Midway City Council
9 May 2018
Regular Meeting

Whitaker Farm /
Preliminary Approval

CITY COUNCIL MEETING STAFF REPORT

DATE OF MEETING: May 9, 2018

NAME OF PROJECT: Whitaker Farm

NAME OF APPLICANT: Luster Development

AGENDA ITEM: Phase 1 of Whitaker Farm Subdivision

LOCATION OF ITEM: 455 North River Road

ZONING DESIGNATION: RA-1-43

ITEM: 10

Luster Development, agent for Tom and Linda Whitaker, is proposing preliminary approval of the Whitaker Farm Subdivision. The proposal consists of 50 lots on 80 acres and contains 20 acres of open space. The property is located at 455 North River Road and is in the RA-1-43 zone.

BACKGROUND:

Luster Development is proposing preliminary approval of Whitaker Farms phase 1 which is located at 455 North River Road. The property is 80 acres and was proposed to be developed in two phases, but the developer would like to move forward with the development all developed in 1 phase. In all, there will be 50 lots in the development which will be developed as a large-scale standard subdivision. All roads in the development will be public roads which will require maintenance once the roads are accepted by the City. There will be 25% open space (20 acres) included in the development which is 10% more than the minimum requirement of 15%. The open space/common area will be owned by the homeowners' association (HOA) though the developer is in discussions with Utah Open Lands because of a possibility that Utah Open Lands will hold a conservation easement on the 20 acres which would be a tax benefit for

the land owner. There will also be a mix of public and private trails throughout the development along with a private amenity which is a barn that members of the community could use. The HOA barn could not be used for any commercial uses because of its location in a residential zone.

Sensitive land is located on the property and will be left undisturbed as required by the land use ordinance. For residential development, these sensitive lands are areas of slope 25% or greater. Most of the areas of slope that are 25% or greater are located in the open space area that contains part of Memorial Hill. There are some small areas of slope greater than 25% that are located on the far east side of the property and will located in some of the lots. For those lots, a building envelope will be placed on the plat limiting areas where structures will be located.

LAND USE SUMMARY:

- 80 acres
- RA-1-43 zoning
- Proposal contains 50 lots in one phase
- Project is a Standard Subdivision
- The lots will connect to the Midway Sanitation District sewer and to the City's water line.
- 8' paved public trail is planned to run north and south through the length of the property with a connection to Memorial Hill. There will also be a public trail that will alongside the eastern loop road.
- Sensitive lands of the property include areas of slope 25% or greater and wildlife habitat

ANALYSIS:

Open Space – The code requires 15% (12 acres) open space. The developer is proposing 25% (20 acres) open space and therefore meets the requirement of the code. The open space is also contiguous and connects to Memorial Hill.

Density – The applicant is asking for approval for 50 lots in the development as per the annexation agreement that was signed by the petitioner and the City. The applicant is bound to that agreement and cannot petition for more density unless an amendment is made to the annexation agreement. Generally, 80 acres in the RA-1-43

zone would allow about 68 lots (this is based on streets covering about 15% of the property).

Two Points of Access – The development plan has two points of access onto River Road. The two points of access on River Road do meet the City requirements regarding the two points of access construction standards. There is a third point of access planned on the southside of the property that will be stub road until connected to a future road.

Traffic Study – The developer has submitted a traffic study to the City as part of the application. Horrocks Engineers has reviewed that study to determine what road improvements are required. The developer is required, through the annexation agreement, to make significant improvements to River Road which include widening the road for a center turn lane and adding bike lanes on both sides of the road.

Geotechnical Study – The developer has submitted a geotechnical study to the City as part of the application. Horrocks Engineers is reviewing that study to determine if any special requirements are needed for construction of the roads and future structures in the development.

Public Participation Meeting – The developers have submitted a public participation plan which includes sending letters to all property owners within 600' and inviting them to comment on the plans. This requirement is to give the developers an opportunity to present the development to the surrounding residents of the proposed development and to address issues that the neighbors feel should be considered.

Sensitive Lands – Sensitive land is located on the property and will be left undisturbed as required by the land use ordinance. For residential development, these sensitive lands are areas of slope 25% or greater. Most areas of slope that are 25% or greater are located in the open space area that contains part of Memorial Hill. There are some small areas of slope greater than 25% that are located on the far east side of the property and will located in some of the lots. For those lots, a building envelope will be placed on the plat limiting areas where structures can be located.

Trails – The developer is required to build public trails as part of the proposal. The public trails will run along all roads in the development and will consist of 8' of paved surface.

Water Connection – The lots will connect to the City's water line located under River Road.

Sewer Connection – The lots will connect to Midway Sanitations District's sewer line that crosses through the property.

Road Cross Section – The developer is proposing a rural road cross section instead of the default urban cross section. The rural cross section has the same 56' right-of-way

width and 30’ of asphalt width but it includes an 8’ trail on one side of the street, 2’ flat concrete curb and a road side drainage ditch instead of the standard 5’ park strips and 5’ sidewalks with modified curb on both sides of the street. The rural cross section can only be approved if the Planning Commission and City Council both approve the road design. The rural cross section can only be petitioned if the average frontage of the lots is greater than 150’. This has been reviewed by staff and the average frontage is greater than 150’.

20-acre Whitaker Parcel – There are 20 acres located to the west of the 80-acre proposal that are associated with each other through the annexation agreement. All density in the 100-acre area will be part of one Homeowner’s Association. An HOA will be formed for the 50 lots and later, when the 20-acre area is developed, a 12-unit PUD will be created that will also be subject to the HOA as discussed when the property was considered for annexation.

Both phases will be one HOA – The developments located in the 100 acres (this proposal on 80 acres and a future proposal on the remaining 20 acres) owned by the annexation petitioners will all be one Home Owners’ Association.

View corridors – The development has been designed to maintain view corridors from Memorial Hill and from River Road. The positioning of the open space and lots will all the development to be mostly unseen from River Road.

Memorial Hill access – The developer must present and receive approval from the County Council of an access plan to Memorial Hill.

Landscaping Plan – A landscaping plan has been submitted to the City and a copy is attached to this report.

WATER BOARD RECOMMENDATION:

The Water Board reviewed the proposal and has preliminary recommended that 230-acre feet of water are required for the 80-acre proposal. The developer will need to return to the Water Board for so that a precise calculation can be made based on the current design proposal.

PLANNING COMMISSION RECOMMENDATION:

Motion: Commissioner Bouwhuis: I move that we recommend preliminary approval for the Whitaker Farm development by Luster Developments as presented. We accept all the findings from the staff and we also accept the proposed conditions one and two as listed in the report and that we add the recommendation that they modify the annexation agreement of the City to allow for a modified profile as agreed with the City along River Road. The final approval will be contingent upon approval from the County on the

Memorial Hill access and that the profile of the road be discussed with the annexation discussion with the City. Landscape plan must be submitted and approved by staff.
Seconded: Commissioner Streeter
Chairman Kohler: Any discussion on the motion?
There was none
Chairman Kohler: All in favor.
Ayes: Commissioners Streeter, Ream, Nicholas, Payne and Bouwhuis
Nays: None
Motion: Passed

PROPOSED FINDINGS:

- The proposed development does appear to comply with the requirements of the code for the RA-1-43 zone for frontage, acreage, and width

- The proposal does not have County approval for a new access to Memorial Hill

ALTERNATIVE ACTIONS:

1. Recommendation of Approval (conditional). This action can be taken if the Planning Commission feels the proposal complies with the requirements of the Land Use Code.

    a. Accept staff report
    b. List accepted findings
    c. Place condition(s) if needed

2. Continuance. This action can be taken if the Planning Commission feels that there are unresolved issues.

    a. Accept staff report
    b. List accepted findings
    c. Reasons for continuance
        i. Unresolved issues that must be addressed
    d. Date when the item will be heard again

3. Recommendation of Denial. This action can be taken if the Planning Commission feels that the request does not meet the intent of the ordinance.

    a. Accept staff report
    b. List accepted findings
    c. Reasons for denial

PROPOSED CONDITIONS:

1. The developer must present and receive approval from the County Council of an access plan to Memorial Hill before final approval is granted.

728 West 100 South
Heber, UT 84032
www.horrocks.com

HORROCKS
ENGINEERS

Heber Office
Tel: 435.654.2226
Fax: 435.657.1160

February 21, 2018

Midway City
Attn: Michael Henke
75 North 100 West
Midway, Utah 84049

Subject: Whitaker Farm Subdivision – Master Plan Review

Dear Michael:

Horrocks Engineers recently reviewed the Whitaker Farm subdivision plans for Master Plan approval. The proposed subdivision is located at approximately 450 River Road just north and east of Memorial Hill. The proposed subdivision consists of 50 lots. The following issues should be addressed.

