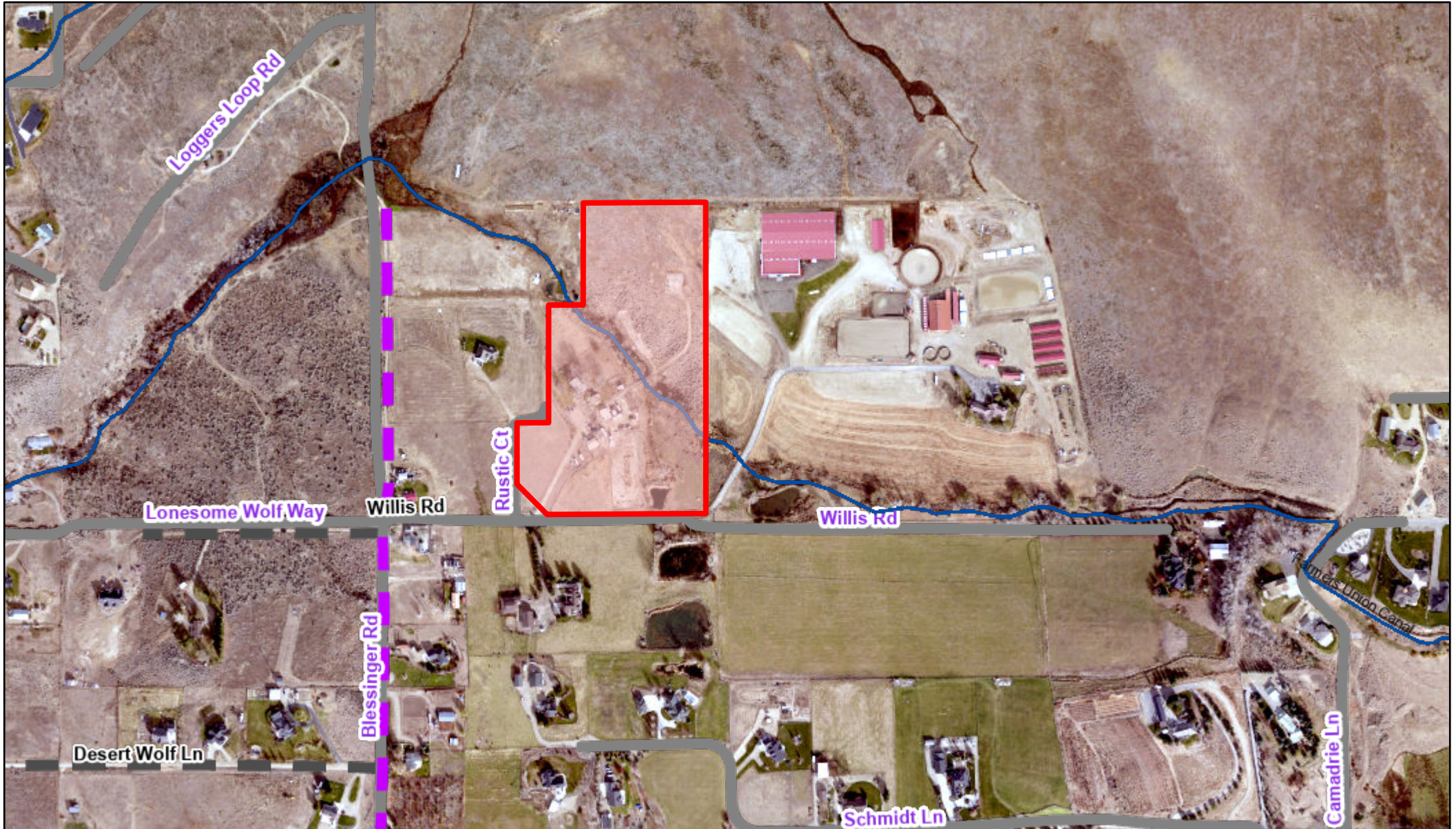


Canyon County, ID Web Map



7/12/2023, 1:32:44 PM

Multiple Parcel Search _Query result

Hydro_NHDFlowline

CC_PrivateRoads

CanyonCountyRoads

Roads

ITDFunctionalClassification

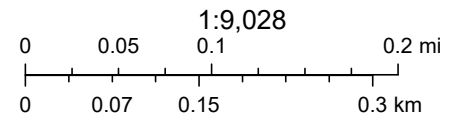
Major Collector

Canyon County Imagery_2019

Red: Band_1

Green: Band_2

Blue: Band_3



Bureau of Land Management, State of Oregon, State of Oregon DOT, State of Oregon GEO, Esri Canada, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA


MASTER APPLICATION

CANYON COUNTY DEVELOPMENT SERVICES DEPARTMENT

111 North 11th Avenue, #140, Caldwell, ID 83605

www.canyonco.org/dsd.aspx Phone: 208-454-7458 Fax: 208-454-6633



PROPERTY OWNER	OWNER NAME: Freedom Acres LLC
	MAILING ADDRESS: 466 Bill Beth rd
	PHONE: 208-629-9670 EMAIL: jprocraft construction.LLC@gmail
<p>I consent to this application and allow DSD staff / Commissioners to enter the property for site inspections. If owner(s) are a business entity, please include business documents, including those that indicate the person(s) who are eligible to sign.</p> <p>Signature: <u></u> Date: <u>5/22/23</u></p>	
(AGENT) ARCHITECT ENGINEER BUILDER	CONTACT NAME: Lacey Clark
	COMPANY NAME: KM Engineering, LLP.
	MAILING ADDRESS: 5725 N Discovery Way, Boise, Idaho 83713
	PHONE: 208.639.6939 EMAIL: lclark@kmengllp.com
SITE INFO	STREET ADDRESS: 24082 Blessinger Road, Star, Idaho 83669
	PARCEL #: R3762710200 LOT SIZE/AREA: +/- 18 acres
	LOT: 3 BLOCK: 1 SUBDIVISION: Rustic Acres Subdivision
	QUARTER: SW SECTION: 36 TOWNSHIP: 5N RANGE: 2W
	ZONING DISTRICT: CR-R-R FLOODZONE (YES/NO): No
HEARING LEVEL APPS	<input type="checkbox"/> CONDITIONAL USE <input type="checkbox"/> COMP PLAN AMENDMENT <input type="checkbox"/> CONDITIONAL REZONE <input type="checkbox"/> ZONING AMENDMENT (REZONE) <input type="checkbox"/> DEV. AGREEMENT MODIFICATION <input type="checkbox"/> VARIANCE > 33% <input type="checkbox"/> MINOR REPLAT <input type="checkbox"/> VACATION <input type="checkbox"/> APPEAL <input type="checkbox"/> SHORT PLAT SUBDIVISION <input checked="" type="checkbox"/> PRELIMINARY PLAT SUBDIVISION <input type="checkbox"/> FINAL PLAT SUBDIVISION
	<input type="checkbox"/> ADMINISTRATIVE LAND DIVISION <input type="checkbox"/> EASEMENT REDUCTION <input type="checkbox"/> SIGN PERMIT <input type="checkbox"/> PROPERTY BOUNDARY ADJUSTMENT <input type="checkbox"/> HOME BUSINESS <input type="checkbox"/> VARIANCE 33% > <input checked="" type="checkbox"/> PRIVATE ROAD NAME <input type="checkbox"/> TEMPORARY USE <input type="checkbox"/> DAY CARE <input type="checkbox"/> OTHER _____
	CASE NUMBER: <u>SD 2023-0015</u> DATE RECEIVED: <u>7/12/23</u>
	RECEIVED BY: <u>J. Hammond</u> APPLICATION FEE: <u>1800.00</u> <input checked="" type="checkbox"/> MO <input type="checkbox"/> CC <input type="checkbox"/> CASH



PRELIMINARY PLAT

PUBLIC HEARING - CHECKLIST

PRELIMINARY PLAT - CCZO Section 07-17-09

THE FOLLOWING ITEMS MUST BE SUBMITTED WITH THIS APPLICATION TO BE DEEMED COMPLETE (PLEASE CHECK OFF THE ITEMS REQUIRED):

Description	Applicant	Staff
Master Application Completed and Signed	X	
Copy of Preliminary Plat (1 Hard Copy & Digital Copy – Flash Drive Preferred)	X	
Preliminary Drainage Plan, if applicable		
Preliminary Irrigation Plan, if applicable		
Preliminary Grading Plan, if applicable		
Completed Preliminary Plat Checklist		
Subdivision Worksheet	X	
Irrigation Plan Application	X	
Proof of application with:		
Southwest District Health	X	
Irrigation District <i>Farmers Union Ditch Co.</i>	X	
Fire District	X	
Highway District/ Idaho Transportation Dept.	X	
Area of City Impact (if applicable)	X	
Deed or evidence of property interest to the subject property	X	
Fee: \$1550.00 +\$10.00/lot +\$100.00 for Area of City Impact +\$80.00 Private Road +\$80.00 Easement Reduction	X	
Fees are non-refundable		

Additional Information	Applicant	Staff
Hillside Development Requirements (07-17-33(1))	X	
Private Road Name Application	X	
Easement Reduction Application	n/a	
Floodplain Development Permit	n/a	

*DISCLAIMER: The subject property shall comply with the public nuisance ordinance, the building code, and the zoning code before the Director can accept the application.



PRELIMINARY PLAT PUBLIC HEARING - APPLICATION

PROPERTY OWNER	OWNER NAME: Jennifer and Curtis Bodenbender	
	MAILING ADDRESS: 466 Bill Beth Road - Cascade, ID 83611	
	PHONE: (208) 629-9670	EMAIL: jprocraftconstruction.llc@gmail.com
<p>I consent to this application and allow DSD staff / Commissioners to enter the property for site inspections. If the owner(s) is a business entity, please include business documents, including those that indicate the person(s) who are eligible to sign.</p>		
<p>Signature: <u>Jennifer Bodenbender</u> Date: <u>6/28/2023</u></p>		

APPLICANT: IF DIFFERING FROM THE PROPERTY OWNER	APPLICANT NAME: Lacey Clark	
	COMPANY NAME: KM Engineering	
	MAILING ADDRESS: 5725 North Discovery Way - Boise, ID 83713	
	PHONE: 208-639-6939	EMAIL: LClark@KMengllp.com

SITE INFO	STREET ADDRESS: 24082 Blessinger Road	
	PARCEL NUMBER: R376210200	
	PARCEL SIZE: 18.56 acres	
	NUMBER OF LOTS: 7, 6 buildable	
	PROPOSED SUBDIVISION NAME: Freedom Acres	
	FLOOD ZONE (YES/NO) No	ZONING DISTRICT: CR-R-R

FOR DSD STAFF COMPLETION ONLY:

CASE NUMBER	DATE RECEIVED:
RECEIVED BY:	APPLICATION FEE: CK MO CC CASH

July 7, 2023
Project No.: 22-178

Mr. Dan Lister
Planning Official
Canyon County Development Services
Caldwell, Idaho 83605

**RE: Freedom Acres Subdivision - Canyon County, ID
Preliminary Plat Application**

Dear Dan,

On behalf of Jennifer and Curtis Bodenbender, we are pleased to submit the attached applications and required supplements for a preliminary plat application Freedom Acres Subdivision.

Site Information

The subject property, with an address at 24082 Blessinger Road in Canyon County, identified as R376210200, spans approximately 18.2 acres. This property has received recent approval for a conditional re-zone to Rural-Residential (RZ2022-0005). The primary purpose of the R-R zone is to encourage and guide development in areas where a rural lifestyle is determined to be suitable.



Preliminary Plat

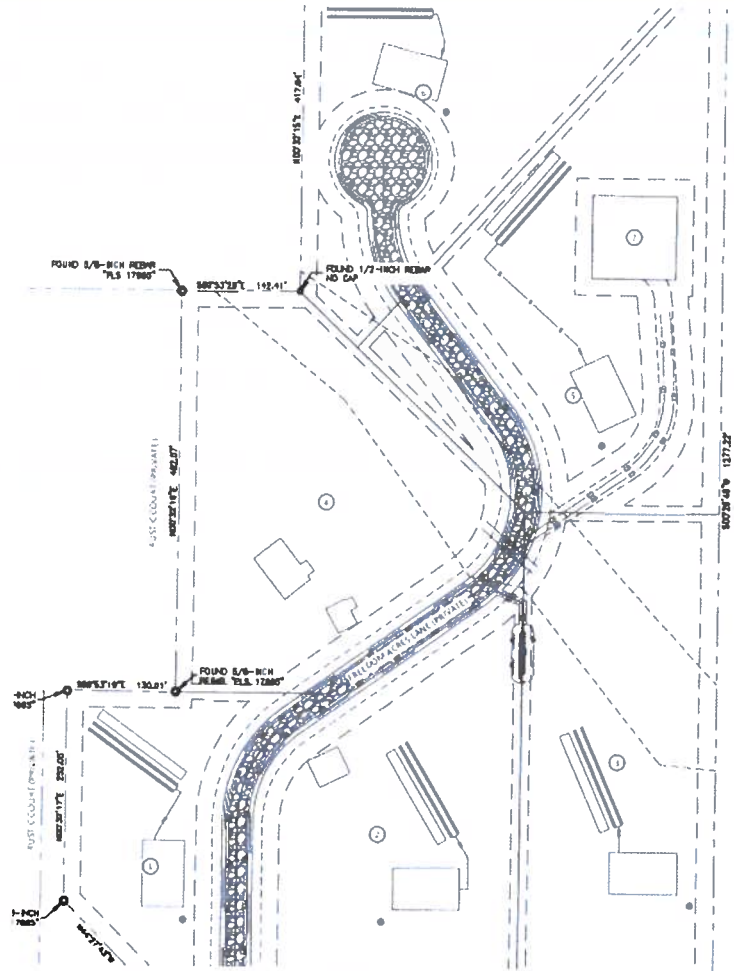
The attached preliminary plat for Freedom Acres Subdivision showcases 6 buildable lots. With an average lot size of 2.66 acres, the proposed layout reflects an overall density of 0.38 units per acre exceeding the minimum dimensional standards of the R-R zone.

The approved conditional rezone incorporates a development agreement with conditions that will impact future development of the site. For example, at the time of building permit application, fencing shall be installed along the perimeter of each lot and completed prior to certificate of occupancy. Additionally, a private road will be constructed including a turnaround to accommodate fire apparatus and to reflect recommendations of the BoCC to comply with spacing standards for an urban collector roadway.

The configuration and size of lots within the Freedom Acres Subdivision will encourage consistent growth in an area where rural lifestyles currently exist. Development of homes within the RR guidelines will be compatible with surrounding land uses. The property is near recently rezoned single-family residential (R-1) to the west and rural residential (R-R) properties, agricultural ground in the County, and a church to the east. The Cowboy Sanctuary Church and High Desert Resorts horse facility are existing and future residential proposed within the Freedom Acres Subdivision will be designed to be as compatible as possible.

Future Land Use and Comprehensive Plan

The Canyon County future land use map designates this property as "Residential", which is consistent with the CR-R-R zoning district. Canyon County's Comprehensive Plan policy 11.01.01 encourages a variety of housing sizes that meet the needs of families, various age groups, and incomes. Additionally, this development would introduce necessary housing that is consistent with residential development surrounding this property, while maintaining a balance that protects rural character. This subdivision will provide rural residential lots in an area with a mix of uses and will act as a buffer and transition to existing agricultural uses and residences, in accordance with Canyon County Comprehensive Plan's policy P4.01.01.



Existing Amenities

There are three existing buildings within the site that are proposed to be retained with future development. A home and accessory structure located within Lot 4, in the southern region of the project, will remain, as depicted in the exhibit to the right. The roadway and other site features have been designed to comply with setback requirements of the RR zone. An existing barn on Lot 2, will be relocated with future development.



Private Road

A proposed private road will be constructed to facilitate access to the development from Willis Road, designed around existing structures and future lots. Canyon County Code limits the number of homes served by a driveway to a maximum of 2 inhabited buildings; however, a private road may serve more than 2 homes. Instead of a private driveway, a private road will need to be constructed through the development to provide ingress/egress to all homes. This private road will be developed including a turnaround for fire apparatus and to reflect recommendations of the BoCC to comply with spacing standards for an urban collector roadway. In accordance with Canyon County Code, this private road will not disrupt existing agricultural practices.

Traffic counts / Patterns

The number of homes and sizes of lots will be consistent with existing development and will not noticeably increase traffic in the area. A traffic impact study or analysis was not required for the project due to the number of lots proposed.

Agency Coordination

In accordance with the preliminary plat application checklist, our team has been actively coordinating with Southwest District Health, Farmer's Union Ditch Co., Fire District, and Canyon Highway District 4 for approvals. We met with Southwest Health District on May 22nd and submitted the application. We met with the board of directors for Farmer's Union Ditch Co. on June 14th and obtained approval for the location of a ditch crossing and received comments on what they'd like to see for full buildout. We submitted to CHD4 on June 28th and the application to the Middleton & Star Fire district on June 6th. Our team will continue to coordinate with applicable agencies as the preliminary plat is processed.

Conclusion

We are delighted to bring this project to Canyon County, fully aligning with previous approvals, agency feedback, zoning district requirements, and objectives in the Comprehensive Plan. We believe this project will contribute to the growth and development of Canyon County.

Should you have questions or require further information to process this application, please feel free to contact me.

