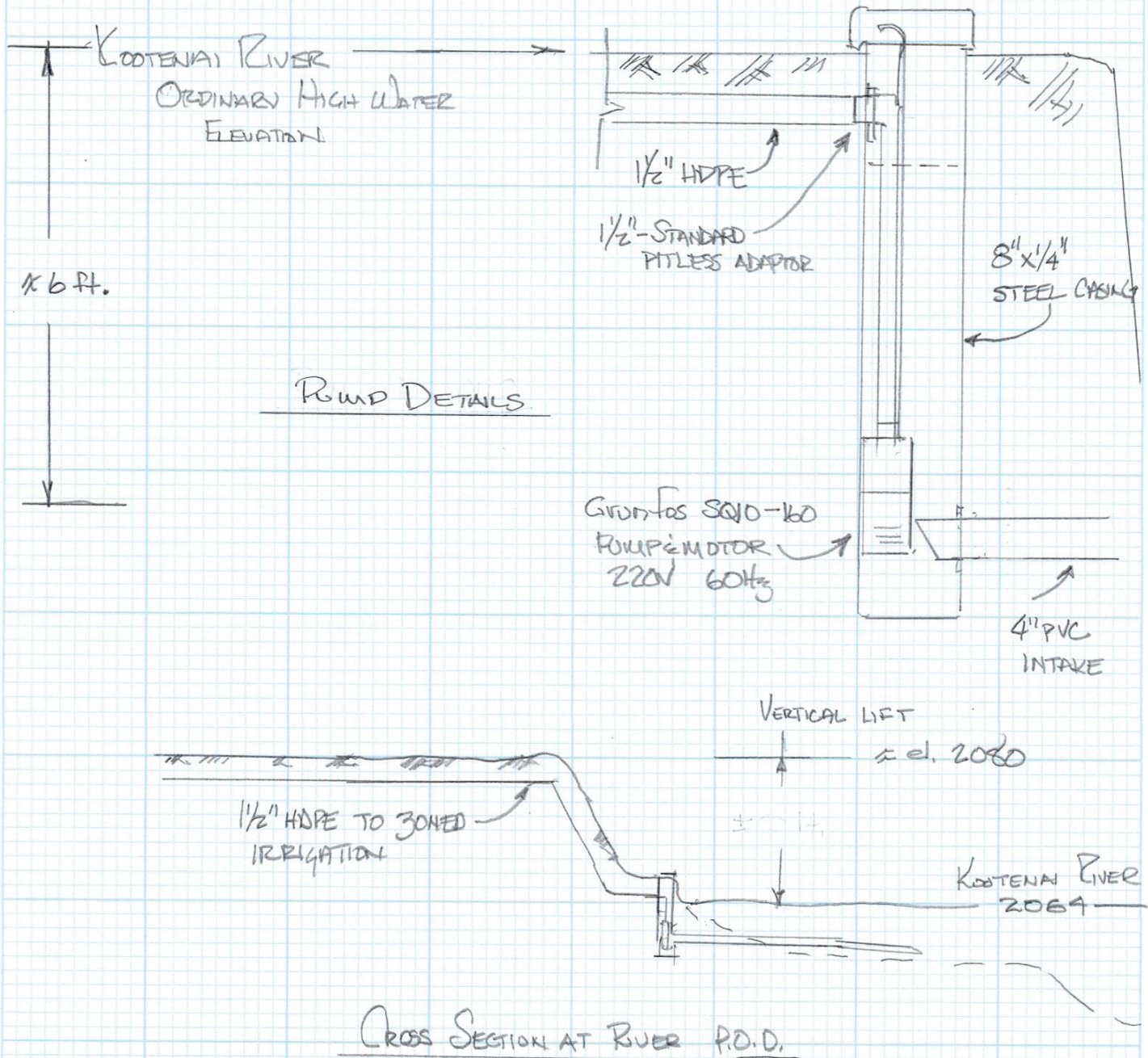
SURFACE WATER APPLICATION FOR BENEFICIAL WATER USE PERMIT: KOOTENAI RIVER
HAFFERMAN AND MINOR
149 Margaret Lane Libby, Montana
Geocode 56-4283-25-4-01-19-0000 Section 25 and Section 36, Township 31 North Range 31 West

DNRC Form 600 Adequate Means of Diversion Attachments

SURFACE WATER APPLICATION FOR BENEFICIAL WATER USE PERMIT: KOOTENAI RIVER
HAFFERMAN AND MINOR
149 Margaret Lane Libby, Montana
Geocode 56-4283-25-4-01-19-0000 Section 25 and Section 36, Township 31 North Range 31 West

DNRC Form 600 Adequate Means of Diversion: POD Design

Property Sketch — POINT OF DIVERSION



Mark:

- ☐ Water Meter or Pump Location
- ☐ Timer (Where you want it to be placed)
- ☐ Valve Manifold Locations (Where you want them)
- ☐ North

Accuracy is important. Mark the scale of your drawing:
(If the scale used is not one of the options below, please identify the scale used)

- ☐ 1 in. = 10 ft. For lots less than 80 ft. x 100 ft.
- ☐ 1 in. = 20 ft. For lots less than 160 ft. x 200 ft.
- ☐ 1 in. = 30 ft. For lots less than 240 ft. x 300 ft.

Rain Bird respects your privacy. This form is to gather information in order to do business with you. We do not sell, rent, loan or transfer any personal information. We may disclose this information if we believe that we are required to do so by law, such as in response to a government or court order, subpoena or other legal process. If you wish to correct information, you would like more information regarding privacy policies or do not wish to receive further communication from us, you can send an email to rbwebmaster@rainbird.com.

Name: HAFFERMAN

Property: 149 MARGARET LANE, LIBBY, MONTANA Lot Dimensions: 140x350

Maximum yard size for a Rain Bird computerized design is 240' x 300'.

