NOTICE OF MEETING
OF THE
KANAB CITY COUNCIL

Notice is hereby given that the Kanab City Council will hold a regular council meeting on the **13th day of August 2024**, in the City Council chambers at the Kanab City Office, **26 N 100 E, Kanab, Utah**. The Council Meeting will convene at 6:30 p.m. and the agenda will be as follows:

WORK MEETING

1) **MAYOR AND COUNCIL BUSINESS – LIAISON REPORTS**

2) **CITY STAFF BUSINESS**

BUSINESS MEETING

1) **CALL TO ORDER AND ROLL CALL**

2) **PUBLIC COMMENT PERIOD:** Members of the public are invited to address the Council. Participants are asked to keep their comments to 3 minutes and follow the rules of civility outlined in Kanab Ordinance 3-601.

3) **CONSENT ITEMS:** (Consent contain routine, non-controversial items that require City Council action but need little or no City Council deliberation).

   A) Approval of City Council Minutes:
      Regular City Council Meeting – July 16, 2024 Meeting.
   B) Approval of Accounts Payable Vouchers
      Accounts Payable July 17, 2024 $184,358.45
      Accounts Payable July 23, 2024 $114,726.52
      Accounts Payable July 31, 2024 $23,403.94
      Accounts Payable August 7, 2024 $51,325.63

4) **BOARD COMMISSION, COMMITTEE APPOINTMENTS:**
   A) Discussion and consideration of the mayoral appointment of Susan Erickson to the Kanab City Heritage Board- (12/31/2025)

5) **PRESENTATIONS:** None at this time

6) **PUBLIC HEARING ITEMS:** None at this time

7) **ACTION ITEMS READY FOR VOTE:**
   A) Discussion and consideration of a final plat for phase 1 of the Ventana Resort Village located at approximately 600 E Kaneplex Rd (Parcel K-13-Utah) - Applicants Iron Rock Engineering/Mountain West Development
   B) Discussion and consideration of an ordinance approving a zone change for parcel K-7-2 from RR-1 (Rural Residential) to R-1-8 (Single Family Zone). -Applicants Ronald and Claudia Thomas.
   C) Discussion and consideration of authorizing the Mayor to sign the Airport Layout Plan for the Kanab Municipal Airport.
   D) Discussion and consideration of bids to replace and construct fencing for the Jacob Hamblin Park Baseball Fields and Kanab Connector Trailhead.
   E) Discussion and consideration of the purchase of mobile generator equipment for municipal water wells.
   F) Discussion and consideration of a resolution authorizing Kanab City to enter into the Kanab Creek Watershed, Utah Work Plan Agreement with the Natural Resources Conservation Service (NRCS).
   G) Discussion and consideration of the purchase of a tractor for the parks department.
   H) Discussion and consideration of the purchase of 3 trucks for the Public Works Department.
   I) Review of the proposed irrigation plans for the Ranchos Park and Cemetery Expansion.
   J) Strategy session to discuss pending or reasonably imminent litigation.

8) **ITEMS FOR DISCUSSION: None at this time**

9) **REVIEW AND DISCUSSION OF THE August 27, 2024 CITY COUNCIL MEETING AGENDA.**

ADDITIONAL NOTICES:
Times listed for each item on the agenda may be accelerated, as time permits, or taken out of order.
The public comment period and public hearings are intended for the public to provide input to the Council or to pose questions individuals believe the Council and City staff should consider. Public hearings are not intended for individual members of the public to engage in conversation. While questions may be posed by a member of the public, the Council and City staff will attempt to refrain from answering or engaging in conversation during the public hearing.
An item listed on the agenda may be discussed in a closed portion of the public meeting, in which the public may be excused, if it meets the criteria outlined in the Open and Public Meetings Act (*see* Utah Code 52-4-204 and -205).
If you are planning to attend this public meeting and due to a disability need assistance in understanding or participating in the meeting, please notify the City eight (8) or more hours in advance of the meeting, and we will try to provide whatever assistance may be required. Please contact Celeste Cram at the Kanab City offices.

Kanab City Council Meeting
July 16th, 2024
Kanab City Council Chambers
26 North 100 East
6:30 PM

Work Meeting

1. **Mayor and Council Business – Liaison Reports**

Liaison Report

Councilmember Chamberlain – Planning Commission had a discussion on several items that will be discussed in tonight's Council Meeting.
Councilmember Banks – The Library Board and Arts Council both have been busy with events and programs. The Library is in the seventh week of the summer reading program. The Library re-certification with the State has been completed.
Councilmember Corry – The CEBA meeting was canceled. The Beautification Committee hasn't met recently.
Mayor Johnson – Baseball finished the season. Football registration is open and the season will be starting soon.
Councilmember Heaton – He thanked the Fire Department for the fireworks show on the 4th of July. The Fire Department thanked the Kanab City Parks Department for their help with the fireworks. Kaden Ramsay is graduating POST this week and the newest officer just started POST. The Heritage Board will meet in August.
Councilmember Colson – The Connector Trail trailhead will be paved this week.

City Staff Business – Mr. Ludwig stated that the Airport Fuel Farm project has been approved. City Staff is doing a presentation at the Rec and Transportation meeting tomorrow on projects they have helped with funding; baseball field lights and the fuel truck at the airport. Mr. Ludwig reported Kane County held a Public Hearing for a fire district. The liner at the pool will be replaced this winter.

Business Meeting

Call to Order and Roll Call – Mayor Johnson called the meeting to order. Councilmember Chamberlain offered the invocation. Councilmember Colson led the pledge of allegiance.

In attendance: Mayor Johnson, Councilmember Banks, Councilmember Corry, Councilmember Colson, Councilmember Chamberlain, Councilmember Heaton, Councilmember Colson; City

Manager Kyler Ludwig; Deputy Recorder Danielle Ramsay; Building Inspector & Land Use Coordinator Janae Chatterley; and City Attorney Kent Burggraaf.

Not in attendance – None

2. Public Comment Period – No public comment was made.

3. Consent Items:

a. Approval of City Council Minutes:
June 25th, 2024 Regular City Council Meeting.
b. Approval of Accounts Payable Vouchers
i. Accounts Payable June 26, 2024 $111,326.27
ii. Accounts Payable July 2, 2024 $107,015.60
iii. Accounts Payable July 10, 2024 $184,879.38

Councilmember Heaton made a motion to approve the consent items as listed in the packet. Councilmember Colson seconds, unanimous vote. Motion passed**.**

4. BOARD COMMISSION, COMMITTEE APPOINTMENTS:

a. Discussion and consideration of the appointment of MarLee Swain as a Planning Commissioner (12/31/2025).

b. Discussion and consideration of the appointment of Mitchell Glazier as a Planning Commission Alternate (12/31/2027)

c. Discussion and consideration of the appointment of Spence Young as a member of the Kanab Heritage Board (12/31/2024)

Mayor Johnson thanked Heather Russell for her time and willingness to serve on the Planning Commission.

Councilmember Colson made a motion to approve the Board and Commission Committee appointments as listed with Marlee Swain to Planning Commission term ending 12/31/2025, Mitchell Glazier as Planning Commission Alternate term ending 12/31/2027, and Spence Young to the Kanab Heritage Board term ending 12/31/2024. Councilmember Chamberlain seconds, unanimous vote. Motion passed.

5. PRESENTATIONS: None at this time.

6. **PUBLIC HEARING ITEMS:** None at this time.

7. **ACTION ITEMS READY FOR VOTE:**

a. **Discussion and consideration of an ordinance approving a text amendment to the Kanab Land Use Ordinance Chapter 1 and Chapter 4-10 regarding accessory buildings.**

Mrs. Chatterley stated that On June 4, the Planning Commission accepted a petition for a text amendment to allow an accessory building to be built on a residential lot without the requirement of a primary residence. During the work discussion, the planning commission expressed that they would like to see content that limited the size of the accessory building based on the lot size. Staff has provided two different options that may be discussed and modified as needed.
The Planning Commission discussed the amendments and size options staff has presented. The consensus was to limit the size of the accessory buildings by the square footage of the building rather than percentage of lot. Planning commission did not want to restrict accessory buildings for the residential agriculture zones and asked that an exception be added for the RA zone. Staff discussed the current requirement in the ordinance that restricts an accessory building from having a combined footprint greater than 100% of the living area of the primary residence. Planning commission recommended removing the requirement. A positive recommendation was made with the additional amendments, the vote was unanimous.

The Council discussed the proposed amendments to the ordinance in great detail.

Councilmember Corry made a motion to approve Ordinance 7-1-24 O, an ordinance approving a text amendment to the Kanab Land Use Ordinance Chapter 1 and Chapter 4-10 regarding accessory buildings with the proposed amendments as discussed; remove residential agriculture zone in section G, add non-commercial to section G(b), amend the size requirement to maximum size of 10% of lot size, with a maximum of 5,000 square feet (whichever is less) in section G(c). Councilmember Heaton seconds, unanimous vote. Motion passed.

Councilmember Chamberlain - YES
Councilmember Banks - YES
Councilmember Corry - YES
Councilmember Heaton - YES
Councilmember Colson - YES
Motion Passed

b. **Discussion and consideration of an ordinance approving a text amendment to the Kanab Land Use Ordinance Chapter 9, Chapter 17, and Chapter 19 amending legislative decisions in State Code.**

Mrs. Chatterley stated that during previous legislative session, State code was changed restricting municipalities to prohibit water wise landscaping or certain design standards on one- and two-family dwellings. Staff has identified the need to amend Chapter 9-8 Landscaping requirements for site plan

reviews, Chapter 17-8 Design Standards for a two-family dwelling, and Chapter 19-7 Design Standards for a two-family dwelling. The Planning Commission reviewed and briefly discussed the proposed amendments. A positive recommendation was made to adopt the proposed amendments in exhibit A & B, vote was unanimous.

Councilmember Banks made a motion to approve Ordinance 7-2-24 O, an ordinance approving a text amendment to the Kanab Land Use Ordinance Chapter 9, Chapter 17, and Chapter 19, amending legislative decisions in State Code. Councilmember Heaton seconds, unanimous vote. Motion passed.

Councilmember Chamberlain - YES
Councilmember Banks - YES
Councilmember Corry - YES
Councilmember Heaton - YES
Councilmember Colson - YES
Motion Passed

c. Authorization to allow Kanab City to enter into a Memorandum of Understanding to complete necessary changes to the City Subdivision Ordinance (SB 174 - 2023)

Mr. Ludwig explained that the State of Utah made changes to the rules regarding subdivisions. The City is required to change our subdivision ordinances. This was discussed a couple of months ago. The State put in a grant process to allow for the City to get assistance to help make sure our ordinances are in compliance. Ms. Chatterley researched different groups the help cities and towns get in compliance with the subdivision rules. She recommends Hansen Planning Group. Mr. Ludwig explained there is no cost to the City associated with this process.

Mayor Johnson excused himself from the meeting briefly.

Councilmember Heaton made a motion to authorize staff to enter a memorandum of understanding with Hansen Planning Group to provide recommended updates to the Kanab City subdivision Ordinances as required by State Code. Councilmember Corry seconds. Motion passed.

Councilmember Chamberlain - YES
Councilmember Banks - YES
Councilmember Corry - YES
Councilmember Heaton - YES
Councilmember Colson - YES
Motion Passed

Mayor Pro-Tem Chamberlain called a five minute recess.

Meeting continued @ 7:56pm with Mayor and all Council Members in attendance.

d. Discussion and consideration of an Ordinance approving a development agreement for the Hidden Canyon Subdivision [K-14-15-Annex, K-15-1-Annex] (Applicant – Jim Guthrie)

Mr. Ludwig stated that Hidden Canyon Subdivision, a Planned Development Overlay was originally reviewed and approved by the Planning Commission and City Council in September of 2021. The development agreement was approved on 9/28/2021 by the City Council.

The original development agreement did not include the specifics regarding the water tank needed for the development. On March 27, 2023, a request was received to amend the Preliminary Site Plan. Land Use Ordinances Chapter 23 – Planned Development Overlay requires that any amendments for approved plans and specifications shall be obtained by following the same procedures described in section 20-8. Section 20-8 requires a development agreement as required in 20-4. It was discovered at this time that the development agreement approved in September of 2021 was not signed and recorded and that the water tank agreement still required approval. Staff requested that the water tank agreement be combined into the development agreement and to go through the necessary approval and recording process. Of note, Land Use Ordinance Chapter 23, was updated in September of 2023 and some of the section references may have changed from the previous approved version.

City staff has been working with Mr. Guthrie, his engineer and attorney to prepare the development agreement for past twelve months. On March 19, 2024, the Planning Commission reviewed the Development Agreement and held a public hearing. The Planning Commission made a positive recommendation with amendments to City Council. City Council discussed and reviewed the Development Agreement during their March 26, 2024 meeting. City Council had additional concerns that needed to be addressed in the development agreement. One of the concerns was that the traffic study had not been updated and reviewed by UDOT for the higher density (increased to 705 units). Mr. Guthrie made a request to City Council that the development agreement and the preliminary site plan be tabled until the amendments discussed during the meeting and a UDOT review can be completed. Between March and June substantive changes have been made to the development agreement by Mr. Guthrie and his attorney. These changes are concerning to staff and are highlighted and commented on in the proposed development agreement.

Mr. Guthrie explained the road and the secondary access to the Council. He continued to explain the development and the timeline of the development at length.

Council, Mr. Ludwig and Mr. Burggraaf further discussed the development agreement and the requested amendments by City staff; impact fees, pioneering agreement, pump and sewer lift stations, and correction of language.

Councilmember Corry made a motion to continue this agenda item to the August 27, 2024 City Council Meeting. Councilmember Heaton seconds, unanimous vote. Motion passed.

e. Continued discussion, and consideration of an ordinance updating the Kanab City Fee Schedule (Impact Fees).

Mr. Ludwig stated that the City Council reviewed the impact fee analysis and plans for Approximately 3 months, and approved the final plans in April of 2024. Impact fees allow for the City to collect fees from new development; the fees help pay for the projects needed to offset the impact of growth.

The current rates were set based on a percentage of the maximum allowable fee:

Water: 45%

Wastewater: 45%

Storm water: 45%

Public Safety: 100%

Parks and Recreation 50%

Transportation: 45%

Using the new maximum allowed fees ($28,660.50 for a typical residential unit) and applying the same percentages used in the past, the new impact fee rate would be $14,743.87 for a residential unit (the current rate is $14,926.14).

The proposed commercial rates using the same percentages is a significant increase. The most substantial increase is in public safety as the burden of the ladder truck project is placed entirely on commercial development. Keeping public safety at 100% would move commercial public safety costs per square foot from $0.73 to $3.26.

The Council is authorized to go up to 100% on each of the impact fee categories. Failure to collect the full impact fee amounts will result in a reduced level of service within the community as growth takes place.

Councilmember Banks recommended that the water impact fee be increased to 55% and the transportation impact fee be increased to 100%.

Council further discussed the proposed impact fees at length.

Councilmember Corry made a motion to approve Ordinance 7-3-24 O, an ordinance updating the Kanab City Fee Schedule as displayed on the [screen]. Councilmember Banks seconds, unanimous vote. Motion passed.

[the chart below was displayed on the screen]

Residential	Current Fees	Percentage	Proposed Fees	Maximum Fees	Change
Water (5/8)	$2,552.80	0.55	$3,341.62	By Meter	$788.82
Wastewater (5/8)	$2,004.06	0.45	$1,742.39	By Meter	($261.67)
Stormwater	$2,776.10	0.45	$1,943.18	$4,318.18	($832.92)
Public Safety	$1,242.54	1	$2,725.64	$2,725.64	$1,483.10
Parks & Recreation	$2,081.46	0.5	$3,475.32	$6,950.64	$1,393.86

Transportation	$4,269.18	1	$4,718.39	$4,718.39	$449.21
	$14,926.14		$17,946.54		$3,020.40
Commercial	Current Fees	Percentage	Proposed Fees	Maximum Fees	
Water		0.55		By Meter	
Wastewater	$0.89	0.45		By Meter	
Stormwater	$1.24	0.45	$0.97	$2.16	($0.27)
Public Safety	$0.73	1	$3.26	$3.26	$2.53
Parks & Recreation	$0.83	0.5	$1.74	$3.48	$0.91
Transportation	$1.90	1	$2.36	$2.36	$0.46
Water			Proposed Fees		
8-May	$3,512.70		$3,341.62	$6,075.68	($171.08)
1	$8,992.51		$8,554.56	$15,553.74	($437.95)
1 1/2	$20,233.15		$19,247.76	$34,995.92	($985.39)
2	$35,970.05		$34,218.23	$62,214.96	($1,751.82)
2 1/2	$56,203.20		$53,465.98	$97,210.88	($2,737.22)
3	$80,932.61		$76,991.02	$139,983.67	($3,941.59)
4	$143,880.19		$136,872.92	$248,859.85	($7,007.27)
6	$323,730.43		$307,964.07	$559,934.67	($15,766.36)
Wastewater			Proposed Fees		
8-May			$1,742.39	$3,871.97	
1			$4,460.51	$9,912.24	
1 1/2			$10,036.15	$22,302.55	
2			$17,842.04	$39,648.97	
2 1/2			$27,878.18	$61,951.52	
3			$40,144.59	$89,210.19	
4			$71,368.15	$158,595.89	
6			$160,578.34	$356,840.76	

Councilmember Colson – Yes
Councilmember Heaton – Yes
Councilmember Corry - Yes
Councilmember Banks – Yes
Councilmember Chamberlain - Yes
Motion passed.

8. **ITEMS FOR DISCUSSION: None at this time.**

9. **REVIEW AND DISCUSSION OF THE AUGUST 13, 2024 CITY COUNCIL MEETING AGENDA.**
   School use agreement
   Purchase of tractor for the Parks Department
   Irrigation plan for the Ranchos Park & Cemetery
   MOU with the Public Defender

Mayor Johnson made a motion to adjourn. Councilmember Heaton seconds. Unanimous vote, meeting adjourned.

Report Criteria:
Report type: Summary

GL Period	Check Issue Date	Check Number	Vendor Number	Payee	Check GL Account	Amount
07/24	07/17/2024	37073	1080	AMERIGAS PROPANE LP	10-2100	1,920.28
07/24	07/17/2024	37074	12144	BANKCARD CENTER	10-2100	75,434.13
07/24	07/17/2024	37075	13225	BRODY CHEMICAL INC.	41-2100	12,231.19
07/24	07/17/2024	37076	12129	CHILD SUPPORT SERVICES	02-2100	110.00
07/24	07/17/2024	37077	12429	CIVIL SCIENCE INFRASTRUCTURE, IN	10-2100	22,309.77
07/24	07/17/2024	37078	9175	DIVISION OF OCCUPATIONAL &	10-2100	379.00
07/24	07/17/2024	37079	615	HONEY'S MARKETPLACE	51-2100	687.24
07/24	07/17/2024	37080	360	JENKINS OIL COMPANY	10-2100	8,063.23
07/24	07/17/2024	37081	880	KANE CO. SPECIAL SERVICE DIST.	10-2100	29,754.16
07/24	07/17/2024	37082	12788	KANE CO. SPECIAL SERVICE DIST.	10-2100	6,116.79
07/24	07/17/2024	37083	9111	KANE COUNTY SHERIFF'S OFFICE	10-2100	14,499.99
07/24	07/17/2024	37084	11266	LB 413071	51-2100	466.87
07/24	07/17/2024	37085	10411	M.D. AUTO AND DIESEL	10-2100	384.73
07/24	07/17/2024	37086	12233	NICHOLAS & COMPANY	41-2100	768.53
07/24	07/17/2024	37087	13496	ROZAJAC GROUP LLC	10-2100	115.00
07/24	07/17/2024	37088	11565	SADDLEBACK LIGHTING INC.	10-2100	119.76
07/24	07/17/2024	37089	11208	SALT LAKE WHOLESALE SPORTS	10-2100	522.80
07/24	07/17/2024	37090	12677	SG WATER STORE	10-2100	41.70
07/24	07/17/2024	37091	920	STAKER & PARSON COMPANIES	41-2100	5,913.85
07/24	07/17/2024	37092	1150	STAKER & PARSON COMPANIES	41-2100	3,043.21
07/24	07/17/2024	37093	4035	UTAH RISK MANAGEMENT	10-2100	67.66
07/24	07/17/2024	37094	9216	UTAH STATE TAX COMMISSION	41-2100	1,373.36
07/24	07/17/2024	37095	1635	WATERMAN WELDING	51-2100	35.20
Grand Totals:						184,358.45

Report Criteria:
Report type: Summary

GL Period	Check Issue Date	Check Number	Vendor Number	Payee	Check GL Account	Amount
07/24	07/23/2024	37096	1080	AMERIGAS PROPANE LP	41-2100	843.32
07/24	07/23/2024	37097	12333	AVFUEL CORPORATION	10-2100	40.00
07/24	07/23/2024	37098	12426	DIAMOND C. ASPHALT	41-2100	37,653.75
07/24	07/23/2024	37099	13536	EDISON, LARRY	51-2100	4.63
07/24	07/23/2024	37100	13535	ESPLIN, KELLEI	51-2100	90.65
07/24	07/23/2024	37101	9010	GLAZIER'S MARKET	41-2100	103.15
07/24	07/23/2024	37102	3880	INTERMOUNTAIN FARMERS ASSOCIA	10-2100	1,699.73
07/24	07/23/2024	37103	13394	INTERNATIONAL INSTITUTE OF	10-2100	210.00
07/24	07/23/2024	37104	4690	LITTLE'S DIESEL SERVICE	10-2100	1,923.11
07/24	07/23/2024	37105	13538	MELNIK, SASHA	51-2100	18.82
07/24	07/23/2024	37106	10647	MOUNTAIN WEST COMPUTERS	10-2100	336.00
07/24	07/23/2024	37107	13537	NEZ, CRYSTAL	51-2100	32.16
07/24	07/23/2024	37108	5930	PUBLIC EMPLOYEES LONG TERM	02-2100	1,082.96
07/24	07/23/2024	37109	13415	SCHERZINER, KAYLA	51-2100	.76
07/24	07/23/2024	37110	13540	STEED, ILENE	51-2100	85.48
07/24	07/23/2024	37111	12019	TURNER, JULIE	10-2100	600.00
07/24	07/23/2024	37112	11047	UTAH RETIREMENT SYSTEMS	02-2100	68,943.76
07/24	07/23/2024	37113	13539	WADE, NATALIE	10-2100	100.00
07/24	07/23/2024	37114	11126	WAXIE SANITARY SUPPLY	10-2100	958.24
Grand Totals:						114,726.52

Report Criteria:
Report type: Summary

GL Period	Check Issue Date	Check Number	Vendor Number	Payee	Check GL Account	Amount
07/24	07/31/2024	37115	1080	AMERIGAS PROPANE LP	41-2100	830.78
07/24	07/31/2024	37116	12078	BOWMAN'S DIESEL SERVICE, INC.	37-2100	140.69
07/24	07/31/2024	37117	12768	BUGSY'S PEST CONTROL, LLC	10-2100	80.00
07/24	07/31/2024	37118	13455	CENGAGE LEARNING INC / GALE	10-2100	903.00
07/24	07/31/2024	37119	12129	CHILD SUPPORT SERVICES	02-2100	110.00
07/24	07/31/2024	37120	9760	COLONIAL	02-2100	23.00
07/24	07/31/2024	37121	7260	CRESCENT MOON THEATER	10-2100	350.00
07/24	07/31/2024	37122	12804	HYDRO SPECIALTIES COMPANY	51-2100	3,396.16
07/24	07/31/2024	37123	3900	KANAB CITY CORPORATION	10-2100	7,845.47
07/24	07/31/2024	37124	13105	LEGALSHIELD	02-2100	372.85
07/24	07/31/2024	37125	10647	MOUNTAIN WEST COMPUTERS	10-2100	661.00
07/24	07/31/2024	37126	13541	PECTOL, LIESEL	10-2100	100.00
07/24	07/31/2024	37127	12611	SALT LAKE COMMUNITY COLLEGE	10-2100	284.50
07/24	07/31/2024	37128	1240	SCHOLZEN PRODUCTS	51-2100	5,605.36
07/24	07/31/2024	37129	13534	SIRCHIE ACQUISITION COMPANY, LLC	10-2100	231.72
07/24	07/31/2024	37130	1520	WORKERS COMP. FUND OF UTAH	02-2100	2,469.41
Grand Totals:						23,403.94

Report Criteria:
Report type: Summary

GL Period	Check Issue Date	Check Number	Vendor Number	Payee	Check GL Account	Amount
08/24	08/07/2024	37131	10685	ALSCO	10-2100	542.03
08/24	08/07/2024	37132	1080	AMERIGAS PROPANE LP	41-2100	242.47
08/24	08/07/2024	37133	12904	BADGER METER	51-2100	1,429.20
08/24	08/07/2024	37134	12942	BLOMQUIST HALE CONSULTING GRO	10-2100	214.76
08/24	08/07/2024	37135	990	BLUE STAKES OF UTAH 811	51-2100	30.05
08/24	08/07/2024	37136	2985	BUNTING, SHERRAN	10-2100	200.00
08/24	08/07/2024	37137	1290	CASELLE	51-2100	2,097.00
08/24	08/07/2024	37138	11140	CEM AQUATICS	41-2100	522.14
08/24	08/07/2024	37139	300	CROSBY HOME & FARM CENTER	10-2100	354.87
08/24	08/07/2024	37140	13208	FREEDOM MAILING SERVICES, INC.	51-2100	1,554.90
08/24	08/07/2024	37141	13282	HERBUVEAUX, NANETTE	41-2100	400.00
08/24	08/07/2024	37142	3900	KANAB CITY CORPORATION	51-2100	18,616.74
08/24	08/07/2024	37143	250	L.N. CURTIS & SONS	10-2100	278.99
08/24	08/07/2024	37144	4690	LITTLE'S DIESEL SERVICE	10-2100	5,680.40
08/24	08/07/2024	37145	13038	MOTOROLA SOLUTIONS, INC	10-2100	50.50
08/24	08/07/2024	37146	10647	MOUNTAIN WEST COMPUTERS	10-2100	348.00
08/24	08/07/2024	37147	12233	NICHOLAS & COMPANY	41-2100	909.51
08/24	08/07/2024	37148	12781	PETERSON REFRIGERATION & MECH	41-2100	270.40
08/24	08/07/2024	37149	1140	QUILL CORPORATION	10-2100	14.29
08/24	08/07/2024	37150	12672	R & R PLUMBING	10-2100	200.00
08/24	08/07/2024	37151	13271	RIDDELL / ALL AMERICAN SPORTS C	41-2100	872.70
08/24	08/07/2024	37152	9204	ROCKY MOUNTAIN INFO NETWORK	10-2100	50.00
08/24	08/07/2024	37153	1680	SKAGGS COMPANIES, INC.	10-2100	175.80
08/24	08/07/2024	37154	1300	SOUTHERN UTAH NEWS	10-2100	117.30
08/24	08/07/2024	37155	13340	ST. GEORGE CARQUEST	51-2100	129.66
08/24	08/07/2024	37156	2340	UTAH PROSECUTION COUNCIL	10-2100	375.00
08/24	08/07/2024	37157	9210	UTAH PUBLIC TREASURER	10-2100	1,000.00
08/24	08/07/2024	37158	2775	UTAH PUBLIC TREASURER	10-2100	2,000.00
08/24	08/07/2024	37159	2765	UTAH PUBLIC TREASURER	10-2100	1,000.00
08/24	08/07/2024	37160	13539	WADE, NATALIE	10-2100	156.67
08/24	08/07/2024	37161	11126	WAXIE SANITARY SUPPLY	10-2100	780.75
08/24	08/07/2024	37162	11288	ZIONS BANK	15-2100	10,711.50
Grand Totals:						51,325.63

Kanab City Council Staff Report
File #2024024

Date:	**August 8, 2024**
Meeting Date:	**August 13, 2024**
Agenda Item:	**Discuss approve or deny a Final Plat, Phase 1 [Ventana Resort Village] approximately located near 600 E Kaneplex Rd**
Subject Property Address:	**Approximately located near 600 E Kaneplex Rd**
Applicant:	**Iron Rock Engineering**
Applicant Agent:	**Mountain West Development**
Zoning Designation:	**R-1-8 PD**
General Plan Designation:	**Medium Density Residential/General Commercial/Agriculture**
Parcel #:	**K-13-Utah Annex**
Applicable Ordinances:	**Subdivision Ordinance, Chapter 2**

Attachments:
Exhibit A: Vicinity Map
Exhibit B: Final Plat

Summary:
Iron Rock Engineering and Mountain West Development have applied for a Final Plat, Phase 1. Final Plats are regulated through the Kanab City Subdivision Ordinances, Chapter 2. The preliminary plat was approved on February 27, 2024. Phase 1 of Ventana Resort Village consists of 42 Townhomes and two apartment buildings that will have 60 units for attainable housing. For a total of 44 buildable platted lots and two common space areas.

Applicable Regulations:
Kanab City Subdivision Ordinance Chapter 2, Section 2-3.8 regulates a Final Plat process. After approval of the preliminary plat the applicant can submit an application for the final plat. The application should include the Final Plat drawing, Subdivision Lot Addresses, Subdivision Improvement Plans, Title Report, and any other requested items during the approval process. The application and submitted documents are sent to the Development Committee to review for compliance with the ordinance. The application may be sent to the City Attorney, City Engineer, Public Works Department, or other interested parties who will review the documents and make recommendations to the Development Committee.

Analysis

All required documents for the application have been received by the applicant or the representative. The Development Committee has reviewed the documents per the ordinance and forwarded to the City Attorney, City Engineer, and Public Works Director. The City Engineer is currently reviewing the Final Plat to see if any further recommendations may be needed. The first review has been completed and there are some survey corrections and clarifications that have bee requested.

Findings of Fact:

- The Ventana Resort Village final plat, phase 1 meets the initial application process and document submittals.
- Some surveying corrections and clarifications need to be completed.

Planning Commission:

The planning commission discussed the final plat, staff explained that the plat is still being reviewed by City Engineers and there were some corrections and clarifications that were needed. There were some discussions on public and private roads and concerns with addressing. Staff explained that the plat is only for phase 1 and that the public road "Antelope Canyon" will extend through the whole development and connect with the Kane Plex Road on each side. A positive recommendation was made on the condition that the corrections and clarifications are resolved, and the City Engineers provide sign-off prior to the City Council review. The vote was unanimous.

Recommended Motion:

I make a motion to approve the Final Plat on Phase 1, Ventana Resort Village based on the findings and conditions of approval as outlined in the staff report for file #2024024.

Alternate motion:

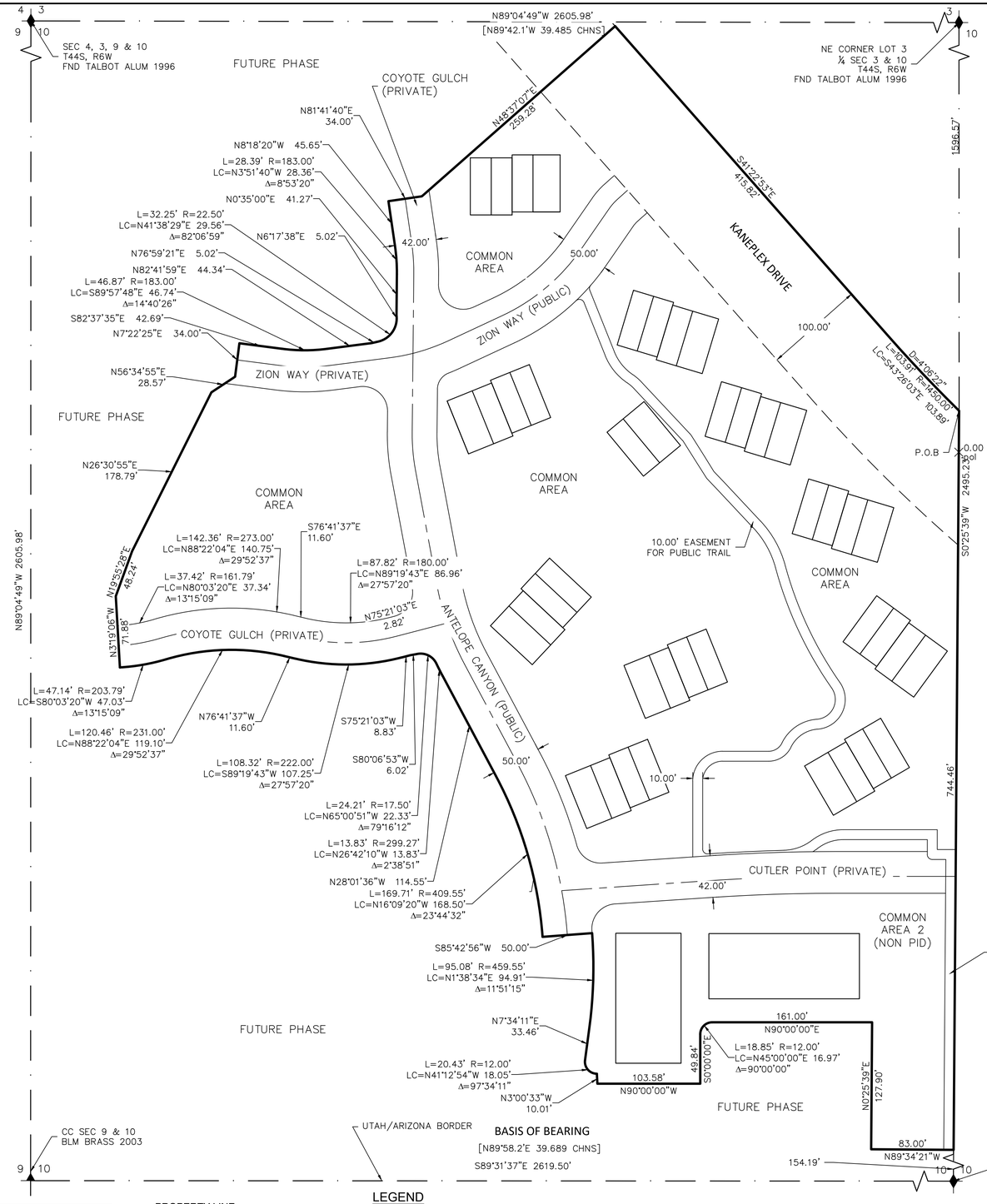
I make a motion to approve the Final Plat on Phase 1, Ventana Resort Village based on the findings and conditions of approval as outlined in the staff report for file #2024024, with the additional findings and conditions: .

