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September, 23rd, 2021 **JK/20-094-03**

Wyoming Water Development Commission
6920 Yellowtail Road
Cheyenne, WY 82002

ATTN: **George Moser, Groundwater Exploration Division**

RE: **Water Development Program Application - Groundwater Exploration Grant for Future Supply Well to Serve the Skyline Ranch ISD Water System, Jackson, WY Water System**

Dear George,

On behalf of the Skyline Ranch Improvement and Service District (SRISD), please find enclosed materials and application for ground water exploration grant funding. In accordance with the attached application, the SRISD is seeking funding for exploration and construction funding for a new groundwater supply well including hydro-geologic analysis/well siting study, well permitting, well bidding and contractor procurement, well construction, aquifer testing, water quality analysis, and completion of a final report.

The application includes the following attachments:

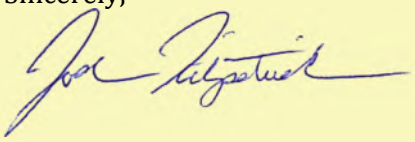
- **Exhibit A**: Note, a notarized SRISD resolution is forthcoming and will be provided following the October 14th, 2021 SRISD Board meeting.
- **Exhibit B**: Map of corporate limits of the SRISD water system.
- **Exhibit C**: Map of the water system including preferred location of future well.

Based on findings of the recently completed WWDC Level II Skyline Water study (WWDC Job# 05SC0298355), the current water system is on the verge of experiencing supply insufficiencies during peak hours and in the future will be incapable of meeting demands with the largest well out of service. The SRISD finds additional supply as critical and necessary to providing reliable public water supply.

It is the District's hope that funding may be granted so that well exploration activities can start this winter and well construction and testing can commence in the Spring of 2022. Meeting this timeline will enable the District to apply for Level III funding late next summer for completion of the new well facilities, along with upgrades to existing water system controls and storage.

Please do not hesitate to contact me if you have questions or concerns regarding the application or materials submitted.

Sincerely,



Josh Kilpatrick, PE
Project Manager
Nelson Engineering
PH: 307-690-2086
Email: jkilpatrick@nelsonengineering.net

THE STATE OF WYOMING
Water Development Commission
6920 YELLOWTAIL ROAD TELEPHONE: (307) 777-7626 CHEYENNE, WY 82002

WATER DEVELOPMENT PROGRAM APPLICATION

GROUND WATER EXPLORATORY GRANTS

Grant funding for ground water studies is based on WWDC recommendations and is sourced from block appropriations by the legislature from the Water Development Accounts. The WWDC authorizes ground water grant expenditures as a maximum 75% project cost share to eligible entities before project work can begin. Applications to fund new or continuing groundwater studies **must** be submitted at least **45 days prior** to scheduled WWDC meetings for consideration. Ground water exploration grants are promulgated by statute (W.S. 41-2-119. Groundwater studies), governed by WWDC Rules and Regulations, and managed according to program "Guidelines:" http://wwdc.state.wy.us/groundwater_grant/groundwater_grant_projects.html

Applicants seeking ground water exploration grant funding must be an incorporated municipality, water district, water & sewer district, or service & improvement district with taxing and/or assessment authority. Private corporations, individuals, and other special districts are not eligible for assistance. Use of grant funds is limited to feasibility study of and/or exploration for the use of ground water for municipal and rural domestic purposes. The WWDC grants for groundwater studies are not to exceed $400,000 for any one study and/or exploration program. The sponsor receiving the grant shall provide at least 25% of the cost of the feasibility study and/or exploration program from its own funds. **The sponsor is solely responsible for acquiring access, easements, or rights-of-way necessary for exploration**. All grants terminate 24 months from the date of the award.

Note: If you are seeking Level II or Level III funding for a ground water source supply project, this is the wrong application. You must complete a Planning or Construction program application for Municipal or Rural Domestic System projects.