General Comments

- All existing features need to be shown on plans such as existing asphalt, fences, ditches, buildings, houses, barns, etc. and details indicating what will be preserved or removed.
- The roads, culinary water, pressurized irrigation system, and storm drain systems within this development will be public infrastructure and maintained by Midway City.
- Each phase within the Master Plan is a stand-alone phase.

Water

- The proposed development will be served from the Gerber Mahogany pressure zone.
- The proposed development will connect to the existing 8" culinary water line in River Road.
- Each of the water lines within the development will be 8". The proposed culinary water system will provide fire flows.
- The current design only connects the water line to River Road at 600 North. To increase the fire flow and provide a redundant source, the development could connect to River Road within both connection roads and provide a looped system.

Roads

- The proposed roads within development will have right-of-way widths of 56'. The rural cross-section using a ribbon curb and an 8' trail on one side will be used.
- Design for access to the Memorial Hill road and parking lot off of the proposed roadways need to be addressed. The grade of the roadway onto the Memorial Hill road will need to be shown.

Trails

- It is proposed that a trail system will be installed throughout the subdivision. The proposed trail system will connect to Memorial Hill and continuing to the south property line.
- Trail cross sections and connectivity should be discussed.

Storm Drain

- No storm drain plans were submitted with this master plan. The storm water within the proposed development will need to be collected and retained onsite. Storm drain plans and runoff calculations will need to be submitted for the preliminary review.

The following items will need to be submitted for preliminary review:

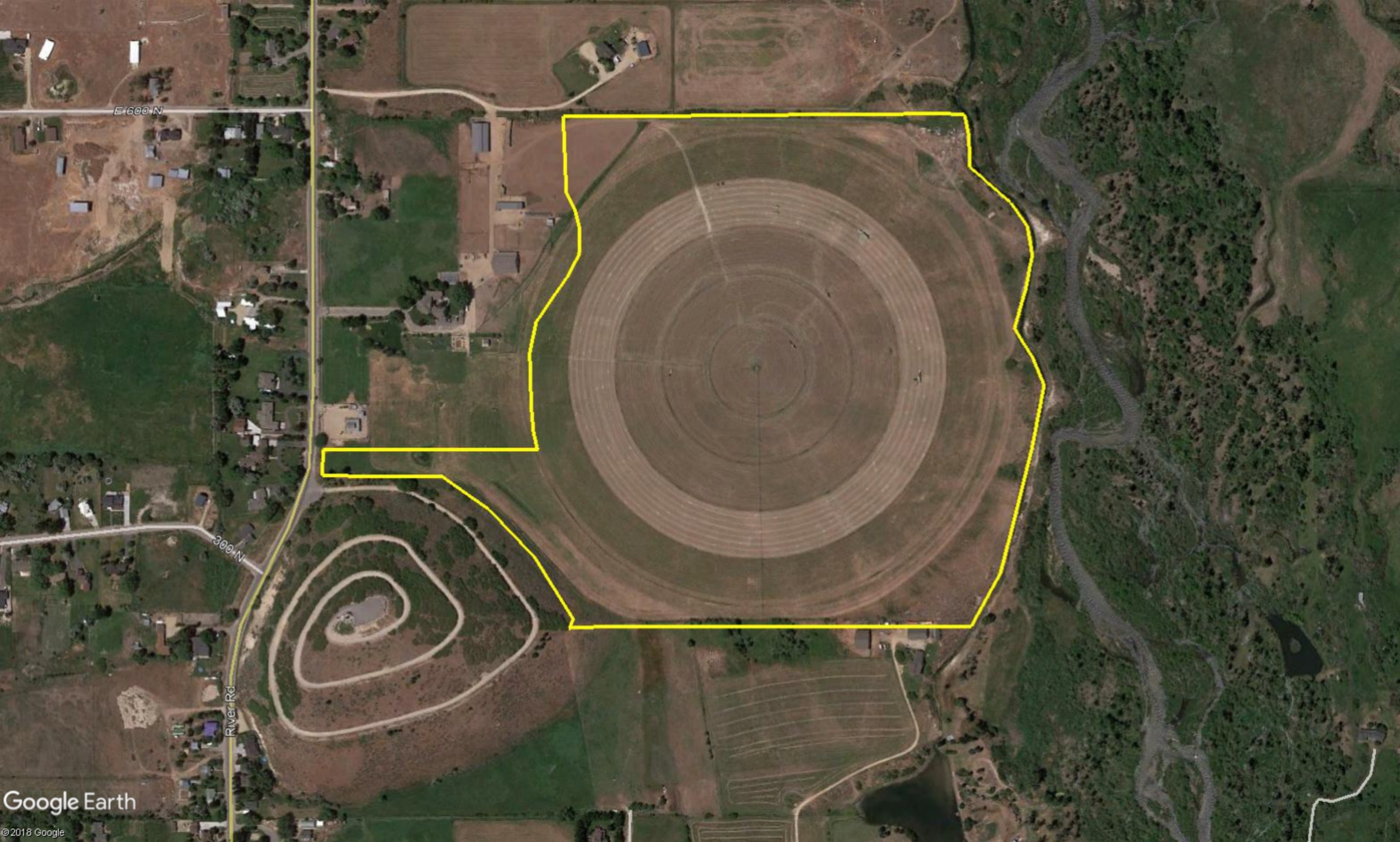
- Roadway cross sections
- Proposed design for River Road improvements including cross section and center turn lane. Along with proposed asphalt and cut/fill slope lines showing the widening limits of River Road.
- Memorial Hill parking lot design
- Geotechnical report
- Storm Drain plans and runoff calculations
- Pressurized Irrigation Plan

Please feel free to call our office with any questions.

Sincerely,
HORROCKS ENGINEERS

Wesley Johnson, P.E.
Midway City Engineer

cc: Summit Engineering Group Inc.


E 600 N
300 N
River Rd
Google Earth
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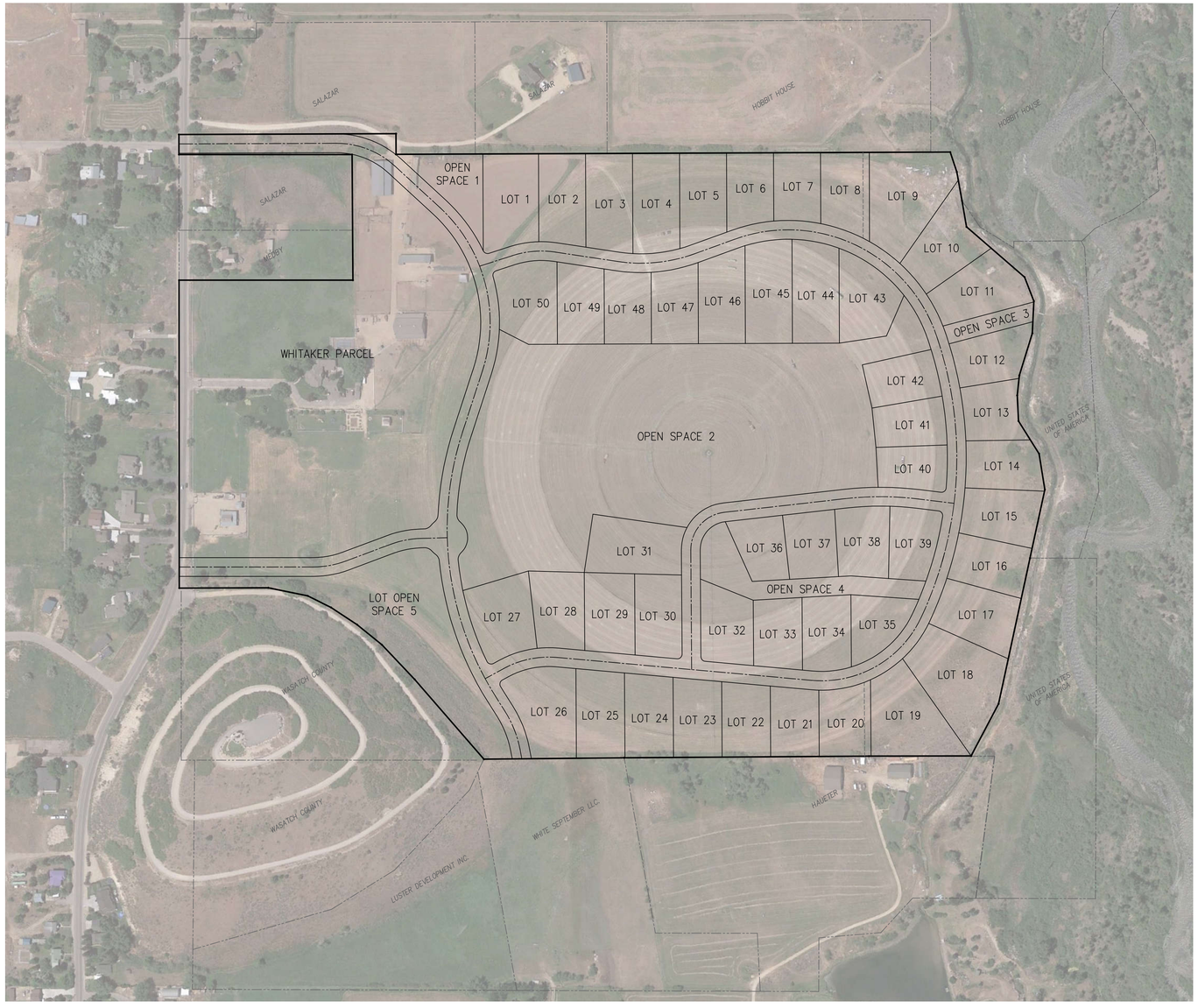
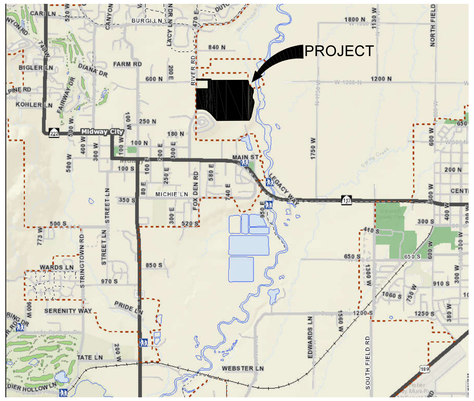
Preliminary Landscape Plan & Memorial Hill Parking