SURFACE WATER APPLICATION FOR BENEFICIAL WATER USE PERMIT: KOOTENAI RIVER

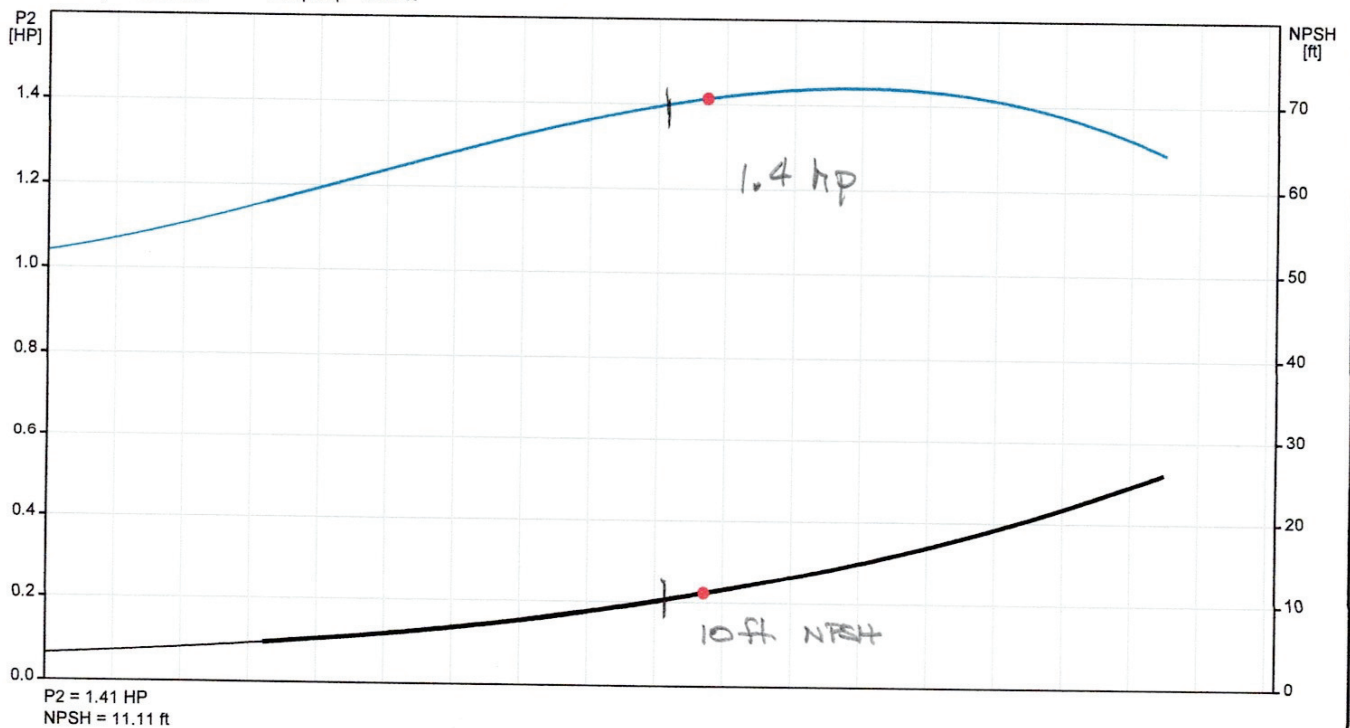
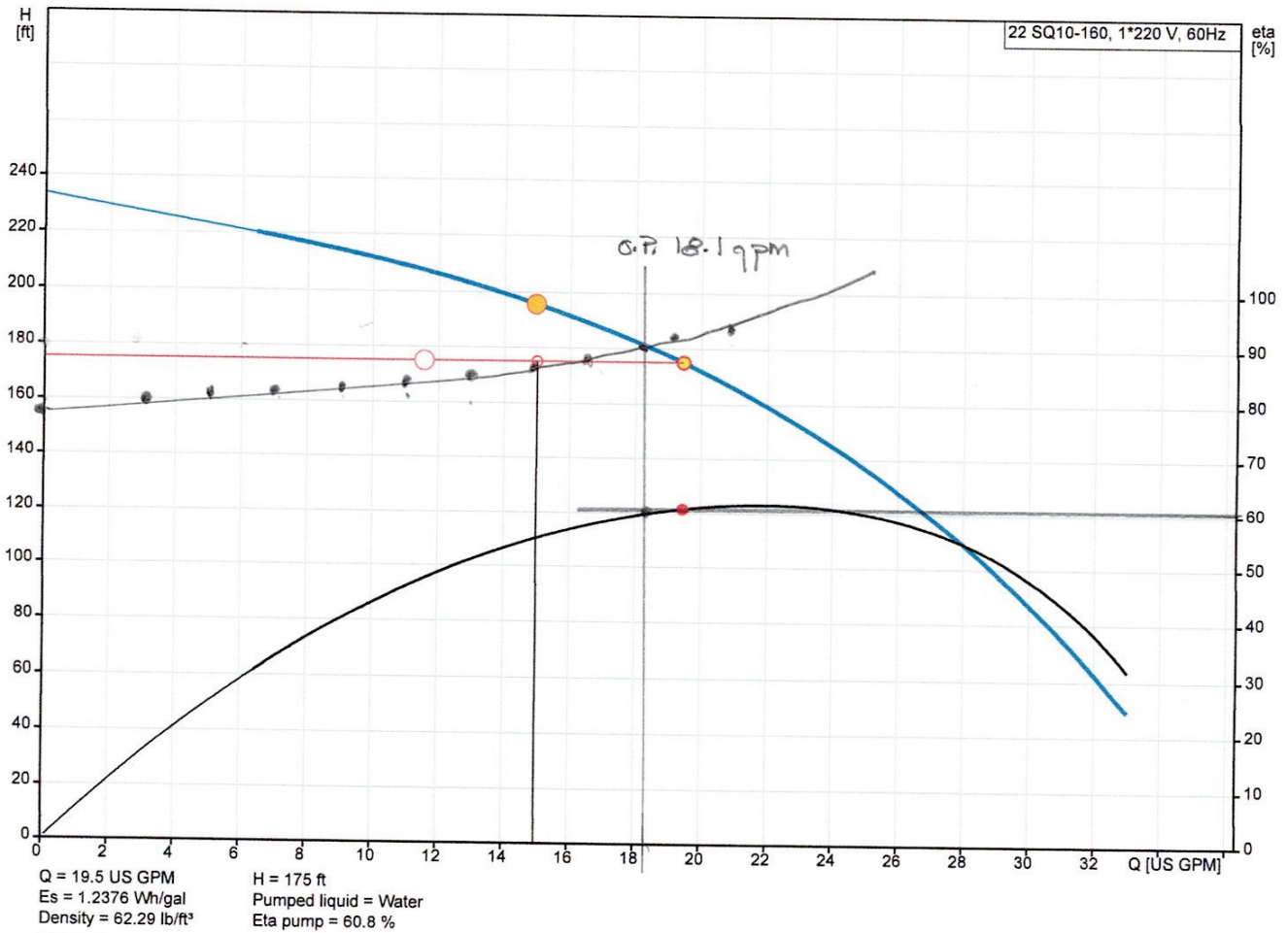
HAFFERMAN AND MINOR

149 Margaret Lane Libby, Montana

Geocode 56-4283-25-4-01-19-0000 Section 25 and Section 36, Township 31 North Range 31 West

DNRC Form 600 Adequate Means of Diversion: POD Design Pump Operation and System Curve

96160156 22 SQ10-160 60 Hz

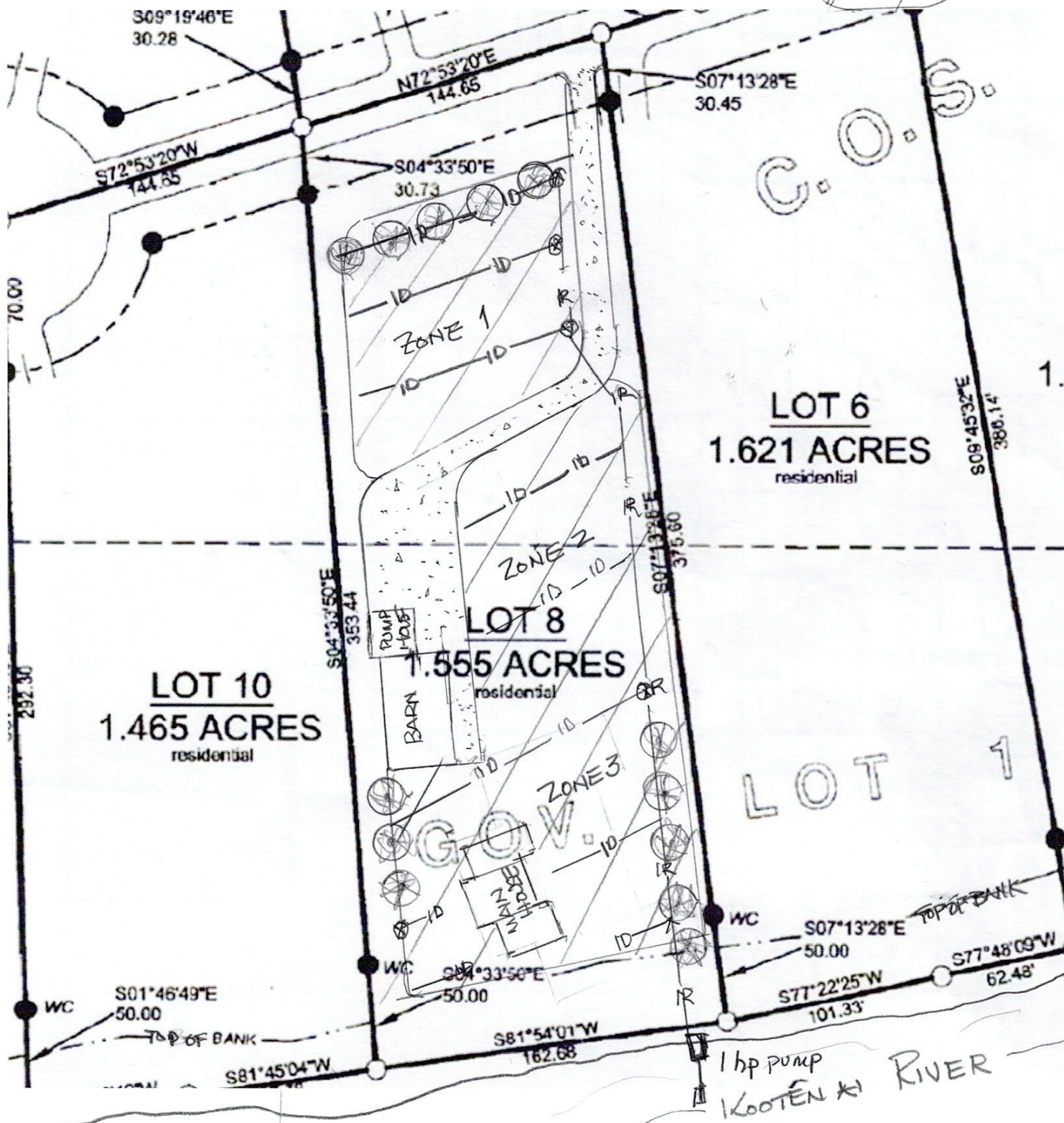


SURFACE WATER APPLICATION FOR BENEFICIAL WATER USE PERMIT: KOOTENAI RIVER
HAFFERMAN AND MINOR
149 Margaret Lane Libby, Montana
Geocode 56-4283-25-4-01-19-0000 Section 25 and Section 36, Township 31 North Range 31 West