Sincerely,
KM Engineering, LLP

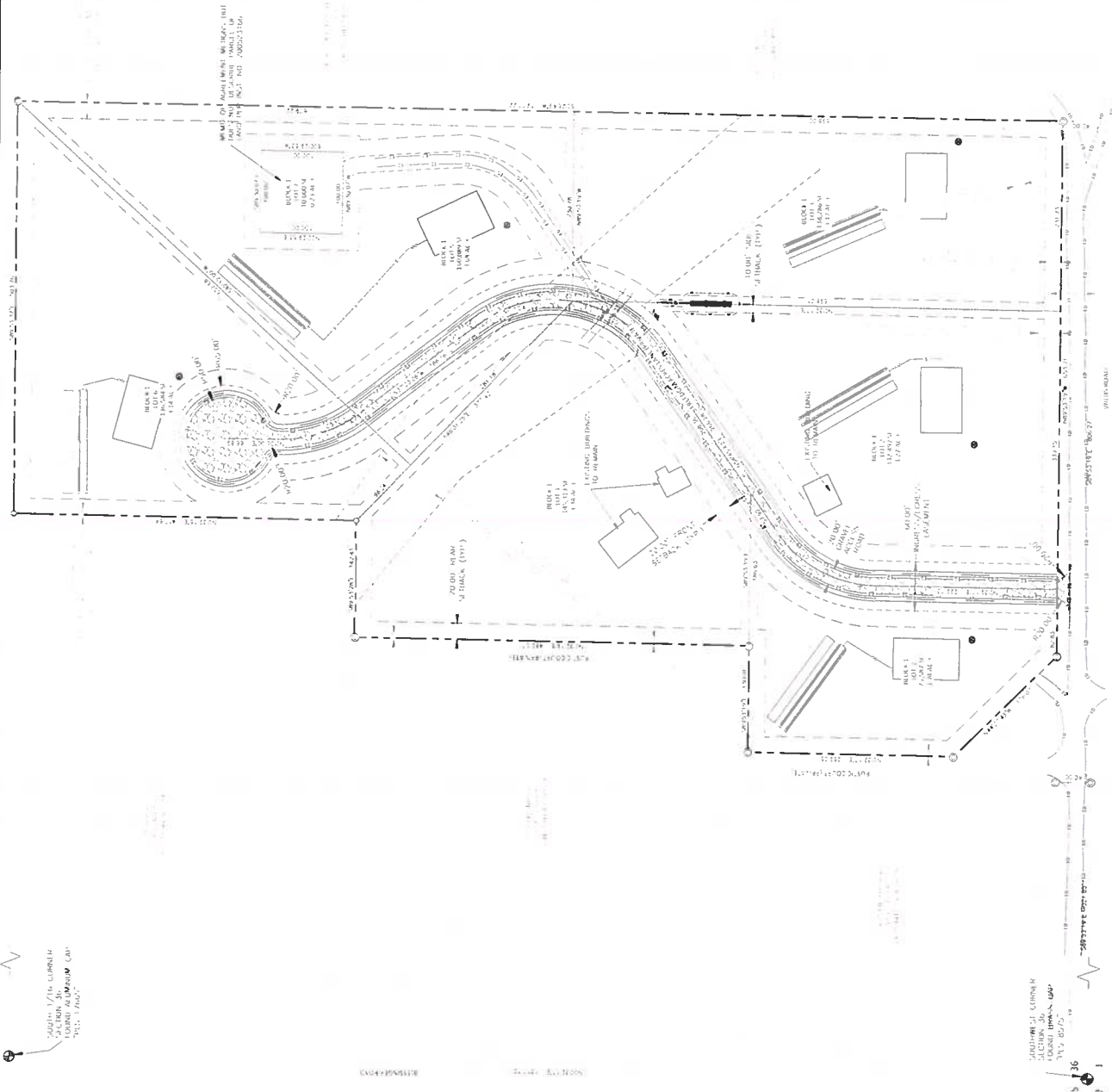
A handwritten signature in black ink that reads "R. Lacey Clark". The signature is written in a cursive, flowing style.

Lacey Clark
Land Planner

cc: Jennifer and Curtis Bodenbender

PRELIMINARY PLAT SHOWING FREEDOM ACRES SUBDIVISION

A PARCEL OF LAND SITUATED IN THE SW 1/4 OF THE SW 1/4 OF SECTION 36, TOWNSHIP 5 NORTH, RANGE 2 WEST, BOISE MERIDIAN, CANYON COUNTY, IDAHO
MAY 2023



LEGEND

- SECTION LINE
- TOWNSHIP LINE
- RANGE LINE
- BOUNDARY LINE
- PROPERTY LINE
- ADJACENT PROPERTY
- ADJACENT TO SECTION 36
- ADJACENT TO SECTION 35
- ADJACENT TO SECTION 37
- ADJACENT TO SECTION 34
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- ADJACENT TO SECTION 100

Block	Area (Acres)	Area (Sq Ft)	Area (Sq Ft)	Area (Sq Ft)	Area (Sq Ft)
Block 1	1.234	100,000	100,000	100,000	100,000
Block 2	1.567	125,000	125,000	125,000	125,000
Block 3	1.890	150,000	150,000	150,000	150,000
Block 4	2.123	175,000	175,000	175,000	175,000
Block 5	2.456	200,000	200,000	200,000	200,000
Block 6	2.789	225,000	225,000	225,000	225,000
Block 7	3.123	250,000	250,000	250,000	250,000
Block 8	3.456	275,000	275,000	275,000	275,000
Block 9	3.789	300,000	300,000	300,000	300,000
Block 10	4.123	325,000	325,000	325,000	325,000
Block 11	4.456	350,000	350,000	350,000	350,000
Block 12	4.789	375,000	375,000	375,000	375,000
Block 13	5.123	400,000	400,000	400,000	400,000
Block 14	5.456	425,000	425,000	425,000	425,000
Block 15	5.789	450,000	450,000	450,000	450,000
Block 16	6.123	475,000	475,000	475,000	475,000
Block 17	6.456	500,000	500,000	500,000	500,000
Block 18	6.789	525,000	525,000	525,000	525,000
Block 19	7.123	550,000	550,000	550,000	550,000
Block 20	7.456	575,000	575,000	575,000	575,000
Block 21	7.789	600,000	600,000	600,000	600,000
Block 22	8.123	625,000	625,000	625,000	625,000
Block 23	8.456	650,000	650,000	650,000	650,000
Block 24	8.789	675,000	675,000	675,000	675,000
Block 25	9.123	700,000	700,000	700,000	700,000
Block 26	9.456	725,000	725,000	725,000	725,000
Block 27	9.789	750,000	750,000	750,000	750,000
Block 28	10.123	775,000	775,000	775,000	775,000
Block 29	10.456	800,000	800,000	800,000	800,000
Block 30	10.789	825,000	825,000	825,000	825,000
Block 31	11.123	850,000	850,000	850,000	850,000
Block 32	11.456	875,000	875,000	875,000	875,000
Block 33	11.789	900,000	900,000	900,000	900,000
Block 34	12.123	925,000	925,000	925,000	925,000
Block 35	12.456	950,000	950,000	950,000	950,000
Block 36	12.789	975,000	975,000	975,000	975,000
Block 37	13.123	1,000,000	1,000,000	1,000,000	1,000,000
Block 38	13.456	1,025,000	1,025,000	1,025,000	1,025,000
Block 39	13.789	1,050,000	1,050,000	1,050,000	1,050,000
Block 40	14.123	1,075,000	1,075,000	1,075,000	1,075,000
Block 41	14.456	1,100,000	1,100,000	1,100,000	1,100,000
Block 42	14.789	1,125,000	1,125,000	1,125,000	1,125,000
Block 43	15.123	1,150,000	1,150,000	1,150,000	1,150,000
Block 44	15.456	1,175,000	1,175,000	1,175,000	1,175,000
Block 45	15.789	1,200,000	1,200,000	1,200,000	1,200,000
Block 46	16.123	1,225,000	1,225,000	1,225,000	1,225,000
Block 47	16.456	1,250,000	1,250,000	1,250,000	1,250,000
Block 48	16.789	1,275,000	1,275,000	1,275,000	1,275,000
Block 49	17.123	1,300,000	1,300,000	1,300,000	1,300,000
Block 50	17.456	1,325,000	1,325,000	1,325,000	1,325,000
Block 51	17.789	1,350,000	1,350,000	1,350,000	1,350,000
Block 52	18.123	1,375,000	1,375,000	1,375,000	1,375,000
Block 53	18.456	1,400,000	1,400,000	1,400,000	1,400,000
Block 54	18.789	1,425,000	1,425,000	1,425,000	1,425,000
Block 55	19.123	1,450,000	1,450,000	1,450,000	1,450,000
Block 56	19.456	1,475,000	1,475,000	1,475,000	1,475,000
Block 57	19.789	1,500,000	1,500,000	1,500,000	1,500,000
Block 58	20.123	1,525,000	1,525,000	1,525,000	1,525,000
Block 59	20.456	1,550,000	1,550,000	1,550,000	1,550,000
Block 60	20.789	1,575,000	1,575,000	1,575,000	1,575,000
Block 61	21.123	1,600,000	1,600,000	1,600,000	1,600,000
Block 62	21.456	1,625,000	1,625,000	1,625,000	1,625,000
Block 63	21.789	1,650,000	1,650,000	1,650,000	1,650,000
Block 64	22.123	1,675,000	1,675,000	1,675,000	1,675,000
Block 65	22.456	1,700,000	1,700,000	1,700,000	1,700,000
Block 66	22.789	1,725,000	1,725,000	1,725,000	1,725,000
Block 67	23.123	1,750,000	1,750,000	1,750,000	1,750,000
Block 68	23.456	1,775,000	1,775,000	1,775,000	1,775,000
Block 69	23.789	1,800,000	1,800,000	1,800,000	1,800,000
Block 70	24.123	1,825,000	1,825,000	1,825,000	1,825,000
Block 71	24.456	1,850,000	1,850,000	1,850,000	1,850,000
Block 72	24.789	1,875,000	1,875,000	1,875,000	1,875,000
Block 73	25.123	1,900,000	1,900,000	1,900,000	1,900,000
Block 74	25.456	1,925,000	1,925,000	1,925,000	1,925,000
Block 75	25.789	1,950,000	1,950,000	1,950,000	1,950,000
Block 76	26.123	1,975,000	1,975,000	1,975,000	1,975,000
Block 77	26.456	2,000,000	2,000,000	2,000,000	2,000,000
Block 78	26.789	2,025,000	2,025,000	2,025,000	2,025,000
Block 79	27.123	2,050,000	2,050,000	2,050,000	2,050,000
Block 80	27.456	2,075,000	2,075,000	2,075,000	2,075,000
Block 81	27.789	2,100,000	2,100,000	2,100,000	2,100,000
Block 82	28.123	2,125,000	2,125,000	2,125,000	2,125,000
Block 83	28.456	2,150,000	2,150,000	2,150,000	2,150,000
Block 84	28.789	2,175,000	2,175,000	2,175,000	2,175,000
Block 85	29.123	2,200,000	2,200,000	2,200,000	2,200,000
Block 86	29.456	2,225,000	2,225,000	2,225,000	2,225,000
Block 87	29.789	2,250,000	2,250,000	2,250,000	2,250,000
Block 88	30.123	2,275,000	2,275,000	2,275,000	2,275,000
Block 89	30.456	2,300,000	2,300,000	2,300,000	2,300,000
Block 90	30.789	2,325,000	2,325,000	2,325,000	2,325,000
Block 91	31.123	2,350,000	2,350,000	2,350,000	2,350,000
Block 92	31.456	2,375,000	2,375,000	2,375,000	2,375,000
Block 93	31.789	2,400,000	2,400,000	2,400,000	2,400,000
Block 94	32.123	2,425,000	2,425,000	2,425,000	2,425,000
Block 95	32.456	2,450,000	2,450,000	2,450,000	2,450,000
Block 96	32.789	2,475,000	2,475,000	2,475,000	2,475,000
Block 97	33.123	2,500,000	2,500,000	2,500,000	2,500,000
Block 98	33.456	2,525,000	2,525,000	2,525,000	2,525,000
Block 99	33.789	2,550,000	2,550,000	2,550,000	2,550,000
Block 100	34.123	2,575,000	2,575,000	2,575,000	2,575,000

FREEDOM ACRES SUBDIVISION
CANYON COUNTY
PRELIMINARY PLAT LOT DIMENSIONS

km
ENGINEERING

SECTION 36
TOWNSHIP 5 NORTH
RANGE 2 WEST
BOISE MERIDIAN
CANYON COUNTY, IDAHO
MAY 2023

PP3 0

SECTION 36
TOWNSHIP 5 NORTH
RANGE 2 WEST
BOISE MERIDIAN
CANYON COUNTY, IDAHO
MAY 2023

SECTION 36
TOWNSHIP 5 NORTH
RANGE 2 WEST
BOISE MERIDIAN
CANYON COUNTY, IDAHO
MAY 2023

CAD: JRM/SWE

DATE: 5/1/2023

SECTION 36
TOWNSHIP 5 NORTH
RANGE 2 WEST
BOISE MERIDIAN
CANYON COUNTY, IDAHO
MAY 2023



Development Services Department



Canyon County, 111 North 11th Avenue, #310, Caldwell, ID 83605
 ▪ Engineering Division ▪

Preliminary Plat Check-List

Applicant: Lacey Clark	Case Number:
Subdivision Name: Freedom Acres	Plat Date (Review #):

CANYON COUNTY CODE OF ORDINANCES 07-17-09

The information hereinafter required as part of the preliminary plat submitted shall be shown graphically or by note on plans, and may comprise several sheets showing various elements or required data. *Italicized items are supplemental to CCZO 07-17-09.*

GENERAL REVIEW ITEMS	<u>Meets Code / Comments</u>
1. Complete initial review of all information given graphically and by note on the plat	
2. Check for compliance with FCOs and/or Development Agreement from entitlement process if applicable	
3. Check for compliance with CCO Chapter 9 - Areas of City Impact. Chapter 9 lists requirements unless waived.	
4. Check for applicable agency comment. These comments could have been made at the entitlement stage or after.	
5. Make note of agencies that should be noticed if not typically included on the notice list and pass information along to planner	
Items A through E below are directly from CCZO 07-17-09. Italicized items are checklist items related to requirements found in ordinance and may not be strictly required.	
A. FORM OF PRESENTATION	<u>Meets Code / Comments</u>
1. Scale of Drawing (No more than 1"=100' unless approved by DSD prior to submission)	
2. Size of Drawing (No larger than 24' x 36") <ul style="list-style-type: none"> • <i>Obtain electronic version of all submittals</i> 	
B. IDENTIFICATION AND DESCRIPTIVE DATA	<u>Meets Code / Comments</u>
1. Proposed name of subdivision and its location by section, township, and range	

<ul style="list-style-type: none"> Name of sub needs to be reserved through DSD GIS 	
2. Reference by dimension and bearing to a section corner or quarter section corner	
3. Name, address and phone number of developer	
4. Name address and phone number of the person preparing the plat	
5. North arrow	
6. Date of preparation	
7. Revision block showing dates if any revisions subsequent to the original preparation date. The revision block shall be part of the title block which shall be placed along the right edge of the drawing sheet.	
8. Vicinity map drawn to scale, clearly showing proposed subdivision location in relationship to adjacent subdivisions, main arterial routes, collector streets, etc. <ul style="list-style-type: none"> Check for consistency between pre-plat and vicinity map 	

C. EXISTING CONDITIONS DATA	<u>Meets Code / Comments</u>
1. 2 Foot Contours shown unless otherwise approved; show all areas in excess of 15% slope	
2. Location of water wells, streams, canals, irrigation laterals, private ditches, washes, lakes or other water features; direction of flow; location and extent of known areas subject to inundation.	
3. Location, widths and names of all platted streets, railroads, utility rights of way of public record, public areas, permanent structures to remain including water wells and municipal corporation lines within or adjacent to the tract <ul style="list-style-type: none"> Future use of remaining wells, if applicable 	
4. Name, book and page numbers of any recorded adjacent subdivisions having a common boundary with the tract	
5. Existing zoning classification, by note <ul style="list-style-type: none"> Proposed zoning, by note, if new zoning is being proposed concurrently with pre-plat application 	
6. Approximate acreage of the tract, by note	
7. Boundary dimensions of the tract	
8. Names and addresses of adjoining property owners within three hundred (300) feet of the exterior boundary of the tract	

D. PROPOSED CONDITIONS DATA	<u>Meets Code / Comments</u>
<p>1. Road layout, including location, width and proposed names of roads, alleys, pathways, easements, and roadway connections, if any, to an adjoining platted tract</p> <ul style="list-style-type: none"> • <i>Confirmation that highway district will allow proposed access if new access is on an arterial</i> • <i>Check alignment of stub streets with adjacent developments, if applicable</i> • Private roads shall not have direct access to arterials or local roads within a platted subdivision (ACCHD 2020.040) • Private road names need to be reserved through DSD GIS. Private roads require a separate application. • Public road names must be checked for availability with DSD GIS • <i>If typical sections are shown make sure they are consistent with what will be required</i> 	
<p>2. Typical lot dimensions including curvilinear data to scale; each lot numbered individually; total number of lots by type and grand total. A private road must be a lot.</p> <ul style="list-style-type: none"> • <i>Curve table is present and matches data shown graphically</i> • <i>Minimum lot size</i> • <i>Average lot size (calculated as total residential area divided by the number of residential lots)</i> • <i>Check block numbering</i> • <i>Consider any phasing shown</i> 	
<p>3. Location, width and use of easements</p> <ul style="list-style-type: none"> • <i>Provide documentation of or reference to any existing easements, especially access easements for existing parcels that are part of the plat.</i> • <i>Show easements for all shared infrastructure</i> 	
<p>4. Designation of all land to be dedicated or reserved for public use with use indicated</p>	
<p>5. If plat includes land for which multi-family, commercial, or industrial use is proposed, such areas shall be clearly designated together with existing zoning classification and status of zoning change, if any</p>	
<p>6. If the proposed subdivision is part of a larger area intended for development, a development master plan of the entire area shall be provided</p>	
<p>7. Appropriate information that sufficiently details the proposed development within any special development area such as hillside, PUD, flood plain, cemetery, manufactured home, large scale development, hazardous and unique areas of development</p> <ul style="list-style-type: none"> • <i>Check mapping layers for above special development items. Include wetland and natural drainage ways.</i> • <i>Consider recommended conditions related to special development areas and related reports</i> 	