WHITAKER FARMS SUBDIVISION PRELIMINARY PLAT

200 0 100 200

1 INCH = 200 FT
(SCALE IN FEET)





VICINITY MAP

N.T.S.

PUBLIC UTILITY EASEMENTS:

ALL LOTS IN THIS SUBDIVISION ARE SUBJECT TO PUBLIC UTILITY EASEMENTS ALONG ALL PROPERTY LINES AS FOLLOWS:
FRONT: 10 FEET
REAR: 10 FEET
SIDE: 10 FEET

PROPERTY CORNER NOTES

1. 5/8" REBAR AND PLASTIC CAP STAMPED "SUMMIT ENG 435-654-9229" TO BE SET AT SUBDIVISION CORNERS AND REAR LOT CORNERS.

2. 1.17" COPPER PLUG STAMPED WP-RP 145796 TO BE SET AT POINTS WHERE EXTENSION OF SIDE LOT LINES INTERSECT CENTER OF CONCRETE STREET CURB.

ZONING INFORMATION

APPROVED MINIMUM SETBACKS ARE AS FOLLOWS UNLESS OTHER WISE APPROVED:
FRONT: 30 FEET
REAR: 30 FEET
SIDE: 14 FEET MINIMUM
30 FEET TOTAL

CORNER LOTS ARE SUBJECT TO A 30 FOOT BUILDING SETBACK ON THE STREET THAT IS NOT BEING FRONTED ON. ALL SETBACKS ARE SUBJECT TO HEBER CITY ZONING ORDINANCE REQUIREMENTS AT THE TIME A BUILDING PERMIT IS ISSUED.

PLAT NOTES:

1. NOTE 1

2. NOTE 2

3. NOTE 3

BOUNDARY DESCRIPTION

BEGINNING NORTH 89°46'06" EAST 552.55 FEET FROM THE NORTH ¼ CORNER OF SECTION 35, TOWNSHIP 3 SOUTH, RANGE 4 EAST, SALT LAKE BASE AND MERIDIAN. SAID NORTH 1/4 CORNER LIES SOUTH 85°32'21" WEST 1.98 FEET FROM A WASATCH COUNTY MONUMENT REFERENCING THE NORTH 1/4.

THENCE NORTH 89°46'06" EAST 1908.85 FEET ALONG THE SECTIONLINE; THENCE FOLLOWING ALONG RECORD OF SURVEY #545 THE FOLLOWING TWO (2) COURSES: 1) SOUTH 18°25'10" EAST 66.51 FEET; 2) SOUTH 10°16'10" EAST 94.00 FEET; THENCE FOLLOWING THE DEED FOR PROPERTY OWNED BY THE UNITED STATES OF AMERICA (ENTRY NO. 221202) THE FOLLOWING TEN (10) COURSES; 1) SOUTH 09°51'20" EAST 84.10 FEET; 2) SOUTH 49°04'15" EAST 245.07 FEET; 3) SOUTH 21°07'10" EAST 82.27 FEET; 4) SOUTH 02°39'15" WEST 102.71 FEET; 5) SOUTH 17°08'31" WEST 140.73 FEET; 6) SOUTH 06°05'45" WEST 64.07 FEET; 7) SOUTH 02°57'09" EAST 82.00 FEET; 8) SOUTH 32°09'13" EAST 123.39 FEET; 9) SOUTH 09°01'38" EAST 115.86; 10) SOUTH 12°11'03" WEST 223.51 FEET; THENCE FOLLOWING ALONG PROPERTY OWNED BY THE UNITED STATES OF AMERICA (ENTRY NO. 209025) THE FOLLOWING TWO (2) COURSES; 1) SOUTH 12°11'03" WEST 475.80 FEET; 2) SOUTH 27°44'45" WEST 188.06 FEET TO A FOUND REBAR; THENCE ALONG THE BOUNDARY OF RECORD OF SURVEY #1597, AS EVIDENCED BY FOUND REBARS, THE FOLLOWING THREE (3) COURSES: 1) SOUTH 89°51'40" WEST 326.08 FEET; 2) SOUTH 89°37'09" WEST 781.56 FEET; 3) SOUTH 89°25'44" WEST 447.30 FEET TO A FENCELINE; THENCE ALONG SAID FENCELINE FOR THE FOLLOWING SIX (6) COURSES: 1) NORTH 40°58'07" WEST 337.74 FEET; 2) NORTH 43°20'49" WEST 151.72 FEET; 3) NORTH 50°56'07" WEST 101.86 FEET; 4) NORTH 56°37'55" WEST 99.46 FEET; 5) NORTH 63°34'27" WEST 83.21 FEET; 6) NORTH 78°24'46" WEST 128.35 FEET; THENCE SOUTH 89°49'16" WEST 284.15 FEET ALONG A FENCELINE AND FENCELINE EXTENDED; THENCE NORTH 00°03'00" WEST 982.64 FEET ALONG THE CENTER OF SECTION LINE PER RECORD OF SURVEY #1597; THENCE EAST 554.89 FEET ALONG THE DEED LINE FOR ENTRY NO. 421908; THENCE NORTH 00°23'03" WEST 401.24 FEET ALONG A FENCELINE TO THE POINT OF BEGINNING. CONTAINING 103.543 ACRES.

BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS SURVEY IS NORTH 00°06'57" WEST 5322.62 FEET FROM THE MONUMENT REFERENCING THE NORTH 1/4 CORNER OF SECTION 35 TO THE 1995 WASATCH COUNTY MONUMENT AT THE NORTH ¼ CORNER OF SECTION 26, TOWNSHIP 3 SOUTH, RANGE 4 EAST, SALT LAKE BASE AND MERIDIAN IN CONFORMANCE WITH UTAH STATE PLANE COORDINATE SYSTEM 1983 CENTRAL ZONE BEARINGS.

SURVEYOR'S CERTIFICATE

IN ACCORDANCE WITH SECTION 10-9a-603 OF THE UTAH CODE, I, BING CHRISTENSEN, DO HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR HOLDING LICENSE NUMBER 145796 IN ACCORDANCE WITH TITLE 58, CHAPTER 22, OF THE PROFESSIONAL ENGINEERS AND PROFESSIONAL LAND SURVEYORS LICENSING ACT.

I FURTHER CERTIFY THAT I HAVE COMPLETED A SURVEY OF THE PROPERTY DESCRIBED ON THE PLAT IN ACCORDANCE WITH SECTION 17-23-17 OF THE UTAH CODE, AND HAVE VERIFIED ALL MEASUREMENTS, AND HAVE PLACED MONUMENTS AS REPRESENTED ON THE PLAT.

BING CHRISTENSEN
PROFESSIONAL LAND SURVEYOR

DATE

SURVEYOR'S SEAL

OWNER'S DEDICATION

KNOW ALL MEN BY THESE PRESENTS THAT I(WE) THE UNDERSIGNED OWNER(S) OF THE TRACT(S) OF LAND SHOWN AND DESCRIBED ON THIS SUBDIVISION PLAT, HAVE CAUSED THE SAME TO BE SUBDIVIDED INTO LOTS, STREETS, AND EASEMENTS, INCLUDING PUBLIC TRAIL EASEMENTS, TO BE HEREAFTER KNOWN AS THE _____ SUBDIVISION, DO HEREBY DEDICATE FOR THE PERPETUAL USE OF THE PUBLIC ALL PARCELS OF LAND SHOWN ON THIS PLAT AS INTENDED FOR PUBLIC USE.

