

August 14, 2023

Jenna Petroll Planning and Zoning Department Canyon County 111 N. 11th Ave Caldwell, ID 83605

RE: Proposed Conditional Rezone Willow Creek Subdivision Letter of Intent

Dear Jenna,

MDC, LLC and Joseph Carter are proposing to conditionally rezone 164.74 acres consisting of parcels R3751100000 (84.75 acres) and R3751011200 (79.81 acres) from agricultural (AG) to rural residential (RR) to facilitate entitlement for a residential subdivision. The non-build Lot 15, Block 1 parcel (R3751011200) of the WillowView Subdivision No. 2 Plat will be vacated to facilitate the norther portion of the development.

The concept plan consists of 75 developable lots and an existing home lot. The largest lot is 18.73-acres adjacent to the existing home and would be used to carry on nursery activities allowed within the rural residential zone. The concept has lots exceeding 1 acre in size and meeting the minimum average overall lot size of 2 acres for the Rural Residential zone. Public roadways meet the standards of the Canyon County Highway District and provide through connection to all adjacently available public roads (Stony Brook Way and the main entrance from Lansing Ln.). The connections will enhance access for emergency vehicle traffic to all surrounding subdivisions, including Kemp Road to the south, currently a long dead-end private road. It is planned to place bollards with a fire access to the south boundary for Kemp Rd. access. With the densities suggested and multiple inlet/outlets, traffic impacts due the subdivision are anticipated to be minimal as depicted by the completed Traffic Impact Study completed by the owners dated July 5th, 2023. A traffic light at Lancing Ln. and Highway 44 is suggested in the future due to the combined traffic of the area, however, no additional traffic mitigation measures are suggested for within or immediately adjacent to the subdivision. Legal access to the subject property for the rezone request is available currently off Lansing Lane.

2447 S. Vista Avenue • Boise, ID 83705 208-344-1180



The property is located just outside the City of Middleton impact area and thus the owners have contacted the city and are working through filing for pre-annexation to join. The owners have also been in negotiations for providing a utility corridor along Lansing Ln. for future use.

The Willow Creek floodway to the north would be maintained as is with no residential lot structures\grading\construction allowed within or encroaching upon its existing boundaries and protected. Portions of the surrounding 100-year AO zone would be raised via the LOMR-F process to ensure all new residential structure pads and sanitary sewer within the zone would be located out of the flood zone 4. The development on ultimate buildout shall provide a 10-foot no-rise pathway and 20-foot easement along the southern edge of Willow Creek, extending from the west boundary to the eastern boundary, dedicated for use by pedestrians, non-motorized vehicles, and equestrian traffic. A 10' pathway with 20' easement shall connect the pathway to a public road within the development.

The current 2020 comprehensive plan specifies the area as residential, however, the current zoning is agricultural. The rezone would facilitate the intent of the comprehensive plan by eliminating possible agricultural activities within an area that is already predominantly surrounded by residential home\land uses on all sides. West of the project site is Throughbread Estates consisting of identical lots to those proposed and RR zoning. To the south, Willowcreek Ranch Estates 1-3 was developed with 1–2-acre residential lots in early 2003. To the north Willowview Subdivision was constructed as RR and to the southeast across Lansing Lane there are also residential lots. Several of the AG field east of the project, across Lansing, are actively in process of being entitled residential also. Due to the nature of the surrounding land uses, the proposed zoning is more appropriate than the current zoning and will enhance the character of the area by eliminating potential heavy equipment, dust, and industrial uses within a predominantly residential area. The rezone will also provide the necessary densities for the area per the comprehensive plan's intent and the growth of Middleton\Caldwell area.

Onsite utilities to be provided to the lots with a mix of private and public systems. Sewer is to be provided by private onsite septic/drain field systems for each lot and water to be provide by onsite private wells. Due to the lot sizes being an average minimum lot size of 2 acres, sewer and water are being provided at densities twice the 1 acre minimum established by Southwest District Health guidelines and impacts to the local aquifer are to be negligible as depicted by the Willowcreek Subdivision Groundwater Use Assessment report completed by the owners and dated July 25th, 2023.

Drainage is to be retained onsite and\or discharged at predevelopment rates. Onsite pressure irrigation system to be provided using existing water rights to the site. Power will be provided via Idaho Power and other utilities (gas, cable, phone) depending upon availability. At the minimal densities proposed, it is not anticipated that these uses will have an adverse impact on existing facilities and\or geologic impact.

Public school services shall be provided by Mill Creek Elementary, Middleton Middle School, and Middleton High School. The development has discussed with the Middleton District and is in agreement with providing 100 trees from the existing nursery for the district to use for facilities to help with district costs and aesthetics.

Middleton Fire and Police shall service emergencies. It is unlikely that the low density of the subdivision would impose an undue burden on these services. Rural road sections minimize upkeep and tax revenues generated by



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015-230



CANYON COUNTY DEVELOPMENT SERVICES DEPARTMENT

111 11th Ave. #140 • Caldwell, Idaho • 83605 • Phone (208) 454-7458 Fax: (208) 454-6633 • www.canyoncounty.org/dsd

DEVELOPMENT AGREEMENT BETWEEN CANYON COUNTY AND APPLICANT

Agreement number: ____

THIS AGREEMENT, made and entered into this _____ day of _____, ____ by and between Canyon County, Idaho, a political subdivision of the state of Idaho, hereinafter referred to as "COUNTY" and MDC LLC and Carter Family Living Trust, hereinafter referred to as "Applicants."

RECITALS

WHEREAS, Applicants have applied to County for a conditional rezone from an AG zone to a RR zone, which are legally described in the attached Exhibit "A," incorporated by reference herein (hereinafter referred to as "Subject Properties"; and

WHEREAS, Parcel R37510112 is owned by MDC LLC and managed by Doug Carnahan. Parcel R37511 is owned by Carter Family Living Trust and managed by Joe Carter

WHEREAS, on the _____day of ______, _____, the Canyon County Board of Commissioners approved a conditional rezone with conditions of the Subject Properties to a RR zone, which was done with the Applicants' approval. The conditions of the approval for the conditional rezone are attached hereto as Exhibit "B";

WHEREAS, the parties desire to enter into an agreement to comply with Canyon County Code of Ordinances §07-06-07(2) & 07-06-07(7), Canyon County Zoning Ordinance No. 16-007as amended, and to ensure the Applicants will implement and be bound by the conditions of the conditional rezone order issued by the Canyon County Board of Commissioners; and

WHEREAS, the County and Applicants desire to formalize their respective rights and responsibilities as required by Canyon County Amended Resolution Number 95-232 entitled, "Rules Governing the Creation, Form, Recording, Modification, Enforcement and Termination of Written Commitments (Development Agreements)" and the Canyon County Code.

NOW THEREFORE, the parties hereto do hereby agree to the following terms:

SECTION 1. AUTHORIZATION.

This Agreement is authorized and required by Idaho Code §67-6511A; Canyon County Code of Ordinances 07-06-07 (Conditional Rezoning).

SECTION 2. PROPERTY OWNER.

Applicant is the owner(s) of Subject Property which is located in the unincorporated area of Canyon County, Idaho, more particularly described in Exhibit "A", attached hereto and incorporated herein, which real property is the subject matter of this Agreement. Applicants represent that they currently hold complete legal or equitable interest in the Subject Properties and that all persons holding legal or equitable interests in the Subject Properties or the operation of the business are to be bound by this Agreement.

SECTION 3. RECORDATION.

Pursuant to Idaho Code §67-6511A and Canyon County Code of Ordinances, this Agreement shall be recorded by the Clerk in the Canyon County Recorder's Office and will take effect upon the adoption, by the Board of County Commissioners, of the amendment to the zoning ordinance as set forth herein.

SECTION 4. TERM.

The parties agree that this Agreement shall run with the land and bind the Subject Property in perpetuity, and shall inure to the benefit of and be enforceable by the parties, and any of their respective legal representatives, heirs, successors, and assignees. Provided, however, this Agreement shall terminate if the Board of County Commissioners subsequently rezones the property to allow for a higher density use or if annexation of the Subject Property by a city occurs. In this event, however, the Agreement shall only terminate in regards to the portion of the Property that is actually rezoned or annexed, while the remainder of the Property shall remain subject to the Agreement.

If any of the privileges or rights created by this Agreement would otherwise be unlawful or void for violation of (1) the rule against perpetuities or some analogous statutory provision, (2) the rule restricting restraints on alienation, or (3) any other statutory or common law rules imposing time limits, then such provision shall continue until twenty-one (21) years after the death of the last survivor of the now living lawful descendants of George Herbert Walker Bush, former President of the United States, or for such shorter period as may be required to sustain the validity of such provision.

SECTION 5. MODIFICATION.

This Agreement may be modified only in writing signed by the parties, or their successors in interest, after complying with the notice and hearing procedures of Idaho Code §67-6509 and the requirements of Canyon County Code of Ordinances. The modification proposal must be in the form of a revised Development Agreement and must be accompanied by a statement demonstrating the necessity for the requested modification.

SECTION 6. APPLICATION OF OTHER LAWS TO THE SUBJECT PROPERTIES.

This Agreement shall not prevent the County in subsequent actions applicable to the Subject Properties from applying new rules, regulations, or policies that do not conflict with this Agreement.

SECTION 7. COMMITMENTS.

Applicants will fully and completely comply with the conditions of the approved conditional rezone of the Subject Property from AG to RR zoning, which conditions are attached hereto as Exhibit "B".

SECTION 8. USES, DENSITY, AND HEIGHT AND SIZE OF BUILDINGS

The density or intensity of use of the Subject Properties is specified in the commitments of Section 7. The uses and maximum height and size of the buildings on the Subject Properties shall be those set pursuant to law, including those contained in the Canyon County Code of Ordinances, that are applicable to a RR zone and those provisions of law that are otherwise applicable to the Subject Properties.

SECTION 9. LIABILITY AND INDEMNITY OF COUNTY.

A. COUNTY REVIEW.

Applicants acknowledge and agree that the County is not and shall not be, in any way, liable for any damages or injuries that may be sustained as a result of the County's review and approval of any plans or improvements, or the issuance of any approvals, permits, certificates or acceptances, relating to the use and development of the property described in Exhibit "A," and that the County's review and approval of any such plans and the improvements or the issuance of any such approvals, permits, certificates, or acceptances does not, and shall not, in any way, be deemed to insure or ensure Applicants or any of Applicants' heirs, successors, assigns, tenants, and licensees, against damage or injury of any kind and/or at any time.

B. COUNTY PROCEDURES.

Applicants acknowledge that notices, meetings, and hearings have been lawfully and properly given and held by the County with respect to Applicant's conditional rezone application in Development Services Department Case Number CR2022-0016 and any related or resulting development agreements, ordinances, rules and regulations, resolutions, or orders of the Board of County Commissioners. Applicants agree not to challenge the lawfulness, procedures, proceedings, correctness or validity of any of such notices, meetings, hearings, development agreements, ordinances, rules, resolutions or orders.

C. INDEMNITY.

Applicants agree to, and do hereby, defend, hold harmless and indemnify the County, the Board of County Commissioners, all County elected and appointed officials, officers, employees, agents, representatives, and attorneys, from any and all claims that may, at any time, be asserted against any such parties in connection with (i) the County's review and approval of any plans or improvements, or the issuance of any approvals, permits, certificates, or acceptances relating to the use and/or development of the Subject Properties; (ii) any actions taken by the

County pursuant to Subsection 9(B) of this Agreement; (iii) the development, construction, and maintenance of the property; and (iv) the performance by County of its obligations under this Agreement and all related ordinances, resolutions, or other agreements.

D. DEFENSE EXPENSES.

Applicants shall, and do hereby agree, to pay, without protest, all expenses incurred by the County in defending itself with regard to any and all of the claims identified in Subsection 9 of this Agreement. These expenses shall include all out-of-pocket expenses, including, but not limited to, attorneys' and experts' fees, and shall also include the reasonable value of any services rendered by any employees of the County.

SECTION 10. PERIODIC REVIEW.

The County's Development Services Department will administer the Agreement after it becomes effective and will conduct a review of compliance with the terms of this Agreement on a periodic basis, including, but not limited to, each time a development of the Property is platted. Applicants shall have the duty to demonstrate Applicants' compliance with the terms of this Agreement during such review.

SECTION 11. REQUIRED PERFORMANCE.

Applicants shall timely carry out all steps required to be performed and maintain all commitments set forth in this Agreement and as set forth in County laws, ordinances, rules and regulations as they pertain to the Subject Property including, but not limited to, those concerning the commencement of development, completion of development, preliminary platting and final platting.

SECTION 12. DEFAULT AND REMEDIES.

In the event of a default or breach of this Agreement or of any of its terms or conditions, the party alleging default shall give the breaching party not less than thirty (30) days' Notice of Default, in writing, unless an emergency exists threatening the health and safety of the public. If such an emergency exists, written notice shall be given in a reasonable time and manner in light of the circumstances of the breach. The time of the giving of the notice shall be measured from the date of the written Notice of Default. The Notice of Default shall specify the nature of the alleged default and, where appropriate, the manner and period of time during which said default may be satisfactorily cured. During any period of curing, the party charged shall not be considered in default for the purposes of termination or zoning reversion, or the institution of legal proceedings. If the default is cured, then no default shall exist and the charging party shall take no further action.

SECTION 13. ZONING REVERSION CONSENT.

The execution of this Agreement shall be deemed written consent by Applicants to change the zoning of the Subject Properties to its prior designation upon failure to comply with the terms and conditions imposed by the approved conditional rezone and this Agreement. No reversion shall take place until after a hearing on this matter pursuant to Idaho Code §67-6511A. Upon notice and hearing, as provided in this Agreement and in Idaho Code §67-6509, if the properties described in attached Exhibit "A " are not used as approved, or if the approved use ends or is abandoned, the Board of County Commissioners may order that the property will revert to the zoning designation (and land uses allowed

by that zoning designation) existing immediately prior to the rezone action, i.e., the Subject Property conditionally rezoned from AG Zone designation to RR Zone designation shall revert back to the "A" (Agricultural) Zone designation.

SECTION 14. COMPLIANCE WITH LAWS.

Applicants agree that they will comply with all federal, state, county and local laws, rules and regulations, which appertain to the Subject Properties.

SECTION 15. RELATIONSHIP OF PARTIES.

It is understood that this Agreement between Applicants and the County is such that Applicants are an independent party and are not an agent of the County.

SECTION 16. CHANGES IN LAW.

Any reference to laws, ordinances, rules, regulations, or resolutions shall include such laws, ordinances, rules, regulations, or resolutions as they have been, or as they may hereafter be amended.

SECTION 17. NOTICES.

Except as otherwise provided in this Agreement and/or by law, all notices and other communications in connection with this Agreement shall be in writing and shall be deemed delivered to the addressee thereof, (1) when delivered in person on a business day at the address set forth below, or (2) in the third business day after being deposited in any main or branch United States post office, for delivery by properly addressed, postage paid, certified or registered mail, return receipt requested, at the addresses set forth below.

Notices and communications required to be given to County shall be addressed to, and delivered at, the following address:

Director Development Services Department Canyon County Courthouse 1115 Albany Street Caldwell, Idaho 83605

Notices and communications required to be given to Applicants shall be addressed to, and delivered at, the following addresses:

Doug Carnahan MDC, LLC 7270 N. Tree Haven Place Meridian, ID 83646

Joseph Carter Carter Family Living Trust 25455 N. Lansing Lane Middleton, ID 83644 A party may change its address by giving notice, in writing, to the other party, in the manner provided for in this section. Thereafter, notices, demands, and other pertinent correspondence shall be addressed and transmitted to the new address.

SECTION 18. TERMINATION.

This Agreement may be terminated in accordance with the notice and hearing procedures of Idaho Code §67-6509, and the zoning designation upon which the use is based reversed, upon failure of Applicants, a subsequent owner, or other person acquiring an interest in the property described in attached Exhibit "A" to comply with the terms of this Agreement. Applicants shall comply with all commitments in this Agreement prior to establishing the approved land use.

SECTION 19. EFFECTIVE DATE.

The commitments contained in this Agreement shall take effect in the manner described in this Agreement upon the County's adoption of the amendment to the zoning ordinance as set forth herein.

SECTION 20. TIME OF ESSENCE.

Time is of the essence in the performance of all terms and provisions of this Agreement.

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands and seals the day and year first above written.

BOARD OF COUNTY COMMISSIONERS CANYON COUNTY, IDAHO

APPLICANT

Commissioner Brooks

Commissioner Holton

Commissioner Van Beek

ATTEST: Chris Yamamoto, Clerk

BY:___

Deputy

DATE:			

Joseph Carter, Carter Family Living Trust

Doug Carnahan, MDC, LLC

Agreement Number:_____ Development Agreement (All Applicants must sign and their signatures must be notarized)

STATE OF IDAHO)) ss. County of Canyon)

On this _____ day of _____, 20___, before me, a notary public, personally appeared _____, known to me to be the person whose name is subscribed

to the within and foregoing instrument and acknowledged to me that he/she executed the same on behalf of the Applicant.

Notary Public for Idaho

Residing at:

My Commission Expires: _____

EXHIBIT "A"

LEGAL DESCRIPTION

EXHIBIT "B"

CONDITIONS OF APPROVAL FOR ********

- 1. The development shall comply with all applicable federal, state, and county laws, ordinances, rules, and regulations that pertain to the property.
- 2. The development shall be limited to 76 residential lots.
- 3. The development on plating of a total of 30 residential lots shall extend Stony Brook way from the west boundary to a approach exiting onto Lansing Ln.
- 4. The development on ultimate buildout shall provide a 10-foot no-rise pathway and 20-foot easement along the southern edge of Willow Creek, extending from the west boundary to the eastern boundary, dedicated for use by pedestrians, non-motorized vehicles, and equestrian traffic. A 10' pathway with 20' easement shall connect the pathway to a public road within the development.
- 5. A public road shall be constructed in a phase of the development which extends to the southern boundary, just north of access to Kemp Rd. Development shall provide a fire access easement and all-weather service road to the property boundary of Willow Creek Ranch Estates #2 Block 1 Lot 9. Entrance from the public street shall have fire department approved bollards or other access restrictions to limit access to emergency traffic only. Willow Creek Ranch Estates shall be responsible for allowing and providing access at the subdivision boundary to Kemp Rd. for emergency access.
- 6. A 20' wide utility corridor easement shall be dedicated to the City of Middleton on the eastern edge of the development along Lancing Ln.
- 7. A permanent conservation easement shall be placed over the Willow Creek floodway and depicted on the plat to notify owners and limit improvements and structures from obstructing the floodway.
- 8. Development shall provide a central pressurized irrigation system to service all residential lots.
- 9. Development shall provide 100 trees from the nursery that are compatible with the needs of the Middleton School District prior to beginning of build out.
- 10. Willowview Subdivision No. 2, Lot 15 Block 1 shall be vacated from the plat to facilitate development.



the new subdivision can help the various agencies in providing service. The additional roads will enhance access to several of the surrounding subdivisions that only have one entrance.

Please give me a call if you have any questions or comments. Thanks.

Sincerely,

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Kent D. Adamson, P.E. President RiveRidge Engineering Company

cc: MDC, LLC Joseph Carter

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Technical Memorandum

Willowcreek Subdivision Groundwater Use Assessment

Canyon County, Idaho July 25, 2023

Technical Memorandum

Willowcreek Subdivision Groundwater Use Assessment

Canyon County, Idaho

July 25, 2023

Prepared by

1 h

Gregg Jones, PhD



Technical Memo

Date:	Tuesday, July 25, 2023
To:	MDC, LLC
From:	Gregg Jones, PhD and Jason Thompson, PE HDR Engineering, Inc. (HDR)
Subject:	Willowcreek Subdivision Groundwater Use Assessment

Summary

- The proposed Willowcreek Subdivision domestic water supply will be from either 76 individual wells or a community production well. Irrigation will be supplied by surface water from the Black Canyon Irrigation District through a pressurized irrigation system.
- Pumping 76 wells or one community well for domestic use using the low transmissivity (conservative) estimate will induce less than 0.6 feet of drawdown at a raius of one-half mile from the center of the proposed Willowcreek Subdivision after one year of continuous pumping.
- 3. The addition of 76 domestic wells or one community well to this area will not injure nearby well owners or have a negative impact on local groundwater resources in the area.

Introduction

Willowcreek Lansing Lane Subdivision, a residential subdivision (Subdivision) consisting of 76 two-acre lots, has been proposed in Canyon County. The proposed subdivision is located approximately 2.5 miles north of the State Highway 44, bordered on the east side by Lansing Lane, on the south by Purple Sage Road, on the west by Duff Lane, and on the north by Galloway Road. The property includes a total of 153 developable acres.

HDR has evaluated the impact on local groundwater conditions from two groundwater pumping options to supply potable water for domestic use and irrigation; dispersed pumping from 76 domestic wells and concentrated pumping from one community production well.

For the domestic well option, each residential lot would have its own domestic well and septic system and it is anticipated water use from these wells will be almost entirely for indoor purposes. The proposed Subdivision would be irrigated with surface water reliably supplied from Black Canyon Irrigation District. Supplemental ground water is also authorized for development under permit 63-34956 that can be used in the pressurized system when surface water is not being delivered. There is the potential, however, that the domestic wells could be used for limited landscape irrigation on a short-term basis in the event surface water supplies are curtailed early due to drought conditions.

The community production well case would be similar to the domestic well case in every respect except that the water supply for the subdivision would come from a single community production well (with a backup production well) as opposed to numerous domestic wells.

The purpose of this memorandum is to estimate the impact on local groundwater conditions due to pumping for the domestic well and community production well pumping options at the proposed Subdivision, compare the benefits and drawbacks of the domestic and community well options, and make recommendations for the construction specifications for the domestic and community wells.