8. All roads must be labeled as either "private" or "public" behind or beneath the road name	
E. PROPOSED UTILITY METHODS	<u>Meets Code / Comments</u>
<p>1. Sewage: A statement as to the type of proposed sanitary sewage facilities</p> <ul style="list-style-type: none"> • <i>Preliminary location/layout of proposed sewage facilities</i> • <i>Nutrient-Pathogen study if required by SWDH</i> • <i>If sewage facilities will be shared, provide preliminary arrangements for future operation and maintenance of the facilities, including financial arrangements. Also include preliminary sewer plan. DSD should complete high level feasibility review of shared utilities</i> 	
<p>2. Water Supply: A statement as to the type of proposed water supply facilities</p> <ul style="list-style-type: none"> • <i>Preliminary location/layout of proposed potable water facilities</i> • <i>If potable water facilities will be shared, provide preliminary arrangements for future operation and maintenance of the facilities, including financial arrangements. Also include preliminary potable water plan. DSD should complete high level feasibility review of shared utilities</i> 	
<p>3. Storm Water Disposal: A statement as to the type of storm water disposal facilities which may include evidence as may be required relative to the design and operation of proposed storm water system</p> <ul style="list-style-type: none"> • <i>Include statement that all storm water shall be retained on site, if appropriate</i> • <i>Consider any required protection for roadside swales during home construction and/or long-term protection from landscaping, roadside parking, regrading/filling swale, ect</i> • <i>Maintenance easements for storm drain facilities treating drainage from public roads should be in place</i> 	
<p>4. Irrigation System: A statement as to the proposed irrigation system, which may include evidence as may be required relative to the design and operation of any proposed irrigation system</p> <ul style="list-style-type: none"> • Irrigation Supply And Distribution Systems: The developer shall disclose, pursuant to Idaho Code section 31-3805, and file as part of the preliminary plat with DSD, evidence that an adequate irrigation supply and distribution system to serve the land within the plat to be recorded will be provided and must include consideration of using existing water rights that go with the land being platted. Such evidence shall include, but not be limited to, the following: <ul style="list-style-type: none"> - Copies of the plans of the proposed distribution system for the lots and areas to be served in the proposed development; and - Copies of the community association's or similar organization's documents which may be required precedent 	

to the establishment of an irrigation distribution system within the proposed development.

5. **Utility Easement:** The utility easement width shall be a minimum of ten (10) feet from the exterior boundaries and five (5) feet from the interior boundaries. Utility easements shall be shown graphically on the plat.

GENERAL RECOMMENDED CONDITIONS

1. Finish grades at subdivision boundaries shall match existing finish grades. Runoff shall be maintained on subdivision property unless otherwise approved.
2. Development shall comply with requirements of the local highway district. Evidence shall include written correspondence from the highway district prior to the first public hearing held for the preliminary plat and highway district signature on the final plat.
3. Development shall comply with irrigation district requirements. Evidence shall include written correspondence from the irrigation district prior to the first public hearing held for the preliminary plat and prior to Board of County Commissioner's signature on the final plat.
4. Development shall comply with Southwest District Health requirements. Evidence shall include written correspondence from the Southwest District Health prior to the first public hearing held for the preliminary plat and Southwest District Health signature on the final plat.
5. Development shall comply with Fire District requirements. Evidence shall include written correspondence from the Fire District prior to the first public hearing held for the preliminary plat and prior to Board of County Commissioner's signature on the final plat.
6. After preliminary plat approval applicant shall provide GIS data containing georeferenced lot line and roadway linework to be included in Development Services GIS mapping. (Solo pre-plats only)

SUBDIVISION WORKSHEET

Overview:

Number of Buildable Residential Lots: 6	Number of Non-Buildable Lots:
Number of Common Lots: 1	Total Subdivision Size: +/- 18.56 acres
Number of Common Lots:	Average Residential Lot Size: +/- 3.1 acres

Area of City Impact:

Is the property in an Area of City Impact? No Yes- What City: Star

Will you be requesting subdivision Improvement Waivers? No Yes

If yes, which waivers will you be requesting?

Curbs Gutters Sidewalks Street Lights Landscaping Other

If you are located in an Area of City Impact the following is required:

- Evidence of compliance with IC 31-3805 which could include evidence of irrigation system plan approval by the planning and zoning authority and city council and coordination with the irrigation entity.
- Communication with the City.

Roads:

Roads within the development will utilize:

Public Private* Not Applicable

*Private Roads Require: Name approved prior to submittal & a Private Road Application at the Time of submittal.

Hillside Development:

Of the total lots requested how many of each contain slopes +15%?

Residential: 1 Non-Buildable: _____ Common: _____

Will the proposed roads be located within any area containing +15% slopes?

Yes* No

*If any development or construction activities will occur on slopes > 15% please submit the information required by CCZO 07-17-33

Irrigation:

What is the name of the irrigation and drainage entities servicing the property?

Irrigation: Farmer's Union Ditch CO LTD

Drainage: Farmer's Union Ditch CO LTD

This property has: Water rights available No water rights available.

If No Water Rights are available, please fill out an Irrigation Plan Worksheet

Irrigation Water is Provided via: Irrigation Well Surface Water

Percentage of property that has water: 0%

Volume of water or diversion rate available at the property: N/A

Please describe, in detail, how the property is currently irrigated and how it will be irrigated after it is subdivided:

Property is not currently irrigated, each lot will have individual well.

Are there irrigation easement(s) on the property? Irrigation Well Surface Water

How do you plan to retain storm and excess water on each lot?

All storm and excess water is to be retained utilizing roadside borrow ditch and an approximately sized retention basin.

How do you plan to remove the stormwater/excess irrigation water prior to it entering the established drainage system? (i.e. oil, grease, contaminated aggregates):

Roadside borrow ditch.

===== Applicant Acknowledgement =====

I, the undersigned, agree that prior to the Development Services Department accepting this application I am responsible to have all of the required information and site plans.

I further acknowledge that the irrigation system, as approved by the Planning and Zoning Commission and ultimately the Board of County Commissioners, must be bonded and/or installed prior the Board's signature on the final plat.

Signed: Jennifer Bodenbender Date: 6/28/2023 / _____
Property Owner (Application Submitted)

Signed: R. Lacey Clark Date: 7 / 3 / 2023
Applicant/Representative (if not property owner) (Application Submitted)

Accepted By: _____ Date: _____ / _____ / _____
Director / Staff

IRRIGATION PLAN APPLICATION



Applicant(s)	Jennifer and Curtis Bodenbender		(208) 629-9670
	Name	Daytime Telephone Number	
	466 Bill Beth Road	Cascade, ID	83611
	Street Address	City, State	Zip

Representative Name	Lacey Clark		(208) 639-6939
	Daytime Telephone Number / E-mail Address		
	5725 N. Discovery Way	Boise, ID	83713
	Street Address	City, State	Zip

Location of Subject Property:	24082 Blessinger Road	Star, ID 83669
	Two Nearest Cross Streets or Property Address	City

Assessor's Account Number(s): R 3762710200 Section 36 Township 5N Range 2W

This land:

- Has water rights available to it.
- Is dry and has no water rights available to it. If dry, please sign this document and return to the Development Services Department representative from whom you received it.

Idaho Code 31-3805 states that when all or part of a subdivision is "located within the boundaries of an existing irrigation district or canal company, ditch association, or like irrigation water delivery entity ... **no subdivision plat or amendment to a subdivision plat or any other plat or may recognized by the city or county for the division of land will be accepted, approved, and recorded unless:**"

- a. The appropriate water rights and assessment of those water rights have been transferred from said lands or excluded from an irrigation entity by the owner; or
- b. The owner, person, firm, or corporation filing the subdivision plat or amendment to a subdivision plat or map has provided underground tile or conduit for lots of one (1) acre or less, or a suitable system for lots of more than one (1) acre which will deliver water to those land owners within the subdivision who are also within the irrigation entity with the appropriate approvals:
 - 1. For proposed subdivisions located within negotiated area of city impact, both city and county zoning authorities must approve such irrigation system in accordance with Idaho Code Section 50-1306. In addition, the irrigation entity charged with the delivery of water to said lands must be advised regarding the irrigation system.
 - 2. For proposed subdivisions outside of negotiated areas of city impact, the delivery system must be approved by the Planning and Zoning Commission and the Board of County Commissioners with the advice of the irrigation entity charged with the delivery of water to said lands.

To better understand your irrigation request, we need to ask you a few questions. A list of the map requirements follows the short questionnaire. **Any information missing information may result in the delay of your request before the Planning and Zoning Commission and ultimately the approval of your irrigation plan by the Board of County Commissioners.**

1. Are you within an area of negotiated City Impact? Yes No
If yes, please include a copy of approvals by the City Planning & Zoning Commission and City Council of your Irrigation Plan.

2. What is the name of the irrigation and drainage entities servicing the property?

Irrigation: Farmer's Union Ditch Co.

Drainage: Farmer's Union Ditch Co.

3. How many acres is the property being subdivided? 18.56

4. What percentage of this property has water? No irrigation water rights are available for this property.

5. How many inches of water are available to the property? 0"

6. How is the land currently irrigated? Surface Irrigation Well
 Sprinkler **Not Applicable** Above Ground Pipe Underground Pipe

7. How is the land to be irrigated after it is subdivided? Surface Irrigation Well
 Sprinkler **Not Applicable** Above Ground Pipe Underground Pipe

8. Please describe how the head gate/pump connects to the canal and irrigated land and where ditches and/or pipes go. **Not Applicable**

9. Are there irrigation easement(s) on the property? Yes No

10. How do you plan to retain storm and excess water on each lot?

All storm and excess water is to be retained utilizing roadside borrow ditch and an appropriately sized retention basin

11. How do you plan to remove the storm water /excess irrigation water prior to it entering the established drainage system? (i.e. oil, grease, contaminated aggregates)

Roadside borrow ditch

Irrigation Plan Map Requirements

The irrigation plan **must be on a scalable map** and show all of the irrigation system including all supply and drainage structures and easements. Please include the following information on you map:

- 1 All canals, ditches, and laterals with their respective names.
- 2 Head gate location and/or point of delivery of water to the property by the irrigation entity.
- 3 Rise locations and types, if any.
- 4 Easements of all private ditches that supply adjacent properties (i.e. supply ditches and drainage ways).
- 5 Slope of the property in various locations.
- 6 Direction of water flow (use short arrows → on your map to indicate water flow direction).
- 7 Direction of wastewater flow (use long arrows -----→ on you map to indicate wastewater direction).
- 8 Location of drainage ponds or swales, anywhere wastewater will be retained on the property.
- 9 Other information: _____

Also, provide the following documentation:

- Copy of any water users' association / agreement (s) that are currently in effect, which outlines water schedules and maintenance responsibilities.



CANYON COUNTY DEVELOPMENT SERVICES DEPARTMENT

111 North 11th Avenue, #140 • Caldwell, Idaho • 83605 • Phone (208) 454-7458

Fax: (208) 454-6633 • www.canyoncounty.org/dsd

APPLICATION FOR HILLSIDE DEVELOPMENT

(Canyon County Zoning Ordinance § 07-17-33)

Applicant(s): Lacey Clark (208) 639-6939
 Name 5725 N. Discovery Way Boise, Idaho Daytime Telephone Number 83713
 Street Address City, State Zip

Location of Subject Property: 24082 Blessinger Road Star, Idaho 83669
 Two Nearest Cross Streets or Property Address City

Assessor's Account Number(s): R 3762710200 Section 36 Township _____ Range _____

Hillside development is defined by the Canyon County Code of Ordinances §07-02-03: Any development or that portion of a development located in terrain having a maximum slope exceeding fifteen percent (15%), except where evidence is provided that no construction or development shall take place on slopes greater than fifteen percent (15%).

In order to preserve, enhance, and promote the existing and future appearance and resources of hillsides, maximum retention of natural topographic features and qualities of the following shall be considered during the subdivision review process:

- Skyline and ridge tops;
- Rolling grassy land forms, including knolls, ridges, and meadows;
- Tree and shrub masses, grass, wild flowers and topsoil;
- Rock outcroppings;
- Stream beds, draws and drainage swails, especially where tree and plant formations occur; and
- Characteristic vistas and scenic panoramas.

All hillside development proposals shall take into account current application of desirable land use planning, soil mechanics, engineering geology, hydrology, civil engineering, environmental and civic design, architecture and landscape architecture.

Please answer the following questions:

1. Is any portion of your property within a flood way or flood zone? No Yes
2. Does any portion of your property have slopes of more than fifteen percent (15%)?
 No Yes If Yes, what percentage 26%
3. What is the proposed name of your subdivision? Freedom Acres Subdivision
4. How many total nonresidential and residential lots is your proposing?
 Residential 6 Non-residential 1

5. Of the total lots you are requesting, how many lots are affected by the proposed hillside development? Residential 1 Non-residential 0 Road(s) 1

REQUIRED SUBMISSION INFORMATION

The subdivider shall retain professional expertise to obtain the following information:

C. Grading and Drainage Plan (CCZO 07-17-33 (1)(C))

Preliminary Grading Plan and Drainage Plan shall be submitted with each hillside preliminary plat proposal and shall include the following information (CCZO 07-17-33(1)(C)):

- A. Approximately limiting dimensions, elevations or finish contours to be achieved by the grading, including all cut and fill slopes, proposed drainage channels and related construction;
- B. Preliminary plans and approximate locations of all surface and subsurface drainage devices, walls, dams, sediment basins, storage reservoirs and other protective devices to be constructed;
- C. A description of methods to be employed in disposing of soil and other material that is removed from the grading site, including the location of the disposal site.

Final Grading Plan shall be submitted with each final plat and include the following information (CCZO 07-17-33(1)(C)(2)):

- A. Limiting dimensions, elevations or finish contours to be achieved by the grading, including all proposed cut and fill slopes and proposed drainage channels and related construction;
- B. Detailed plans and locations of all surface and subsurface drainage devices, walls, dams, sediment basins, storage reservoirs and other protective devices to be constructed;
- C. A schedule showing when each stage of the project will be completed, including the total area of soil surface which is to be disturbed during each stage together with estimated starting and completion dates.

NOTE: *In no event shall existing "natural" vegetative ground cover be destroyed, removed or disturbed more than fifteen (15) days prior to the grading.*

D. Development Standards (CCZO 07-17-33(1)(D))

1. Soils:

- A. Fill areas shall be prepared by removing organic material, such as vegetation and rubbish and any other material which is determined by the soils engineer to be detrimental to proper compaction or otherwise not conducive to stability.

- B. Cuts and fills shall be designed to provide safety, stability, and adequate setback from property lines in accordance with county standards drawings and specifications.

2. Roadways:

- A. Road alignments shall reasonably follow natural terrain and no unnecessary cuts or fills shall be allowed.
 - B. One-way streets, in interior subdivision roads only, shall be permitted and encouraged where appropriate for terrain and when public safety would not be jeopardized. When approved by the county the one-way street may have a thirty foot (30') right-of-way instead of a sixty foot (60') right-of-way.
 - C. The width of the graded section shall extend three feet (3') beyond the curb back or edge of pavement on both the cut and fill sides of the roadway. If sidewalks are to be installed parallel to the roadway, the graded section shall be increased by the width of the sidewalk plus one foot (1') beyond the curb back.
 - D. Ribbon curbing and swales or concrete curb and gutter shall be installed along both sides of paved roadways, when required by the Board.
 - E. A pedestrian walkway plan may be required.
3. **Driveways and Parking Areas:** Combinations of collective private driveways, cluster parking areas and on-street, parallel parking ways may be used to attempt to optimize the objectives of minimum soil disturbance, minimum impervious cover, and enhance the excellence of design and aesthetic sensitivity.

E. Vegetation and Revegetation Plan (CCCO 07-17-33(1)(E)(1-3))

The **Slope Stabilization and Re-Vegetation Plan** shall be submitted with the hillside application and include the following:

1. A complete description of the existing vegetation, the description of the vegetation to be removed and the method of disposal, the vegetation to be planted and slope stabilization measures to be installed. The plan shall include an analysis of the environmental effects of such operations, including the effects it may have on slope stability, soil erosion, water quality and fish and wildlife.
2. Vegetation sufficient to stabilize the soils shall be established on all disturbed areas as each stage of grading is completed. Areas not contained within lot boundaries shall be protected with perennial vegetal cover after all construction is completed. Efforts shall be made to plant those species that tend to recover from fire damage and do not contribute to a rapid rate of fire spread.
3. The developer shall be fully responsible for any destruction of native vegetation proposed and approved for retention. He shall carry the responsibility both for his own employees and for all subcontractors from the first day of construction until the notice of completion is filed. The developer shall be responsible for replacing such destroyed vegetation in kind or its

equivalent.