DNRC Form 600 Adequate Means of Diversion: Irrigated Acres

1 1/2" MAIN IRRIGATION PIPE — IR — AUTOMATED —
 1" — DISTRIBUTION PIPE — ID — IRRIGATED LAWN

SCALE 1" = 60'



PLACE OF USE MAP

SURFACE WATER APPLICATION FOR BENEFICIAL WATER USE PERMIT: KOOTENAI RIVER
HAFFERMAN AND MINOR
149 Margaret Lane Libby, Montana
Geocode 56-4283-25-4-01-19-0000 Section 25 and Section 36, Township 31 North Range 31 West

DNRC Form 600 Adequate Means of Diversion: System Specifications and Cost

Hafferman-Miner

Irrigation System Demand and Rainbird Comonenets and cost

gallons per minute	18 gpm	
(minutes per day/zone)*3	90 min.	0.0002490005
gallons per day	1620 cfs	0.0010022272
days per irrigation season	95 days	
cubic feet per second	0.040 cfs	
time per day (90 minutes/1440 minutes per day)	0.0625 days	
acre feet per year=(gallons per day*95 days)/325851 gallons/AF	0.94 AF/year	

Detail	Unit Cost	#Units	Subtotal		Comments
Zone Valve	\$ 344.75	3	\$ 1,034.25	Zone Valve	Rainbird; 200PESB - 2 in. Inlet Inline Plastic Industrial Irrigation Valve
Controller	\$ 179.99	1	\$ 179.99	Controller	Rainbird: ARC8 App Based Residential Controller - 8 Zone
42SA Sprinklers	\$ 14.99	18	\$ 269.82	42SA Sprinklers	42SA+ - Heavy Duty Simple Adjust Professional 3/4" Inlet Gear Drive Rotor Sprinkler
Shrub Rotor on Riser	\$ 30.00	15	\$ 450.00	Shrub Rotor on Riser	5000S+PCSR - 5000 Series Shrub Rotor with PRS Pressure Regulation and SAM Check Valve
1-1/2" Poly Pipe/100 ft	\$ 207.00	4	\$ 828.00	2" Poly Pipe/100 ft.	1-1/2 in. x 100 ft. IPS 100 psi NSF Poly Pipe: Home Depot
1" Poly Pipe/100 ft.	\$ 176.00	3	\$ 528.00	1" Poly Pipe/100 ft.	1 in. x 100 ft. IPS 100 psi NSF Poly Pipe: Home Depot
90 degree	\$ 1.49	12	\$ 17.88	90 degree	1-1/2 in. Barb Insert Blue Twister Polypropylene 90-Degree Elbow
Pipe to Pipe coupling	\$ 0.94	11	\$ 10.34	Pipe to Pipe coupling	1-1/2 in. Barb Insert Blue Twister Polypropylene Coupling Fitting
Barb to 2" thread	\$ 1.00	13	\$ 13.00	Barb to 2" thread	1-1/2 in. Barb Insert Blue Twister Polypropylene x MPT Adapter
3-barb tee 1-1/2"-1"	\$ 1.76	25	\$ 44.00	3-barb tee	1-1/2" to 1" reducer from mainline to zonesBlue Twister Polypropylene Tee Fitting
3-barb tee 1"-3/4"	\$ 1.12	20	\$ 22.40	3-barb tee	1"-3/4" reducer from zones to sprinkler Blue Twister Polypropylene Tee Fitting
Trench Length total	\$ 2.00	565	\$ 2,030.00	Trench excavation	Cost of excavation and backfill labor, materials and excavator rental.
Subtotal Materials and Excavtion and burial			\$ 5,427.68		
10% contingency			\$ 542.77		
Total Estimated irrigation system cost			\$ 5,970		

SURFACE WATER APPLICATION FOR BENEFICIAL WATER USE PERMIT: KOOTENAI RIVER
HAFFERMAN AND MINOR
149 Margaret Lane Libby, Montana
Geocode 56-4283-25-4-01-19-0000 Section 25 and Section 36, Township 31 North Range 31 West

DNRC Form 600 Adequate Means of Diversion: Conveyance System Specifications



42SA+ - Heavy Duty Simple Adjust Professional ¾" Inlet Gear Drive Rotor Sprinkler

★★★★★ 7 Reviews [Ask a question](#)

\$14.99

~~list Price \$29.79~~

IN STOCK
SKU#: W42003

Qty [Add to Cart](#)

[ADD TO WISH LIST](#)

[ADD TO COMPARE](#)

- Improve coverage consistency and reduce cycle times with this rotor's Rain Curtain nozzle technology that distributes water more evenly throughout the pattern
- More effective close-in coverage solves problems with dry spots around the heads of your rotor zone
- Water lubricated, gear driven design is quiet and trouble-free
- Self-flushing at pop-down to clear debris and maintain spray efficiency
- Easy to adjust spray distance from 26 to 38 ft
- ¾ in. female inlet threads
- Additional o-rings and seals for extra protection in 'gritty' water
- Easy to adjust arc from 40 to 360 degrees for part or full operation
- Heavy-duty stainless steel retract spring assures positive pop-down
- 4 in. pop up height to clear tall grass

[42SA Adjustment](#)
[How to change Rotor Nozzles](#)
[Rotor Selection Guide](#)
[Rotor Performance Chart](#)

Save
49%



Details

This professional grade Rain Bird 42SA+ rotor sprinkler features superior durability plus exceptional watering uniformity of patented Rain Curtain nozzle technology, resulting in a greener and more even lawn with reduced watering time.

The rotor distributes larger water droplets that cover evenly throughout the pattern, also reducing wind-blown overspray.

Nozzle micro ramps direct a portion of the spray near the head, adding gentle close-in coverage with reduced watering velocity that won't wash out new seed.

Simple top adjustments for arc and distance help you keep water on the grass, not spraying on the house, sidewalk or driveway.

The rotor also features a rugged dual-action, positive stop wiper seal that protects internals from debris and, together with a heavy duty stainless steel spring, assures positive retraction for leak-free performance.

It installs on a standard ¾ in. riser for simple replacement of older rotors.

Rain Bird 42SA Rotor Sprinklers



Warranty

If a purchaser of any new Rain Bird consumer product becomes dissatisfied with it for any reason, he may return it to the retailer where it was purchased within a reasonable time for a full refund. Rain Bird's obligation is limited to this refund for any product that does not meet a purchaser's expectations. Other than its satisfaction policy, there are no warranties on Rain Bird consumer products, express or implied, nor will Rain Bird be responsible for any economic or consequential damages.