To characterize hydrogeologic conditions, driller's reports (well logs) for wells near the Subdivision were downloaded from the Idaho Department of Water Resources (IDWR) database to determine lithology and existing well capacities. IDWR groundwater-level monitoring data were reviewed to determine regional trends in groundwater levels. The following is an outline of items covered in this document:

- 1. Driller's Reports
 - a. Well Construction
 - b. Lithology and Aquifer Conditions
 - c. Water Levels
 - d. Well Yields and Aquifer Transmissivity
- 2. Hydrographs
 - a. Regional Trends
- 3. Drawdown Analysis
- 4. Recommendations for Well Construction
- 5. Conclusions

1. Driller's Reports

A total of 14 well logs from domestic wells within 0.5 miles of the proposed Subdivision were obtained from the Idaho Department of Water Resource's (IDWR) *Find a Well* map interface. Well locations are presented in Figure 1 with important construction and testing information in Table 1. The well labels in Figure 1 correspond to log numbers in Table 1. The wells are distributed in and around the proposed subdivision and all were constructed for domestic use.

A high-capacity irrigation/fire protection well located about 1.25 miles southeast of the subdivision was reviewed to better assess local aquifer hydraulic parameters.

All well logs reviewed are included in Appendix A.

Figure 1. Location of the Proposed Willowcreek Subdivision and Nearby Domestic Wells Used in the Assessment.



a. Well Construction

Most of the nearby wells are constructed with 6-inch diameter steel casings and 5-inch diameter stainless-steel screens. Most wells are screened between 150 and 300 feet below ground surface (bgs) with screen lengths between 5 and 10 feet.

b. Lithology and Aquifer Conditions

The lithologic logs from the driller's report indicate the subsurface near the Subdivision is primarily alternating layers of sand and clay with some gravel. All wells are screened in areas described as sand with limited descriptions on the specific grains size (i.e., fine, medium, or coarse sand). Hydraulic parameters of water-bearing zones can be estimated based on the character of the aquifer materials. Typical hydraulic conductivity (K) for sands range between 100 and 1,000 gallons/day/ft². The saturated thickness of these water-bearing zones is estimated based on the occurrence of water identified in the driller's logs and generally ranged between 100 and 200 feet.

Storativity (S) values were estimated based on the specific storage values for dense sand and an aquifer thickness of 150 feet for T determination. The resulting S value is approximately 0.005, which is typical for confined aquifer zones in the Middleton and Star area.

 Table 1. Construction Specifications of Nearby Domestic Wells

Log #	Well ID	Total Depth (feet bgs)	Cased Depth (feet bgs)	Case Diam	Case Mat	Screen Interval (feet bgs)	Screen Length (feet)	Water Bearing Material	Static Water Level (feet bgs)	Const Date	Yield (gpm)	Drawdown (ft bgs) Discharge (gpm) Test Duration (min)	Well Test Method	Specific Capacity (gpm/ft)	Well Type D = Domestic
1	466339	193	177	6	Steel	188-193	5	Crs Snd	58	9/16/21	69	120/65/30	Air	0.57	D
2	437699	171	164	6	Steel	166-171	5	Med Whte Snd	48	4/21/14	125	160/125/60	Air	0.78	D
3	441993	259	253	5	Steel	254-259	5	Med Lrg Snd	84	8/3/15	85	240/85/120	Air	0.35	D
4		203	198	6			5			5/12/15	50	185/50/60	Air	0.27	D
5	448042	174	162	6	Steel	165-170	5	Fne Snd. Brn Sndy Cly	58	6/13/17	30	170/30/60	Air	0.18	D
6	416024	170	159	6	Steel	151-159	8	Med Brwn Snd	65	4/5/07	60	75/60/60	Air	0.8	D
7	471965	192	181	6	Steel	182-192	10	Crs Whte Snd	71	10/17/22	40	180/40/60	Air	0.22	D
8	409068	228	218	6	Steel	218-228	10	Med Crs Snd	107	3/12/06	65	220/65/120	Air	0.3	Irr
9	442932	193	187	6	Steel	188-193	5	Vry Fne Whte Snd	77	11/3/2015	70	180/70/120	Air	0.39	D
10	406063	243	237	6	Steel	233-243	10	Fne to Med Snd	117	8/23/05	50	220/50/120	Air	0.23	D
11	335337	196	184	6	Steel	186-196	10	Snd	66	4/19/12	100	114/100/ND	Air	0.88	D
12	446852	197	192	6	Steel	192-197	5	Med Snd	43	1/11/17	65	185/65/120	Air	0.35	D
13	448919	182	176	6	Steel	177-182	5	Crs Wh Brn Snd	45	9/2/17	70	175/70/120	Air	0.40	D
14	440054	323	317	6	Steel	318-323	5	Fne Med Snd	141	12/3/14	110	300/110/120	Air	0.37	D

c. Water Levels

The water-bearing zones tapped by local wells in this area are generally considered "confined" because static water levels in completed wells rise to higher elevations than first encountered water and above the tops of the water-bearing zones. Measurements of depth to water (static water level) for wells within 0.5 miles of the subdivision were between 43 and 141 feet below ground surface (bgs).

Groundwater flow direction in the local area is westerly, based on regional groundwater contour maps presented for spring 1996, fall 1996, spring 1998, fall 1998, spring 2000, fall 2000, and fall 2001 in Appendix E of Characterization of Ground Water Flow in the Lower Boise River Basin (Petrich and Urban, 2004, IWRRI-2004-01).

d. Well Yields and Aquifer Transmissivity

Table 1 also includes the results from pumping tests reported in the driller's logs. The yield in gallons per minute (gpm) and drawdown in feet below ground surface were used to calculate the specific capacity which indicates the amount of water produced per foot of drawdown (i.e., specific capacity in gpm/ft). The average pumping rate and specific capacity of the domestic wells is 71 gpm and 0.43, respectively. All of the wells are screened in discrete sand lenses that are connected to the larger aquifer system consisting of multiple sand lenses.

In developing estimates of transmissivity (T), it was decided that using the raw data from the 14 domestic wells would not provide sufficient accuracy. This is because those wells were constructed only to supply domestic demands so there is no need for them to be efficient. Also, they are not fully penetrating and the "pumping tests" to determine yield following construction are almost always airlift estimates, which usually result in much lower specific capacities than achieved when the wells are pumped. The T value from a partially penetrating domestic well test might be valid for interference analysis of another well at a distance of 50 feet in the same sand layer. However, it does not provide accurate results for projecting impacts at distances of thousands of feet. The modest seasonal fluctuations in groundwater levels observed in the vicinity of large agricultural irrigation or municipal wells in northeast Canyon County supports the conclusion that large-scale drawdowns are not likely to occur from pumping of domestic wells.

To determine a reasonable T value, data was evaluated from a domestic/irrigation/fire protection well located in the Lakes Subdivision 2.4 miles southeast of the proposed Subdivision. This well was constructed in 2014 and test pumped at a rate of 2,250 gpm with a drawdown of 94 feet. This results in a specific capacity of 24 gpm/ft. For confined aquifers, specific capacity multiplied by 2000 provides an estimate of T in gpd/ft. Multiplying 24 gpm/ft by 2,000 results in a T of 48,000 gpd/ft, which is within the range for similar aquifer materials.

To determine a more reasonable range of T values for the domestic wells that were comparable to the T value obtained for the well above, the specific capacity values calculated from the domestic well driller's logs were corrected to compensate for the likely underestimated well capacities. The specific capacity values were corrected as if the well screens extended over the entire saturated zone (~200 feet). This resulted in a range of T between 8,800 gpd/ft and 62,500

gpd/ft, which encompasses the T value of 48,000 gpd/ft for the well described above. While the range of T seems large, the range of K values based on the 200 feet thickness is between 44 and 312 gpd/ft² which is a reasonable range of values given sands can vary between 100 and 1000 gpd/ft².

2. Hydrographs

Hydrographs from IDWR monitoring wells were reviewed to understand regional groundwater conditions. Locations for the IDWR monitor wells with hydrographs are presented in Figure 2. The most recent season high water levels at each of the well locations are labeled and all wells are within four miles of the proposed Subdivision. The period of record for water level data shown on the hydrographs varys for each well, with the earliest beginning in 1969 and the most recent for all wells extending approximately through mid 2020.



Figure 2. Well Hydrograph Locations

a. Regional Trends

 The individual hydrographs are presented in Figure 3. In the 2020 water level measurements, elevations are between 2402 and 2471 feet msl, consistent with the reported water levels in the driller's log near the Subdivision. Water levels have been generally stable going back to 1969. A slight decline has occurred at **05N 02W 29BBC2** starting in 1996 but has stabilized over the past 10 years through mid 2020.

- Well 04N 20W 08ADD1 (2 miles to the southwest) has shown approximately 2 feet of decline since 1969 but also has stabilized. Seasonal highs and lows associated with irrigation pumping vary by as much as 25 feet on an annual basis.
- Two wells with short-term records (05N 01W 19CBD2 and 05N 02W 25BAA1) are located 3 to 4 miles the northeast of the subdivision. Both wells show significant fluctuations, but the data are not consistent enough to establish long-term trends.



Figure 3. Hydrographs From Nearby Monitor Wells

3. Drawdown Analysis

The drawdown due to the addition of 76 new domestic wells was estimated under two conditions:

- (1) the wells only providing water for domestic use, and
- (2) the wells being temporarily used for irrigation.

In each scenario, a drawdown analysis was performed using the Theis method. The Theis nonequilibrium well equation is a common approach for determining drawdown from pumping wells in confined aquifers. Drawdown can be calculated for any distance from a pumping well and for any duration of pumping. The Theis equation has a number of assumptions (i.e., no recharge, horizontal flow, infinite aquifer lateral extent, fully penetrating wells, and homogenous hydraulic conductivity) which are never fully satisfied in nature, but are adequately approximated in most conditions to allow accurate estimates of well interference impacts.

The analysis utilized the range of aquifer transmissivity values estimated previously in this report using the results of well tests and the materials described in the driller's logs: 8,800 gpd/ft to 62,500 gpd/ft.

a. Domestic Well Supply Option

Domestic Use Scenario. Under conditions where wells are only used for non-irrigation use, a demand of 300 gallons per day per household for 76 homes was assumed to be reasonable, resulting in a total groundwater production rate of 22,800 gallons per day (15.8 gpm 24-hour average). To evaluate drawdown to the surrounding area, a hypothetical well pumping at a rate of 15.8 gpm was placed in the center of the Subdivision. This pumping stress was then analyzed for the high and low transmissivity value estimates.

The results for the low transmissivity analysis are presented in Figure 4; the high transmissivity analysis is presented in Figure 5. These figures represent drawdown with increasing distance from the hypothetical well over different time periods. Drawdown was determined at distances of 0.5 mile and 1.0 mile between one and 365 days. Figure 4 shows that with an assumed transmissivity of 8,800 gpd/ft (low estimate), the drawdown after 365 days of continuous pumping at 15.8 gpm was approximately 0.60 feet at a radius of 0.5 miles and 0.40 feet at a radius of one mile. Under high transmissivity (62,500 gpd/ft) conditions, the estimated drawdown at 0.5 mile and 1.0 mile was approximately 0.16 feet and 0.12 feet, respectively. The impact of either transmissivity scenario on neighboring wells is negligible.

FSS





Figure 5. High Transmissivity Drawdown Analysis with no Irrigation.



Irrigation Use Scenario. Significant groundwater use for irrigation is not anticipated because surface water supplies are generally adequate for a full season of irrigation. In the event of drought conditions, however, domestic wells might be used for irrigation due to early curtailment

of surface water supplies. If this occurs, the duration of pumping is not expected to be longer than one month (i.e., mid-September through mid-October).

A 30-day irrigation scenario was analyzed using the Theis method. The analysis assumed an irrigation demand of 9 gpm per acre (0.02 cfs/acre), which is the maximum duty of water for irrigation in Idaho. Irrigated area within each lot was estimated at 0.5 acres, the maximum allowable irrigated area from domestic wells under Idaho Code 42-111(1)(a). Therefore, for 76, 2 acre lots, one quarter of the acreage can be irrigated, which is 38 acres. Irrigating 9 gpm per acre results in an irrigation rate of 342 gpm. These assumptions result in a total pumping rate of 357.8 gpm; 342 gpm for irrigation and 15.8 gpm for domestic use for the entire subdivision. Drawdown was calculated at distances of 0.5 mile and 1.0 mile between one and 30 days. Results for the low transmissivity analysis are presented in Figure 6 and the high transmissivity analysis in Figure 7.



Figure 6. Low Transmissivity Analysis with Irrigation

FJS



Figure 7. High Transmissivity Analysis with Irrigation

With an assumed transmissivity of 8,800 gpd/ft, the drawdown after 30 days of continuous pumping at 357.8 gpm was approximately 5.0 feet at a radius of a 0.5 mile and 2.0 feet at a radius of 1.0 mile. Under the high transmissivity (62,500 gpd/ft) condition, the estimated drawdown at 0.5 mile and 1.0 mile were approximately 2.0 feet and 1.0 foot, respectively. Although irrigation pumping results in substantially greater drawdowns than calculated for domestic-only pumping scenarios, this range of drawdowns will also have a negligible impact on surrounding water supply wells.

b. Community Well Supply Option

A principle assumption for the drawdown analysis for both the 76 domestic wells option and the single community production well option is that all pumping is concentrated from a single well in the center of the subdivision. Therefore, the results of the drawdown analysis is the same for both options.

4. Comparison of Domestic and Community Production Well Supply Options

There are very significant differences between the water supply options in regard to requirements for infrastructure, permitting, completion timeframe, and operation and maintenance. These are summarized in Table 2.

	Domestic Well Supply Option	Community Well Supply Option
Well Configuration	A relatively simple, small-scale well will be constructed on each lot to supply the in-door needs of each of the 76 homes.	Two production wells with greater depth, diameter, and pumping capacity than the domestic wells will be installed to supply the in-door needs of the 76 homes. Only one well will operate at a time as the second well will serve as a backup.
Infrastructure	In addition to a well, each home will require a pipe from the well to the home, submersible well pump, pressure tank, and potentially a small-scale treatment device such as a water softner to remove iron and managanese from the water.	In addition to the two community wells, a subdivision-wide water system will be constructed that will consist of distribution piplines, storage tank, well pumps, pump station, fire hydrants, and water treatment.
Water Quality & Fire Protection	Individual homeowners are responsible for monitoring the quality of their well water and determining whether treatment will be necessary. There is no dedicated water supply for fire protection.	The water system is regulated to ensure compliance with state and federal drinking water regulations. Hydrants will be installed throughout the subdivision to supply fire protection.
Operation and Maintenance	Individual homeowners are responsible for ensuring their water systems operate properly.	A homeowners association would be responsible for contracting with a water servicing company to operate and maintain the water system.
Permitting & Timeframe	Each home requires a well construction permit. The entire water system for each home can be constructed in a matter of days. A water right is not needed for domestic wells.	The wells and distribution system must go through an extensive design, permitting, construction, inspection, and testing process that will require many months to complete. A water right would be needed for centralized public water system.
Cost	In the range of \$25,000/home. For 76 homes, this would be in the range of \$1.9 million.	The cost for a centralized public system is estimated to range from \$1 million to \$2 million.

 Table 2. Comparison of Domestic and Community Well Water Supply Systems.

5. Recommendation for Well Construction

a. Domestic Water Suppy Wells

Recommendations for domestic well construction are based on the drillers logs of three wells (14, 10, and 9) that trend west to east across the Subdivision. These wells range from 193 to 323 feet bgs in depth and have screened lengths of 5 to 10 feet. Based on the construction of these wells and the materials described in the driller's logs, the following construction is anticipated for the 34 domestic wells:

- 6-inch steel casing
- 10-foot stainless steel screen (5-inch diameter, 0.020-inch slot size) at depths between 210-330.
- 4-inch diameter pumps set 50 feet below static water level.

b. Community Production Well

Two community productions wells would be needed. If each well is designed to meet the peak hour potable demands of 76 homes, then two 8-inch wells would be needed. The wells would be equipped with 6-inch submersible pumps. A maximum depth of 300 feet is anticipated. This scenario assumes that a storage tank is provided for fire protection.

6. Conclusion

The drawdown analysis suggests that the addition of 76 new domestic wells to the area or a single community production well will have a minimal impact on current groundwater levels in the vicinity of the proposed Subdivision. Drawdown impacts will be minimal provided that each lot utilizes surface water supplies for irrigation purposes.

Regardless of which well water supply option is used, each of the individual two-acre lots will include its own septic system. Greater than 90 percent of the non-irrigation diversions for domestic use are non-consumptive. As a result, water pumped for domestic purposes will be recharged back to the aquifer, reducing the already minimal impact of the additional wells.

Regional groundwater levels are stable or only slightly declining over the last 50 years.

Based on the information above, 76 new domestic wells or a single community production well at the proposed Willowcreek Subdivision will not negatively impact existing wells in the surrounding area.

Wells constructed with properly sized well screens are less likely to produce sand and are less likely to lose productivity due to plugging of screens and perforations. Many (perhaps most) well failures are not caused by water-level declines in an aquifer, but rather because of either excessive sand production or loss of productivity caused by plugging of well screens or perforations, or by collapse of open boreholes. In other words, wells generally do not "go dry". Instead, they more often fail due to loss of productivity resulting in excessive drawdown. Properly constructed wells, of adequate depth and using appropriate well screens, are much more resistant to failure.

There are very significant differences in supplying the 76 homes using domestic well option vs the community production well option. The community production well option would require a subdivision-wide distribution system which would result in significantly greater infrastructure, permitting, completion timeframe, and operation and maintenance.

7. References

Petrich, C.R., and Urban, S.,2004, Characterization of Ground Water Flow in the Lower Boise River Basin, Moscow, University of Idaho Water Resources Research Institute, IWRRI-2004-01).. Appendix A. Well Logs

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)		Office Use Only	
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FORWARD WHITE COPY TO WATER RESOURCES

Form 238-7 6/07



IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

1. WELL TAG NO. D 0063885	12. STATIC WATER LEVEL and WELL TESTS:	
Drilling Permit No. 915414-8104035	Depth first water encountered (ft) 129 Static water level (ft) 117	
Water right or injection well #	Water temp. (°F) 56 Bottom hole temp. (°F)	
2. OWNER	Describe access port cap	
Name Kara Christan	Well test: Test method:	
Address by N.Merolan RD	Drawdown (feet) Discharge or Test duration (minutes) Pump Bailer Air	Flowing
City Eagle State ID Zip 83010	83 50 1/2hr 0 0	
3. WELL LOCATION. Two 5 North ☐ par 2 East ☐ or West ☐		henced
Sec. <u>20</u> 1/4 14 JL 1/4 10 acres 40 acres 160 acres	Water Quality test or comments:	
Gov't Lot County CANYON	13. LITHOLOGIC LOG and/or repairs or abandonment:	
Lat. 43 ° 44.384 (Deg. and Decimal minutes)	Bore	
Long. <u>116</u> ° <u>34.382</u> (Deg. and Decimal minutes)	Dia. From To Remarks, lithology or description of repairs or	Water
Address of Well Site 9029 Temp RD Kemp Rd.	10 0 3 top soil	Y IN
City Middleton	10 3 4 hard pan	X
(Sive at least name of road + Distance to Road or Landsterk Willow Craek Ranch	10 4 40 sandy clay	X
Lot. 10 Blk. 2 Sub Name Estate	6 40 93 brown sandy clay	X
4. USE:	6 93 115 gravel	X
Domestic Municipal Monitor Irrigation Thermal Injection	6 115 125 brown sandy clay	X
	6 132 136 brown clay	X
5. TYPE OF WORK check all that apply (Replacement etc.)	6 136 147 brown sand	Y A
New Well Replacement well Modify existing well	6 147 152 brown clay	X
Abandonment Other	6 152 157 brown sand	X
6. DRILL METHOD:	6 157 161 brown clay	X
Air Rotary Mud Rotary Cable Other	6 161 170 brown sand	X
7. SEALING PROCEDURES	6 170 173 brown clay	X
Seal material From (ft) To (ft) Quantity (lbs or ft ³) Placement method/procedure	6 175 106 brown cand w/clay stine	X
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	6 201 205 fine sand	X
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Packer X Y N Type 3 wing	I/We certify that all minimum well construction standards were complied w	rith at
10. FILTER PACK:	the time the rig was removed.	
Filter Material From (ft) To (ft) Quantity (ibs or ft ³) Placement method	Company Name waterpro Well Drilling Co. No. 626	
	*Principal Driller Monte, Post Date 8-	6-12
	*Driller Data	
11. FLOWING ARTESIAN:	Udit	
Flowing Artesian?	*Operator II Date	
Describe control device	Operator I Date	
	* Signature of Principal Driller and rig operator are required.	******

RECEIVED



IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

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Flowing Artesian? 🗋 Y	ΧN	Artesian Pressure (PSIG)	
Describe control device	Cap		

12.	STATIC	WATER	LEVEL and	I WELL	TESTS:
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Depth first water encountered (ft)	Static water level (ft) 117
Water temp. (^o F) <u>68</u>	Bottom hole temp. (°F) 68

Describe access port well cap

Well test:			Test m	ethod:		
Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bailer	Air	Flowing
46	500	150	X			

Water quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia.	From	То	Remarks, lithology or description of repairs or	W	ater
(in)	(11)	(11)	abandonment, water temp.	Y	N
12.25	0	6	Top Soil		X
12.25	6	8	Gravel		X
12.25	8	17	Brown Clay w/Sands		X
12.25	17	28	Brown Clay		X
12.25	28	31	Clay w/Sands		X
12.25	31	39	Sands		X
12.25	39	41	Clay	1	X
12.25	41	46	Sands		X
12.25	46	50	Clay		X
12.25	50	86	Clay w/ Sand strips		+ Â
12.25	86	94	Gravel	-	
12.25	94	96	Sands	-	Ŷ
12.25	96	102	Gravels and Sands	X	⊢ ^
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2.25	125	137	Sands	V	<u> </u>
2.25	137	162	Sandy Clay	<u>^</u>	V
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2.25	165	167	Sands	V	^
2.25	167	178	Clay w/ Sands	^	V
2.25	178	189	Sands	V	^
2.25	189	207	Clay	^	V
2.25	207	211	Sands	V	^
2.25	211	225	Coarse Sands	$\hat{\mathbf{v}}$	
2.25	225	232	Sands		
2.25	232	235	Sandy Clay	X	X
2.25	235	242	Sands	V	X
2.25	242	258	Clave w/ fine Sand	X	
2.25	258	263	Sande	X	<u>X</u>
2.25	263	284	Clay w/ Sand Javors	X	_
2.25	284	290	Sande	X	
2.25	290	305	Clay w/ fine Send	X	
Complet	ed Depti	h (Measu	urable): 363		<u>X</u>

Date Started: 08/11/21 Date Completed: 08/16/21

14. DRILLER'S CERTIFICATION:

We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Treasure Valley Drilling	Co. No. 560
*Principal Driller	Date 08/24/2021
*Driller	Date
*Operator II	Date
Operator I	Date

* Signature of Principal Driller and rig operator are required.