I make a motion to deny the Final Plat on Phase 1, Ventana Resort Village demonstrating the applicant has not met the standards outlined in the Kanab City ordinances): .

Exhibit A: Vicinity Map


Airport Rd
Trout Dr
89A
89A
Ranch Rd 0
County Rd 2410

Exhibit B: Preliminary Plat



VENTANA RESORT VILLAGE PHASE 1 SUBDIVISION

CITY OF KANAB, KANE COUNTY, UTAH
LOCATED IN LOTS 3, 4, 5, AND 6
SECTION 10, TOWNSHIP 44 SOUTH, RANGE 6 WEST,
SALT LAKE BASE AND MERIDIAN

Legal Description:
Ventana Resort Village - Phase 1 Subdivision

Commencing at the Northeast Corner of Sectional Lot 3 of Section 10, Township 44 South, Range 6 West, Salt Lake Base and Meridian; thence, along the East Lot Line, South 00° 25' 39" West 1596.57 feet, to the Northeasterly right-of-way of Kane Plex Drive and the POINT OF BEGINNING, and running; thence, continuing along said line, South 00° 25' 39" West 744.46 feet; thence North 89° 34' 21" West 83.00 feet; thence North 00° 25' 39" East 127.90 feet; thence North 90° 00' 00" West 161.00 feet, to the beginning of a curve; thence, along the curve to the left, 18.85 feet, having a radius of 12.00 feet, a central angle of 90° 00' 00" and whose long chord bears South 45° 00' 00" West 16.97 feet; thence South 00° 00' 00" West 49.84 feet; thence North 90° 00' 00" West 103.58 feet; thence North 03° 00' 33" West 10.01 feet, to the beginning of a non-tangential curve; thence, along the curve to the right, 20.43 feet, having a radius of 12.00 feet, a central angle of 97° 34' 11" and whose long chord bears North 41° 12' 54" West 18.05 feet; thence North 07° 34' 11" East 33.46 feet, to the beginning of a curve; thence, along the curve to the left, 95.08 feet, having a radius of 459.55 feet, a central angle of 11° 51' 15" and whose long chord bears North 01° 38' 34" East 94.91 feet; thence South 85° 42' 56" West 50.00 feet, to the beginning of a non-tangential curve; thence, along the curve to the left, 169.71 feet, having a radius of 409.55 feet, a central angle of 23° 44' 32" and whose long chord bears North 16° 09' 20" West 168.50 feet; thence North 28° 01' 36" West 114.55 feet, to the beginning of a curve; thence, along the curve to the right, 13.83 feet, having a radius 299.27 feet, a central angle of 02° 38' 51" and whose long chord bears North 26° 42' 10" West 13.83 feet, to a non-tangent curve; thence, along the curve to the left, 24.21 feet, having a radius of 17.50 feet, a central angle of 79° 16' 12" and whose long chord bears North 65° 00' 51" West 22.33 feet; thence South 80° 06' 53" West 6.02 feet; thence South 75° 21' 03" West 8.83 feet, to the beginning of a curve; thence, along the curve to the right, 108.32 feet, having a radius of 222.00 feet, a central angle of 27° 57' 20" and whose long chord bears South 89° 19' 43" West 107.25 feet; thence North 76° 41' 37" West 11.60 feet, to the beginning of a curve; thence, along the curve to the left, 120.46 feet, having a radius of 231.00 feet, a central angle of 29° 52' 37" and whose long chord bears South 88° 22' 04" West 119.10 feet, to the beginning of a curve; thence, along the curve to the right, 47.14 feet, having a radius of 203.79 feet, a central angle of 13° 15' 09" and whose long chord bears South 80° 03' 20" West 47.03 feet; thence North 03° 19' 06" West 71.88 feet; thence North 19° 55' 28" East 48.24 feet; thence North 26° 30' 55" East 178.79 feet; thence North 56° 34' 55" East 28.57 feet; thence North 07° 22' 25" East 34.00 feet; thence South 82° 37' 35" East 42.69 feet, to the beginning of a curve; thence, along the curve to the left, 46.87 feet, having a radius of 183.00 feet, a central angle of 14° 40' 26" and whose long chord bears South 89° 57' 48" East 46.74 feet; thence North 82° 41' 59" East 44.34 feet; thence North 76° 59' 21" East 5.02 feet, to the beginning of a non-tangential curve; thence, along the curve to the left, 32.25 feet, having a radius of 22.50 feet, a central angle of 82° 06' 59" and whose long chord bears North 41° 38' 29" East 29.56 feet; thence North 06° 17' 38" East 5.02 feet; thence North 00° 35' 00" East 41.27 feet, to the beginning of a curve; thence, along the curve to the left, 28.39 feet, having a radius of 183.00 feet, a central angle of 08° 53' 20" and whose long chord bears North 03° 51' 40" West 28.36 feet; thence North 08° 18' 20" West 45.65 feet; thence North 81° 41' 40" East 34.00 feet; thence North 48° 37' 07" East 259.28 feet, to said right-of-way; thence, along said right-of-way, South 41° 22' 53" East 415.82 feet, to the beginning of a curve; thence, along the curve to the left, 103.91 feet, having a radius 1450.06 feet, a central angle of 04° 06' 21" and whose long chord bears North 43° 26' 03" East 103.89 feet, to the POINT OF BEGINNING; containing 12.01 acres (more or less).

REFERENCED DOCUMENTS
- BLM SURVEY, T44S, 6W, 2006
- SITLA EASEMENT NO. 2016
- SITLA EASEMENT NO. 723
- EASEMENT ENTRY NO 00142956
- TITLE COMMITMENT REPORT - SOUTHERN UTAH TITLE REPORT NUMBER 39598-K - 1st AMENDED - 4/22/2022
- ALTA/NSPS SURVEY CS-1178

SURVEYOR'S CERTIFICATE

I, Thomas W. Avant, a Professional Land Surveyor, License No. 5561917, hold this license in accordance with Title 58, Chapter 22, Professional Engineers and Professional Land Surveyors Licensing Act and have completed this survey of the Property described hereon in accordance with Section 17-23-17 and have verified all measurements and have placed monuments as represented on this plat. I certify that by authority of the hereon owners, I have made a survey of the tract of land as shown on this Plat and have subdivided the same tract into 44 lots as well as Public Utility and Ingress & Egress Easements, as shown, which are herein after known as

"VENTANA RESORT VILLAGE"

and that the same has been correctly surveyed and staked on the ground as sown on this plat.

Thomas W. Avant, PLS # 5561917 — Date:

NARRATIVE

The purpose of this survey was to subdivide 44 lots from a portion of Parcel K-13-UTAH-ANNEX by retracing and marking on the ground the lines as shown on this Plat at the request of the client. All corners are set and found as shown. The basis of bearing for this survey is the Utah State Plane coordinate system South Zone, as measured between the Closing Corner of Section 9 and Section 10 and the Closing Corner of Section 10 with a basis of S89°31'37"E and a distance of 2619.50 feet, as shown on this Plat.

- *SUBDIVISION NAME:* **VENTANA RESORT VILLAGE PHASE 1 SUBDIVISION**
- *PROPERTY OWNERS:*

STATE OF UTAH -SITLA
675 E 500 S STE 500
SALT LAKE CITY, UT 84102-2812

- TYPE OF DEVELOPMENT: SINGLE-FAMILY RESIDENTIAL
- ADJACENT PROPERTIES TO THE SOUTH ARIZONA STATE LAND, THE WEST FUTURE PHASES, THE EAST KANE COUNTY LAND AND NORTH IS WATER CONSERVATION DISTRICT.
- 10 FOOT PUBLIC UTILITY AND DRAINAGE EASEMENT ALONG ALL STREET FRONTAGES.
- SEE PLAN AND PROFILE SHEETS FOR PROPOSED GRADING OF STREETS.
- WATER TO BE SUPPLIED BY KANAB CITY. WATER LINES WILL BE MAINTAINED BY SAID COMPANY.
- SEWER WILL BE HANDLED BY KANAB CITY.
- POWER SUPPLIED BY GARKANE ENERGY.
- ALL UTILITIES AND UTILITY MAINS WILL BE PLACED IN THE ROADWAY OR PUBLIC UTILITY EASEMENTS.
- STREETS ARE INTENDED FOR PRIVATE OWNERSHIP EXCEPT A LOOP THAT WILL BE DEDICATED TO THE PUBLIC WILL GO THROUGH THE WHOLE DEVELOPMENT AS NOTED.
- RIGHT-OF-WAYS INTENDED FOR PUBLIC OWNERSHIP
- ALL BUILDINGS IN THE MULTI-FAMILY AREA WILL BE BUILT WITH A 25' FRONT SETBACK
- A REBAR AND PLASTIC CAP MARKED IRON ROCK UT PLS 5561917 WILL BE SET AT EACH LOT CORNER UNLESS OTHERWISE SHOWN

UNDERLYING ZONE FOR MASTER PLAN VENTANA RESORT VILLAGE
- R--1-8
- SEE DEVELOPMENT AGREEMENT FOR ADDITIONAL INFORMATION

ZONE: PD
NUMBER OF UNITS PHASE 1: 44

OWNER'S DEDICATION

Know all men by these presents that the undersigned State of Utah SITLA, are the owners of the above described tract of land, and hereby cause the same to be subdivided into 44 lots to be hereafter known as VENTANA RESORT VILLAGE PHASE 1, a Major Subdivision, the undersigned owners also hereby re-convey to any and all public utility companies a perpetual, non-exclusive easement over the public utility easements shown on this plat. The same to be used for the installation maintenance and operation of utility lines and facilities.

IN WITNESS WHEREOF, I have set my hand this the _____ day of _____ , 20___.

_____
OF
STATE OF UTAH, SITLA
675 E 500 S STE 500
SALT LAKE CITY, UT 84102-2812

ACKNOWLEDGMENT

STATE OF UTAH ,) s.s.

COUNTY OF .)

On this _____ day of _____ , 20___, personally appeared before me _____, OF STATE OF UTAH, SITLA, who is personally known to me (or satisfactorily proved to me), and who being by me duly sworn did say that they executed this Plat.

Notary Public Full Name: _____
Commission Number: _____
My Commission Expires: _____
A Notary Public Commissioned in Utah

_____
Notary Public (signature)
No Stamp required (Utah Code 46-1-16(6))

CITY ATTORNEY CERTIFICATE

I, _____
Attorney for Kanab City, do hereby certify that I have examined the above Plat and said plat meets the requirements of Kanab City and is hereby recommended for approval this _____ day of _____ , 20_____.

_____
KANAB CITY ATTORNEY

CITY PUBLIC WORKS DIRECTOR CERTIFICATE

I, _____, Kanab City public Works Director, do hereby certify that this office has examined the above Plat and have determined that it is correct and in accordance with information on file in this office and recommend it for approval this _____ day of _____ ,20_____.

_____
KANAB CITY PUBLIC WORKS DIRECTOR

CITY SURVEYOR CERTIFICATE

I, _____
Kanab City Surveyor, do hereby certify that this office has examined the above Plat and have determined that it is correct and in accordance with information on file in this office and recommend it for approval this _____ day of _____ ,20_____.

_____
KANAB CITY SURVEYOR

APPROVAL of the PLANNING COMMISSION

On this the _____ day of _____ 20_____, the Planning Commission of Kanab City, Utah, having reviewed the above Plat and having found that it complies with the requirements of the Kanab City's planning and zoning ordinances, and by authorization of said commission hereby recommend approval of said plat for acceptance by Kanab City, Utah.

_____
CHAIRMAN Planning Commission

APPROVAL AND ACCEPTANCE by the Kanab City Council

We the Kanab City Council have reviewed the hereon Plat and by authorization of said Kanab City Council recorded in the minutes of it's meeting of the _____day of _____, 20_____ hereby accept the said plat with all commitments and all obligations pertaining thereto and is hereby ordered filed for record in the Office of the Kane County Recorder.

Attest: _____ Mayor –
Kanab City Recorder — Kanab City Council

CERTIFICATE OF RECORDING

I, _____ Recorder of Kane County, do hereby certify that above Plat was filed for recording in my office this _____ day of _____ , 20_____.

KANE COUNTY RECORDER — ENTRY NO.

DATE TIME BOOK PAGE FEE

RECORDED AND FILED AT THE REQUEST OF: _____

LEGEND

PROPERTY LINE	SET 5/8" x 36" REBAR WITH PLASTIC CAP MARKED IR ENG. PLS 5561917
ADJACENT PROPERTY LINE	FOUND MONUMENT AS NOTED
SURVEY BOUNDARY	FOUND SECTION MONUMENT AS NOTED
EASEMENT	CALCULATED SECTION MONUMENT AS NOTED
¼ SECTION LINE	
1/16 SECTION LINE	
SECTION LINE	
STREET CL	
FENCE	
[ ] RECORD BEARING AND DISTANCE	

IRON ROCK GROUP
Building on Solid Foundations
460 E. 300 SOUTH
KANAB, UTAH 84741
435-644-2031
www.ironrockeng.com

VENTANA RESORT VILLAGE PHASE 1 SUBDIVISION
FINAL PLAT
STATE OF UTAH, SITLA
KANAB, UTAH 84741

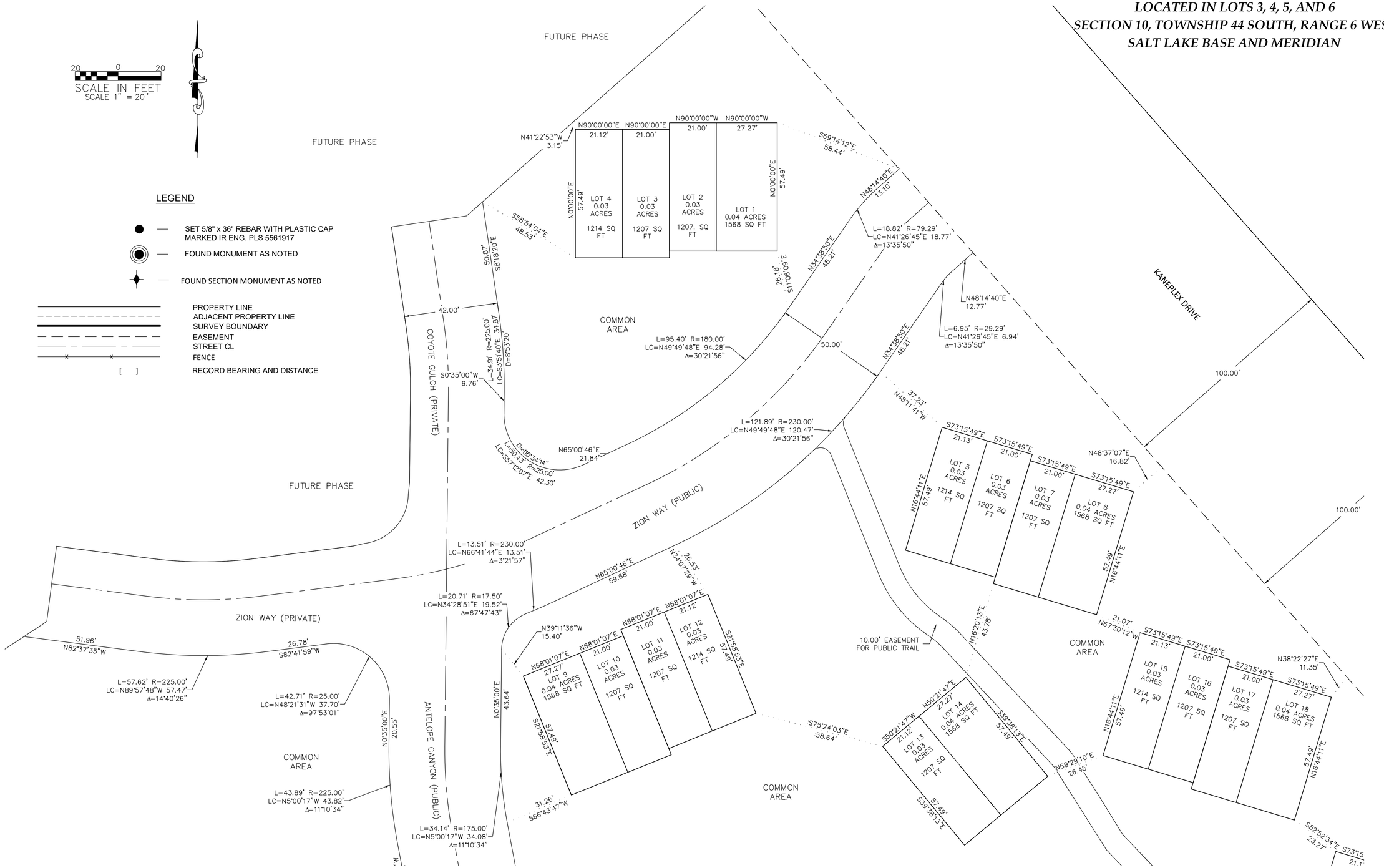
INITIAL SUBMITTAL	DATE:	DESCRIPTION:
	07/17/2024	
REV#	DATE:	

FOR REVIEW

DRAWN BY: CM
SCALE: 1"=60'
SHEET: 1 OF 4

VENTANA RESORT VILLAGE PHASE 1 SUBDIVISION

CITY OF KANAB, KANE COUNTY, UTAH
LOCATED IN LOTS 3, 4, 5, AND 6
SECTION 10, TOWNSHIP 44 SOUTH, RANGE 6 WEST,
SALT LAKE BASE AND MERIDIAN



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VENTANA RESORT VILLAGE PHASE 1 SUBDIVISION

FINAL PLAT

STATE OF UTAH, SITLA
KANAB, UTAH 84741

INITIAL SUBMITTAL	DATE: 07/17/2024
REV#	DATE: DESCRIPTION:

FOR REVIEW

DRAWN BY: CM
SCALE: 1"=20'
SHEET:

2 OF 4

VENTANA RESORT VILLAGE PHASE 1 SUBDIVISION

CITY OF KANAB, KANE COUNTY, UTAH
LOCATED IN LOTS 3, 4, 5, AND 6
SECTION 10, TOWNSHIP 44 SOUTH, RANGE 6 WEST,
SALT LAKE BASE AND MERIDIAN

LEGEND

- SET 5/8" x 36" REBAR WITH PLASTIC CAP MARKED IR ENG. PLS 5561917
- FOUND MONUMENT AS NOTED
- FOUND SECTION MONUMENT AS NOTED
- PROPERTY LINE
- ADJACENT PROPERTY LINE
- SURVEY BOUNDARY
- EASEMENT
- STREET CL
- FENCE
- [ ] RECORD BEARING AND DISTANCE

SCALE IN FEET
SCALE 1" = 20'

KANEPLEX DRIVE

COMMON AREA

CUTLER POINT (PRIVATE)

ANTELOPE CANYON (PUBLIC)

FUTURE PHASE

10' EASEMENT FOR PUBLIC TRAIL

IRON ROCK GROUP
Building on Solid Foundations
460 E. 300 SOUTH
KANAB, UTAH 84741
435-644-2031
www.ironrockeng.com

VENTANA RESORT VILLAGE PHASE 1 SUBDIVISION
FINAL PLAT
STATE OF UTAH, SITLA
KANAB, UTAH 84741

INITIAL SUBMITTAL	DATE:	07/17/2024
REV#	DATE:	DESCRIPTION:

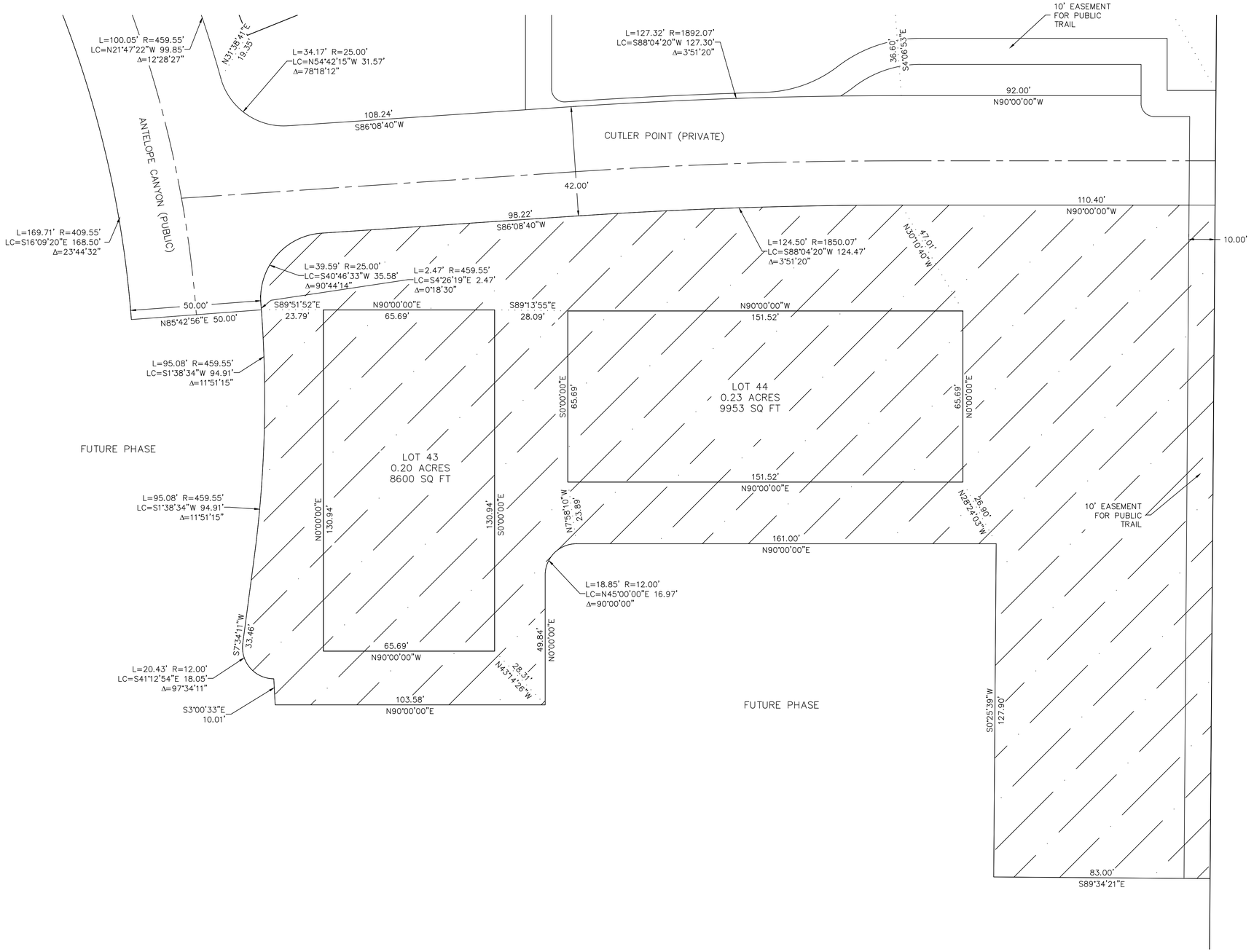
FOR REVIEW

DRAWN BY: CM
SCALE: 1"=20'
SHEET:
3 OF 4

VENTANA RESORT VILLAGE PHASE 1 SUBDIVISION

CITY OF KANAB, KANE COUNTY, UTAH
LOCATED IN LOTS 3, 4, 5, AND 6
SECTION 10, TOWNSHIP 44 SOUTH, RANGE 6 WEST,
SALT LAKE BASE AND MERIDIAN

SCALE IN FEET
SCALE 1" = 20'
20 0 20



LEGEND

- SET 5/8" x 36" REBAR WITH PLASTIC CAP MARKED IR ENG. PLS 5561917
- FOUND MONUMENT AS NOTED
- FOUND SECTION MONUMENT AS NOTED
- PROPERTY LINE
- ADJACENT PROPERTY LINE
- SURVEY BOUNDARY
- EASEMENT
- STREET CL
- [ ] RECORD BEARING AND DISTANCE
- AREA NOT IN THE VENTANA RESORT VILLAGE PUBLIC INFRASTRUCTURE DISTRICT

IRON ROCK GROUP

Building on Solid Foundations

460 E. 300 SOUTH
KANAB, UTAH 84741
435-644-2031
www.ironrockeng.com

VENTANA RESORT VILLAGE PHASE 1 SUBDIVISION
FINAL PLAT
STATE OF UTAH, SITLA
KANAB, UTAH 84741

INITIAL SUBMITTAL	DATE:	07/17/2024
REV#	DATE:	DESCRIPTION:

FOR REVIEW

DRAWN BY: CM
SCALE: 1"=20'
SHEET:
4 OF 4

Kanab City Council Staff Report
File # 2024025

Date:	**August 8, 2024**
Meeting Date:	**August 13, 2024**
Agenda Item:	**Discuss, approve or deny a zone change from RR-1 [Rural Residential] to R-1-8 [Single Family Zone] for parcel K-7-2**
Subject Property Address:	**235 W 100 S**
Property Owner:	**Ronald and Claudia Thomas**
Applicant Agent:	
General Plan Designation:	**Medium Density Residential/High Density Residential**
Parcel #:	**K-7-2**

Attachments:
Exhibit A: Subject/Vicinity Property

Summary:
Property Owner, Ronald & Claudia Thomas, are requesting a zone change to rezone parcel K-7-2 from Rural Residential with a one-acre minimum (RR-1) to a Single-Family Residential Zone with an 8,000 sq.ft. minimum. The property owner plans to split the lot into two lots, making a smaller lot (around 10,000sq.ft) with the existing home and then the second building lot for a single-family home.

Site Description:
The subject property is approximately 2.08 acres. The parcel has an existing structure and is accessed from 200 W Surrounding zoning designations and the density designations are as follows:

North	South	East	West
Commercial C-1 Downtown Commercial (DC)	Single-Family R-1-8 & Multi-Family (RM) Medium Density Residential (MDR) / High Density Residential (HDR)	Single-Family R-1-8 Medium Density Residential (MDR) / High Density Residential (HDR)	Kanab Creek & R-1-20 PD (Catori Canyon) Medium Density Residential (MDR)

Kanab City Land Use Ordinance, General Plan and Zoning Map Analysis:

Zoning designations and zone changes are regulated by the Kanab City Land Use Ordinance, Chapter 15 – Establishment of Zoning Districts regulates zoning designations within Kanab City. Section 15-7 Transitioning and Maintaining Balance, states:

> *It is the objective of the City to encourage and provide for proper transition and compatibility between zones and intensity of uses, which should be regulated by the City Land Use Code, the General Plan, Future Land Use Map and the Kanab City Annexation Policy Plan. The City also seeks to maintain a healthy balance and mix of land uses within the community, representing the atmosphere of existing development. Areas for growth have been planned with a balance for all uses, including agriculture, residential, commercial and industrial uses, as demonstrated in the Kanab City General Plan and Future Land Use Map. Future decisions regarding land use and zoning in Kanab should be guided by this map.*
>
> *The City promotes orderly growth, with an emphasis for new developments to occur in the core community areas first. Rezoning of adjacent undeveloped property should be compatible with developed property.*

Findings:

1. The application was initiated by the owner.
2. The property is zoned as RR-1 and approximately 2.08-acres.
3. The City Council is the decision-making authority for a zoning application. The Council may adopt or reject the request as it deems appropriate or may assign a different zoning designation.
4. Assigning an R-1-8 zone is consistent with the Kanab City Future Land Use Map designation of MDR/HDR.
5. The requested zone of R-1-8 is consistent with the adjacent properties to the East, West and South. Properties to the north are zoned commercial C-1.

Planning Commission

A public hearing was held on August 6, 2024, there were no public comments. The planning commission discussed the zone change asking for clarification on the street frontage and access to the property and if improvement to city property would be required if the lot was further developed. Staff clarified that the street frontage is along 100 South, which is city property at this time and not an improved street. The developer would be required to improve city property with an improved road for access to the property if it is developed further. The applicant, Ron Thomas explained the reason for a zone change and the desire to split the lot. He commented

that he walked the creekside boundary and has not experienced any erosion in the last five years. A positive recommendation to change the zone to R-1-8 was made with a unanimous vote.

Suggested Motion(s):

I move to approve the zone change application assigning parcel K-7-2 a new zone of R-1-8 and to adopt ordinance 08-XX-24 O based on the findings and conditions outlined in Staff Report #2024025.

I move to approve the zone change application assigning parcel K-7-2 a new zone of and to adopt ordinance 08-XX-24 O based on the findings and conditions outlined in Staff Report #2024025 and the following .

I move to deny the zone change application assigning parcel K-7-2 and to keep the zone RR-1.

Exhibit A: Subject Property


K-91-68
K-91-45
K-91-44
K-91-42
K-91-43
K-52-STREET
K-19-1
K-19-2
K-19-4
K-19-3
Center St
Center St
89
K-20-6
K-20-1
K-20-5
K-20-3
K-20-4
K-21-4
K-21-2
K-21-3
K-18-2
K-18-5
K-18-1
K-18-1A
K-17-9
K-17-11
K-17-10A
K-17-1
K-17-8
K-17-7
K-17-5
K-17-4
K-362-1
K-16-6A
K-16-8
K-16-4A
K-16-3
K-7-2
K-7-6
K-7-4
K-7-5
K-140-2
K-140-4
K-140-8
K-140-12
K-140-CA
K-8-10
K-8-11
K-8-14
K-8-9
K-8-13
K-8-8
K-8-7
K-8-3A
K-8-4
K-8-6
K-8-5
K-8-2
K-9-9
K-9-8
K-9-7
K-9-6
K-9-4
K-6-2
K-5-5A
K-5-5B
K-5-4B
K-5-6
K-5-7
K-5-1
K-336-3
K-4-6
K-4-4
K-4-2
K-358-26
K-358-13
K-358-12
K-358-11

ORDINANCE NO. 8- -24 O

AN ORDINANCE APPROVING A ZONE CHANGE FOR PARCEL K-7-2 FROM RR-1 TO R-1-8

WHEREAS, pursuant to Utah Code § 10-9a-501, and Kanab City Land Use Ordinance, Chapter 1, Section 17, the City Council is authorized on its own motion or pursuant to an application, to amend and assign zoning district boundaries, after receiving a recommendation from the Kanab City Planning Commission;

WHEREAS, applicant Ronald & Claudia Thomas submitted an application for a zone change of the parcel identified as K-7-2, requesting it be changed from Residential (RR-1) to Residential (R-1-8);

WHEREAS, after proper notice was provided, the Kanab City Planning Commission held a public hearing on August 6, 2024, and gave a unanimous recommendation to the City Council in favor of a zone change from RR-1 to R-1-8;

WHEREAS, the City Council met during its regularly scheduled and properly noticed meeting on August 13, 2024, received input from the applicant/applicant's representative and staff, and reviewed and discussed the Kanab City Planning Commission's recommendation and the zoning options for the parcel.

NOW, THEREFORE, BE IT ORDAINED by the Kanab City Council that 235 W. 100 S. on the parcel identified on the Kane County records parcel as K-7-2 are hereby assigned the zone of R-1-8, a Residential zone under the Kanab City Land Use Ordinance;

All former zoning designations for the subject parcel conflicting or inconsistent with the provisions of this Ordinance hereby adopted are hereby repealed.

The provisions of this Ordinance shall be severable, and, if any provision thereof or any application of such provision is held invalid, it shall not affect any other provisions of this code or the application in a different circumstance.

This ordinance shall be effective upon the required posting.

[*Signatures on the next page*.]

PASSED AND ORDERED POSTED this____day of August, 2024.