More Information

Frequently Bought Together



- ☐ This Item: 42SA+ - Heavy Duty Simple Adjust Professional ¾" Inlet Gear Drive Rotor Sprinkler \$14.99 ~~list Price \$29.79~~
- ☒ 42SA+/4PKS - Heavy Duty Simple Adjust Professional ¾" Inlet Gear Drive Rotor Sprinkler - 4 Pack \$51.99 ~~list Price \$97.47~~
- ☒ 42S2NZLPK - Rotor Nozzle Tree for 42SA+, 52SA & 5000+ Rotors \$2.99 ~~list Price \$9.71~~
- ☒ 32SA/4PK - 32SA Simple Adjust Series Closed-Case ¾" Inlet Gear Drive Rotor Sprinkler - 4 Pack \$53.99 ~~list Price \$66.71~~
- ☒ 32S2NZLPK - 32SA Rotor Nozzle Tree \$2.82
- ☒ SST400In - 4-Station Indoor SST "Simple to Set" Irrigation Timer \$69.99 ~~list Price \$122.99~~

[Add All to Cart](#) **Total price \$196.77**



[Home](#) > 5000S+PCSR - 5000 Series Shrub Rotor with PRS Pressure Regulation and SAM Check Valve

5000S+PCSR - 5000 Series Shrub Rotor with PRS Pressure Regulation and SAM Check Valve

★★★★★ 1 Review [Ask a question](#)

\$30.00

List Price ~~\$37.50~~

IN STOCK

SKU#: Y65550

Qty [Add to Cart](#)

[ADD TO WISH LIST](#)

[ADD TO COMPARE](#)

- 5000 Series Shrub Rotor with SAM Check Valve, ideal for watering shrubs and hillsides
- **NOTE: Shrub rotors do not pop up -- mount above ground on a 3/4" fixed threaded riser**
- Includes locking screw to fasten shrub rotor to the riser and Secure Ribs™ to assist in staking.
- Heavy-duty cover assembly for extra durability
- Top-adjust arc adjustment requiring only a flat-blade screwdriver
- 40 - 360° arc rotation and reversing full circle rotation in one
- Radius adjustment screw allows up to 25% radius reduction without changing nozzles
- Rain Curtain™ Nozzles
- Faster maintenance with a new self-cleaning arc adjustment screw
- Slip clutch mechanism for quick adjustment on installation
- Additional O-rings and seals for extra protection in "gritty" water
- Seal-A-Matic (SAM) check valve holds up to 7 feet (2.1m) of elevation change to prevent puddling and erosion caused by low head drainage
- Pressure Regulating Stem (PRS) which regulates pressure at the head, assuring optimum performance

Save
20%



Details

Relax with the knowledge your landscape is being watered by reliable 5000 Series Rotors and industry-leading Rain Curtain Nozzle Technology. Rain Bird® 5000 Series Shrub Rotors are ideal for medium to large-size shrub areas and hillsides and evenly distribute water from 25 to 50 feet.

Outstanding Results

Superior Distribution Uniformity. 5000 Series Rotors with Rain Curtain Technology are engineered to deliver a uniform spray pattern, giving you a consistently green lawn throughout.

Superior Wind Resistance

The larger water droplets produced by Rain Curtain technology prevent misting and airborne evaporation so the right amount of water is delivered to the right place, saving you water and money.

Superior Close-in Watering

Gentle close-in watering eliminates dry spots around the rotor, prevents seed washout and allows plants to grow healthy with no matting or bending.

More Information



200PESB – 2 in. Inlet Inline Plastic Industrial Irrigation Valve

☆☆☆☆☆ Write a review 1 Questions \ 1 Answers

\$344.75

IN STOCK
SKU#: B35213

Qty < 1 >

Add to Cart

♥ ADD TO WISH LIST

⚙️ ADD TO COMPARE

- 2 in. (50/60) plastic industrial irrigation valve
- Durable glass-filled nylon construction with fabric-reinforced rubber diaphragm for long life and reliable performance
- Globe configuration
- Normally closed, forward flow design
- Slow closing to prevent water hammer and subsequent system damage
- Low flow capability for a wide range of applications
- One-piece solenoid design with captured plunger and spring for easy servicing; prevents loss of parts during field service
- Flow control handle adjusts water flows as needed
- * Solenoid handle is not included *



Plastic

Dirty Water

2 in.

Inline

Details	
More Information	
Model	200PESB
Valve Size	2 in
Valve Type	Inline
Material	Plastic
Valve Inlet/Outlet Configuration	NPT Female x NPT Female Threaded
Valve Options	Dirty Water
Valve Series	PEB/PESB
Operating Temperature	Up to 150° F (66° C)
Dimensions	6 1/2" x 4" x 4" (16,5 cm) x (10,2 cm) x (10,2 cm)
Electrical Specifications	24 VAC 50/60 Hz (cycles per second) solenoid Inrush current: 0.41A (9.9VA) Holding current: 0.14A (3.43VA) Coil resistance: 30-39 Ohms
Flow Range	Flow without PRS-D option: 0.25 to 200 GPM (0,06 to 45 m3/h; 0,02 to 12,60 l/s) Flow with PRS-D option: 5 to 200 GPM (1,14 to 45 m3/h; 0,32 to 12,60 l/s)
Operating Pressure	20 to 200 psi (1,4 to 13,8 bar)

Frequently Bought Together



- ☐ This Item: 200PESB – 2 in. Inlet Inline Plastic Industrial Irrigation Valve \$344.75
- ☒ SOLASSG4 – Solenoid Repair Kit for PEB, PGA, EFB-CP, BPC/PES and GB Valves \$37.80 ~~list Price \$50.99~~
- ☒ 20PESBDBO – 200 PESB Valve Replacement Diaphragm Assembly and Bonnet Assembly \$122.86 ~~list Price \$191.46~~
- ☒ F4PC – Falcon 6504 Rotor Pop-Up Sprinkler – Part-Circle Pattern Nozzle \$70.00
- ☒ AG-5 – Maxi-Paw Pop-up 3/4" or 1/2" Inlet Impact Rotor Sprinkler with Blue Nozzle #8 \$21.99 ~~list Price \$45.56~~
- ☒ ST/1PK – Fmitter Installation Tool \$6.99 ~~list Price \$12.99~~

Add All to Cart

Total price \$604.39



ENGLISH EN ES FR

WiFi Smart Controller User Manual

Feature	Description
Maximum zones	8
Automatic programs	3
Start times per program	4
Custom run days	Yes
Master valve control	Yes
Rain delay	Yes
Rain/freeze sensor control	Yes
Seasonal adjust	Yes
Manual zone run	Yes
Manual program run	Yes
Manual test all zones	Yes
Zone advance	Yes
Basic WiFi	Yes
AP Hotspot	Yes

Installation

If You're Replacing an Existing Controller

1. Take a photo of the wiring details, which will be useful to reference when installing the new controller.

Mount New Controller

1. Unless installing with custom wiring, choose a mounting location on a wall within six feet of an AC power outlet and at least 15 feet away from major appliances or air conditioners.

WARNING

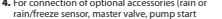
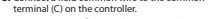
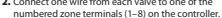
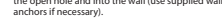
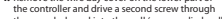
DO NOT remove the jumper wire unless connecting a rain or rain/freeze sensor. The controller will not function if the jumper wire is removed and a rain or rain/freeze sensor is not connected.

Rain Bird controllers are only compatible with normally closed rain or rain/freeze sensors.

Check local and/or state regulations to determine if a rain or rain/freeze sensor is required.

2. Drive a mounting screw into the wall, leaving an 1/8-inch gap between the screw head and the wall surface (use supplied wall anchors if necessary).

3. Locate the keyhole slot on back of the controller and hang it securely on the mounting screw.



Connect Custom Wiring (optional)

WARNING

- Ensure that AC power is disconnected before replacing wiring.
- The strain-relief must be secured for safe and proper function.
- When using fixed wiring to main supply, the installation must incorporate a disconnection device.
- DO NOT apply power until you have completed and checked all wiring connections.
- DO NOT attempt to link two or more controllers together using a single transformer.

1. If desired, the provided power cord can be removed and replaced with custom wiring.

2. Remove the wire bay cover on the lower part of the controller.

3. Locate the transformer box in the left-hand corner of the wire bay and unscrew the wiring compartment cover.

4. Unscrew the wire nuts connecting the AC power cord and the transformer wires. Remove the power cord wires from the transformer box.

5. Remove the factory installed power cord by loosening the two screws securing the metal strain-relief bar.

6. Route the three wires from an external power source into the wiring compartment.

7. Connect the external power supply wires using the wire nuts and secure the metal strain relief bar by tightening the two screws.

Power Wiring Connections 120 VAC

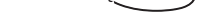
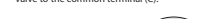
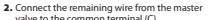
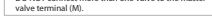
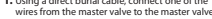
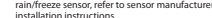
- Black supply wire (live) to the black transformer wire
- White supply wire (neutral) to white transformer wire
- Green supply wire (ground) to the green transformer wire

Connect Rain/Freeze Sensor (optional)

NOTICE

- DO NOT remove the jumper wire unless connecting a rain or rain/freeze sensor. The controller will not function if the jumper wire is removed and a rain or rain/freeze sensor is not connected.
- Rain Bird controllers are only compatible with normally closed rain or rain/freeze sensors.
- Check local and/or state regulations to determine if a rain or rain/freeze sensor is required.

1. Remove the yellow jumper wire from the SENS terminals on the controller.



Connect Pump Start Relay (optional)

WARNING

- DO NOT route the pump start relay wires through the same opening as the power wires.