WATER RESOURCES WESTERN REGION

AUG 3 0 2021

IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

Drilling Permit No	ר ב ב ע ג
Weter right or injection well # 2. OWNER: Willow Creek Wholesale Nursery LLC Name Willow Creek Wholesale Nursery LLC 25455 Lensing	a D a V
2. OWNER: Willow Creek Wholesale Nursery LLC Name Willow Creek Wholesale Nursery LLC	_ ∨
Name Willow Creek Wholesale Nursery LLC	
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Address 20400 Lansing Lane	N I
City Middleton State ID Zin 83644	
3.WELL LOCATION:	F
Two, 05 North K or South C Bas 02 Fast C or Wast K	w
Sec. 28 1/4 NE 1/4 SE 1/4	13.
10 acres 40 acres 160 acres 174	B
Gov't Lot County	10
Lat. 43 0 44.4895 (Deg. and Decimal minutes)	12
Long. 116 034.3756 (Deg. and Decimal minutes)	12
Address of Well Site	12
25455 Lansing Lane City Middleton	12
Lot Blk. Sub. Name	12
4. USE:	12
Domestic D Municipal D Monitor N Irrigation D Thermal D Injection	
5. TYPE OF WORK:	-
	1000
6. DRILL METHOD	-
Air Rotary 🛛 Mud Rotary 🔲 Cable 🔲 Other	-
7. SEALING PROCEDURES:	
Seal material From (ft) To (ft) Quantity (lbs or ft ³) Placement method/procedure	_
3/4 Chip 0 200 3,000 lbs Poured	-
	_
B. CASING/LINER:	-
(nominal) From (ft) To (ft) Schedule Material Casing Liner Threaded Welded	-
8 +2 303 .375 Steel	-
Vas drive shoe used?	-
PERFORATIONS/SCREENS	-
	-
Dethod of installation Set in	
From (ft) To (ft) Slot size Number/ft Diameter (nominal) Material Gauge or Schedule	Cor
303 363 .25 60 8" SS .375	
	Dat
	1/1/1
ength of Headpipe Length of Tailpipe	the
	Con
0.FILTER PACK:	*Dri
O.FILTER PACK: Filter Material From (ft) To (ft) Quantity (lbs or ft ²) Placement method	F10
D.FILTER PACK: Filter Material From (ft) To (ft) Quantity (lbs or ft ³) Placement method SilicaSand 8/16 200 363 4 000 lbs Doutrod	ind*
O.FILTER PACK: Filter Material From (ft) To (ft) Quantity (lbs or ft ³) Placement method SilicaSand 8/16 200 363 4,000 lbs Poured	*Dri *Ori

Describe control device Cap

STATIC WATER LEVEL and WELL TESTS:

Depth first wate	r encountered (fi	t) Sta	Static water level (ft) 117							
Water temp. (⁰ F	₎ 68	Bottom hole	Bottom hole temp (°E) 68							
Describe acces	s port Well Ca	p		.,						
Well test:			Test m	ethod:						
Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bailer	Air	Flowing				
46	500	150	X							
	L									

r quality test or comments:

THOLOGIC LOG and/or repairs or abandonment:

Dia.	From To Remarks, lithology or description of repairs or (ft) (ft) abandonment, water temp.		Water		
12 25	305	315	Cooreo Sondo	Y	N
12 25	315	317	Clay	X	
12 25	317	322	Sande		X
12 25	322	224	Clau	X	
12.20	224	224	Clay		X
12.25	324	301	Sand	X	
12.25	362	302	Sand		X
12.20	002				X
					_
-					
				_	
_				_	
					_
					_
Complete	d Depth	(Measu	rable):363		
Date Star	ted Au	g 11, 2	021 Date Completed Aug 16, 202	1	-

tarted: Aug 11, 2021

RILLER'S CERTIFICATION:

artify that all minimum well construction standards were complied with at e the rig was removed. T.

Company Name Treasure Valley Drilling	Co. No. 560
*Principal Driller	Date 08/24/2021
*Driller	Date
*Operator It	Date
Operator I	Date

Signature of Principal Driller and rig operator are required.

-		-	
6.	'n	7	
u	v	•	

63

IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

1 WELL TAG NO. D 0097406	12. ST		ATER	LEVEL and WELL TESTS:		
Drilling Permit No. 907847	Depth	first water	encou	ntered (ft) Static water leve	el (ft) 71	
Water right or injection well #	Water	temp. (^o F)	Bottom hole temp. (⁰ F) C	Sold	
2. OWNER: Generation Homes	Descrit	be access	s port_V	Vell cap		
Name	Well te	st:	2254	Test metho	od:	
Address Po Box 69	Drawd	lown (feet)	Dis	charge or Test duration Pump Bai	iler Air	Flowing artesian
City Middleton State ID Zip 83644	too 1	80	40	60		
3 WELL LOCATION:						
Two 05 North X or South Rate, 02 East or West X	Water (quality te	st or co	omments:		
27 1/4 SW 1/4 NW 1/4	13. LITH	IOLOGI	C LOG	and/or repairs or abandonment:		Water
Sec	Dia.	From (ft)	To (ft)	Remarks, lithology or description of repair abandonment, water temp.	rs or Y	N
Gov't Lot County Canyon	(III)	0	30	sandy clay		x
Lat. <u>43</u> • <u>44.6139</u> (Deg. and Decimal minutes)	10	30	38	clay		x
Long116 034.2972 (Deg. and Decimal minutes)	6	38	55	sandy clay		x
Address of Well Site 8933 Edna lane		55	79	gravel		X
City Middleton		79	96	clay		X
(Give at least name of read + Distance to Road or Landmark)		96	106	white course sand	X	
		106	166	sand clay some sand streaks	X	
4. USE:		166	1/0		X	v
Other		170	1/8	Ciay	×	
5 TYPE OF WORK:		190	100	course white sand 1 clay crack		
X New well Replacement well Modify existing well		100	192	brown clay		x
Abandonment Other		131	102		ín.	
6. DRILL METHOD:						
7. SEALING PROCEDURES:						
Seal material From (ft) To (ft) Quantity (lbs or ft") Placement method/procedure						
bentonite 0 38 1200 Slow pour	-					
8. CASING/LINER:						
(nominal) From (ft) To (ft) Schedule Material Casing Liner Inreaded Weided				BEDE		
6 +2 181 .250 steel				TECEIVED		
5 175 182 .258 steel				007		_
				ULI 18 2022		-
				WATED		
181.3				WESTERASOURCES		
Was drive shoe used? X Y IN Side Depin(s)				REGION		
9. PERFORATIONS/SCREENS:						_
Perforations Y N Method					4	
Manufactured screen X Y IN Type Jonnson 55						
Method of installation Pull back						
From (ft) To (ft) Stot size Number/ft Diameter Material Gauge or Schedule	Comp	eted Dept	th (Meas	surable): 192		
182 192 020 10 5 SS .304	Deta	Harton 1	0/12/2	22 Date Completed: 10/1	8/22	
			S CER			
	I/We d	certify that	t all mir	nimum well construction standards were	complied wi	ith at
Landth of Tailoing 1/2 plate	the tin	ne the rig	was re	moved.		
Length of Headpipe 1.0 Length of Failpipe 1.2 place	Comp	any Nam	JM	cLeran Drilling LLC co.	No. 720	
Packer MY LIN Type 3 IP	comp		50	5) mileron	10114	122
10.FILTER PACK:	*Princ	ipal Drille		Date Date	e_ <u>~/ '//</u>	
Filter Material From (ft) To (ft) Quantity (lbs or ft ²) Placement method	*Drille	۲. <u></u>		Dat	е	
	+0	nto-1		Dat	e	
	-Oper		_			
11. FLOWING ARTESIAN:	Opera	ator I		Date	e	_
Flowing Artesian?	* Ciar	nature of	Princi	pal Driller and rig operator are require	ed.	
	oigi					

USE TYPEWRITER OR BALL POINT PEN Department of Wa	f Idah iter Ad	o Iminist	ration		N. C. M.	4	
WELL DRILLE State law requires that this report be within 30 days after complet	filed w	ith the	State F	Reclamation Engineer			
1. WELL OWNER	7. W	ATER	LEVEL		<u>,</u>	·	
Name GARV STEINBACK.	- s	tatic wa	ater level	90 feet below land su	rface		
	Flowing? Yes No G.P.M. flow						
Address NII LCALDWELL DUANO	Temperature F. Quality Artesian closed-in pressurep.s.i.						
Owner's Permit No. <u>NoNE</u>	с	ontrolle	ed by	□ Valve □ Cap	D Plug		
2. NATURE OF WORK	8. W	ELĽ Ť	EST DA	ТА			
🗙 New well 🖾 Deepened 🖾 Replacement	Y Pump X Bailer 🗆 Other						
Abandoned (describe method of abandoning)		ischarge	G.Р.М. <u>М</u>	I Draw Down	48 ho	nped	
3. PROPOSED USE	·						
Domestic 🗍 Irrigation 🗍 Test	9. 1	.ітноі	.OGIC L	.og	100	·	
	Hole	De	pth	Material		Water	
Municipal G Industrial G Stock	Diam. フタ	From	т. 127	TOP Soil	· · · ·	Yes No	
4. METHOD DRILLED	8	10	50	SLUD EUNE I	RV		
Cable Rotory 🗆 Dug 🗆 Other		50	150	ROCK BOLDERS	HARD	- \$	
5. WELL CONSTRUCTION		190	197	CLAY BROWN	VATER	X	
Diameter of hole 2% inches Total depth 192. feet				<u>k</u>			
Casing schedule: Casing sched		-		1 9 9 3			
4.2.5% inches 6 th inches 0 feet 1977 feet		· · · · · ·		A & J L		20	
inches feet feet feet				2 2 2 2 2 C	211	25	
inches inches feet feet feet feet		[at the	\sim		
Was a packer or seal used? 🖂 Yes 🕅 No	<u> </u>			3 7 3 7	3	15	
Perforated? Yes No			<u>u</u>	28 23	- R	22	
Size of perforation inches by inches	<u> </u>		0.	74.3		-92	
Number O From To 200 perforations O feet 20 feet		· · · · · ·		13413		A Po	
perforations feet feet			0	a B K K	13		
	<u> </u>	 	-7				
Well screen installed?				3 2 4	60	¥. *	
Type <u>NONE</u> Model No. <u>NONE</u> Diameter / Slot size / Set from / fact to // fact			· · · · · · · · · · · · · · · · · · ·	2 4	1 2 2	\overline{X}	
Diameter L'Slot size L'Set from L feet to L feet				2831	i nt	2	
Gravel packed? 🗶 Yes 🗆 No Size of gravel				3901			
Placed from feet to feet				2 3 6 F	Nº 2	51	
Surface seal? Yes I No To what depth 150 feet					74 8	ΨŔ	
	 			24 2 as 2	500	· · ·	
6. LOCATION OF WELL				· · · · · · · · · · · · · · · · · · ·	/	· · · ·	
	10. W	ork sta	rted 2	1 of oug 71 finished	act lo t	h. 12	
<u> </u>	<u> </u>		<u> </u>		<u></u> _		
W	11. C	NRILLE This well	ER'S CEi I was dri	RTIFICATION lled under my supervision ar	nd this report is	s	
	ti	rue to t	he best o	of my knowledge.		<u>у</u>	
	·	MA	RVIS	DRILLING CO	17	7	
County_ Congon County		riller's of	r Firm's N E <i>R</i> オ	13, SDALD	Numbe	ər.	
SWNN 27 NW 4500 V San 24 TTH NIND 211 HAN	A	ddress In		and Branian	AM 1- 19	- 77	
(Ly mr, Steenhough)	si	gned By	un	T- WULLT	Date		

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT
Form 238-7 3/95-C96

IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

Inener) A hat	Office	Use O	nly	
Twp_		y _Rge		Sec	
	1/4		1/4		1/4

1. DRILLING PERMIT NO	309 -52					
Other IDWR No.						
2. OWNER:						
Name JOHN JARNIGAN						
Address 25940 LANSING LN						
City MIDDLETON	State_ID Zip <u>83644</u>					
3. LOCATION OF WELL b	y legal description:					
Sketch map location <u>must</u> agree v N	with written location					
W $Finite relation for the second se$	North \square or South \square 2 East \square or West \square 7 1/4 NW 1/4 NW 1/4 B 10 acres $\frac{1}{40 \text{ acres}}$ $\frac{1}{10 \text{ acres}}$ $\frac{1}{10}$					
S Lot						
Lat:	Long: 6					
Address of well Site <u>SAME</u>						
(Give at least name of road + Distance to Road	or Landmark)					
Lt Bik Su	h Name					
Dat Du	6					
4. USE:	6					
🛛 Domestic 🔲 Municipa	al 🗌 Monitor 🔲 Irrigation 🛛 6					
Thermal Injection	Other6					
5. TYPE OF WORK check al	I that apply (Replacement etc.)					
New Well Modify Aba	ndonment [] Other					
6. DRILL METHOD						
Air Rotary Cable M	ud Rotary 🗌 Other					
Air Rotary Cable M 7. SEALING PROCEDURE:	S					
Air Rotary Cable M 7. SEALING PROCEDURE: SEAL/FILTER PACK Material From To	S AMOUNT Sacks or					
Air Rotary Cable M 7. SEALING PROCEDURE: SEAL/FILTER PACK Material From To	Ind Rotary Other S					
Air Rotary Cable M 7. SEALING PROCEDURE: SEAL/FILTER PACK Material From To Bentonite 0 20	AMOUNT METHOD Sacks or Pounds 550 POUR					
Air Rotary Cable M 7. SEALING PROCEDURE: SEAL/FILTER PACK Material From To Bentonite 0 20	S AMOUNT Sacks or Pounds 550 POUR					
Air Rotary Cable M 7. SEALING PROCEDURES SEAL/FILTER PACK Material From To Bentonite 0 20	AMOUNT METHOD Sacks or Pounds 550 POUR					
☑ Air Rotary □ Cable □ M 7. SEALING PROCEDURE: SEAL/FILTER PACK Material From To Bentonite 0 Was drive shoe used? ∑ Y □ Y	AMOUNT METHOD Sacks or Pounds 550 POUR N Shoe Depth(s) 246 Pounds					
☑ Air Rotary □ Cable □ M 7. SEALING PROCEDURE: SEAL/FILTER PACK Material From To Bentonite 0 Was drive shoe used? ☑ Y □ Y Was drive shoe seal tested? ☑ Y	AMOUNT METHOD Sacks or Pounds 550 POUR 550 POUR					
☑ Air Rotary □ Cable □ M 7. SEALING PROCEDURES SEAL/FILTER PACK Material From To Bentonite 0 Was drive shoe used? ☑ Y □ 1 Was drive shoe seal tested? ☑ Y S. CASING/LINER: Diameter From Diameter From To	AMOUNT METHOD Sacks or Pounds 550 POUR 550 POUR					
☑ Air Rotary □ Cable □ M 7. SEALING PROCEDURES SEAL/FILTER PACK Material From Bentonite 0 20 Was drive shoe used? ☑ Y □ Y Was drive shoe seal tested? ☑ Y 8. CASING/LINER: Diameter From To Gauge Material Autor	AMOUNT METHOD Sacks or Pounds 550 POUR 550 POUR N Shoe Depth(s) 246 Pounds rial Casing Liner Welded Threaded Pounds					
☑ Air Rotary □ Cable □ M 7. SEALING PROCEDURES SEAL/FILTER PACK Material From Bentonite 0 20 Was drive shoe used? ☑ Y □ 1 Was drive shoe seal tested? ☑ Y 8. CASING/LINER: Diameter From To Gauge Material Gauge	Ind Rotary □ Other S AMOUNT METHOD Sacks or Pounds 550 POUR Store Depth(s) 246 Y □ N How? air Tial Casing Liner Welded Threaded EEI Ø □ Ø □ Ø □ □ □					
X Air Rotary □ Cable □ M 7. SEALING PROCEDURE: SEAL/FILTER PACK Material From To Bentonite 0 ZO Was drive shoe used? X Was drive shoe seal tested? X Bentonite 0 ZO ZO Bentonite ZO Bentonite 0 ZO ZO Bentonite ZO Bentonite ZO Bentonite ZO Bentonite ZO Bentonite ZO </td <td>Ind Rotary Other S AMOUNT METHOD Sacks or Pounds Pounds POUR 550 POUR 550 POUR Shoe Depth(s) 246 POUR Tial Casing Liner Welded Threaded POUR EEI Image: Image:</td>	Ind Rotary Other S AMOUNT METHOD Sacks or Pounds Pounds POUR 550 POUR 550 POUR Shoe Depth(s) 246 POUR Tial Casing Liner Welded Threaded POUR EEI Image:					
☑ Air Rotary □ Cable □ M 7. SEALING PROCEDURES SEAL/FILTER PACK Material From To Bentonite 0 Was drive shoe used? ☑ Y □ 1 Was drive shoe seal tested? ☑ Y Standard CLINER: Diameter From Diameter From To G +2 246 250 ST Length of Headpipe	AMOUNT S AMOUNT Sacks or Pounds 550 POUR 550 POUR 550 POUR Solution N Shoe Depth(s) 246 Y In How? air Tial Casing Liner Welded Threaded EEI In In International Inter					
☑ Air Rotary □ Cable □ M 7. SEALING PROCEDURES SEAL/FILTER PACK Material From To Bentonite 0 Was drive shoe used? ☑ Y □ 1 Was drive shoe seal tested? ☑ Y Banter From To Gauge Material Length of Headpipe	AMOUNT METHOD Sacks or Pounds Sacks or POUR Sacks or POUR Stacks or Pounds Sacks or Pounds					
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☑ Air Rotary □ Cable □ M 7. SEALING PROCEDURES SEAL/FILTER PACK Material From Bentonite 0 20 Was drive shoe used? ☑ Y □ 1 Was drive shoe seal tested? ☑ Y Standard Strike Material Diameter From To Gauge Material Length of Headpipe	AMOUNT S AMOUNT Sacks or Pounds 550 POUR 550 POUR Shoe Depth(s) 246 Image: Image of the second sec					
☑ Air Rotary □ Cable □ M 7. SEALING PROCEDURES SEAL/FILTER PACK Material From To Bentonite 0 Was drive shoe used? ☑ Y □ 1 Was drive shoe seal tested? ☑ Y Nas drive shoe seal tested? ☑ Y Bentonite 0 Zo ☑ Bentonite 0 Zo ☑ Was drive shoe used? ☑ Y □ 1 Was drive shoe seal tested? ☑ Y Bentonite To Gauge Material Length of Headpipe	AMOUNT S AMOUNT Sacks or Pounds 550 POUR 550 Shoe Depth(s) 246 Image: Inter Welded Threaded EEI Image: Inter Welded Threaded EEI Image: Inter Welded Threaded					
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☑ Air Rotary □ Cable □ M 7. SEALING PROCEDURES SEAL/FILTER PACK Material From To Bentonite 0 Was drive shoe used? ∑ Y □ Y Was drive shoe seal tested? ∑ Y Was drive shoe seal tested? ∑ Y Bentonite To Gauge Material Length of Headpipe	AMOUNT S AMOUNT Sacks or Pounds 550 POUR 550 POUR Shoe Depth(s) 246 Y N Shoe Depth(s) 246 Y N How? air rial Casing Liner Welded Threaded EEI EEI I					
☑ Air Rotary □ Cable □ M 7. SEALING PROCEDURES SEAL/FILTER PACK Material From To Bentonite 0 Was drive shoe used? ☑ Y □ N Was drive shoe seal tested? ☑ Y Was drive shoe seal tested? ☑ Y Bentonite 0 Zo ☑ Was drive shoe seal tested? ☑ Y Scassing/LINER: ☑ Diameter From To Gauge Material Length of Headpipe 9. PERFORATIONS/SCREE □ Perforations Method □ Screens Screen Type From To Slot Size Number Diameter Diameter	AMOUNT S AMOUNT Sacks or Pounds 550 POUR 550 POUR Solution N Shoe Depth(s) 246 Y In How? air Trial Casing Liner Welded Threaded EEI Image: Image of the second se					
☑ Air Rotary □ Cable □ M 7. SEALING PROCEDURES SEAL/FILTER PACK Material From Bentonite 0 20 Was drive shoe used? ☑ Y □ 1 Was drive shoe seal tested? ☑ Y Stanter ☑ Diameter From Comparison ☐ G +2 246 250 ST ☐ Length of Headpipe 9. PERFORATIONS/SCREE □ Perforations Method □ Screens Screen Type	AMOUNT S AMOUNT Sacks or Pounds 550 POUR 550 POUR Shoe Depth(s) 246 7 N Shoe Depth(s) 246 7 N How? air rial Casing Liner Welded Threaded EEI I					
☑ Air Rotary □ Cable □ M 7. SEALING PROCEDURES SEAL/FILTER PACK Material From To Bentonite 0 20 Was drive shoe used? ☑ Y □ 1 Was drive shoe seal tested? ☑ Y 8. CASING/LINER: Diameter From To Gauge Mate 6 +2 246 250 ST Image: Screen Tope_ 9. PERFORATIONS/SCREE □ □ □ Screens Screen Type_ From To Slot Size Number Di Io. STATIC WATER LEVE Discurpter	AMOUNT S AMOUNT Sacks or Pounds 550 POUR 550 POUR Shoe Depth(s) 246 Y N Shoe Depth(s) 246 Y N How? air rial Casing Liner Welded Threaded EEI I					
☑ Air Rotary □ Cable □ M 7. SEALING PROCEDURES SEAL/FILTER PACK Material From To Bentonitc 0 20 Was drive shoe used? ☑ Y □ 1 Was drive shoe seal tested? ☑ Y Was drive shoe seal tested? ☑ Y Bentonitc 0 20 Was drive shoe used? ☑ Y □ 1 Was drive shoe seal tested? ☑ Y SccasinG/LINER: Diameter From To Gauge Material □ Length of Headpipe	AMOUNT METHOD Sacks or Pounds Solution S550 POUR Store Depth(s) 246 Y N How? air rial Casing Liner Welded Threaded EEI Image: Image					
☑ Air Rotary □ Cable □ M 7. SEALING PROCEDURES SEAL/FILTER PACK Material From To Bentonite 0 Was drive shoe used? ☑ Y □ 1 Was drive shoe seal tested? ☑ Y Naterial Was drive shoe seal tested? ☑ Y Name Bentonite 0 20 Was drive shoe used? ☑ Y □ 1 Was drive shoe seal tested? ☑ Y 8. CASING/LINER: Diameter From To Gauge Material Perforations Method □ Screens Screen Type From From To Slot Size Number Diameter Diameter 90ft. below ground Denth flow encountered 248	AMOUNT S AMOUNT Sacks or Pounds 550 POUR 550 POUR N Shoe Depth(s) 246 Constrained and the second secon					