APPLICATION REQUIREMENTS

- **The person signing the application must have authority to commit the entity to a binding contract.**
- **A notarized copy of a resolution supporting this application passed by the board or other governing body of the entity must be provided.** - See Exhibit A, attached
- **A project area map (8.5" x 11" preferred) showing corporate boundaries, project location and features should be provided. Include any reports or other supporting information available.** - See Exhibit B with map of corporate boundary. The recently completed WWDC Level II Study can be found on the WWDC website.
- **The project sponsor must govern a system that includes a minimum of 15 taps with meters on each tap.**

I. ENTITY INFORMATION

Skyline Ranch Improvement & Service District				
1. Applicant – Name of Entity				
Special District				1989
2. Type of Entity (Municipality, Joint Powers Board, etc.)				3. Year of Formation
n/a - see mailing address below				
4. Physical Address (Street Address)				
Jackson	Teton	WY	83001	307-733-3932
5. City	6. County	7. State	8. Zip Code	9. Phone

PO Box 3601, Jackson, WY 83001		
10. Mailing Address (If Different From Above)		
Jim Lewis	307-413-0829	jamesl5546@gmail.com
11. Primary Contact Person (Type or Print Name)	12. Phone	13. Email
M-F 8-5		
14. Best Time(s) to Reach Contact Person		
Kurt Harland, ISD Board Chair	DocuSigned by: 1BBC74D3942A462...	9/23/2021
15. Authorized Official (Type or Print Name)	16. Signature of Authorized Official	17. Date

Before applying for project funding, the Wyoming Water Development Commission strongly recommends completion of a Public Water System Survey or Irrigation System Survey available through the link on the website located here: http://wwdc.state.wy.us/surveys/surveys.html

18. Has the application entity completed this survey? ☒ Yes ☐ No

If the application was prepared by someone other than the contact person, please provide the following:

Josh Kilpatrick	Engineering Consultant	307-690-2086	jkilpatrick@nelsonengineering.net
19. Name	20. Affiliation	21. Phone	22. Email

II. PURPOSE AND NEED

1. Provide a brief statement describing the project for which funding is sought, and include the reasons the project is needed. Describe the current situation with the water supply that will be improved by the project. What is the factor that is presently limiting the system supply capacity (e.g., treatment, storage, transmission, etc.)? Attach additional information if needed:

The Skyline Ranch ISD is seeking WWDC Ground Water Exploration Grant funding to construct a new well to satisfy existing and future domestic demands and come into compliance with current Wyoming Department of Environmental Quality (WDEQ) regulations. Existing supply facilities, consisting of two wells, supply 265 gpm (each) to the system at normal operating pressures. The current maximum day and peak hour flows are 183 gpm and 329 gpm, respectivily. Based on the WWDC Level II Study, the 30-yr projected maximum day and peak hour flows are 278 and 484 gpm, respectivily. According to WDEQ Chapt. 12, Section 8,(d),(ii), "*Finished water pumping in combination with finished water storage that floats on the distribution system shall provide the maximum hour flow with the single largest unit not in service.*" The current Skyllne water system is incapable of meeting this criteria.

2. Is the applicant entity under any federal (EPA) mandates to improve the water system (e.g., administrative orders, violations, actions taken, etc.)?

No

3. Operating Criteria of the Wyoming Water Development Program advocates prioritization of projects that may serve more than one entity or purpose and those that provide water to a larger, more regional area. Is the applicant entity currently served by a regionalized water supply system? If so please specify. Or will the applicant entity consider regional solutions to the purpose and needs of its water supply system?

The Skyline Ranch ISD (applicant) is not served by a regionalized water system, however, they will consider regional solutions that will benefit the ISD and it's water users.

4. List any previous work (studies) completed by or for the entity:

2021 - WWDC Level II Study (Job#: SC0298355)

2019 - Level I Study (homebrew), Executive Summary found in Appendix A.2 of the Level II described above.