F. Maintenance Plan (CCZO 07-17-33(1)(F))

The owner of any private property on which grading or other work has been performed pursuant to a grading plan approved or a building permit granted under the provisions of this ordinance shall continually maintain and repair all graded surfaces and erosion prevention devices, retaining walls, drainage structures or means, and other protective devices, plantings and ground cover installed or completed.

Hillside Development Requirements

The following checklist may be utilized by the Subdivision Review Team when reviewing your Hillside Development application to determine if you comply with Canyon County standards and ordinances. As the applicant, we welcome you to copy this form and use it for your own checklist.

YES	NO	Standard Assessed
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Planning of development to fit the topography, soils, geology, hydrology and other conditions existing on the proposed site.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Orienting development to the site so that grading and other site preparation is kept to a minimum.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Shaping essential grading to complement the natural landforms and to minimize padding and terracing of building sites.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Division of land tracts into smaller workable units on which construction can be completed within one construction season so that large areas are not left bare and exposed during the winter-spring runoff period.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Completion of paving as rapidly as possible after grading.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Allocation of areas not well suited for development because of soil, geology or hydrology limitations for open space and recreation uses.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Consideration of view from and of the hills.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Areas having soil, geology or hydrology hazards shall not be developed unless it is shown that their limitation can be overcome.

===== Applicant Acknowledgement and Signature =====

I, the undersigned acknowledge that the required hillside development plans have been submitted according to the requirements outlined in Canyon County Code 07-17-33.

I acknowledge that the Development Services Department may uphold the processing of my plat until all appropriate paperwork has been submitted and approvals obtained.

Signed: R. Lacey Clark Date: 6 / 29 / 2023
Applicant/Property Owner (Application Submitted)

ACCEPTED BY THE DEVELOPMENT SERVICES DEPARTMENT

Signed: _____ Date: ____/____/____
Director / Staff

TO: Devin T. Krasowski
Canyon County Development Services
FROM: Joe Pachner, P.E.

DATE: June 2023

SUBJECT: Freedom Acres Subdivision (Hillside Development Narrative)

The proposed Freedom Acres Subdivision is located near the northeast corner of Willis Road and Blessinger Road in Canyon County. The existing site topography consists of two (2) areas near the center of the property with grades exceeding 15%. Within these areas we will be constructing a road. No structures will be constructed in areas where grades exceed 15%.

The attached grading plan shows a proposed road being built through areas where the existing topography exceeds 15%. The lots and road were designed to accommodate existing topography where possible and to minimize impacts to the existing site topography. The proposed maximum slope of the road is 8% with the daylight being placed at 3:1 grades or less. The grading plan provides proposed finish contours. Stormwater runoff from the road will be collected in roadside swales and transported to a infiltration pond on the southern half of the property. The owners of each lot shall be required to retain all excess irrigation and drainage on their lots. Individual landscape plans will demonstrate that any excess irrigation will be retained on their lots. Requiring individual lot owners to demonstrate that excess irrigation will be retained on their lots will eliminate any issues with cross lot drainage by showing that no cross lot drainage will occur.

The grading will be completed in the initial project schedule prior to the construction of the road. The existing vegetation within the limits of construction and grading will be removed to prepare the site for the road. Soil that is excavated will be used in conjunction with soil brought onto the site to create the proposed grades on the property. Any vegetation removed during construction will be taken to the county landfill. During construction a silt fence will be erected to prevent any erosion from leaving the site. After site grading has been completed, the fill and all disturbed areas will be seeded with a blend of native grasses to stabilize the slopes. Once the seed is germinated and stabilized in the disturbed areas, the silt fence will be removed. There are no known environmental impacts outside of the typical impacts of a development of this size. The attached geotechnical report allows fill slopes in excess of the proposed grades.

PRIVATE ROAD NAME APPLICATION
CANYON COUNTY DEVELOPMENT SERVICES DEPARTMENT

111 North 11th Avenue, #310, Caldwell, ID 83605
zoninginfo@canyoncounty.id.gov Phone: 208-454-7458 Fax: 208-454-6633



Addressing Ordinance CCZO 06-05-09(2B) & 06-05-11(1, 3): All street names shall be approved by the Director within the unincorporated area of the County designated for addressing by the County. The right to use a street or private road name, its accompanying street designation and right to install a sign for a street. Proposed street and private road names for new subdivisions, proposed new private roads.

Applicant(s): Lacey Clark Phone: (208) 639-6939

Please Print Name

5725 N. Discovery Way Boise, Idaho 83713
Applicant Mailing Street Address City/State Zip

Location of Private Road: Willis and Blessinger Road - Access from Willis Road
Two Nearest Cross Streets

Parcel Number of owner requesting private road name: Freedom Acres Lane

The following must be provided as part of this application:

1. A dimensioned sketch showing the location, configuration and length of the private road.
2. A typewritten or printed list of names and addresses of all persons having a legal right to use the road. (They must sign below.)
3. A list containing a minimum of three proposed road names in preferential order, i.e. first choice as number one, etc. If proposed are private roads, the street type must be Lane.
 - a. First Choice: Freedom Acres Lane
 - b. Second Choice: Boden Acres Lane
 - c. Third Choice: Jubilee Lane

If project requires multiple road names provide road names use this section. Mark on sketch which road names belongs to each road segment. If more than three road names are needed, please write them on a separate piece of paper. If proposed are private roads, the street type must be Lane.

- d. First road name : _____
- e. Second road name: _____
- f. Third road name: _____

NOTE: Words that are difficult to spell or pronounce are generally prohibited. The Director may reject a street name if the street name is found to be vulgar, rude or offensive. Private road names cannot be first, last names, or initials. Proposed roads names cannot use words, sound alike or similar spelling from an existing road name. If the parties who have the legal right to utilize the road cannot agree on a name, Development Services Department will take suggestions from all parties and make the final decision and approval. (§ 06-05-13(13)). Please note that The County makes every effort to notify public and private agencies of new address, address changes or new private roads. The County cannot guarantee the agencies will update their records to reflect this new address, address change or new private road. It is suggested that you make "Suggestion Edits" on Google Maps to update your new private road and new addresses.

We, the undersigned, declare that we are owners of all or portions of the land upon which the private road lies or have legal right of ingress and egress upon said road. We understand that we are responsible for the purchasing of a **blue private road sign** of a design approved by the Board of County Commissioners, and installed in accordance with the most current edition of the Manual Of Uniform Traffic Control Devices. **We further understand that our address will change as a result of naming this private road.**

Signed: R. Lacey Clark Date: 7/3/2023
Primary Applicant/Property Owner Application Date

Signed: Jennifer Bodenbender Printed Name: Jennifer Bodenbender Date: 6/28/2023
Applicant/Property Owner

Signed: _____ Printed Name: _____ Date: _____
Applicant/Property Owner

Signed: _____ Printed Name: _____ Date: _____
Applicant/Property Owner

(Please attach additional sheets if more signatures are required)

Accepted By: _____ Date: _____
Director / Staff Signature Application Accepted

Office Use Only:	Case #:	Received by:	Date:	Fees:	Receipt #:
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SITE PLAN & LETTER OF INTENT - CHECKLIST

CANYON COUNTY DEVELOPMENT SERVICES DEPARTMENT

111 North 11th Avenue, #310, Caldwell, ID 83605

zoninginfo@canyoncounty.id.gov Phone: 208-454-7458 Fax: 208-454-6633



The site plan is a detailed GRAPHICAL description of existing and proposed site features. Include all applicable items on your site plan:

- All existing and proposed structures and dimensions (i.e. 40'x30' shop, 20'x20' shed, 40'x50' house, 10' windmill, etc.)
- Infrastructure: well, septic, irrigation ditch, settling ponds, drainage swales, etc.
- Transportation: parking, loading areas, driveways, etc. adjacent driveways, roads, highways or other accesses
- Easement locations and dimensions
- Setbacks from property lines, section lines, collectors and arterial roads and/or building envelope
- Areas of steep slopes, wetlands, and/or floodplain
- Existing or proposed fences
- Signs
- Major landscaping or hardscaping, such as large trees, berms, or retaining walls, water features
- Areas of activity, outdoor seating, food vendor area, stockpiling, open pit, etc.
- Any other site features worth noting

The Letter of Intent is a detailed WRITTEN description of proposed and existing uses at the site. Include all applicable items in your letter:

- A description of the proposed use and existing uses
- A description of the proposed request and why it is being requested
- n/a Expected traffic counts and patterns
- n/a Phasing of development
- How proposed use may affect neighboring uses
- A description or further explanation of the site features (see site plan list above)
- Explanation of any other permits through other agencies that may be required
- n/a Description of business operations, such as number of employees, hours of operation, delivery and shipping
- A description of how the proposed use is consistent with specific zoning criteria or comprehensive plan policies
- Any other items which may require further explanation



AGENCY ACKNOWLEDGMENT

Date: 6/15/2023

Applicant: Lacey Clark

Parcel Number: R3762710200

Site Address: 24082 Blessinger Road, Star Idaho

OFFICIAL USE ONLY BELOW THIS LINE – ACKNOWLEDGMENT ACTION:

Southwest District Health:

Applicant submitted/met for official review.

Date: _____ Signed: _____

Authorized Southwest District Health Representative
(This signature does not guarantee project or permit approval)

Fire District:

District: Middleton RFD

Applicant submitted/met for official review.

Date: 7/16/23 Signed: _____

Authorized Fire District Representative
(This signature does not guarantee project or permit approval)

Highway District:

District: _____

Applicant submitted/met for official review.

Date: _____ Signed: _____

Authorized Highway District Representative
(This signature does not guarantee project or permit approval)

Irrigation District:

District: _____

Applicant submitted/met for official review.

Date: _____ Signed: _____

Authorized Irrigation Representative
(This signature does not guarantee project or permit approval)

Area of City Impact:

City: _____

Applicant submitted/met for official review.

Date: 6/15/22 Signed: _____

Authorized AOCI Representative
(This signature does not guarantee project or permit approval)

Received by Canyon County Development Services:

Date: _____ Signed: _____

Canyon County Development Services Staff



AGENCY ACKNOWLEDGMENT

Date: 6/16/2023

Applicant: Lacey Clark

Parcel Number: R3762710200

Site Address: 24082 Blessinger Road - Star, Idaho

OFFICIAL USE ONLY BELOW THIS LINE – ACKNOWLEDGMENT ACTION:

Southwest District Health:

Applicant submitted/met for official review.

Date: _____ Signed: _____

Authorized Southwest District Health Representative
(This signature does not guarantee project or permit approval)

Fire District:

Applicant submitted/met for official review.

Date: _____ Signed: _____

Authorized Fire District Representative
(This signature does not guarantee project or permit approval)

Highway District:

Applicant submitted/met for official review.

Date: _____ Signed: _____

Authorized Highway District Representative
(This signature does not guarantee project or permit approval)

Irrigation District:

Applicant submitted/met for official review.

Date: 6/14/23 Signed: _____

District: Farmers Union Ditch Company

Authorized Irrigation Representative
(This signature does not guarantee project or permit approval)

Area of City Impact:

Applicant submitted/met for official review.

Date: _____ Signed: _____

City: _____

Authorized AOCI Representative
(This signature does not guarantee project or permit approval)

Received by Canyon County Development Services:

Date: _____ Signed: _____

Canyon County Development Services Staff

DISCLAIMER: THIS ACKNOWLEDGMENT IS ONLY VALID SIX MONTHS FROM THE DATE ISSUED



AGENCY ACKNOWLEDGMENT

Date: 6/16/2023

Applicant: Lacey Clark

Parcel Number: R3762710200

Site Address: 24082 Blessinger Road

OFFICIAL USE ONLY BELOW THIS LINE – ACKNOWLEDGMENT ACTION:

Southwest District Health:

Applicant submitted/met for official review.

Date: 06/16/2023 Signed: _____

Anthony Lee

Authorized Southwest District Health Representative
(This signature does not guarantee project or permit approval)

Fire District:

District: SWDH

Applicant submitted/met for official review.

Date: _____ Signed: _____

Authorized Fire District Representative
(This signature does not guarantee project or permit approval)

Highway District:

District: _____

Applicant submitted/met for official review.

Date: _____ Signed: _____

Authorized Highway District Representative
(This signature does not guarantee project or permit approval)

Irrigation District:

District: _____

Applicant submitted/met for official review.

Date: _____ Signed: _____

Authorized Irrigation Representative
(This signature does not guarantee project or permit approval)

Area of City Impact:

City: _____

Applicant submitted/met for official review.

Date: _____ Signed: _____

Authorized AOCI Representative
(This signature does not guarantee project or permit approval)

Received by Canyon County Development Services:

Date: _____ Signed: _____

Canyon County Development Services Staff



AGENCY ACKNOWLEDGMENT

Date: 6/15/2023

Applicant: Lacey Clark

Parcel Number: R3762710200

Site Address: 24082 Blessinger Road, Star Idaho

OFFICIAL USE ONLY BELOW THIS LINE – ACKNOWLEDGMENT ACTION:

Southwest District Health:

Applicant submitted/met for official review.

Date: _____ Signed: _____

Authorized Southwest District Health Representative
(This signature does not guarantee project or permit approval)

Fire District:

Applicant submitted/met for official review.

Date: _____ Signed: _____

Authorized Fire District Representative
(This signature does not guarantee project or permit approval)

Highway District:

Applicant submitted/met for official review.

Date: 6/28/23 Signed: _____

Authorized Highway District Representative
(This signature does not guarantee project or permit approval)

Irrigation District:

Applicant submitted/met for official review.

Date: _____ Signed: _____

Authorized Irrigation Representative
(This signature does not guarantee project or permit approval)

Area of City Impact:

Applicant submitted/met for official review.

Date: 6/15/22 Signed: _____

Authorized AOCI Representative
(This signature does not guarantee project or permit approval)

Received by Canyon County Development Services:

Date: _____ Signed: _____

Canyon County Development Services Staff

DISCLAIMER: THIS ACKNOWLEDGMENT IS ONLY VALID SIX MONTHS FROM THE DATE ISSUED

RE: Requesting comments on new project

Shawn Nickel <snickel@staridaho.org>

Thu 6/15/2023 3:38 PM

To: Lacey Clark <lclark@kmengllp.com>

Cc: Barbara Norgrove <bnorgrove@staridaho.org>

 2 attachments (3 MB)

Agency Acknowledgment (1).pdf; 22-178 Freedom Acres Prelat 230512 Signed Copy.pdf;

SHAWN L. NICKEL
PLANNING DIRECTOR AND ZONING ADMINISTRATOR
CITY OF STAR
SNICKEL@STARIDAHO.ORG
208-908-5455



Per my previous email, I forgot to attach the agency signature form. At your earliest convenience, please sign and return to me after reviewing the preliminary plat. Thank you!

KM ENGINEERING

5725 North Discovery Way | Boise, ID 83713

208.639.6939

Order Number: 19328293 *CB/BC*

Warranty Deed

For value received,

Betsy A. Knapp, a married woman, as her sole and separate property

the grantor, does hereby grant, bargain, sell, and convey unto

Freedom Acres LLC, an Idaho limited liability company *CRP*

whose current address is 1467 W. Sacramento Street Kuna, ID 83634

the grantee, the following described premises, in Canyon County, Idaho, to wit:

2019-012627
RECORDED
03/29/2019 02:45 PM
CHRIS YAMAMOTO
CANYON COUNTY RECORDER
Pgs=1 EHOWELL \$15.00
TYPE DEED
TITLEONE BOISE
ELECTRONICALLY RECORDED

Lot 3 in Block 1 of Rustic Acres Subdivision, according to the official plat thereof, filed in Book 37 of Plats at Page(s) 37, official records of Canyon County, Idaho.

To have and to hold the said premises, with their appurtenances unto the said Grantee, its heirs and assigns forever. And the said Grantor does hereby covenant to and with the said Grantee, that Grantor is the owner in fee simple of said premises; that they are free from all encumbrances except those to which this conveyance is expressly made subject and those made, suffered or done by the Grantee; and subject to all existing patent reservations, easements, right(s) of way, protective covenants, zoning ordinances, and applicable building codes, laws and regulations, general taxes and assessments, including irrigation and utility assessments (if any) for the current year, which are not due and payable, and that Grantor will warrant and defend the same from all lawful claims whatsoever. Whenever the context so requires, the singular number includes the plural.

Dated: March 28, 2019

Betsy Knapp

Betsy A. Knapp

Larry Knapp

Larry Knapp

State of Idaho, County of Ada, ss.

On this 28 day of March in the year of 2019, before me, the undersigned, a Notary Public in and for said State, personally appeared Betsy A. Knapp and Larry Knapp, known or identified to me to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same.

[Signature]

Notary Public
Residing In:
My Commission Expires:
(seal)

MATT GRENKE
COMMISSION #32274
NOTARY PUBLIC
STATE OF IDAHO

Residing in Star, Idaho
My Commission Expires 7/9/2023

July 6, 2023
Project No.: 22-178

**Title: Wildland-Urban Interface Fire Safety Plan
Freedom Acres Subdivision in Canyon County, Idaho**

1. Introduction

The Wildland-Urban Interface (WUI) Fire Safety Plan outlines proactive measures and strategies to mitigate the risk of wildfire incidents in the Freedom Acres Subdivision located in Canyon County, Idaho. This plan aligns with the ICC 2012 International Wildland-Urban Interface Code (IWUIC) and incorporates resources from *idahowifreewise.org*. The report's objective is to enhance the safety of residents, properties, and the surrounding environment through fire prevention, preparedness, and response.