11. WELL '	TESTS: mp 🗌 Bailer	🛛 Air 🔲 F	lowing Artesian
Yield gal/min.	Drawdown	Pumping Level	Time
100		200	4 HR
Water Temp.		Bottom hole ter	np

Water Quality test or comments:

Depth first Water Encountered 110

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Wat	er				
Bore	From	To	Remarks: Lithology, Water Quality & Temp.	TY	N
10	0	4	TOP SOIL	┸┯╼╇	$\mathbf{\nabla}$
10	4	18	SAND & CLAY STRIPS	╼┝╼┥	R
6	18	70	BROWN SAND & CLAY		\bigotimes
6	7 0	95	GRAVEL		Ŕ
6	95	110	BROWN CLAY	-	$\overline{\mathbf{X}}$
6	110	155	SAND & CLAY STRIPS		Ĥ
6	155	162	BROWN CLAY	- 1	\mathbf{X}
6	162	210	SAND & CLAY STRIPS		ŕ
6	210	245	DIRTY SAND	-ďŽ	
6	245	248	BROWN CLAY	-Ľ	$\mathbf{\nabla}$
6	248		SAND		ŕ
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			WESTERN PEOLOS	╺┨──┤	
			ACGION	╺┟╾┤	
				╺┟╌┤	<u> </u>
Соп	pleted	Depti	n: 248 (Measurable	<u></u>)	Ч
Date	Starte	d <u>02/23</u>	02/2004 Completed 02/26/2	004	
13. I	DRILL	ER'S	CERTIFICATION		
I/We	certify	that all	minimum well construction standards were		••••••
comp	lied wi	th at th	e time the rig was removed.		
Firm	Nama i	CEOD	DE DOSTE WELL DODLE DIO		
тши	TATIL	OFOX(SUI VSI WELL DRULLING FIM N	D. <u>30</u>	<u></u>
Firm	Officia	1	Date 03	/01/2	200
· · · ·		-	ht - if a TI-		
Supe	rvisor o	r Opera	ator 10000 Desight Bate 03	/01/2	200

(Sign once if Firm Official & Operator)

RECEIVED

REPORT OF WELL DRILLER State of Idaho JAN 31 1970

Department of Reclamation State law requires that this report shall be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

WELL OWNER:	Size of drilled hole: <u>6</u> Total	
Name Stenn Steenback	depth of well: 249 Standing water	
Address Amile wert of Slar on Cur	Fahr. ^o Test delivery: 5 gr	pm
V Amonto Develte No.	orCfs_Pump? Bail	,
NATURE OF WORK (check): Replacement well	2 HD Size of pump and motor used to make test:	
New well Deepened Abandoned	Length of time of test: Hrs Mir	<u>1.</u>
Water is to be used for: Demutos	Drawdown:ft. Artesian pressure: ft. above land surface Give flow cfs	•
METHOD OF CONSTRUCTION: Rotary 🔲 Cable 📈	or gpm. Shutoff pressure:	
Dug Other (explain)	Controlled by: Valve Cap Plug	
CASING SCHEDULE: Threaded Welded		
<u>6</u> "Diam. from ft. to ft.	DEPTH MATERIAL 32018 WAT	CER
"Diam. fromft. toft.	FEET FEET	JA NO
"Diam. from ft. to ft.	0 3 lop soil	no
Steel \mathcal{U} concrete \square wood \square other \square	3 40 send & clay	no
(explain)	TU TA COL	<u>w</u>
PERFORATED? Yes No Type of	42 50 soud + clar W	<u>ಎ</u>
	80 85 enouel - 1	D
Size of perforations: "by "	8-920 0 0 0	
perforations fromft. toft.	8.5 But Juna & Clay M	20
perforations fromft. toft.	200840 Juck chand y	le .
WAS SCREEN INSTALLED? Yes No	240 249 sond f grovel in	
Manufacturer's name		
Diam. Slot size Set from ft. to ft		
DiamSlot sizeSet fromft. toft		
CONSTRUCTION: Well gravel packed? Yes		
placed from ft. to ft. Surface seal		<u> </u>
provided? Yes No To what depth?		÷
2011. Material used in seal: Clore		
Did any strata contain unusable water? Yes		
Depth of strata ft. Method of sealin		
strata off:	1	
		<u></u>
Surface casing used? Yes No.		
Cemented in place? Yes No		
Locate well in section		
	Work started: 2014	<u></u>
	Work finished: 27 part 09	
Sec.	drilled under my supervision and this rer	ort
	is true to the best of my knowledge.	
	Name:	
3 6	Auress: 110 1 Mullion	
	License No. /// Date: MALE	64
LOCATION OF WELL: County Congon		
<u> </u>	V.E.	
Use other side for	additional remarks	N.,

Form 238-7 11/97 JGE

IDAHO DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

1. WELL TAG NO. D 0047788

DRILLING PERMIT NO.

Other IDWR No.

2. OWNER:

Name Longbow Development

Address PO Box 670 City Middleton

Middleton State ID Zip 83644

3. LOCATION OF WELL by legal description:

Sketch map location must agree with written location.

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10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

 65
 ft. below ground
 Artesian pressure
 lb

 Depth flow encountered
 160
 ft.
 Describe access port or control

 devices:
 Cap
 Image: Cap
 Image: Cap

845955

Office Use Only Inspected by Twp Rge Sec 1/4 1/4 1/4 Lat: : Long: :

11. WELL TESTS:

Pump	Bailer	X Air	Flowing A	Artesian
Yield gal./min.	Drawdown	Pump	ping Level	Time
60 gpm	75'		140'	1 Hr.

Water Temp. 56

Bottom hole temp. 56

Water Quality test or comments:

Depth first Water Encounter 72'

12. LITHOLOGIC LOG: (Describe repairs or abandonment) Water

Bore Dia	From	To	Remarks. Lithology, Water Quality & Temperature	Y	N
10"	0	4'	Brown Sand		
10"	4'	5'	Cliche		
10"	5'	18'	Brown Clay w/ Sand		
6"	18'	19'	Brown Clay w/ Sand		
6"	19'	27'	Sand w/ Gravel		
6"	27'	53'	Coarse Sand w/ Pea Gravel		
6"	53'	57'	Brown Clay		
6"	57	84'	Gravel	X	
6"	84'	98'	Sticky Brown Clay		
6"	98'	119'	Sandy Brown Clay	Х	
6''	119'	121'	Sticky Brown Clay		
6"	121'	155'	Sand w/ Clay Strips	Х	
6"	155'	160'	Sticky Brown Clay		
6"	160'	170'	Medium Brown Sand	Х	

RECEIVED

MAY 0 9 2007

WATER RESOURCES WESTERN REGION

Completed Depth 169' Date: Started 4/4/2007

Completed 4/6/2007

(Measurable)

Firm No. 560

13. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Treasure Valley Drilling

Firm Official Date 4/7/2007 and Date 4/7/2007 Driller or Operator al & Operator) ce if Firm Offi

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IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

1. WELL TAG NO. D D-0074501	12. STATIC WATER LEVEL and WELL TESTS				
Drilling Permit No. 9710012 - 8821009	Denth first water encountered (ft) 58' Static water level (ft) 58'				
Water right or injection well #	Water temp (°F) Cold Bottom kole temp (°F)				
2. OWNER: Evans Waters	Describe across not				
Name Evans Waters	Well test				
Address 9377 Golden Willow Street	Drawdown (feet) Discharge or Test duration Pump Beiler Air Flowin				
City Middleton State Id Zin 83644	170' 30 60 Diana Aliantesia				
3 WELL LOCATION:					
Two 05 North E or South B Ros 02 East D or What E	Water quality test or comments:				
Son 28 1/4 SW 1/4 NE 1/4	13. LITHOLOGIC LOG and/or repairs or abandonment:				
Sec	Bore Dia. From To Remarks, itthology or description of repairs or Water				
Gov't Lot County	(in) (iii) abandonment, water temp. Y N				
Lat. 43 0 44.747 (Deg. and Decimal minutes)	12" 0 2 Topsoil X				
Long. 116 • 34.824 (Deg. and Decimal minutes)	12" 2 25 Brown Clay X				
Address of Well Site 9377 Golden Willow Street	12 25 20 Salid Streak				
City Middleton	10" 37 43' Sand & Gravel				
(Give at least name of road + Distance to Read or Landmark)	6" 43' 59' Gravel & Sand X				
Lot Bik Sub. Name	6" 59' 74' Gravel & Sand w/cobbles X				
4. USE:	6" 74' 120' Brown Clay X				
Other	6" 120' 165' Brown Clay with sand streaks X				
5. TYPE OF WORK:	6" 165' 172' Fine Sand X				
X New well Replacement well Modify existing well	6" 172' 174' Brown Sandy Clay X				
Abandonment Other					
6. DRILL METHOD:					
7. SEALING PROCEDURES:					
Bentonite 3/4 c 0 42 1550 lbs Pour	RECEIVEL				
	JUN 20 2017				
Diameter From (ft) To (ft) Gauge/ Material Casing Liner Threaded Welded					
	WESTEDUSCH				
	- Chiv REGION				
Was drive shoe used? X V N Shoe Depth(s) 162'					
9. PERFORATIONS/SCREENS:					
Perforations TY KN Method					
Manufactured screen IX V II N Type Johnson Stainless					
Mathadiotal de de certe a la la rigida de la la la la la la la la la la la la la					
From (ft) To (ft) Slot size Number/ft (nominal) Material Gauge or Schedule	Completed Depth (Measurable): 173'				
165 170 .014 5" Stainless	Date Started: 5/31/2017 Date Completed: 6/14/2017				
	14. DRILLER'S CERTIFICATION:				
	IWe certify that all minimum well construction standards were complied with at				
Length of Headpipe 5'8" Length of Tailpipe 3'	the time the ng was removed.				
Packer 🗹 Y 🔲 N Type K-Packer	Company Name McLeran Well Drilling Co. No. 641				
10.FILTER PACK:	*Principal Driller Data 6/19/2017				
Filter Material From (ft) To (ft) Quantity (lbs or ft ³) Placement method	Daug Daug				
NA	*Driller Date				
	*Operator II Date				
11 FLOWING ARTESIAN	Operator 1: Dich MLZeran Date 6/19/2017				
Flowing Artesian? T I I IV Artesian Pressure (PSIG)	* Signature of Principal Driller and rig operator are required.				

Describe control device

12	845468
U	UBCES Well ID No.
6/02 IDAHO DEPARTMENT OF WATER RESOL	Inspected by
	Twp RgeSec
1. WELL TAG NO. D	1/4 $1/4$ $1/4$ $1/4$ $1/4$
Water Right or Injection Well No	12. WELL TESTS:
	Yield gal./min. Drawdown Pumping Level Time
2. OWNER: EGACIL HOMES	70 12 HRS.
Address 1780 N. WATERBROOK WAY	
City STAR State D Zip 83669	Water Temp
3 I OCATION OF WELL by legal description:	Water Quality test or comments:
You must provide address or Lot, Blk, Sub. or Directions to well.	Depth first Water Encounter $\underline{43}'$
Twp North I or South I	13. LITHOLOGIC LOG: (Describe repairs or abandonment) Water
Rige East East Sec XE 1/4 1/4	Bore From To Remarks: Lithology, Water Quality & Temperature Y N
Gov't Lot To acres Au acres	10" 0 4 TOP SOIL
Lat: : : Long: : : Address of Wall Site 9(4/2 GOLDER) WillOW St	
Address of well site City City	10"A 18 CLAY ESAND MINED
(Give at least name of road + Distance to Road or Landmark)	6"18 25 CLAUE SAWD MINED
	6" 25 48 CLAY
Domestic Indunicipal Interview Irrigation	LILLER 75 GRAVEL
Thermal Injection Other	
5. TYPE OF WORK check all that apply (Replacement etc.)	0"75 93 CLAY
Vew Well 🗌 Modify 🗌 Abandonment 🗌 Other	1102 97 Spins
6. DRILL METHOD:	
🕼 Air Rotary 🗌 Cable 🛛 Mud Rotary 🗌 Other	0"97-115 CLAY
7. SEALING PROCEDURES	11115120 50010
Seal Material From To Weight / Volume Seal Placement Method	
pentonite 0 18 50010 10 Overbore	6"130 135 CLAY
Was drive shoe used? VY / N Shoe Depth(s) 148	111125 115 Shuth
Was drive shoe seal tested? IZY IN How? DRU HOLE	U DIU OHVUD
8 CASING/LINER:	
Diameter From To Gauge Material Casing Liner Welded Threaded	
6" + 2 148 250 Steel	
Length of Headpipe Length of Tailpipe	
Packer BY IN Type <u>K PACKEF</u>	REOLIVED
9. PERFORATIONS/SCREENS PACKER TYPE	APR 1 8 2007
Perforation Method of Installation & Lainless Steel	WATER RESOURCES
From To Slot Size Number Diameter Material Casing Liner	WESTERN REGION, (Measurable)
150 160 20th 5" Stainkes, 0	Completed Depth
Skel	Date: Started US/01/01 Completed S 70 C (
	14. DRILLER'S CERTIFICATION I/We certify that all minimum well construction standards were complied with at the
IU. FILIER FACE Filter Material From To Weight / Volume Placement Method	time the rig was removed.
	Company Name KNIE AIMDE Drilling Firm No. 417
	Bringing Drillor Mile 21-1-07
11. STATIC WATER LEVEL OR ARTESIAN PRESSURE:	and
Depth flow encountered ft. Describe access port or control devices:	Driller or Operator II Date
WELLCAD	Operator I Date
	Principal Driller and Hig Operator Hequirea. Operator I must have signature of Driller/Operator II.

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Form 238	-7	. 2
11/97 JG	Е	67

IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

1. 1	NEL	L T/	١G	NO.	D	0041	617
------	-----	------	----	-----	---	------	-----

DRILLING PERMIT NO.	
Other IDWR No.	
2. OWNER:	
Name Tyson Youngberg	
Address 9047 Kemp Rd.	
City Middleton	State ID Zip 83644

3. LOCATION OF WELL by legal description:

Sketch map location must agree with written location.

Twp. 5 North X or South
• • Rge. 2 East or West X Sec. 28 N E 1/4 Monton 1/4 SE 1/4 Gov't Lot County Canyon Long: Address of Well Site 9047 Kemp Rd City Middleton (Give at least name of road + Distance to Road or Landmark) City Middleton City Middleton (Give at least name of road + Distance to Road or Landmark) City Middleton City Middleton (Give at least name of road + Distance to Road or Landmark) City Middleton City Middleton (Give at least name of road + Distance to Road or Landmark) City Middleton City Middleton (Give at least name of road + Distance to Road or Landmark) City Middleton City Middleton 12 Blk. 2 Sub. Name Willow Creek City Middleton USE: Thermat Injection Other TYPE OF WORK: check all that apply (Replacement etc.) Modify Abandonment Other Seckinf Modify AMount cotary Other
Image: Sec. 28 Image: Sec. 28 Image: Sec. 30 Image
Correction Correction Correction Sovit Lot County Canyon Lat: Long: Address of Well Site 9047 Kemp Rd City Middleton City Middleton (Give at least name of road + Distance to Read or Landmark) City Middleton 12 Bik. 2 Sub. Name Willow Creek USE: X Domestic Municipal Injection Other TYPE OF WORK: check all that apply (Replacement etc.) X New Well Modify Abandonment Other SEALING PROCEDURES: Seal/Filter Pack AMOUNT Material From To Sacks or Pounds Pounds O 18 14 Sacks Overbore as drive shoe used? Y N Shoe Depth(s) 237 as drive shoe seal tested? Y N How?
Sovi Lot County Canyon s Lat: Long: Address of Well Site 9047 Kemp Rd City Middleton City Middleton (Give at least name of road + Distance to Road or Landmark) City Middleton 12 Bik. 2 Sub. Name Willow Creek USE: X Domestic Municipal Injection Other TYPE OF WORK: check all that apply (Replacement etc.) X New Well Modify Modify Abandonment Other
S Lat. Long. Address of Well Site 9047 Kemp Rd City Middleton (Give at least name of road + Distance to Road or Landmark) 12 Blk. 2 Sub. Name Willow Creek USE: X Domestic Municipal Injection Other TYPE OF WORK: check all that apply (Replacement etc.) X New Well Modify Abandonment Other SEALING PROCEDURES: Seal/Filter Pack Material From To Sacks or Pounds entonite 0 18 14 Sacks or Pounds entonite 0 18
Address of vven Site 904.7 Kemp Rd City Middleton (Give at least name of road + Distance to Road or Landmark) 12 Blk. 2 Sub. Name Willow Creek USE: X Domestic Municipal Injaction Other TYPE OF WORK: check all that apply (Replacement etc.) X New Well Modify Abandonment Other DRILL METHOD: Mud Rotary X Air Rotary Cable Seal/Filter Pack AMOUNT Material From To Sacks or Pounds Pounds O entonite 0 Material From Mive shoe used? Y N Shoe Depth(s) 237 as drive shoe seal tested? Y N How? Casing Liner Welded Threaded 6''' ±2 237 250
City Middleton 12 Blk. 2 Sub. Name Willow Creek USE: Image: Sub. Name Willow Creek Image: Sub. Name Willow Creek Image: Sub. Name Willow Creek USE: Municipal Monitor Image: Thermat Injection Other TYPE OF WORK: check all that apply (Replacement etc.) Image: New Well Modify Abandonment DRILL METHOD: Image: Seal/Filter Pack AMOUNT Seal/Filter Pack AMOUNT METHOD Material From To Sacks or Pounds Socks or Pounds entonite 0 18 It Sacks Overbore Image: Sacks Overbore Is drive shoe used? Y N Starting Processed tested? Y N How? Image: Material Casing Liner Image: From To Guage Material Image: From To Guage Material Casing Liner Image: Sacks Image: Sacks Image: Sacks Image: Sacks Image: Sacks Start Sacksor Sacks Sacks
12 Blk. 2 Sub. Name Willow Creek USE: Image: Sub. Name Willow Creek Image: Sub. Name Image: Sub. Name
USE: Municipal Monitor Irrigation Thermal Injection Other TYPE OF WORK: check all that apply (Replacement etc.) X New Well Modify Abandonment Other DRILL METHOD: X Air Rotary Cable Mud Rotary Other SEALING PROCEDURES: Seal/Filter Pack AMOUNT METHOD Material From To Sacks or Pounds entonite 0 18 14 Sacks Overbore is drive shoe used? Y N Shoe Depth(s) 237 is drive shoe seal tested? Y N How?
USE: Domestic Municipal Monitor Irrigation Thermal Injection Other TYPE OF WORK: check all that apply (Replacement etc.) New Well Modify Abandonment Other DRILL METHOD: Air Rotary Cable Mud Rotary Other SEALING PROCEDURES: Seal/Filter Pack AMOUNT METHOD Material From To Sacks or Pounds entonite 0 18 14 Sacks Overbore as drive shoe used? XY N Shoe Depth(s) 237 is drive shoe seal tested? Y N How? CASING/LINER: meter From To Guage Material Casing Liner Welded Threaded 6'' +2 237 250 Stact
Domestic Municipal Thermat Injection Other TYPE OF WORK: check all that apply (Replacement etc.) X New Well Modify Abandonment Other DRILL METHOD: X Air Rotary Cable Mud Rotary Other Seal/Filter Pack Material From To Sacks or Pounds entonite 0 18 14 Sacks Overbore as drive shoe used? X Y N Shoe Depth(s) 237 s drive shoe used? Y X N How? CASING/LINER: meter From To Guage Material Casing Liner Weided Threaded
☐ Thermat Injection Other TYPE OF WORK: check all that apply (Replacement etc.) X New Well Modify Abandonment Other DRILL METHOD: XAir Rotary Cable Mud Rotary Other SEALING PROCEDURES: Seal/Filter Pack AMOUNT METHOD Seal/Filter Pack AMOUNT METHOD Material From To Sacks or Pounds entonite 0 18 14 Sacks Overbore as drive shoe used? XY N Shoe Depth(s) 237 s drive shoe seal tested? Y N How?
TYPE OF WORK: check all that apply (Replacement etc.) X New Well Modify Abandonment Other DRILL METHOD: Mud Rotary Other X Air Rotary Cable Mud Rotary Other SEALING PROCEDURES: Sacks or Pounds METHOD Material From To Sacks or Pounds entonite 0 18 14 Sacks Overbore st drive shoe used? Y N Shoe Depth(s) 237 is drive shoe used? Y N How?
TYPE OF WORK: check all that apply (Replacement etc.) X New Well Modify Abandonment Other DRILL METHOD: Mud Rotary Other SEALING PROCEDURES: Seal/Filter Pack AMOUNT METHOD Material From To Sacks or Pounds entonite 0 18 14 Sacks Overbore as drive shoe used? X Y N Shoe Depth(s) 237 as drive shoe seal tested? Y X N How? CASING/LINER: Imeter From To Guage Material Casing Liner Weided Threaded
X New Well Modify Abandonment Other DRILL METHOD: X Air Rotary Cable Mud Rotary Other SEALING PROCEDURES: Seal/Filter Pack AMOUNT METHOD Material From To Sacks or Pounds entonite 0 18 14 Sacks Overbore as drive shoe used? X Y N Shoe Depth(s) 237 as drive shoe seal tested? Y N How?
DRILL METHOD: X Air Rotary Cable Mud Rotary Other SEALING PROCEDURES: Seal/Filter Pack AMOUNT METHOD Material From To Sacks or Pounds entonite 0 18 14 Sacks Overbore as drive shoe used? X Y N Shoe Depth(s) 237 is drive shoe seal tested? Y N How?
DRILL METHOD: X Air Rotary Cable Mud Rotary Other SEALING PROCEDURES: Seal/Filter Pack AMOUNT METHOD Material From To Sacks or Pounds entonite 0 18 14 Sacks Overbore as drive shoe used? X Y N Shoe Depth(s) 237 is drive shoe seal tested? Y N How?
X Air Rotary Cable Mud Rotary Other SEALING PROCEDURES:
SEALING PROCEDURES: Seal/Filter Pack AMOUNT METHOD Material From To Sacks or Pounds entonite 0 18 14 Sacks Overbore entonite 0 18 14 Sacks Overbore as drive shoe used? X Y N Shoe Depth(s) 237 is drive shoe seal tested? Y N How? CASING/LINER: meter From To Guage Material Casing Liner Welded Threaded 6''' ±2 237 250 Stool X X X
SEALING PROCEDURES: Seal/Filter Pack AMOUNT METHOD Material From To Sacks or Pounds entonite 0 18 14 Sacks Overbore entonite 0 18 14 Sacks Overbore us drive shoe used? X Y N Shoe Depth(s) 237 is drive shoe seal tested? Y N How? CASING/LINER: meter From To Guage Material Casing Liner Welded Threaded Stact X Image Material Casing Liner Welded Threaded
Seal/Filter Pack AMOUNT METHOD Material From To Sacks or Pounds Pounds Pounds Pounds entonite 0 18 14 Sacks Overbore is drive shoe used? XY N Shoe Depth(s) 237 is drive shoe seal tested? Y N How? CASING/LINER: To Guage Material Casing Liner Welded Threaded 6''' +2 237 250 Stool X X X
Material From To Sacks or Pounds Partonite 0 18 14 Sacks Overbore Is drive shoe used? X Y N Shoe Depth(s) 237 is drive shoe seal tested? Y N How? CASING/LINER: To Guage Material Casing Liner Welded Threaded 6'' +2 237 250 Stool X X X
entonite 0 18 14 Sacks Overbore
is drive shoe used? XY N Shoe Depth(s) 237 is drive shoe seal tested? Y X N How? CASING/LINER: Interest From To Guage Material Casing Liner Welded Threaded
As drive shoe used? XY N Shoe Depth(s) 237 as drive shoe seal tested? Y X N How? CASING/LINER: Interest From To Guage Material Casing Liner Welded Threaded 6" +2 237 250 Stool X I V
Is drive shoe used? XY N Shoe Depth(s) 237 Is drive shoe seal tested? Y X N How? CASING/LINER: Interest From To Guage Material Casing Liner Welded Threaded 6" +2 237 250 Stool X I V
Is drive shoe seal tested? Y X N How? CASING/LINER: Interest From To Guage Material Casing Liner Welded Threaded 6" +2 237 250 Stool X V
CASING/LINER:
CASING/LINER:
meter From To Guage Material Casing Liner Welded Threaded
6" +2 237 250 Stool X X
ngth of Headpipe A'
PERFORATIONS/SCREENS:
Perforations Method
X Screen Screen Type Johnson Stainless Steel
rom To Slot Size Number Dismeter Meterial Cosing Lines
To Sicroize Number Diameter Material Casing Liner
233 243 .020 5" SS
233 243 .020 5" SS
233 243 .020 5" SS 1 X