KANAB CITY

_____
MAYOR

ATTEST:

_____
RECORDER

VOTING:

Boyd Corry	Yea ____ Nay ____
Peter Banks	Yea ____ Nay ____
Arlon Chamberlain	Yea ____ Nay ____
Scott Colson	Yea ____ Nay ____
Chris Heaton	Yea ____ Nay ____

POSTED the ___ day of _____, 2024, as certified by the Recorder: _____.
RECORDER

KANAB
UTAH

DATE: August 13, 2024
TO: Mayor and City Council
SUBJECT: Update of Airport Layout Plan
PREPARED BY: City Manager, Kyler Ludwig

Background:

The Kanab City Municipal Airport is required by the FAA to have an updated Airport Layout Plan (ALP) to receive state or federal funds. The ALP shows the current and future facilities of the airport property. This helps the City, State, and Federal Government better plan airport infrastructure.

Analysis:

The proposed ALP update includes the future contemplated projects from the Airport Capital Improvement Plan that was approved in December of 2023; there are no new projects contemplated in this plan.

The City's Airport Engineers have worked to determine which projects are needed for the development of our airport based on feedback from Airport users and the Airport Manager. Projects that are not included in the ALP are not eligible for state or federal funding.

Legal:

Approved as to form.

Financial:

Approval of an ALP is required for federal and state funding, which typically cover 95% of a project's cost.

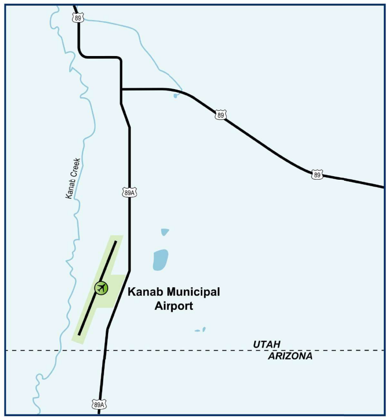
Recommendations/Actions: It is recommended the City Council:

Authorize the Mayor to sign off on the updated Airport Layout Plan.

KANAB MUNICIPAL AIRPORT

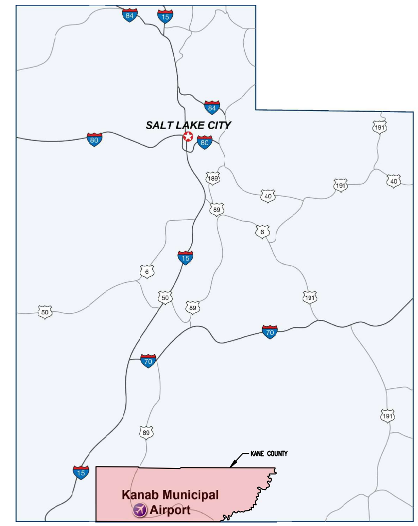
KANAB, UTAH

AIRPORT LAYOUT PLAN DRAWING SET



VICINITY MAP
NOT TO SCALE

NOT TO SCALE



LOCATION MAP
NOT TO SCALE

INDEX OF DRAWINGS

SHEET NO.	TITLE	REVISION DATE
01	COVER SHEET	05/2024
02	ALP DATA SHEET	05/2024
03	AIRPORT LAYOUT PLAN	05/2024
04	TERMINAL AREA PLAN	05/2024
05	AIRPORT AIRSPACE DRAWING	01/2017
06	AIRPORT AIRSPACE PROFILE	01/2017
07	AIRPORT AIRSPACE OBSTACLE TABLE	01/2017
08	AIRPORT AIRSPACE OBSTACLE TABLE	01/2017
09	INNER APPROACH SURFACE DRAWING – RUNWAY 1	01/2017
10	INNER APPROACH SURFACE DRAWING – RUNWAY 19	01/2017
11	RUNWAY DEPARTURE SURFACE DRAWING – RUNWAY 1	01/2017
12	RUNWAY DEPARTURE SURFACE DRAWING – RUNWAY 19	01/2017
13	LAND USE PLAN	05/2024
14	EXHIBIT A – AIRPORT PROPERTY INVENTORY MAPS	05/2024

SPONSOR APPROVAL

ACCEPTED: CITY OF KANAB, UTAH

DATE

L:\KNB\KNB-ALP-2016\CAD\PLANS\
01-KNB-ALP-COVR.dwg
May 23, 2024 – 2:47pm
Teigen

WOOLPERT
35 S 400 West • Suite 200 • St. George, Utah 84770
Phone: 435.673.4677 • Fax: 435.673.8484
• woolpert.com •

KANAB MUNICIPAL AIRPORT

DES: A. TEIGEN
DR: A. TEIGEN
CH: T. HOLDER
APP: T. HOLDER

ISSUE RECORD

NO.	BY	DATE	DESCRIPTION
2	A.C.T.	05/2024	APRON/TERMINAL AREA ALP UPDATE

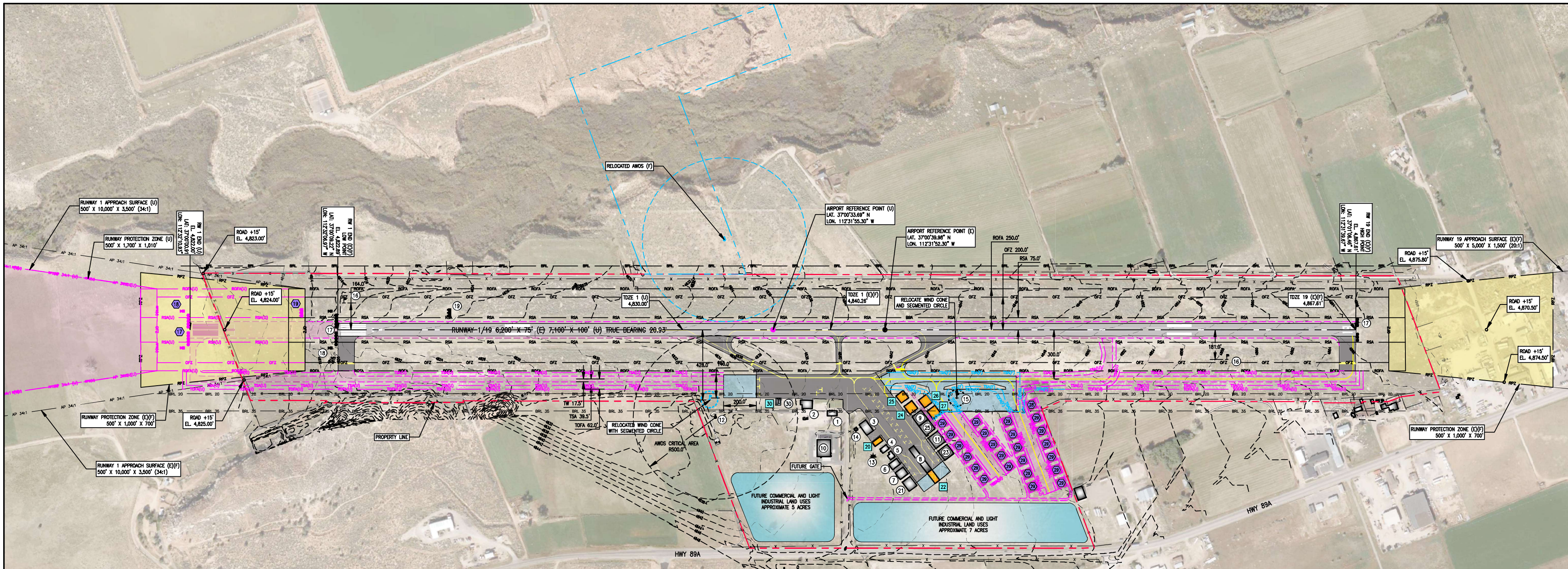
THE PREPARATION OF THIS DOCUMENT MAY HAVE BEEN SUPPORTED, IN PART, THROUGH THE AIRPORT IMPROVEMENT PROGRAM FINANCIAL ASSISTANCE FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER TITLE 49 U.S.C., SECTION 47104. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THIS AIRPORT LAYOUT PLAN BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED THEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE OR WOULD HAVE JUSTIFICATION IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS.

AIRPORT LAYOUT PLAN

COVER SHEET

AIP PROJ. NO. 3-49-0013-022-2023
WOOLPERT PROJ. NO. 10017149
DATE: MAY, 2024

SHEET NO. 01 of 14



AIRPORT FACILITY LIST

EXISTING ID	ITEM	TOP ELEVATION	FUTURE ID	ULTIMATE ID
1	TERMINAL	4,854.71'		
2	HANGAR	4,858.45'		
3	HANGAR	4,863.46'		
4	HANGAR	4,854.49'		
5	HANGAR	4,854.26'		
6	HANGAR	4,860.51'		
7	HANGAR	4,861.71'		
8	HANGAR	4,856.66'		
9	HANGAR	4,871.24'		
10	KANE COUNTY EMS BUILDING (NON-AERONAUTICAL USE)	4,866.29'		
11	BOX HANGAR	4,870.00'		
12	AWOS	4,844.42'		
13	ROTATING BEACON	4,844.51'		
14	ELECTRICAL VAULT	4,850.00'		
15	WINDCONE AND SEGMENTED CIRCLE	4,848.16'		
16	WINDCONE	4,819.86' – 4,860.36'		
17	RUNWAY END LIGHT	4,820.50' – 4,868.87'		17
18	RUNWAY END IDENTIFIER LIGHTS (REIL)	4,823.98'		18
25	SNOW REMOVAL EQUIPMENT (SRE) BUILDING	4,871.24'		
	PAPI	4,824.28'		19
	BOX HANGAR	4,865.00' (EST.)	20	
21	BOX HANGAR	4,867.00' (EST.)		
	T-HANGAR	4,857.00' (EST.)	22	
23	BOX HANGAR	4,870.00' (EST.)		
	BOX HANGAR	4,868.00' (EST.)	24	
	BOX HANGAR	4,858.00' (EST.)	25	
	BOX HANGAR	4,864.00' (EST.)	26	
	BOX HANGAR	4,875.00' (EST.)	27	
	BOX HANGAR	4,869.00' (EST.)		28
	BOX HANGAR	4,879.00' – 4,885.00' (EST.)		29
30	100LL TANK (10,000 GAL)	4,858' (EST.)	31	
	JET A TANK (12,000 GAL)	4,858' (EST.)	31	

DRAWING LEGEND

ITEM	EXISTING	FUTURE	ULTIMATE
AIRPORT PROPERTY BOUNDARY			
AIRPORT PAVEMENT			
BUILDING/HANGAR			
ROAD			
RUNWAY PROTECTION ZONE (RPZ)	RPZ		RPZ(U)
BUILDING RESTRICTION LINE	BRL		
RUNWAY OBJECT FREE AREA (ROFA)	ROFA		ROFA(U)
RUNWAY SAFETY AREA (RSA)	RSA		RSA(U)
OBSTACLE FREE ZONE (OFZ)	OFZ		OFZ
TAXIWAY OBJECT FREE AREA (TOFA)	TOFA	TOFA(F)	TOFA(U)
TAXIWAY SAFETY AREA (TSA)	TSA	TSA(F)	TSA(U)
APPROACH SURFACE (20:1)	AP 20:1		
APPROACH SURFACE (34:1)	AP 34:1		AP 34:1 (U)
FENCE (8' HEIGHT)	X		
RUNWAY END LIGHT			
RUNWAY END IDENTIFIER LIGHTS (REIL)			
ROTATING BEACON			
AWOS			
PAPI			
WINDCONE			
SEGMENTED CIRCLE			
AIRPORT REFERENCE POINT (ARP)			
PRIMARY/SECONDARY AIRPORT CONTROL STATION			

NOTES

1. EXISTING, FUTURE AND ULTIMATE CONDITIONS SHOWN AS (E)(F)(U).
2. ELEVATION SHOWN ARE TOP OF STRUCTURE.
3. ROADS LOCATED WITHIN ULTIMATE DEVELOPMENT TO BE RELOCATED WHEN RUNWAY IS EXTENDED.

SOURCE

1. THE SITE PLAN LINE WORK AND AERIAL IMAGE IS BASED ON THE PLANIMETRIC MAPPING AND ORTHO – IMAGERY INFORMATION COMPLIED BY WOOLPERT, INC. IN MARCH, 2016.
2. ALL HORIZONTAL COORDINATES – NAD83/2011
ALL VERTICAL COORDINATES – NAVD88

TRUE
MAGNETIC
10°27' E

GRAPHIC SCALE
0 150 300 600
(IN FEET)

DATE: 05/21/2024
ANNUAL RATE OF CHANGE: 6' W
SOURCE: U.S. NCEI

SPONSOR APPROVAL

ACCEPTED: CITY OF KANAB, UTAH

DATE

FAA APPROVAL

SUBJECT TO LETTER DATED: ______

FEDERAL AVIATION ADMINISTRATION
DENVER AIRPORTS DISTRICT OFFICE

DATED: ______

CASE NO: 2024-ANM-2868-NRA

WOOLPERT
35 S 400 West • Suite 200 • St. George, Utah 84770
Phone: 435.673.4677 • Fax: 435.673.8484
• woolpert.com •

KANAB MUNICIPAL AIRPORT

DES: A. TEIGEN
DR: A. TEIGEN
CH: T. HOLDER
APP: T. HOLDER

ISSUE RECORD

NO.	BY	DATE	DESCRIPTION
1	S.G.J.	08/2020	ADDED SNOW REMOVAL EQUIPMENT (SRE) BUILDING
2	A.C.T.	05/2024	APRON/TERMINAL AREA ALP UPDATE

THE PREPARATION OF THIS DOCUMENT MAY HAVE BEEN SUPPORTED, IN PART, THROUGH THE AIRPORT IMPROVEMENT PROGRAM FINANCIAL ASSISTANCE FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER TITLE 49 U.S.C., SECTION 47104. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THIS AIRPORT LAYOUT PLAN BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED THEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE OR WOULD HAVE JUSTIFICATION IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS.

AIRPORT LAYOUT PLAN

AIRPORT LAYOUT PLAN

AIP PROJ. NO. 3-49-0013-022-2023 | WOOLPERT PROJ. NO. 10017149 | DATE: MAY, 2024

KANAB
UTAH

DATE: August 13, 2024
TO: Mayor and City Council
SUBJECT: Fence Purchase
PREPARED BY: City Manager, Kyler Ludwig

Background:

The City is working on two fencing projects and has requested bids for work at Jacob Hamblin Park Baseball Fields and at the Kanab City Connector Trailhead. Only one business returned a request for quotes.

Analysis:

The project at Jacob Hamblin Park Baseball Fields includes the addition of a batting cage area, separation of the two lower fields and replacement of a few sections that need repair. Taylor Made Fencing bid $19,397.80 to complete this work.

The project at the Kanab City Connector Trailhead includes fencing the entire property with black coated fencing. This project has been funded through a grant from the Utah Division of Outdoor Resources. Taylor Made Fencing bid $31,367.00 to complete this work.

Legal:

Financial:

The Connector Trailhead project is grant funded.
The Jaco Hamblin Park Baseball Fields Project is eligible for RAP tax funding.

Recommendations/Actions: It is recommended the City Council:

Approve the two bids from Taylor Made Fencing for fencing at Jacob Hamblin Park and at the Kanab City Connector Trailhead.

Taylor Made Fencing LLC

1600 S Quarterhorse Dr
WASHINGTON, UT 84780
(435) 668-4835
TMFencingsales@gmail.com

Estimate

ADDRESS
Kanab City
26 N 100 E
Kanab, UT 84741

ESTIMATE 7365
DATE 07/12/2024

ITEM	QTY	RATE	AMOUNT
Jacob Hamblin Park 566 N. 100 E. Kanab, UT			
Field 1 & 2 6 ft tall 9 ga chain link installed with line posts on 10 ft centers, top rail and bottom tension wire. All posts cemented into dirt. Price per linear foot. *footage is estimated*	200	26.95	5,390.00
4 ft wide x 6 ft tall chain link walk gate installed with post cemented into dirt. Price per gate. *Conditional on ground being free of utility lines, rock, brush and other debris*	2	790.30	1,580.60
Field 1 Replace out field gate post and reset gate	1	275.00	275.00
Field 2 Straighten out field gate and post	1	75.00	75.00
Field 3 Straighten gate and post	1	75.00	75.00
Field 4 Install new 2 7/8" gate post and gate leaf in out field making gate 12' wide double drive.	1	660.00	660.00
Field 4 Remove and install new four foot chain link along right base line. Using heavy weight posts, bottom and top rail. 9 gauge fabric.	91	22.20	2,020.20
Batting cage Install new 12' tall chain link for batting cage. One 36" x 84" gate Posts set in dirt along south side, remaining post plated into existing concrete. 61'x 18' rectangle Posts on 8' centers, top, middle and bottom rail	1	9,322.00	9,322.00

Thank you for your business! We accept ACH payments or paper checks mailed to the invoice address. If you want to pay with a credit card, there is a 3.5% - 5% convenience fee. Please call the office and we can set it up for you.
Due to rising metal costs estimate is only valid for 20 days. All material is guaranteed to be as specified. All work to be completed in a

SUBTOTAL	19,397.80
TAX (6.5%)	0.00
TOTAL	**$19,397.80**

Purchaser agrees to pay all costs of collection including attorney's fees. Interest of 24% per annum may be charged on any past due amounts.

A 3.5% charge will be added to invoice balance if customer pays with a credit card.

professional manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will become an extra charge over and above the estimate. Costs are based on normal installation conditions. Customer is responsible for locating property lines and knowing zoning regulations. TMF is not responsible for repairing broken or damaged water lines or wiring or replacing landscape damaged due to fence installation.

Purchaser agrees to pay all costs of collection including attorney's fees. Interest of 24% per annum may be charged on any past due amounts. A 3.5% charge will be added to invoice balance if customer pays with a credit card.

Accepted By

Accepted Date

Purchaser agrees to pay all costs of collection including attorney's fees. Interest of 24% per annum may be charged on any past due amounts.

A 3.5% charge will be added to invoice balance if customer pays with a credit card.

Taylor Made Fencing LLC

1600 S Quarterhorse Dr
WASHINGTON, UT 84780
(435) 668-4835
TMFencingsales@gmail.com

Estimate

ADDRESS
Kanab City
26 N 100 E
Kanab, UT 84741

ESTIMATE 7383
DATE 07/22/2024

ITEM	QTY	RATE	AMOUNT
Kanab City Dog park 1000 east Kanab, UT			
Install new 6 ft tall black chain link installed with black line posts on 10 ft centers, black top rail and black bottom tension wire. All posts cemented into dirt. Price per linear foot. *footage is estimated*	896	32.25	28,896.00
Install 12' black double swing gate, six foot tall	1	1,310.00	1,310.00
Install new 36" wide by 6' tall black gate	2	580.50	1,161.00

Thank you for your business! We accept ACH payments or paper checks mailed to the invoice address. If you want to pay with a credit card, there is a 3.5% - 5% convenience fee. Please call the office and we can set it up for you.
Due to rising metal costs estimate is only valid for 20 days. All material is guaranteed to be as specified. All work to be completed in a professional manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will become an extra charge over and above the estimate. Costs are based on normal installation conditions. Customer is responsible for locating property lines and knowing zoning regulations. TMF is not responsible for repairing broken or damaged water lines or wiring or replacing landscape damaged due to fence installation.

Purchaser agrees to pay all costs of collection including attorney's fees. Interest of 24% per annum may be charged on any past due amounts. A 3.5% charge will be added to invoice balance if customer pays with a credit card.

SUBTOTAL	31,367.00
TAX (6.5%)	0.00
TOTAL	**$31,367.00**

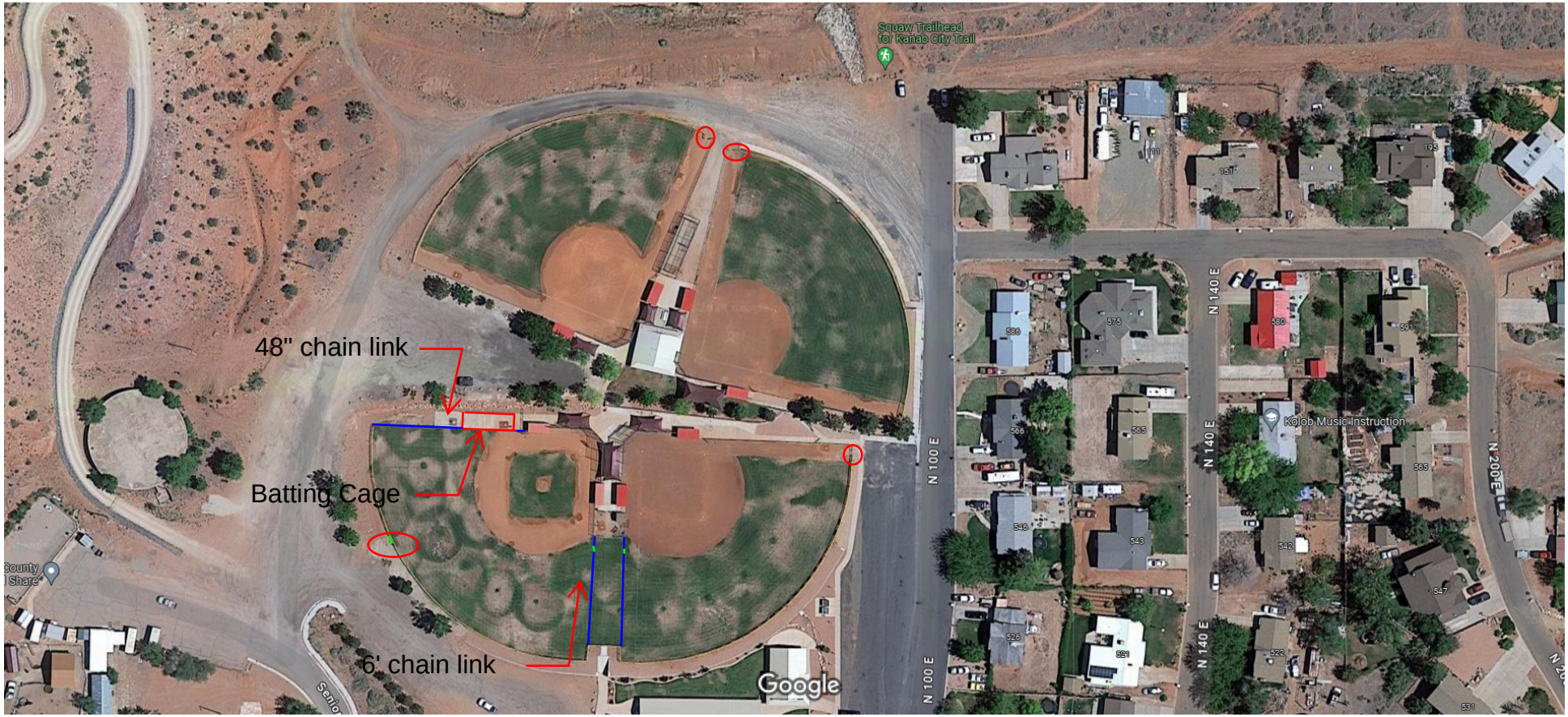
Accepted By

Accepted Date

Purchaser agrees to pay all costs of collection including attorney's fees. Interest of 24% per annum may be charged on any past due amounts.

A 3.5% charge will be added to invoice balance if customer pays with a credit card.

Google Maps



Imagery ©2024 Maxar Technologies, Map data ©2024 Google 50 ft

KANAB
UTAH

DATE: August 13, 2024
TO: Mayor and City Council
SUBJECT: Mobile Backup Generator Purchase
PREPARED BY: City Manager, Kyler Ludwig

Background:

The City is looking at expanding backup power availability for our water supply. Bids for were received through State Contract Pricing for 45/50KVA and 70/75kVA.

Analysis:

Staff feels that the Bobcat PG70WCU-3A-T4F best meets the needs of our wells. The state contract price is $60,743.40. With this purchase, and the existing assets available to the City our community will have access to 1.4 million gallons of water/day when the power is out.

Staff is working within the budget to update and install fixed generators in other strategic locations within our water system.

Legal:

Financial:

This purchase was budgeted for within the water capital funds.

Recommendations/Actions: It is recommended the City Council:

Approve the purchase of the Bobcat PG70WCU-3A-T4F for $60,743.40 under the state purchasing contract.

Wheeler Power Systems
4901 West 2100 South
Salt Lake City, Utah 84120

Date: June 17, 2024

Kanab City Corporation
Jake Dutton
435-644-2534
jdutton@kanab.utah.gov

RE: 45kVA Portable Generators
Thank you for allowing Wheeler Power Systems the opportunity to quote your needs. We look forward to working with you soon. The following constitutes our proposal, based on our understanding of your requirements:

EQUIPMENT:

New MultiQuip DCA45SSIU4F Portable Generator ID# EC4975 (In stock)	$55,445.00
2022 MultiQuip DCA45SSIU4F Portable Generator with 4,840 Hours ID# EC4574	$26,000.00
2023 MultiQuip DCA45SSIU4F Portable Generator with 2,540 Hours. ID# EC4692	$37,500.00

SALES TAX: Sales Taxes may apply and are additional to rates quoted.

In conclusion, we appreciate your interest in WHEELER POWER SYSTEMS for your needs.

Should you have any questions, please feel free to contact me anytime.

Sincerely,

Jay Brown
PSD Generator and Compressed Air Sales & Rental
Wheeler Power Systems
801-209-4964

CUSTOMER ACCEPTANCE:

Signature: _____

Printed Name: _____

PO#: _____ Date: _____

Wheeler Power Systems
4901 West 2100 South
Salt Lake City, Utah 84120

Date: June 17, 2024

Kanab City Corporation
Jake Dutton
435-644-2534
jdutton@kanab.utah.gov

RE: 70kVA Portable Generators
Thank you for allowing Wheeler Power Systems the opportunity to quote your needs. We look forward to working with you soon. The following constitutes our proposal, based on our understanding of your requirements:

EQUIPMENT:

New MultiQuip DCA70SSIU4F Portable Generator	
Lead time 1 - 2 weeks	$69,525.00
Freight to Salt Lake	$1,250.00
2022 MultiQuip DCA70SSIU4F Portable Generator with 3,566 Hours. ID# EC4556	$52,150.00
2022 MultiQuip DCA70SSIU4F Portable Generator with 1,401 Hours. ID# EC4583	$59,100.00

SALES TAX: Sales Taxes may apply and are additional to rates quoted.

In conclusion, we appreciate your interest in WHEELER POWER SYSTEMS for your needs.

Should you have any questions, please feel free to contact me anytime.

Sincerely,

Jay Brown
PSD Generator and Compressed Air Sales & Rental
Wheeler Power Systems
801-209-4964

CUSTOMER ACCEPTANCE:

Signature: _____

Printed Name: _____

PO#: _____ Date: _____

Cate Equipment Company

Construction, Mining & Industrial Equipment
2055 South Pioneer Road
Salt Lake City, UT 84104
(801) 973-2900

Kanab City Jake Dutton Public Works Director Kanab City Corporation 26 N 100 E Kanab, Ut 84741 Office Phone: (435) 644-2534 jdutton@kanab.utah.gov		Quote Date: 6-20-24 Expiration: 7-20-2024 Customer #:

Jake,

Cate Equipment Company is pleased to present the following quote for consideration.

Bobcat PG50WDO-3A-T4F Sourcewell Contract Number: 020923-CEC Member Number: 73885	
PG50WDO-3A-T4F-Standard Build	$ 36,900.27
Inbound Freight	$ *1,225.00*
Local PDI	$ *310.00*
Total	$ *38,435.27*

Current Factory Lead Time 8–10 Weeks.

Paul Rich
Territory Manager
prich@cateequipment.com
385.641.3575

Cate Equipment Company

Construction, Mining & Industrial Equipment
2055 South Pioneer Road
Salt Lake City, UT 84104
(801) 973-2900

Kanab City Jake Dutton Public Works Director Kanab City Corporation 26 N 100 E Kanab, Ut 84741 Office Phone: (435) 644-2534 jdutton@kanab.utah.gov		Quote Date: 6-20-24 Expiration: 7-20-2024 Customer #:

Jake,

Cate Equipment Company is pleased to present the following quote for consideration.

Bobcat PG70WCU-3A-T4F Sourcewell Contract Number: 020923-CEC Member Number: 73885	
PG70WCU-3A-T4F-Standard Build	$ 58,038.40
Inbound Freight	$ *2,395.00*
Local PDI	$ *310.00*
Total	$ *60,743.40*

Current Factory Lead Time 8–10 Weeks.

Paul Rich
Territory Manager
prich@cateequipment.com
385.641.3575

PG50WDO-3A-T4F

Diesel Rental Generator

Serial Code: K74

Key Features

- Designed and manufactured in an ISO9001-certified facility in Statesville, North Carolina, USA.
- Heavy duty mobile generator system designed for prime power operation in rental, construction and special events applications.

Voltage Configuration	Frequency (Hz)	Power Factor	Prime Power Rating		
			kVA	kW	Current (A)
600/346V - 3Ø WYE	60	0.8	N/A	N/A	N/A
480/277V - 3Ø WYE	60	0.8	50	40	60
240/139V - 3Ø WYE	60	0.8	50	40	120
208/120V - 3Ø WYE	60	0.8	50	40	139
240/120V - 1Ø ZIG ZAG	60	1.0	33	33	140
400/230V - 3Ø WYE	50	0.8	43	34	62

* Note: Not all listed voltages are available on standard product. Some voltages may require selection of optional features.

Skidbase and Enclosure

- Package foundation is a heavy duty, oilfield-ready skidbase equipped with four-point tie downs.
- The skidbase is a fully bunded, Environmental Containment design, sized to contain at least 110% of total oil and fuel volume, to prevent any leakage of hazardous fluids from the package.
- Ducted air intakes ensure near-zero water ingression into the containment area, even during operation in the heaviest rain conditions.
- The enclosure is constructed from corrosion-resistant galvannealed steel and coated with a 13 stage powder paint process for long life even in harsh environments.
- The enclosure panels are fitted with sound-absorbing acoustical material to help reduce noise for quiet operation in noise sensitive applications such as concerts, events and nighttime construction.
- Wide opening access doors are side hinged, providing easy access to service and maintenance points and are equipped with recessed, pad-lockable handles and safety latches to hold doors open during servicing.
- Package is equipped with a center-point lifting eye for safe, well-balanced hoisting, designed with a 5 x safety factor for the weight of a fully fueled unit with running gear.

Diesel Engine

- Heavy-duty HDI diesel engine is emissions certified to EPA Tier 4-final standards and provides the optimum mix of performance and fuel economy.
- The Diesel Oxidation Catalyst (DOC) aftertreatment system meet the stringent NOx and particulate limits without the use of a Diesel Particulate Filter (DPF).
- Dual frequency capability allows operation at 50 hertz or 60 hertz with the flip of a switch.
- Electronically controlled engine provides isochronous frequency control and advanced diagnostic monitoring and protection.
- The engine generator assembly is mounted on fail-safe vibration isolators.
- Coolant and oil drains are piped to bulkhead fittings mounted on the enclosure and all filters and maintenance points are easily accessed for safe and easy servicing.
- Engines are globally supported by Bobcat.

CoolBox Cooling System

- Bobcat’s CoolBox cooling system brings cool air into the enclosure through ducted inlet panels to ensure low noise levels.
- Cooling air flows through the package by an engine-driven pusher fan which moves airflow from the inlet panels, across the powertrain and through the heat exchangers before being exhausted through the roof outlets in the discharge plenum.
- The CoolBox solution balances performance in high-ambient conditions, low noise levels and minimum water ingression with a cost effective package design.
- Bobcat generators provide performance at the full prime power rating at ambient temperatures up to 104ºF (40ºC) without derating.

Alternator

- Stamford alternators feature brushless excitation providing industry leading motor starting kVA and 300% overload capability.
- Stamford automatic voltage regulator provides precision control of voltage level and fast response to load changes.
- Class H insulation with upgraded environmental coating for ultimate resistance to high temperature and humidity.
- Three position Voltage Selector Switch (VSS) to easily configure the units for operation at most common voltages.

Control System

- An array of operator-preferred analog gauges provide at-a-glance monitoring of generator parameters.
- Solid state engine control module provides convenient, microprocessor-controlled startup at the push of a button and protects the generator system from an array of faults while providing the operator with indication of any faults on the LED display.
- Standard Run / Idle selector switch allows operators to start and warm up the generator at low engine speed to prevent excess engine wear when operating in cold climates.
- Engine Diagnostic Trouble Codes (DTCs) are displayed on the LCD screen, providing operators and technicians with a numeric and text explanation of the fault code, minimizing the need for expensive hand-held code scanners.
- Standard remote Auto Start / Stop capability via two wire, closed contact logic, allows for connection to automatic transfer switchgear and other remote starting devices.
- Industry-leading Voltage Selector Switch (VSS) protection feature prevents switching the VSS while generator is operating.

Power Connections

- Power cables are connected at an oversized five lug (L1 L2 L3 N PE) terminal board capable of accepting bare end cable or terminated cables.
- Convenience receptacle panel includes individual branch circuit breakers.
- Optional camlock panel includes a panel mounted set of 400A female connectors to further expand connection capabilities.