2. Project Overview

Located in Canyon County east of Blessinger Road and north of Willis Road, the subdivision is a parcel of land situated in the SW $\frac{1}{4}$ of the SW $\frac{1}{4}$ of Section 36, Township 5 North, Range 2 West, Boise Meridian, Canyon County, Idaho. The subdivision is made up of 7 lots, 1 lot for an existing cell tower and 6 residential lots. An existing house and two accessory buildings are to remain. The lots average 2.66 acres making up the 18.56 acres Freedom Acres Subdivision.

The existing topography is typical of being in proximity to the Boise Foothills: rolling hills with a grade increase towards the northeast corner of the site. There is a canal running west to east through the middle of the site with deciduous trees, scrub, and typical vegetation found along non-maintained bodies of water. The site's vegetation south of the canal is a mixture of landscape beds, lawn, and mature deciduous and coniferous trees typical of a residential property, and pasture grasses that are typical of an arid to semi-arid environment and farmland. The site's vegetation north of the canal is a mixture of native sagebrush and bitterbrush with a range of grasses and forbs typically found on or near the Boise Foothills. The property is surrounded by Rural Residential with similar vegetation types as found on the site. It is recommended that the site vegetation is updated, installed, and maintained as directed below and in conjunction with the provided wildfire defensible space plan.

3. Fire Prevention Measures and Strategies

To achieve the objectives of the Wildland-Urban Interface Fire Safety Plan, the following fire prevention measures and strategies will be implemented:

3.1 Fire Access Roads

Access to Freedom Acres Subdivision will be provided through a 23-foot wide gravel access road called Freedom Acres Lane. This road meets the requirements set by the IWUIC, including a minimum width of 20 feet, turnaround radii, and signage for road identification. Upon completion of each individual lot, an address sign visible from the access road must be installed.

3.2 Building Standards

In addition to fire access roads, building materials also play a key role in fire prevention. All structures within the subdivision must comply with county and IWUIC code requirements. Key building standards include:

- A. Use of ignition resistant material for roofs, eaves, soffits, and exposed underside materials.

- B. Gutters and downspouts should be noncombustible and free from debris.
- C. Prompt replacement and repair of damaged roofing and windows are essential.
- D. Installation of attic and chimney vents with 1/8-inch metal mesh screening.
- E. Exterior walls of buildings and structures shall comply with the applicable class rating in the IWUIC code.
- F. Patio and decks shall have a screen or boxed-in areas with wire mesh to prevent debris accumulation.
- G. Outdoor fires such as permanent barbecue, portable barbecue, outdoor fireplace, or grill within inhabited premises must be a minimum of 30' from any combustible material or non-fire-resistive vegetation.

3.3 Fuel Management

Defensible space around the home ignition zone is a key component in enhancing the safety of residents, properties, and the surrounding environment. The home ignition zone, which ranges from zero to 200 feet around each structure, is broken into several defensible space zones. Each zone has specific requirements for vegetation, clearances, irrigation, tree spacing, pruning, and debris removal. In addition to the outlined requirements below, homeowners shall refer to the Wildfire Defensible Space Plan created specific to this subdivision. The plan shall serve as a guide on subdivision defensible space implementation.

- A. Zone 1: Immediate Zone, 0-5-Feet
 - a. Within this zone, the habitable structure's exterior features must be maintained. The structure and immediate surrounding areas shall be clear of all dead leaves, debris, pine needles, and mulch. Vents shall have a 1/8-inch metal mesh screening. An immediate outdoor water source must be available and able to reach all parts of the base of the structure. The use of rock mulch within planting beds and non-turf areas is highly critical.
- B. Zone 2: Intermediate Zone, 5 – 30 Feet
 - a. Within this zone, landscape material is restricted to small, clustered plant material. Lawn and native grasses must be well irrigated and maintained at a maximum mowed height of 4 inches tall. Specimen trees shall be a minimum of 10 feet from all structures and tree crowns must maintain a minimum horizontal clearance of 10 feet from structures and chimneys. Tree canopies shall maintain a minimum of 18 feet between crowns and must be pruned a minimum of 6 feet from adjacent grade. See Figure 1 and 2 below. The use of rock mulch within planting beds and non-turf areas is highly critical.
- C. Zone 3: Extended Zone, 30 - 100+ Feet
 - a. Within this zone, dispose of all ground litter and debris from dead plants and trees. Removing any small deciduous and coniferous saplings between mature trees and adjacent to non-habitable structures. Tree canopies at 30-60 feet from habitable structure shall maintain a minimum of 12 feet between crowns with a greater distance on high percentage slopes. Tree canopies at 60-100+ feet from habitable structure shall maintain a minimum of 6 feet between crowns with a greater distance on high percentage slopes. See Figure 1 and 2 below.

Figure 1: Tree Spacing

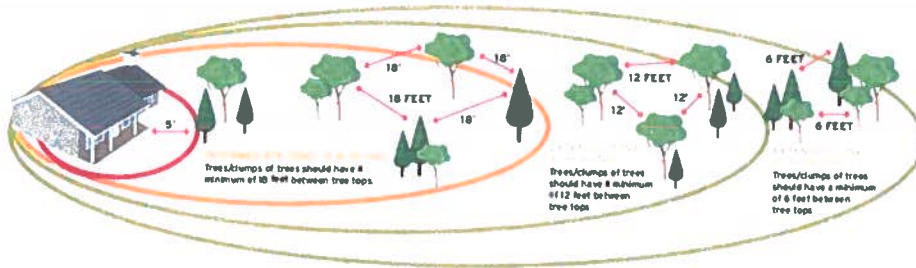


Figure 2: Tree Pruning



Figure Credit: Idaho Firewise. (2023). REDUCING WILDFIRE RISKS IN THE HOME IGNITION ZONE. Idaho Firewise. Retrieved June 26, 2023, from <https://idahofirewise.org/>

In addition to the defensible zones, there are several additional maintenance parameters required to ensure a defensible space:

- A. All non-fire-resistive vegetation shall be removed within 10 feet of the fire access road and driveways.
- B. The use of single specimen trees, ornamental vegetation or groundcover is not allowed within 10 feet of the fire access road and driveways unless specifically listed on the Fire Resistance of Plants Master Database
- C. All vegetation within 30 feet of a combustible item or ignition source, must be removed. This includes, but is not limited to outdoor fire facilities, water storage, pumping facilities, and energized conductors and power lines.
- D. All electrical transmission and distribution lines shall be cleared of brush and vegetative growth per International Wildland-Urban Interface Code (IWUIC) tables A102.3.2.1 and A102.3.2.2.

3.4 Water Supply and Fire Protection

Each building lot within Freedom Acres Subdivision is equipped with a water well. To comply with the IWUIC, one- and two-family dwellings must have a minimum usable water volume supply of 1,000 gallons per minute for 30 minutes. Larger dwellings require a higher flow rate, unless an approved automatic sprinkler system is installed. Per <https://idahofirewise.org/>, it is also recommended that structures over 5,000 square feet be equipped with fire sprinklers.

5. First Response and Emergency Preparedness

While prevention measures are crucial, it is important to be prepared for wildfires. Community members are encouraged to have pre-prepared evacuation plans, participate in fire wise education programs, and stay informed through technology for emergency broadcasts. In the event of a fire, residents should call 911 or the county sheriff and emergency dispatch center immediately. Establishing communication with neighbors and prearranging meeting locations for evacuations is also recommended.

6. Conclusion

The Wildland-Urban Interface Fire Safety Plan equips residents of Freedom Acres Subdivision with the necessary tools to prepare for and mitigate the risk of wildfires. It is essential for individual owners to stay up to date on local fire department protocols, county code requirements, and the IWUIC code requirements. Beyond the guidelines set forth in this plan, it is the individual owner's job to verify each structure, new or existing, meets the latest county and IWUIC code requirements.



Alyssa Yensen, P.L.A.

Landscape Manager

Idaho Firewise Landscape Professional Certification Course, February 2023

References

Idaho Firewise. (2022, March 21).

<https://idahofirewise.org/>

Idaho Firewise. (2023). *REDUCING WILDFIRE RISKS IN THE HOME IGNITION ZONE*. Idaho Firewise.

Retrieved June 26, 2023, from

<https://idahofirewise.org/>.

International Code Council, Inc., 2021 *International Wildland-Urban Interface Code (2021)*.

Retrieved June 26, 2023, from

<https://codes.iccsafe.org/content/IWUIC2021P2/copyright>.

Rosentreter, R., Van Paepeghem, B., & DeBolt, A. (n.d.). (rep.). *Fire Resistance of Plants Master Database & Placement of Species Within Firewise Landscape Zones for Southern Idaho*. Idaho Firewise, Inc.

Retrieved June 26, 2023, from

<https://idahofirewise.org/wpcontent/uploads/2017/04/FireXResistanceXofXPlantsXMasterXDatabase.pdf>.

Canyon County Development Services

111 N. 11th Ave. Room 310, Caldwell, ID 83605
(208) 454-7458

Building Division Email: buildinginfo@canyoncounty.i **Planning Division Email:** zoninginfo@canyoncounty.id

Receipt Number: 79741

Date: 7/12/2023

Date Created: 7/12/2023 **Receipt Type:** Normal Receipt **Status:** Active
Customer's Name: Freedom Acres LLC
Comments: SD2023-0015

CHARGES

<u>Item Being Paid For:</u>	<u>Application Number:</u>	<u>Amount Paid:</u>	<u>Prevs Pymnts:</u>	<u>Unpaid Amnt:</u>
Planning - Preliminary Plat (Including Irrigation, Drainage, Grading Plans)	SD2023-0015	\$1,550.00	\$0.00	\$0.00
Planning - Preliminary Plat Additional City Impact Area Fee	SD2023-0015	\$100.00	\$0.00	\$0.00
Planning - Preliminary Plat Additional Per Lot Fee (Per Application)	SD2023-0015	\$70.00	\$0.00	\$0.00
Planning - Multiple Director Decisions without Notification on Single Application	SD2023-0015	\$80.00	\$0.00	\$0.00

Sub Total: \$1,800.00

Sales Tax: \$0.00

Total Charges: \$1,800.00

PAYMENTS

<u>Type of Payment:</u>	<u>Check/Ref Number:</u>	<u>Amount:</u>
Check	4011	\$1,800.00

Total Payments: \$1,800.00

ADJUSTMENTS

Receipt Balance: \$0.00



ATLAS

GEOTECHNICAL INVESTIGATION

FREEDOM ACRES SUBDIVISION

24082 Blessinger Road
Star, ID

PREPARED FOR:

Jennifer Bodenbender
Freedom Acres, LLC
466 Bill Beth Road
Cascade, ID 83611

PREPARED BY:

Atlas Technical Consultants, LLC
2791 South Victory View Way
Boise, ID 83709

June 15, 2023
B230486g



2791 South Victory View Way
Boise, ID 83709
(208) 376-4748 | oneatlas.com

June 15, 2023

Atlas No. B230486g

Jennifer Bodenbender
Freedom Acres, LLC
466 Bill Beth Road
Cascade, ID 83611

**Subject: Geotechnical Investigation
Freedom Acres Subdivision
24082 Blessinger Road
Star, ID**

Dear Jennifer Bodenbender:

In compliance with your instructions, Atlas has conducted a soils exploration and foundation evaluation for the above referenced development. Fieldwork for this investigation was conducted on May 30, 2023. Data have been analyzed to evaluate pertinent geotechnical conditions. Results of this investigation, together with our recommendations, are to be found in the following report. We have provided a PDF copy for your review and distribution.

Often, questions arise concerning soil conditions because of design and construction details that occur on a project. Atlas would be pleased to continue our role as geotechnical engineers during project implementation.

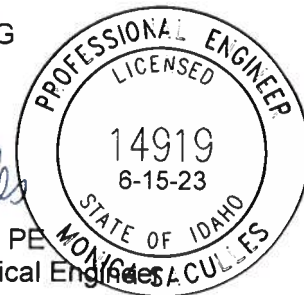
If you have any questions, please call us at (208) 376-4748.

Respectfully submitted,

Colby Meyer, GIT
Staff Geologist

Clinton Wyllie, PG
Staff Geologist

Monica Saculles, PE
Senior Geotechnical Engineer



Distribution: Andrew Lerude, KM Engineering (PDF Copy)

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APPENDICES

Appendix I	Warranty and Limiting Conditions
Appendix II	Vicinity Map
Appendix III	Site Map
Appendix IV	Geotechnical Investigation Test Pit Log
Appendix V	Geotechnical General Notes
Appendix VI	Important Information About This Geotechnical Engineering Report



1. INTRODUCTION

This report presents results of a geotechnical investigation and analysis in support of data utilized in design of structures as defined in the 2018 International Building Code (IBC). Information in support of groundwater and stormwater issues pertinent to the practice of Civil Engineering is included. Observations and recommendations relevant to the earthwork phase of the project are also presented. Revisions in plans or drawings for the proposed development from those enumerated in this report should be brought to the attention of the soils engineer to determine whether changes in the provided recommendations are required. Deviations from noted subsurface conditions, if encountered during construction, should also be brought to the attention of the soils engineer.

1.1 Project Description

The proposed development is in the City of Star, Canyon County, ID, and occupies a portion of the SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 36, Township 5 North, Range 2 West, Boise Meridian. The site to be developed is approximately 18.21 acres. Site maps included in the **Appendix** show the project location.

This project is expected to consist of a 6 lot residential subdivision with an associated street and cul-de-sac. An existing residence will remain on one of the lots. Individual septic systems will be constructed to service new lots. Retaining walls are not anticipated as part of the project. Drainage is expected to be directed to onsite infiltration facilities. Location of the infiltration facilities are unknown at this time. Atlas has not been informed of the proposed grading plan.

1.2 Scope of Investigation

Our scope of work was completed in general accordance with our proposal dated March 20, 2023 and authorized on March 23, 2023. Said authorization is subject to terms, conditions, and limitations described in the Professional Services Contract entered into between Freedom Acres, LLC and Atlas.

Atlas' scope of services included the following:

- Subsurface exploration via test pits.
- Field and laboratory testing of materials encountered and collected.
- Preparation of this report, which includes project description, site conditions, and our engineering analysis and evaluation for the project.

2. SITE DESCRIPTION

2.1 Regional Geology

The project site is located within the western Snake River Plain of southwestern Idaho and eastern Oregon. The plain is a northwest trending rift basin, about 45 miles wide and 200 miles long, that developed about 14 million years ago (Ma) and has since been occupied sporadically by large inland lakes. Geologic materials found within and along the plain's margins reflect volcanic and fluvial/lacustrine sedimentary processes that have led to an accumulation of approximately 1 to 2 km of interbedded volcanic and sedimentary deposits within the plain. Along the margins of the plain, streams that drained the highlands to the north and south provided coarse to fine-grained sediments eroded from granitic and volcanic rocks, respectively. About 2 million years ago the last of the lakes was drained and since that time fluvial erosion and deposition has dominated the evolution of the landscape. The project site is underlain by "Gravel of Deer Flat and Pre-Deer Flat Terraces, Undivided" (Othberg and Stanford, 1993) found along the northern margin of the Boise Valley north of Caldwell, Idaho. These deposits are composed of sandy pebble and cobble gravel and are derived from alluvial fan deposits of the ancestral Willow Creek interfingering and mixing downstream with channel alluvium of the ancestral Boise River. Deposited on a stream-cut surface of the fourth and fifth terraces above the modern Boise River floodplain. Tertiary sediments are exposed between terrace remnants. Terrace deposits are mostly mantled with loess 2-3 feet thick.

2.2 General Site Characteristics

The following details regarding site conditions are based on visual observations and review of available geologic and topographic maps and imagery:

- **Current Site Conditions:** The site is approximately 18.21 acres. Four residential structures and numerous sheds and outbuildings are present in the central portion of the site, surrounded by undeveloped land. Adjacent to the structures are gravel roadways and parking areas. A gravel road runs roughly southwest to northeast through the property and terminates at a communications tower in the northeast corner. The site is bisected from the southeast to northwest by the Farmers Union Canal. A small pond is present in the southeast corner of the property.
- **Vegetation:** Vegetation on the site consists of landscape trees and grasses adjacent to the structures in the central portion of the site. The remainder of the site consists primarily of native brush and grasses, though dense native brush and trees exist along the canal and in the southeast corner of the property.
- **Topography:** On the south side of the canal, the surface slopes upwards to the southwest at roughly 15 feet horizontal to 1 foot vertical (15:1). To the north of the canal, the surface slopes upwards ranging from 3:1 to 15:1. A small cut area is present in the central portion of the site.
- **Drainage:** Stormwater drainage for the site is achieved by both sheet runoff and percolation through surficial soils. Runoff predominates for the steeper slopes while percolation prevails across the gently sloping and near level areas. From the southwest and east, intermittent off-site stormwater may drain onto the project site.



3. SEISMIC SITE EVALUATION

3.1 Geoseismic Setting

Soils on site are classed as Site Class D in accordance with Chapter 20 of the American Society of Civil Engineers (ASCE) publication ASCE/SEI 7-16. Structures constructed on this site should be designed per IBC requirements for such a seismic classification. Our investigation revealed low hazard potential resulting from potential earthquake motions including: slope instability, liquefaction, and surface rupture caused by faulting or lateral spreading.

3.2 Seismic Design Parameter Values

The ASCE 7-16 seismic design parameter values have been provided below.