117	ft. below ground	Artesi	ian pressure	lb
Depth flow en	countered 157	ft.	Describe access por	rt or control
devices: Car)			

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Office Use Only

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Тwp		Rge		Sec	
	_ 1/4		1/4	1/4	
Lat:	:	:	Long:	:	:

11. WELL TESTS:

🛄 Pump	🛄 Bailer 🛛 🗙	Air 📃 Flowing	Artesian
Yield gal./min.	Drawdown	Pumping Level	Time
50	220	220	2 Hrs.

Water Temp. 56

Water Quality test or comments:

Depth first Water Encounter 157

Matar

Bottom hole temp. 56

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

				440	uer
Bore Dia	From	То	Remarks: Lithology, Water Quality & Temperature	Y	N
12"	0	1	Top Soil		
12"	1	4	Clich		
12"	4	18	Cemented Sand & Gravel		
6"	18	22	Cemented Sand & Gravel		-
6"	22	31	Sticky Tan Clay		
6"	31	46	Brown Sand & Pea Gravel		
6"	46	64	Sand & Gravel		
6"	64	92	Sticky Brown Clay		
6"	92	119	Gravel		
6"	119	157	Sticky Tan Clay		
6''	- 157		Fine Brown Sand	X	
· 6″	175	178	Sticky Tan Clay		
<u>6''</u>	178	201	Fine Brown Sand	X	
6"	201	207	Sticky Tan Clay		
6"	207	224	Fine Brown Sand	X	
6"	224	228	Sticky Tan Clay		
6"	228	230	Med. to Coarse Sand	X	
6''	230	238	Sticky Tan Clay		
6"	238	243	Fine to Med. Sand	X	
			-		
			· · ·		
			RECEIVED		
İ			WATER RESOURCES		
	ļ		WESTERN REGION		
i	i				••
Complet	ed Depth	243	(Meas	urable	e)
Date: S	tarted 8/	23/200	5 Completed 8/24/2005		_

13. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Treasure Valley Drilling

Firm No. 560

Veldenitt

Date 8/25/2005

(Sign once if Firm Official & Operator)

and

Driller or Operate

Form	238-7
6/07	h
	U.

IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

1 WELL TAGNO D 0070321							
Drilling Permit No. 9 $71117 - 877174$	12. S	TATIC	VATER	LEVEL and WELL TESTS:			
Water right or injection well #	Depth first water encountered (ft) <u>/ 0.9</u> Static water level (ft) <u>/ (ft)</u>						
2 OWNER: DPNA Echols	Wate	r temp. (' 	F)	Bottom hole temp. ("F)		Constant and a second	
	Desc	ibe acce	ss port _d	San'seal Will Cap	*****		
Address P.O. Rox 462	Well	lest:	1 Dis	Test method:	r	Flowing	
Address FEVELSON TON		vdown (fee	t) <u>y</u> it	eld (gpm) (minutes) Pump Baller	Air	artesian	
		20	+2		Ц П	Ц	
3.WELL LOCATION:	Water	oustity t				ш	
Twp. <u>5</u> North or South Reg. <u>2</u> East or West	42 1 17			Cond/or repeirs at shandor month			
Sec	Bore	From		Bemarke litheleeves description of repairs of	T w	ater	
Contrat County PADYOR	Dia. (in)	(ft)	(ft)	abandonment, water temp.	Y	N	
$\frac{1}{1}$ $\frac{1}{2}$ $\frac{1}$	11	0	6	TOP Soil	-	1	
Lat. (Ueg. and Decimal minutes)	1	6	8	Hrd Don			
Long, <u>110</u> OT OT (Deg. and Decimal minutes)	Ц	8	26	Sand & Brachay			
Address of Well Site 7 AAA KC227 Co.	H	26	45	grave mixed w/clas			
(Give at least name of road + Distance to Hoad or Landmark)	- 6	45	57	gravel !!			
Lot. 5 Blk. 7 Sub. Name Willow Creek Ranch		24	68	13/nC/ay	<u> </u>		
4. USE: #3		00	102	Grave P		+	
Domestic Municipal Monitor Irrigation Thermal Injection		102	111	Fridy Islacky			
		111	112	Roacland Clayecourses	200-	+	
5. LYPE OF WORK:		116	135	Sandy Clay	-		
Abandonment Other		135	137	Benclay			
6. DRILL METHOD:		1.37	143	4th tee Brn Sand	-	1	
Air Rotary 🔲 Mud Rotary 🔲 Cable 🔲 Other		143	156	Bricky			
7. SEALING PROCEDURES:		156	176	Fine Bin Sand		<u> </u>	
Seal material From (ft) To (ft) Quantity (ibs or ft ²) Placement method/procedure		176	180	Bra Clay			
18 Bert 0 79 59 Args Dry Pour		180	10/	Fine Said	\vdash		
		100	102	CSIACION			
8. CASING/LINER:	-/	<u> </u>	172	Acal Fine Latite Sand		╂────	
(nominal) From (It) To (It) Gauge/ Material Casing Liner Threaded Welded			<u> </u>			+	
6 47 187 250 Steel ED D E			 		-	+	
				RECEIVED			
	******		<u> </u>	NOV 2 5 2015		<u> </u>	
was drive shoe used? Pry LIN Shoe Depth(s) 707				107 Z J Z013		<u> </u>	
9. PERFORATIONS/SCREENS:				WATER RESOURCE:		[
Perforations Y N Method				WESTERN REGION	+		
Manufactured screen Y IN Type JOHNSon							
Method of installation						<u> </u>	
From (fl) To (ft) Slot size Number/ft Diameter Material Gauge or Schedule	Comol			19711			
188 193 12 6" 1010 CC	Comp	eted Dep	in (ivieasi		1		
10 110 m 0 190 000	Date S	tarted:	10[]	BIS Date Completed:	15	······································	
	14. D	RILLER'	S CERT	TIFICATION:		_4	
	the tin	ertily that he the rig	t all mini was ren	imum well construction standards were compli- noved.	a with i	at	
Length of Headpipe Length of Tailpipe	_			are to be and the second			
Packer PY LIN Type <u>S X / D</u>	Comp	any Nam	e <u>pre</u>	CISIONUR ANTERO. No. 5	<u> </u>		
10.FILTER PACK:	*Princ	ipal Q rille	i Je	Dellanson Date 11	15	115	
Filter Material From (ft) To (ft) Quantity (lbs or ft ³) Placement method	*Drillo	. /[]]	Kan	50m - 1	115	115	
	UINU	*##	<u></u>	Date	<i>⊢</i> ⊔*/		
	*Oper	ato (II <u></u>		Date			
11. FLOWING ARTESIAN:	Opera	tor I		Date			
Flowing Artesian?	* 61		Dele-la				
Describe control device	aign	ature Of	ernicip	ar ormer and ny operator are required.			



devices: Cap____

. ._____

IDAHO DEPARTMENT OF WATER RESOURCES

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Water Y N

11/97 JGE		OURCE	:5	ļ.	Office Use Or	nly	
WELL DRILLER'S	REPOR	T			Inspected by		
				Ì	Iwp Rge	Sec	
1. WELL TAG NO. D 0042304				1	. 1/4 _ //4	1/4	
	11. WE	LL TES	TS:	L.		ig	-
Other IDWR No.		Pump		ailer		g Artesian	
2. OWNER:	Yield	gal./min.	[Drawdown	Pumping Level	Time	
Name Justin & Aubrey Walker		65		220'	220'	<u>2 Hrs.</u>	
Address 21570 Lansing Lane			<u> </u>			·	
	Water Ter	mo 66			Bottom hole temp	56	
3. LOCATION OF WELL by legal description:	Water Qu	ality test or	comme	nts:			
Sketch map location must agree with written location.					Depth first Water Encou	unter 162'	
<u>N</u>	12. LIT	HOLO	GIC L	0G: (D	escribe repairs or abando	onment)	Inte
	Bore						Jate
North <u>X</u> or South	Dia.	From		Remarks:	Lithology, Water Quality & T	emperature Y	
E Rge. 2 East i or West X	10"	0		Top So			
• Sec. <u>28</u> <u>1/4</u> <u>NE</u> 1/4 <u>SE</u> 1/4 10 acres 160 acres 160 acres	10"	<u>Z</u>	4' 401	Comon	tod Sand & Gravel		÷ 1
Gov't Lot County Canyon	<u> </u>	4	-10	Comon	ted Sand & Gravel	· ···· · · · · · · · · · ·	÷
Lat: 43 ⁻ 44, 408' Long: 116 ⁻ 34. 422'	0	241	32'	Sticky	Tan Clav		-
Address of Well Site	6"	32'		Med. B	rown Sand & Pea		÷
(Give at least name of road + Distance to Road or Landmark)			48'	Gravel			
Lt. 11Bik. 2Sub. Name Willow Creek Ranch	6"	48'	63'	Sand &	Gravel	·· ·· +	- i
4 1105	6"	63'	94'	Sticky I	Brown Clay		1
4. USE:	<u> </u>	94'	121'	Gravel		··	•
	6"	121	161'	Sticky	Fan Clay	······································	+
	<u>6''</u>	161	<u>1/8</u>	Fine Br	own Sand	\ ^	•
5. TYPE OF WORK: check all that apply (Replacement etc.)	<u> </u>	2011	217	Mediun	Brown Sand	X	- [
X New Well Modify Abandonment Other	6"	212'	221	Sticky	Tan Clav		-
	6"	221'	223'	Large (Coarse Sand	X	• - •
X Air Rotany Cable Mud Rotany CiOther	6''	223'	227	Mediun	n Coarse Sand	X	
	6"	227'	<u>228'</u>	Sticky	Tan Clay		•• [•
7. SEALING PROCEDURES:		⊢l			· · · · · · · · · · · · · · · · · · ·)	*
		-+	· ·				+ -
Seal/Filter Pack AMOUNI IMETHOD		3				+	- ` I
Material From To Pounds		<u> </u>					
Material From To Secks or Pounds Bentonite 0 18' 13 Sacks Overbore				-		n	1
Seal/Filter Pack AMOUNT Method Material From To Secks or Pounds Bentonite 0 18' 13 Sacks Overbore			·		RECEIVE	D +	
Seal/Filter Pack AMOUNT Method Material From To Secks or Pounds Bentonite 0 18' 13 Sacks Overbore					RECEIVE	D	- <u>-</u>
Seal/Filter Pack AMOUNT INE THOD Material From To Secks or Pounds Bentonite 0 18' 13 Sacks Overbore			·		MAR 2 0 203	D +	- <u>-</u>
Seal/Filter Pack AMOUNT INETHOD Material From To Secks or Pounds Bentonite 0 18' 13 Sacks Overbore Was drive shoe used? X N Shoe Depth(s) 218'			· · · · · · · · · · · · · · · · · · ·		MAR 2 0 2033	D	-
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Firm Official Date 3/14/2006 107 ft. below ground Artesian pressure Ib. Depth flow encountered 221 ft. Describe access port or control and (Sign once if Firm Official & Operator) Date 3/14/2006 Driller or Operator

FORWARD	WHITE	COPY	то	WATER	RESOURCES
		0011			

STATE OF IDAHO DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

7. WATER LEVEL 1. WELL OWNER Static water level _____87" ____ feet below land surface. Name TIM MEAGER (BOB KOSER) Flowing? I Yes INO G.P.M. flow Address LANSING LANE CALDWELL, IDAHO Temperature ______ ºF. Quality ___ Owner's Permit No. 8. WELL TEST DATA 2. NATURE OF WORK 🖾 Air 🖾 Other Pump 🗇 Bailer 🗆 Deepened 🛛 🗆 Replacement 🕅 New well Abandoned (describe method of abandoning) Discharge G.P.M. Pumping Level Hours Pumped 150 2 3. PROPOSED USE 099919 🛛 Domestic 🛛 Irrigation 🗍 Test 🖾 Municipal 9. LITHOLOGIC LOG Industrial I Stock I Waste Disposal or Injection Water Hole Depth 🗇 Other _____ (specify type) Material Diam. From To Yes No X 12" 0' 1' top soil 12" 1' 20' 12" 20' 75' 4. METHOD DRILLED 20' sand and xlay layers x sand and clay layers x Reverse rotarv 10' 75' 110' sand & gravel 10" 110' 178' sand & clay layers 🕅 Rotary 🖾 Air 🗋 Hydraulic x Cable 🗋 Dug Other x 10" |178' | 188' | clay x 5. WELL CONSTRUCTION 10" 188' sand x Casing schedule: 🗶 Steel 🛛 Concrete 🗆 Other _____ Thickness Diameter .250 inches 10 inches + From _____ feet <u>180 ' 2</u>" feet inches _____ inches _____ feet _____ feet _____ feet _____ feet _____ feet _____ feet inches _____ ___ feet ____inches _____feet _____ Was casing drive shoe used? 🛛 Yes 🗌 No Was casing drive shoe used: Was a packer or seal used? Ves Ves 🛛 🗶 No ی ما X No How perforated? 🗆 Factory 🗆 Knife 🔹 Torch Size of perforation _____ inches by _____ inches From Number То _____ perforations ___ _____feet_ feet feet _____ perforations _____ feet _____ ___ feet _ perforations feet Well screen installed? Ves Ix No Manufacturer's name_____ Slot size _____Set from _____feet to _____ Tvpe ____ Diameter ____ Slot size __ Diameter ____ Slot size __ _____feet to _____feet Gravel packed? 🗆 Yes 🔀 No 🗇 Size of gravel _____ Placed from _ feet to __ feet <u>5</u>[1980 Surface seal depth 20 Material used in seal: 🗆 Cement grout <u>IIIN</u> JUN 1|7 1986 Puddling clay 🙀 Well cuttings Department of Water Resources Method of joining casing:
Threaded
Welded
Solvent Department of Water Resources Western Regional Office Weld Cemented between strata 10. Describe access port _ Work started <u>1-21-80</u> finished <u>1-22-80</u> 6. LOCATION OF WELL 11. DRILLERS CERTIFICATION I/We certify that all minimum well construction standards were Sketch map location must agree with written location. complied with at the time the rig was removed. N Subdivision Name Firm NableLL DOTY WELL DRILLING irm No. 42 Ε W Address #7CALDWELL, IDAHO 15-80 Lot No. ____ Block No. ___ Signed by (Firm Official)_ and CANYON County (Operator) 14 SW 14 Sec. 27, T. W . Ø/W. N/SI, R. ___

USE ADDITIONAL SHEETS IF NECESSARY - FORWARD THE WHITE COPY TO THE DEPARTMENT

Form 238-7 3/95-C96

IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

Inener) A hat	Office	Use O	nly	
Twp_		y _Rge		Sec	
	1/4		1/4		1/4

1. DRILLING PERMIT NO	309 -52							
Other IDWR No.								
2. OWNER:								
Name JOHN JARNIGAN								
Address 25940 LANSING LN								
City MIDDLETON	State_ID Zip <u>83644</u>							
3. LOCATION OF WELL b	y legal description:							
Sketch map location <u>must</u> agree with written location N								
W Free Source of the sector of	North \square or South \square 2 East \square or West \square 7 1/4 NW 1/4 NW 1/4 B 10 acres $\frac{1}{40 \text{ acres}}$ $\frac{1}{10 \text{ acres}}$ $\frac{1}{10}$							
S Lot								
Lat:	Long: 6							
Address of well Site <u>SAME</u>								
(Give at least name of road + Distance to Road	or Landmark)							
Lt Bik Su	h Name							
Dat Du	6							
4. USE:	6							
🛛 Domestic 🔲 Municipa	al 🗌 Monitor 🔲 Irrigation 🛛 6							
Thermal Injection	Other6							
5. TYPE OF WORK check al	I that apply (Replacement etc.)							
New Well Modify Aba	ndonment [] Other							
6. DRILL METHOD								
Air Rotary Cable M	ud Rotary 🗌 Other							
Air Rotary Cable M 7. SEALING PROCEDURE:	S							
Air Rotary Cable M 7. SEALING PROCEDURE: SEAL/FILTER PACK Material From To	S AMOUNT Sacks or							
Air Rotary Cable M 7. SEALING PROCEDURE: SEAL/FILTER PACK Material From To	Ind Rotary Other S							
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11. WELL '	TESTS: mp 🗌 Bailer	🛛 Air 🔲 F	lowing Artesian
Yield gal/min.	Drawdown	Pumping Level	Time
100		200	4 HR
Water Temp.		Bottom hole ter	np

Water Quality test or comments:

Depth first Water Encountered 110

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Wat	er				
Bore	From	To	Remarks: Lithology, Water Quality & Temp.	TY	N
10	0	4	TOP SOIL	┸┯╼╇	$\mathbf{\nabla}$
10	4	18	SAND & CLAY STRIPS	╼┝╼┥	R
6	18	70	BROWN SAND & CLAY		\bigotimes
6	7 0	95	GRAVEL		Ŕ
6	95	110	BROWN CLAY	-	$\overline{\mathbf{X}}$
6	110	155	SAND & CLAY STRIPS		Ĥ
6	155	162	BROWN CLAY	-	\mathbf{X}
6	162	210	SAND & CLAY STRIPS		ŕ
6	210	245	DIRTY SAND	-ďŽ	
6	245	248	BROWN CLAY	-Ľ	$\mathbf{\nabla}$
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Соп	pleted	Depti	n: 248 (Measurable	<u></u>)	Ч
Date	Starte	d <u>02/23</u>	02/2004 Completed 02/26/2	004	
13. I	DRILL	ER'S	CERTIFICATION		
I/We	certify	that all	minimum well construction standards were		••••••
comp	lied wi	th at th	e time the rig was removed.		
Firm	Nama i	CEOD	DE DOSTE WELL DODLE DIO		
тши	TATIL	OFOX(SUI VSI WELL DRULLING FIM N	D. <u>30</u>	<u></u>
Firm	Officia	1	Date 03	/01/2	200
· · · ·		-	ht - if a TI-		
Supe	rvisor o	r Opera	ator 10000 Desight Bate 03	/01/2	200

(Sign once if Firm Official & Operator)

)	844806	
	Office Use Only	
IDAHO DEPARTMENT OF WATER RESC	DURCES Well ID No. 414963	-
WELL DRILLER'S REPORT	Inspected by	_
1. WELLTAG NO. D 0041518	Twp Rge Sec	
	10 WELL TECTO	
Water Right or Injection Well No	I2. WELL IESIS:	
2 OWNER	Yield gal/min. Drawdown Pumoing Level Time	
2. OWNER:	40 1/2	5
Address 1217 W Hitchcorr St.		177
City Meridian State Td. Zip 83642		
	Water Temp55Bottom hole temp.	
3. LOCATION OF WELL by legal description:	Water Quality test or comments:	
You must provide address or Lot, Blk, Sub or Directions to well.	Depth first Water Encounter	105
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FORWARD WHITE COPY TO WATER RESOURCES

TRAFFIC IMPACT STUDY – DRAFT

WILLOWCREEK-LANSING LANE SUBDIVISION





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EXECUTIVE SUMMARY

CR Engineering, Inc. has been retained to prepare a traffic impact study (TIS) for the proposed Willowcreek-Lansing Lane Subdivision located west of Lansing Lane between Golden Willow Street and Purple Sage Road in Canyon County, Idaho. **Figure 1.1** shows the site location and its vicinity. The TIS was prepared in accordance with the Canyon Highway District No. 4 (CHD4) requirements.