Fuel System

- Single fuel tank sized for 24 hour runtime at full load is mounted within the skid base, providing double wall protection.
- Fuel tank mounted low in frame and centered to ensure balanced lifting and low center of gravity.
- The fuel filler is located within the containment basin, minimizing possible spillage.
- Standard primary fuel / water separator and fine micron secondary fuel filter keep contaminates out of the system and increase reliability.
- The containment system features a three-inch drain plug for easy cleaning, and the fuel tank is equipped with a drain plug mounted behind the containment plug for easy cleaning.
- Leak-proof fuel vents eliminate the potential for fuel purge during out-of-level conditions during transport and load / unload.
- Low fuel shutdown ensures the engine will not lose prime if it runs out of fuel.

Running Gear

- Integrated running gear system mounts directly to generator skidbase providing an industry-best low center of gravity for safe, stable towing, on-road or off-road.
- Single axle torsion suspension with E-Z-Lube hub assemblies and electric brakes or optional hydraulic surge brakes.
- All models feature high quality, grommet-mount lighting and meet Federal Motor Vehicle Safety Standards for lighting and conspicuity.
- Trailer-to-vehicle connector is a 7-pole “RV”-style plug with a high quality, jacketed wiring harness.
- All units are equipped with a 3-inch pintle eye or optional 2-inch or 2-5/16” ball hitch, heavy duty safety chains and a high quality, heavy-duty jack stand.

Options

- Bobcat models can be equipped with a broad array of optional equipment to meet the need of specific applications. Common selections include:
  - Engine block heater
  - Three-way fuel valve for connection to a remote fuel tank
  - Battery charger
  - Keyed door locks
  - Intelligent Load Management System (ILMS)
  - Running gear options including rear stabilizer jacks, drawbar-mounted tool box and spare tire

Warranty

- All models are covered by a comprehensive limited warranty:
  - Package: 1 year / 3000 hours
  - HDI Engine: 2 years / 4000 hours
  - Stamford Alternator: 2 years / 4000 hours
  - Extended warranty optional

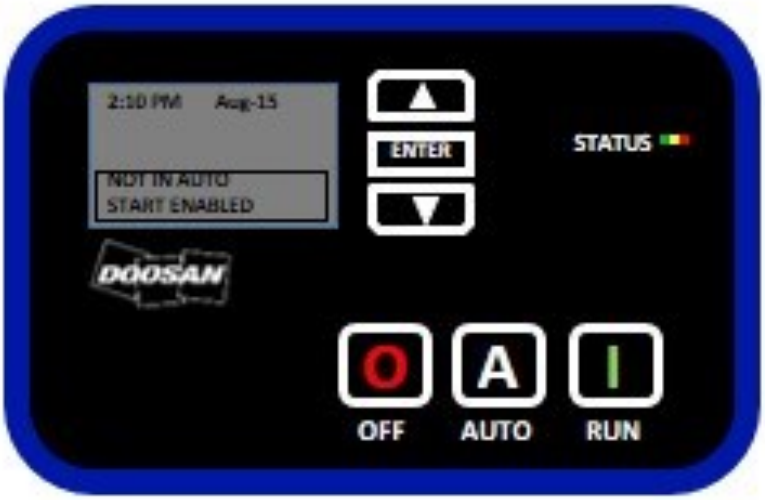
Operator Panel

Operator Panel Features

1. TG410 Controller
2. Tachometer: view on the controller
3. Oil Pressure: view on the controller
4. Coolant Temperature: view on the controller
5. Fuel Level: view on the controller
6. Control Power On / Off Switch
7. Voltage Adjustment Control
8. Voltage Selector Switch Cover
9. Digital Meter

- AC Output Frequency in Hertz (Hz)
- Generator Voltage (phases L1-L3)
- Current displayed in Amps (A) only if load is detected on L1

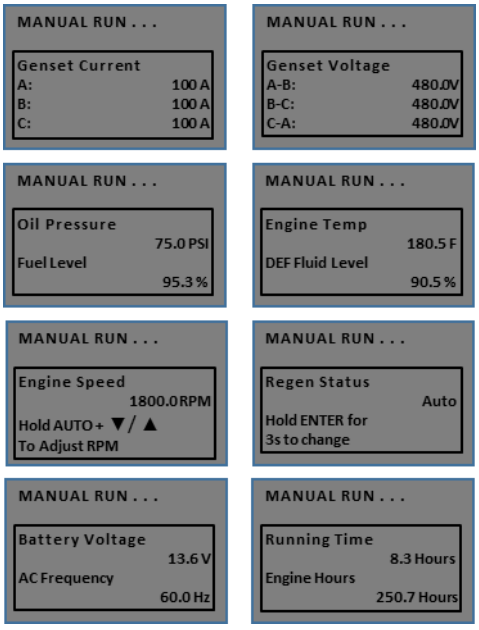
TG410 Automatic Start Stop Controller



TG410 Genset Controller Features

Functionality

- Automatic shutdowns and warnings
- Manual and remote AutoStart
- Engine speed adjustment
- Aftertreatment conditioning controls and status Icons
  Auto / Force / Inhibit
- SAE J1939 electronic engine communication
- Engine Fault Code Annunciation
  SPN / FMI / OC
- 150 Event Fault Log
- Isolated RS 485 Modbus communication capable
- NFPA 110 Level 1 capable
- Maintenance counter
- AutoStart on low battery capable
- Exerciser clock
- Automatic, inverse time delay overcurrent protection



Form Factor

- 6-Button control
- 6-Line LCD Display with user adjustable contrast and temperature compensation from -4ºF (-20ºC) to 158ºF (70ºC)
- 1 Multicolor (Red/Yellow/Green) Status LED
- Front Gasket Seal for water ingress prevention to IP65 protection
- Conformal coated circuit board for protection against moisture and contaminants
- Rugged polycarbonate enclosure designed to survive extreme applications and abuse
- Controller functions in ambient conditions ranging from -40ºF/C to 158ºF (70ºC)
- Meets or exceeds SAE J1113-11 with respect to electrical transients
- Meets or exceeds SAE J1455 with respect to vibration, thermal shock and cycling
- Meets or exceeds MIL-STD-461E with respect to electromagnetic compatibility
- Maximum 600V AC, true RMS sensing, +/- 1% full scale accuracy
- Current sensing, +/- 2% full scale accuracy

Engine Data		
Engine Manufacturer	HDI	
Model Number	D24	
Prime Output @ 1800 RPM	62.2 bhp	43.8 kWm
Standby Output @ 1800 RPM	69.1 bhp	48.9 kWm
Prime Output @ 1500 RPM	52.6 bhp	37.7 kWm
Standby Output @ 1500 RPM	58.5 bhp	42 kWm
Engine Type	Four Cycle, Inline	
Engine Control	ECU	
Emissions Certification	EPA Tier 4 Final	
Number of Cylinders	4	
Aspiration	Turbocharged / Intercooled / cEGR	
Aftertreatment Technology	Diesel Oxidation Catalyst (DOC)	
Bore × Stroke	3.54 × 3.7 in	90 x 94 mm
Displacement	146 in^3	2.392 L
Compression Ratio	17.0:1	
Governor Type	Isochronous	
Speed Regulation Accuracy	+ / - 0.25% Steady State	
Single Step Load Acceptance	100%	
Cooling System	50% Glycol / 50% Water	
Charging Alternator Output	90A	
DC System Voltage	12 V	
Battery Size / Output	Group 31 / 700CCA	

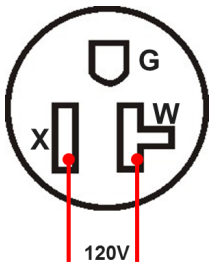
Fluid Capacities	Gal	L
Engine Crankcase Lubricant Capacity	2.3	8.7
Cooling System Capacity	2.4	9.1
Usable Fuel Cell Capacity	102	386
Usable DEF Tank Capacity	N/A	N/A

60Hz Fuel Consumption	Gal / h	L / h	Runtime
@ 25% Load	1.0	3.8	101
@ 50% Load	1.7	6.4	58.7
@ 75% Load	2.5	9.5	40.3
@ 100% Load	3.4	12.9	29.7
DEF Runtime		N/A	

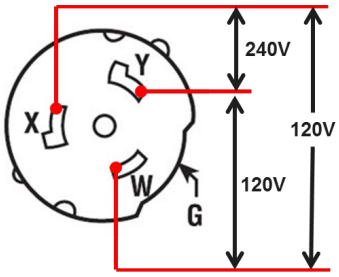
Reference Conditions		
Rated Ambient Temperature	-20ºF—104ºF	-29ºC—40ºC
Minimum Starting Temperature (Standard)	0ºF	-18ºC
Minimum Starting Temperature (w/ Cold Start Opt)	-20ºF	-29ºC
Maximum Altitude		

Alternator Data		
Alternator Manufacturer	Stamford	
Alternator Model	S1L2-Y1	
Alternator Type	Four Pole Revolving Field	
Number of Leads	12	
Insulation Class	H	
Winding Pitch	2/3	
Voltage Connection Method	Three Position Voltage Selector Switch	
Excitation Method	Brushless w/ Auxiliary Windings	
Voltage Regulator Model	Stamford AS540	
Voltage Regulation Accuracy	+/-1%	
Maximum Unbalance Load	25%	
Total Harmonic Distortion (THD)	<2% @ 0% Load	
Telephone Influence Factor (TIF)	<50	
Motor Starting Capability	**480V**	**600V**
SkVA @ 20% Voltage Dip	181	N/A
SkVA @ 25% Voltage Dip	242	N/A
SkVA @ 30% Voltage Dip	311	N/A
SkVA @ 35% Voltage Dip	391	N/A

Power Connections	
Main Circuit Breaker Rating	150 A
Overcurrent Trip Setpoint (240V-1Ø)	141 A
Overcurrent Trip Setpoint (208V-3Ø & 240V-3Ø)	140 A
Overcurrent Trip Setpoint (240V-3Ø Delta)	N/A
Overcurrent Trip Setpoint (480V-3Ø)	66 A
Overcurrent Trip Setpoint (600V-3Ø)	N/A
20A—125V GFCI Duplex (NEMA 5-20R) Receptacles	2
50A—125/250V Temp Power (CS6369) Receptacles	2
400A-600V Camlock Connectors (Optional)	1 Set
Terminal Board Maximum Cable Size (Bare Wire)	AWG 6—350MCM
Terminal Board Maximum Cable Lug Size	7/16 in (11 mm)



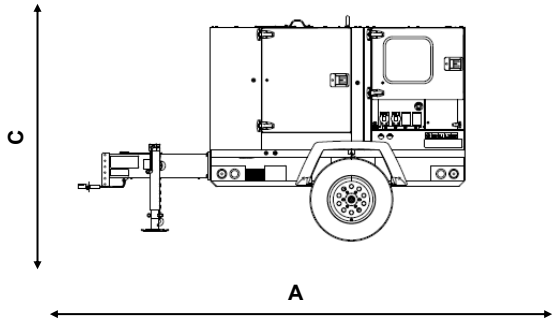
NEMA 5-20R Receptacle

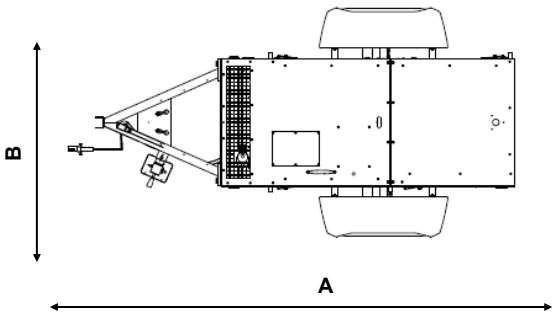


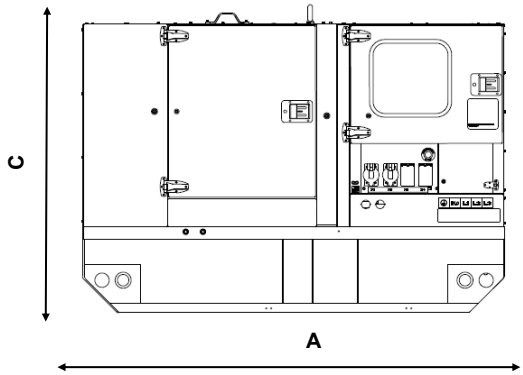
CS6369 Receptacle

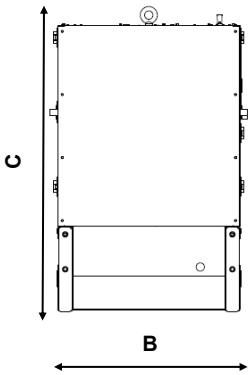
Running Gear	To 49CFR571 requirements	
Gross Vehicle Weight Rating (GVWR)	5080 lb	2304 kg
Gross Axle Weight Rating (GAWR)	6000 lb	2721 kg
Configuration	Single Axle	
Suspension	Torsion	
Standard Brake System Configuration	Electric	
Optional Brake System Configuration	Hydraulic Surge	
Tires	ST225/75R15, Radial	
Wheels	15” × 6”, 6 lug on 5.5” bolt circle	
Track Width	59.1 in	1500 mm
Lighting and Reflectors	Meets Federal/Canada Motor Vehicle Safety Standard 571.108	
Electrical Connection to Towing Vehicle	7-Pole Round “RV” Blade Connector	
Standard Trailer Coupling	3” (78 mm) Pintle Eye	
Optional Trailer Coupling	2-Inch Ball Coupler or 2-5/16-Inch Ball Coupler	
Hitch Height	5-Position Adjustment 20 in—28 in	
Safety Chains	2 × 5/16” with slip hooks and safety latches	
Jack Stand Configuration	Trunnion Mount, 5000 lb Capacity	

Package Data	With Running Gear		Skidmount	
Length (A)	130.5 in	3315 mm	88.7 in	2253 mm
Width (B)	68.3 in	1735 mm	38 in	965 mm
Height (C)	76.6 in	1946 mm	54.4 in	1382 mm
Weight (Shipping)	3170 lb	1438 kg	2969 lb	1347kg
Weight (Ready to Run)	3930 lb	1782 kg	3729 lb	1619 kg
Sound Level @ 23ft (7m), 100% Load	66 dB(A)			









Bobcat Company
250 East Beaton Drive
West Fargo, ND 58078

(800) 633-5206
Bobcat.com

PG70WCU-3A-T4F

Diesel Mobile Generator

Serial Code: K83

Key Features

- Designed and manufactured in an ISO9001-certified facility in Statesville, North Carolina, USA.
- Heavy duty mobile generator system designed for prime power operation in rental, construction and special events applications.

Voltage Configuration	Frequency (Hz)	Power Factor	Prime Power Rating			Standby Power Rating		
			kVA	kW	Current (A)	kVA	kW	Current
480/277V - 3Ø WYE	60	0.8	70	56	84	77	61	92
240/139V - 3Ø WYE	60	0.8	70	56	168	77	61	184
208/120V - 3Ø WYE	60	0.8	70	56	194	77	61	213
240/120V - 1Ø ZIG ZAG	60	1.0	50	50	208	50	50	208
400/230V - 3Ø WYE	50	0.8	65	52	94	72	57	103

Skidbase and Enclosure

- Package foundation is a heavy duty, oilfield-ready skidbase equipped with four-point tie downs.
- The skidbase is a fully bunded, Environmental Containment design, sized to contain at least 110% of total oil and fuel volume, to prevent any leakage of hazardous fluids from the package.
- Ducted air intakes ensure near-zero water ingression into the containment area, even during operation in the heaviest rain conditions.
- The enclosure is constructed from corrosion-resistant galvannealed steel and coated with a multi-stage powder paint process for long life even in harsh environments.
- The enclosure panels are fitted with sound-absorbing acoustical material to help reduce noise for quiet operation in noise sensitive applications such as concerts, events and nighttime construction.
- Wide opening access doors are side hinged, providing easy access to service and maintenance points and are equipped with recessed, pad-lockable handles and safety latches to hold doors open during servicing.
- Package is equipped with a center-point lifting eye for safe, well-balanced hoisting, designed with a 5 x safety factor for the weight of a fully fueled unit with running gear.

Diesel Engine

- Heavy-duty Cummins diesel engine is emissions certified to EPA Tier 4-final standards and provides the optimum mix of performance and fuel economy.
- The Diesel Oxidation Catalyst (DOC), Diesel Particulate Filter (DPF), and Selective Catalyst Reduction (SCR) aftertreatment system meet the stringent NOx and particulate limits required by the EPA.
- Dual frequency capability allows operation at 50 hertz or 60 hertz with the flip of a switch.
- Electronically controlled engine provides isochronous frequency control and advanced diagnostic monitoring and protection.
- The engine generator assembly is mounted on fail-safe vibration isolators.
- Coolant and oil drains are piped to bulkhead fittings mounted on the enclosure and all filters and maintenance points are easily accessed for safe and easy servicing.
- Engines are globally supported by Bobcat.

CoolBox Cooling System

- Bobcat’s CoolBox cooling system brings cool air into the enclosure through ducted inlet panels to ensure low noise levels.
- Cooling air flows through the package by an engine-driven pusher fan which moves airflow from the inlet panels, across the powertrain and through the heat exchangers before being exhausted through the roof outlets in the discharge plenum.
- The CoolBox solution balances performance in high-ambient conditions, low noise levels and minimum water Ingression with a cost effective package design.
- Bobcat generators provide performance at the full prime power rating at ambient temperatures up to 104ºF (40ºC) without derating.

Alternator

- Stamford alternators feature brushless excitation providing industry leading motor starting kVA and 300% overload capability.
- Stamford MX341 automatic voltage regulator provides precision control of voltage level and fast response to load changes.
- Class H insulation with upgraded environmental coating for ultimate resistance to high temperature and humidity.
- Three position Voltage Selector Switch (VSS) to easily configure the units for operation at most common voltages.

Control System

- Solid state engine control module provides convenient, microprocessor-controlled startup at the push of a button and protects the generator system from an array of faults while providing the operator with indication of any faults on the display.
- Engine Diagnostic Trouble Codes (DTCs) are displayed on the screen, providing operators and technicians with a numeric and text explanation of the fault code, minimizing the need for expensive hand-held code scanners.
- Standard remote Auto Start / Stop capability via two wire, closed contact logic, allows for connection to automatic transfer switchgear and other remote starting devices.
- Industry-leading Voltage Selector Switch (VSS) protection feature prevents switching the VSS while generator is operating.
- Pad-lockable battery disconnect switch is mounted inside the enclosure.

Power Connections

- All controls and connection points are grouped at the rear of the unit for safety and operator convenience.

- Power cables are connected at an oversized five lug (L1 L2 L3 N PE) terminal board capable of accepting bare end cable or terminated cables.
- Convenience receptacle panel includes individual branch circuit breakers.
- Optional camlock panel includes a panel mounted set of 400A female connectors to further expand connection capabilities.

Fuel and DEF System

- Single fuel tank sized for more than 24-hour runtime at full load is mounted within the skid base, providing double wall protection.
- Fuel tank mounted low in frame and centered to ensure balanced lifting and low center of gravity.
- The fuel filler is located within the containment basin, minimizing possible spillage and environmental hazards.
- Standard primary fuel / water separator and fine micron secondary fuel filter keep contaminates out of the system and increase reliability.
- The containment system features a three-inch drain plug for easy cleaning, and the fuel tank is equipped with a drain plug mounted behind the containment plug for easy draining of contaminated fuel.
- Leak-proof fuel vents eliminate the potential for fuel purge during out-of-level conditions during transport and load / unload.
- Low fuel shutdown ensures the engine will not lose prime if it runs out of fuel.
- Diesel Exhaust Fluid (DEF) tank sized for a minimum of 24 hour runtime.

Running Gear

- Integrated running gear system mounts directly to generator skidbase providing an industry-best low center of gravity for safe, stable towing, on-road or off-road.
- Tandem axle torsion suspension with E-Z-Lube hub assemblies and electric brakes or optional hydraulic surge brakes.
- All models feature high quality, grommet-mount lighting and exceeds all Federal Motor Vehicle Safety Standards with the National Highway Traffic Safety Administration (NHTSA) and the Department of Transportation (DOT) for lighting and conspicuity.
- Trailer-to-vehicle connector is a 7-pole “RV”-style plug with a high quality, jacketed wiring harness.
- All units are equipped with a 3-inch pintle eye or optional 2-5/16” ball hitch, heavy duty safety chains and a high quality, heavy-duty jack stand rated to 5,000 lbs.

Options

- Bobcat models can be equipped with a broad array of optional equipment to meet the need of specific applications. Common selections include:
  - Cold weather package: includes engine block heater, battery charger, and heated breather hose
  - Three-way fuel valve for connection to a remote fuel tank
  - DEIF AGC150 paralleling controller
  - Telematics
  - Camlocks: 1 set of (5) 400A
  - Keyed door locks
  - Solar battery charger

Warranty

- All models are covered by a comprehensive limited warranty:
  - Package: 1 year / 3000 hours
  - Cummins Engine: 1 year / unlimited hours or 2 years / 2000 hours
  - Stamford Alternator: 2 years / 4000 hours
  - Extended warranty optional (2 years or 5 years)

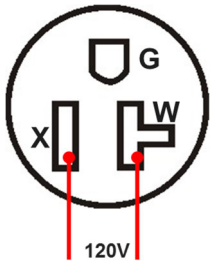
Engine Data		
Engine Manufacturer	Cummins	
Model Number	F3.8	
Prime Output @ 1800 RPM	84 bhp	62 kWm
Standby Output @ 1800 RPM	92 bhp	68 kWm
Prime Output @ 1500 RPM	89 bhp	66 kWm
Standby Output @ 1500 RPM	105 bhp	78 kWm
Engine Type	Four Cycle, Inline	
Engine Control	ECU	
Emissions Certification	EPA Tier 4 Final	
Number of Cylinders	4	
Aspiration	Turbocharged / Intercooled / cEGR	
Aftertreatment Technology	Diesel Oxidation Catalyst (DOC) / Selective Catalytic Reduction (SCR) / Diesel Particulate Filter (DPF)	
Bore × Stroke	4.02 × 4.53 in	102 x 115 mm
Displacement	232 in^3	3.8 L
Compression Ratio	17.2:1	
Governor Type	Isochronous	
Speed Regulation Accuracy	+ / - 0.25% Steady State	
Single Step Load Acceptance	100%	
Cooling System	50% Glycol / 50% Water	
Charging Alternator Output	90A	
DC System Voltage	12 V	
Battery Size / Output	Group 31 / 950CCA	

Fluid Capacities		Gal	L
Engine Crankcase Lubricant Capacity		3.4	13
Cooling System Capacity		6.1	23.1
Usable Fuel Cell Capacity		172	651
Usable DEF Tank Capacity		14.7	55.5
60Hz Fuel Consumption	**Gal / h**	**L / h**	**Runtime**
@ 25% Load	1.14	4.3	150
@ 50% Load	2.27	8.6	75
@ 75% Load	3.41	12.9	50
@ 100% Load	4.6	17.21	37
DEF Runtime		>24 hours	

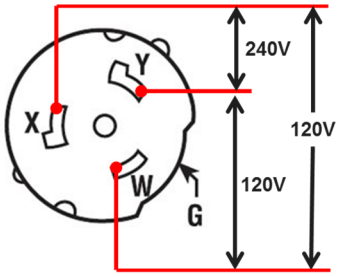
Reference Conditions		
Rated Ambient Temperature	-20ºF—104ºF	-29ºC—40ºC
Minimum Starting Temperature (Standard)	0ºF	-18ºC
Minimum Starting Temperature (w/ Cold Start Opt)	-20ºF	-29ºC
Maximum Altitude	< 10,000 ft	< 3048 m

Alternator Data		
Alternator Manufacturer	Stamford	
Alternator Model	UCI224F	
Alternator Type	Four Pole Revolving Field	
Number of Leads	12	
Insulation Class	H	
Winding Pitch	2/3	
Voltage Connection Method	Three Position Voltage Selector Switch	
Excitation Method	Brushless w/ PMG	
Voltage Regulator Model	MX341	
Voltage Regulation Accuracy	+/- 1.0%	
Maximum Unbalance Load	25%	
Total Harmonic Distortion (THD)	<1.5% @ 0% Load	
Telephone Influence Factor (TIF)	<50	
Motor Starting Capability	**480V**	**600V**
SkVA @ 20% Voltage Dip	106.9	N/A
SkVA @ 25% Voltage Dip	142.6	N/A
SkVA @ 30% Voltage Dip	183.3	N/A
SkVA @ 35% Voltage Dip	230.3	N/A

Power Connections	
Main Circuit Breaker Rating	400 A
Overcurrent Trip Setpoint (240V-1Ø)	210 A
Overcurrent Trip Setpoint (208V-3Ø & 240V-3Ø)	214 A
Overcurrent Trip Setpoint (240V-3Ø Delta)	N/A
Overcurrent Trip Setpoint (480V-3Ø)	93 A
Overcurrent Trip Setpoint (600V-3Ø)	N/A
20A—125V GFCI Duplex (NEMA 5-20R) Receptacles	2
50A—125/250V Temp Power (CS6369) Receptacles	3
400A-600V Camlock Connectors (Optional)	1 Set of 5
Terminal Board Maximum Cable Size (Bare Wire)	2 × AWG 2—600MCM
Terminal Board Maximum Cable Lug Size	1/2 in (12.7 mm)



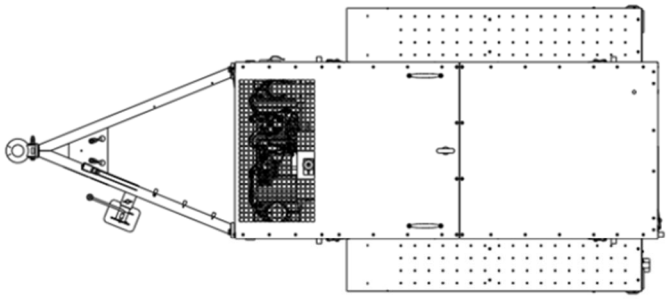
NEMA 5-20R Receptacle



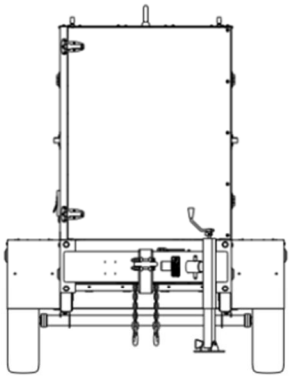
CS6369 Receptacle

Running Gear	To 49CFR571 requirements	
Configuration	Tandem Axle	
Suspension	Torsion	
Standard Brake System Configuration	Electric	
Optional Brake System Configuration	N/A	
Tires	ST205/75R15, Radial	
Wheels	15” × 5”, 5 lug on 4.5” bolt circle	
Track Width	63 in	1600 mm
Lighting and Reflectors	Meets Federal/Canada Motor Vehicle Safety Standard 571.108	
Electrical Connection to Towing Vehicle	7-Pole Round “RV” Blade Connector	
Standard Trailer Coupling	3” (78 mm) Pintle Eye	
Optional Trailer Coupling	2-Inch Ball Coupler or 2-5/16-Inch Ball Coupler	
Hitch Height	5-Position Adjustment 17 in—25 in	
Safety Chains	2 × 5/16” with slip hooks and safety latches	
Jack Stand Configuration	Trunnion Mount, 5000 lb Capacity	

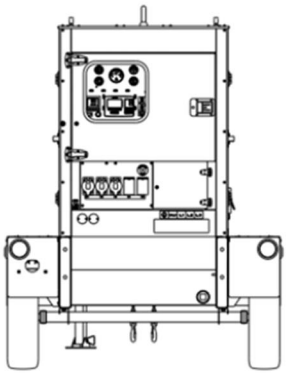
Package Data	With Running Gear		Skidmount	
Length	166.1 in	4220 mm	106.8 in	2714 mm
Width	72.5 in	1840 mm	44.6 in	1133 mm
Height	94.7 in	2405 mm	73.6 in	1869 mm
Weight (Shipping)	4800 lb	2177 kg	4050 lb	1837 kg
Weight (Ready to Run)	6000 lb	2722 kg	5400 lb	2449 kg
Sound Level @ 23ft (7m), 100% Load	**65 dB(A)**			



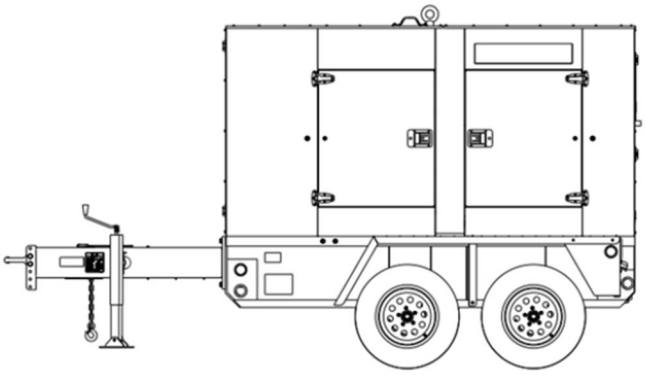
TOP VIEW



FRONT VIEW



REAR VIEW



LEFT SIDE VIEW

Bobcat Company
250 East Beaton Dr
West Fargo, ND 58078

(800) 633-5206
Bobcat.com

KANAB
UTAH

DATE: August 13, 2024
TO: Mayor and City Council
SUBJECT: NRCS Agreement
PREPARED BY: City Manager, Kyler Ludwig

Background:

The City has been working with the Natural Resources Conservation Service (NRCS) to complete a Environmental Assessment on the Kanab Creek Watershed. As part of this process, we have identified projects to improve stormwater management in our community totaling $13,340,500 with a City portion of that estimated at $1,527,900 (~13%).

Analysis:

The City established a stormwater utility fund to help pay for these projects and has saved approximately 2 million dollars to fund these projects. The proposed work will significantly improve stormwater flow from Tom's Canyon and Pugh Canyon. This agreement will allow the City to be eligible for grant funding from the federal government on these much-needed projects within our community.

Legal:

Approved as to form

Financial:

The Stormwater Utility Fund was established and funds have been set aside for this project.

Recommendations/Actions: It is recommended the City Council:

Approve Resolution 7- -24, A resolution authorizing Kanab City to Enter into a watershed work plan agreement with the Natural Resources Conservation Service, U.S. Department of Agriculture.

KANAB CREEK WATERSHED, UTAH
WATERSHED WORK PLAN AGREEMENT
between

Kanab City, Utah
(Referred to herein as Sponsor)

and the

Natural Resources Conservation Service,
U.S. Department of Agriculture
(Referred to herein as NRCS)

Whereas, application has heretofore been made to the Secretary of Agriculture by Kanab City, Utah for assistance in preparing a plan for works of improvement for the Kanab Creek Watershed, Utah, under the authority of the Watershed Protection and Flood Prevention Act, as amended (16 U.S.C. Sections 1001 to 1008, 1010, and 1012; and

Whereas, the responsibility for administration of the Watershed Protection and Flood Prevention Act (Public Law 83-566), as amended, has been assigned by the Secretary of Agriculture to the NRCS; and

Whereas, there has been developed through the cooperative efforts of the Sponsor and the NRCS a Watershed Work Plan and Environmental Assessment for works of improvement for the Eastern Duchesne Watershed, Utah, hereinafter referred to as the Watershed Project or Plan, which Plan is annexed to and made part of this agreement;

Now, therefore, the Secretary of Agriculture through the NRCS and the Sponsor hereby agree on this Watershed Plan and that the works of improvement for this project will be installed, operated, and maintained in accordance with the terms, conditions, and stipulations provided for in this Watershed Plan and including the following:

1. **Term.** The term of this agreement is for the installation period and evaluated life of the project (54 years) and does not commit the NRCS to assistance of any kind beyond the end of the evaluated life.

2. **Costs.** The costs shown in this plan are preliminary estimates. Final costs to be borne by the parties hereto will be the actual costs incurred in the installation of works of improvement.

3. **Real Property.** The Sponsor will acquire such real property as will be needed in connection with the works of improvement. The amounts and percentages of the real property acquisition costs to be borne by the Sponsor and the NRCS are as shown in the cost-share table in section 5 hereof.

   The Sponsor agrees that all land acquired for measures, other than land treatment practices, with financial or credit assistance under this agreement will not be sold or otherwise disposed of for the evaluated life of the project except to a public agency that will continue to maintain and operate the development in accordance with the operation and maintenance agreement.

4. **Uniform Relocation Assistance and Real Property Acquisition Policies Act.** The Sponsor hereby agrees to comply with all of the policies and procedures of the Uniform Relocation Assistance and Real Property Acquisition Policies Act (42 U.S.C. Section 4601 et seq. as further implemented through regulations in 49 CFR Part 24 and 7 CFR Part 21) when acquiring real property interests for this federally assisted project. If the sponsor is legally unable to comply with the real property acquisition requirements, it agrees that, before any Federal financial assistance is furnished, it will provide a statement to that effect, supported by an opinion of the chief legal officer of the Sponsor containing a full discussion of the facts and law involved. This statement may be accepted as constituting compliance.