IN WITNESS THEREOF, I HAVE HEREUNTO SET MY HAND THIS_____ DAY OF_____ , 2018.

FEE OWNER (OR AGENT) — PRINTED NAME — DATE

FEE OWNER (OR AGENT) — PRINTED NAME — DATE

ACKNOWLEDGEMENT

STATE OF_____ }
COUNTY OF_____ } S.S.

ON THIS_____DAY OF_____, 2018, PERSONALLY APPEARED BEFORE ME, THE UNDERSIGNED NOTARY PUBLIC, IN AND FOR SAID COUNTY OF_____, IN SAID STATE OF_____, THE SIGNER OF THE ABOVE OWNER'S DEDICATION, WHO AFTER BEING DULY SWORN, ACKNOWLEDGED TO ME THAT HE SIGNED THE OWNER'S DEDICATION FREELY AND VOLUNTARILY FOR AND IN BEHALF OF SAID CORPORATION FOR THE PURPOSES MENTIONED AND THAT SAID CORPORATION EXECUTED THE SAME.

NOTARY PUBLIC

ACCEPTANCE BY MIDWAY CITY

THE CITY COUNCIL OF MIDWAY CITY, WASATCH COUNTY, STATE OF UTAH, HEREBY APPROVES THIS SUBDIVISION AND ACCEPTS THE DEDICATION OF LOTS, EASEMENTS, STREETS AND PUBLIC RIGHTS-OF-WAY HEREON SHOWN.

APPROVED: MAYOR — DATE — ATTEST: CITY RECORDER (SEE SEAL BELOW) — DATE

APPROVED: CITY ENGINEER (SEE SEAL BELOW) — DATE — ATTEST: CITY ATTORNEY — DATE

MIDWAY IRRIGATION COMPANY

CHAIRMAN — DATE

MIDWAY SANITATION DISTRICT

CHAIRMAN — DATE

WASATCH COUNTY RECORDER

PROJECT	C18-004
SHEET	1 OF 3
ISSUE DATE	03/22/2018

Summit Engineering Group Inc.
Structural • Civil • Surveying
55 WEST CENTER • P.O. BOX 176
HEBER CITY, UTAH 84032
P: 435-654-9229 • F: 435-654-9231

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DRAWING ALTERATION

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF THE PROFESSIONAL LAND SURVEYOR TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY. IF THIS DOCUMENT IS ALTERED, THE ALTERING PERSON SHALL ATTACH TO IT THE SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

WHITAKER FARMS SUBDIVISION

LOCATED IN THE NORTHEAST 1/4 OF SECTION 35, TOWNSHIP 3 SOUTH, RANGE 4 EAST, SLB&M, MIDWAY CITY, WASATCH COUNTY, UTAH

WASATCH COUNTY SURVEYOR

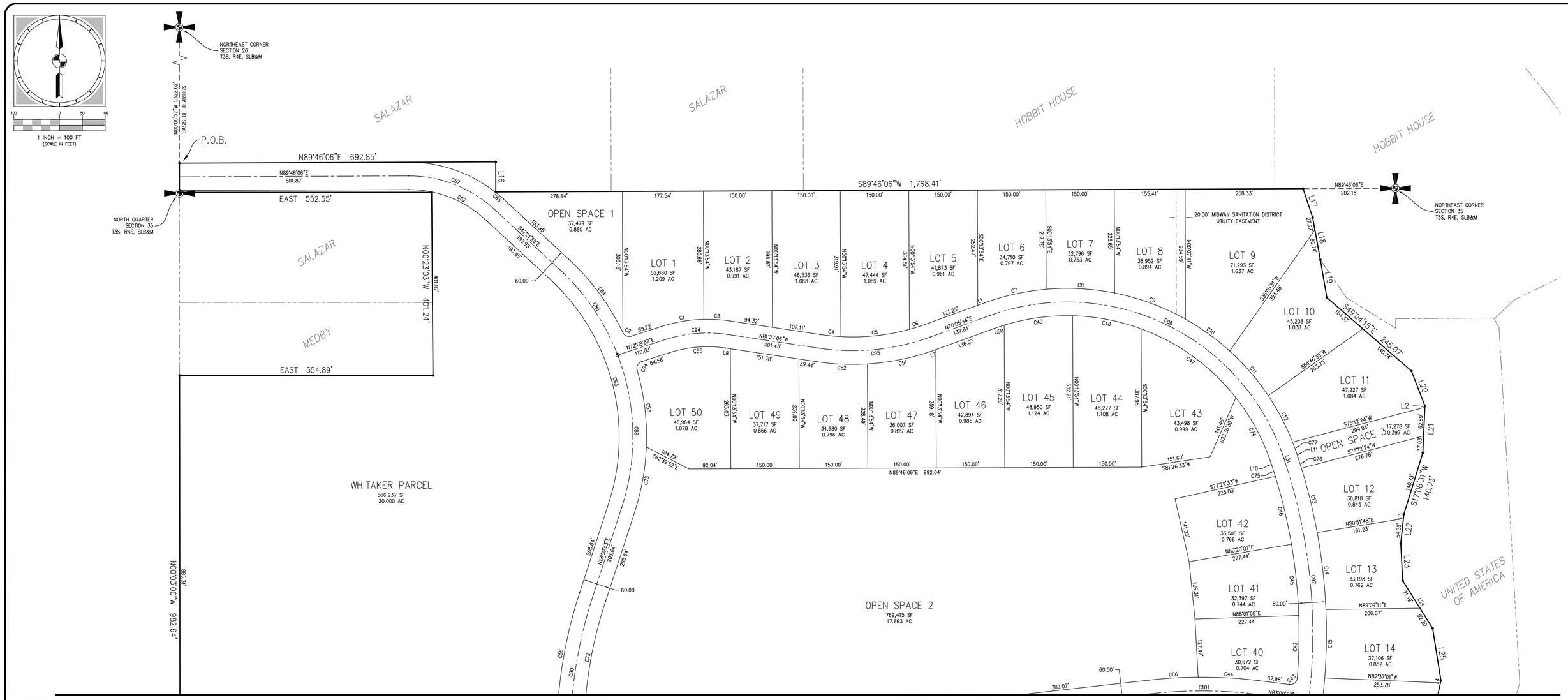
APPROVED AS TO FORM

SURVEYOR — DATE — ROS #

CITY ENGINEER SEAL

CLERK-RECORDER SEAL

Z:\SEG PROJECTS\CURRENT PROJECTS\C18-004 WHITAKER\WORKING FILES\SURVEY\DWG\C18-003 PRELIMINARY PLAT SHEET 2-3.DWG



CURVE TABLE					
CURVE	RADIUS	ARC LENGTH	DELTA ANGLE	CHORD LENGTH	CHORD BEARING
C1	330.00'	95.06'	16°30'18"	94.73'	S80°24'06"W
C2	15.00'	21.54'	82°17'43"	19.74'	N66°42'11"W
C3	330.00'	56.99'	9°53'39"	56.91'	N86°23'56"W
C4	470.00'	44.41'	5°24'48"	44.39'	N84°09'30"W
C5	470.00'	151.44'	18°27'43"	150.79'	S83°54'14"W
C6	470.00'	37.55'	4°34'39"	37.54'	S72°23'03"W
C7	530.00'	137.89'	14°54'24"	137.50'	S77°32'56"W
C8	530.00'	150.77'	16°17'56"	150.26'	N86°50'54"W
C9	530.00'	166.06'	17°57'07"	165.38'	N69°43'23"W
C10	530.00'	119.78'	12°56'57"	119.53'	N54°16'21"W
C11	530.00'	129.42'	13°59'28"	129.10'	N40°48'08"W
C12	530.00'	115.23'	12°27'24"	115.00'	N27°34'42"W
C13	1,230.00'	145.10'	6°45'32"	145.01'	N13°47'38"W
C14	1,230.00'	170.10'	7°55'25"	169.96'	N06°27'09"W
C15	1,230.00'	150.09'	6°59'30"	150.00'	N01°00'18"E
C16	1,230.00'	145.09'	6°45'31"	145.01'	N07°52'48"E
C17	1,230.00'	150.10'	6°59'31"	150.01'	N14°45'19"E
C18	380.00'	5.21'	0°47'08"	5.21'	N25°13'33"E
C19	1,230.00'	149.88'	6°58'54"	149.79'	N21°44'32"E
C20	380.00'	140.98'	21°15'27"	140.18'	N36°38'50"E
C21	380.00'	123.04'	18°33'04"	122.50'	N58°33'05"E
C22	380.00'	169.50'	25°33'24"	168.10'	N78°36'19"E
C23	380.00'	24.92'	3°45'27"	24.92'	S86°44'16"E
C24	380.00'	141.74'	21°22'16"	140.92'	N21°31'45"W
C25	970.00'	16.96'	1°00'05"	16.96'	N31°42'51"W
C26	15.00'	24.27'	92°42'03"	21.71'	N15°08'14"E
C27	270.00'	158.59'	33°39'12"	156.32'	N78°18'51"E
C28	330.00'	127.09'	22°03'54"	126.30'	S72°31'12"W
C29	15.00'	24.27'	92°42'03"	21.71'	N72°09'43"W
C30	970.00'	239.47'	14°08'42"	238.86'	N18°44'21"W
C31	330.00'	66.74'	11°35'18"	66.63'	S89°20'48"W
C32	15.00'	25.01'	95°31'18"	22.21'	S47°22'48"W
C33	150.00'	74.64'	28°30'38"	73.87'	S13°52'28"W
C34	15.00'	22.12'	84°28'42"	20.17'	N42°37'12"W
C35	320.00'	124.72'	22°19'50"	123.93'	S83°58'32"W