The TIS evaluated the potential traffic impacts resulting from background traffic growth, in-process developments within the area, and the proposed development, and identify improvements to mitigate the impacts if needed. Traffic impacts were evaluated under weekday AM and PM peak hour traffic conditions based on the proposed land use and site accesses as shown in the preliminary site plan. **Table 1** summarizes the improvements needed to mitigate the traffic impacts for the following analysis years traffic conditions:

- 2023 Existing traffic
- 2025 Build-out year background traffic
- 2025 Build-out year total traffic
- 2030 Horizon year background traffic
- 2030 Horizon year total traffic

Table 1 – Proposed Intersection Improvements Summary

		2023	2025 Build-Out Year		2030 Horizon Year	
Intersection		Existing	Background	Total	Background Total	
1	Lansing Ln and Purple Sage Rd	None	None	None	None Signal	None
2	Lansing Ln and SH 44	None	Signal	Signal	Signal	Signal
3	Site Access and Lansing Ln	Future	Future site access intersection		Future site access intersection	Unsignalized intersection

1.0 Proposed Development

- 1.1 Willowcreek-Lansing Lane Subdivision is a proposed residential development estimated to contain 76 singlefamily lots (one existing) with an expected 2025 build-out year
- 1.2 Based on the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 11th Edition, the proposed development is estimated to generate approximately 784 trips per weekday, 58 trips during the AM peak hour, and 77 trips during the PM peak hour at full build-out
 - All trips generated by the site were assumed to be made by personal and commercial vehicles
 - No internal capture trips or pass-by trips were assumed in the traffic analysis
 - The estimated site traffic distribution patterns are:
 - 15% west of the site traveling on Purple Sage Road
 - 20% east of the site traveling on Purple Sage Road
 - 25% west of the site traveling on SH 44
 - 40% east of the site traveling on SH 44



1.3 The development is planning to construct one full-movement approach on Lansing Lane and connect to Stoney Brook Way to the west:

Site access on Lansing Lane

- Located approximately 740 feet south of Golden Willow Street, 330 feet north of Edna Lane, and 1,360 feet north of Kemp Road
 - Meets the minimum 500-feet local road spacing on the same side of Lansing Lane, a major collector street
 - Meets the minimum 250-feet local road spacing on the opposite side of Lansing Lane
- Does not warrant turn lanes under 2025 build-out year and 2030 horizon year total traffic conditions based on NCHRP Report 457 guidelines
- Anticipated to meet minimum operational thresholds under 2025 build-out year and 2030 horizon year total traffic conditions as an unsignalized T-intersection

2.0 Improvements Needed to Mitigate 2023 Existing Traffic Conditions

2.1 Based on the most current five-year (2017-2021) historical crash data, the study area intersections do not have apparent safety issues:

Lansing Lane and Purple Sage Road intersection

- There were nine (5) crashes reported at the intersection between 2017 and 2021 according to the Local Highway Technical Assistance Council (LHTAC) website (<u>http://gis.lhtac.org/safety/</u>)
- Two (2) of the crashes resulted in property damages, two (2) crashes resulted in injuries, and one (1) crash resulted in a fatality
- All crashes were angle crashes due to failure to yield
- The intersection crash rate is 0.92 accidents per million entering vehicles (ACC/MEV)

Lansing Lane and SH 44 intersection

- There were 13 crashes reported at the intersection between 2017 and 2021
- Two (2) of the crashes resulted in property damages, two (2) crashes resulted in injuries, and one (1) crash resulted in a fatality
- Seven (7) of the crashes resulted in property damages, five (5) crashes resulted in injuries, and one (1) crash resulted in a fatality
 - The fatal crash was due to alcohol impairment
- The intersection crash rate is 0.73 ACC/MEV
- 2.2 With 2023 existing traffic, all study area intersections currently meet minimum operational thresholds analyzed with the existing intersection control and lane configuration. Additionally, none of the study area intersections warrants a turn lane based on NCHRP Report 457 and ITD turn lane guidelines. Therefore, no improvements are needed to mitigate 2023 existing traffic operations

3.0 Improvements Needed to Mitigate 2025 Build-Out Year Background Traffic Conditions

3.1 With 2025 background traffic, one study area intersection is anticipated to exceed minimum operational thresholds analyzed with the existing intersection control and lane configuration. The intersection and mitigation improvements are:

Lansing Lane and SH 44 intersection

- Temporary traffic signal with existing lanes
 - The intersection is identified in the CHD4 *Capital Improvements Plan* for the Middleton/Star service area (Mid-Star CIP) to be signalized in the 2020-2025 timeframe



- The Lansing Lane and Purple Sage Road intersection is anticipated to operate acceptably with the existing 3.2 intersection control and lane configuration under 2025 background traffic
 - No turn lanes are warranted based on NCHRP Report 457 turn lane guidelines

4.0 Improvements Needed to Mitigate 2025 Build-Out Year Total Traffic **Conditions**

With 2025 total traffic, one study area intersection is anticipated to continue to exceed minimum operational 4.1 thresholds analyzed with the existing intersection control and lane configuration. The intersection and mitigation improvements are:

Lansing Lane and SH 44 intersection

- Temporary traffic signal with existing lanes
- The Lansing Lane and Purple Sage Road intersection is anticipated to operate acceptably with the existing 4.2 intersection control and lane configuration under 2025 total traffic

No turn lanes are warranted based on NCHRP Report 457 turn lane guidelines

- The estimated site traffic generated by the development as a percentage of the 2025 build-out year total traffic 4.3 is as follows:
 - *Lansing Land and Purple Sage Road intersection :* AM Peak = 10.3%, PM Peak = 12.4%
 - Lansing Lane and SH 44 intersection AM Peak = 2.8%, PM Peak = 3.0%

5.0 Improvements Needed to Mitigate 2030 Horizon Year Background **Traffic Conditions**

5.1 With 2030 background traffic, one study area intersection is anticipated to continue to exceed minimum operational thresholds analyzed with the existing intersection control and lane configuration. The intersection and mitigation improvements are:

Lansing Lane and SH 44 intersection

- Temporary traffic signal with existing lanes •
- The Lansing Lane and Purple Sage Road intersection is anticipated to operate acceptably with the existing 5.2 intersection control and lane configuration under 2030 background traffic

No turn lanes are warranted based on NCHRP Report 457 turn lane guidelines

6.0 Improvements Needed to Mitigate 2030 Horizon Year Total Traffic Conditions

6.1 With 2030 total traffic, one study area intersection is anticipated to continue to exceed minimum operational thresholds analyzed with the existing intersection control and lane configuration. The intersection and mitigation improvements are:

Lansing Lane and SH 44 intersection

- Temporary traffic signal with existing lanes
- 6.2 The Lansing Lane and Purple Sage Road intersection is anticipated to operate acceptably with the existing intersection control and lane configuration under 2030 total traffic
 - No turn lanes are warranted based on NCHRP Report 457 turn lane guidelines
- The estimated site traffic generated by the development as a percentage of the 2030 horizon year total traffic 6.3 is as follows:
 - Lansing Lane and Purple Sage Road intersection : AM Peak = 8.1%, PM Peak = 9.9%
 - Lansing Lane and SH 44 intersection : AM Peak = 2.4%, PM Peak = 2.6%



1.0 INTRODUCTION

CR Engineering, Inc. has been retained to prepare a traffic impact study (TIS) for the proposed Willowcreek-Lansing Lane Subdivision located west of Lansing Lane between Golden Willow Street and Purple Sage Road in Canyon County, Idaho. **Figure 1.1** shows the site location and its vicinity. The TIS evaluates the potential traffic impacts resulting from background traffic growth, in-process developments in the area, and the proposed development, and identifies improvements to mitigate the impacts if needed.







1.1 Proposed Development

Figure 1.2 shows the preliminary site plan with the proposed site access locations. Willowcreek-Lansing Lane Subdivision is a proposed residential development containing 75 single-family lots and one existing home. Based on the preliminary site plan, the development is planning to construct one full-movement access on Lansing Lane. The site also connects to Stony Brook Way to the west. The expected build-out year is 2025 but this may change based on the market conditions.

Figure 1.2 – Preliminary Site Plan





1.2 Study Approach

The TIS was prepared in accordance with the *Highway Standards and Development Procedures* for the Association of Canyon County Highway District (ACCHD).

Based on the development size and proposed land use, the development is estimated to generate less than 50 peak hour trips, which is below the Idaho Transportation Department (ITD) threshold to require a traffic impact study.

1.3 Study Area

The Canyon Highway District No. 4 (CHD4) identified the following study area intersections for the traffic impact analysis:

- Lansing Lane and Purple Sage Road intersection
- Lansing Lane and SH 44 intersection
- Proposed site access intersection

1.4 Study Period

The analysis peak periods are the AM and PM peak hours of operation of the transportation system. The analysis years and traffic conditions are:

- 2023 Existing traffic
- 2025 Build-out year background traffic
- 2025 Build-out year total traffic
- 2030 Horizon year background traffic
- 2030 Horizon year total traffic

1.5 Analysis Methods and Performance Measure Thresholds

Intersection capacity analysis was performed using Synchro 11 (Version 11.3.151.0), which utilizes the HCM 6th Edition (HCM6) methodologies. All parameters used in the analysis were based on existing data when available or Synchro default values, when not available. The level of service (LOS) for intersections is based on the average delay of vehicles traveling through the intersection on a scale of A (best) to F (worst).

The study area roadways and intersections fall under the jurisdiction of CHD4 and ITD. According to the CHD4 Jurisdiction Map, the site and surrounding areas are within the Star and Middleton area of impact. Therefore, the study area intersections are considered within an urban area for this TIS. For this study, the minimum operational thresholds for CHD4 intersections in an urban area are LOS D with a maximum volume-to-capacity (v/c) ratio of 1.00 for any lane group. For ITD intersections, mitigation improvements are required for any individual movement either operating at LOS F or with a v/c ratio greater than 0.90 (Memo No. 39, District 3 Operational Procedures).



2.0 EXISTING CONDITIONS

2.1 Roadway Network, Intersection Control, and Lane Configuration

A brief description of the existing roadways within the study area is summarized in **Table 2.1** below. The roadway functional classification is based on the 2011 CHD4 Functional Classification Map and the ITD iPlan OpenData ArcGIS database. **Figure 2.1** summarizes the study area intersection control and lane configuration.

Roadway	Functional Classification	Number of Lanes	Posted Speed Limit (mph)	Pedestrian Facilities
Purple Sage Rd	Minor Arterial	2	50	No Sidewalk or bicycle lanes
Lansing Lane	Collector Street	2	50	No Sidewalk or bicycle lanes
SH 44	Principal Arterial (Statewide Route)	2-3	55	No sidewalk or bicycle lanes

Table 2.1 – Existing Roadway Characteristics

2.2 Existing Traffic Volumes

Weekday AM and PM peak hour traffic counts were obtained at the study area intersections on May 24, 2023. The peak hour intersection turning movement counts were collected on a weekday for a 2-hour period at 15-minute intervals between 7:00 and 9:00 during the AM peak hour and between 4:00 and 6:00 PM during the PM peak hour. Existing intersection turning movement counts are included in the appendix. **Figure 2.2** summarizes the existing 2023 peak hour traffic.

2.3 Intersection Crash Data

The most current five-year (2017-2021) crash data was obtained from the Local Highway Technical Assistance Council (LHTAC) website (<u>http://gis.lhtac.org/safety/</u>). **Table 2.2** summarizes the intersection crash data. A review of the historical crash data showed no apparent crash issues. The intersection crash rates are less than one crash per million entering vehicles (ACC/MEV). There was one fatal crash reported at each intersection.

		Total	Cr	ash Seve	rity		Crash Rate
Intersection		Crashes	PDO	Injury	Fatal	Notes	(ACC/MEV)
1	Purple Sage Rd and Lansing Lane	5	1	1	1	 5 (100%) angle crashes due to failure to yield 1 fatal crash 	0.92
2	Lansing Lane and SH 44	13	7	5	1	 8 (62%) angle crashes due to failure to yield and inattention 8 (62%) crashes in NB and SB directions 1 fatal crash due to alcohol impairment 	0.73

 Table 2.2 – Intersection Crash Data (2017-2021)





Figure 2.1 – 2023 Existing Intersection Control, Lane Configuration, and Peak Hour Traffic



2.4 Intersection Operations

To determine the existing traffic operations, the study area intersections were analyzed with the existing intersection control and lane configuration and 2023 peak hour traffic. Copies of the analysis reports are included in the appendix. **Table 2.3** summarizes the intersection capacity analysis results. All study area intersections currently meet minimum operational thresholds under 2023 existing traffic conditions.

Intersection			Intersection	AN	I Peak H	our	PM Peak Hour			
		Control / Lane	or Lane Group	LOS	Delay [s/veh]	v/c Ratio	LOS	Delay [s/veh]	v/c Ratio	
1		**	EB	А	8	0.01	А	8	0.01	
	Lansing Ln and Purple Sage Rd		WB	А	8	0.01	А	7	0.01	
			NB	В	12	0.14	В	12	0.21	
		***	SB	В	11	0.12	В	7 0 12 0 11 0 10 0 - 8	0.07	
			EBL	А	9	0.04	В	10	0.10	
		1	EBTR	-	-	-	-	-	-	
	Lansing Ln		WBL	А	9	0.01	А	8	0.02	
2	and		WBT	-	-	-	-	-	-	
	SH 44	-+	WBR	-	-	-	-	-	-	
			NB	D	31	0.18	E	43	0.26	
			SB	D	32	0.55	Е	44	0.52	

 Table 2.3 – Intersection Operations – 2023 Existing Traffic

2.5 Intersection Mitigation

The study area intersections currently meet minimum operational thresholds under 2023 existing traffic conditions. Additionally, none of the study area intersections warrants turn lanes based on NCHRP Report 457 and ITD turn lane guidelines. Therefore, no improvements are needed to mitigate 2023 existing traffic operations.



3.0 2025 BUILD-OUT YEAR BACKGROUND TRAFFIC CONDITIONS

3.1 Roadway Network

For the 2025 building-out year background traffic impact analysis, the study area roadways and intersections are assumed to remain the same as the 2023 existing conditions.

According to the current transportation plans, there are no funded projects within the study area. The Lansing Lane and Purple Sage Road intersection is identified in the CHD4 *Capital Improvements Plan* for the Middleton/Star service area (Mid-Star CIP) to be reconstructed as a single-lane roundabout in the 2035-2040 timeframe. The Lansing Lane and SH 44 intersection is identified in the Mid-Star CIP to be signalized in the 2020-2025 timeframe.

According to the 2019 ITD *SH-44, I-84 to Eagle Corridor Study* Traffic Analysis and Access Management Report, SH 44 between Middleton Road and Star Road is planned to have public road intersections restricted, as SH 44 will have a continuously raised median except for where restricted crossing U-turn (RCUT) and signalized intersections. An RCUT is planned at the Lansing Lane and SH 44 intersection. Once converted to an RCUT intersection, the left-out movements from Lansing Lane will be required to make right-turn movements and utilize a U-turn loon between 600 and 800 feet away from Lansing Lane. The U-turn loon is stated to require 120-140 feet of right-of-way, which is likely to occur with the corridor widening to two travel lanes.

3.2 Background Traffic

Background traffic growth from 2023 to 2025 was estimated by extrapolating the 2023 existing traffic counts with the following annual growth rates:

- SH 44 3.0%
- Purple Sage Road 6.9%
- Lansing Lane 3.3%

The annual traffic growth rate for SH 44 is based on COMPASS forecasts between 2022 and 2040. COMPASS forecasts are included in the appendix. In addition, one in-process development in the vicinity of the site, Mint Farm Subdivision, is expected to contribute off-site traffic to the study area intersections and were included in background traffic. **Figure 3.1** summarizes the 2025 peak hours background traffic at the study area intersections.





Figure 3.1 – 2025 Build-Out Year Peak Hour Background Traffic



3.3 Intersection Operations

To determine the 2025 background traffic operations, the study area intersections were analyzed with the existing intersection control and lane configuration with 2025 background traffic volumes. Copies of the analysis reports are included in the appendix. **Table 3.1** summarizes the intersection capacity analysis results. Based on traffic analysis results, one study area intersection is anticipated to exceed minimum operational thresholds under 2025 background traffic conditions:

• Lansing Lane and SH 44 intersection

			Intersection	AN	I Peak H	our	PN	A Peak Ho	our
	Intersection	Control / Lane	or Lane Group	LOS	Delay [s/veh]	v/c Ratio	LOS	Delay [s/veh]	v/c Ratio
1		_ + / +	EB	А	8	0.01	А	8	0.01
	Lansing Ln and Purple Sage Rd		WB	А	8	0.03	А	8	0.02
			NB	В	13	0.17	В	8 13 12 11	0.28
		•	SB	В	12	0.14	В		0.09
			EBL	А	9	0.05	В	11	0.13
			EBTR	-	-	-	-	-	-
	Lansing Ln		WBL	А	9	0.01	А	9	0.02
(2)	and		WBT	-	-	-	-	-	-
)	SH 44	SH 44	WBR	-	-	-	-	-	-
		T T	NB	Е	37	0.22	F	59	0.35
			SB	F	55	0.76	F	88	0.80

Table 3.1 – Intersection Operations – 2025 Background Traffic

3.4 Intersection Mitigation

Lansing Lane and Purple Sage Road Intersection

The Lansing Lane and Purple Sage Road intersection is anticipated to meet CHD4 minimum operational thresholds analyzed with the existing intersection control and lane configurations with 2025 background traffic. Additionally, no turn lanes are warranted based on NCHRP Report 457 turn lane guidelines. Therefore, no improvements are needed to mitigate 2025 background traffic operations.

Lansing Lane and SH 44 Intersection

The Lansing Lane and SH 44 intersection is anticipated to exceed ITD minimum operational thresholds as an unsignalized intersection with existing lanes. The northbound and southbound approaches are anticipated to operate at LOS F in the peak hours, exceeding the ITD threshold. According to ITD transportation plans, there are no funded improvements programmed at the intersection. According to the SH 44 corridor plan, the intersection is planned to be reconstructed as an RCUT intersection in the long term. The intersection is identified in the Mid-Star CIP to be signalized in the 2030-2035 timeframe. The following mitigation options were evaluated:

- Option 1 Temporary traffic signal with existing lanes
- Option 2 Reconstruct the intersection as an RCUT
 - Construct U-turn loons on SH 44 east and west of the intersection to accommodate U-turns

Table 3.2 summarizes the intersection mitigation analysis results. Installing a temporary traffic signal or an RCUT is expected to mitigate the intersection operations. However, an RCUT is beyond the build-out year and may not be feasible. Installing a traffic signal is consistent with CHD4 Mid-Star CIP and is recommended.



			Intersection	AN	I Peak H	our	PM Peak Hour			
Intersection		Control / Lane Mitigation	or Lane Group	LOS	Delay [s/veh]	v/c Ratio	LOS	Delay [s/veh]	v/c Ratio	
			Intersection	В	14	0.63	В	13	0.67	
			EBL	А	9	0.12	В	11	0.28	
		-	EBTR	В	14	0.80	А	8	0.47	
	Lansing Ln and		WBL	А	10	0.04	А	7	0.05	
		$\mathbf{v} \in \mathbf{v}$	WBT	В	13	0.72	В	14	0.85	
		-+-	WBR	А	9	0.07	А	7	0.13	
			NB	В	16	0.08	С	25	0.18	
(1)			SB	В	19	0.51	С	27	0.48	
	SH 44		EBL	А	9	0.05	В	11	0.13	
		RCUT	EBTR	-	-	-	-	-	-	
		<u>ب</u> ل ہ	WBL	А	9	0.01	А	9	0.02	
			WBT	-	-	-	-	-	-	
			WBR	-	-	-	-	-	-	
		<u>م</u> ' (NBR	В	14	0.07	В	12	0.07	
			SBR	С	15	0.35	С	20	0.33	

Table 3.2 – Lansing Lane and SH 44 Intersection – 2025 Background Traffic - Mitigation



4.0 2025 BUILD-OUT YEAR TOTAL TRAFFIC CONDITIONS

4.1 Roadway Network

For the 2025 building-out year total traffic impact analysis, the study area roadways and intersections are assumed to remain the same as the 2023 existing conditions. The development is expected to improve Lansing Lane along the site frontages and construct one site access on Lansing Lane.

4.2 Site Traffic

4.2.1 Trip Generation

Site trip generation is estimated using the procedures recommended in the latest edition of the *Trip Generation Manual (11th Edition)*, published by the Institute of Transportation Engineers. **Table 4.1** summarizes the site trip generation. At full build-out, the development is estimated to generate approximately 784 trips per weekday, 58 trips during the AM peak hour, and 77 trips during the PM peak hour.

	ITE				Total				
Land Use	Code	Size	Unit	Period	Trips	Entering		Exiting	
Single Femily				Weekday Daily (vpd)	784	50%	392	50%	392
Single-Family Residential	210	76	DU	AM Peak Hour (vph)	58	25%	25% 15 75	75%	43
Residentia				PM Peak Hour (vph)	77	63%	48	37%	29

Table 4.1 – Build-Out Site Trip Generation Summary

4.2.2 Trip Capture

Based on ITE methodologies and the proposed land use, the development is not expected to retain trips internally within the site. No reduction for internal trip capture was assumed in the traffic analysis.

4.2.3 Pass-By Trips

The development is not expected to generate pass-by trips. No pass-by trips were assumed in the traffic analysis.