NOTICE

- A pump start relay connects to the controller in the same way as a master valve, but connects differently at the water source.
- This controller DOES NOT provide power for a pump. A relay must be wired according to pump manufacturer's installation instructions.

1. Using a direct burial cable, connect one of the wires from the pump start relay to the master valve terminal (M).

2. Connect the remaining wire from the pump start relay to the common terminal (C).

3. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

4. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

5. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

6. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

7. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

8. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

9. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

10. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

11. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

12. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

13. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

14. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

15. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

16. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

17. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

18. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

19. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

20. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

21. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

22. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

23. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

24. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

25. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

26. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

27. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

28. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

29. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

30. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

31. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

32. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

33. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

34. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

35. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

36. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

37. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

38. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

39. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

40. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

41. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

42. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

43. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

44. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

45. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

46. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

47. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

48. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

49. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

50. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

51. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

52. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

53. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

54. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

55. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

56. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

57. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

58. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

59. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

60. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

61. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

62. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

63. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

64. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

65. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

66. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

67. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

68. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

69. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

70. To avoid possible pump damage in the event run times are assigned to unused zones, connect a short jumper wire from all unused zone terminals to the nearest zone terminal in use.

2. SET PROGRAM START TIME(S):

- This controller is scheduled using up to four independent start times per program. The start time(s) is the time of day at which the program will begin. Each start time will run every zone on its scheduled duration within that program.
- In the Rain Bird App, add a program start time by selecting the icon.
- Set the zone(s) and watering duration(s) associated with the start time by selecting the icon.

NOTICE

- Start times apply to the entire program, not individual zones. Depending on landscaping needs, multiple start times may be assigned for that program. Once the start time is set, the controller begins the watering cycle with the first zone; the other zones in the program follow in sequence.

3. SET PROGRAM RUN DAYS:

- Run days are the specific days of the week in which watering occurs.
- In the Rain Bird App, set the watering frequency by selecting Odd (days of the week), Even (days of the week), Custom or Cyclic (specific intervals).

NOTICE

- Watering days apply to the entire program, not the individual zones.

4. SEASONAL ADJUST

- changes the watering duration (as a percent) for all zones associated with run times in an individual program. This may be manually adjusted in the Rain Bird App using the slider in

Manual del Usuario del Controlador Inteligente WiFi

Característica	Descripción
Máximo de zonas	8
Programas automáticos	3
Horarios de inicio por programa	4
Días de operación personalizados	Si
Control de válvula maestra	Si
Retardador por lluvia	Si
Control de sensor de lluvia/congelamiento	Si
Ajuste estacional	Si
Operación manual de zona	Si
Operación manual de programa	Si
Prueba manual de todas las zonas	Si
Avance de zona	Si
WiFi incorporado	Si
Punto de acceso inalámbrico	Si

Instalación

Si está reemplazando un controlador existente

1. Tome una fotografía de los detalles del cableado, la cual será útil para usar como referencia cuando instale el controlador nuevo.
2. Desenchufe el cable de alimentación del tomacorriente de CA y desconecte los cables del controlador.

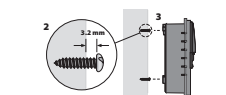
Coloque el controlador nuevo

1. A menos que la instalación sea con cableado a la medida, elija colocarlo en un lugar de la pared dentro de los 1.8 m de distancia del enchufe y por lo menos 4.5 m de distancia de electrodomésticos o equipos de aire acondicionado grandes.

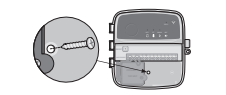
ADVERTENCIA

Instale el controlador con la salida del cable eléctrico apuntando hacia abajo, a fin de evitar el ingreso de agua.

2. Coloque un tornillo de montaje en la pared, dejando un espacio de 3.2 mm entre la cabeza del tornillo y la superficie de la pared (de ser necesario, use los anclajes de pared provistos).
3. Ubique la ranura de montaje en la parte trasera del controlador y cuelgue de manera segura sobre el tornillo de montaje.



4. Retire la cubierta del puerto del cableado en la parte inferior del controlador y coloque un segundo tornillo en la pared, a través del agujero (de ser necesario, use los anclajes de pared provistos).



Conecte el cableado de la válvula

1. Después de retirar el puerto del cableado, pase todos los cables de campo por la abertura en la parte inferior del controlador.

ADVERTENCIA

NO pase los cables de la válvula por la misma abertura que los cables de energía.

1. Con un cable de enterramiento directo, conecte uno de los cables de la válvula maestra al terminal de la válvula maestra (M).

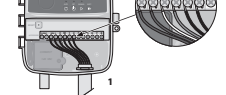
ADVERTENCIA

NO conecte más de una válvula en el mismo terminal de zona (1-8).

3. Conecte un cable de cada válvula en cada uno de los terminales de zona numerados (1-8) en el controlador.

ADVERTENCIA

NO conecte accesorios opcionales (sensor de lluvia o lluvia/congelamiento, válvula maestra, relé de inicio de bomba), consulte la sección apropiada dentro de este manual.



Conecte cableado a la medida (opcional)

ADVERTENCIA

• Asegúrese de que la alimentación de corriente está desconectada antes de reemplazar el cableado.

• El aislamiento de tensión debe volver a asegurarse para un funcionamiento seguro y adecuado.

• Cuando se use una conexión directa a la alimentación eléctrica, la instalación debe incorporar un dispositivo de desconexión.

• NO energice hasta que haya completado y verificado todas las conexiones del cableado.

• NO intente vincular dos o más controladores usando un solo transformador.

1. Si lo desea, puede retirar el cable de 1 cable de alimentación provisto y reemplazarlo con un cable a medida.
2. Retire la cubierta del puerto del cableado en la parte inferior del controlador.
3. Coloque la caja del transformador en la esquina izquierda del puerto del cableado y desatorille la cubierta del compartimento del cableado.
4. Desatorille las tuercas de cable que conectan el cable de alimentación de corriente y los cables del transformador. Retire los cables de corriente de la caja del transformador.
5. Retire el cable de alimentación instalado de fábrica añadiendo los dos tornillos que fijan el alfiler de tensión de metal.
6. Pase los tres cables de una fuente de corriente externa hasta el compartimento del cableado.

Conexiones de cableado de corriente 120 V

- Cable de suministro negro (fase) para el cable de transformador negro.
- Cable de suministro blanco (neutro) para el cable de transformador blanco.
- Cable de suministro verde (tierra) para el cable de transformador verde.

Conecte el sensor de lluvia/congelamiento (opcional)

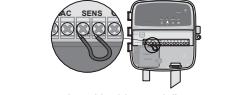
ADVERTENCIA

• No retire el cable puente a menos que conecte un sensor de lluvia o lluvia/congelamiento. El controlador no funcionará si se retira el cable pasa corriente y no hay un sensor conectado.

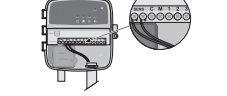
• Los controladores Rain Bird solo son compatibles con sensores de lluvia normalmente cerrados.

• Revise las disposiciones locales y/o estatales para determinar si se requiere un sensor de lluvia o lluvia/congelamiento.

1. Retire el cable puente amarillo de los terminales SENS en el controlador.



2. Conecte ambos cables del sensor de lluvia o lluvia/congelamiento a los terminales SENS.



3. Para una instalación y operación detallada del sensor de lluvia o lluvia/congelamiento, consulte las instrucciones de instalación del fabricante del sensor.

Conecte la válvula maestra (opcional)

ADVERTENCIA

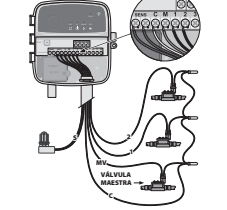
NO pase los cables de la válvula maestra por la misma abertura que los cables de energía.

1. Con un cable de enterramiento directo, conecte uno de los cables de la válvula maestra al terminal de la válvula maestra (M).

ADVERTENCIA

NO conecte más de una válvula en el terminal de la zona maestra (M).

2. Conecte el cable restante de la válvula maestra en el terminal común (C).



Conecte el relé de arranque de bomba (opcional)

ADVERTENCIA

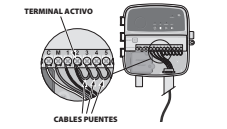
NO pase los cables del relé de arranque de bomba por las mismas aberturas de los cables de corriente.

ADVERTENCIA

• Un relé de arranque de bomba se conecta al controlador de la misma forma que una válvula maestra, pero se conecta distinto en la fuente de agua.