5. **Cost-Share for Watershed Project Plans.** Table 1- Kanab Creek Watershed Agreement Cost-Share Percentages & Amounts shows the estimated cost-share percentages and amounts for Watershed Project Plan implementation.

Table 1. Kanab Creek Watershed Agreement - Cost-Share Percentages and Amounts

Works of Improvement	**NRCS**		**Sponsors**		**Total Cost**
Cost-Sharable Items	**%**	**Cost**	**%**	**Cost**	
Flood Prevention Measures[1/]	100	$11,812,600	0	$0	$11,812,600
Mitigation		$0		$1,527,900	$1,747,900
Real Property Acquisition Cost	0	$0	0	$0	$0
Project Administration	0	$0	0	$0	$0
Real Estate Appraisal Fees, Legal Fees, Survey Costs, Flowage Easement	0	$0	0	$0	$0
Relocation [2/]	0	$0	0	$0	$0
Sponsors Engineering Costs	0	$0	0	$0	$0
Subtotal: Cost-Sharable Costs		**$11,812,600**		**$1,527,900**	**$13,340,500**
Non-Cost-Sharable Item [3/]	**NRCS**		**Sponsors**		**Total Cost**
	%	**Cost**	**%**	**Cost**	
NRCS Technical Assistance/Engineering	100	$688,800	0	$0	$688,800
Project Administration[4/]	N/A	$753,800	N/A	$	$753,800
Water, Mineral and Other Resource Rights[5/]	0	$0	100	$0	$0
Permits	0	$0	100	$	$
Real Property Rights	0	$0	100	$	$
Relocation, Beyond Required Decent, Safe, Sanitary[6/]	0	$0	100	$0	$0
Non-Project Costs	0	$0	100	$0	$0
Subtotal: Non-Cost-Sharable Costs		**$1,442,600**		**$0**	**$1,442,600**
Grand Total:		**$13,255,200**		**$1,527,900**	**$14,783,100**

1/ - The cost-share rate is the percentage of the average cost of installing the practice in the selected plan for the evaluation unit. During project implementation, the actual cost-share rate must not exceed the rate of assistance for similar practices and measures under existing national programs.

2 /- Investigation of the watershed project area indicates that no displacements will be involved under present conditions. However, in the event

that displacement becomes necessary at a later date, the cost of relocation assistance and payments will be cost-shared in accordance with the percentages shown.

3/ - If actual Non-Cost-Sharable item expenditures vary from these figures, the responsible party will bear the change.

4/ - The sponsors and NRCS will each bear the costs of project administration that each incurs. Sponsor costs for project administration include relocation assistance advisory service.

5/ - The sponsors will acquire with other than Watershed Protection and Flood Prevention Act funds, such real property as will be needed in connection with the works of improvement. The value of real property is eligible as in-kind contributions toward the sponsors' share of the works of improvement costs. In no case will the amount of an in-kind contribution exceed the sponsors' share of the cost for the works of improvement. The maximum cost eligible for in-kind credit is the same as that for cost sharing.

6/ - Relocation payments for the cost of improvements beyond decent, safe and sanitary requirements is a non-project cost ineligible for assistance under the act.

6. **Land Treatment Agreements.** The Sponsor will obtain agreements from owners of not less than 50 percent of the land above each multiple-purpose and floodwater-retarding structure. These agreements must provide that the owners will carry out farm or ranch conservation plans on their land. The Sponsor will ensure that 50 percent of the land upstream of any retention reservoir site is adequately protected before construction of the dam. The Sponsor will provide assistance to landowners and operators to ensure the installation of the land treatment measures shown in the Watershed Plan. The Sponsor will encourage landowners and operators to continue to operate and maintain the land treatment measures after the long-term contracts expire, for the protection and improvement of the watershed.

7. **Floodplain Management.** Before construction of any project for flood prevention, the Sponsor agrees to participate in and comply with applicable Federal floodplain management and flood insurance programs.

8. **Water and Mineral Rights.** The Sponsor will acquire or provide assurance that landowners or resource users have acquired such water, mineral, or other natural resources rights pursuant to State law as may be needed in the installation and operation of the works of improvement.

9. **Permits.** The Sponsor will obtain and bear the cost for all necessary Federal, State, and local permits required by law, ordinance, or regulation for installation of the works of improvement.

10. **NRCS Assistance.** This agreement is not a fund-obligating document. Financial and other assistance to be furnished by the NRCS in carrying out the plan is contingent upon the fulfillment of applicable laws and regulations and the availability of appropriations for this purpose.

11. **Additional Agreements.** A separate agreement will be entered into between the Sponsor and the NRCS before either party initiates work involving funds of the other party. Such agreements will set forth in detail the financial and working arrangements and other conditions that are applicable to the specific works of improvement.

12. **Amendments.** This plan may be amended or revised only by mutual agreement of the parties hereto, except that the NRCS may deauthorize or terminate funding at any time if it determines that the Sponsor has failed to comply with the conditions of this agreement or when the program funding or authority expires. In this case, the NRCS must promptly notify the Sponsor in writing of the determination and the reasons for the deauthorization of project funding, together with the effective date. Payments made to the Sponsor or recoveries by the NRCS must be in accordance with the legal rights and liabilities of the parties when project funding has been deauthorized. An amendment to incorporate changes affecting a specific

measure may be made by mutual agreement between the Sponsor and the NRCS having specific responsibilities for the measure involved.

13. **Prohibitions.** No member of or delegate to Congress, or resident commissioner, may be admitted to any share or part of this plan, or to any benefit that may arise therefrom; but this provision may not be construed to extend to this agreement if made with a corporation for its general benefit.

14. **Operation and Maintenance (O&M).** The Sponsor will be responsible for the operation, maintenance, and any needed replacement of the works of improvement by performing the work or arranging for such work, in accordance with an O&M Agreement. An O&M agreement will be entered into before Federal funds are obligated and will continue for the project life 50 years. Although the sponsor's responsibility to the Federal Government for O&M ends when the O&M agreement expires upon completion of the evaluated life of measures covered by the agreement, the Sponsor acknowledges that continued liabilities and responsibilities associated with works of improvement may exist beyond the evaluated life.

15. **Emergency Action Plan.** Prior to construction, the Sponsor must prepare an Emergency Action Plan (EAP) for each dam or similar structure where failure may cause loss of life or as required by state and local regulations. The EAP must meet the minimum content specified in NRCS Title 180, National Operation and Maintenance Manual (NOMM), Part 500, Subpart F, Section 500.52, and meet applicable State agency dam safety requirements. The NRCS will determine that an EAP is prepared prior to the execution of fund obligating documents for construction of the structure. EAPs must be reviewed and updated by the Sponsor annually.

16. **Nondiscrimination Provisions**. In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

    Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

    To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at How to File a Program Discrimination Complaint and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

USDA is an equal opportunity provider, employer, and lender.

By signing this agreement, the recipient assures the USDA that the program or activities provided for under this agreement will be conducted in compliance with all applicable Federal civil rights laws, rules, regulations, and policies.

17. Certification Regarding Drug-Free Workplace Requirements (7 CFR Part 3021). By signing this Watershed Agreement, the Sponsor is providing the certification set out below. If it is later determined that the Sponsor knowingly rendered a false certification, or otherwise violated the requirements of the Drug-Free Workplace Act, the NRCS, in addition to any other remedies available to the Federal Government, may take action as authorized under the Drug-Free Workplace Act.

Controlled substance means a controlled substance in Schedules I through V of the Controlled Substances Act (21 U.S.C. Section 812) and as further defined by regulation (21 CFR Sections 1308.11 through 1308.15);

Conviction means a finding of guilt (including a plea of nolo contendere) or imposition of sentence, or both, by any judicial body charged with the responsibility to determine violations of the Federal or State criminal drug statutes;

Criminal drug statute means a Federal or non-Federal criminal statute involving the manufacturing, distribution, dispensing, use, or possession of any controlled substance;

Employee means the employee of a grantee directly engaged in the performance of work under a grant, including: (i) all direct charge employees; (ii) all indirect charge employees unless their impact or involvement is insignificant to the performance of the grant; and, (iii) temporary personnel and consultants who are directly engaged in the performance of work under the grant and who are on the grantee's payroll. This definition does not include workers not on the payroll of the grantee (e.g., volunteers, even if used to meet a matching requirement; consultants or independent contractors not on the grantees' payroll; or employees of sub-recipients or sub-contractors in covered workplaces).

Certification:

A. The Sponsor certifies that they will or will continue to provide a drug-free workplace by:

(1) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition.

(2) Establishing an ongoing drug-free awareness program to inform employees about:
   (a) The danger of drug abuse in the workplace;
   (b) The grantee's policy of maintaining a drug-free workplace;
   (c) Any available drug counseling, rehabilitation, and employee assistance programs; and
   (d) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace.

(3) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (1).

(4) Notifying the employee in the statement required by paragraph (1) that, as a condition of employment under the grant, the employee must:

(a) Abide by the terms of the statement; and
(b) Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction.

(5) Notifying the NRCS in writing, within 10 calendar days after receiving notice under paragraph (4)(b) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title, to every grant officer or other designee on whose grant activity the convicted employee was working, unless the Federal agency has designated a central point for the receipt of such notices. Notice must include the identification numbers of each affected grant.

(6) Taking one of the following actions, within 30 calendar days of receiving notice under paragraph (4) (b), with respect to any employee who is so convicted.
(a) Taking appropriate personnel action against such an employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended; or
(b) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency.

(7) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (1), (2), (3), (4), (5), and (6).

B. The Sponsor may provide a list of the sites for the performance of work done in connection with a specific project or other agreement.

C. Agencies must keep the original of all disclosure reports in the official files of the agency.

18. Certification Regarding Lobbying (7 CFR Part 3018) (for projects > $100,000)

A. The Sponsor certifies to the best of their knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Sponsor, to any person for influencing or attempting to influence an officer or employee of an agency, Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned must complete and submit Standard Form LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The Sponsor must require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub- grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients must certify and disclose accordingly.

B. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite

for making or entering into this transaction imposed by 31 U.S.C., Section 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

19. Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions (7 CFR Part 3017).

A. The Sponsor certifies to the best of their knowledge and belief, that they and their principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(2) Have not within a 3-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph A(2) of this certification; and

(4) Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

B. Where the Sponsor is unable to certify to any of the statements in this certification, such prospective participant must attach an explanation to this agreement.

20. Clean Air and Water Certification. (Applicable if this agreement exceeds $100,000, or a facility to be used has been subject of a conviction under the Clean Air Act (42 U.S.C. Section 7413(c)) or the Federal Water Pollution Control Act (33 U.S.C. Section 1319(c)) and is listed by EPA, or is not otherwise exempt.)

A. The Sponsor signatory to this agreement certifies as follows:

(1) Any facility to be utilized in the performance of this proposed agreement is ( ), is not (X) listed on the Environmental Protection Agency List of Violating Facilities.

(2) To promptly notify the NRCS-State administrative officer prior to the signing of this agreement by the NRCS, of the receipt of any communication from the Director, Office of Federal Activities, U.S. Environmental Protection Agency, indicating that any facility which is proposed for use under this agreement is under consideration to be listed on the Environmental Protection Agency List of Violating Facilities.

(3) To include substantially this certification, including this subparagraph, in every nonexempt sub-agreement.

B. The Sponsor signatory to this agreement agrees as follows:

(1) To comply with all the requirements of section 114 of the Clean Air Act as amended (42 U.S.C. Section 7414) and section 308 of the Federal Water Pollution Control Act (33 U.S.C. Section 1318), respectively, relating to inspection, monitoring, entry, reports, and information, as well as other requirements specified in section 114 and section 308 of the Air Act and the Water Act, issued there under before the signing

of this agreement by the NRCS.

(2) That no portion of the work required by this agreement will be performed in facilities listed on the EPA List of Violating Facilities on the date when this agreement was signed by the NRCS unless and until the EPA eliminates the name of such facility or facilities from such listing.

(3) To use their best efforts to comply with clean air standards and clean water standards at the facilities in which the agreement is being performed.

(4) To insert the substance of the provisions of this clause in any nonexempt sub-agreement.

C. The terms used in this clause have the following meanings:

(1) The term "Air Act" means the Clean Air Act, as amended (42 U.S.C. Section 7401 et seq.).

(2) The term "Water Act" means Federal Water Pollution Control Act, as amended (33 U.S.C. Section 1251 et seq.).

(3) The term "clean air standards" means any enforceable rules, regulations, guidelines, standards, limitations, orders, controls, prohibitions, or other requirements which are contained in, issued under, or otherwise adopted pursuant to the Air Act or Executive Order 11738, an applicable implementation plan as described in section 110 of the Air Act (42 U.S.C. Section 7414) or an approved implementation procedure under section 112 of the Air Act (42 U.S.C. Section 7412).

(4) The term "clean water standards" means any enforceable limitation, control, condition, prohibition, standards, or other requirement which is promulgated pursuant to the Water Act or contained in a permit issued to a discharger by the Environmental Protection Agency or by a State under an approved program, as authorized by section 402 of the Water Act (33 U.S.C. Section 1342), or by a local government to assure compliance with pretreatment regulations as required by section 307 of the Water Act (33 U.S.C. Section 1317).

(5) The term "facility" means any building, plant, installation, structure, mine, vessel, or other floating craft, location or site of operations, owned, leased, or supervised by a sponsor, to be utilized in the performance of an agreement or sub- agreement. Where a location or site of operations contains or includes more than one building, plant, installation, or structure, the entire location will be deemed to be a facility except where the Director, Office of Federal Activities, Environmental Protection Agency, determines that independent facilities are collocated in one geographical area.

21. Assurances and Compliance. As a condition of the grant or cooperative agreement, the sponsor assures and certifies that it is in compliance with and will comply in the course of the agreement with all applicable laws, regulations, Executive orders and other generally applicable requirements, including those set out below which are hereby incorporated in this agreement by reference, and such other statutory provisions as a specifically set forth herein.

State, Local, and Indian Tribal Governments: OMB Circular Nos. A-87, A-102, A-129, and A-133; and 7 CFR Parts 3015, 3016, 3017, 3018, 3021, and 3052.

Nonprofit Organizations, Hospitals, Institutions of Higher Learning: OMB Circular Nos. A-110, A-122, A-129, and A-133; and 7 CFR Parts 3015, 3017, 3018, 3019, 3021 and 3052.

22. Examination of Records. The Sponsor must give the NRCS or the Comptroller General, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to this agreement, and retains all records related to this agreement for a period of three years after completion of the terms of this agreement in accordance with the applicable OMB Circular.

23. Signatures

Sponsor: Kanab City	
By:	
Title:	
Date:	
Address: 26 N. 100 E., Kanab, Utah	Zip Code: 84741

The signing of this plan was authorized by a resolution of the governing body of Kanab City, adopted at a meeting held on_____.

_____ Address _____

Secretary [or other Title]

Date*:* _____

USDA United States Department of Agriculture

Natural Resources Conservation Service

Approved By:

_____

TRAVIS MOTE

Title: Acting-NRCS State Conservationist

Date:

United States Department of Agriculture

Natural Resources Conservation Service

DRAFT ENVIRONMENTAL ASSESSMENT FOR THE KANAB CREEK WATERSHED FLOOD PROTECTION PROJECT

Kanab Creek Watershed
Kane County, Utah

Sponsoring Local Organization:
City of Kanab, Utah

Lead Federal Agency:
United States Department of Agriculture
Natural Resources Conservation Service

Cooperating Federal Agency:
Department of the Interior
Bureau of Land Management

Prepared by:
Civil Science Inc.
Transcon Environmental, Inc.
February 2024

Draft
Environmental Assessment
for the
Kanab Creek Watershed Flood Protection Project
Kanab Creek Watershed
Kane County, Utah

Lead Agency: U.S. Department of Agriculture (USDA)—Natural Resources Conservation Service (NRCS)

Cooperating Agency: Department of the Interior, Bureau of Land Management

Sponsoring Local Organization: City of Kanab, Utah

Authority: This Draft Watershed Plan and Environmental Assessment (Plan-EA) has been prepared under the authority of the NRCS Watershed and Flood Prevention Operations Program, which includes the Flood Prevention Operations Program authorized by the Flood Control Act of 1944 (Public Law [PL] 78-534) and the provisions of the Watershed Protection and Flood Prevention Act of 1954 (PL 83-566) Stat. 666, as amended (16 U.S.C Section 1001 et seq.).

Abstract: The city of Kanab, Utah is surrounded by canyons to the northeast that direct floodwaters through the city and into Kanab Creek. The city's existing stormwater system is of insufficient size to convey the stormwater into the creek, which results in stormwater erosion and stormwater and sediment being deposited into streets, yards, and homes. The city proposes to construct a detention dam with channel improvements and increase the size of the stormwater drain outflow to reduce flood damages within the city.

Comments: The NRCS has completed this Draft Watershed Plan-EA in accordance with the National Environmental Policy Act and NRCS guidelines and standards. Reviewers should provide their comments to the NRCS during the allotted Draft Plan-EA review period. Comments need to be submitted by [Month Day], 2024 to become part of the Administrative Record. Please send comments to NRCS on behalf of:

Brian Parker
Project Manager
Transcon Environmental, Inc.
1745 S Alma School Road, Suite 220
Mesa, Arizona 85210
Phone: (385) 242-5040
Email: bparker@transcon.com

Commented [DB1]: NRCS - Need email where you want public comments sent.

Further information may also be obtained for this Project by contacting the following NRCS personnel:

Derek Hamilton
NRCS Water Resources Coordinator
125 South State Street, Room 4010
Salt Lake City, Utah 84138-1100
(801) 524-4560
derek.hamilton@usda.gov

Non-Discrimination Statement: In accordance with Federal civil rights law and USDA civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

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To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at https://www.ascr.usda.gov/filing-program-discrimination-complaint-usda-customer and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

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WATERSHED PLAN AGREEMENT

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SUMMARY (OFFICE OF MANAGEMENT AND BUDGET FACT SHEET)

S-1 Title of Proposed Action

Kanab Creek Watershed Flood Protection Project

S-2 Watershed Name

Kanab Creek

S-3 County, State

Kane County, Utah

S-4 Congressional District

Utah—Congressional District 2

S-5 Sponsoring Local Organization (SLO)

City of Kanab, Utah

S-6 Cooperating Agencies

Bureau of Land Management (BLM)

S-7 Authority

This Draft Watershed Plan and Environmental Assessment (Plan-EA) has been prepared under the authority of U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Watershed and Flood Prevention Operations (WFPO) Program, which authorizes funding to help urban and rural communities protect, improve, and develop land resources in watersheds up to 250,000 acres in size. The WFPO Program includes the Flood Prevention Operations Program authorized by the Flood Control Act of 1944 (Public Law [PL] 78-534) and the provisions of the Watershed Protection and Flood Prevention Act of 1954 (PL 83-566) Stat. 666, as amended (16 U.S.C. Section 1001 et seq.). The Plan-EA has been prepared in accordance with Section 102(2)(c) of the National Environmental Policy Act of 1969 (PL 91-190), as amended (42 U.S.C. 43221 et seq.).

S-8 Purpose and Need for Action

The purpose of the Project is to provide flood reduction or prevention and protection for residents, homes, properties, and public and other infrastructure within and near Kanab City during a flood event in the Kanab Creek Watershed. There is a need to reduce flood damages for approximately 5,000 people, 1,700 homes,180 businesses, public utilities, and public buildings, including a hospital, a library, a BLM office, County and City government buildings, recreational areas, roadways, and highway infrastructure, along with 1,500 acres of agricultural land.

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The current stormwater infrastructure cannot accommodate the outflow from the Tom's Canyon detention basin; as it discharges into Town Wash, much of the downtown area is flooded. With a natural drainage channel out of Pugh Canyon, the sediment and debris flow from a precipitation event clog the culverts under Highway 89 and flood the roadway and surrounding area on the south side of town all the way to the airport.

S-9 Description of Preferred Alternative

The Preferred Alternative is a combination of enlarging an existing outfall drainage pipe to accommodate modeled 100-year food flows, rerouting and replacing of sewer and water infrastructure to accommodate the larger outflow drainage pipe, an earthen dam in Pugh Canyon to create a sedimentation and water retention basin, and channel improvements to improve the conveyance of water from the sedimentation basin to an existing pond.

S-10 Resource Information

Table S-1 lists the relevant resource information for the Project.

TABLE S-1
EXISTING RESOURCE INFORMATION

Feature	Description
Latitude/Longitude (WGS84)	-112.53 W, 37.05 N
Elevation	4,970 feet above sea level
Annual Precipitation (U.S. Climate Data 2023)	13.67 inches
Hydrologic Unit Number	15010003010505 Johnson Run—Kanab Creek subwatershed
Climate[1]	July average high/low: 93°F/59°F January average high/low: 48°F/24°F Annual average precipitation: 13.67 inches
Kanab Creek Watershed Topography	Headwaters in steep cliffs, flows around mesas, and through the Colorado Plateau Elevation Range: 4,500to 6,380 feet
Kanab Creek Watershed Area	42,667 acres
Land Uses Kanab Creek Watershed[2]	Undeveloped: 91.5% Developed: 6.3% Agricultural: 1.6% Open Water: 0.06%
Land Ownership Kanab Creek Watershed	Private: 40% BLM: 30.5% Utah School and Institutional Trust Lands Administration: 2.6% Utah Department of Transportation: 0.04% Kaibab National Forest: 0.1% Kaibab Indian Reservation:13.9% Arizona State Lands Department: 12.9%
Population (Kane County)[3]	8,227 (2022 estimate)
Demographics (Kane County)[3]	White: 93.9% African American1.0% American Indian and Alaska Native: 1.8% Asian: 0.9% Native Hawaiian and Pacific Islanders: 0.1% Hispanic 5.6%
Farms Present (Kane County)[4]	182
Land in Farms (Kane County)[4]	128,697 acres
Average Farm Size (Kane County)[4]	707 acres

TABLE S-1 EXISTING RESOURCE INFORMATION	
Feature	**Description**
Relevant Resource Concerns	See **Table S-4**

[1] Source: U.S. Climate Data
[2] Undeveloped lands consist of barren land, forests, wetlands, shrub/scrub lands, and herbaceous lands. Developed lands consist of low- to high-intensity developed areas and developed open-space areas. Agricultural land consists of cultivated crops and pasture/hay areas. Source: National Land Cover Database 2019
[3] Source : U.S. Census Bureau
[4] Source: USDA 2017 Census for Agriculture

S-11 Alternative Plans Considered

No Action Alternative—The No Action Alternative is considered in this Plan-EA and consists of the most likely future condition if none of the federally assisted action alternatives are selected. The No Action Alternative would leave the existing stormwater and sewer infrastructure as it currently exists. No improvements including any detention basins would be constructed in any of the canyons surrounding the city.

Preferred Alternative—Implementation of this alternative would upgrade the existing Tom's Canyon stormwater drainage infrastructure to accommodate the modeled 100-year flood and discharge it into Kanab Creek. A detention basin would be constructed in Pugh Canyon with downstream channel improvements.

Several other alternative actions were considered. These included sedimentation basins and channel developments at Jackson Flat, Bunting Canyon, Saleratus Canyon, and Ranchos West. After consideration, it was determined that none of these additional sites were preferable to the Preferred Alternative due to environmental or cost benefit concerns. See **Section 5.3** for a detailed discussion of potential alternatives not carried forward for analysis in this Plan-EA. Therefore, based on the rationale described above, the only alternatives considered in this document are the Preferred Alternative and the No Action Alternative.

The National Economic Efficiency (NEE) Alternative is the alternative or combination of alternatives that reasonably maximizes the net economic benefit of the Project consistent with protecting the nation's environment. The NEE Alternative is the Preferred Alternative.

S-12 Project Costs and Funding Source

The breakdown of the estimated installation cost for the preferred and NEE Alternative (Action Alternative) is provided in **Table S-2**. The NRCS provides PL 83-566 funding for construction, engineering, and wetland/floodplain conservation easements. The NRCS and the SLO are responsible for their own administrative time.

TABLE S-2 ESTIMATED PROJECT INSTALLATION COST					
Item	**PL 83-566 Funds**		**Other Funds**		**Total**
Tom's Canyon					
Construction (Flood Prevention)	$7,251,300	100%			$7,251,300
Engineering	$422,700	100%			$422,700

TABLE S-2 ESTIMATED PROJECT INSTALLATION COST					
Item	**PL 83-566 Funds**		**Other Funds**		**Total**
Project Administration	$487,700	100%			$487,700
Real Property Rights			$617,500	100%	$65,000
Permits			$195,100	100%	$195,100
Subtotal	$8,161,700		$812,600		$8,974,300
Pugh Canyon					
Construction (Flood Prevention)	$4,561,300	100%			$4,561,300
Engineering	$266,100	100%			$266,100
Project Administration	$266,100	100%			$266,100
Real Property Rights			$105,800	100%	$105,800
Permits			$57,000	100%	$57,000
Cultural Mitigation			$220,000	100%	$220,000
Subtotal	$5,093,500		$382,800		$5,476,300
Total	**$13,255,200**		**$1,195,400**		**$14,450,600**

S-13 Project Benefits

Benefits from implementation of the preferred and NEE Alternative were based upon the estimated reduction in average annual floodwater damages with the proposed flood control measures in place. The total annual benefits are estimated to be $18,946,864, all for flood damage reduction. The alternative benefits, costs, and the benefit-cost ratio are provided in **Table S-3** below.

S-14 Net Economic Benefits

The Preferred Alternative is the NEE Alternative for the Project since it has the greatest net economic benefit.

TABLE S-3 ESTIMATED ANNUAL NET ECONOMIC BENEFITS				
Site	**Total Annual Benefits**	**Total Annual Costs**	**Benefit-Cost Ratio**	**Net Economic Benefits**
Tom's Canyon	$19,156,392	$348,600	54.95	$18,807,792
Pugh Canyon	$397,571	$258,500	1.54	$139,071
Total Project	**$19,553,963**	**$607,100**	32.21	**$18,946,864**

S-15 Period of Analysis

All alternatives were evaluated with a period of analysis of 54 years (50-year project life plus 4 years for design and construction), 2023 costs, and the 2024 2.75 percent discount rate.

S-16 Project Life

The Project would have a lifespan of 50 years.

S-17 Environmental Impacts

Table S-4 lists the resources of concern and associated environmental consequences associated with the Action Alternative. Resources that would not be affected by the Project are not listed in this table.

TABLE S-4
SUMMARY OF RESOURCE CONCERNS AND IMPACTS

Resource Concern	Summary of Concern/Affect	Summary of Anticipated Environmental Consequences
Soils		
Upland Erosion	Disturbance to soils from construction activities	Construction activities would result in approximately 11.2 acres of soil disturbance; however, disturbance would be minimized. All soil piles would be protected from erosion by wind or water. Any disturbed areas would be recontoured and reseeded at the conclusion of construction. Best Management Practices (BMPs) would be implemented during and after construction to reduce the amount of soil loss (see **Section 8.2** for applicant-committed environmental protection measures and BMPs).
Sedimentation	Sediment accumulation in yards, houses, and streets after precipitation event	The Action Alternative would reduce sediment that is carried in floodwaters from Pugh Canyon by containing it in a sediment basin. Increasing the size of the concrete box outfall pipe from Tom's Canyon would convey floodwater to Kanab Creek rather than flowing into Town Wash, where erosion creates additional sediment. Sedimentation accumulation in yards and streets would be reduced.
Water		
Surface Water	Construction activities and structures occurring within and adjacent to Kanab Creek	Construction of outfall energy dissipation structure could alter the Kanab Creek stream bed and cause vegetation disturbance. Use of the outfall could create scour in the riverbed. Short-term effects to water quality in Kanab Creek could occur.
Floodplain Management	Changes to flooding conditions	The Action Alternative would minimize flooding in the floodplain by conveying water in a properly sized pipe, constructing a dam to retain water and sediment, and improving the Pugh Canyon drainage channel.
Wetlands	Disturbance to wetlands	Construction of outfall energy dissipation structure could destroy a small wetland.
Air		
Air Quality	Fugitive dust and emissions from construction activities	Emissions from construction equipment and fugitive dust would be anticipated during the 24-month construction period. However, implementation of BMPs would ensure that construction activities would not violate air quality standards. No long-term, operational-related effects would occur.

Commented [DB2]: Civil Science - Is this correct? Revise if necessary.

Commented [KS3R2]: Just under 10.9 ac for pugh area. 0.3 ac for Tom's Canyon outlet area

TABLE S-4 SUMMARY OF RESOURCE CONCERNS AND IMPACTS		
Resource Concern	**Summary of Concern/Affect**	**Summary of Anticipated Environmental Consequences**
Plants		
Special-Status Plant Species	Potential disturbance of Endangered Species Act-listed plant	Survey of potential habitat revealed no listed Siler pincushion cacti. However, unoccupied suitable habitat is present.
Noxious Weeds and Invasive Plant Species	Increased potential for establishment of invasive plant species on disturbed soils	Construction activities would expose disturbed areas to invasive plant species growth. BMPs, including the reseeding of disturbed areas with an NRCS-approved native seed mix, would be implemented to minimize the spread of invasive plants.
Riparian Vegetation	Disturbance to riparian vegetation during construction, operations, and maintenance of outfall energy dissipation structure	Riparian vegetation could be damaged or lost to construct the outfall energy dissipation structure. Operation of the outfall could alter the streambed and existing vegetation.
Animals		
Special-Status Animal Species	Construction disturbance in habitat	There would be construction and maintenance disturbance within potential southwestern willow flycatcher habitat.
Migratory Birds/Bald and Golden Eagles	Construction disturbance in potential habitat	Surface disturbance would occur within an occupied town and along well-used hiking and biking trails. Disturbances to individuals of any species would be temporary.
Human		
Socioeconomics	Economic and social implications to the community	The Action Alternative would result in reduced risk of impacts to economic and social structures from flooding. Improved quality of life would be expected through the prevention of flood damage to property, risk of personal injury, and negative financial consequences.
Historic Properties/Cultural Resources	Historic properties are located within the Project area	The Project will result in *No Adverse Effects to Historic Properties* as none of the sites within the Area of Potential Effect (APE) are located within or will be adversely impacted by the final Project design. Road base will be added to an existing road that extends through non-contributing portions of site 42KA6165; however, Project-related ground disturbance will not occur within any of the sites within the APE.
Hazardous Materials	Potential for accidental spills during construction	Creation of a spill response plan following all state and federal guidelines would be required and implemented in the event of a hazardous release.
Public Health and Safety	Flooding presents a hazard to public health and safety	Project development would eliminate or reduce the severity of flooding in the City. Public health and safety would be increased by removing the negative impact of floodwaters.
Recreation	Interference with recreational opportunities	Construction of the dam in Pugh Canyon and the impoundment of water and sediment behind the dam would inundate or cover with sediment approximately 0.6 mile of the Pugh Canyon hiking trail.
Visual Resources and Scenic Beauty	Anticipated impacts to natural views	There could be visual contrast between the proposed Pugh Canyon dam, concrete spillways and rip rap, and the surrounding topography.

TABLE S-4 SUMMARY OF RESOURCE CONCERNS AND IMPACTS		
Resource Concern	**Summary of Concern/Affect**	**Summary of Anticipated Environmental Consequences**
Transportation Infrastructure	Roads and highways are flooded after precipitation events	Development of the Pugh Canyon sedimentation basin would eliminate or reduce potential for flooding of U.S. Highway 89. Increasing the size of the outfall from Tom's Canyon would convey stormwater to Kanab Creek rather than flooding city streets.
Noise	Construction activities would produce noise	Construction activities would have a temporary noise impact but would not extend beyond the 24-month construction period. Existing community activity and street and highway use would continue to generate similar background noise.

S-18 Major Conclusions

The Preferred Alternative meets the purpose and need of the Project to reduce the impact of flooding on the residents and public infrastructure of Kanab and best addresses the Principles, Requirements, and Guidelines guiding principles and ecosystem services. Any adverse effects resulting from implementation of the Preferred Alternative would be mostly minor and/or short-term during construction. Long-term beneficial effects would result from implementing the Preferred Alternative, including improving public health and safety and property protection while reducing economic losses due to flooding.

S-19 Areas of Controversy and Issues to Be Resolved

There are no known areas of controversy. The following are issues to be resolved for the Project:

- Real Property Rights must be acquired for both the Tom's Canyon outflow upgrades and the Pugh Canyon developments
- Approval of the dam design from Utah Division of Water Resources, Dam Safety Program
- Acquisition of Stream Alteration Permit from Utah Division of Water Rights
- Acquisition of additional required federal, state, and local permits

S-20 Evidence of Unusual Congressional or Local Interest

There is no known evidence of unusual congressional or local interest in the Project.