4.2.4 Modal Split

For traffic analysis purposes, all trips generated by the development were assumed to be made by personal and commercial vehicles.

4.2.5 Trip Distribution and Assignment

Site traffic was distributed and assigned to the external roadway system based on current travel patterns, site layout, and the general location of the site within the area. **Figure 4.1** shows the expected site traffic distribution patterns. **Figure 4.2** summarizes the estimated peak hours site traffic. No site traffic is expected to use Stony Brook Way.

4.3 Total Traffic

The 2025 site traffic is then added to the 2025 background traffic as determined above to obtain the 2025 total traffic. **Figure 4.3** summarizes the estimated 2025 peak hour total traffic at the study area intersections. The proportionate share of the site traffic of 2025 total traffic at each study area intersection is:

- Lansing Lane and Purple Sage Road intersection
 - AM peak=10.3%
 - PM peak=12.4%
- Lansing Lane and SH 44 intersection
 - AM peak=2.8%
 - PM peak=3.0%



Figure 4.1 – Estimated Site Traffic Distribution Patterns















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4.4 Intersection Operations

To determine the 2025 total traffic operations, the study area intersections were analyzed with the existing intersection control and lane configuration 2025 total traffic volumes. Copies of the analysis reports are included in the appendix. **Table 4.2** summarizes the intersection capacity analysis results. Based on traffic analysis results, one study area intersection is anticipated to exceed minimum operational thresholds under 2025 total traffic conditions:

• Lansing Lane and SH 44 intersection

			Intersection	AN	I Peak H	our	PN	A Peak Ho	our
	Intersection	Control / Lane	or Lane Group	LOS	Delay [s/veh]	v/c Ratio	LOS	Delay [s/veh]	v/c Ratio
			EB	Α	8	0.01	А	8	0.02
1	Lansing Ln and Purple Sage Rd		WB	А	8	0.03	А	8	0.02
			NB	В	14	0.21	С	15	0.37
		***	SB	В	14	0.24	В	13	0.15
			EBL	А	9	0.05	В	11	0.15
			EBTR	-	-	-	-	-	-
	Lansing Ln		WBL	А	9	0.01	А	9	0.02
(2)	and		WBT	-	-	-	-	-	-
)	SH 44	-	WBR	-	-	-	-	-	-
			NB	Е	39	0.23	F	67	0.39
			SB	F	85	0.93	F	150	1.03

4.5 Intersection Mitigation

Lansing Lane and Purple Sage Road Intersection

The Lansing Lane and Purple Sage Road intersection is anticipated to meet CHD4 minimum operational thresholds analyzed with the existing intersection control and lane configurations with 2025 total traffic. Additionally, no turn lanes are warranted based on NCHRP Report 457 turn lane guidelines. Therefore, no improvements are needed to mitigate 2025 total traffic operations.

Lansing Lane and SH 44 Intersection

The Lansing Lane and SH 44 intersection is anticipated to exceed ITD minimum operational thresholds as an unsignalized intersection with existing lanes. The southbound approach is anticipated to operate at LOS F with a v/c ratio of 1.03 in the PM peak hour, exceeding the ITD threshold. The following improvements are needed to mitigate 2025 total traffic operations:

• Temporary traffic signal with existing lanes

Table 4.3 summarizes the intersection mitigation analysis results. Installing a temporary traffic signal is expected to mitigate the intersection operations.



			Intersection	AM Peak Hour			PM Peak Hour			
Intersection		Control / Lane Mitigation	or Lane Group	LOS	Delay [s/veh]	v/c Ratio	LOS	Delay [s/veh]	v/c Ratio	
			Intersection	В	15	0.65	В	13	0.70	
	Lansing Ln and SH 44		EBL	А	10	0.14	В	11	0.32	
		-	EBTR	В	15	0.81	А	8	0.47	
(1)		_ <u>→</u> <u>⊨</u> <u>↓</u>	WBL	В	11	0.04	А	7	0.05	
		$\mathbf{v} \in \mathbf{v}$	WBT	В	14	0.73	В	15	0.85	
		-+-	WBR	А	10	0.09	А	8	0.16	
			NB	В	16	0.08	С	25	0.17	
			SB	В	19	0.54	С	28	0.51	

Table 4.3 – Lansing Lane and SH 44 Intersection – 2025 Total Traffic - Mitigation

4.6 Site Access and Circulation

Figure 4.4 shows the proposed site access locations and internal circulation. Willowcreek-Lansing Lane Subdivision is planning to construct one site access on Lansing Lane and connect to Stony Brook Way to the west.

Site access spacing on Lansing Lane, a collector street, is governed by CHD4 policy. According to the CHD4 intersection and approach policy, the minimum urban roadway spacing on a major collector street is:

- 500 feet local or private road spacing on the same side of through roadway
- 250 feet local or private road spacing on the opposite side of through roadway
- 350 feet driveway spacing for a minor generator

The proposed access on Lansing Lane meets the minimum 500-foot local road spacing requirements on Lansing

The proposed internal roadways are local streets with front-on housing. All internal local roadways are expected to carry less than 1,000 vehicles per weekday.

The proposed site access intersections were evaluated for turn lanes based on NCHRP Report 457 turn-lane guidelines. Turn lane warrant worksheets are included in the appendix. No turn lanes are warranted under 2025 build-out total traffic conditions. **Table 4.4** summarizes the site access intersection operations. The proposed site access intersections are anticipated to meet minimum operational thresholds as a full-movement intersection under 2025 total traffic conditions.

Table 4.4 – Site Access Intersection Operations – 2025 Build-Out Yea	r Total Traffic

			Intersection	AN	I Peak H	our	PM Peak Hour		
	Intersection	Control / Lane Site Improvements	or Lane Group	LOS	Delay [s/veh]	v/c Ratio	LOS	Delay [s/veh]	v/c Ratio
	Site Access and Lansing Ln	-1	EB	В	12	0.13	В	13	0.10
3			NB	А	-	-	А	-	-
			SB	А	9	0.01	А	8	< 0.01









5.0 2030 HORIZON YEAR BACKGROUND TRAFFIC CONDITIONS

5.1 Roadway Network

For the 2030 horizon year background traffic impact analysis, the study area roadways and intersections are assumed to remain the same as the 2023 existing conditions, except for Landruff Lane. Landruff Lane is expected to be constructed with the in-process developments in the vicinity of the site south of SH 44 as discussed in the previous section.

5.2 Background Traffic

Background traffic growth from 2025 to 2030 was estimated by extrapolating the 2023 existing traffic counts with the following annual growth rates:

- SH 44 3.0%
- Purple Sage Road 6.9%
- Lansing Lane 3.3%

The annual traffic growth rate for SH 44 is based on COMPASS forecasts between 2022 and 2040. COMPASS forecasts are included in the appendix. In addition, in-process developments in the vicinity of the site, Mint Farm Subdivision, is expected to contribute off-site traffic to the study area intersections and were included in background traffic. **Figure 5.1** summarizes the 2030 peak hours background traffic at the study area intersections.

Intersection Operations

To determine the 2030 background traffic operations, the study area intersections were analyzed with the existing intersection control and lane configuration. Copies of the analysis reports are included in the appendix. **Table 5.1** summarizes the intersection capacity analysis results. Based on traffic analysis results, one study area intersection is anticipated to exceed minimum operational thresholds under 2030 background traffic conditions:

• Lansing Lane and SH 44 intersection

			Intersection	AN	I Peak H	our	PN	PM Peak Hour		
Intersection		Control / Lane	or Lane Group	LOS	Delay [s/veh]	v/c Ratio	LOS	Delay [s/veh]	v/c Ratio	
		*	EB	А	8	0.02	А	8	0.02	
	Lansing Ln		WB	А	8	0.04	А	7	0.02	
	Purple Sage Rd		NB	С	16	0.25	С	17	0.40	
	i mpie suge ite	•	SB	В	15	0.20	В	13	0.12	
			EBL	А	9	0.06	В	12	0.16	
		1	EBTR	-	-	-	-	-	-	
	Lansing Ln		WBL	А	9	0.01	А	9	0.03	
(2)	and		WBT	-	-	-	-	-	-	
)	SH 44	-+- ⁻	WBR	-	-	-	-	-	-	
			NB	F	63	0.38	F	147	0.69	
			SB	F	165	1.16	F	> 300	1.41	

 Table 5.1 – Intersection Operations – 2030 Horizon Year Background Traffic





Figure 5.1 – 2030 Horizon Year Peak Hour Background Traffic


5.3 Intersection Mitigation

Lansing Lane and Purple Sage Road Intersection

The Lansing Lane and Purple Sage Road intersection is anticipated to meet CHD4 minimum operational thresholds analyzed with the existing intersection control and lane configurations with 2030 background traffic. Additionally, no turn lanes are warranted based on NCHRP Report 457 turn lane guidelines. Therefore, no improvements are needed to mitigate 2030 background traffic operations.

Lansing Lane and SH 44 Intersection

The Lansing Lane and SH 44 intersection is anticipated to exceed ITD minimum operational thresholds as an unsignalized intersection with existing lanes. The northbound and southbound approaches are anticipated to operate at LOS F with v/c ratios exceeding 1.00 in the peak hours, exceeding the ITD threshold. The following improvements are needed to mitigate 2030 background traffic operations:

• Temporary traffic signal with existing lanes

Table 5.2 summarizes the intersection mitigation analysis results. Installing a temporary traffic signal is expected to mitigate the intersection operations.

		Control / Lane Mitigation	Intersection	AM Peak Hour			PM Peak Hour		
Intersection			or Lane Group	LOS	Delay [s/veh]	v/c Ratio	LOS	Delay [s/veh]	v/c Ratio
	Lansing Ln and SH 44 \rightarrow \rightarrow \rightarrow \rightarrow \rightarrow \rightarrow \rightarrow \rightarrow		Intersection	В	16	0.70	В	14	0.75
			EBL	А	10	0.15	В	14	0.36
			EBTR	В	15	0.84	А	8	0.50
1			WBL	В	11	0.05	А	6	0.05
			WBT	В	15	0.75	В	16	0.88
			WBR	А	9	0.08	А	7	0.13
			NB	В	19	0.10	С	31	0.22
			SB	С	22	0.57	С	33	0.55

Table 5.2 – Lansing Lane and SH 44 Intersection – 2030 Background Traffic - Mitigation



6.0 2030 HORIZON YEAR TOTAL TRAFFIC CONDITIONS

6.1 Roadway Network

For the 2030 horizon year total traffic impact analysis, the study area roadways and intersections are assumed to remain the same as the 2023 existing conditions. The development is expected to improve Lansing Lane along the site frontages and construct one site access on Lansing Lane.

6.2 Site Traffic

Site traffic trip generation, modal split, distribution, and assignment are expected to remain the same as discussed in the previous section. No changes to the site traffic are expected between 2025 and 2030.

6.3 Total Traffic

The build-out site traffic was added to the 2030 background traffic as determined above to obtain the 2030 horizon year total traffic. **Figure 6.1** summarizes the estimated 2030 peak hour total traffic at the study area intersections. The proportionate share of the site traffic of 2030 total traffic at each study area intersection is:

- Lansing Lane and Purple Sage Road intersection
 - AM peak=8.1%
 - PM peak=9.9%
- Lansing Lane and SH 44 intersection
 - AM peak=2.4%
 - PM peak=2.6%

6.4 Intersection Operations

To determine the 2030 total traffic operations, the study area intersections were analyzed with the existing intersection control and lane configuration. Copies of the analysis reports are included in the appendix. **Table 6.1** summarizes the intersection capacity analysis results. One study area intersection is anticipated to exceed minimum operational thresholds under 2030 total traffic conditions:

• Lansing Lane and SH 44 intersection

6.5 Intersection Mitigation

Lansing Lane and Purple Sage Road Intersection

The Lansing Lane and Purple Sage Road intersection is anticipated to meet CHD4 minimum operational thresholds analyzed with the existing intersection control and lane configurations with 2030 total traffic. Additionally, no turn lanes are warranted based on NCHRP Report 457 turn lane guidelines. Therefore, no improvements are needed to mitigate 2030 total traffic operations.

Lansing Lane and SH 44 Intersection

The Lansing Lane and SH 44 intersection is anticipated to exceed ITD minimum operational thresholds as an unsignalized intersection with existing lanes. The northbound and southbound approaches are anticipated to operate at LOS F with v/c ratios exceeding 1.00 in the peak hours, exceeding the ITD threshold. The following improvements are needed to mitigate 2030 total traffic operations:

• Temporary traffic signal with existing lanes

Table 6.2 summarizes the intersection mitigation analysis results. Installing a temporary traffic signal is expected to mitigate the intersection operations.



Figure 6.1 – 2030 Horizon Year Peak Hour Total Traffic



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			Intersection	AM Peak Hour			PM Peak Hour		
Intersection		Control / Lane	or Lane Group	LOS	Delay [s/veh]	v/c Ratio	LOS	Delay [s/veh]	v/c Ratio
	Lansing Ln and Purple Sage Rd		EB	А	8	0.02	А	8	0.03
(1)			WB	А	8	0.04	А	8	0.02
			NB	С	18	0.30	С	21	0.50
	1 8		SB	С	17	0.33	С	15	0.21
	Lansing Ln and SH 44		EBL	А	9	0.06	В	12	0.18
			EBTR	-	-	-	-	-	-
			WBL	А	9	0.01	А	9	0.03
(2)			WBT	-	-	-	-	-	-
			WBR	-	-	-	-	-	-
			NB	F	69	0.41	F	171	0.75
			SB	F	249	1.38	F	> 300	1.78
3	Site Access and Lansing Ln	n t	EB	А	9	0.05	А	9	0.03
			NB	А	7	0.01	А	7	0.04
			SB	-	-	-	-	-	-

Table 6.1 – Intersection Operations – 2030 Horizon Year Total Traffic

Table 6.2 – Lansing Lane and SH 44 Intersection – 2030 Total Traffic - Mitigation

		Control / Lane Mitigation	Intersection	AM Peak Hour			PM Peak Hour		
Intersection			or Lane Group	LOS	Delay [s/veh]	v/c Ratio	LOS	Delay [s/veh]	v/c Ratio
	Lansing Ln and SH 44		Intersection	В	17	0.71	В	15	0.78
			EBL	В	11	0.17	В	16	0.42
			EBTR	В	16	0.85	А	9	0.50
(1)			WBL	В	12	0.05	А	7	0.06
			WBT	В	16	0.76	В	17	0.88
			WBR	А	10	0.09	А	8	0.16
			NB	В	19	0.09	С	31	0.21
			SB	С	23	0.61	С	35	0.59



APPENDIX A: Traffic Counts



APPENDIX B: 2023 Synchro Reports



APPENDIX C: In-Process Development



APPENDIX D: 2025 Background Synchro Reports



APPENDIX E: 2025 Total Synchro Reports



APPENDIX F: 2030 Background Synchro Reports



APPENDIX F: 2030 Total Synchro Reports



APPENDIX H: Turn Lane Guidelines Worksheets



1445 N. Orchard St. Boise ID 83706 • (208) 373-0550



Brad Little, Governor Jess Byrne, Director

June 4, 2024

Daniel Lister, Assistant Planning Manager 111 North 11th Ave. Ste. 310 Caldwell, Idaho, 83605 Daniel.Lister@canyoncounty.id.gov

Subject: Case No. CR2022-0016

Dear Mr. Lister:

Thank you for the opportunity to respond to your request for comment. While DEQ does not review projects on a project-specific basis, we attempt to provide the best review of the information provided. DEQ encourages agencies to review and utilize the Idaho Environmental Guide to assist in addressing project-specific conditions that may apply. This guide can be found at: <u>https://www.deq.idaho.gov/public-information/assistance-and-resources/outreach-and-education/</u>.

The following information does not cover every aspect of this project; however, we have the following general comments to use as appropriate:

1. AIR QUALITY

- Please review IDAPA 58.01.01 for all rules on Air Quality, especially those regarding fugitive dust (58.01.01.651), trade waste burning (58.01.01.600-617), and odor control plans (58.01.01.776).
- For new development projects, all property owners, developers, and their contractor(s) must ensure that reasonable controls to prevent fugitive dust from becoming airborne are utilized during all phases of construction activities per IDAPA 58.01.01.651.
- DEQ recommends the city/county require the development and submittal of a dust prevention and control plan for all construction projects prior to final plat approval. Dust prevention and control plans incorporate appropriate best management practices to control fugitive dust that may be generated at sites.
- Citizen complaints received by DEQ regarding fugitive dust from development and construction activities approved by cities or counties will be referred to the city/county to address under their ordinances.

• Per IDAPA 58.01.01.600-617, the open burning of any construction waste is prohibited. The property owner, developer, and their contractor(s) are responsible for ensuring no prohibited open burning occurs during construction.

For questions, contact David Luft, Air Quality Manager, at (208) 373-0550.

2. WASTEWATER AND RECYCLED WATER

- DEQ recommends verifying that there is adequate sewer to serve this project prior to approval. Please contact the sewer provider for a capacity statement, declining balance report, and willingness to serve this project.
- IDAPA 58.01.16 and IDAPA 58.01.17 are the sections of Idaho rules regarding wastewater and recycled water. Please review these rules to determine whether this or future projects will require DEQ approval. IDAPA 58.01.03 is the section of Idaho rules regarding subsurface disposal of wastewater. Please review this rule to determine whether this or future projects will require permitting by the district health department.
- All projects for construction or modification of wastewater systems require preconstruction approval. Recycled water projects and subsurface disposal projects require separate permits as well.
- DEQ recommends that projects be served by existing approved wastewater collection systems or a centralized community wastewater system whenever possible. Please contact DEQ to discuss potential for development of a community treatment system along with best management practices for communities to protect ground water.
- DEQ recommends that cities and counties develop and use a comprehensive land use management plan, which includes the impacts of present and future wastewater management in this area. Please schedule a meeting with DEQ for further discussion and recommendations for plan development and implementation.

For questions, contact Valerie Greear, Water Quality Engineering Manager at (208) 373-0550.

3. DRINKING WATER

- DEQ recommends verifying that there is adequate water to serve this project prior to approval. Please contact the water provider for a capacity statement, declining balance report, and willingness to serve this project.
- IDAPA 58.01.08 is the section of Idaho rules regarding public drinking water systems. Please review these rules to determine whether this or future projects will require DEQ approval.
- All projects for construction or modification of public drinking water systems require preconstruction approval.
- DEQ recommends verifying if the current and/or proposed drinking water system is a regulated public drinking water system (refer to the DEQ website at: <u>https://www.deq.idaho.gov/water-quality/drinking-water/</u>. For non-regulated systems, DEQ recommends annual testing for total coliform bacteria, nitrate, and nitrite.
- If any private wells will be included in this project, we recommend that they be tested for total coliform bacteria, nitrate, and nitrite prior to use and retested annually thereafter.

- DEQ recommends using an existing drinking water system whenever possible or construction of a new community drinking water system. Please contact DEQ to discuss this project and to explore options to both best serve the future residents of this development and provide for protection of ground water resources.
- DEQ recommends cities and counties develop and use a comprehensive land use management plan which addresses the present and future needs of this area for adequate, safe, and sustainable drinking water. Please schedule a meeting with DEQ for further discussion and recommendations for plan development and implementation.

For questions, contact Valerie Greear, Water Quality Engineering Manager at (208) 373-0550.

4. SURFACE WATER

- Please contact DEQ to determine whether this project will require an Idaho Pollutant Discharge Elimination System (IPDES) Permit. A Multi-Sector General Permit from DEQ may be required for facilities that have an allowable discharge of storm water or authorized non-storm water associated with the primary industrial activity and co-located industrial activity.
- For questions, contact James Craft, IPDES Compliance Supervisor, at (208) 373-0144.
- If this project is near a source of surface water, DEQ requests that projects incorporate construction best management practices (BMPs) to assist in the protection of Idaho's water resources. Additionally, please contact DEQ to identify BMP alternatives and to determine whether this project is in an area with Total Maximum Daily Load stormwater permit conditions.
- The Idaho Stream Channel Protection Act requires a permit for most stream channel alterations. Please contact the Idaho Department of Water Resources (IDWR), Western Regional Office, at 2735 Airport Way, Boise, or call (208) 334-2190 for more information. Information is also available on the IDWR website at: <u>https://idwr.idaho.gov/streams/stream-channel-alteration-permits.html</u>
- The Federal Clean Water Act requires a permit for filling or dredging in waters of the United States. Please contact the US Army Corps of Engineers, Boise Field Office, at 10095 Emerald Street, Boise, or call 208-345-2155 for more information regarding permits.

For questions, contact Lance Holloway, Surface Water Manager, at (208) 373-0550.

5. SOLID WASTE, HAZARDOUS WASTE AND GROUND WATER CONTAMINATION

- Solid Waste. No trash or other solid waste shall be buried, burned, or otherwise disposed of at the project site. These disposal methods are regulated by various state regulations including Idaho's Solid Waste Management Regulations and Standards (IDAPA 58.01.06), Rules and Regulations for Hazardous Waste (IDAPA 58.01.05), and Rules and Regulations for the Prevention of Air Pollution (IDAPA 58.01.01). Inert and other approved materials are also defined in the Solid Waste Management Regulations and Standards
- Hazardous Waste. The types and number of requirements that must be complied with under the federal Resource Conservations and Recovery Act (RCRA) and the Idaho Rules and Standards for Hazardous Waste (IDAPA 58.01.05) are based on the quantity and type of waste generated. Every business in Idaho is required to track the volume of waste generated, determine whether each type of waste is hazardous, and ensure that all wastes are properly disposed of according to federal, state, and local requirements.

- Water Quality Standards. Site activities must comply with the Idaho Water Quality Standards (IDAPA 58.01.02) regarding hazardous and deleterious-materials storage, disposal, or accumulation adjacent to or in the immediate vicinity of state waters (IDAPA 58.01.02.800); and the cleanup and reporting of oil-filled electrical equipment (IDAPA 58.01.02.849); hazardous materials (IDAPA 58.01.02.850); and used-oil and petroleum releases (IDAPA 58.01.02.851 and 852). Petroleum releases must be reported to DEQ in accordance with IDAPA 58.01.02.851.01 and 04. Hazardous material releases to state waters, or to land such that there is likelihood that it will enter state waters, must be reported to DEQ in accordance with IDAPA 58.01.02.850.
- **Ground Water Contamination.** DEQ requests that this project comply with Idaho's Ground Water Quality Rules (IDAPA 58.01.11), which states that "No person shall cause or allow the release, spilling, leaking, emission, discharge, escape, leaching, or disposal of a contaminant into the environment in a manner that causes a ground water quality standard to be exceeded, injures a beneficial use of ground water, or is not in accordance with a permit, consent order or applicable best management practice, best available method or best practical method."