CURVE TABLE					
CURVE	RADIUS	ARC LENGTH	DELTA ANGLE	CHORD LENGTH	CHORD BEARING
C35	320.00'	124.72'	22°19'50"	123.93'	S83°58'32"W
C36	320.00'	265.72'	47°34'39"	258.15'	S49°01'18"W
C37	1,170.00'	50.57'	2°28'35"	50.56'	S23°59'41"W
C38	1,170.00'	213.62'	10°27'40"	213.32'	S14°26'55"W
C39	970.00'	88.09'	5°12'12"	88.06'	S85°36'59"E
C40	15.00'	24.15'	92°13'58"	21.62'	S36°53'54"E
C41	970.00'	139.22'	8°13'25"	139.10'	N87°40'13"E
C42	1,170.00'	137.50'	6°44'01"	137.42'	S01°23'09"W
C43	15.00'	24.15'	92°13'58"	21.62'	S50°52'08"W
C44	1,030.00'	133.05'	7°24'04"	132.96'	N86°42'55"W
C45	1,170.00'	156.91'	7°41'02"	156.79'	S05°49'23"E
C46	1,170.00'	153.09'	7°29'49"	152.98'	S13°24'48"E
C47	470.00'	259.80'	31°40'16"	256.50'	S54°00'54"E
C48	470.00'	153.50'	18°42'46"	152.87'	S79°12'24"E
C49	470.00'	151.99'	18°31'42"	151.33'	N82°10'22"E
C50	470.00'	23.07'	2°48'47"	23.07'	N71°30'07"E
C51	530.00'	151.84'	16°24'52"	151.32'	N78°18'10"E
C52	530.00'	111.36'	12°02'17"	111.15'	S87°28'15"E
C53	530.00'	170.55'	18°26'16"	169.82'	N06°51'05"W
C54	15.00'	23.10'	88°13'10"	20.88'	N28°02'22"E
C55	270.00'	124.40'	26°23'56"	123.30'	N85°20'55"E
C56	1,030.00'	278.50'	15°29'32"	277.66'	S10°16'07"W
C57	30.00'	25.56'	48°48'48"	24.79'	S26°53'44"W
C58	65.00'	15.59'	13°44'47"	15.56'	S44°27'45"W
C59	30.00'	26.62'	50°50'00"	25.75'	S63°00'21"W
C60	330.00'	109.00'	18°55'32"	108.51'	S78°57'35"W
C61	270.00'	96.62'	20°30'10"	96.10'	S79°44'55"W
C62	245.00'	132.41'	30°57'55"	130.80'	S62°50'28"E
C63	470.00'	536.25'	65°22'21"	507.64'	S14°40'18"E
C64	530.00'	201.68'	21°48'09"	200.46'	N36°27'24"W
C65	305.00'	23.77'	4°27'56"	23.77'	N49°35'27"W
C66	1,030.00'	108.32'	6°01'33"	108.27'	S86°34'17"W
C67	150.00'	145.11'	55°25'43"	139.52'	S55°50'39"W
C68	970.00'	97.10'	5°44'08"	97.06'	N08°47'56"W
C69	30.00'	27.77'	53°02'38"	26.79'	N20°35'27"E

CURVE TABLE					
CURVE	RADIUS	ARC LENGTH	DELTA ANGLE	CHORD LENGTH	CHORD BEARING
C70	65.00'	110.47'	97°22'49"	97.65'	N01°34'39"W
C71	30.00'	27.77'	53°02'38"	26.79'	N23°44'44"W
C72	910.70'	258.08'	16°14'14"	257.22'	N10°23'44"E
C73	530.00'	144.74'	15°38'51"	144.29'	N10°11'28"E
C74	470.00'	162.72'	19°50'11"	161.91'	S28°15'40"E
C75	1,170.00'	24.12'	1°10'52"	24.12'	S17°45'09"E
C76	1,230.00'	25.11'	1°10'15"	25.11'	N17°45'29"W
C77	530.00'	27.82'	3°00'25"	27.81'	N19°50'47"W
C78	1,170.00'	62.84'	3°04'38"	62.83'	S21°13'04"W
C79	90.00'	131.85'	83°56'21"	120.37'	N41°35'20"E
C80	1,030.00'	477.06'	26°32'15"	472.81'	S18°56'46"E
C81	320.00'	119.36'	21°22'16"	118.67'	S21°31'45"E
C82	330.00'	118.09'	20°30'10"	117.46'	N79°44'55"E
C83	270.00'	89.18'	18°55'32"	88.78'	N78°57'35"E
C84	30.00'	26.62'	50°50'00"	25.75'	S64°09'39"E
C85	65.00'	15.59'	13°44'47"	15.56'	S47°37'02"E
C86	30.00'	25.56'	48°48'48"	24.79'	S30°05'02"E
C87	275.00'	205.78'	42°52'26"	201.01'	N68°47'41"W
C88	500.00'	229.42'	26°17'21"	227.41'	S34°12'48"E
C89	500.00'	341.07'	39°05'00"	334.49'	S01°31'37"E
C90	1,000.00'	341.95'	19°35'32"	340.28'	N08°13'07"E
C91	1,000.00'	470.11'	26°56'06"	465.79'	N15°02'42"W
C92	1,000.00'	64.62'	3°42'08"	64.61'	N30°21'49"W
C93	350.00'	130.55'	21°22'16"	129.79'	S21°31'45"E
C94	300.00'	135.22'	26°23'56"	137.01'	N85°20'55"E
C95	500.00'	248.30'	28°27'10"	245.75'	N84°19'19"E
C96	500.00'	799.03'	91°33'42"	716.68'	N64°07'25"W
C97	1,200.00'	530.47'	25°19'42"	526.17'	N05°40'44"W
C98	1,200.00'	382.18'	18°14'51"	380.56'	N16°06'33"E
C99	350.00'	427.04'	69°54'29"	401.04'	N60°11'13"E
C100	300.00'	176.21'	33°39'12"	173.69'	N78°18'51"E
C101	1,000.00'	234.34'	13°25'37"	233.81'	S89°43'41"E
C102	120.00'	175.80'	83°56'21"	160.50'	S41°35'20"W
C103	300.00'	107.35'	20°30'10"	106.78'	N79°44'55"E
C104	300.00'	99.09'	18°55'32"	98.64'	S78°57'35"W

LINE TABLE		
LINE	BEARING	DISTANCE
L1	S70°05'44"W	16.58'
L2	S02°39'15"W	2.79'
L3	S06°05'45"W	9.72'
L4	S12°11'03"W	5.07'
L5	S89°51'40"W	6.50'
L6	S89°37'09"W	3.06'
L7	N70°05'44"E	1.80'
L8	S81°27'06"E	10.21'
L9	S88°25'21"W	10.80'
L10	S18°20'35"E	7.23'
L11	N18°20'35"W	7.23'
L12	N88°25'21"E	10.80'
L13	S10°50'37"E	31.05'
L14	S10°50'37"E	36.49'
L15	S10°50'37"E	25.61'
L16	S00°10'10"E	66.00'
L17	N18°25'10"W	66.51'
L18	S10°16'10"E	94.00'
L19	S09°51'20"E	84.10'
L20	N21°10'10"W	82.27'
L21	S02°39'15"W	102.71'
L22	S06°05'45"W	64.07'
L23	S02°57'09"E	87.60'
L24	S32°09'13"E	123.39'
L25	S09°01'38"E	115.86'
L26	S50°56'07"E	101.88'
L27	S56°37'55"E	99.46'
L28	S63°34'27"E	83.21'
L29	N00°03'00"W	30.00'
L30	N00°03'00"W	30.00'
L31	N18°20'35"W	7.23'