5. Provide a brief description of the water system operations. Identify the public works director. Identify any system automation within the operations (e.g., SCADA) and existence of any hydraulic models of the system. Describe existing mapping (e.g., paper, map books, GIS). Attach additional information if needed:
The existing water system includes supply, transmission, storage and distribution facilities. Two public water wells, located just outside the westerly extents of the subdivision, supply water to an elevated pressure tank housed within a partially buried building. Well water supply is controlled by a pressure switch housed in the tank building. From the pressure tank, water is immediately supplied to the distribution system comprised of two pressure zones. Replacement of system controls with a more advanced SCADA system is recommended in the Level II Study. The water system configuration is best described in Figure 1.1, attached as Exhibit C, which along with survey of the existing system infrastructure was utilized to develop a hydraulic model (WaterCAD) and GIS database of the water system as part of the Level II Study. Characteristics of major water system components are identified in detail in the Level II Study.

III. PERTINENT INFORMATION

The intention of this section is to gather information on your existing water supply facilities. Answer all questions as completely and accurately as possible. Do not leave any questions blank. If questions are not applicable to your system, respond, "N/A." If an answer to a question is unknown, respond, "Unknown." If you need help, please call the Water Development Office at 307-777-7626.

1. Existing Water Supply System

A. EPA Public Water System (PWS) Identification Number: WY 5600217 C

B. Groundwater (1) Number of Wells: 2

(2) Primary Supply Aquifer(s) or Formation(s): alluvial aquifer

Per George Moser, revised to 26Mgal/2/365/24/60 = 24.75 gpm

(3) Total Average Production Yield of All Wells (GPM): 265 gpm X 2, or 530 gpm total

C. Surface Water

(1) Source Name(s): N/A

(2) Type of Diversion(s) (Headgate, Infiltration Gallery, Pumps, Etc.):

(3) Total Average Diversion Yield (CFS or GPM):

D. Springs

(1) Name of Spring(s): N/A

(2) Total Average Production Yield of All Springs (GPM):

E.Water Rights

(1) For the water source supply (or supplies) described above, does the applicant entity possess valid and/or adjudicated water rights?
Yes, the Skyline Ranch ISD has fully adjudicated water rights for both wells through the State totaling 14.5 million gallons per year.

F. Transmission Pipeline

(1) Maximum Capacity of the Transmission Pipeline(s) (Gallons per Day): 1200 gpm at 7 ft/s

(2) Increased Capacity Needed (If Known) (Gallons per Day): Not req'd by WDEQ reg. or recommended

(3) Approximate Distance from Source(s) to Distribution System: 850 L.F.

(4) Transmission Pipe Diameter(s): 8-INCH

(5) Type of Transmission Pipe Material(s): Ductile Iron Pipe

(6) Age of Transmission Pipeline(s): 21- yrs (installed in 2000)

(7) Condition of Transmission Pipeline(s): good

Per George Moser - revise to 2003

G. Water Storage

(1) Raw (Volume and Tank Description): 5,000-gal pressure tank, w/ 450-gal. of usable storage btwn 57 and 75 psi operating pressure.

(2) Treated (Volume and Tank Description): n/a - Skyline does not treat

H. Treatment

(1) Specify Water Treatment (None, Chlorination, Filtration, Etc.): n/a - Skyline does not treat

2. Existing Water Distribution System

A. Is the water use metered? yes B. Are the billings based on meter readings? yes

C. Identify unmetered usage (e.g., irrigation of parks, cemeteries, fire protection, etc.):
There is no known unmetered usage.

666 gpcd

935 gpcd

D. Average Summer Day Demand Water Usage (Gallons per Capita per Day): 2236 gpcd

E. Maximum Summer Day Demand Water Usage (Gallons per Capita per Day): 3134 gpcd

F. Peak Summer Hourly Demand Water Usage (Gallons per Capita per Day): 5573 gpcd

G. Distribution Pipe Diameter(s): 4" to 6" dia.

H. Type of Distribution Pipe Material(s): PVC or Asbestos Cement

I. Age of Distribution Pipeline(s): 1970s to present

J. Condition of Distribution Pipeline(s): Fair

K. Estimated System Water Losses (Percentage): <15%

Per George Moser, 1662 gpcd, this assumes 85 lots and 285 residences (5573*85/286), same applied to revisions above.

L. Describe any fire flow protection that the system provides:
Fire protection is not provided. Future plans for supply improvements (new well & water system controls) will enable the system to meet the minimum amount of fire flow (500 gpm).