Table 1 – Seismic Design Values

Seismic Design Parameter	Design Value
Site Class	D "Default"
Site Modified Peak Ground Acceleration, PGA_M	0.202
S_s	0.297 (g)
S_1	0.108 (g)
F_a	1.563
F_v	2.384
S_{MS}	0.464
S_{M1}	0.258
S_{DS}	0.309
S_{D1}	0.172

4. SOILS EXPLORATION

4.1 Exploration and Sampling Procedures

Field exploration conducted to determine engineering characteristics of subsurface materials included a reconnaissance of the project site and investigation by test pit. Test pit sites were located in the field by means of a Global Positioning System (GPS) device and are reportedly accurate to within ten feet. Upon completion of investigation, each test pit was backfilled with loose excavated materials. Re-excavation and compaction of these test pit areas are required prior to construction.

Samples obtained have been visually classified in the field, identified according to test pit number and depth, placed in sealed containers, and transported to our laboratory for additional testing. Subsurface materials have been described in detail on logs provided in the **Appendix**. Results of field and laboratory tests are also presented in the **Appendix**. Atlas recommends that these logs **not** be used to estimate fill material quantities.

4.2 Laboratory Testing Program

Along with our field investigation, a supplemental laboratory testing program was conducted to determine additional pertinent engineering characteristics of subsurface materials. Laboratory tests were conducted in accordance with current specifications. The laboratory testing program for this report included:

- Atterberg Limits Testing – ASTM D4318
- Grain Size Analysis – ASTM C117/C136
- Hydrometer – ASTM D422

4.3 Soil and Sediment Profile

The profile below represents a generalized interpretation for the project site. Note that on site soils strata, encountered between test pit locations, may vary from the individual soil profiles presented in the logs.

Table 2 – Typical Soil Profiles

Soil Horizons	Approximate Depths	Soil Types	Consistency/Relative Density
Fill Materials ¹	0 to 1 foot	Silty Sand Fill	Loose
Surficial Soils ²	0 to 11 feet	Fat Clay, Lean Clay, Silty Sand, Sandy Silt, Clayey Sand	Stiff to Hard/Medium Dense to Very Dense
Deeper Soils	5.0 to 14.5 feet	Silty Sand, Poorly Graded Gravel with Silt and Sand, Poorly Graded Sand, Poorly Graded Sand with Gravel	Medium Dense to Very Dense

¹Fills only encountered in test pit 2.

²Cementation/induration noted within portions of these horizons.

During excavation, test pit sidewalls were generally stable. However, moisture contents will affect wall competency with saturated soils having a tendency to readily slough when under load and unsupported.

4.4 Volatile Organic Scan

Soils obtained during on-site activities were not assessed for volatile organic compounds by portable photoionization detector. Samples obtained during our exploration activities exhibited no apparent odors or discoloration typically associated with this type of contamination. Groundwater encountered did not exhibit obvious signs of contamination.

5. SITE HYDROLOGY

Existing surface drainage conditions are defined in the **General Site Characteristics** section. Information provided in this section is limited to observations made at the time of the investigation. Either regional or local ordinances may require information beyond the scope of this report.



5.1 Groundwater

During this field investigation, groundwater was encountered in test pits 2 and 3 at depths ranging from 5.5 to 11.0 feet bgs. Additionally, seepage was noted in test pit 7 at a depth of 11.5 feet bgs. According to Idaho Department of Water Resources (IDWR) well log data within approximately ½-mile of the project site, groundwater was measured at depths ranging between 98 and 170 feet bgs.

It appears that the groundwater encountered on the site appears to be related to seepage from the Farmers Union Canal. Atlas recommends groundwater monitoring be conducted to determine seasonal high groundwater on the site.

5.2 Soil Infiltration Rates

Soil permeability, which is a measure of the ability of a soil to transmit a fluid, was not tested in the field. Given the absence of direct measurements, for this report an estimation of infiltration is presented using generally recognized values. Typical infiltration rates comprising the generalized soil profile for this study have been provided in the table below.

Table 3 – Generalized Soil Infiltration Rates

Soil Type	Typical Infiltration Rate (inches per hour)
Fat Clay	<2
Lean Clay	
Sandy Silt	2 to 4*
Clayey Sand	2 to 6
Silty Sand	4 to 8*
Poorly Graded Gravel with Silt and Sand	6 to 10**
Poorly Graded Sand with Silt	
Poorly Graded Sand with Gravel	>12**

*The presence of cementation/induration may reduce infiltration rates to near zero.

**Infiltration into and/or within close proximity to groundwater may reduce infiltration rates to near zero.

Due to the variability of soil types encountered and shallow groundwater in portions of the site, Atlas recommends that infiltration testing be conducted once the infiltration facility locations have been determined.



6. FOUNDATION AND SLAB DISCUSSION AND RECOMMENDATIONS

Various foundation types have been considered for support of the proposed structures. Two requirements must be met in the design of foundations. First, the applied bearing stress must be less than the ultimate bearing capacity of foundation soils to maintain stability. Second, total and differential settlement must not exceed an amount that will produce an adverse behavior of the superstructure. Allowable settlement is usually exceeded before bearing capacity considerations become important; thus, allowable bearing pressure is normally controlled by settlement considerations.

6.1 Foundation Loading Information

Loads of up to 4,000 pounds per lineal foot for wall footings, and column loads of up to 50,000 pounds were assumed for settlement calculations. Total settlement should be limited to approximately 1 inch and differential settlement should be limited to approximately ½ inch, provided the following design and construction recommendations are observed.

6.2 Foundation Design Recommendations

Considering subsurface conditions and the proposed construction, it is recommended that the structure be founded upon conventional spread footings and continuous wall footings. The following recommendations are not specific to the individual structures, but rather should be viewed as guidelines for the subdivision-wide development. Based on data obtained from the site and test results from various laboratory tests performed, Atlas recommends the following guidelines for the net allowable soil bearing capacity:

Table 4 – Soil Bearing Capacity

Footing Depth	ASTM D1557 Subgrade Compaction	Net Allowable Soil Bearing Capacity
Footings must bear on competent, undisturbed, native silty sand sediments, sandy silt soils, clayey sand sediments, or compacted structural fill. Existing fill materials, organics, fat clay soils, and lean clay soils must be completely removed from below foundation elements. ¹ Excavation depths ranging from roughly 0.2 to 3.2 feet bgs should be anticipated to expose proper bearing soils. ²	Not Required for Native Soil 95% for Structural Fill	2,000 lbs/ft ²

¹It will be required for Atlas personnel to verify the bearing soil suitability for each structure at the time of construction.

²Depending on the time of year construction takes place, the subgrade soils may be unstable because of high moisture contents. If unstable conditions are encountered, over-excavation and replacement with granular structural fill and/or use of geotextiles may be required.

The following sliding frictional coefficient values should be used: 1) 0.35 for footings bearing on native sandy silt soils, silty sand sediments, and clayey sand sediments, and 2) 0.45 for footings bearing on granular structural fill. A passive lateral earth pressure of 330 pounds per square foot per foot (psf/ft) should be used for sandy silt soils. For silty sand sediments and clayey sand sediments, a passive lateral earth pressure of 350 psf/ft should be used. For compacted sandy gravel fill, a passive lateral earth pressure of 496 psf/ft should be used.



Footings should be proportioned to meet either the stated soil bearing capacity or the 2018 IBC minimum requirements. Objectionable soil types encountered at the bottom of footing excavations should be removed and replaced with structural fill. Excessively loose or soft areas that are encountered in the footings subgrade will require over-excavation and backfilling with structural fill. To minimize the effects of slight differential movement that may occur because of variations in the character of supporting soils and seasonal moisture content, Atlas recommends continuous footings be suitably reinforced to make them as rigid as possible. For frost protection, the bottom of external footings should be 24 inches below finished grade. Foundations must be backfilled in accordance with the **Backfill of Walls** section.

6.3 Crawl Space Recommendations

Considering the presence of shallow groundwater across portions of the site, all residences constructed with crawl spaces should be designed in a manner that will inhibit water in the crawl spaces. **Bottom of crawl spaces must be elevated at least 2 feet above seasonal high groundwater elevation.** Atlas recommends that roof drains carry stormwater at least 10 feet away from each residence. Grades should be at least 5 percent for a distance of 10 feet away from all residences. In addition, rain gutters should be placed around all sides of residences, and backfill around stem walls should be placed and compacted in a controlled manner.

6.4 Floor, Patio, and Garage Slab-on-Grade

Uncontrolled fill was encountered in the vicinity of test pit 2. Atlas recommends that these fill materials be completely removed. The excavated fill materials can be replaced in accordance with the **Fill Placement and Compaction** section provided that all organic material and debris is completely removed. Once final grades have been determined, Atlas is available to provide additional recommendations.

Native clay soils are moderately plastic and will be susceptible to shrink/swell movements associated with moisture changes. The clay soils (if exposed) should be scarified to a depth of 6 inches and compacted between 92 to 98 percent of the maximum dry density as determined by ASTM D698. The moisture content should be within 2 percent of optimum. Structural fill should be placed as soon as possible after compaction of clay soils in order to limit moisture loss within the upper clays. Structural fill must be compacted to at least 95 percent of the maximum dry density as determined by ASTM D1557. Ground surfaces should be sloped away from structures at a minimum of 5 percent for a distance of 10 feet to provide positive drainage of surface water away from buildings. Grading must be provided and maintained following construction.

Organic, loose, or obviously compressive materials must be removed prior to placement of concrete floors or floor-supporting fill. In addition, the remaining subgrade should be treated in accordance with guidelines presented in the **Earthwork** section. Areas of excessive yielding should be excavated and backfilled with structural fill. Fill used to increase the elevation of the floor slab should meet requirements detailed in the **Structural Fill** section. Fill materials must be compacted to a minimum 95 percent of the maximum dry density as determined by ASTM D1557.



A free-draining granular mat should be provided below slabs-on-grade to provide drainage and a uniform and stable bearing surface. This should be a minimum of 4 inches in thickness and properly compacted. The mat should consist of a sand and gravel mixture, complying with Idaho Standards for Public Works Construction (ISPWC) specifications for ¾-inch (Type 1) crushed aggregate. The granular mat should be compacted to no less than 95 percent of the maximum dry density as determined by ASTM D1557. A moisture-retarder should be placed beneath floor slabs to minimize potential ground moisture effects on moisture-sensitive floor coverings. The moisture-retarder should be at least 15-mil in thickness and have a permeance of less than 0.01 US perms as determined by ASTM E96. Placement of the moisture-retarder will require special consideration with regard to effects on the slab-on-grade and should adhere to recommendations outlined in the ACI 302.1R and ASTM E1745 publications. Upon request, Atlas can provide further consultation regarding installation.

7. PAVEMENT DISCUSSION AND RECOMMENDATIONS

7.1 Pavement Design Parameters

Project specific traffic loading information has not been provided. Based on the character of the proposed construction, Atlas has assumed a traffic loading of 20,000 equivalent single axle loads (ESALs) for the private roadway. Atlas can provide a project specific pavement design upon request. Based on experience with soils in the region, a subgrade California Bearing Ratio (CBR) value of 2 has been assumed for near-surface clayey soils on site.

The recommended pavement sections provided below are based on a 10-year design life. The following are minimum thickness requirements for assured pavement function. Depending on site conditions, additional work, e.g. soil preparation, may be required to support construction equipment. These have been listed within the **Soft Subgrade Soils** section.

Note that gravel pavement sections are typically for low-volume roadways (ESALs of less than 100,000), and are not intended to support large amounts of regular traffic. Regular maintenance in the form of grading will be required to maintain a flat and passable condition. Soft or unstable areas will develop if water is allowed to pond or collect on the surface. Therefore, grading is required to ensure that water is directed off the pavement surface. During and shortly after storm events, tracking of surface materials can be expected. Traffic during wet periods should be avoided to limit damage to the structural section. Damage to the pavement will be in the form of rutting and/or pumping of pavement section materials. Reconstruction of the exposed gravel base should be expected at least every 5 years.

7.2 Gravel Pavement Section

The American Association of State Highway and Transportation Officials (AASHTO) design method has been used to calculate the following pavement section. Atlas recommends that materials used in the construction of pavements meet requirements of the ISPWC Standard Specification for Highway Construction. Construction of the pavement section should be in accordance with these specifications.

Table 5 – AASHTO Gravel Pavement Specifications

Pavement Section Component ¹	Private Roadway
Crushed Aggregate Base	8.0 Inches
Structural Subbase	18.0 Inches
Separation Fabric	Contech C-200 or Equivalent
Compacted Subgrade	See <u>Pavement Subgrade Preparation</u> Section

¹It will be required for Atlas personnel to verify subgrade competency at the time of construction.

- Aggregate Base: Material complying with ISPWC Standards for Type 1 Crushed Aggregate Materials.
- Structural Subbase: Material complying with ISPWC Section 801 for 3-inch or 6-inch Uncrushed Aggregate Materials. The maximum material diameter cannot exceed 2/3 the component thickness.

7.3 Pavement Subgrade Preparation

Uncontrolled fill was encountered in the vicinity of test pit 2. Atlas recommends that these fill materials be completely removed. The excavated fill materials can be replaced in accordance with the **Fill Placement and Compaction** section provided that all organic material and debris is completely removed. However, the existing fill materials are not suitable for use as either the base or subbase components of the recommended pavement section. Once final grades have been determined, Atlas is available to provide additional recommendations.

Native clay soils are moderately plastic and will be susceptible to shrink/swell movements associated with moisture changes. The clay soils (if exposed) should be scarified to a depth of 6 inches and compacted between 92 to 98 percent of the maximum dry density as determined by ASTM D698. The moisture content should be within 2 percent of optimum. Structural fill should be placed as soon as possible after compaction of clay soils in order to limit moisture loss within the upper clays. Structural fill must be compacted to at least 95 percent of the maximum dry density as determined by ASTM D1557.

7.4 Common Pavement Section Construction Issues

The subgrade upon which above pavement sections are to be constructed must be properly stripped, compacted (if indicated), inspected, and proof-rolled. Proof rolling of subgrade soils should be accomplished using a heavy rubber-tired, fully loaded, tandem-axle dump truck or equivalent. Verification of subgrade competence by Atlas personnel at the time of construction is required. Fill materials on the site must demonstrate the indicated compaction prior to placing material in support of the pavement section. Atlas anticipated that pavement areas will be subjected to moderate traffic. **Subgrade clayey and silty soils near and above optimum moisture contents may pump during compaction.** Pumping or soft areas must be removed and replaced with structural fill.



Fill material and aggregates, as well as compacted native subgrade soils, in support of the pavement section must be compacted to no less than 95 percent of the maximum dry density as determined by ASTM D698 for flexible pavements and by ASTM D1557 for rigid pavements. If a material placed as a pavement section component cannot be tested by usual compaction testing methods, then compaction of that material must be approved by observed proof rolling. Minor deflections from proof rolling for flexible pavements are allowable. Deflections from proof rolling of rigid pavement support courses should not be visually detectable.

8. CONSTRUCTION CONSIDERATIONS

8.1 Earthwork

Excessively organic soils, deleterious materials, or disturbed soils generally undergo high volume changes when subjected to loads, which is detrimental to subgrade behavior in the area of pavements, floor slabs, structural fills, and foundations. Mature trees, brush, and thick grasses with associated root systems were noted at the time of our investigation. It is recommended that organic or disturbed soils, if encountered, be removed to depths of 1 foot (minimum), and wasted or stockpiled for later use. However, in areas where trees are/were present, deeper excavation depths should be anticipated. Stripping depths should be adjusted in the field to assure that the entire root zone or disturbed zone or topsoil are removed prior to placement and compaction of structural fill materials. Exact removal depths should be determined during grading operations by Atlas personnel, and should be based upon subgrade soil type, composition, and firmness or soil stability. If underground storage tanks, underground utilities, wells, or septic systems are discovered during construction activities, they must be decommissioned then removed or abandoned in accordance with governing Federal, State, and local agencies. Excavations developed as the result of such removal must be backfilled with structural fill materials as defined in the **Structural Fill** section.

Atlas should oversee subgrade conditions (i.e., moisture content) as well as placement and compaction of new fill (if required) after native soils are excavated to design grade. Recommendations for structural fill presented in this report can be used to minimize volume changes and differential settlements that are detrimental to the behavior of footings, pavements, and floor slabs. Sufficient density tests should be performed to properly monitor compaction.

8.2 Grading

Positive grades must be maintained surrounding structures and pavements, including exterior slabs. The interface of plant bedding materials and underlying soils should be graded to provide drainage away from site elements. Otherwise, bedding materials may direct water to underlying fine-grained soils, which increases the potential for localized heave. Excessive watering of landscaping should be avoided.

8.3 Dry Weather

If construction is to be conducted during dry seasonal conditions, many problems associated with soft soils may be avoided. However, some rutting of subgrade soils may be induced by shallow groundwater conditions related to springtime runoff or irrigation activities during late summer through early fall. Solutions to problems associated with soft subgrade soils are outlined in the **Soft Subgrade Soils** section. Problems may also arise because of lack of moisture in native and fill soils at time of placement. This will require the addition of water to achieve near-optimum moisture levels. Low-cohesion soils exposed in excavations may become friable, increasing chances of sloughing or caving. Measures to control excessive dust should be considered as part of the overall health and safety management plan.

8.4 Wet Weather

If construction is to be conducted during wet seasonal conditions (commonly from mid-November through May), problems associated with soft soils **must** be considered as part of the construction plan. During this time of year, fine-grained soils such as silts and clays will become unstable with increased moisture content, and eventually deform or rut. Additionally, constant low temperatures reduce the possibility of drying soils to near optimum conditions.