• Este controlador NO proporciona corriente para una bomba. Debe conectarse un relé de acuerdo con las instrucciones de instalación del fabricante de la bomba.

1. Con un cable de enterramiento directo, conecte uno de los cables de la válvula maestra al terminal común (C).
2. Conecte el cable restante del relé de arranque de bomba en el terminal común (C).
3. Para evitar posible daño en la bomba, en el caso de que se asignen horarios de operación en zonas no utilizadas, conecte un cable puente corto desde todos los terminales de zona no utilizados hasta el terminal de zona en uso más cercano.



4. Para una instalación y operación detallada del relé de arranque de bomba, consulte las instrucciones de instalación del fabricante de la bomba.

ADVERTENCIA

• El controlador debe estar conectado a WiFi para hacer ajustes automáticos.

• Un valor de ajuste del 100 % representa la irrigación estándar de 1.8 m, por lo que puede instalarse en interiores o exteriores (si se conecta en un enchufe externo impermeable).

• El controlador puede cablearse directamente al suministro eléctrico retirando el cable de corriente. Este tiene un transformador interno que reduce el voltaje del suministro de 120V a 24V - 60Hz. Necesitará conectar los cables de suministro de corriente a los tres terminales de controlador (fase, neutro, tierra). Consulte la sección "Conecte el cableado a la medida" para encontrar los detalles de instalación.

ADVERTENCIA

• La descarga eléctrica puede causar lesiones graves y hasta la muerte. Asegúrese de que el suministro de corriente está APAGADO antes de conectar los cables de corriente.

• NO enchufe ni verifique el controlador hasta que haya completado y verificado todas las conexiones del cableado.

• Desconecte o apague la fuente de corriente externa antes de conectar o desconectar los cables en el controlador.

Programación

Agregue un nuevo controlador a la aplicación Rain Bird

1. Antes de instalar el controlador nuevo, verifique la señal de WiFi en la ubicación del controlador.
- Verifique que el controlador tenga una potencia de señal mínima de dos barras.
- Monte el controlador más cerca del enrutador o si es necesario, coloque un intensificador de señal.

2. Descargue y abra la aplicación Rain Bird.



3. Seleccione "Agregar controlador" para iniciar el asistente de instalación.

Configure fecha y hora

- Cuando el controlador está conectado a WiFi automáticamente configurará la fecha y la hora de acuerdo con la configuración de red de WiFi local.
- En el caso de un corte de corriente, la fecha y hora se configurará por defecto a la configuración de red de WiFi local.
- Si no hay una red de WiFi local disponible al momento de la configuración y el controlador está conectado a la aplicación Rain Bird en modo de punto de acceso inalámbrico, el controlador se configurará por defecto con la fecha y hora en la configuración del dispositivo móvil.

Cómo crear un programa de riego

1. **AGREGAR PROGRAMAS.** Este controlador está programado para usar hasta tres programas (A, B y C). Los programas básicos incluyen instrucciones para los días de riego, horas de inicio, y duraciones.

En la aplicación Rain Bird, agregue un nuevo programa seleccionando + PGM y un programa disponible.

ADVERTENCIA

• La primera vez que se conecte al controlador, la aplicación móvil Rain Bird reflejará el programa asignado por defecto al controlador. Usted puede conservar, cambiar o configurar un nuevo programa en ese momento.

• La programación se almacena en una memoria no volátil y permanecerá en el controlador en el caso de un corte de corriente.

2. CONFIGURE LOS HORARIOS DE INICIO DEL PROGRAMA

Este controlador está programado para utilizar hasta cuatro horarios de inicio independientes por programa. Los horarios de inicio es la hora del día en la que comenzará el programa. Cada horario de inicio operará todas las zonas por su duración programada dentro de ese programa.

- En la aplicación Rain Bird, agregue un horario de inicio del programa seleccionando el icono
- Configure las zonas y duraciones de riego asociadas con el horario de inicio seleccionando el icono

ADVERTENCIA

Los horarios de inicio aplican al programa completo, no a zonas individuales. Dependiendo de las necesidades del paisaje, pueden asignarse varios horarios de inicio para ese programa. Una vez que se configure el horario de inicio, el controlador comienza el ciclo.

3. CONFIGURE LOS DÍAS DE OPERACIÓN DEL PROGRAMA

Los días de operación son los días específicos de la semana en que ocurre el riego. Configure la frecuencia de riego al seleccionar Impares (días de la semana), Pares (días de la semana), Personalizado o Cíclico (intervalos específicos).

4. EL AJUSTE ESTACIONAL cambia la duración del riego (como porcentaje) para todas las zonas asociadas con los horarios de operación en un programa individual.

Este ajuste permite ajustar la duración del riego (como porcentaje) para todas las zonas asociadas con los horarios de operación en un programa individual. Esto puede ajustarse manual mente en la aplicación Rain Bird usando el deslizador en la configuración del programa.

ADVERTENCIA

• El controlador debe estar conectado a WiFi para hacer ajustes automáticos.

• Un valor de ajuste del 100 % representa la irrigación estándar de 1.8 m, por lo que puede instalarse en interiores o exteriores (si se conecta en un enchufe externo impermeable).

• Si está experimentando un clima cálido en un día de verano, puede no usar ajuste por encima del 100 %.

5. RETARDO POR LLUVIA.

En la aplicación Rain Bird, puede configurar el retardo de riego automáticamente durante una cantidad fija de días cuando llueva, incluso sin un sensor de lluvia.

- Suspensa el riego por hasta 14 días seleccionando el icono
- Seleccione la configuración del controlador.
- Deslice la barra hasta la cantidad de días deseados para retardar el riego automático.
- Seleccione "Grabar" para guardar la configuración.

LA CANTIDAD MÁXIMA DE DÍAS PARA RETARDAR EL RIEGO ES 14.

Después de la expiración de los días de retardo, se reanuda la irrigación automática de acuerdo con el horario programado.

Riego manual EN EL CONTROLADOR

- Oprima el botón **P** para iniciar el riego manual.
- Por defecto, cada zona operará durante 10 minutos; usted puede elegir mantener o cambiar la duración del riego en la aplicación Rain Bird.
- La luz LED parpadeante dará la indicación de la zona que está activa.
- Oprima el botón **A** para avanzar a la siguiente zona.
- Oprima el botón **D** para detener el riego manual en el controlador.

EN LA APLICACIÓN RAIN BIRD

• Seleccione el icono

• Seleccione las preferencias de riego manuales para iniciar el riego manual.

• Oprima el botón **M** para avanzar a la siguiente zona.

• Oprima el botón **D** para detener el riego manual en el controlador.

Riego automático EN EL CONTROLADOR

ADVERTENCIA

Cuando opere en modo automático, cada programa operará de acuerdo con los horarios de inicio, así como los días y horarios de operación de cada zona en secuencia, hasta que haya realizado todo el riego programado.

- Oprima **C** para iniciar el riego automático de acuerdo con los programas asignados.
- La luz LED parpadeante dará la indicación de la zona que está activa.
- Oprima el botón **A** para avanzar zonas.
- Oprima el botón **D** para detener el riego automático en el controlador.

EN LA APLICACIÓN RAIN BIRD

La aplicación Rain Bird ofrece un alternador para cambiar entre riego automático y apagado.

Soporte Técnico

Para obtener ayuda con la configuración o operación del Controlador Inteligente WiFi Rain Bird, por favor llame al número gratuito de Soporte Técnico de Rain Bird al: 1-800-RAIN BIRD (800-724-6247) o visite www.rainbird.com.



Manuel d'utilisation du programmeur intelligent WiFi

Caractéristique	Description
Zones maximales	8
Programmes automatiques	3
Heures de début par programme	4
Jours d'arrosage sur-mesure	Oui
Contrôle de la vanne principale	Oui
Délai de pluie	Oui
Ajustement du capteur de pluie/gel	Oui
Régulateur saisonnier	Oui
Arrosage manuel de zone	Oui
Programme d'arrosage manuel	Oui
Test manuel de toutes les zones	Oui
Avance de zone	Oui
WiFi intégré	Oui
Point d'accès AP	Oui

Installation

Si vous remplacez un programmeur existant

1. Prenez une photo des détails de câblage qui seront utiles pour référence lors de l'installation du nouveau programmeur.
2. Débranchez le cordon d'alimentation de la prise secteur et déconnectez les fils du programmeur.