M. What water conservation measures are employed?
Well production and system users are metered for the purpose of identifying unaccounted for water.
The Skyline Ranch ISD is currently exploring the implementation of a tiered rate structure.
The Skyline Ranch ISD commissions bi-annual leak detection surveys.

N. Is there an independent raw water irrigation system? no

(1) Source:

(2) Raw Water System Capacity (Gallons per Day):

(3) Average Annual Raw Water Usage (Gallons per Year):

3. Demographic Information and Existing Water Service Area

A. Population (2010 Census): 285 B. Current Population Estimate: 300

C. Does the applicant have a comprehensive planning boundary? yes

(1) If so, what is the estimated additional population that may be served in the future? 25

D. How many taps are served within the service area? 85

E. How many taps are served outside of the service area? 0

F. Identify names of other water systems served:
n/a

G. Identify any existing planning reports (municipal or county) that address growth management in the project area. Provide titles and how copies of the reports could be obtained:

Teton County Comprehensive Plan: https://www.jacksonwy.gov/403/Development-Regulations-Comprehensive-Pl

Teton County LDRs: http://www.tetonwyo.org/DocumentCenter/View/1669/Teton-County-Land-Development-Regulations-PDF?bidId=

Skyline Ranch Declaration of Restrictive Covenants & Guidelines for Building Permits: https://www.skylineranchisd.com/site-committee

4. Financial Information

A. Rates

(1) Tap Fee(s) – Residential: $6415/connection

(2) Tap Fee(s) – ~~Commercial~~: n/a

(3) Average Residential Monthly Water Bill and Corresponding Gallons Used:

$75~~2~~/service connection - 21,590 gallons/month per user (lot)

(4) Water Rates (Provide rates for all tiers and categories of use. Attach additional pages if needed.):

10-27-21 - Changed to $84.85 per George Moser.

SKYLINE IMPROVEMENT AND SERVICE DISTRICT
Water Service policies effective July 1, 2021-June 30, 2022
https://d14aac45-b65a-48ee-8fba-eb7ebd8c528a.filesusr.com/ugd/fd080d_b8868a0e6e914b2a978915b3d3140b8b.pdf

Use Charges		Base Charges	
Volume charge per 1,000 gallons	$ 1.70	Annual Base Charge	$619.41

(5) Identify any local conditions that affect the water rates (e.g., flow-through for frost prevention, etc.):

None

B. Financial Statement (of Water Utility)

(1) Revenues (FY2020-2021)

a. Annual Revenues Generated from Water Sales: $63,911

b. Annual Revenues from Tap Fees: $0

c. Annual Revenues from Other Sources: $0

d. Total Annual Revenues: $63,911

(2) Expenditures

a. Annual Budget for Operation and Maintenance Expenses: $41,752

b. Annual Payments for Debt Retirement: $0

c. Annual Payments to a Repair and Replacement Fund: $11,769

d. Annual Payments to an Emergency Fund: $10,019

e. Annual Payments for Other Purposes: $372

f. Total Annual Payments: $63,911

(3) Other

a. Balance in Repair and Replacement Fund: $97,326.46

b. Balance in Emergency Fund: same as above

c. Annual Cost of Water Quality Testing: $1,947

(4) Is the operation of the water system self-supporting in terms of revenues offsetting costs for operation, maintenance, debt retirement, replacement funds, emergency funds, etc.? yes

a. If not, how is the difference subsidized?

C. How do you intend to fund the sponsor cost share to match WWDC grant funds for this project (e.g., special/general purpose tax, other grant or loan funds, fiscal budget expenditure, etc.)? If possible, attach latest fiscal year financial statement that would demonstrate available funds. If a suitable source of supply is found, also inform the WWDC in this synopsis how you would intend to finance subsequent production and transmission systems (e.g., WWDC Level III funding, State Drinking Water Revolving Fund loan, State Land & Investment royalty grant/loan, special/general purpose tax, Federal program grant/loan, local sources, etc.)

Skyline Ranch ISD is intending to fund the sponsor cost share via. use of there emergency account funds and is prepared to initiate a special assessment, or adjust user fees to recover that balance. The ISD has already completed a rate study based on recommendations and findings of the WWDC Level II Study and is looking into implementing a tiered rate structure.