S-21 In Compliance

Is this report in compliance with the executive orders, public laws, and other statutes governing the formulation of water resource projects? ☒ Yes ☐ No

1 INTRODUCTION AND PROJECT BACKGROUND

1.1 Introduction

As the lead federal agency, the U.S. Department of Agriculture (USDA)—Natural Resources Conservation Service (NRCS), along with the Sponsoring Local Organization (SLO) (City of Kanab), are proposing measures in the Kanab Creek Watershed to reduce flooding in the City. This Plan-Environmental Assessment (Plan-EA) evaluates the environmental impacts associated with the proposed flood prevention measures.

Federal funding for the Project is being authorized through the Watershed and Flood Prevention Operations Program, which helps urban and rural communities protect, improve, and develop land resources in watersheds of up to 250,000 acres in size. This Plan-EA was prepared for the NRCS to comply with the requirements of the National Environmental Policy Act (NEPA) of 1969 and its implementing regulations, which are set forth in the Council on Environmental Quality regulations, 40 CFR Parts 1500–1508; the Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies (U.S. Water Resources Council 1983) established pursuant to the Water Resources Planning Act of 1965 (Public Law [PL] 89-80), as amended by Executive Order 12322 (September 17, 1981); DR 9500-013, Conducting Analyses Under the Principles, Requirements, and Guidelines for Water- and Land-Related Resources Implementation Studies and Federal Water Resource Investments (NRCS 2017); and NRCS policy and guidelines (NRCS 2010 and 2011).

The format of this document follows the plan format outline that must be followed for Watershed Project Plans as outlined in the NRCS National Watershed Program Manual (NWPM) Parts 500 through 506 (NRCS 2015) and as guided by the NRCS National Watershed Program Handbook (NWPH), Parts 600 through 606 (NRCS 2014). The Plan-EA assists the NRCS in determining if the selected alternative would have a significant impact on the quality of the human environment and if preparation of an Environmental Impact Statement is required.

The NRCS planning process consists of nine steps, divided into three phases, which cover development, implementation, and evaluation of a conservation plan.

1.1.1 Phase 1—Collection and Analysis

- Step 1—Identify problems and opportunities
- Step 2—Determine objectives
- Step 3—Inventory resources
- Step 4—Analyze resource data

1.1.2 Phase 2—Decision Support

- Step 5—Formulate alternatives
- Step 6—Evaluate alternatives
- Step 7—Make decisions

1.1.3 Phase 3—Application and Evaluation

- Step 8—Implement the plan
- Step 9—Monitor the plan

The nine-step NRCS planning process for Watershed Plans is considered and incorporated into this Plan-EA as follows:

TABLE 1-1
WATERSHED PLANS NRCS PLANNING PROCESS

Planning Step	NEPA Requirement	Chapter in Plan-EA/EIS
Identify problems and opportunities	Purpose and Need	Chapter 2
Determine objectives	Purpose and Need	Chapter 2
Inventory resources	Scope of Plan-EA	Chapter 3
Analyze resource data	Affected Environment	Chapter 4
Formulate alternatives	Alternatives	Chapter 5
Evaluate alternatives	Environmental Consequences	Chapter 6
Make decisions	Preferred Alternative and Decision Document	Chapter 8
Implement the plan	Mitigation and Monitoring	-
Monitor the plan	Supplemental Plan-EA/EIS (Adaptive Management)	-

[1] Table abbreviations: EA = Environmental Assessment; EIS = Environmental Impact Statement.

In addition to the NRCS federal action, the Bureau of Land Management (BLM) also has federal approval authority on public lands they administer. The BLM has agreed to be a cooperating agency in the preparation of the Plan-EA in the event any proposed solutions would require use of BLM land. This Plan-EA will also serve as the necessary environmental documentation for any actions located on BLM-administered public lands and requiring BLM approval.

1.2 Watershed Boundary

The proposed Project improvements are located within the Sandy Canyon Wash—Kanab Creek watershed. This watershed encompasses an area of southern Utah and northern Arizona around Kanab Creek and is one of several watersheds that comprise the Lower Colorado Region—Lake Mead—Kanab subbasin.

The entire Project area is contained within the Johnson Run—Kanab Creek subwatershed, Hydrologic Unit Code 15010003010505. It is the largest subwatershed at 42,667 acres of the Sandy Canyon Wash—Kanab Creek watershed.

Kanab Creek flows from the headwaters in south central Utah 30 miles to the Arizona state border and eventually to the Colorado River. Stream flow can be intermittent and highly seasonal.

A map of the watershed is shown in **Figure 1-1**.

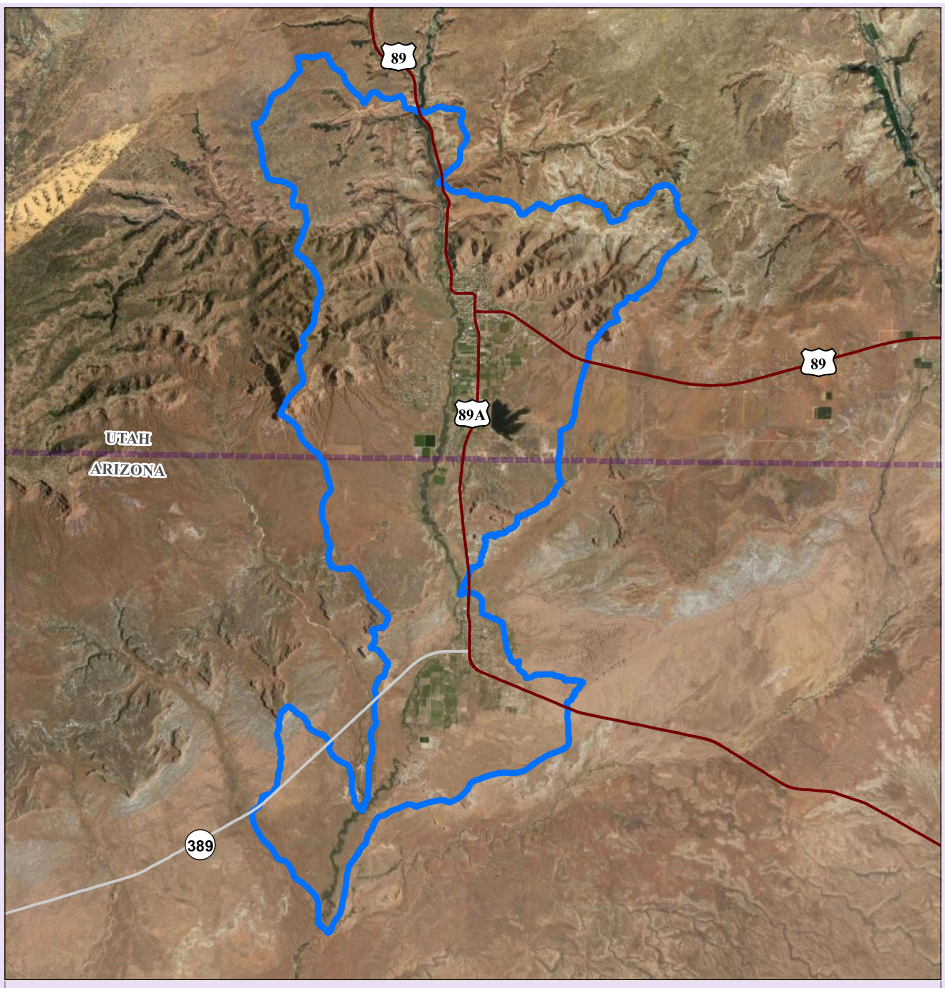

Figure 1-1.

Commented [KS4]: Transcon - need to add acreage of basin to the legend based on NRCS comments. 42,667 ac.

1.3 Project Background

Kanab, Utah, which views itself as "A Western Classic," is located just north of the Arizona border at the junction of U.S. Highway 89A and U.S. Highway 89, the main transportation corridor for southern Utah. Surrounded by plateaus and dunes, canyons and mountains, the scenic setting is of immense value to the city. The western heritage is preserved through restoration of the old pioneer homes and businesses, classic western-themed streetscapes, and the historical livelihoods of ranching and farming. As with most settlements in the Old West, Kanab is located adjacent to a water source, Kanab Creek, which is essential for the prosperity and character of the City. However, it is also problematic, as the City suffers from occasional severe flash flooding from the surrounding drainages that flow into Kanab Creek, which causes considerable damage. As the commercial center for the surrounding farming, ranching, and recreational communities, flood management is a necessity to protect lives, homes, businesses, and infrastructure.

Deleted: State Route 11

As part of its flood control responsibilities, the City contracted for a stormwater master plan and impact fee facilities plan that was finalized in 2018. The City has held multiple public meetings to discuss the concerns of citizens about damage to property due to flooding. Since the completion of the 2018 plan, the City has implemented a stormwater enterprise fund and impact fee fund to assist with matching potential Project funds. The City has also engaged with the NRCS in the search and application for other potential funding.

1.4 Decision Matrix

The NRCS must identify the federally assisted alternative with the greatest net benefits, otherwise known as the National Economic Efficiency (NEE) plan. The NRCS must also decide if the selected alternative would or would not constitute a major federal action that significantly affects the quality of the human environment. If the NRCS state conservationist (responsible federal official) determines that the selected alternative would not have a significant negative effect on the quality of the environment, then the NRCS state conservationist will prepare and sign a Finding of No Significant Impact (FONSI) and the Project may proceed. If the NRCS state conservationist determines that the selected alternative would have a significant negative effect the quality of the human environment, then an EIS and a Record of Decision must be prepared and signed before the Project can proceed.

1.4.1 Conformance with Existing Federal, Tribal, State, County, and Local Land Use Plans

The Proposed Action is consistent with federal, state, and local laws, regulations, and plans, including the following:

- Kane County Resource Management Plan (2017)
- Kanab General Plan (2022)
- Kanab City. 2005. An Ordinance Amending Flood Damage Prevention (2005)
- BLM Kanab Field Office Record of Decision Approved Resource Management Plan (2008)
- The Federal Land Policy and Management Act of October 21, 1976 (90 Stat. 2776, 43)
- National Historic Preservation Act (NHPA) of 1966, as amended
- Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.), as amended
- NEPA and the associated Council on Environmental Quality regulations at 40 CFR Parts 1500–1508

1.5 Principles, Requirements, and Guidelines Analysis

The purpose of the Principles, Requirements, and Guidelines (PR&G) analysis is to ensure that the alternatives analyzed in this document contribute to the Federal Objective and Guiding Principles. The Federal Objective "specifies that federal water resource investments shall reflect national priorities,

encourage economic development, and protect the environment." The Guiding Principles are Healthy and Resilient Ecosystems, Sustainable Economic Development, Floodplains, Public Safety, Environmental Justice, and Watershed Approach. Relevant PR&G analysis is addressed throughout the document in Sections 4 and 5.

The PR&G study area is located within Lower Colorado Water Resource Region (Region 15) and the Johnson Run—Kanab Creek sub watershed (15010003010505). The overall analysis area includes approximately 1,500 acres.

2 PURPOSE AND NEED

2.1 Purpose

The purpose of the Project is to provide flood reduction or prevention and protection for residents, homes, properties, City infrastructure, and other infrastructure within and near Kanab City during a flood event in the Kanab Creek Watershed.

The Kanab Flood Damage Prevention Ordinance (Kanab 2005) states that 1) that the flood hazard areas of Kanab City are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, and extraordinary public expenditures for flood repair and relief, all of which adversely affect the public health, safety, and general welfare, and 2) these flood losses are created by the cumulative effect of obstructions in floodplains which cause an increase in flood heights and velocities, and by the occupancy of flood hazard areas by uses vulnerable to floods and hazardous to other lands because they are inadequately elevated, flood-proofed, or otherwise protected from flood damage.

2.1.1 Federal Objective

The federal objective would be to provide the necessary funding and other assistance necessary to implement the proposed Project. Without the funding and support from NRCS, the Project would not likely be constructed.

2.1.2 Project Objectives

The Kanab Creek Watershed is a historic flood area and experiences occasional and sometimes severe flooding that damages local infrastructure. Existing flood control structures are either not present or are not adequate to contain severe floodwaters. The City of Kanab needs to reduce or eliminate the amount of property damage sustained during a flooding event. During July and August 2016, 2017, and 2018, heavy rain caused flash floods with significant erosion throughout the city, damaging public utilities, other critical infrastructure, private homes, and businesses and resulting in millions of dollars of damage. The object of this proposed Project is to reduce the potential for devastating flooding and resulting property damage in and around Kanab, Utah.

2.1.3 Constraints and Considerations

Several other alternative actions were considered. These included sedimentation basins and channel developments at Jackson Flat, Bunting Canyon, and Ranchos West. After consideration, it was determined that none of these additional sites were preferable to the Action Alternative due to environmental or cost benefit concerns. See **Section 5.3** for a detailed discussion of potential alternatives not carried forward for analysis in this Plan-EA.

2.2 Need

The need exists to provide enhanced flood control and improved irrigation water distribution in Washington. There is a need to reduce flood damages for approximately 5,000 people; 1,700 homes;180 businesses; public utilities; and public buildings, including a hospital, a library, the BLM office, County and City government buildings, recreational areas, roadways, and highway infrastructure, along with 1,500 acres of agricultural land.

Commented [KS5]: The use of ";" seems odd to me

2.2.1 Problems

Floodwater draining from Tom's Canyon is not properly conveyed through the existing stormwater infrastructure but instead enters Town Wash, compromising culverts and utility access holes and flowing

into local homes and businesses and onto roads and other properties. The existing concrete box outfall from Tom's Canyon detention and attendant drainage pipe are not adequate to accommodate large flood events. Most of the floodwater does not enter the drainage pipe but instead flows into Town Wash. This floodwater and resulting erosion compromises vegetation and local structures.

While less damaging than the flood flow draining out of Tom's Canyon, flooding has been experienced in other drainages surrounding Kanab during heavy rains. These drainages include Ranchos West, Bunting Canyon, Saleratus Canyon, Pugh Canyon, and Jackson Flat. There are currently no flood controls in any of these drainages.

2.2.1.1 Flooding, Erosion, and Flood Damage

The current 7- by 6-foot concrete box outfall from Tom's Canyon detention basin carries 787 cubic feet per second (cfs) of stormwater flow. It connects to a 48-inch pipe which only conveys 121 cfs, so most of the floodwater does not enter the drainage pipe but instead flows to Town Wash. The following three photos of Town Wash illustrate the volume of floodwater in the wash and the resulting erosion that compromises vegetation and local structures.

Figure 2-1. View of Town Wash from 400 East Fenway Road on July 2018.

Figure 2-2. West of intersection of 400 East with 200 South, east of Kanab Cemetery.

Figure 2-3. Same location during 2018 flood event.

Figure 2-4. Flooded classroom at Kanab Elementary School, Main and 100 North, on August 3, 2016.

Figure 2-5.This August 3, 2016, photo is of 200 West at Center Street looking east. Center Street, also known as U.S. Highway 89, is the main route through Kanab.

Figure 2-6. Same street during flood event in 2017.

2.2.1.2 Sedimentation Deposition

In addition to water damage, the water transports a large amount of sediment. The sediment fills the storm drains and renders them ineffective for transporting the floodwaters. The Kanab Public Works department dug out the sediment that was covering this drain.

Figure 2-7. Sediment covering the street and sidewalk at 250 West Center Street.

Figure 2-8. Sediment covering a boulevard lawn and parking lot.

Figure 2-9. Significant gully erosion on the west side of Kanab Creek deposits substantial amounts of sediment into the creek. Photo from approximately 1400 South East Creekside Drive.

With the prior photographs providing a glimpse of local experience, the following map shows a consolidated model of the local watersheds during a 100-year flood event. It illustrates that the current infrastructure leaves much of the city unprotected during such a situation.

All the 100-year flood modeling shown in this document was performed using the U.S. Army Corps of Engineers (USACE) Hydrologic Engineering Center River Analysis System software. This software allows the user to perform calculations of two-dimensional systems and the hydraulics of water flow and depth through a given terrain.

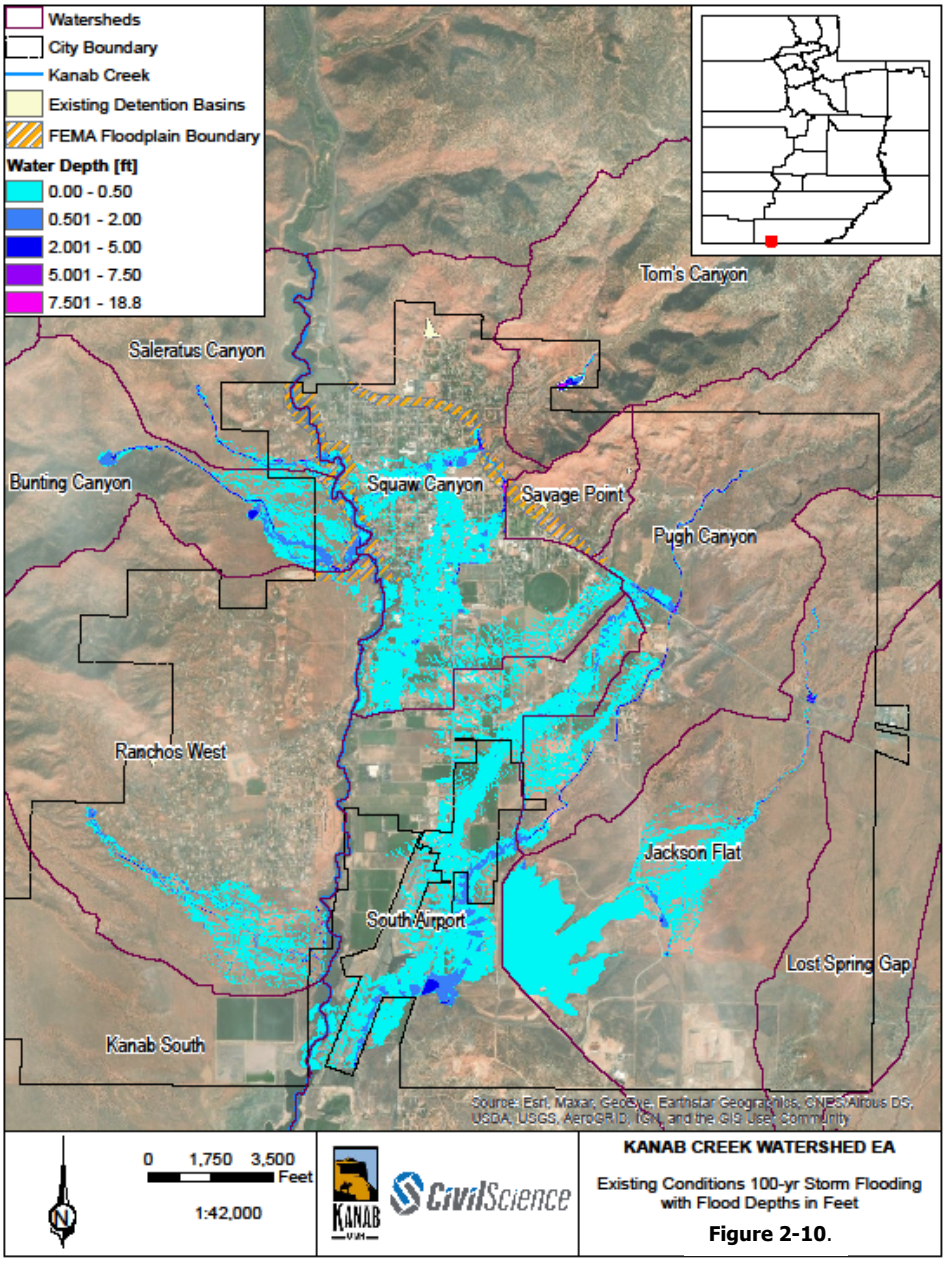
Watersheds
City Boundary
Kanab Creek
Existing Detention Basins
FEMA Floodplain Boundary
Water Depth [ft]
0.00 - 0.50
0.501 - 2.00
2.001 - 5.00
5.001 - 7.50
7.501 - 18.8
Tom's Canyon
Saleratus Canyon
Bunting Canyon
Squaw Canyon
Savage Point
Pugh Canyon
Ranchos West
Jackson Flat
South Airport
Lost Spring Gap
Kanab South
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
0 1,750 3,500
Feet
1:42,000
KANAB CREEK WATERSHED EA
Existing Conditions 100-yr Storm Flooding with Flood Depths in Feet

Figure 2-10.

3 SCOPE OF THE PLAN-EA

A scoping process was conducted to identify relevant resources or environmental concerns to be analyzed in detail and to determine which resources or concerns could be eliminated from detailed study. Resource concerns were identified for the Project based on required scoping concerns outlined in the NWPM Section 501.24 B (NRCS 2015) and from any additional concerns identified by the public, the SLOs, or agencies during the scoping meeting and/or other planning or public meetings.

A Project Fact Sheet was mailed directly to select landowners who own parcels that are directly adjacent to or within the Project area and downstream of the proposed basins. The public was notified of the proposed Project through with a notice in a local weekly newspaper, Southern Utah News. Agencies consulted or otherwise contacted include U.S. Fish and Wildlife Service (USFWS), USACE, BLM Kanab Field Office, and the Environmental Protection Agency (EPA). Individual Tribes consulted were the Kaibab Band of Paiute Indians, Las Vegas Tribe of Paiute Indians, Ute Indian Tribe of the Uintah & Ouray Reservation, Ute Mountain Ute Tribe, Hopi Tribe of Arizona, Paiute Indian Tribe of Utah, Pueblo of Zuni, Moapa Band of Paiute Indians of the Moapa River Indian, San Juan Southern Paiute Tribe of Arizona, and Navajo Nation.

A scoping meeting for the Project was held online, utilizing Zoom, on September 22, 2021. The meeting provided opportunities for the public, SLOs, agencies, and any other attendees to express specific concerns and their relevance to the proposed action. Forty-four comments were received during the announced open comment period for the Project (September 22, 2021, through October 11, 2021). A Scoping Report that provides a summary of the scoping process and comments received can be found in **Appendix F**.

A summary of resource concerns and their relevance to the proposed action is provided in **Table 3-1** below. Resource items determined to not be relevant to the proposed action have been eliminated from detailed study. Resource items determined to be relevant to the proposed action have been included in detailed analysis described in this Plan-EA.

TABLE 3-1
RESOURCE CONCERNS SUMMARY

Resource Concern	Relevant to the Proposed Action		Rationale
	Yes	No	
Soils			
Upland Erosion	X		Significant erosion occurs during periods of heavy runoff. Approximately 11.2 acres of surface disturbance would result from construction activities increasing the potential for additional short-term erosion.
Sedimentation	X		Fast-moving runoff deposits sediment in stormwater drains, across roads and lawns, and into Kanab Creek. Implementation of the Proposed Action would reduce sedimentation concerns.
Prime and Unique Farmland		X	No elements of this Project nor construction activities would occur on prime and unique farmlands.
Water			
Surface Water	X		The Kanab Creek streambed could be affected by construction and operation of the Tom's Canyon outfall energy dissipation structure. Use could cause streamflow alteration and scour.
Groundwater		X	No groundwater resources would be affected.

Commented [DB6]: Civil Science - ?

Commented [KS7R6]: updated

TABLE 3-1 RESOURCE CONCERNS SUMMARY			
Resource Concern	**Relevant to the Proposed Action**		**Rationale**
	Yes	**No**	
Waters of the U.S. (Clean Water Act)		X	No Waters of the U.S. exist within the Project Area.
Regional Water Mgmt. Plans and Coastal Zone Management Areas		X	None present.
Floodplain Management	X		Project development would help protect the floodplain within the city limits. Replacement of the stormwater infrastructure is within a FEMA Zone A floodplain.
Wetlands	X		One wetland of 0.029 acre was identified near the outfall from Tom's Canyon. Project implementation would likely damage this small wetland.
Wild and Scenic Rivers		X	None present.
Sole Source Aquifers		X	None would be affected.
Air			
Air Quality	X		During construction, fugitive dust and machinery emissions would be expected in the proposed Project Area.
Plants			
Special-Status Plant Species	X		Unoccupied suitable habitat for the ESA-listed Siler pincushion cactus was identified in the proposed Pugh Canyon portion of the Project area and could be affected by Project development.
Forest Resources/Fuels/Fire Management		X	Impact from construction is not expected.
Noxious Weeds and Invasive Plant Species	X		Construction activities would disturb soil, which makes the proposed Project area susceptible to establishment of invasive plants.
Protected Natural Areas		X	None on private land.
Riparian Areas	X		Riparian vegetation is present in Kanab Creek, and it is anticipated it would be disturbed, damaged, or destroyed (0.3 acres) by construction activities, use, and operations and maintenance.
Animals			
Essential Fish Habitat		X	Not applicable; essential fish habitat is not present within Utah.
Fish and Wildlife Habitat		X	None present.
Coral Reefs		X	Not applicable; coral reefs are associated with coastal states, Utah is an inland state.
Paleontology		X	Because this is privately owned land, fossils are the property of the landowner.
Special-Status Animal Species	X		Potential habitat for the ESA-listed southwestern willow flycatcher is present in and within a 300-foot buffer surrounding the Project area. Disturbance of riparian habitat (0.3 acres) would result from Project development.
Invasive Animal Species		X	None were identified during the biological survey.

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Commented [DB8]: Civil Science - has this been investigated and determined?

Commented [KS9R8]: This was measured by the construction extents in Kanab Creek from Tom's Canyon Outlet. The city routinely is granted access by Army Corp to do brush and tree maintenance activities in Kanab Creek and overbank areas. See section 4.2.1 about the creek being essentially dewatered because of irrigation

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Commented [DB10]: Civil Science - this is same area as Riparian Areas comment.

Commented [KS11R10]: It appears the same

TABLE 3-1 RESOURCE CONCERNS SUMMARY			
Resource Concern	**Relevant to the Proposed Action**		**Rationale**
	Yes	**No**	
Migratory Birds/Bald and Golden Eagles	X		Migratory birds and bald and golden eagles could be subject to disturbance in the proposed Project area.
Human			
Socioeconomics	X		Damage and destruction of property during flooding events affects the economics of individuals, businesses, and the city. Project development would reduce the potential of property damage and economic loss.
Historic Properties/Cultural Resources	X		The Project will result in *No Adverse Effects to Historic Properties* as none of the sites within the APE are located within or will be adversely impacted by the final Project design. Road base will be added to an existing road that extends through non-contributing portions of site 42KA6165; however, Project-related ground disturbance will not occur within any of the sites within the APE.
Hazardous Materials	X		During construction, fuel and other potentially hazardous materials would be used. A remote potential exists for accidental spills to occur.
Environmental Justice and Civil Rights		X	The proposed Project would abide by the principles and provide equitable protection to people and property regardless of income or race.
Public Health and Safety	X		Floodwaters present a risk to public health and safety. These risks would be reduced by Project development.
Recreation	X		There are multiuse recreational trails that could be affected by the Project. Construction of the Pugh Canyon detention basin would eradicate a portion of a recreation trail.
Land Use		X	The change in land use by construction of a sedimentation basin is on private property within the city limits. Low-density development, agricultural, and undeveloped land actions would remain as they currently exist.
Visual Resources and Scenic Beauty	X		The construction of a 60-foot-high, 625-foot-wide dam could change the existing visual character or quality of the Pugh Canyon site and its surroundings.
Transportation Infrastructure	X		Current flooding compromises use of the one U.S. highway that passes through the City and dozens of city streets. This risk would be reduced by Project development.
Noise	X		Noise levels would be increased during the 24-month construction period.
Ecological Critical Areas		X	None present.
National Parks and Monuments		X	None present.
Scientific Resources		X	None present.
Climate Change/GHG Emissions		X	The small scale of the Project does not permit calculating the effects on climate change or GHG emissions. No changes to climate would be anticipated.

[1] Table abbreviations: APE = Area of Potential Effect; FEMA = Federal Emergency Management Area; GHG = greenhouse gases.

4 AFFECTED ENVIRONMENT

The purpose of this section is to describe the resources that could be affected by the proposed alternatives. The intent of describing the affected environment is to define the context in which the impacts could occur. The environmental analysis process has been conducted in compliance with applicable federal, state, and local regulations.

The proposed Project area is within the Kanab Creek Watershed which consists of 2,363 square miles situated in southern Kane County, Utah. The watershed is characterized by steep plateaus, hundreds of small creeks that drain into the watershed, and high sedimentation due to low vegetation density and easily erodible soils. There are two distinct areas proposed for potential improvement. Overview maps are in **Appendix B**, **Map B1–B3**. Annotated maps of existing conditions are Maps B-11 and B-12 in Appendix B. **Table 4-1** summarizes the physical setting within the Project area.

TABLE 4-1
PHYSICAL SETTING SUMMARY

Physical Setting Information						Information Source
Location						
Tom's Canyon—Extension of existing box pipe along 200 North						Project location maps
Pugh—Pugh Canyon						
Topography						
Proposed Project Area Elevation	Tom's Canyon outflow—5,025 feet					U.S. Geological Survey (USGS) (2022)
	Pugh—5,100 feet					
General Topographic Gradient	Tom's Canyon—5,025 feet to 4,890 feet					USGS 2022
	Pugh—5,100 feet to 4,900 feet					
Geology						
Project Area Geologic Units	Tom's Canyon—Mostly sand with lenses of silty clay, sandy silt, and gravel deposited in stream beds, washes and adjacent floodplains and on low alluvial slopes					Utah Geological Survey Geologic Map (Biek et al. 2010)
	Pugh—Navajo Sandstone—White to light-gray, mostly fine-grained sandstone; massive with high-angle cross-beds; red-brown and locally planar bedded in far west exposures; excellent aquifer in the Kanab area					
Soil Characteristics						
Project Area Soil Type	The Project area contains nine soil types, which are listed and described in **Table 4-2** of **Section 4.1**					Web Soil Survey (NRCS 2015)
Land Information						
Land Ownership	Tom's Canyon—Private: 10.49 acres					Surface Ownership and Administration 2022 (SITLA)
	Pugh—Private: 91.68 acres					
Land Use	Location	Dev.	Undev.	Ag.	Water	National Land Cover Database 2019 (USGS)
	Tom's Canyon	100%				
	Pugh	1%	96%	2%	1%	

4.1 Soil Resources

Soil information presented in this section has been summarized from NRCS Web Soil Survey data (NRCS 2015). Soils found within the Project area are listed in **Table 4-2**.

TABLE 4-2
SOIL TYPE SUMMARY

Soil Unit Name	Landform	Ecological Site[1]	Slope %	Description	Erosion Hazard Rating[2]	Farmland Classification	% of Project Area
Begay-Milok-Ildefonso complex	Fan remnants, fanhead trenches	Semidesert Sandy Loam (Wyoming Big Sagebrush)	2–8	Sandy loam	High	Not prime	15.5
Lavodnas family-Goblin family-Badland complex	Hillslopes	None	2–8	Silty clay loam/sandy clay loam	High	Not prime	16.9
Mido-Florita-Ustic Torrifluvents complex	Inset fans, alluvial fans	Sandy upland 10–14" p.z.	2–8	Loamy sand/sandy loam/silt loam	High	Not prime	31.1
Penistaja-Begay complex	Fan remnants, alluvial fans	Sandy Loam Upland 10–14" p.z. Calcareous	2–8	Sandy loam	High	Prime, if irrigated	14.2
Radnik-Riverwash-Bowington complex	Terraces, channels	Sandy Loam Upland 10–14" p.z.	0–4	Sandy loam/sand	High	Not prime	0.4
Reef-Rock outcrop complex, Kayenta Formation	Escarpments on talus slopes	Sandstone Upland 10–14" p.z. (JUOS)	15–60	Loamy sand	High	Not prime	7.2
Tsosie-Yarts family-Radnik complex	Alluvial flats	Loamy Wash 10–14" p.z.	0–4	Clay loam	Moderate	Prime, if irrigated	9.2

[1] Ecological sites comprise a land classification system that describes ecological potential and ecosystem dynamics of land areas. They are used to stratify the landscape and organize ecological information for purposes of monitoring, assessment, and management.
[2] Ratings indicate the hazard of soil loss from off-road and off-trail areas after disturbance activities that expose the soil surface. U.S. Forest Service (USFS) Service Handbook

4.1.1 Upland Erosion

Soils within the Project area vary from site to site. Erosivity of soils depends on soil characteristics and the erosional forces acting on them. Erosion of surface materials occurs from wind and water interaction. Chemical processes can also help break down surface materials and contribute to erosion. Water is the most powerful erosive force and does the most damage when flowing down steeper slopes. The steeper the terrain, the greater potential for erosion from water interaction due to increased water velocities.

For all areas, more than 50 percent of the area is characterized by concentrated flow erosion with increasing gully development. According to NRCS Web Soil Survey erosion data most soils in the Project area were classified as having a High erosion hazard rating (NRCS 2015).

4.1.2 Sedimentation

The soils in the Project area are highly erodible, which causes soil particles to be suspended in runoff water. Sediment can consist of rocks, minerals, and the remains of plants and animals. As the velocity of the flowing water slows downstream, the sediment is deposited on streets, in yards, and inside buildings and clogs storm drains and culverts.