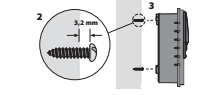
Monter le nouveau programmeur

1. A moins d'installer avec un câblage personnalisé, choisissez un emplacement de montage sur un mur à moins de 1.8 m d'une prise de courant alternatif et à au moins 4.5 m à l'écart de gros appareils électroménagers ou des climatiseurs.

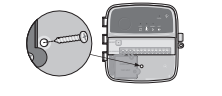
ADVERTISSEMENT

Installez le programmeur avec la sortie du cordon d'alimentation vers le bas pour éviter l'infiltration d'eau.

2. Serrez une vis de montage dans le mur en laissant un espace de 3.2 mm entre la tête de la vis et la surface du mur (utilisez les chevilles fournies si nécessaire).
3. Localisez la fente en trou de serrure à l'arrière du programmeur et accrochez-le solidement sur la vis de montage.



4. Retirez le couvercle de la baie de câbles sur la partie inférieure du programmeur et vissez une deuxième vis à travers le trou ouvert et dans le mur (utilisez les chevilles fournies si nécessaire).



Connecter le câblage de la vanne

1. Une fois le couvercle de la baie de câbles retiré, acheminiez tous les câbles terrestres à travers l'ouverture au bas du programmeur.

ADVERTISSEMENT

N'acheminez PAS les fils de vannes à travers la même ouverture que les fils.

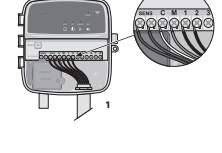
2. Connectez un fil de chaque vane à l'une des bornes de zone numérotées (1 à 8) sur le programmeur.

AVIS

NE connectez PAS plus d'une vane à la même borne de zone (1 à 8).

3. Connectez un fil commun terrestre à la borne commune (C) du programmeur.

4. Pour le raccordement d'accessoires, en option (capteur de pluie ou de pluie/gel, vanne principale, relais de démarrage de pompe), reportez-vous à la section appropriée de ce manuel.



Connecter le câblage personnalisé (en option)

ADVERTISSEMENT

• Assurez-vous que l'alimentation CA est débranchée avant de remplacer le câblage.

• La barre anti-traction doit être relâchée pour une utilisation sécuritaire et correcte.

• Lors de l'utilisation d'un câblage fixe à l'alimentation principale, l'installation doit intégrer un dispositif de désconnexion.

• NE mettez PAS sous tension tant que vous n'avez pas terminé et vérifié toutes les connexions de câblage.

• N'acheminez PAS de relai des zones ou programmes ou plus à l'aid d'un seul transformateur.

1. Si vous le souhaitez, le cordon d'alimentation fourni peut être retiré et remplacé par un câblage personnalisé.
2. Retirez le couvercle de la baie de câblage sur la partie inférieure du programmeur.
3. Repérez le boîtier du transformateur dans le coin gauche de la baie de câblage et dévissez le couvercle du compartiment de câblage.
4. Dévissez les serre-fils reliant le cordon d'alimentation CA et les fils du transformateur. Retirez les fils du cordon d'alimentation du boîtier du transformateur.
5. Retirez le cordon d'alimentation installé en usine en desserrant les deux vis fixant la barre métallique anti-traction.
6. Acheminez les trois fils d'une source d'alimentation externe dans le compartiment de câblage.
7. Connectez les câbles d'alimentation externe à l'aide des serre-fils, puis fixez à nouveau la barre anti-traction métallique en serrant les deux vis.

Connexions du câblage d'alimentation 120 VCA

- Fil d'alimentation noir (phase) au fil noir du transformateur.
- Fil d'alimentation blanc (neutre) au fil blanc du transformateur.
- Fil d'alimentation vert (terre) au fil vert du transformateur.

Connecter le capteur de pluie/gel (en option)

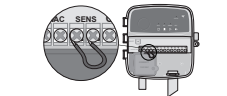
AVIS

• N'acheminez PAS le fil de raccordement à moins de connecter un capteur de pluie ou de pluie/gel. Le programmeur ne fonctionnera pas si le cavalier est retiré et qu'un capteur n'est pas connecté.

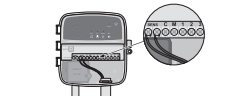
• Les programmeurs Rain Bird ne sont compatibles qu'avec les capteurs de pluie normalement fermés.

• Consultez les réglementations locales et/ou nationales pour déterminer si un capteur de pluie ou de pluie/gel est nécessaire.

1. Retirez le cavalier jaune des bornes SENS sur le programmeur.



2. Connectez les fils du capteur de pluie ou de pluie/gel aux bornes SENS.



3. Pour plus de détails sur l'installation et le fonctionnement du capteur de pluie ou de pluie/gel, reportez-vous aux instructions d'installation du fabricant du capteur.

Connecter la vanne principale (en option)

ADVERTISSEMENT

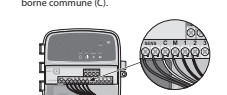
NE faites PAS passer les fils de la vanne principale par la même ouverture que les fils d'alimentation.

1. À l'aide d'un câble enterré direct, connectez l'un des fils de la vanne principale à la borne de la vanne principale (M).

AVIS

NE connectez PAS plus d'une vane à la même borne de vanne principale (M).

2. Connectez le fil restant de la vanne principale à la borne commune (C).



Connecter le relais de démarrage de la pompe (en option)

ADVERTISSEMENT

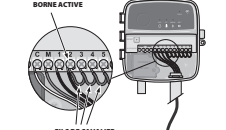
N'acheminez PAS les fils du relai de démarrage de la pompe dans les mêmes ouvertures que les fils d'alimentation.

AVIS

• Un relais de démarrage de pompe se connecte au programmeur de la même manière qu'une vanne principale, mais se connecte différemment à l'arrosage associé.

• Ce programmeur NE fournit PAS d'alimentation pour une pompe. Un relai doit être câblé conformément aux instructions d'installation du fabricant de la pompe.

1. À l'aide d'un câble enterré direct, connectez l'un des fils de la vanne principale à la borne de la vanne principale (M).
2. Connectez l'autre fil du relai de démarrage de la pompe à la borne commune (C).
3. Pour éviter d'endommager la pompe dans le cas où des durées d'arrosage sont affectées à des zones inutilisées, connectez un fil de raccordement court de toutes les bornes de zone inutilisées à la borne de zone la plus proche en zones d'utilisation.



4. Pour plus de détails sur l'installation et le fonctionnement du relai de démarrage de la pompe, reportez-vous aux instructions d'installation du fabricant de la pompe.

Brancher l'alimentation

• Le programmeur est livré avec un cordon d'alimentation type de 1.8 m afin qu'il puisse être installé à l'intérieur ou à l'extérieur (s'il est branché sur une prise externe dédiée).

• Le programmeur peut être branché directement à une source d'alimentation en retirant le cordon d'alimentation. Il possède un transformateur interne qui réduit la tension d'alimentation de 120 VCA à 24 VCA. Vous devez recorder les fils d'alimentation aux trois fils du transformateur (phase, neutre, terre). Reportez-vous à la section « Connexion du câblage personnalisé » pour les détails sur l'installation.

ADVERTISSEMENT

• Un choc électrique peut entraîner des blessures graves et la mort. Assurez-vous que l'alimentation est coupée avant de brancher les câbles d'alimentation.

• NE branchez PAS ni NE mettez PAS sous tension tant que vous n'avez pas terminé et vérifié toutes les connexions de câblage.

• Déconnectez ou coupez la source d'alimentation externe avant de brancher ou de débrancher les fils du programmeur.

Programmation

Ajouter un nouveau programmeur à l'application Rain Bird

1. Avant de monter un nouveau programmeur, vérifiez le signal WiFi à l'emplacement du programmeur.
- Vérifiez que la force minimale du signal est de deux barres au niveau du programmeur.
- Montrez le programmeur plus près du routeur ou ajoutez-y un amplificateur de signal si nécessaire.

2. Téléchargez et lancez l'application Rain Bird.



3. Sélectionnez « Ajouter un programmeur » pour lancer l'assistant de configuration.

Régler le jour et l'heure

- Lorsque le programmeur est connecté au WiFi, il règle automatiquement la date et l'heure en fonction des paramètres du réseau WiFi local.
- En cas de panne de courant, la date et l'heure seront par défaut les paramètres du réseau WiFi local.
- Si un réseau WiFi local n'est pas disponible lors de la mise en service et que le programmeur est connecté à l'application Rain Bird en mode Point d'accès AP, le programmeur utilisera par défaut la date et l'heure des paramètres de l'appareil mobile.