For questions, contact Rebecca Blankenau, Waste & Remediation Manager, at (208) 373-0550.

6. ADDITIONAL NOTES

- If an underground storage tank (UST) or an aboveground storage tank (AST) is identified at the site, the site should be evaluated to determine whether the UST is regulated by DEQ. EPA regulates ASTs. UST and AST sites should be assessed to determine whether there is potential soil and ground water contamination. Please call DEQ at (208) 373-0550, or visit the DEQ website <u>https://www.deq.idaho.gov/waste-management-and-</u> remediation/storage-tanks/leaking-underground-storage-tanks-in-idaho/ for assistance.
- If applicable to this project, DEQ recommends that BMPs be implemented for any of the following conditions: wash water from cleaning vehicles, fertilizers and pesticides, animal facilities, composted waste, and ponds. Please contact DEQ for more information on any of these conditions.

We look forward to working with you in a proactive manner to address potential environmental impacts that may be within our regulatory authority. If you have any questions, please contact me, or any of our technical staff at (208) 373-0550.

Sincerely,

mon

Aaron Scheff Regional Administrator

c:

2021AEK

Dan Lister

From:	Niki Benyakhlef <niki.benyakhlef@itd.idaho.gov></niki.benyakhlef@itd.idaho.gov>
Sent:	Thursday, May 30, 2024 6:48 AM
То:	Dan Lister
Cc:	Amber Lewter
Subject:	[External] RE: Agency Notification CR2022-0016 MDC LLC / Doug Carnahan

Good Morning, Dan!

After careful review of the transmittal submitted to ITD on May 8, 2024, regarding CR2022-0016 MDC LLC / Doug Carnahan (Willow Creek Subdivision), the Department has no comments or concerns to make at this time. Due to this development being greater than 2.5 miles north of SH-44, minor impact can be anticipated.

Thank you,



Niki Benyakhlef Development Services Coordinator

District 3 Development Services O: 208.334.8337 | C: 208.296.9750 Email: <u>niki.benyakhlef@itd.idaho.gov</u> Website: <u>itd.idaho.gov</u>

From: Amber Lewter <Amber.Lewter@canyoncounty.id.gov> Sent: Wednesday, May 8, 2024 8:57 AM

To: 'jhutchison@middletoncity.com' <jhutchison@middletoncity.com>; 'jreynolds@middletoncity.com' <jreynolds@middletoncity.com>; 'rstewart@middletoncity.com' <rstewart@middletoncity.com>; 'lgrooms@msd134.org' <lgrooms@msd134.org>; 'mgee@msd134.org' <mgee@msd134.org>; 'permits@starfirerescue.org' <permits@starfirerescue.org>; 'chopper@hwydistrict4.org' <chopper@hwydistrict4.org>; 'lriccio@hwydistrict4.org' <lriccio@hwydistrict4.org>; 'brandy.walker@centurylink.com'

ker@centurylink.com>; 'eingram@idahopower.com' <eingram@idahopower.com>; 'easements@idahopower.com' <easements@idahopower.com>; 'mkelly@idahopower.com' <mkelly@idahopower.com>; 'monica.taylor@intgas.com' <monica.taylor@intgas.com>; 'jessica.mansell@intgas.com' <jessica.mansell@intgas.com>; 'contract.administration.bid.box@ziply.com' <contract.administration.bid.box@ziply.com>; 'developmentreview@blackcanyonirrigation.com' <developmentreview@blackcanyonirrigation.com>; 'mitch.kiester@phd3.idaho.gov' <mitch.kiester@phd3.idaho.gov>; 'anthony.lee@phd3.idaho.gov' <anthony.lee@phd3.idaho.gov>; 'projectmgr@boiseriver.org' <projectmgr@boiseriver.org>; 'scott_sbi@outlook.com' <scott_sbi@outlook.com>; 'brentc@brownbuscompany.com' <brentc@brownbuscompany.com>; 'gis@compassidaho.org' <gis@compassidaho.org>; D3 Development Services <D3Development.Services@itd.idaho.gov>; Niki Benyakhlef <Niki.Benyakhlef@itd.idaho.gov>; 'webmaster@valleyregionaltransit.org' <webmaster@valleyregionaltransit.org>; Brian Crawforth <Brian.Crawforth@canyoncounty.id.gov>; Christine Wendelsdorf <Christine.Wendelsdorf@canyoncounty.id.gov>; Michael Stowell <mstowell@ccparamedics.com>; Assessor Website <2cAsr@canyoncounty.id.gov>; Nichole Schwend <Nichole.Schwend@canyoncounty.id.gov>; 'Richard Sims' <middletown.rich@gmail.com>; Dalia Alnajjar <Dalia.Alnajjar@canyoncounty.id.gov>; Stephanie Hailey <Stephanie.Hailey@canyoncounty.id.gov>; 'BRO.Admin@deq.idaho.gov' <BRO.Admin@deq.idaho.gov>; 'john.graves@fema.dhs.gov' <john.graves@fema.dhs.gov>; 'westerninfo@idwr.idaho.gov' <westerninfo@idwr.idaho.gov>; 'brandon.flack@idfg.idaho.gov'

CAUTION: This email originated outside the State of Idaho network. Verify links and attachments BEFORE you click or open, even if you recognize and/or trust the sender. Contact your agency service desk with any concerns.

Please see the attached agency notice. You are invited to provide written testimony or comments by **June 7, 2024**, although as of this point, no hearing date has been set. You will receive a separate notification when the hearing date has been set for this case. If the comment deadline is on a weekend or holiday, it will move to close of business 5pm the next business day. The deadline for written testimony or additional exhibits is to ensure planners can consider the information as they develop their staff report and recommended findings. All items received by the deadline will also be placed in the hearing packet, allowing the hearing body adequate time to review the submitted information.

Please direct your comments or questions to Planner Dan Lister at daniel.lister@canyoncounty.id.gov.

Thank you,



Amber Lewter Hearing Specialist Canyon County Development Services Department 111 N. 11th Ave., #310, Caldwell, ID 83605

Direct Line: 208-454-6631 Fax: 208-454-6633 Email: <u>amber.lewter@canyoncounty.id.gov</u> Website: www.canyoncounty.id.gov

Development Services Department (DSD) **NEW** <u>public</u> office hours **Effective Jan. 3, 2023** Monday, Tuesday, Thursday and Friday 8am – 5pm Wednesday 1pm – 5pm **We will not be closed during lunch hour **

PUBLIC RECORD NOTICE: All communications transmitted within the Canyon County email system may be a public record and may be subject to disclosure under the Idaho Public Records Act and as such may be copied and reproduced by members of the public.





TELEPHONE 208/454-8135 FAX 208/454-2008

August 24, 2022

Canyon County Board of Commissioners and Planning & Zoning Commission 111 N. 11th Street Caldwell, Idaho 83605 Attention: Juli McCoy, Planner c/o zoninginfo@canyoncounty.id.gov

MDC, LLC c/o RiveRidge Engineering Attention: Kent Adamson, P.E. RE: CR2022-00016

> Conditional Rezone from Agricultural to C-R-R Residential Canyon County Parcels R37511 & R37510112 aka 25455 Lansing Lane

Dear Commissioners:

Canyon Highway District No. 4 (CHD4) has reviewed the application for Conditional Rezone of the above described parcels R37511 & R37510112 from Agricultural to C-R-R Residential and offers the following comments on the proposed use:

General

The subject property consists of 2 parcels totaling approximately 165 acres, located west of Lansing Lane approximately 1/2 mile north of Purple Sage Rd in the SE ¼ Section 28 T5N R2W. The applicant is proposing development of a 75-lot rural subdivision.

The subject property has approximately 1,940-feet of frontage on Lansing Lane along the easterly boundary, has a stub connection to Stony Brook Way, a local public road established by Thoroughbred Estates Subdivision along the westerly property boundary. The subject property is located approximately 4,200-ft from Middleton city limits, and is considered urban for the purposes of development under CHD4 standards.

Lansing Lane is classified as a major collector on the functional classification maps adopted by CHD4 and Canyon County. Existing right-of-way width for Lansing Lane is a 25-foot right-of-way along both subject parcels, and an additional 15-foot right-of-way (for 40-feet total) along Parcel 37510112. Ultimate right-of-way width for a major collector is 40-foot half width, measured from the section line.

Outparcels (Not applicable to this request)

Access

Existing access to the subject property appears to consist of a private driveway serving Parcel R37511. This access has been used for the existing residence, and agricultural operations which currently entail a tree farm. An unimproved field approach to Lansing Lane may also exist at the northeast corner of the site.

Access for future residential development of the subject property should be planned via one or more public or private road approaches to Lansing Lane. Intersection sight distance may be restricted by the hill crest along the southerly portions of the site frontage, and should be confirmed in the field prior to fixing access locations. Any new public or private road access should provide a minimum of 500-feet of separation to public or private roads, and 210-feet from existing driveways to meet urban access spacing standards. Direct lot access to Lansing Lane is not permitted.

A public road connection extending between existing Stony Brook Way (in Thoroughbred Estates Subdivision) on the westerly boundary and Lansing Lane on the east boundary is generally desirable from a transportation and emergency response perspective. Access to more than one collector or arterial roadway is advantageous to avoid nuisance issues such as road construction, and can be very important during natural disasters such as floods or fires, or for other emergency response actions. CHD4 would encourage development of a public road connection between Lansing Lane and Stony Brook Way to support these public needs, provided that adequate traffic calming measures can be included to reduce pass-through traffic and limit vehicle speeds.

Transportation Impacts:

The proposed 75 residential lots is anticipated to generate more than 700 new trips per day, and more than 70 peak hour trips, which exceeds the thresholds of 500 trips/50 peak hour trips requiring a traffic impact study. A TIS should be performed for the proposed development, to be submitted with the preliminary plat application. A scoping meeting including CHD4 is required prior to commencing the TIS. At a minimum, the TIS should evaluate the trip generation and distribution from the site; the proportionate share of trips from the site at the Lansing/Purple Sage and Lansing/SH 44 intersections; capacity at the two intersections at buildout; the suitability of proposed access locations (sight distance, access spacing); and the need for auxiliary turn lanes on Lansing Lane to serve the site. Traffic impacts from the proposed development will be mitigated through right-of-way dedication, public road improvements, and development impact fees.

Section Line Setbacks

The subject property is subject to a section line setback per Canyon County Code 07-19-10 along the easterly boundary (Lansing Lane), and along the east-west ¼ section line of Section 28 T5N R2W (generally the boundary between the two subject parcels). CHD4 will consider a waiver of the setback along the east-west ¼ section line during preliminary plat approval, as a public collector road does not appear to be warranted along this alignment. A local road connection between Lansing and the westerly site boundary appears to be adequate for traffic needs given the proposed and surrounding land uses.

CHD4 does not opposed the requested zoning changes, but requests the Commission make these comments conditions of any approved land use action.

Please feel free to contact me with any questions on this matter.

Respectfully,

Chris Hopper, P.E. District Engineer

CC: Roberta Stewart, Middleton City Planning & Zoning Official File: Lansing Lane- CR2022-0016 MDC, LLC _Willow Creek Subdivision





TELEPHONE 208/454-8135 FAX 208/454-2008

August 24, 2022

Canyon County Board of Commissioners and Planning & Zoning Commission 111 N. 11th Street Caldwell, Idaho 83605 Attention: Juli McCoy, Planner c/o zoninginfo@canyoncounty.id.gov

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Respectfully,

Chris Hopper, P.E. District Engineer

CC: Roberta Stewart, Middleton City Planning & Zoning Official File: Lansing Lane- CR2022-0016 MDC, LLC _Willow Creek Subdivision



Middleton School District #134--Public Hearing Notice Response

General Response for New Development

Middleton School District has multiple schools that are over or near . **Currently Middleton School District** has 2 of our 3 elementary schools over capacity. Heights Elementary is at 144% of capacity with five (5) portable units totaling 10 classrooms. Mill Creek Elementary is at 118% of capacity with six (6) portable classroom units totaling 12 classrooms. We are nearing capacity, but have not superseded at this point, at our high school (91%) and middle school (85%). As it stands now there is an immediate need for additional facilities in our school district, primarily at the elementary grades. However, we have significant concerns of the continued growth and our ability to meet the future facility needs of our district at the secondary level (Middleton Middle School and Middleton High School).

We have completed demographic study performed for our school district boundaries and data suggests that for every new home we could expect between 0.5 and 0.7 (with an average of .569) students to come to our schools. That is the factor/rate we use to make our projection of student impact for each development.

The district, while making use of portable classrooms, in the interim, to fulfill its mandate to educate all students in the district, ultimately needs a new elementary school, or permanent facilities. The primary method for obtaining the needed funding is through the bonding process that must be passed by a supermajority vote of district patrons.

CR2022-0016, Canyon County

Elementary students living in the subdivision as planned would be in the attendance zone for Mill Creek Elementary School, which, as stated previously, is above capacity, as well as Middleton Middle School and Middleton High School. With the 76 proposed lots we anticipate approximately 38 - 53 students will need educational services provided by our district. This equates to roughly 2-3 new classrooms of students across elementary and secondary as a result of this development.

In addition to the increase in student population and its impact on facilities, bussing would be provided for all students. It is important that the developer include plans for appropriate spacing for bus stops. Typically busses do not enter subdivisions.

The developer contacted the school district during their development process and brainstormed ideas of how they might be able to provide support for the district in their school construction process, though no formal agreement was settled upon.

As a school district, we would ask that Canyon County Planning and Zoning and County Commissioners take all these factors into consideration as you make your decisions. Any questions regarding this response should be directed to Marc Gee at the contact information shared below.

lou CA

Marc C. Gee, Superintendent

June 7, 2024

Middleton School District Office:5 S. Viking Ave, Middleton, ID 83644Marc C. Gee, SuperintendentLisa Pennington, Asst. SuperintendentAl.mgee@msd134.orglpennington@msd134.org

Phone: 208-585-3027 Alicia Krantz, Business Manager <u>akrantz@msd134.org</u>



Marc Gee Superintendent

Lisa Pennington

Assistant Superintendent

Middleton School District #134

Every Child Learning Every Day

Middleton School District #134

City of Middleton--Public Hearing Notice Response

General Response for All New Development

Middleton School District is currently experiencing significant growth in its student population. As it is now, we have 2 of our 3 elementary schools over capacity (2 (soon to be 4) portables at Mill Creek, 3 portables at Heights Elementary) with more coming. We are nearing capacity, but have not superseded at this point, at our high school and middle school. As it stands now there is a need for additional facilities in our school district, primarily at the elementary grades. However, we have significant concerns of the continued growth and our ability to meet the future facility needs of our district at the secondary level (Middleton Middle School and Middleton High School).

We have completed a demographic report for our school district boundaries and the data suggests that for every new home we could expect 0.569 students to come to our school. That is the factor/rate we use to make our projection of student impact for each development.

We encourage the county to be judicious in their approval process recognizing that each new development brings new students to our school and will increase the burden placed on taxpayers within the school district. New facilities, primarily an elementary school, are needed now, but additional students could continue to increase that need. We ask that the county take these into consideration as a whole with the other developments approved and recognize that with steady, controlled growth we are better able to respond in a way that does not affect our students.

MDC, LLC/ Joseph Carter Rezone

The addition of 74 residential lots for this rezone, we estimate would end up sending 42 students to our school system. Elementary students in this subdivision would attend Mill Creek Elementary which is currently at 123% of capacity (based on Spring 2022. As Fall numbers are solidified, we anticipate the capacity to be at 130% or more). As plat development is made we would recommend that conversations are held with Caldwell Transportation, which provides the district with bussing, which will be offered for all schools.

We welcome the opportunity to meet with developers to address how they might be able to help us address the increases to our student population.

5 South Viking Avenue Middleton, ID 83644 (208) 585-3027 msd134.org

May I Are

Marc Gee Superintendent

Sincerely,

Canyon County Soil Conservation District 2208 E. Chicago Ste A, Caldwell Idaho 83605

To: Canyon County Development Service Department 111 North 11th Ave., Ste 310, Caldwell Idaho

Attention: Daniel Lister

Case No. CR 2022-0016 Applicant Rive Ridge Engineering Co.

Thanks you for sending Canyon County Soil Conservation District (SCD) a zoning request. The acreage amounts on the maps are an estimate. Percentages of soils are rounded to a whole number.

It is: CR2022-0016, applicant RiveRidge Engineering Co.

Comments from Canyon County SCD:

CR2022-0016, applicant RiveRidge Engineering Co.-78% is Class II and is the best suited productive soils in Canyon County with few limitations. 14% is Class III and has moderate limitations and appropriate management practices can make any irrigated soil productive. 3% is Class IV, 1% is Class VI and 4% does not have a classification. We do <u>NOT</u> recommend a land use change.

Richard Sims signing for:

Mike Swartz Chairman Soil Conservation District

Richard Sims



United States Department of Agriculture

NRCS

Resources Conservation Service A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Canyon Area, Idaho

CR2022-0016 RiveRidge Eng Co.



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/? cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

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Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Irrigated Capability Class (2022-0016 RiveRidge Eng. Co)

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations that show suitability and limitations of groups of soils for rangeland, for woodland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels-capability class, subclass, and unit. Only class and subclass are included in this data set.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have few limitations that restrict their use.

Class 2 soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.



MAP INFORMATION

MAP LEGEND



Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI			
DrA	Draper loam, 0 to 1 percent slopes	2	75.4	48.0%			
DrB	Draper loam, 1 to 3 percent slopes	2	0.1	0.0%			
EsB	Elijah-Chilcott silt loams, 1 to 3 percent slopes	3	0.2	0.1%			
EvC	Elijah-Vickery silt loams, 3 to 7 percent slopes	4	3.9	2.5%			
EvD	Elijah-Vickery silt loams, 7 to 12 percent slopes	6	1.0	0.7%			
На	Harpt loam	2	46.7	29.7%			
LhE	Lankbush-Power complex, 12 to 30 percent slopes		6.8	4.4%			
No	Notus soils	3	7.6	4.8%			
PhB	Power silt loam, 1 to 3 percent slopes	3	15.1	9.6%			
PID	Power-Lankbush silt loams, 7 to 12 percent slopes	6	0.3	0.2%			
Totals for Area of Intere	est	157.0	100.0%				

Table—Irrigated Capability Class (2022-0016 RiveRidge Eng. Co)

Rating Options—Irrigated Capability Class (2022-0016 RiveRidge Eng. Co)

Aggregation Method: Dominant Condition Component Percent Cutoff: None Specified Tie-break Rule: Higher 60.000 IRRIGABLE ACRES

ORGANIZED IN 1910

August 5, 2022

Canyon County Development Services Department 111 North 11th Ave. Suite 140 Caldwell, ID 83605 (208) 454-7458

RE: Conditional Rezone. Parcels R37511, R37510112 Case No. CR2022-0016 Applicant: Joseph Carter Planner: Juli McCoy

The parcels are located at 25455 Lansing Lane, Middleton Idaho.

The Black Canyon Irrigation District (District) has the following initial comments regarding this proposed land use change.

Any and all **maintenance road right-of ways, lateral right-of ways and drainage right-of ways** will need to be protected (including the restriction of all encroachments). Also, any crossing agreement(s) and/or piping agreement(s) will need to be acquired from the Bureau of Reclamation (Reclamation), once approved by the District, to cross over or under any existing lateral, pipe any lateral or encroach in any way the right-of ways of the District or the Reclamation.

The District will require that the laterals affected by this proposed land change be piped and structures built to ensure the delivery of irrigation water to our patrons.

Furthermore, as long as this property has irrigation water attached to it, an irrigation system with an adequate overflow needs to be installed to ensure the delivery of irrigation water to each lot and/or parcel of land entitled to receive irrigation water.

Runoff and drainage from the proposed land splits should be addressed as well to ensure downstream users are not adversely affected by the proposed land use changes.

The District and Reclamation will require a signed agreement be in place <u>prior</u> to any changes being made to the sections of the Willow Creek Wasteway, C.E. 21.1-0.9, C.E. 21.1, and any appurtenant irrigation facilities that are affected by the proposed land changes not listed in this letter. NOTE: The District and Reclamation will require that this section be piped meeting all District and Reclamation standards. Furthermore, the District and Reclamation may require additional modifications to ensure irrigation water is made available to patrons as this proposed project proceeds.

All of the above requirements shall be met, including any others that arise during future review. Please fill out and submit a Development Intake Sheet form found on our website (<u>https://blackcanyonirrigation.com/development</u>). It is recommended that the proponent apply using this form for their proposed project to help identify any additional project requirements.

Thank You,

Donald Popoll

Donald Popoff P.E. District Engineer Black Canyon Irrigation District



CR2022-0016 - MDC, LLC/Carter Site Visit: 9/5/2024






























































































SAN AND A ANY

ARAP IN















Dan Lister

From:	Aubrey Walker <gmsjrw@gmail.com></gmsjrw@gmail.com>
Sent:	Thursday, June 16, 2022 2:35 PM
То:	chopper@canyonhd4.org; Dan Lister
Subject:	[External] Opposition to Access onto Kemp Road
Attachments:	Willow Creek-Lansing Lane Sub-Canyon Co.pdf

Hello, my name is Aubrey Walker. I live at 9059 Kemp Road, Middleton, Idaho which is adjacent to the proposed Willowcreek/Lansing Lane Subdivision. The attached subdivision concept plan shows a roadway connection onto Kemp Road.

I am writing this to express strong opposition to any roadway or driveway connection onto Kemp Road. As you know, Kemp Road is a private road. We had our annual HOA meeting this week, and all those present unanimously and STRONGLY agree that the HOA would NOT allow access onto Kemp Road. We ask that the roadway connection be removed from future plans.

Thank you.

Aubrey Walker