5. Cost Estimates Cost estimates presented below are based on local Contractor rates for similar projects.

Use the following format in calculating project cost estimates. (An alternative format may be prepared and submitted, but it must be clearly itemized and show total project cost for determining WWDC grant).

A. Preparation of Hydro-Geologic Analysis and/or Well Siting Study:	$ 20,300
B. Permitting:	$ 6,300
C. Advertising, Contractor Procurement, Contracts:	$ 9,900
D. Well Construction [1]:	$ 85,700
E. Aquifer (Pump) Testing:	$ 67,600
F. Water Quality Analysis:	$ 5,300
G. Project Management/Subcontracts:	$ 12,800
H. Miscellaneous Applications/Procurements (Specify):	$ 2,300
I. Reports:	$ 24,800
J. Total Project Cost:	$235,000
K. Rounded:	$235,000

[1] Including, but not limited to: Mobilization, Bonds & Insurance, Drill-Furnish-Install Casing/Screen, Furnish-Install Filter Pack/Seal, Rig Time, Standby Time, Geophysical/Video Log, Development, Disinfection, Plugging and Abandonment, De-Mobilization, Reclamation. Any inflation costs, as determined by the WWDC, will be applied to the Total Project Cost.

Exhibit A

Skyline Ranch
ISD Resolution

Note, a resolution is forthcoming and will be made at the Skyline Ranch ISD Board meeting scheduled for October 14th, 2021. Original copy will be promptly sent to WWDC thereafter.

Exhibit B

Skyline Ranch ISD Water System
Corporate Boundary

AREA W/IN CORPORATE LIMITS

SUBDIVISION BOUNDARY/CORPORATE LIMITS OF SKYLINE RANCH ISD WATER SYSTEM

SKYLINE RANCH SUBDIVISION

SUBDIVISION ENTRANCE

SKYLINE WATER IMPROVEMENT & SERVICE DISTRICT

TOWN OF JACKSON

US HWY 22

WEST RIDGE ROAD

WEDGEWOOD ROAD

TANGER ROAD

GOLDFINCH ROAD

TEAL ROAD

MALLARD ROAD

REDBERRY ROAD

HIGHWAY 22

VICINITY MAP

JACKSON, WYOMING

0 5000 10000

N E

0 200 400

LEGEND

LINE TYPES

- SUBDIVISION/WATER SERVICE AREA BOUNDARY
- ROAD EASEMENT
- WATER SYSTEM EASEMENT
- 1"W WATER SERVICE
- 2"W 2"ø WATER MAIN
- 4"W 4"ø WATER MAIN
- 6"W 6"ø WATER MAIN
- D 4"ø DRAIN LINE

PIPE TYPES

- ASBESTOS CEMENT (AC) c.1969
- POLYVINYL CHLORIDE (PVC) c.1974
- DUCTILE IRON PIPE (DIP), c.2006

SYMBOLS

- FIRE HYDRANT
- WATER VALVE
- AIR RELIEF VALVE
- CURB STOP
- WATER MANHOLE
- WELL

ACRONYMS

FH-1	FIRE HYDRANT #
FHV-1	FIRE HYDRANT VALVE #
ARV-1	AIR RELIEF VALVE #
PRV-1	PRESSURE RELIEF VALVE #
V-1	BURIED GATE VALVE #

DATE	MAY 2021	REV.
SURVEYED	NE	
ENGINEERED	BO	
DRAWN	BO	
CHECKED	JK	
APPROVED	JK	

NELSON ENGINEERING
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087

DRAWING TITLE
EXHIBIT B
SKYLINE WELL EXPLORATION
CORPORATE WATER SYSTEM LIMITS

JOB TITLE
SKYLINE RANCH
TETON COUNTY, WY

DRAWING NO
EX. B

JOB NO
20-094-01

S:\Proj2020\094-01 (Skyline Ranch - Level II Water Study)\3_Draft & Final Reports\4 Drawings\Survey\20-094-01 Existing Site.dwg (Exhibit A (2)) - Sep 23 2021 10:44:06 am PLOTTED BY: Hopkirk DWG FORMAT: 21D