LEGEND

- SECTION LINES
- ADJACENT PROPERTY LINES
- PUBLIC UTILITY EASEMENT LINES
- BUILDING SETBACK LINES
- SET STREET MONUMENT
- EXTERIOR SUDIVISION CORNER, SET 5/8" REBAR AND CAP MARKED "SUMMIT ENGINEERING 435-654-9229"
- EXTERIOR SUDIVISION CORNERS WITH NO MARKERS SET
- BOUNDARY ANGLE POINT
- EASEMENT DESCRIPTION
- EASEMENT DESCRIPTION

PROJECT
C18-004

SHEET
2 OF 3

ISSUE DATE
03/22/2018

Summit Engineering Group Inc.
Structural • Civil • Surveying
55 WEST CENTER • P.O. BOX 176
HEBER CITY, UTAH 84032
P: 435-654-9229 • F: 435-654-9231

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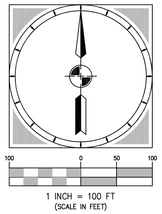
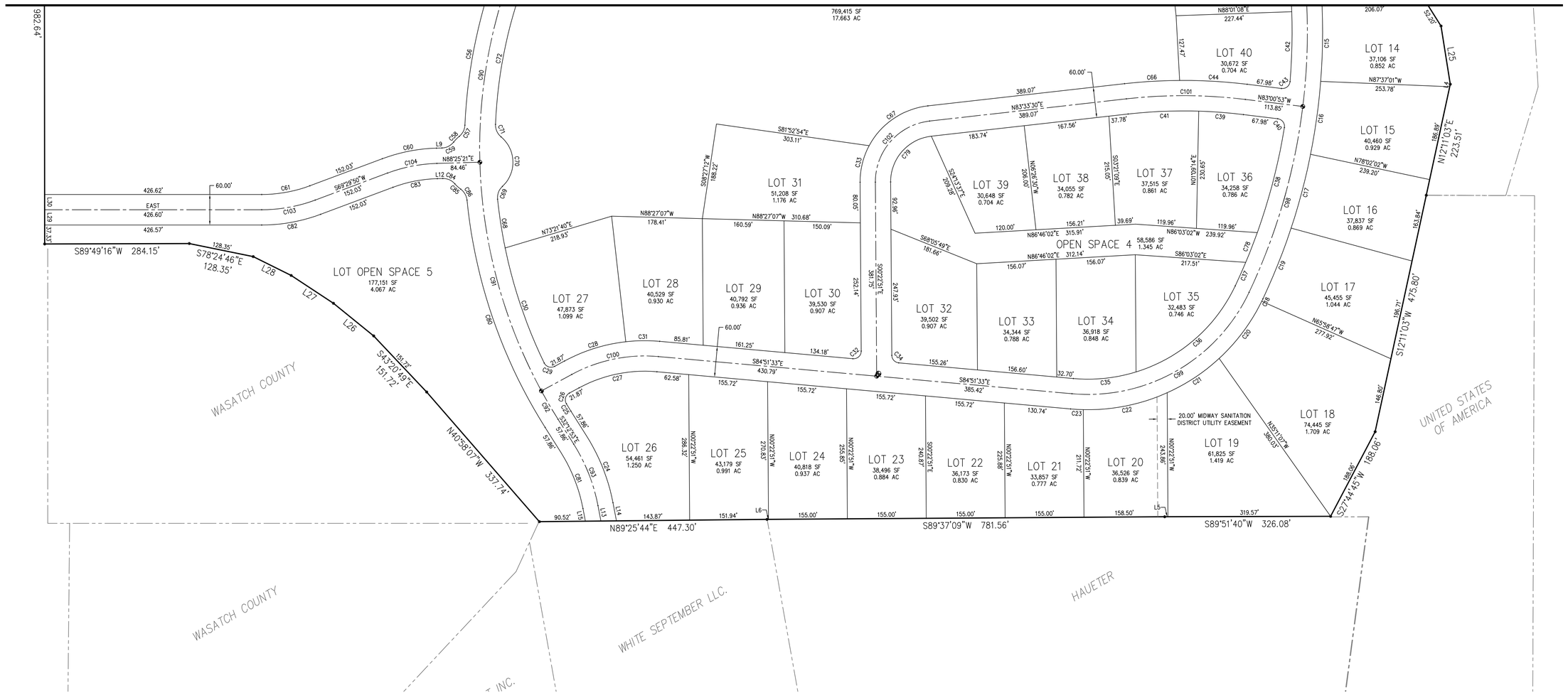
WHITAKER FARMS SUBDIVISION

LOCATED IN THE NORTHEAST 1/4 OF SECTION 35, TOWNSHIP 3 SOUTH, RANGE 4 EAST, SLB&M,
MIDWAY CITY, WASATCH COUNTY, UTAH

Z:\SEG PROJECTS\CURRENT PROJECTS\C18-004 WHITAKER\WORKING FILES\SURVEY\DWG\C18-003 PRELIMINARY PLAT SHEET 2-3.DWG





CURVE TABLE					
CURVE	RADIUS	ARC LENGTH	DELTA ANGLE	CHORD LENGTH	CHORD BEARING
C1	330.00'	95.06'	16°30'18"	94.73'	S80°24'06"W
C2	15.00'	21.54'	82°17'43"	19.74'	N66°42'11"W
C3	330.00'	56.99'	9°53'39"	56.91'	N86°23'56"W
C4	470.00'	44.41'	5°24'48"	44.39'	N84°09'30"W
C5	470.00'	151.44'	18°27'43"	150.79'	S83°54'14"W
C6	470.00'	37.55'	4°34'39"	37.54'	S72°23'03"W
C7	530.00'	137.89'	14°54'24"	137.50'	S77°30'58"W
C8	530.00'	150.77'	16°17'56"	150.26'	N86°50'54"W
C9	530.00'	166.06'	17°57'07"	165.38'	N69°43'23"W
C10	530.00'	119.78'	12°56'57"	119.53'	N54°16'21"W
C11	530.00'	129.42'	13°59'28"	129.10'	N40°48'08"W
C12	530.00'	115.23'	12°27'24"	115.00'	N27°34'42"W
C13	1,230.00'	145.10'	6°45'32"	145.01'	N13°47'38"W
C14	1,230.00'	170.10'	7°56'25"	169.96'	N06°27'09"W
C15	1,230.00'	150.09'	6°59'30"	150.00'	N01°00'18"E
C16	1,230.00'	145.09'	6°45'31"	145.01'	N07°52'48"E
C17	1,230.00'	150.10'	6°59'31"	150.01'	N14°45'19"E
C18	380.00'	5.21'	0°47'08"	5.21'	N25°37'13"E
C19	1,230.00'	149.88'	6°58'54"	149.79'	N21°44'32"E
C20	380.00'	140.98'	21°15'27"	140.18'	N36°38'50"E
C21	380.00'	123.04'	18°33'04"	122.50'	N56°33'05"E
C22	380.00'	169.50'	25°33'24"	168.10'	N78°36'19"E
C23	380.00'	24.92'	3°45'27"	24.92'	S86°44'16"E
C24	380.00'	141.74'	21°22'16"	140.92'	N21°31'45"W
C25	970.00'	16.96'	1°00'05"	16.96'	N31°42'51"W
C26	15.00'	24.27'	92°42'03"	21.71'	N15°08'14"E
C27	270.00'	158.59'	33°39'12"	156.32'	N78°18'51"E
C28	330.00'	127.09'	22°03'54"	126.30'	S72°31'12"W
C29	15.00'	24.27'	92°42'03"	21.71'	N72°09'43"W
C30	970.00'	239.47'	14°08'42"	238.86'	N18°44'21"W
C31	330.00'	66.74'	11°35'18"	66.63'	S89°20'48"W
C32	15.00'	25.01'	95°31'18"	22.21'	S47°22'48"W
C33	150.00'	74.64'	28°30'38"	73.87'	S13°52'28"W
C34	15.00'	22.12'	84°28'40"	20.17'	N42°37'12"W
C35	320.00'	124.72'	22°19'50"	123.93'	S83°58'32"W