8.5 Soft Subgrade Soils

Shallow fine-grained subgrade soils that are high in moisture content should be expected to pump and rut under construction traffic. During periods of wet weather, construction may become very difficult if not impossible. The following recommendations and options have been included for dealing with soft subgrade conditions:

- Track-mounted vehicles should be used to strip the subgrade of root matter and other deleterious debris. Heavy rubber-tired equipment should be prohibited from operating directly on the native subgrade and areas in which structural fill materials have been placed. Construction traffic should be restricted to designated roadways that do not cross, or cross on a limited basis, proposed roadway or parking areas.
- Soft areas can be over-excavated and replaced with granular structural fill.
- Construction roadways on soft subgrade soils should consist of a minimum 2-foot thickness of large cobbles of 4 to 6 inches in diameter with sufficient sand and fines to fill voids. Construction entrances should consist of a 6-inch thickness of clean, 2-inch minimum, angular drain-rock and must be a minimum of 10 feet wide and 30 to 50 feet long. During the construction process, top dressing of the entrance may be required for maintenance.
- Scarification and aeration of subgrade soils can be employed to reduce the moisture content of wet subgrade soils. After stripping is complete, the exposed subgrade should be ripped or disked to a depth of 1½ feet and allowed to air dry for 2 to 4 weeks. Further disking should be performed on a weekly basis to aid the aeration process.
- Alternative soil stabilization methods include use of geotextiles, lime, and cement stabilization. Atlas is available to provide recommendations and guidelines at your request.



8.6 Frozen Subgrade Soils

Prior to placement of structural fill materials or foundation elements, frozen subgrade soils must either be allowed to thaw or be stripped to depths that expose non-frozen soils and wasted or stockpiled for later use. Stockpiled materials must be allowed to thaw and return to near-optimal conditions prior to use as structural fill.

The onsite, shallow clayey and silty soils are susceptible to frost heave during freezing temperatures. For exterior flatwork and other structural elements, adequate drainage away from subgrades is critical. Compaction and use of structural fill will also help to mitigate the potential for frost heave. Complete removal of frost susceptible soils for the full frost depth, followed by replacement with a non-frost susceptible structural fill, can also be used to mitigate the potential for frost heave. Atlas is available to provide further guidance/assistance upon request.

8.7 Structural Fill

The following table defines the types of fill material that is suitable for use on the project. Refer to the **Fill Placement and Compaction** section for recommended placement locations for each fill type listed below.

Table 6 – Fill Material Criteria

Fill Type	Material	Lift Thickness*
Granular Structural Fill	ISPWC Section 801 for 1-inch, 3-inch, or 6-inch Uncrushed Aggregate and ISPWC Section 802 Aggregate Base	12 inches
Aggregate Base Material	ISPWC Section 802 for Type 1 Crushed Aggregate Base	12 inches
Subbase Material	ISPWC Section 801 for 3-inch or 6-inch Uncrushed Aggregate	12 inches
Suitable Soil**	Onsite/imported ML, SM, and GM soils that are free of organics and debris	6 inches

*Initial loose thickness, prior to compaction.

**Onsite CL and CH soils are unsuitable for use as fill material.

8.8 Fill Placement and Compaction

Requirements for fill material type and compaction effort are dependent on the planned use of the material. The following table specifies material type and compaction requirements based on the placement location of the fill material.

Table 7 – Fill Placement and Compaction Requirements

Fill Location	Material Type	Compaction
Foundations	Granular Structural Fill	95% of ASTM D1557
Interior Slab-on-Grade	Granular Structural Fill or Suitable Soil	95% of ASTM D1557
Top 4 Inches of Interior and Exterior Slab-on-Grade	Aggregate Base Material	95% of ASTM D1557
Below Pavement Subgrade and Exterior Flatwork Areas	Granular Structural Fill or Suitable Soil	95% of ASTM D698 or 92% of ASTM D1557
Foundation and Retaining Wall Backfill	Granular Structural Fill or Suitable Soil	95% of ASTM D1557
Utility Trench Backfill	Granular Structural Fill or Suitable Soil	Per ISPWC Section 306
Landscape Areas	Granular Structural Fill or Suitable Soil	92% of ASTM D698 or 90% of ASTM D1557

Prior to placement of structural fill materials, surfaces must be prepared as outlined in the **Earthwork** section. Structural fill material must be placed in horizontal lifts not exceeding 6-inches in thickness for fine-grained soils and 12-inches in thickness for granular structural fill, aggregate base material, and subbase material. All fill material must be moisture-conditioned to achieve optimum moisture content prior to compaction. During placement all fill materials must be monitored and tested to confirm compaction requirements have been achieved, as specified above, prior to placement of subsequent lifts. In addition, compacted surfaces must be in a firm and unyielding condition. Atlas personnel should be onsite to verify suitability of subgrade soil conditions, identify whether further work is necessary, and perform in-place moisture density testing.

Sufficient density tests should be performed to properly monitor compaction. At a minimum, Atlas recommends one test per lift as follows:

- Structures – 1 test every 5,000 square feet
- Pavement and Exterior Flatwork Areas – 1 test every 10,000 square feet
- Foundation and Retaining Wall Backfill – 1 test every 500 square feet
- Utility Trench Backfill – 1 test every 100 linear feet
- Landscape Areas – 1 test every 15,000 square feet

Silty soils require very high moisture contents for compaction, require a long time to dry out if natural moisture contents are too high, and may also be susceptible to frost heave under certain conditions. Therefore, these materials can be quite difficult to work with as moisture content, lift thickness, and compactive effort becomes difficult to control. If silty soil is used for structural fill, lift thicknesses should not exceed 6 inches (loose), and fill material moisture must be closely monitored at both the working elevation and the elevations of materials already placed. Following placement, the exposed surface must be protected from degradation resulting from construction traffic or subsequent construction. It is anticipated that fine-grained soils will not be suitable for reuse during the wet season.

Use of silty soils (GM, SM, and ML) as structural fill below footings is prohibited. For structural fill below footings, areas of compacted backfill must extend outside the perimeter of the footings for a distance equal to the thickness of fill between the bottom of foundation and underlying soils, or 5 feet, whichever is less.

If material contains more than 40 percent but less than 50 percent oversize (greater than ¾-inch) particles, compaction of fill must be confirmed per ISPWC Section 202.3.8.D.3. Material should contain sufficient fines to fill void spaces and must not contain more than 50 percent oversize particles.

8.9 Backfill of Walls

Backfill materials must conform to the requirements of structural fill, as defined in this report. For wall heights greater than 2.5 feet, the maximum material size should not exceed 4 inches in diameter. Placing oversized material against rigid surfaces interferes with proper compaction and can induce excessive point loads on walls. Backfill shall not commence until the wall has gained sufficient strength to resist placement and compaction forces. Further, retaining walls above 2.5 feet in height shall be backfilled in a manner that will limit the potential for damage from compaction methods and/or equipment. It is recommended that only small hand-operated compaction equipment be used for compaction of backfill within a horizontal distance equal to the height of the wall, measured from the back face of the wall.

Backfill should be compacted in accordance with the specifications for structural fill, except in those areas where it is determined that future settlement is not a concern, such as planter areas. In nonstructural areas, backfill must be compacted to a firm and unyielding condition. Atlas recommends in these areas that the top 12 inches must consist of a low permeability (clay or silt) soil to limit surface water infiltration.

Proper grading away from structures is critical. The surface must be graded away from the structure. In addition, Atlas recommends that roof drains carry stormwater at least 10 feet away from the structure.



8.10 Excavations

Shallow excavations that do not exceed 4 feet in depth may be constructed with side slopes approaching vertical. Below this depth, it is recommended that slopes be constructed in accordance with Occupational Safety and Health Administration (OSHA) regulations, Section 1926, Subpart P. Based on these regulations, on-site soils are classified as type "C" soil, and as such, excavations within these soils should be constructed at a maximum slope of 1½ feet horizontal to 1 foot vertical (1½:1) for excavations up to 20 feet in height. Excavations in excess of 20 feet will require additional analysis. Note that these slope angles are considered stable for short-term conditions only, and will not be stable for long-term conditions.

During the subsurface exploration, test pit sidewalls generally exhibited little indication of collapse. For deep excavations, native granular sediments cannot be expected to remain in position. These materials are prone to failure and may collapse, thereby undermining upper soil layers. This is especially true when excavations approach depths near the water table. Care must be taken to ensure that excavations are properly backfilled in accordance with procedures outlined in this report.

8.11 Groundwater Control

Groundwater was encountered during the investigation but is anticipated to be below the depth of most construction. Excavations below the water table will require a dewatering program. Dewatering will be required prior to placement of fill materials. Placement of concrete can be accomplished through water using a tremie. It may be possible to discharge dewatering effluent to remote portions of the site, to a sump, or to a pit. This will essentially recycle effluent, thus eliminating the need to enter into agreements with local drainage authorities. Should the scope of the proposed project change, Atlas should be contacted to provide more detailed groundwater control measures.

Special precautions may be required for control of surface runoff and subsurface seepage. It is recommended that runoff be directed away from open excavations. Silty and clayey soils may become soft and pump if subjected to excessive traffic during time of surface runoff. Pondered water in construction areas should be drained through methods such as trenching, sloping, crowning grades, nightly smooth drum rolling, or installing a French drain system. Additionally, temporary or permanent driveway sections should be constructed if extended wet weather is forecasted.



9. GENERAL COMMENTS

Based on the subsurface conditions encountered during this investigation and available information regarding the proposed development, the site is adequate for the planned construction. When plans and specifications are complete, and if significant changes are made in the character or location of the proposed development, consultation with Atlas must be arranged as supplementary recommendations may be required. Suitability of subgrade soils and compaction of structural fill materials must be verified by Atlas personnel prior to placement of structural elements. Additionally, monitoring and testing should be performed to verify that suitable materials are used for structural fill and that proper placement and compaction techniques are utilized.

10. REFERENCES

- American Association of State Highway and Transportation Officials (AASHTO) (1993). AASHTO Guide for Design of Pavement Structures 1993. Washington D.C.: AASHTO.
- American Concrete Institute (ACI) (2015). Guide for Concrete Floor and Slab Construction: ACI 302.1R. Farmington Hills, MI: ACI.
- American Society of Civil Engineers (2021). ASCE 7 Hazards Tool: Web Interface. [Online] Available: <<https://asce7hazardtool.online/>> (2023).
- American Society of Civil Engineers (ASCE) (2017). Minimum Design Loads for Buildings and Other Structures: ASCE/SEI 7-16. Reston, VA: ASCE.
- American Society for Testing and Materials (ASTM) (2017). Standard Test Method for Materials Finer than 75- μ m (No. 200) Sieve in Mineral Aggregates by Washing: ASTM C117. West Conshohocken, PA: ASTM.
- American Society for Testing and Materials (ASTM) (2019). Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates: ASTM C136. West Conshohocken, PA: ASTM.
- American Society for Testing and Materials (ASTM) (2021). Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort: ASTM D698. West Conshohocken, PA: ASTM.
- American Society for Testing and Materials (ASTM) (2021). Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort: ASTM D1557. West Conshohocken, PA: ASTM.
- American Society for Testing and Materials (ASTM) (2021). Standard Test Methods for California Bearing Ratio: ASTM D1883. West Conshohocken, PA: ASTM.
- American Society for Testing and Materials (ASTM) (2017). Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System): ASTM D2487. West Conshohocken, PA: ASTM.
- American Society for Testing and Materials (ASTM) (2017). Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils: ASTM D4318. West Conshohocken, PA: ASTM.
- American Society for Testing and Materials (ASTM) (2017). Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs: ASTM E1745. West Conshohocken, PA: ASTM.
- Idaho Department of Water Resources. Well Construction & Drilling. Find a Well Mapping Tool. [Online] Available: <<https://idwr.idaho.gov/wells/find-a-well-map/>> (2023).
- International Building Code Council (2018). International Building Code. Country Club Hills, IL: Author.
- Local Highway Technical Assistance Council (LHTAC) (2020). Idaho Standards for Public Works Construction. Boise, ID: Author.
- Othberg, K. L. and Stanford, L. A., Idaho Geologic Society (1993). Geologic Map of the Boise Valley and Adjoining Area, Western Snake River Plain, Idaho. (scale 1:100,000). Boise, ID: Joslyn and Morris.
- State of Idaho Department of Environmental Quality (December 2022). Technical Guidance Manual for Individual and Subsurface Sewage Disposal Systems. Boise, ID: Author.
- U.S. Department of Labor, Occupational Safety and Health Administration (2020). CFR 29, Part 1926, Subpart P Appendix A: Safety and Health Regulations for Construction, Excavations. Washington D.C.: OSHA.



APPENDIX I WARRANTY AND LIMITING CONDITIONS

Atlas warrants that findings and conclusions contained herein have been formulated in accordance with generally accepted professional engineering practice in the fields of foundation engineering, soil mechanics, and engineering geology only for the site and project described in this report. These engineering methods have been developed to provide the client with information regarding apparent or potential engineering conditions relating to the site within the scope cited above and are necessarily limited to conditions observed at the time of the site visit and research. Field observations and research reported herein are considered sufficient in detail and scope to form a reasonable basis for the purposes cited above.

Exclusive Use

This report was prepared for exclusive use of the property owner(s), at the time of the report, and their retained design consultants ("Client"). Conclusions and recommendations presented in this report are based on the agreed-upon scope of work outlined in this report together with the Contract for Professional Services between the Client and Atlas Technical Consultants ("Consultant"). Use or misuse of this report, or reliance upon findings hereof, by parties other than the Client is at their own risk. Neither Client nor Consultant make representation of warranty to such other parties as to accuracy or completeness of this report or suitability of its use by such other parties for purposes whatsoever, known or unknown, to Client nor Consultant. Neither Client nor Consultant shall have liability to indemnify or hold harmless third parties for losses incurred by actual or purported use or misuse of this report. No other warranties are implied or expressed.

Report Recommendations are Limited and Subject to Misinterpretation

There is a distinct possibility that conditions may exist that could not be identified within the scope of the investigation or that were not apparent during our site investigation. Findings of this report are limited to data collected from noted explorations advanced and do not account for unidentified fill zones, unsuitable soil types or conditions, and variability in soil moisture and groundwater conditions. To avoid possible misinterpretations of findings, conclusions, and implications of this report, Atlas should be retained to explain the report contents to other design professionals as well as construction professionals.

Since actual subsurface conditions on the site can only be verified by earthwork, note that construction recommendations are based on general assumptions from selective observations and selective field exploratory sampling. Upon commencement of construction, such conditions may be identified that require corrective actions, and these required corrective actions may impact the project budget. Therefore, construction recommendations in this report should be considered preliminary, and Atlas should be retained to observe actual subsurface conditions during earthwork construction activities to provide additional construction recommendations as needed.



Since geotechnical reports are subject to misinterpretation, **do not** separate the soil logs from the report. Rather, provide a copy of, or authorize for their use, the complete report to other design professionals or contractors. Locations of exploratory sites referenced within this report should be considered approximate locations only. For more accurate locations, services of a professional land surveyor are recommended.

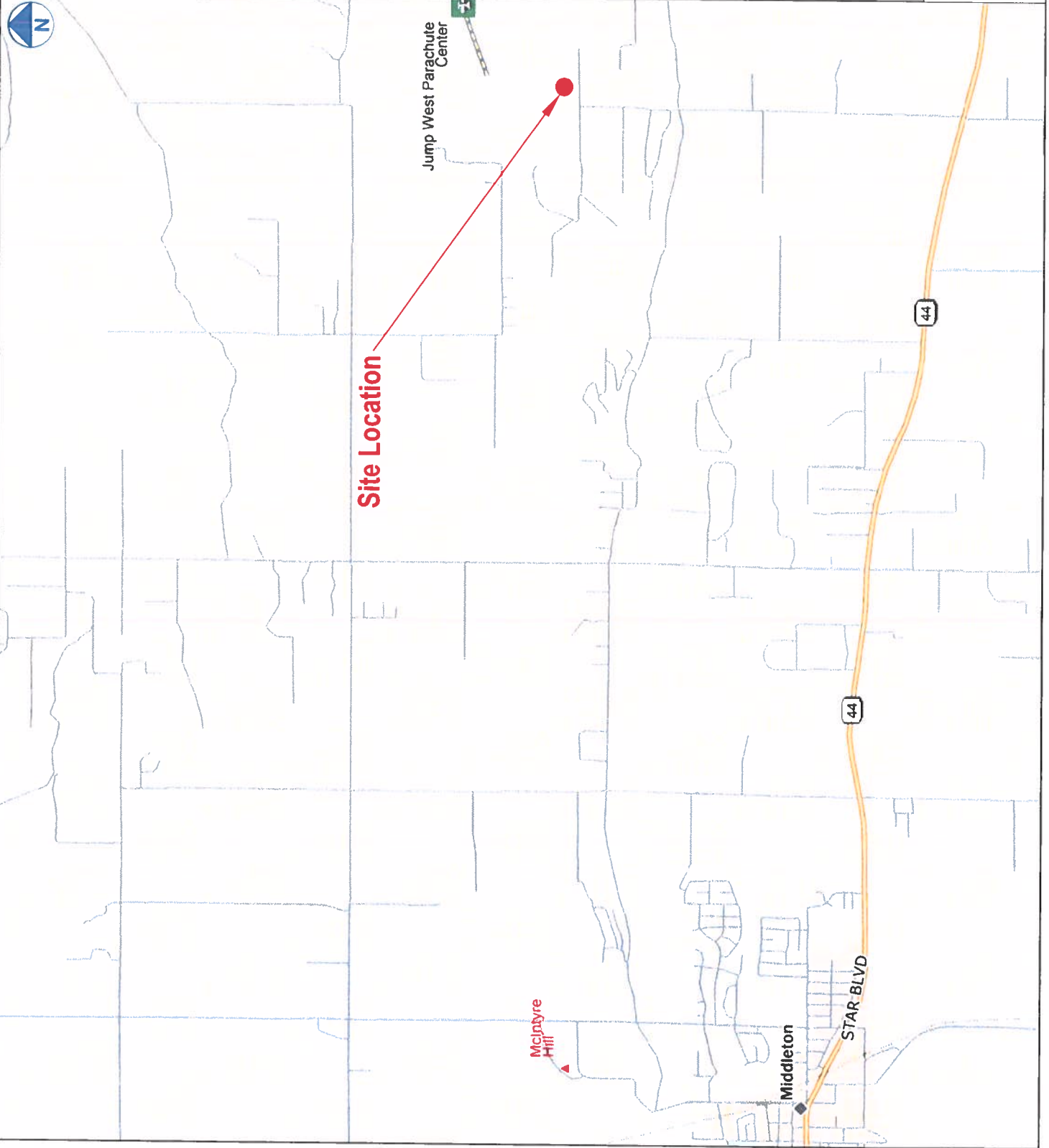
This report is also limited to information available at the time it was prepared. In the event additional information is provided to Atlas following publication of our report, it will be forwarded to the client for evaluation in the form received.