Exhibit C

Skyline Ranch ISD Water System

PRESSURE ZONES

	MINIMUM STATIC PRESSURE	MAXIMUM STATIC PRESSURE
ZONE 1 (HGL:6435'±)	54 PSI (TRACT 3–8)	113 PSI (TRACT 2–2)
ZONE 2 (HGL:6390'±)	69 PSI (LOT 12)	99 PSI (LOT 43)

5000 GAL HYDROPNEUMATIC STORAGE WATER TANK
EST. WTR SFC ELEV. 6280'±
EST. USABLE STORAGE VOLUME: 450 GAL.
CUT–IN PRESSURE: 59 PSI
CUT–OUT PRESSURE: 74 PSI

SKYLINE WELL #3
WSEO P159621W
25 HP, 267± GPM @ 302 TDH
GRND ELEV. 6144±

SKYLINE WELL #2
WSEO P179020W
30 HP, 262 GPM @ 327 TDH
GRND ELEV. 6147±

PREFERRED LOCATION OF FUTURE WELL (THIS APPLICATION)

PRESSURE ZONE 1

PRESSURE ZONE 2

SKYLINE RANCH SUBDIVISION

PRV–1
GRND ELEV.: 6178'±
UPSTREAM PRESSURE: 107 PSI
DOWNSTREAM PRESSURE: 92 PSI

SKYLINE WELL #1
WSEO P224BW

PRIVATE IRRIGATION WELLS

SUBDIVISION ENTRANCE

WEST RIDGE ROAD
MEADOWLARK ROAD
TANGIER ROAD
GOLDFINCH ROAD
TEAL ROAD
MALLARD ROAD
GOLDEER ROAD
HIGHWAY 22

V–1 (NOT FOUND)
V–2
V–3
V–4
V–5
V–6
V–7 (NOT FOUND)
V–8 (NOT FOUND)
V–9
V–10
V–11
V–12
V–13
V–14 (NOT FOUND)
V–15
V–15.1
V–16
V–17
V–18
V–19
V–20
V–21
V–W2
V–W3
FH–1
FH–2
FH–3
FH–4
FHV–1
FHV–2
FHV–3
FHV–4
ARV–1
ARV–2
MH–W2
MH–W3

SKYLINE WATER IMPROVEMENT & SERVICE DISTRICT

US HWY 22
US HWY 89
TOWN OF JACKSON

VICINITY MAP
JACKSON, WYOMING

0 5000 10000

N E

0 200 400

LEGEND

LINE TYPES
- SUBDIVISION/WATER SERVICE AREA BOUNDARY
- ROAD EASEMENT
- WATER SYSTEM EASEMENT
- 1"W WATER SERVICE
- 2"W 2"ø WATER MAIN
- 4"W 4"ø WATER MAIN
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ACRONYMS
- FH–1 FIRE HYDRANT #
- FHV–1 FIRE HYDRANT VALVE #
- ARV–1 AIR RELIEF VALVE #
- PRV–1 PRESSURE RELIEF VALVE #
- V–1 BURIED GATE VALVE #

REV.	DATE	
	MAY 2021	
	SURVEYED	NE
	ENGINEERED	BO
	DRAWN	BO
	CHECKED	JK
	APPROVED	JK

NELSON ENGINEERING
P.O. BOX 1599, JACKSON WYOMING (307) 733–2087

DRAWING TITLE
FIGURE 1.1
EXISTING MAP OF SKYLINE WATER SYSTEM

JOB TITLE
SKYLINE RANCH LEVEL II STUDY
TETON COUNTY, WY

DRAWING NO **FIG. 1.1**
JOB NO **20–094–01**

S:\Proj\2020\094-01 (Skyline Ranch - Level II Water Study)\0_Draft & Final Reports\4 Drawings\Survey\20-094-01 Existing Skyline WTR SYSTEM MAP).dwg ITOMAN 210 PLOTTED BY: Hdpatrick JUL 15 2021 10:51:17 am