4.2 Water Resources

4.2.1 Surface Water

Kanab Creek is a tributary of the Colorado River located in south central Utah. From its headwaters, Kanab Creek flows for approximately 30 miles to the south through the town of Kanab, Utah to the Utah-Arizona state line. The Kanab Creek drainage encompasses approximately 626 square miles of Kane County, Utah. Perennial headwaters reach a maximum of 8,500 feet elevation, while Kanab Creek exits the state at an elevation of 4,800 feet.

Most of Kanab Creek's annual runoff occurs during late winter and early spring due to snowmelt and precipitation. High peak flows can also occur during summer monsoonal storms driven by short-duration, high-intensity precipitation events. Stream flows generally peak during March but may vary from year to year depending on local weather conditions and yearly snowpack (BLM 2008).

The Kane County Water Conservancy District maintains a large irrigation diversion on Kanab Creek approximately 1 mile north of Kanab. Except in flood flow conditions, all Kanab Creek stream flow is diverted at this point and piped several miles overland to Jackson Flat Reservoir. A small amount of groundwater flow surfaces in Kanab Creek between the diversion and the town of Kanab, but the stream is effectively de-watered below the diversion and remains so as it exits Utah except under flood flow conditions (Utah Department of Environmental Quality [UDEQ] 2020).

4.2.2 Floodplain Management

FEMA Flood Insurance Rate Maps (FIRMs) for the Project area (1976 and 1978) were reviewed to determine existing flood hazard areas. The flood hazard areas for each site are summarized in **Table 4-3**.

- Zone A: Areas determined to be located within the 1 percent annual chance (100-year) flood and base flood elevations have not been determined

TABLE 4-3
FLOOD HAZARD AREAS

Site Name	Flood Hazard Ratings	Description
Tom's Canyon	Zone A	At the east end from Tom's Creek along 200 N and on to the west end where it empties into Kanab Creek
Pugh Canyon	Zone A	Northeast of U.S. Highway 89 but not within the Pugh Canyon drainage area

- Please see **Map C-1** in **Appendix B** for a combined view of the FEMA Zone A map and the modeled 100-year flooding for locations within and surrounding Kanab that drain to Kanab Creek

The existing FEMA flood maps from 1976 and 1978 do not depict the current flooding conditions associated with the drainages in Kanab. A flood analysis was performed for both sites; a summary of the area and features inundated for 100- and 500-year flood events are provided in **Table 4-4**. **Maps C-5** and **C-6** in **Appendix B** show the modeled 100-year flood for Tom's Canyon and Pugh Canyon.

TABLE 4-4
100-YEAR FLOOD MODEL

Site	Storm Event	Residential Structures	Commercial Businesses/ Offices	Public Properties	Road/ Minor Highway	Land Inundated (Acres)
Tom's Canyon	100-Year	294	102	13	1	206.57
Tom's Canyon	500-Year	336	106	13	1	231.05
Pugh Canyon	100-Year	157	0	0	1	482.25
Pugh Canyon	500-Year	204	31	0	1	754.27

4.2.3 Wetlands

A wetland is an area of land that is either covered by water or saturated with water and vegetation that is uniquely adapted to the hydric soil. A wetland exists adjacent to the riparian area surrounding Kanab Creek where the outfall energy dissipation structure is planned. The vegetation within this area consists of riparian and hydrophytic species, including coyote willow (*Salix exigua*), rush (*Juncus effusus*), and cattail (*Typha latifolia*).

Figure 4-1. View of the wetland.

A delineation was performed by a Transcon Aquatic Resource Specialist.

TABLE 4-5
DELINEATED WETLANDS

Wetland	Cowardin Classification				Size (Acres)
	System	Subsystem	Class	Modifier	
1	Riverine	Intermittent	Streambed	Intermittently Flooded	0.029
				Total	**0.029**

4.3 Air Resources

4.3.1 Air Quality

The EPA has established health-based National Ambient Air Quality Standards (NAAQS) for six pollutants considered harmful to public health and the environment, known as criteria pollutants. NAAQS pollutants include carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), sulfur dioxide (SO_2), and lead (Pb). Monitoring of NAAQS pollutants in Utah is delegated to the Utah Division of Air Quality (UDAQ). UDAQ had 23 fixed air quality monitoring stations throughout the state of Utah that monitored the NAAQS pollutants in 2018 (UDEQ 2018). The closest station is in Hurricane, Utah and was

monitored for NO_2, O_3, and PM 2.5 in 2018. Results for the Hurricane, Utah station show all pollutants monitored in compliance with the EPA air quality standards. Kane County is not listed as a NAAQS nonattainment or maintenance area (UDEQ 2021).

Under Title R307 of the Utah Administrative Code, emission inventories must be undertaken to further characterize air quality throughout Utah. Emission inventories are conducted every 3 years, during which UDAQ collects information about the types and quantities of compounds released by all emission sources in the state. Sources can be categorized as point (large stationary industrial or commercial facilities), area (smaller stationary sources that are assessed as a group), or mobile (personal or commercial vehicles). The 2017 triennial inventory is the most recent state-wide inventory available. It covers 486 individual point sources, 128 area categories, 65 oil and gas categories, 32 on-road categories, and 215 nonroad source categories (UDEQ 2021). The data collected are used by UDAQ to review trends over time and manage the air quality program. Results in tons of compound emitted per year for Kane County are shown in **Table 4-6**.

TABLE 4-6
2021 UDAQ EMISSIONS INVENTORY (TONS/YEAR)

County	CO	NO_2	PM10	PM2.5	SO_2	VOC
Kane County	11, 520	884	3,695	453	8	42,417

UDEQ 2018; VOC = volatile organic compound

4.4 Plant Resources

4.4.1 Special-Status Plant Species

The ESA was established to protect endangered and threatened species and their habitats. Section 7 of the Act requires federal agencies ensure that federal actions do not jeopardize the existence of any listed species. This is accomplished through Section 7 consultation with the USFWS. There is one listed or candidate plant species identified by the USFWS Information for Planning and Consultation website (IPaC) that may occur within the proposed Project area or otherwise be affected by the development of the proposed Project (USFWS 2022).

TABLE 4-7
SPECIAL STATUS PLANT SPECIES

Common Name	Scientific Name	ESA Status	State Status	Present on Site
Siler pincushion cactus	*Pediocactus sileri*	T	SPC	Unknown

4.4.1.1 Siler Pincushion Cactus

This cactus is egg-like or cylindrical in shape, reaching about 9 inches in height and 4 inches in width. It is found on gypsum- and calcium-rich soils derived from the Moenkopi Formation. The plant's distribution covers parts of Coconino and Mohave Counties in Arizona and Washington and Kane Counties in Utah. USFWS protocol-level surveys for this species were conducted in 2021 to identify occupied and potential habitat and, if found, develop protective measures (USFWS 2023).

4.4.2 Noxious Weeds and Invasive Plants

Executive Order 13122 states that "a federal agency shall not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction and spread of invasive species in the U.S. or

elsewhere." Noxious weeds and invasive plants are non-native plant species designated by state law or county ordinance because they cause, or have the potential to cause, extraordinary negative economic and ecological impacts.

The Color Country Cooperative Weed Management Area is comprised of Kane and Garfield counties. Plants identified as non-native and present in Kane County in the Kane County Resource Management Plan (2017) but not necessarily in any of the Project sites are listed in **Table 4-8**. The bolded species listed in **Table 4-8** were identified during a biological survey. These species are aggressive invaders capable of dominating the landscape. They are of concern because they quickly colonize or become established on disturbed soils. They generally out-compete native species for light, pollinators, water, and nutrients. New surface disturbance from construction activities and seed dispersal from vehicles, foot traffic, and other on-site activities increases the risk for invasion of noxious weeds and invasive plants.

TABLE 4-8
NON-NATIVE PLANTS PRESENT IN KANE COUNTY

Name	Scientific Name	Present on Project Sites
Goatsrue	*Galega officinalis*	Unknown
Elongated mustard	*Brassica elongata*	Unknown
Common St. John's wort	*Hypericum perforatum*	Unknown
Cutleaf vipergrass	*Scorzonera laciniata*	Unknown
Spotted knapweed	*Centaurea stoebe*	Unknown
Purple loosestrife	*Lythrum salicaria*	Unknown
Yellow starthistle	*Centaurea solstitialis*	Unknown
Diffuse knapweed	*Centaurea diffusa*	Unknown
Dalmatian toadflax	*Linaria dalmatica*	Unknown
Russian knapweed	*Acroptilon repens*	Unknown
Hound's tongue	*Cynoglossum officianle*	Unknown
Perennial pepperweed	*Lepidium latifolium*	Unknown
Hoary cress	*Cardaria* spp.	Unknown
Canada thistle	*Circium arvense*	Unknown
Poison hemlock	*Conium maculatum*	Unknown
Musk thistle	*Carduus nutans*	Unknown
Perennial Sorghum spp.	*Sorghum halepense Sorghum almun*	Unknown
Scotch thistle	*Onopordum acanthium*	Unknown
Field bindweed	*Convolvulus* spp.	Unknown
Puncturevine	*Tribulus terrestris*	Unknown
Tamarisk	***Tamarix ramosissima***	**No**
Common reed	***Phragmites australis***	**No**
Russian olive	***Elaeagnus angustifolia***	**No**
Russian thistle	***Salsola tragus***	**No**

4.4.3 Riparian Vegetation

Riparian areas consist of long strips of vegetation adjacent to streams, rivers, lakes, reservoirs, and other inland aquatic systems that affect or are affected by the presence of water (Fischer et al. 2000). The riparian area exists in the transitional area between the aquatic and terrestrial ecosystems. Riparian areas feature different vegetative species than the adjoining ecosystems and exhibit more vigorous growth due to shallow groundwater interaction. These areas typically harbor many wildlife species and perform numerous ecological functions. Riparian areas are the major providers of habitat for endangered and threatened species in western desert areas, and a large diversity of animals rely on them for food, cover, and water.

The riparian area can be found at the west end of the outflow from Tom's Canyon where it empties into Kanab Creek. Species found included willow (*Salix* spp.), cottonwood (*Populus fremontii*), and giant reed (*Arundo donax*).

Figure 4-2. General View of Riparian Vegetation at Tom's Canyon.

4.5 Animal Resources

4.5.1 Special-Status Animal Species

The ESA was established to protect endangered and threatened species and their habitats. Section 7 of the Act requires federal agencies ensure that federal actions do not jeopardize the existence of any listed species. This is accomplished through Section 7 consultation with USFWS. There are five listed or candidate species identified by the USFWS IPaC that may occur within the proposed Project area or otherwise be affected by the development of the proposed Project (USFWS 2022) (**Table 4-9**). Section 7 consultation was completed for the Project, and the results of the consultation are discussed in **Section 6.5.1** of the Environmental Consequences section.

The State of Utah maintains a list of wildlife species of concern that includes those species for which there is credible scientific evidence to substantiate a threat to continued population viability (Utah Division of Wildlife Resources [UDWR] 2023). There are five species listed for Kane County; one has potential habitat and/or has a known occurrence within 2 miles of Kanab (**Table 4-9**).

TABLE 4-9
SPECIAL-STATUS ANIMAL SPECIES

Common Name	Scientific Name	ESA Status	State Status	Project Sites
California condor	*Gymnogyps californianus*	E	SPC	None
Mexican spotted owl	*Strix occidentalis lucida*	T	SPC	None
Southwestern willow flycatcher	*Empidonax traillii extimus*	E	SPC	Tom's Canyon outflow to Kanab Creek
Yellow-billed cuckoo	*Coccyzus americanus occidentalis*	T	SPC	None
Monarch butterfly	*Danaus plexippus*	CS	SPC	Migrant

T = Threatened, E = Endangered, SPC = Wildlife Species of Concern

4.5.1.1 Southwestern Willow Flycatcher

The bird is small, usually a little less than 6 inches in length, including its tail. The flycatcher has light-colored wing bars but lacks the conspicuous pale eye-ring of many similar *Empidonax* species. Overall, the body is brownish-olive to gray-green above with a whitish throat, a pale olive breast, and a yellowish belly. The bill is relatively large, and the lower mandible is completely pale. The flycatcher is best identified by vocalizations. While perched, it characteristically flicks its tail slightly upward (USFWS 2022b). Critical habitat was designated for the flycatcher in 2013 (*FR* 2013).

Flycatchers generally breed in riparian vegetation alongside rivers, streams, and other wetland areas. Nesting and foraging areas are found where mosaics are relatively dense and where trees and shrubs are established; however, flycatchers are generally not found nesting in areas without willows or tamarisk (*FR* 2013). The nearest designated critical habitat is located approximately 30 miles east, northeast of Kanab around the Paria River Tributary. Limited suitable nesting and migratory habitat is present within the Project areas. The Utah Natural Heritage Program (UNHP) recorded the last known siting of flycatchers within 0.5 mile of the Project area in 1997.

4.5.1.2 Monarch Butterfly

Monarch butterflies are found in all 50 states in a variety of habitats. The keys to viable habitat are fields, roadsides, open areas, wet areas, or urban gardens that contain required milkweed and other flowering plants. Adult monarchs feed on the nectar of many flowers, but they breed only where the milkweed is found. Milkweed is the host plant species and without it, monarch larva cannot develop into butterflies. Monarch butterflies utilize a variety of milkweed species (USFS 2021). The western population overwinters in coastal California. No critical habitat has been designated or is proposed for the monarch butterfly. Monarch butterflies likely pass through the Project area during migration, but the potential for occurrence within the Project area is low due to a lack of milkweed plants being present.

4.5.2 Migratory Birds/Bald and Golden Eagles

Eagles are protected under the Eagle Protection Act (16 U.S.C 668), which provides specific protection for bald and golden eagles. The act makes it illegal to take, possess, sell, purchase, barter, or transport any bald

or golden eagle, alive or dead, or any part, nest, or egg thereof. The term *take* includes any attempt or success at pursuing, shooting, shooting at, poisoning, wounding, killing, capturing, trapping, collecting, molesting, or disturbing. Bald and golden eagles have the potential to occur within Kane County.

Migratory birds are afforded protection under authority of the Migratory Bird Treaty Act (MBTA) (16 U.S.C 703–712). Under the MBTA, it is unlawful to take, kill, or possess migratory birds or their parts, nests, or eggs. Migratory Bird Permits must be obtained through the USFWS Migratory Bird Permit Office for any requested waiver or exception to the MBTA. Migratory birds have the potential to occur within the Project area.

USFWS maintains a list of Migratory Birds of Conservation Concern (MBCC), which are migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the ESA. According to the USFWS IPaC Resource List (USFWS 2022) for Kane County, there are 11 MBCCs that may warrant special attention in the Project vicinity (**Table 4-10**).

TABLE 4-10
MBCCS IN THE PROJECT VICINITY

Common Name	Scientific Name	State Status	MBCC
Bald Eagle	*Haliaeetus leucocephalus*	SGCN	No
Black-chinned sparrow	*Spizella atrogularis*	None	MBCC
California gull	*Larus californicus*	None	MBCC
Cassini's finch	*Carpodacus cassinii*	None	MBCC
Clark's grebe	*Aechmophorus clarkia*	None	MBCC
Evening grosbeak	*Coccothraustes vespertinus*	None	MBCC
Golden eagle	*Aquila chrysaetos*	None	No
Grace's warbler	*Dendroica graciae*	None	MBCC
Lesser yellowlegs	*Tringa flavipes*	None	MBCC
Olive-sided flycatcher	*Contopus cooperi*	None	MBCC
Pinyon jay	*Gymnorhinus cyanocephalus*	None	MBCC
Virginia's warbler	*Vermivora virginiae*	None	MBCC
Western grebe	*Aechmophorus occidentalis*	None	MBCC

[1] Table abbreviations: SGCN = Species of Greatest Conservation Need.

4.5.3 Utah Sensitive Species

The UNHP Online Species Search report identified the following additional non-ESA-listed, non MBCC species that may occur within a 2-mile radius (UNHP 2022).

- American white pelican *(Pelecanus erythrorhynchos)*
- Band-tailed pigeon (*Patagonians fasciata)*
- Bendire's thrasher (*Toxostoma bendirei)*
- Ferruginous hawk (*Buteo regalis)*
- Kanab ambersnail (*Oxyloma kanabense*)

- Lewis's woodpecker (*Melanerpes lewis*)
- Little brown myotis (*Myotis lucifugus)*
- Northern leopard frog (*Lithobates pipiens)*
- Townsend's big-eared bat (*Corynorhinus townsendii)*
- Yuma myotis (*Myotis yumanensis)*

4.6 Human Resources

4.6.1 Socioeconomics

The socioeconomic area of consideration surrounding the Project area can be assessed on state, county, and local scales. For the purposes of this study, the socioeconomic condition is presented for the State of Utah, Kane County, and Kanab for comparison. The following sections and tables describe the current demographic, employment, income, and economic conditions that could be affected by Project actions.

4.6.1.1 Population and Demographics

Table 4-11 shows the 2022 population and demographic estimates for City of Kanab, Kane County, and the State of Utah. The cities, county, and state are all demographically similar—predominantly white. Population percentages of all other races in Kanab, Kane County, and Utah range from approximately 9 percent in Kanab to 22 percent for the state overall.

TABLE 4-11
DEMOGRAPHIC PROFILE SUMMARY

Socioeconomic Criteria		Kanab *		Kane County		Utah	
		Estimate	%	Estimate	%	Estimate	%
Total Population		5,131		8,227		3,380,800	
Gender	Male	2,607	50.8	4,179	50.8	1,717,446	50.8
	Female	2,524	49.2	4,048	49.2	1,663,354	49.2
Age	Under 18	939	18.3	1,909	23.2	933,101	27.6
	18 and over	4,192	81.7	6,318	76.8	3,042,720	72.4
Race	White	4,808	93.7	7,725	93.9	3,167,810	90
	African American	15	0.3	82	1.0	54,093	1.6
	American Indian or Alaska Native	133	2.6	148	1.8	50,712	1.5
	Asian	92	1.8	74	0.9	94,662	2.8
	Native Hawaiian and other Pacific Islander	26	0.5	8	0.1	40,570	1.2
	Hispanic	185	3.6	461		510,501	15.1

Source: United States Census Bureau 2022, estimates* censusreporter.org. Totals may not add up to 100% due to rounding.

4.6.1.2 Employment and Income

Table 4-12 shows 2021 employment status estimates for Kanab, Kane County, and the State of Utah. The unemployment rate in Kanab is lower than the county and the state. The median household income for Kanab was $65,473, which is higher than the county but lower than the state median.

TABLE 4-12
EMPLOLYMENT AND INCOME SUMMARY*

Characteristic	Kanab	Kane County	Utah
Employed	N/A	3,657	1,433,829
Median Household Income	$65,473	$56,395	$79,113
Percent of Families with Income Below Poverty Level	11.4	9.4	8.6
Source: United States Census Bureau 2021 estimates*			

4.6.2 Historic Properties/Cultural Resources

Cultural resources include archaeological sites, historic structures, sacred sites, and traditional cultural properties that are important to a community's practices and beliefs and are necessary to maintain a community's cultural identity. They also include resources that have little or no historic values but do have contemporary cultural value. Section 106 of the NHPA requires federal agencies to consider the effects of their undertakings on cultural resources and historic properties and affords the Advisory Council on Historic Preservation a reasonable opportunity to comment. A literature review of known and recorded cultural resources was conducted, followed by a Class III intensive pedestrian survey.

A Cultural Resource Assessment for historic and prehistoric sites was conducted for the Project (Bannick and Evenson 2023). The overall original proposed Project APE totaled 310.08 acres. A total of 10.35 acres of the APE were excluded from the Class III inventory area due to private property access restrictions or impassable terrain and were evaluated to Class II (reconnaissance) standards. The excluded areas are located on private property and were spot checked for undisturbed areas that may contain significant cultural resources. After exclusions, a total of 298.46 acres of new Class III inventory was conducted for the APE. The Class III inventory was conducted in 15-meter-wide transects throughout the APE (including both block and linear survey areas), except for the excluded/Class II areas. A total of 1.27 acres of privately owned land within the APE were excluded from survey due to steep slopes and evaluated to Class I standards (**Appendix B**, **Panels 1 through 3**).

As a result of the Class III inventory, a total of 15 sites and 14 isolated occurrences (IOs) were identified and documented. Of the nine previously documented sites, eight sites were relocated within the APE: 42KA2356, 42KA3494, 42KA3495, 42KA3831, 42KA6165, 42KA6897, 42KA7195, and 42KA9637 (FS-08; previously recorded as 42KA4226 within the APE). One previously documented site was searched for and not relocated within the APE during the survey: 42KA2353. Additionally, six new sites were identified and documented within the APE: 42KA9535 (FS-01), 42KA9537 (FS-03), 42KA9538 (FS-04), 42KA9539 (FS-05), 42KA9540 (FS-06), and 42KA9541 (FS-07), and one previously recorded but misplotted site was identified (42KA2355).

TABLE 4-13 CULTURAL RESOURCE SITES WITHIN THE APE				
Site No.	**Temp. No.**	**Site Description**	**Eligibility Recommendation**	**UASF Type**
42KA2353*		Prehistoric habitation	Eligible—D*	Full Re-record
42KA2356		Prehistoric rubble and artifact scatter	Eligible—D	Full Re-record
42KA3494		Multi-component: prehistoric and historic Southern Paiute campsite	Not Eligible	Full Re-record
42KA3495		Prehistoric Paiute campsite	Not Eligible	Full Re-record
42KA3831		Prehistoric habitation with multiple roomblocks	Eligible—D	Full Re-record
42KA6165		Prehistoric habitation, historic isolate	Eligible—D	Full Re-record
42KA6897		Prehistoric habitation	Eligible—D	Update
42KA7195		Prehistoric artifact scatter	Eligible—D	Full Re-record
42KA9535	FS-01	Prehistoric artifact scatter	Eligible—D	First Recording
42KA9537	FS-03	Prehistoric artifact scatter	Eligible—D	First Recording
42KA9538	FS-04	Prehistoric artifact scatter	Eligible—D	First Recording
42KA9539	FS-05	Prehistoric lithic scatter	Eligible—D	First Recording
42KA9540	FS-06	Prehistoric artifact scatter	Eligible—D	First Recording
42KA9541	FS-07	Historic debris scatter	Not Eligible	First Recording
42KA9637**	FS-08	Historic road (SR-259)	Not Eligible	Update

*Note: Site 42KA2353 was not relocated within the proposed Project APE.
**Note: Site 42KA9637 was formerly recorded as 42KA4226 within the Project APE.
***Table abbreviations: UASF = Utah Archaeological Site Forms.

Transcon recommends that the Project will result in *No Adverse Effects to Historic Properties* as none of the sites within the APE are located within or will be adversely impacted by the final Project design. Road base will be added to an existing road that extends through non-contributing portions of site 42KA6165; however, Project-related ground disturbance will not occur within any of the sites within the APE.

4.6.3 Hazardous Materials

The Department of Transportation defines a hazardous substance or material as capable of posing an unreasonable risk to health, safety, and property. The health hazard is toxic, highly toxic, or corrosive and can affect people, animals, and plants. The materials can be flammable, explosive, or unstable and react with water. They are considered hazardous whether the substance is in usable or waste condition. Materials such as this would be available, likely stored, and utilized during the construction phase of the Project.

4.6.4 Public Health and Safety

Even though widespread outbreaks of infectious disease after floods are not common in the United States, it is still important to protect residents from contact or ingestion. Flood waters contaminated with sewage can pose a risk to their health if swallowed. Direct contact with contaminated flood water can cause skin rashes or infected cuts and wounds. Breathing problems can worsen if sewage is allowed to dry and becomes airborne. Bacteria, viruses, and parasites can survive on outdoor hard surfaces, in grasses, and in soil after flood waters contaminated with sewage, fuel, pesticides, and other chemical compounds have retreated. Impacts to culinary water systems and water quality are often not as visible as the damage to property or

the landscape. Most flood-related deaths are attributed to flash floods. Flooding can cause fatalities and serious injuries when people do not or cannot evacuate areas that are flooded. Entering flooded areas, whether on foot or in a vehicle, raises serious risk for drowning or injury. As little as 6 inches of water can cause a loss of vehicle control. Floodwater can inundate water wells, disrupt or damage well infrastructure, and introduce contaminated water into the well.

4.6.5 Recreation

Two named recreational trails occur within the Project area and are in the Pugh Canyon area. The trailhead of the 3-mile-long K-Hill trail and the 1.7-mile Pugh Canyon trail is on Country Club Drive. The K-Hill trail runs along the cliffs at the north end of the Golden Circle Estates subdivision. The Pugh Canyon trail is an out and back double-track trail that begins at the end of Country Club Lane and ends at some small waterfalls. Recreational trails within the proposed Project area are shown on the **Trails Overview Map** in **Appendix B**.

4.6.6 Visual Resources and Scenic Beauty

The scenic beauty of the Kanab area is of importance to the residents as a draw for tourists and the income derived from tourism. The natural beauty can also draw new residents and be a delight to existing residents. The steep red rock canyons and mesas littered with dark green pinon-juniper woodlands provide an enticing environment for hikers, mountain bikers, and equestrians. Pugh Canyon is a scenic red-rock area and hosts a popular, scenic multi-use hiking trail.

4.6.7 Transportation Infrastructure

The transportation infrastructure in Kanab consists of a single state highway and surface streets that form a grid pattern in the city center, with newer developments having curved lanes. During flood events, travel is restricted on the state highway because the one 5-foot and two 3-foot corrugated metal pipe culverts in place under the highway to drain water from Pugh Canyon are not large enough to transport the amount of sediment and runoff that occurs. The culverts overflow and fill with debris and sediment, which further restricts their carrying capacity.

In the city center, multiple surface streets are flooded because of the limitations of the outflow box from Tom's Canyon that was designed to transport the runoff to Kanab Creek. The amount of runoff surpasses the capacity of the outflow box with the water spreading out along 200 North and all connecting streets. The outflow also overwhelms Town Wash causing flooding to the south of the city center.

4.6.8 Noise

Applicable noise laws for the Project area are provided in the Noise Control Act of 1972 (42 U.S.C. 4901 et seq.), amended by the Quiet Communities Act of 1978 (42 U.S.C. 4913), which promotes the development of state and local noise control programs.

The City of Kanab defines noise as using any devices which produce an audible report, blast, siren, or other offensive noise, including but not limited to the use of jake brakes within the City limits. This noise is classified as a nuisance in the General Ordinances Section 10-305. A nuisance is defined as any act which annoys, injures, or endangers the comfort, repose, health, or safety of three or more persons. The Kane County Code of Ordinances also declares it unlawful for any person in the county in a public or private place to make, cause to be made, or allow the making of any noise which is inconsistent with the zoning area between the hours of eleven o'clock (11:00) P.M. and sunrise. Ambient noise in the Project area has not been measured, and therefore no baseline is available. There is an abundance of noise in the Project area produced from vehicle traffic, agricultural operations, air traffic, and other general town operational noises commonly associated with urban areas.

Noise-sensitive receptors are those facilities, land areas, or wildlife populations that require lower noise levels for health and function. Examples include residential neighborhoods, medical facilities, schools, churches, research facilities, parks, and open space. The Project sites are in developed areas near residential neighborhoods, businesses, churches, and schools.

4.7 PR&G Analysis

Alternatives, trade-offs, and ecosystem services are summarized in **Table 4-14**.

TABLE 4-14
PR&G ANALYSIS SUMMARY TRADE-OFF TABLE

Alternatives	No Action Alternative	Action Alternative
Optimizing Criteria		
Locally Preferred		Sponsor's preferred alternative
Environmentally Preferable	Less construction disturbance; greater risk of flood damage; continued cleanup of sediment and debris	Greater amount of surface disturbance; lower risk of flood damage; less cleanup after flood event
Non-structural	Non- structural	
National Economic Efficiency		Average annual damage reduction benefits are $19,553,963
Socially Preferred		This plan results in the greater flood risk reduction
Guiding Principles		
Healthy and Resilient Ecosystems	No rehabilitation planned	Revegetation following construction would restore some environmental benefits
Sustainable Economic Development	This Alternative would not improve the economic well-being of the area for present and future generations	Implementation would improve the economic well-being of the area for present and future generations by providing flood protection
Floodplains	No effect	No effect
Public Health & Safety	This Alternative would provide the least risk reduction	Implementation would provide flood protection
Environmental Justice	No Action Alternative would not disproportionately impact minority, Tribal, or low-income populations	Implementation would not disproportionately impact minority, Tribal, or low-income populations
Watershed Approach	Does not consider a watershed approach	Considers a watershed approach
Evaluation Framework (Ecosystem Services)		
Provisioning Services—Tangible goods provided for direct human use and consumption, such as food, fiber, water, timber, or biomass.		
Surface Water	Continued sediment creation affects water quality	Sediment capture will maintain surface water quality
Regulating Services—Maintain a world in which it is possible for people to live, providing critical benefits that buffer against environmental catastrophe. Examples include flood and disease control, water filtration, climate stabilization, or crop pollination.		

TABLE 4-14 PR&G ANALYSIS SUMMARY TRADE-OFF TABLE		
Alternatives	**No Action Alternative**	**Action Alternative**
Urban flood damage	Continued risk of substantial flood damage to infrastructure and property.	Reduced risk of flood damage to infrastructure, inhabitants, and property
Supporting Services—Underlying processes maintaining conditions for life on Earth, including nutrient cycling, soil formation, and primary production.		
Plant and Wildlife species	Plant and wildlife species remain as they currently exist	Vegetation will be disturbed during construction. Wildlife may be displaced due to construction activity
Cultural Services—Make the world a place people want to live (recreational use, spiritual, aesthetic viewshed, or tribal values)		
Visual Resources and Scenic Beauty	The scenic beauty of Pugh Canyon remains as it currently exists	Construction of sedimentation dam will affect visual effect and scenic beauty of Pugh Canyon

5 ALTERNATIVES

5.1 Project Scoping

Early in the scoping process, comments were requested from the public, organizations, and government agencies. Comments were accepted both orally at a public meeting and via written submittal. The primary purpose of the scoping process was to gather input and feedback on the Project's purpose and need, potential alternatives for consideration, environmental issues to be addressed in the Plan-EA, methodologies to be used to evaluate impacts, and the overall public participation process. A total of 44 individual comments were obtained from 18 unique letters, emails, or other written comment documents received during the open scoping comment period. A description of the public scoping process is included in **Section 3**, and **Appendix F** contains a copy of the Scoping Report.

5.2 Formulation Process

The process of formulating alternatives for the Project followed procedures outlined in the NRCS NWPM (NRCS 2015) Parts 500 through 506; NRCS NWPH (NRCS 2014a), Parts 600 through 606; Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies (U.S. Water Resources Council [USWRC] 1983); and other NRCS watershed planning policy, including DR 9500-013, Conducting Analyses Under the Principles, Requirements, and Guidelines for Water- and Land-Related Resources Implementation Studies and Federal Water Resource Investments (NRCS 2017) and NRCS policy and guidelines (NRCS 2010 and 2011). Potential alternatives were developed by the Project team based on technical and financial study, with consideration for issues and concerns discovered during the scoping process and based on their ability to address the purpose and need of the Project. Alternatives were formulated in consideration of four criteria: completeness, effectiveness, efficiency, and acceptability. In accordance with NEPA (40 CFR 1502.14), some initial alternatives were eliminated from further analysis due to excessive cost, logistics, environmental reasons, or other critical factors. The Project team analyzed one Action Alternative and one No Action Alternative in detailed study. Multiple additional alternatives and options were formulated but were eliminated from further study due to the aforementioned factors.

5.3 Alternatives and Options Considered but Eliminated from Detailed Study

A full range of alternatives and options were considered for detailed study during project formulation, planning, and scoping, including alternative detention and channel improvement sites and removing homes and other structures. After careful examination, the following alternative actions were eliminated from detailed study, as they did not adequately meet the purpose and need for the project, did not have a sufficient benefit-cost ratio, or were cost-prohibitive.

5.3.1 Jackson Flat Sedimentation Basin

The Jackson Flat subbasin is located on the east edge of Kanab. This subbasin covers approximately 0.43 square mile, passes under Highway 89, and drains into Jackson Flat Reservoir. A sedimentation basin was considered during the planning process but was eliminated from detailed study because there are no structures in the area to protect from flooding.

5.3.2 Bunting Canyon Sedimentation Basin and Channel Improvements

The Bunting subbasin is located on the northwest corner of Kanab. This subbasin covers approximately 1.9 square miles and drains between the Ranchos Subdivision and the Cedar Heights Subdivision, discharging into Kanab Creek at the Powell Drive creek crossing. The improvements proposed for Bunting Canyon included a sedimentation basin with principal and auxiliary spillways designed to route floodwater into the existing channel. After calculation of the benefit cost ratios for all the proposed sites, Bunting Canyon had a low benefit-cost ratio and protected eight structures at a cost of $3.5 million, and the improvements were removed from further consideration.