Créer un calendrier d'arrosage

1. **AJOUTER PROGRAMME(S) :** Ce programmeur est réglé en utilisant jusqu'à trois programmes (A, B et C). Les programmes de base comprennent des instructions sur les jours d'arrosage, les heures de début, les jours et les durées d'arrosage.

AVIS

• La première fois que vous vous connectez au programmeur, l'application Rain Bird indique le programme par défaut assigné au programmeur.

• Vous pouvez modifier, modifier le programme par défaut ou sélectionner + PGM pour ajouter un ou plusieurs nouveaux programmes.

• La programmation est stockée dans une mémoire non volatile et restera dans le programmeur en cas de panne de courant.

2. RÉGLER LA ZONE OU LES HEURES DE DÉMARRAGE DU PROGRAMME :

Ce programmeur est réglé sur quatre heures de démarrage indépendantes maximum par programme. L'heure de début est l'heure de la journée à laquelle le programme commencera. Chaque heure de démarrage s'appliquera à chaque zone pendant sa durée programmée dans ce programme.

- Dans l'application Rain Bird, ajoutez une heure de début de programme en sélectionnant l'icône
- Réglez la ou les zones et la ou les durées d'arrosage associées à l'heure de début en sélectionnant l'icône

3. DÉFINIR LES JOURS D'ARROSAGE DU PROGRAMME :

Les jours de démarrage sont les jours spécifiques de la semaine où l'arrosage a lieu. Réglez la fréquence d'arrosage en sélectionnant Impair (jours de la semaine), Pair (jours de la semaine), Personnalisé ou Cyclique (intervalles spécifiques).

AVIS

Les jours d'arrosage s'appliquent à l'ensemble du programme, et non aux zones individuelles.

4. La fonction **AJUSTEMENT SAISONNIER** modifie la durée d'arrosage (en pourcentage) pour toutes les zones associées aux temps d'arrosage dans un programme individuel. Vous pouvez ajuster manuellement dans l'application Rain Bird à l'aide du curseur dans les paramètres du programme.

AVIS

- Le programmeur doit être connecté au WiFi pour effectuer des ajustements automatiques.
- Une valeur d'ajustement de 100 % est représentative de l'irrigation pendant la période moyenne la plus chaude de l'année. Ainsi, même si vous constatez un temps chaud un jour, même si vous ne venez pas de pluie, vous ne pouvez pas ajuster jusqu'à 100 %.

5. DÉLAI POUR LLUIE :

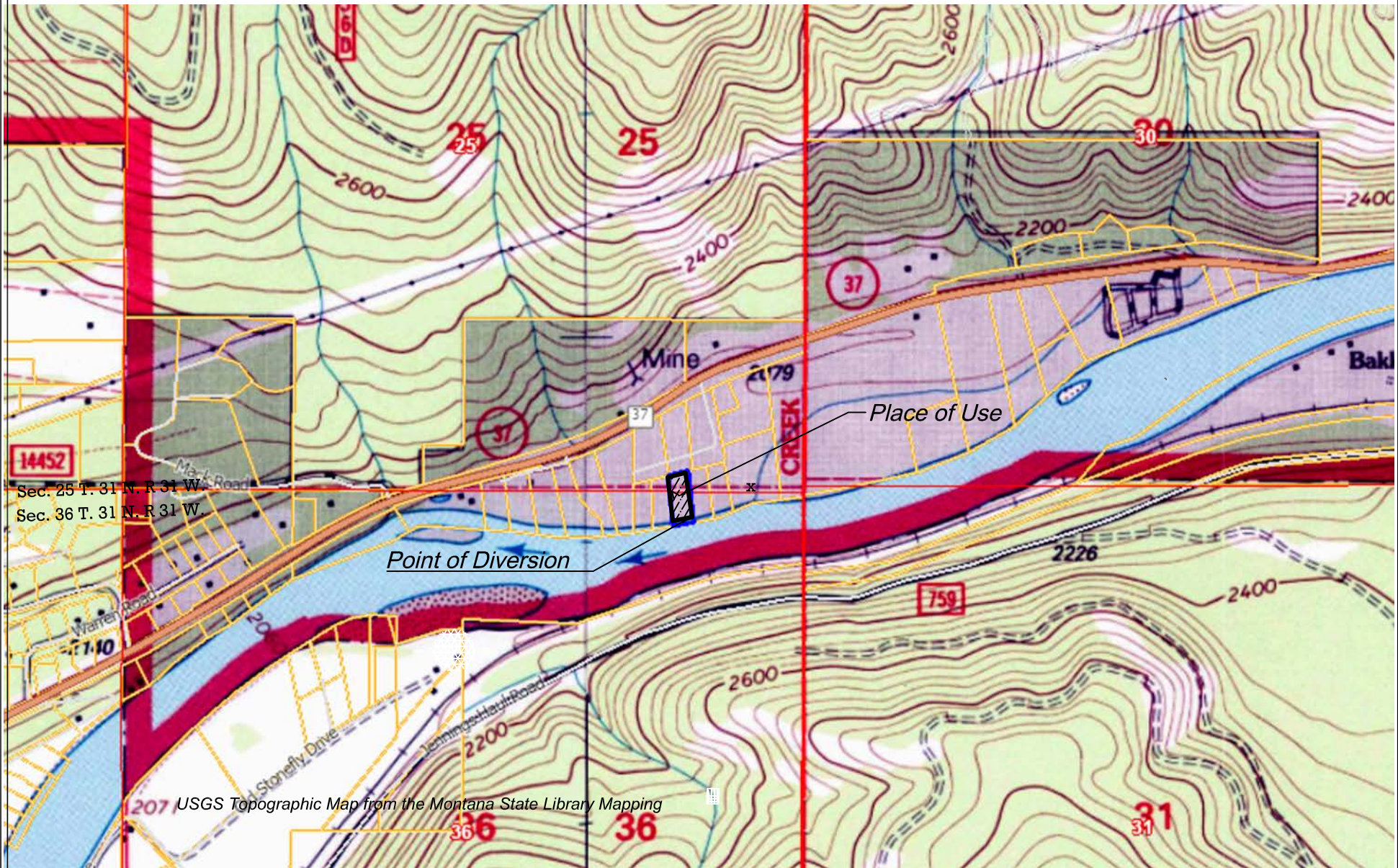
Dans l'application Rain Bird, vous pouvez configurer le retard de riego automatique pendant un nombre fixe de jours jusqu'à pleuvoir même sans capteur de pluie.

- Suspendez l'arrosage jusqu'à 14 jours

SURFACE WATER APPLICATION FOR BENEFICIAL WATER USE PERMIT: KOOTENAI RIVER
HAFFERMAN AND MINOR
149 Margaret Lane Libby, Montana
Geocode 56-4283-25-4-01-19-0000 Section 25 and Section 36, Township 31 North Range 31 West

DNRC Form 600 Site Map

Lot 8 MBMI Subdivision Irrigation POD and POU Legal Location
DNRC Permit Form 600 Hafferman and Miner



DATE	
PROJECT NO.	
DRAWING NO.	
SCALE	
BY	
CHECKED	
APPROVED	
DATE	

LOT 8 MBMI SUBDIVISION
IRRIGATION POD and POU
FOR
HAFFERMAN - MINER
SECTION 25 & 30 T31N, R31W, E31M, LINCOLN COUNTY, MONTANA



HAFFERMAN ENGINEERING, INC.
PO Box 388
Lima, Montana 59623
PHONE: (406) 312-2404
EMAIL: hafferman@haffermaneng.com
ONLINE: http://www.haffermaneng.com

COPYRIGHT © 2024 HAFFERMAN ENGINEERING, INC.
ALL DRAWING AND WRITTEN INFORMATION APPEARING HEREON IS THE PROPERTY OF HAFFERMAN ENGINEERING, INC. AND AS SUCH SHALL NOT BE DUPLICATED IN ANY FORM, OR REPRODUCED OR OTHERWISE USED WITHOUT THE EXPRESS WRITTEN CONSENT OF HAFFERMAN ENGINEERING, INC.

DRAWING TITLE:
LEGAL LOCATIONS
POD and POU
USGS Topographic Map

SCALE:
AS SHOWN

DATE:
May 10, 2025

PROJECT NO:
H112.01

DRAWING NUMBER:
1 OF 1