CURVE TABLE					
CURVE	RADIUS	ARC LENGTH	DELTA ANGLE	CHORD LENGTH	CHORD BEARING
C35	320.00'	124.72'	22°19'50"	123.93'	S83°58'32"W
C36	320.00'	265.72'	47°34'39"	258.15'	S49°01'18"W
C37	1,170.00'	50.57'	2°28'35"	50.56'	S23°59'41"W
C38	1,170.00'	213.62'	10°27'40"	213.32'	S14°26'55"W
C39	970.00'	88.09'	5°12'12"	88.06'	S85°36'59"E
C40	15.00'	24.15'	92°13'58"	21.62'	S36°53'54"E
C41	970.00'	139.22'	8°13'25"	139.10'	N87°40'13"E
C42	1,170.00'	137.50'	6°44'01"	137.42'	S01°23'09"W
C43	15.00'	24.15'	92°13'58"	21.62'	S50°52'08"W
C44	1,030.00'	133.05'	7°24'04"	132.96'	N86°42'55"W
C45	1,170.00'	156.91'	7°41'02"	156.79'	S05°49'23"E
C46	1,170.00'	153.09'	7°29'49"	152.98'	S13°24'48"E
C47	470.00'	259.80'	31°40'16"	256.50'	S54°00'54"E
C48	470.00'	153.50'	18°42'46"	152.82'	S79°12'24"E
C49	470.00'	151.99'	18°31'42"	151.33'	N82°10'22"E
C50	470.00'	23.07'	2°48'47"	23.07'	N71°30'07"E
C51	530.00'	151.84'	16°24'52"	151.32'	N78°18'10"E
C52	530.00'	111.36'	12°02'17"	111.15'	S87°38'15"E
C53	530.00'	170.55'	18°26'16"	169.82'	N06°51'05"W
C54	15.00'	23.10'	88°13'10"	20.88'	N28°02'22"E
C55	270.00'	124.40'	26°23'58"	123.30'	N85°20'55"E
C56	1,030.00'	278.50'	15°29'32"	277.66'	S10°16'07"W
C57	30.00'	25.56'	48°48'48"	24.79'	S26°55'44"W
C58	65.00'	15.59'	13°44'47"	15.56'	S44°27'45"W
C59	30.00'	26.62'	50°50'00"	25.75'	S63°00'21"W
C60	330.00'	109.00'	18°55'32"	108.51'	S78°57'35"W
C61	270.00'	96.62'	20°30'10"	96.10'	S79°44'55"W
C62	245.00'	132.41'	30°57'55"	130.80'	S62°50'28"E
C63	470.00'	536.25'	65°22'21"	507.64'	S14°40'18"E
C64	530.00'	201.68'	21°48'09"	200.46'	N36°27'24"W
C65	305.00'	23.77'	4°27'56"	23.77'	N49°35'27"W
C66	1,030.00'	108.32'	6°01'33"	108.27'	S86°34'17"W
C67	150.00'	145.11'	55°25'43"	139.52'	S55°50'39"W
C68	970.00'	97.10'	5°44'08"	97.06'	N08°47'56"W
C69	30.00'	27.77'	53°02'38"	26.79'	N20°35'27"E

CURVE TABLE					
CURVE	RADIUS	ARC LENGTH	DELTA ANGLE	CHORD LENGTH	CHORD BEARING
C70	65.00'	110.47'	97°22'49"	97.65'	N01°34'39"W
C71	30.00'	27.77'	53°02'38"	26.79'	N23°44'44"W
C72	910.70'	258.08'	16°14'14"	257.22'	N10°23'44"E
C73	530.00'	144.74'	15°38'51"	144.29'	N10°11'28"E
C74	470.00'	162.72'	19°50'11"	161.91'	S28°15'40"E
C75	1,170.00'	24.12'	1°10'52"	24.12'	S17°45'09"E
C76	1,230.00'	25.11'	1°10'11"	25.11'	N17°45'29"W
C77	530.00'	27.82'	3°00'25"	27.81'	N19°50'47"W
C78	1,170.00'	62.84'	3°04'38"	62.83'	S21°13'04"W
C79	90.00'	131.85'	83°56'21"	120.37'	N41°35'20"E
C80	1,030.00'	477.06'	26°32'15"	472.81'	S18°56'46"E
C81	320.00'	119.36'	21°22'16"	118.67'	S21°31'45"E
C82	330.00'	118.09'	20°30'10"	117.46'	N79°44'55"E
C83	270.00'	89.18'	18°55'32"	88.78'	N78°57'35"E
C84	30.00'	26.62'	50°50'00"	25.75'	S66°09'39"E
C85	65.00'	15.59'	13°44'47"	15.56'	S47°37'02"E
C86	30.00'	25.56'	48°48'48"	24.79'	S30°05'02"E
C87	275.00'	205.78'	42°52'26"	201.01'	N68°47'41"W
C88	500.00'	229.42'	26°17'21"	227.41'	S34°12'48"E
C89	500.00'	341.07'	39°05'00"	334.49'	S01°31'37"E
C90	1,000.00'	341.95'	19°35'32"	340.28'	N08°13'07"E
C91	1,000.00'	470.11'	26°56'06"	465.79'	N15°02'42"W
C92	1,000.00'	64.62'	3°42'08"	64.61'	N30°21'49"W
C93	350.00'	130.55'	21°22'16"	129.79'	S21°31'45"E
C94	300.00'	138.22'	26°23'56"	137.01'	N85°20'55"E
C95	500.00'	248.30'	28°27'10"	245.75'	N84°19'19"E
C96	500.00'	799.03'	91°33'42"	716.68'	N64°07'25"W
C97	1,200.00'	530.47'	25°19'42"	526.17'	N05°40'44"W
C98	1,200.00'	382.18'	18°14'51"	380.56'	N16°06'33"E
C99	350.00'	427.04'	69°54'29"	401.04'	N60°11'13"E
C100	300.00'	176.21'	33°39'12"	173.69'	N78°18'51"E
C101	1,000.00'	234.34'	13°25'37"	233.81'	S89°43'41"E
C102	120.00'	175.80'	83°56'21"	160.50'	S41°35'20"W
C103	300.00'	107.35'	20°30'10"	106.78'	N79°44'55"E
C104	300.00'	99.09'	18°55'32"	98.64'	S78°57'35"W

LINE TABLE		
LINE	BEARING	DISTANCE
L1	S70°05'44"W	16.58'
L2	S02°39'15"W	2.79'
L3	S06°05'45"W	9.72'
L4	S12°11'03"W	5.07'
L5	S89°51'40"W	6.50'
L6	S89°37'09"W	3.06'
L7	N70°05'44"E	1.80'
L8	S81°27'06"E	10.21'
L9	S88°25'21"W	10.80'
L10	S18°20'35"E	7.23'
L11	N18°20'35"W	7.23'
L12	N88°25'21"E	10.80'
L13	S10°50'37"E	31.05'
L14	S10°50'37"E	36.49'
L15	S10°50'37"E	25.61'
L16	S00°10'10"E	66.00'
L17	N18°25'10"W	66.51'
L18	S10°16'10"E	94.00'
L19	S09°51'20"E	84.10'
L20	N21°07'10"W	82.27'
L21	S02°39'15"W	102.71'
L22	S06°05'45"W	64.07'
L23	S02°57'09"E	82.60'
L24	S32°09'13"E	123.39'
L25	S09°01'18"E	115.86'
L26	S50°56'07"E	101.86'
L27	S56°37'50"E	99.46'
L28	S63°34'27"E	83.21'
L29	N00°03'00"W	30.00'
L30	N00°03'00"W	30.00'
L31	N18°20'35"W	7.23'

LEGEND

- SECTION LINES
- ADJACENT PROPERTY LINES
- PUBLIC UTILITY EASEMENT LINES
- BUILDING SETBACK LINES
- SET STREET MONUMENT
- EXTERIOR SUDIVISION CORNER, SET 5/8" REBAR AND CAP MARKED "SUMMIT ENGINEERING 435-654-9229"
- EXTERIOR SUDIVISION CORNERS WITH NO MARKERS SET
- BOUNDARY ANGLE POINT
- EASEMENT DESCRIPTION
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PROJECT
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SHEET
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Summit Engineering Group Inc.
Structural • Civil • Surveying
55 WEST CENTER • P.O. BOX 176
HEBER CITY, UTAH 84032
P: 435-654-9229 • F: 435-654-9231

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MIDWAY CITY, WASATCH COUNTY, UTAH