Environmental Concerns

Comments in this report concerning either onsite conditions or observations, including soil appearances and odors, are provided as general information. These comments are not intended to describe, quantify, or evaluate environmental concerns or situations. Since personnel, skills, procedures, standards, and equipment differ, a geotechnical investigation report is not intended to substitute for a geoenvironmental investigation or a Phase II/III Environmental Site Assessment. If environmental services are needed, Atlas can provide, via a separate contract, those personnel who are trained to investigate and delineate soil and water contamination.

Vicinity Map

Figure 1



MAP NOTES:

- DeLorme Street Atlas
- Not to Scale

LEGEND

Approximate Site Location



Freedom Acres Subdivision

24082 Blessinger Road
Star, ID

Modified from DeLorme by: CCW
June 12, 2023
Drawing: B230486g

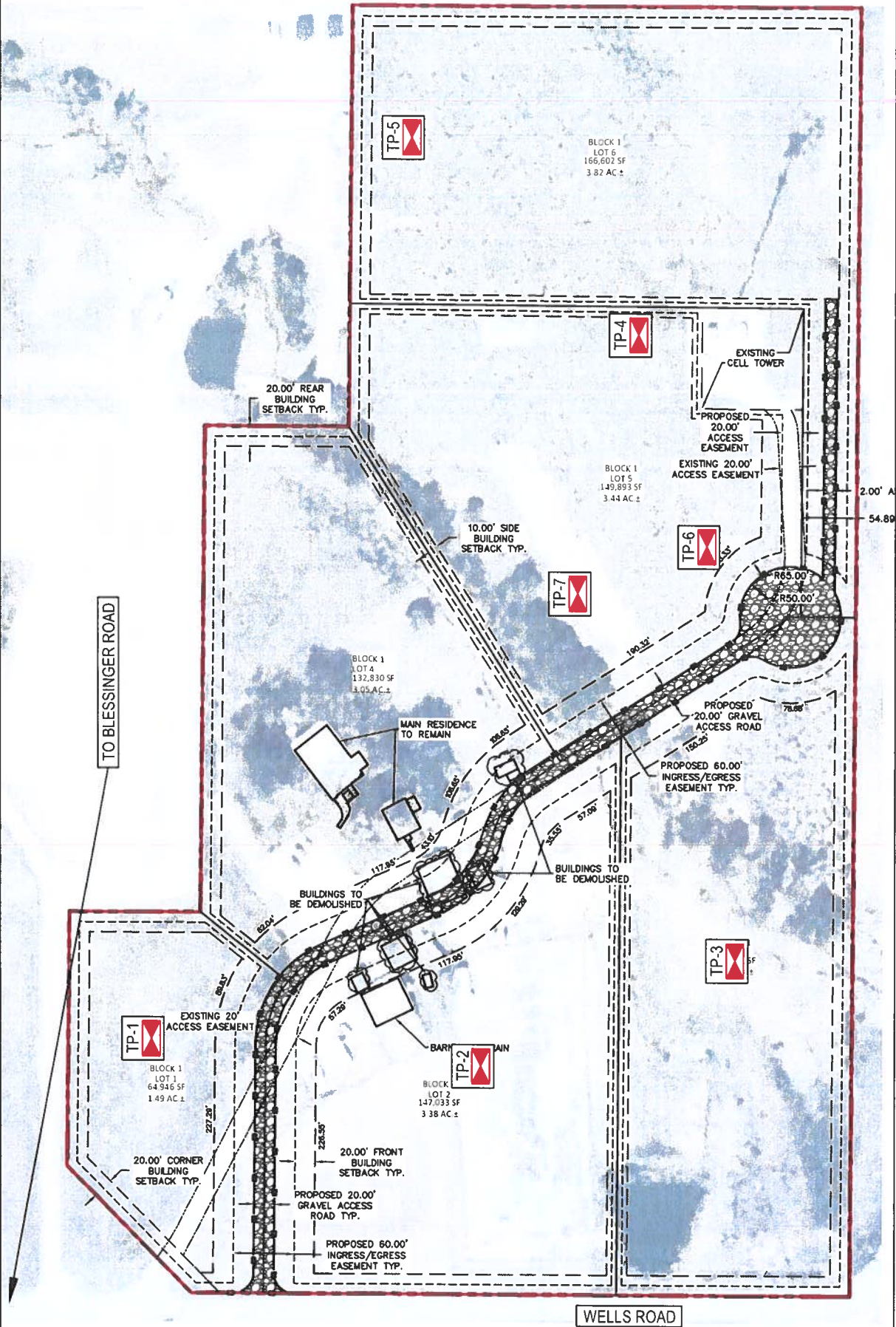


2791 S. Victory View Way Phone: (208) 376-4748
Boise, ID 83709 Fax: (208) 322-6515
Web: oneatlas.com

Figure 2





Site Map



Freedom Acres Subdivision
24082 Blessinger Road
Star, ID

Modified by: CCW
June 12, 2023
Drawing: B230486g

LEGEND

-  Approximate Site Boundary
-  Approximate Atlas Test Pit Location

NOTES:

- Not to Scale

ATLAS

2791 S. Victory View Way
Boise, ID 83709

Phone: (208) 376-4748
Fax: (208) 322-6515
Web: oneatlas.com



APPENDIX IV GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-1
Date Advanced: May 30, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT

Latitude: 43.722126
Longitude: -116.530307
Depth to Water Table: Not Encountered
Total Depth: 10.7 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-10.7	Silty Sand (SM): Light brown, dry to slightly moist, medium dense, with fine to coarse-grained sand. --Organic material encountered to 0.2 foot bgs. --Weak cementation encountered from 2.0 to 4.0 feet bgs. --Weak induration encountered from 9.0 to 10.7 feet bgs.	Sandy Loam B-1 (0.0-2.0 and 4.0-9.0) B-2* (2.0-4.0 and 9.0-10.7)	GS	4.0-5.0		A

Notes: See Site Map for test pit location.

*Soil has been lowered one subgroup because of weak cementation/induration.

Lab Test ID	Sieve Analysis (% Passing)		
	Sand	Silt	Clay
A	65.3	30.1	4.7

Lab Test ID	Moisture (%)	Sieve Analysis (% Passing)				
		#4	#10	#40	#100	#200
A	10.1	99	96	76	52	34.4



GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-2
Date Advanced: May 30, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT

Latitude: 43.721967
Longitude: -116.529033
Depth to Water Table: 11.0 feet bgs
Total Depth: 11.4 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-0.8	Silty Sand Fill (SM-FILL): Light brown, dry, loose, with fine to coarse-grained sand. --Organic material encountered to 0.2 foot bgs.	Fill Unsuitable				
0.8-3.2	Lean Clay (CL): Brown, slightly moist, stiff, with fine-grained sand.	Clay Unsuitable			1.75	
3.2-11.0	Sandy Silt (ML): Brown, slightly moist to wet, hard, with fine to medium-grained sand. --Weak to moderate cementation encountered from 3.2 to 7.7 feet bgs.	Loam Unsuitable* (3.2-7.7) B-2 (7.7-11.0)				
11.0-11.4	Poorly Graded Sand (SP): Light brown, saturated, medium dense, with fine to coarse-grained sand.	Sand A-2a				

Notes: See Site Map for test pit location.

*Soil is considered unsuitable because of the presence of cementation.



GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-3
Date Advanced: May 30, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT

Latitude: 43.721909
Longitude: -116.528142
Depth to Water Table: 5.5 feet bgs
Total Depth: 8.0 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-2.6	Fat Clay (CH): Brown, slightly moist, stiff, with fine-grained sand. --Organic material encountered to 0.4 foot bgs.	Clay Unsuitable			1.5	
2.6-7.5	Sandy Silt (ML): Brown, slightly moist to saturated, stiff to hard, with fine to coarse-grained sand. --Weak cementation encountered from 2.6 to 5.5 feet bgs.	Loam C-1* (2.6-5.5) B-2 (5.5-7.5)			4.5+ (upper zone)	
7.5-8.0	Poorly Graded Gravel with Silt and Sand (GP-GM): Light brown, saturated, medium dense, with fine to coarse-grained sand and fine to coarse gravel.	Very Gravelly Loamy Sand B-1**				

Notes: See Site Map for test pit location.

*Soil has been lowered one subgroup because of the presence of weak cementation.

**Soil has been lowered one subgroup because it is very gravelly.



GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-4
Date Advanced: May 30, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT

Latitude: 43.724180
Longitude: -116.528617
Depth to Water Table: Not Encountered
Total Depth: 10.5 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-2.0	Fat Clay (CH): Brown, dry to slightly moist, stiff, with fine-grained sand. --Organic material encountered to 0.5 foot bgs.	Clay Unsuitable			1.5	
2.0-6.0	Sandy Silt (ML): Brown, slightly moist to wet, stiff to hard, with fine to coarse-grained sand. --Weak cementation encountered from 2.0 to 4.0 feet bgs.	Loam C-1* (2.0-4.0) B-2 (4.0-6.0)			4.5+ (upper zone)	
6.0-10.5	Silty Sand (SM): Light brown, slightly moist, dense to very dense, with fine to coarse-grained sand. --Moderate induration encountered from 6.4 to 8.5 feet bgs.	Sandy Loam B-1 (6.0-6.4 and 8.5-10.5) Unsuitable** (6.4-8.5)				

Notes: See Site Map for test pit location.

*Soil has been lowered one subgroup because of the presence of weak cementation.

**Soil is considered unsuitable because of the presence of moderate induration.



GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-5
Date Advanced: May 30, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT

Latitude: 43.724481
Longitude: -116.529280
Depth to Water Table: Not Encountered
Total Depth: 10.3 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-3.0	Fat Clay (CH): Brown, dry to slightly moist, stiff, with fine-grained sand. --Organic material encountered to 0.6 foot bgs.	Clay Unsuitable			1.75	
3.0-5.0	Sandy Silt (ML): Light brown, dry, hard, with fine-grained sand. --Weak cementation encountered throughout.	Loam C-1*				
5.0-7.0	Poorly Graded Gravel with Silt and Sand (GP-GM): Light brown, dry to slightly moist, medium dense to dense, with fine to coarse-grained sand, fine to coarse gravel, and 8-inch minus cobbles.	Very Gravelly Loamy Sand B-1**				
7.0-10.3	Silty Sand (SM): Light brown, slightly moist, medium dense, with fine to coarse-grained sand and fine to coarse gravel.	Loamy Sand A-2b	GS	8.0-9.0		B

Notes: See Site Map for test pit location.

*Soil has been lowered one subgroup because of the presence of weak cementation.

**Soil has been lowered one subgroup because it is very gravelly.

Lab Test ID	Sieve Analysis (% Passing)		
	Sand	Silt	Clay
B	81.5	15.5	3.0

Lab Test ID	Moisture (%)	Sieve Analysis (% Passing)				
		#4	#10	#40	#100	#200
B	6.5	100	95	58	28	18.3



GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-6
Date Advanced: May 30, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT

Latitude: 43.723288
Longitude: -116.528185
Depth to Water Table: Not Encountered
Total Depth: 14.5 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-2.0	Sandy Silt (ML): Light brown, dry, stiff, with fine-grained sand. --Organic material encountered to 0.3 foot bgs.	Loam B-2			1.5	
2.0-7.0	Clayey Sand (SC): Light brown, slightly moist, medium dense, with fine to coarse-grained sand and minor fine gravel.	Sandy Clay Loam B-2				
7.0-14.5	Poorly Graded Sand with Silt (SP-SM): Light brown, slightly moist, medium dense, with fine to coarse-grained sand. --Minor clay nodules noted throughout.	Loamy Sand A-2b				

Notes: See Site Map for test pit location.



GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-7
Date Advanced: May 30, 2023
Excavated by: Turn of the Century Homes
Logged by: Colby Meyer, GIT

Latitude: 43.723222
Longitude: -116.528677
Depth to Water Table: Seepage at 11.5 feet bgs
Total Depth: 14.5 feet bgs

Depth (feet bgs)	Field Description and USCS Soil and Sediment Classification	USDA Soil Classification and Design Soil Subgroup	Sample Type	Sample Depth (feet bgs)	Qp	Lab Test ID
0.0-5.0	Clayey Sand (SC): Light brown, slightly moist, medium dense to dense, with fine to coarse-grained sand and fine to coarse gravel.	Sandy Clay Loam B-2	GS	3.0-4.0		C
5.0-14.5	Poorly Graded Sand with Silt (SP-SM): Light brown, slightly moist to wet, medium dense, with fine to coarse-grained sand and fine to coarse gravel. --Seepage noted at 11.5 feet bgs.	Loamy Sand A-2b				

Notes: See Site Map for test pit location.

Lab Test ID	Moisture (%)	LL	PI	Sieve Analysis (% Passing)				
				#4	#10	#40	#100	#200
C	6.6	34	22	98	80	28	15	13.1

APPENDIX V GEOTECHNICAL GENERAL NOTES

Unified Soil Classification System			
Major Divisions		Symbol	Soil Descriptions
Coarse-Grained Soils < 50% passes No.200 sieve	Gravel & Gravelly Soils < 50% coarse	GW	Well-graded gravels; gravel/sand mixtures with little or no fines
		GP	Poorly-graded gravels; gravel/sand mixtures with little or no fines
		GM	Silty gravels; poorly-graded gravel/sand/silt mixtures
		GC	Clayey gravels; poorly-graded gravel/sand/clay mixtures
	Sand & Sandy Soils > 50% coarse fraction	SW	Well-graded sands; gravelly sands with little or no fines
		SP	Poorly-graded sands; gravelly sands with little or no fines
		SM	Silty sands; poorly-graded sand/gravel/silt mixtures
Fine-Grained Soils > 50% passes No.200 sieve	Silts & Clays LL < 50	SC	Clayey sands; poorly-graded sand/gravel/clay mixtures
		ML	Inorganic silts; sandy, gravelly or clayey silts
		CL	Lean clays; inorganic, gravelly, sandy, or silty, low to medium-plasticity clays
	Silts & Clays LL > 50	OL	Organic, low-plasticity clays and silts
		MH	Inorganic, elastic silts; sandy, gravelly or clayey elastic silts
		CH	Fat clays; high-plasticity, inorganic clays
Highly Organic Soils		OH	Organic, medium to high-plasticity clays and silts
		PT	Peat, humus, hydric soils with high organic content

Relative Density and Consistency Classification	
Coarse-Grained Soils	SPT Blow Counts (N)
Very Loose:	< 4
Loose:	4-10
Medium Dense:	10-30
Dense:	30-50
Very Dense:	> 50
Fine-Grained Soils	SPT Blow Counts (N)
Very Soft:	< 2
Soft:	2-4
Medium Stiff:	4-8
Stiff:	8-15
Very Stiff:	15-30
Hard:	> 30

Moisture Content and Cementation Classification	
Description	Field Test
Dry	Absence of moisture, dry to touch
Slightly Moist	Damp, but no visible moisture
Moist	Visible moisture
Wet	Visible free water
Saturated	Soil is usually below water table
Description	Field Test
Weak	Crumbles or breaks with handling or slight finger pressure
Moderate	Crumbles or breaks with considerable finger pressure
Strong	Will not crumble or break with finger pressure

Particle Size	
Boulders:	> 12 in.
Cobbles:	12 to 3 in.
Gravel:	3 in. to 5 mm
Coarse-Grained Sand:	5 to 0.6 mm
Medium-Grained Sand:	0.6 to 0.2 mm
Fine-Grained Sand:	0.2 to 0.075 mm
Silts:	0.075 to 0.005 mm
Clays:	< 0.005 mm

Acronym List	
GS	grab sample
LL	Liquid Limit
M	moisture content
NP	non-plastic
PI	Plasticity Index
Q _p	penetrometer value, unconfined compressive strength, tsf
V	vane value, ultimate shearing strength, tsf

Important Information about This Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer

will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys.

Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the “Findings” Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site’s subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report’s Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals’ misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals’ plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note*

conspicuously that you’ve included the material for information purposes only. To avoid misunderstanding, you may also want to note that “informational purposes” means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled “limitations,” many of these provisions indicate where geotechnical engineers’ responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a “phase-one” or “phase-two” environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer’s services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, *proper implementation of the geotechnical engineer’s recommendations will not of itself be sufficient to prevent moisture infiltration.* Confront the risk of moisture infiltration by including building-envelope or mold specialists on the design team. *Geotechnical engineers are not building-envelope or mold specialists.*



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