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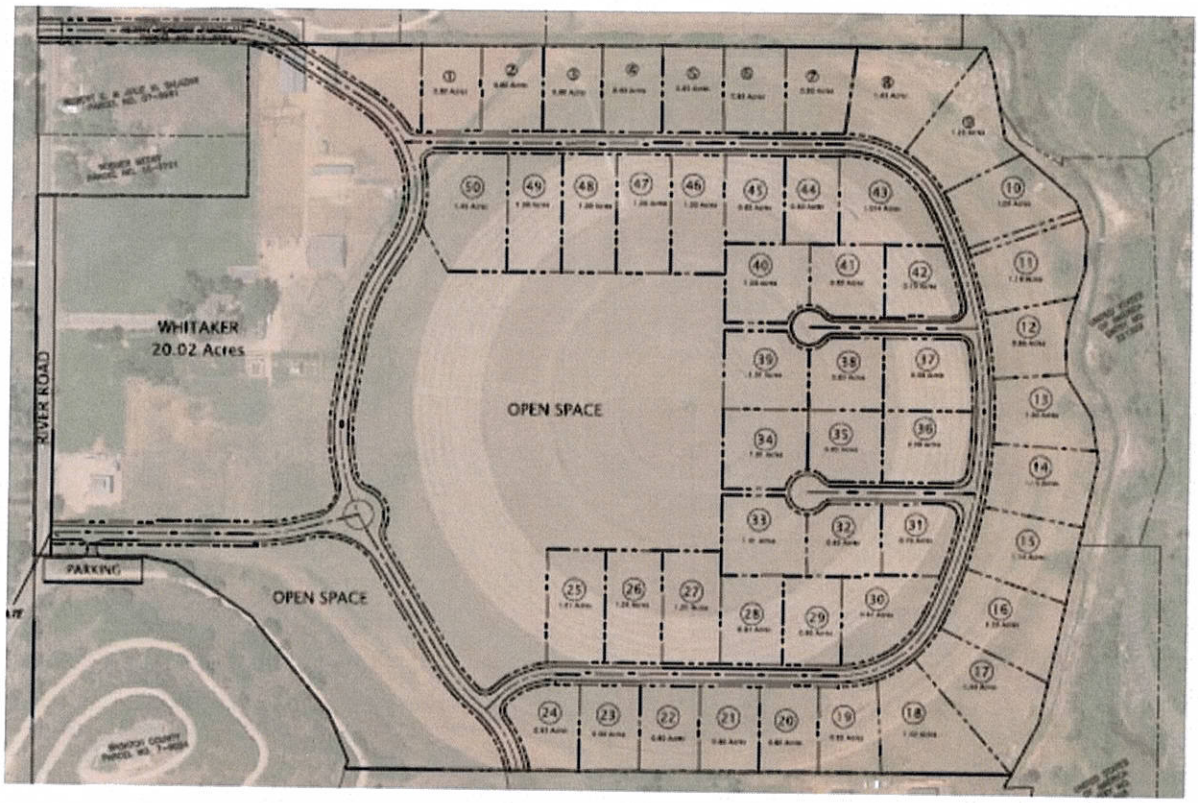
Whitaker Farm

Traffic Impact Study



Midway, Utah

December 2017

UT17-1162

LICENSED PROFESSIONAL ENGINEER
8905056
JEREMY E. SEARLE
12/14/17
STATE OF UTAH

1220 North 500 West, Ste. 202 Lehi, UT 84043 p 801.766.4343
www.halesengineering.com

EXECUTIVE SUMMARY

This study addresses the traffic impacts associated with the proposed Whitaker Farm development located in Midway, Utah. The proposed project is located on the east side of River Road, north of Main Street.

Included within the analyses for this study are the traffic operations and recommended mitigation measures for existing conditions and plus project conditions (conditions after development of the proposed project) at key intersections and roadways in the vicinity of the site.

The evening peak hour level of service (LOS) was computed for each study intersection. The results of this analysis are shown in Table ES-1.

TABLE ES-1
LOS Analysis - Evening Peak Hour
Midway - Whitaker Farms TIS

Intersection	Level of Service (Sec/Veh)[1]	
	Existing (2017) Background	Existing (2017) Plus Project
600 North / River Road	**A (6.3) / EB**	**A (6.2) / EB**
100 North / River Road	**A (5.7) / EB**	**A (5.9) / EB**
River Road / Main Street	**B (12.6) / SB**	**B (13.8) / SB**
Fox Den Road / Main Street	**A (7.9) / NB**	**A (7.6) / NB**
580 East / Main Street	**A (6.6) / NB**	**A (7.4) / NB**
Project Access / River Road[2]	**-**	**A (6.6) / WB**

1. Intersection LOS and delay (seconds/vehicle) values represent the overall intersection average for roundabout, signalized, all-way stop controlled intersections and the worst approach for all other unsignalized intersections.
2. This intersection is a project access and was only analyzed in "plus project" scenarios.

Source: Hales Engineering, December 2017

SUMMARY OF KEY FINDINGS/RECOMMENDATIONS

The following is a summary of key findings and recommendations:

- All study intersections are currently operating at an acceptable LOS during the evening peak hour in existing (2017) background conditions.
    - The project trips for the nearby Beaugency Subdivision, Indian Summer, and Midway Springs residential developments were included in the existing (2017) background volumes.
- The proposed development will consist of 50 single family housing units. It is anticipated that the project will generate approximately 550 daily trips, 43 morning peak hour trips, and 54 evening peak hour trips.
- All study intersections are anticipated to continue operating at an acceptable LOS during the evening peak hour with project traffic added.
- As part of the proposed project, River Road will be widened to a 3-lane cross section (one lane each direction with a center two-way left-turn lane) between 600 North and the South Project Access. This was included in the plus project analyses.
- No additional mitigation measures are recommended.
- An ADT analysis was also completed. The ADT analysis showed that all study roadways are currently operating at LOS B or better.
- The ADT analysis also projected future 2022 (5-year horizon) volumes. The projected ADT's show that the study roadways are anticipated to operate at LOS C or better in 2022 without project traffic. With the addition of project traffic (including Whitaker Farm and 5 other nearby projects), the roadways are still anticipated to operate at LOS C or better.
    - Therefore, it is anticipated that the existing roadways will be able to accommodate the proposed growth in the area.

CMT ENGINEERING LABORATORIES

ENGINEERING • ENVIRONMENTAL (ESA I & II)
MATERIALS TESTING •SPECIAL INSPECTIONS
ORGANIC CHEMISTRY

GEOTECHNICAL ENGINEERING STUDY

Whitaker Farms Development

510 N River Road,
Midway, Utah

Prepared For:

Mr. Dan Luster
143 West Farm Springs Lane
Midway, Utah 84049

CMT Project No. 10726
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1.0 INTRODUCTION

1.1 General

CMT Engineering Laboratories (CMT) was retained to conduct a geotechnical subsurface study for a proposed residential and commercial subdivision. The approximate 100 acre parcel is situated at 510 N River Road in Midway, Utah as shown in the vicinity map below.

Vicinity Map

1.2 Objectives, Scope and Authorization

The objectives and scope of our study were planned in discussions between Mr. Dallas Nichols of Summit Engineering, and Mr. Jeffrey Egbert of CMT Engineering Laboratories (CMT). In general, the objectives of this study were to define and evaluate the subsurface soil and groundwater conditions across the site, and provide appropriate foundation, earthwork, pavement and seismic recommendations to be utilized in the design and construction of the proposed development.

In accomplishing these objectives, our scope of work has included performing field exploration, which consisted of the drilling/logging/sampling of 11 bore holes, performing laboratory testing on representative samples, and conducting an office program, which consisted of correlating available data, performing engineering analyses,

and preparing this summary report. This scope of work was authorized by returning a signed copy of our proposal dated November 20, 2017 and executed on December 6, 2017.

1.3 Description of Proposed Construction

We understand that a luxury residential subdivision is planned on the approximately 100 acre site. The homes will likely be two stories above grade possibly with one level below grade (basements). They will be wood-frame construction supported on concrete footings and foundation walls. We anticipate that wall loads will be less than 5 kips per lineal foot and column loads will be less than 80 kips. If the loading conditions are different than we have projected, please notify us so that any appropriate modifications to our conclusions and recommendations contained herein can be made. A shallow storm drainage sump is also planned for the site.

1.4 Executive Summary

The most significant geotechnical aspects regarding site development include the following:

1. Foundations and floor slabs may be constructed entirely on suitable undisturbed natural soils, entirely on tufa (pot rock), or entirely on structural/engineered fill which extends to natural soils and/or the tufa rock.
2. Due to the dense nature of the tufa (pot rock), and absence of groundwater, liquefaction is not expected to be an issue for this site.

CMT must assess that topsoil, undocumented fills, and any debris, disturbed or unsuitable soils have been removed and that suitable soils have been encountered prior to placing site grading fills, footings, slabs, and pavements.

In the following sections, detailed discussions pertaining to the site and subsurface descriptions, geologic/seismic setting, earthwork, foundations, lateral resistance, lateral pressure, floor slabs, and pavements are provided.

2.0 FIELD EXPLORATION

2.1 General

In order to define and evaluate the subsurface soil and groundwater conditions at the site, eleven bore holes were completed with a truck mounted drill rig throughout the site to varying depths of approximately 5.5 to 16.5 feet below the existing ground surface. In some of the boreholes exploration depth was limited where the tufa (pot rock) was too dense for the drill augers to penetrate. Locations of the bore holes are presented on **Figure 1** in the appendix.

Samples of the subsurface soils encountered in the borings were collected at varying depths through the hollow stem drill augers. Disturbed samples were collected utilizing a standard split spoon sampler. The split spoon