5.3.3 Ranchos West Sedimentation Basin and Channel Improvements

The Ranchos West subbasin is on the southwest edge of Kanab. The subbasin is 0.44 square mile and drains southeast to Kanab Creek. Due to the terrain, topography, and sedimentation basin modeling, the dam structure, primary and secondary spillways, concrete pipes, and rip rap would have to be constructed on BLM-managed land. A sedimentation basin in this location would have required moving the Bunting Trailhead, construction of a new parking area for the trailhead, and realignment and reconstruction of the trail. This area on BLM-administered public land, is habitat for desert bighorn and mule deer, has wilderness characteristics, and is rated Visual Resource Management (VRM) Class II. Protecting land with wilderness characteristics does not prohibit incompatible uses, but the resource values and uses must be considered and evaluated. This visual rating requires retaining the existing character of the landscape. Any change should not attract the attention of a casual observer. This level of coordination, complexity, and change would require additional time and money be devoted to gaining approval, which is not guaranteed, for the construction. The City decided to focus their efforts and money on other areas.

5.3.4 Saleratus Canyon Sedimentation Basin and Channel Improvements

As with Ranchos West, the terrain and topography of the Saleratus Canyon subbasin on the northeast side of Kanab constrain the sedimentation basin and spillways to construction on BLM-managed land. This subbasin has a natural flow path that connects to an existing improved channel through the Cedar Heights neighborhood and discharges into Kanab Creek. This location is within the same habitat and VRM Class as Ranchos West. Because of the time and expense required to include this subbasin in the analysis, the City decided to discontinue further pursuit of this option.

5.3.5 Residential and Commercial Property Purchase

A property buyout is private property acquisition by a government agency to alleviate flood risk and remove people from harm's way, especially in areas of repetitive flooding. The structures are relocated or demolished, and the land is preserved as open space to restore and conserve the natural floodplain functions.

Utilizing the modeled 100-year flood maps, 521 residential structures, 102 commercial properties, and 13 public properties were identified to be at risk of flooding. In addition to the cost of pursuing this option, it would relocate a substantial percentage of the population outside of Kanab, which is not the intent of the sponsor. In the modeled 100-year flood event, most of the water was less than 6 inches deep, which generally does not require the total replacement of a structure to repair the damage. No analysis was conducted on the viability of individual property buyouts or for a particular subbasin.

5.3.6 Flood-Proof Structures

Building and vegetating earthen berms around roadways and buildings in the Project area to reduce floodwater intrusion was investigated and estimated to have a cost over $47M. This option would fail to protect against roadway damage or public safety during flood events, so, again, this alternative was not acceptable to the sponsor. The city has no prohibition on new development in areas that have experienced repeated flooding nor building or design codes requiring flood resistant measures, and the berms would continue to leave new development at risk.

5.4 Alternatives Considered for Detailed Study

The alternatives studied in detail include the No Action Alternative and one Action Alternative developed from technical analysis of the watersheds around Kanab that flow into Kanab Creek where flood protection measures would be of economic benefit to the City. The primary measures considered in the Action Alternative include an upgrade of the drainage infrastructure, a detention/sedimentation basin and channel/conveyance improvements to reduce flood damage.

Sediment yield played a crucial role in determining the size of the detention/sedimentation basin. The objective is to design a detention basin with a 100-year lifespan to reduce maintenance costs and prevent the need for sediment removal. Due to the size, nature, and soil of the watersheds, the sediment yield volume for specific areas is quite large.

For the sedimentation basin, a simplified net-present value analysis was performed to determine which sediment yield design would provide the greatest economic benefit. A 20-year design would require 4 instances of sediment removal to achieve a 100-year lifespan of the detention basin. A 25-year design would require 3 instances of sediment removal. A 35-year would require 2 instances of sediment removal and so on until the 100-year design, when no sediment removal is required. The Bunting drainage basin was used as a case study to evaluate each of the scenarios. Factors considered in this analysis include construction estimates, design fees, inspections, and operation and maintenance. This case study determined that the 100-year design cycle would be the most economically feasible over the lifespan of the detention basin Detailed modeling explanations and calculations are found in **Appendix D**.

The construction of an earthen dam to detain water and sediment is required. The dam is classified as a high hazard based on the classification criteria listed in USDA-NRCS TR-60 (Technical Release) due to the high hazard potential that would result from dam failure.

Channel improvements considered as part of the Action Alternative include rip rap channel and/or outfall armoring and improvements. Conveyance improvements considered included increasing the size and changing the design of the existing infrastructure. After studying design solutions in several different

watersheds, various flood protection measures were combined into one Action Alternative that is technically and financially feasible and meets the Project purpose and need. A detailed description of alternative measures and costs is provided in **Sections 5.4.1** through **5.4.2**. **Table 5-1** contains a summary of the proposed improvements for the Action Alternative.

TABLE 5-1
SUMMARY OF PROPOSAL IMROVEMENTS

	Tom's Canyon	Pugh Canyon	
	Outfall Improvement	**Sedimentation Basin**	**Channel Improvement**
No Action Alternative			
Action Alternative	✓	✓	✓

Alternative cost estimates provide a level of detail judged appropriate for the purpose of identifying the NEE Alternative among the alternatives considered. Project costs selected for detailed study include installation, operation, and maintenance (O&M) costs. Installation costs include costs for installing the works of improvements, including construction, engineering, real property rights, natural resource rights, permitting, and Project administration costs (NRCS 2015). O&M costs include materials, equipment, services, and facilities needed to operate the improvements and make repairs and replacements necessary to maintain structural measures in sound operating condition during the 100-year Project life (NRCS 2015). A summary of Project costs for the alternatives included in the detailed study is provided in **Section 5.6**, **Table 5-2**.

5.4.1 No Action Alternative

The No Action Alternative considers the actions that would take place if no federal action or federal funding were provided for the Project. The Sponsor's most likely course for the No Action Alternative would be to leave the drainage basins "as-is" with no improvements. O&M activities would be required to maintain the existing drainage areas. This would consist of roadway, existing channel, and property maintenance along with erosion protection throughout the drainage area.

To evaluate this alternative for the same duration as the action alternatives, an estimate of predicted damage over the lifespan of the Project was developed for comparison. The cost of the No Action Alternative is estimated at $[fill in] over the 50-year Project life, as detailed in **Table 5-2** below.

Commented [DB12]: Civil Science and Hal - Do we have O&M costs from the city for current sediment and debris removal? Even without a major flood I would think they remove sediment and debris from Tom's Canyon detention basin and other areas.

5.4.2 Preferred Alternative

Implementation of the Preferred Alternative would authorize the following:

- Construction of a sedimentation basin in Pugh Canyon
- Channel improvements along the existing Pugh Canyon drainage area
- upgrade the 48 inch outfall pipe from the Tom' s Canyon diversion
- Construction of the Tom's Canyon outfall extension and associated sewer main upgrades and realignments

The purpose of the sedimentation basin is to detain and attenuate expected flood flows, mitigate debris to a point where flows can be adequately conveyed by storm drain facilities, reduce sediment transport downstream, and eliminate downstream flooding during the 100-year design event. The sedimentation basin is designed with an impervious clay core to decrease groundwater flow under the dams. Rip rap will also

be required for the improvements of the Pugh Canyon channel and would be sourced from the Kaibab Limestone Community Pit and the Little Cedar Knoll Community Pit on land managed by the BLM. The State of Utah Dam Safety Program would regulate the new Pugh Canyon sedimentation basin.

5.4.2.1 Tom's Canyon Site Improvements

The existing detention basin in Tom's Canyon has a 7-foot by 6-foot concrete box pipe-controlled outfall that runs 2,685 linear feet and outlets to a diversion structure that splits flows into an orifice controlled 48-inch pipe to the west along 200 North, with most of the flow heading south into Town Wash.

Improvements for this portion of the alternative include extending the 7-foot by 6-foot concrete box pipe approximately 4,400 linear feet westward along 200 North and an outlet with erosion protection to Kanab Creek. Erosion protection would include a rock chute outfall, with the median particle diameter (D50) of rip rap being 3 feet. Extensive realignment of existing sewer mains, sewer laterals, water laterals, and other utilities would be required. Existing drainage inlets will discharge to the new concrete box pipe. A parallel 8-inch sewer main will be installed along 200 North from the connection at Town Wash to 200 West. A 10-inch sewer main will turn south down 200 West and tie into the existing utility access hole at the intersection of 200 West and 200 South.

5.4.2.2 Pugh Canyon Site Improvements

The Pugh Canyon sedimentation basin would be 59 feet tall and 375 feet wide at the base and accommodate 530 acre-feet of sediment storage and 663 acre-feet of total storage. A principal spillway concrete riser with tiered inlets would allow outflow for the lifespan of the sedimentation basin. A 30-inch reinforced concrete pipe will convey runoff from the principal spillway to the existing channel. A 110-foot-wide earthen auxiliary spillway is designed to route flood water around the east side of the sedimentation basin and back into the existing channel. Rip rap would be placed along the slope of the auxiliary spillway to prevent erosion. The D50 for rip rap in this area would be 2 feet. The basin would attenuate a peak flood flow of 740 cfs during a 100-year flood down to an outflow of 122 cfs through the principal spillway. The construction of a sedimentation basin within Pugh Canyon would allow the existing culverts of one 5-foot and two 3-foot corrugated metal pipe culverts under Highway 89 to handle the modeled 100-year storm.

Channel improvements for the Pugh Canyon drainage include an improved channel beginning near the south end of Maple Lane. The channel follows the natural flow path and is designed with a 5-foot-tall berm armored with rip rap, 12-foot bottom width, 3:1 side slope, and a length of 800 feet. The channel then discharges at Potter's Pond. The existing earthen berm on the west side of Potter's Pond will be reinforced to decrease the flood outfall to the west and allow the pond to function as a settling basin for sediment. The settled water is then piped to Jackson Flat Reservoir under the existing paved recreational trail through a 36-inch pipe.

Commented [DB13]: Civil Science - is this still the length of the channel improvements? Please check the rest of the paragraph to make certain it is correct.

5.4.2.3 Construction Staging and Access

The construction area for the Tom's Canyon outfall is accessed directly from the adjoining paved roadways. Construction staging for Pugh Canyon would take place within the proposed disturbed basin footprint. Staging may move within the proposed disturbed basin footprint during construction to facilitate specific construction activities. The construction area for the Pugh Canyon dam will require a new dirt access road from the existing dirt roads in the area.

5.4.2.4 Material Disposal

Any soils or construction debris would be taken to an offsite permitted disposal location. All waste generated during construction would be properly disposed of in accordance with local, state, and federal regulations.

5.4.2.5 Schedule

Construction would take place over an approximately 24-month period, recommended to be completed in late fall to early spring to avoid runoff, the summer monsoon season, and seasonal wildlife restrictions.

5.4.2.6 Costs

The installation cost for the Action Alternative measures is estimated at $$14,450,600, as detailed in **Table 5-2** below. O&M costs are estimated to be $54,920 annually. Refer to **Sections 8.5** and **8.6** for cost estimate details and assumptions.

5.5 National Efficiency Evaluation Alternative

The NEE Alternative is the alternative or combination of alternatives that reasonably maximizes the net economic benefit of the Project consistent with protecting the nation's environment. The net economic benefit is the benefit minus the cost. According to the NWPM Sections 502.2 and 505.35.b(1)(iv), when human life is potentially at risk, the NEE Alternative is defined as the federally assisted alternative with the greatest net economic benefits. For this action, the NEE Alternative is the Preferred Alternative.

5.6 Summary and Comparison of Alternative Plans

The alternatives proposed for consideration and analyzed in detail in this Plan-EA have been compared against each other to discern the merits and disadvantages of each alternative. This comparison of environmental, social, and economic effects is summarized in **Tables 5-2** and **5-3**. The detailed analysis of environmental consequences for each alternative is provided in **Section 6**.

TABLE 5-2
SUMMARY AND COMPARISON OF COSTS AND BENEFITS FOR EACH ALTERNATIVE

Item	No Action Alternative	Preferred Alternative
Annual Installation Cost[1]	$0	$552,200
Annual O&M Cost[1]	$0	$54,920
Total Annual Cost[1]	$0	**$607,100**
Annual Benefit[1]	$0	$19,553,964
Annual Net Economic Benefit	$0	**$18,946,864**
Benefit Cost Ratio (NEE)	**0.0**	**32.21**

[1] Calculated using 2.75% discount rate with 54-year analysis. 2023 base price.

TABLE 5-3
SUMMARY AND COMPARISON OF RESOURCE CONCERNS

Resource Concern	No Action Alternative	Preferred Alternative
Soils		
Upland Erosion	Erosion conditions would not change from existing conditions and would continue at an historical rate in Town Wash and the Pugh Canyon channel.	With the implementation of a larger outfall box pipe, the erosion in Town Wash would be minimized or eliminated. Controlling the flow of floodwaters from Pugh Canyon

TABLE 5-3
SUMMARY AND COMPARISON OF RESOURCE CONCERNS

Resource Concern	No Action Alternative	Preferred Alternative
		would reduce the erosion in the drainage channel. How much surface disturbance would occur during construction activities? Conservation measures and Best Management Practices (BMPs) would be implemented to reduce potential soil erosion. Long-term, the potential of soil-removing floods would be reduced.
Sedimentation	Sedimentation would continue to deposit on yards and streets and clog drains during precipitation events, adding to flood damage.	Sediment would be contained behind the Pugh Canyon dam to eliminate sediment deposition down drainage of the dam.
Water		
Surface Water	There would be no change to surface water in Kanab Creek.	Long-term impacts would be expected because of the concentrated runoff reaching Kanab Creek from the Tom's Canyon outfall. There would be potential for scour and streambed alternation.
Floodplain Management	FIRMs would exist as determined in the 1976 and 1978 maps, even though they do not correctly reflect the current floodplain environment.	Kanab could submit a Letter of Map Change Request to update/revise the existing Special Flood Hazard Area because the Preferred Alternative would eliminate or reduce the potential of a one-percent-annual-chance flood.
Wetlands	The small existing wetland would exist if groundwater continued to rise to the surface, or runoff provided adequate moisture.	Drainage from the Tom's Canyon outfall is anticipated to damage or destroy this wetland.
Air Quality		
Air Quality	There would be no change to air quality conditions.	An undetermined amount of fugitive dust and other emissions would result during the anticipated 24-month construction period from equipment accessing the construction areas. The Preferred Alternative would include BMPs that would ensure construction activities did not violate air quality standards.

Commented [DB14]: Civil Science - need to answer this question for each area - downtown, Pugh Canyon, Pugh channel.

Commented [KS15R14]: Total surface disturbance from Tom's Canyon outfall project area, including staging and existing ROW, utility replacements) is estimated at 6.5 ac.
Pugh Canyon Dam surface disturbance area (including access road) is estimated at 11.0 ac.
Pugh Canyon Channel improvements surface disturbance area (including access road) is estimated at 1.3 ac.

TABLE 5-3 SUMMARY AND COMPARISON OF RESOURCE CONCERNS		
Resource Concern	**No Action Alternative**	**Preferred Alternative**
Plants		
Special-Status Plants	No impact to habitat or species.	No special-status plants were located within the Pugh Canyon construction area or the downstream channel. However, because unoccupied but potentially suitable habitat exists in Pugh Canyon, Project development may affect but is not likely adversely affect the Siler pincushion cactus and its habitat.
Noxious Weeds and Invasive Plants	No impact to possibility of establishment of noxious weeds.	Surface disturbance would occur during construction. Until reestablishment of vegetation cover, disturbed areas would be at risk for invasion of noxious weeds and invasive plants. The reseeding of disturbed areas per NRCS guidelines would be implemented to minimize the establishment or spread of invasive plants.
Riparian Vegetation	No impact and no change would be expected.	Construction, operation, and maintenance are anticipated to disturb and/or destroy riparian vegetation in Kanab Creek. Long-term impacts could occur from permanent changes to the amount, density, and type of riparian vegetation in Kanab Creek.
Animals		
Special-Status Animal Species	No activities would be present within potential habitat.	There would be construction and maintenance disturbance within potential southwestern willow flycatcher habitat in Kanab Creek. No occupancy or nest evidence was observed during a species-specific protocol survey; therefore, Project development may affect but is not likely adversely affect the flycatcher and its habitat.

TABLE 5-3 SUMMARY AND COMPARISON OF RESOURCE CONCERNS		
Resource Concern	**No Action Alternative**	**Preferred Alternative**
Migratory Birds/Bald and Golden Eagles	There would be no change to habitat and no impacts to migratory birds or eagles.	Implementation of BMPs would reduce potential for adverse impacts to migratory birds. If construction were to be necessary during the nesting and fledging season, pre-construction surveys would identify any nesting migratory birds in the area and appropriate exclusion areas determined. No eagles are known to roost or nest in the area. No impacts would be anticipated to occur beyond the 24-month construction period.
Human		
Socioeconomics	Continued risk of flood damage to residents, businesses, city property, and infrastructure would remain.	This alternative would eliminate or reduce the potential for floodwater and sediment damage within Kanab. Long-term benefits would accrue to the area through reduced costs and the negative financial consequences of flooding.
Historic Properties/Cultural Resources	There would be no change to existing historical features identified within the Project area.	The alternative will result in No Adverse Effects to Historic Properties as none of the sites within the APE are located within or will be adversely impacted by the final Project design. Road base will be added to an existing road that extends through non-contributing portions of site 42KA6165; however, Project-related ground disturbance will not occur within any of the sites within the APE.
Hazardous Materials	There would be no change in the amount or type of hazardous materials present in Kanab.	Construction activities could cause an inadvertent spill of hazardous materials, but with prompt response and proper cleanup procedures, any impact would be short-term and minor.
Public Health and Safety	The public would continue to experience risk to health and safety because of flooding events.	The Action Alternative would enhance public health and safety by reducing or eliminating the risk of floodwaters containing potentially hazardous substances and debris.

TABLE 5-3 SUMMARY AND COMPARISON OF RESOURCE CONCERNS		
Resource Concern	**No Action Alternative**	**Preferred Alternative**
Recreation	The Pugh Canyon trail would not be destroyed. Connectivity with other area trails would remain as is.	The Pugh Canyon dam, spillways, and impoundment area would destroy the middle section of the Pugh Canyon hiking trail.
Visual Resources and Scenic Beauty	There would be no impact to the scenic beauty of Pugh Canyon.	Construction of the Pugh Canyon dam would permanently alter the natural character of the canyon. Along with concrete spillways and rip rap, it would be visible to a casual observer.
Transportation Infrastructure	There would continue to be negative impacts to city streets and Highway 89 during precipitation events. The culverts under Highway 89 would continue to experience blockage and require regular maintenance/repairs.	Improved sediment and debris retention in the Pugh Canyon sedimentation basin would reduce or eliminate blockage of the culverts under Highway 89 and reduce maintenance issues. Short-term impacts to traffic flow could be present during the construction phase.
Noise	No additional noise would be generated.	No long-term noise impacts are anticipated. Short-term increases in noise may result from the operation of construction vehicles.

6 ENVIRONMENTAL CONSEQUENCES

The NRCS has a responsibility under NEPA to identify and address effects on the environment that may result from the alternative plans. The alternatives include the No Action and Preferred Alternative (Sites 1 and 2). The Action Alternative was determined to be the NEE Alternative for the Project. This section describes the potential effects of the alternatives within each resource category, as defined in **Section 4.0**.

The potential consequences or effects of each alternative are discussed in this chapter. Impacts may be temporary or permanent. Temporary impacts are those that are not lasting, and the affected resource would be expected to return or be restored to its pre-Project state. Permanent impacts are those in which the affected resource would not return to its pre-Project state but would remain in the affected condition indefinitely.

Environmental impacts that could result from implementation of the Preferred Alternative or No Action Alternative are quantified where possible. In the absence of quantifiable data, the professional judgment of knowledgeable sources was used. Impacts may be described using ranges of potential impacts or in qualitative terms, if appropriate.

The following describes the types of effects and impact analysis used in this section (NRCS 2015):

- Direct Effect: Impacts caused by implementation of a Preferred Alternative that would occur at the same time and place
- Indirect Effect: Impacts caused by an action that are later in time or farther removed in distance, but are still reasonably foreseeable
- Cumulative Effect: The impact on the environment that would result from the incremental impact of implementation of the Preferred Alternative when added to other past, present, and reasonably foreseeable future actions regardless of the agency (federal or non-federal) or person undertaking such other action
- Temporary and Permanent Impacts: Temporary impacts are impacts that are not lasting and the affected resource will return or be restored to its previous (pre-Project) state. Permanent impacts are those in which the affected resource will not return to its previous state within one's lifetime

Duration of impacts is considered as follows:

- Short-term impacts would not occur beyond 3 years, the anticipated 24-month construction period, and 1 year for vegetation to establish on reseeded areas
- Long-term impacts would extend for the anticipated 50-year duration of the Project and until successful reclamation has occurred
- Permanent impacts would extend beyond the conclusion of the Project

The spatial definition for the cumulative effects includes the city of Kanab and its surrounding area.

The intensity and duration of impacts are defined as follows:

- Negligible: The impact is the lowest level of detection. No noticeable changes to the resource would occur, and any impacts would be at or below the level of detection. If detected, the impacts would be considered slight. For adverse impacts, mitigation measures would not be necessary
- Minor: The impact is slight but detectable. Changes to the resource would be measurable, although the changes would be small, short-term (less than 1 month), and localized. For negative impacts, mitigation measures would not be necessary

- Moderate: The impact is readily apparent. Changes to the impacted resource would be measurable, may have appreciable consequences, and would be noticeable. For negative impacts, mitigation measures may be necessary
- Substantial: A large, measurable effect to the resource from the alternative actions. Mitigation measures would be needed to offset adverse effects and could be extensive and complicated to implement

Existing conditions for each resource are disclosed in **Section 4**. Unless otherwise stated, the existing conditions would be assumed to continue under the No Action Alternative.

6.1 Soil Resources

6.1.1 Upland Erosion

6.1.1.1 No Action Alternative

No direct effects beyond those currently occurring within the project area would result from the implementation of this alternative. The area would continue to be subject to occasional severe flooding. These floods would continue to damage the local infrastructure, including homes and other buildings. For the No Action alternative, upland erosion conditions would have the direct effect of continuing gully development in Town Wash and the Pugh Canyon drainage channel.

6.1.1.2 Action Alternative

Construction of the larger outfall pipe from Tom's Canyon would capture all the outflow from the existing sedimentation basin, protecting Town Wash from further erosion. It would no longer carry most of the outflow from Tom's Canyon during precipitation events, creating large gullies in the wash and flooding the town. Construction of a dam in Pugh Canyon to retain sediment would prevent additional erosion in the downstream drainage channel. Surface disturbance during construction would have the potential to remove vegetation and soil crust, which hold the soil in place, thereby creating a condition where erosion could occur during this phase.

Project design elements, including required BMPs, would be implemented to reduce the amount of erosion during construction. These would include disturbing the minimum amount of vegetation and soil, protecting soil piles from wind and water erosion, containing runoff, and recontouring and reseeding at the conclusion of construction.

6.1.2 Sedimentation

6.1.2.1 No Action Alternative

Implementation of this alternative would continue the transport of sediment downstream to be deposited on streets and yards, in buildings, and clogging under highway culverts. Annual sediment removal would be performed within the existing basin at Tom's Canyon.

6.1.2.2 Action Alternative

Because of the highly erosible soil, floodwaters in Kanab carry a large sediment load, which causes damage along with the rise in water. By having all the outflow from Tom's Canyon carried in a large box outflow pipe underground to Kanab Creek, floodwaters and sediment would no longer be deposited within the city. Constructing a sedimentation basin in Pugh Canyon would contain the sediment that previously flowed through the drainage channel carrying debris along with it that filled the culverts under Highway 89 flooding the roadway and surrounding area.

6.2 Water Resources

6.2.1 Surface Water

6.2.1.1 No Action Alternative

Except under flood flow conditions, Kanab Creek is largely devoid of surface water due to the upstream diversion and would remain so with the No Action Alternative. Groundwater between the upstream diversion and Kanab rises to the surface along some stretches of the creek and would not be affected.

6.2.1.2 Action Alternative

During flood flow conditions, Kanab Creek would fill with upstream runoff in addition to the expanded flow amount entering the creek from the Tom's Canyon outfall. Currently, most of the runoff from Tom's Canyon enters Town Wash, spreads out over the town, and drains into Kanab Creek along a section of the creek from Center Street in the north continuing south for approximately 1 mile. With the Action Alternative, this dispersed runoff would be concentrated in a single location and enter Kanab Creek at the western end of 200 N upstream of the W Stagecoach Trail bridge. The runoff would descend into the creek from approximately 40 feet upslope of the creek. Design features of the energy dissipation structure proposed for this location would control erosion and reduce the speed of the concentrated flow to prevent scour in the creek bed or bank.

Commented [DB16]: Civil Science - do you actually have this in the design specifications?

Commented [KS17R16]: We have a rip rap pad in the design specs

6.2.2 Floodplain Management

6.2.2.1 No Action Alternative

Floodplain management would not change under the No Action Alternative. Flooding risk would be unchanged in and around the town of Kanab. Development within the FEMA-mapped floodplain would continue to be regulated according to the FIRMs as printed. Modeled flood mapping for 100 storm events is shown in **Map C-01** in **Appendix B**.

6.2.2.2 Action Alternative

With implementation of the Tom's Canyon outfall improvement, for the modeled 100-year flood event, 294 residential structures, 102 commercial properties, and 13 public buildings would be protected from inundation. For the 500-year modeled flood event, 336 residential structures, 106 commercial properties, and 13 public buildings would not be inundated.

Implementation of the Pugh Canyon sedimentation basin and channel improvements would eliminate inundation for 167 structures and Highway 89 during a modeled 100-year flood event. For a modeled 500-year flood event, 204 residential structures, 13 commercial properties, and Highway 89 would be protected from inundation.

6.2.3 Wetlands

6.2.3.1 No Action Alternative

The 0.029 acre of wetland identified adjacent to Kanab Creek would remain undisturbed with no direct effect in the No Action Alternative. Vegetation adapted to the hydric soil would also remain undisturbed.

6.2.3.2 Action Alternative

With the concentrated outflow of runoff from Tom's Canyon expected to enter Kanab Creek at the location of the wetland, the direct effect anticipated is that the 0.029 acre of wetland would be inundated and potentially destroyed. Construction of the energy dissipation structure would also occur where the wetland exists. Construction equipment and activities could damage or destroy the wetland and the associated vegetation.

6.3 Air Resources

6.3.1 Air Quality

6.3.1.1 No Action Alternative

Under the No Action Alternative, there would be no direct or indirect effect to air quality, which is considered good in the Kanab area, as PM2.5 meets World Health Organization annual air quality guidelines.

6.3.1.2 Action Alternative

Implementation of the Action Alternative would require operation of heavy equipment for installation of the Project measures for the approximately 24-month construction period; such operations would result in mobile equipment emissions and PM emissions resulting from ground-disturbing activities.

Construction activities would temporarily emit several air pollutants. PM10 emissions are associated with the dust created from land clearing, ground excavation, material hauling, and road construction. All other pollutants (PM2.5, CO, sulfur oxides, nitrous oxides, mobile source air toxics, and GHGs) would be generated from heavy-duty diesel engines used by the construction equipment. Construction emissions are greatest during the earthwork phases because of the dust associated with this activity. Fugitive dust can also be produced by winds blowing through the construction site and by trucks carrying uncovered loads. Additionally, mud tracked onto paved roads leading to and from the construction site would create a source of fugitive dust (i.e., road dust) after it dries.

Emissions from trucks and construction equipment powered by heavy-duty diesel engines would be short-term and concentrated around the construction site. Delays associated with travel through construction zones would increase emissions from on-road vehicles. However, these delays would likely result in only a small amount of additional pollutant emissions when compared with the usual traffic experienced around the construction site.

Fugitive dust emission would be temporary and short-term (would not exceed 24 months); dust emissions would reduce as vegetation establishes on disturbed areas. Construction activities would not be expected to violate air quality standards, based on the implementation of BMPs and the short duration of construction.

Maintenance activities would create the same type of emissions as construction activities. Such activities would occur on an as-needed basis; the associated increase in emissions would be temporary and localized to the immediate work area. Based on the anticipated short duration of equipment operation to complete the work, maintenance activities would not be expected to violate air quality standards; there would be no long-term or permanent emissions because of implementation of the Action Alternative.

6.4 Plant Resources

6.4.1 Special-Status Plants

6.4.1.1 No Action Alternative

Implementation of the No Action Alternative would not result in any direct or indirect effects to special-status plant species and would not increase the risk of any harm.

6.4.1.2 Action Alternative

Siler pincushion cactus is endemic to the Arizona/Utah border in habitat-specific gypsiferous and calcareous sandy or clay soils. Approximately 200 acres were identified in the Pugh Canyon area as

potential habitat; however, biologists did not locate any cacti during a protocol-specific survey conducted in May 2021. Therefore, implementation of the Action Alternative would not be likely to result in the direct loss of any individual plants. Because potential unoccupied habitat is present, construction, use, and maintenance activities may affect but are not likely adversely affect the Siler pincushion cactus.

6.4.2 Noxious Weeds and Invasive Plants

6.4.2.1 No Action Alternative

The No Action Alternative would not affect noxious weeds or invasive species and would not increase the risk of spreading them.

6.4.2.2 Action Alternative

This alternative would have minor impacts that would put the Project area at risk for future invasion of noxious weeds. BMPs would be implemented during construction to prevent the spread of noxious weeds/invasive plant species and comply with Executive Order 13112. During construction and until restoration areas are fully established, up to 11.2 acres that would be disturbed would be maintained on a regular basis to prevent the establishment of noxious weeds and invasive plant species. Non-desirable plant species would be controlled by cleaning equipment prior to delivery to the Project site and eradicating these species before the start and during construction as discovered. This area is separate from the water system and sewer system upgrades in 200 North and 200 East. 200 North and 200 East are currently developed.

Commented [DB18]: Civil Science - What is revegetation plan for Pugh Canyon and channel? You likely want to differentiate between that revegetation and the water and sewer upgrades.

Commented [KS19R18]: The dam and the berm structure cannot have vegetation to keep the strength of the structures to hold back stored water.

6.5 Animal Resources

6.5.1 Special-Status Animal Species

6.5.1.1 No Action Alternative

The southwestern willow flycatcher is the only ESA species with potential habitat present within the Project area. The potential habitat for the southwestern willow flycatcher is within the narrow riparian corridor along Kanab Creek. This vegetation would remain undisturbed with the No Action Alternative.

6.5.1.2 Action Alternative

A Biological Assessment (BA) was completed for the Action Alternative and submitted to the USFWS to complete Section 7 informal consultation. The USFWS submittal letter and the BA are provided in **Appendix C**. The USFWS issued a Biological Opinion (BO) on [Month Day, Year], which is also included in **Appendix C**. The USFWS BO concluded that implementation of the Action Alternative would not likely jeopardize the continued existence or result in destruction or adverse modification of designated critical habitat as it is 30 miles east, northeast of Kanab. The southwestern willow flycatcher has the potential to be in Kanab Creek for foraging, though this is unlikely due to lack of nesting habitat and no known occurrences at the site. Construction equipment and activity on approximately ___ acres within Kanab Creek would be required to construct and maintain the energy dissipation structure. However, due to the small amount of surface disturbance, no adverse effect to the flycatcher would be anticipated.

Commented [DB20]: Civil Science - we need a breakdown of the surface disturbance at each area where construction will occur.

Commented [KS21R20]: Total surface disturbance from Tom's Canyon outfall project area, including staging and existing ROW, utility replacements) is estimated at 6.5 ac. 0.3 ac within Kanab Creek
Pugh Canyon Dam surface disturbance area (including access road) is estimated at 11.0 ac.
Pugh Canyon Channel improvements surface disturbance area (including access road) is estimated at 1.3 ac.

Ten state sensitive species could be present within the Project area during construction. Based on adherence to avoidance and minimization measures and limited surface disturbance, state sensitive species impacts would be short-term and minor during the 24-month construction period.

6.5.2 Migratory Birds/Bald and Golden Eagles

6.5.2.1 No Action Alternative

Under the No Action Alternative, there would be no direct or indirect impact to migratory birds or bald and golden eagles beyond that currently occurring.

6.5.2.2 Action Alternative

If construction activities occurred during migratory bird breeding/nesting periods, the Project area (and surrounding habitats) would be surveyed by a qualified biologist for active nests no more than 5 days prior to the commencement of work. If active nests were found during surveys, spatial buffers would be established around such in coordination with USFWS and NRCS. Construction activities within the buffer areas would be prohibited until a qualified biologist confirmed that all nests are no longer active. Impacts of this alternative to migratory birds/bald eagles and associated habitat would be minor based on implementation of avoidance/minimization measures, pre-construction surveys, and restoration of disturbed areas. Because total surface disturbance would be small (approximately 11.2 acres), it is not anticipated that a significant loss of habitat would occur, and the birds could disperse into abundant surrounding habitat.

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Eagles could hunt or scavenge throughout the Project area, but there are no known nests or roost sites within the Project area. Because project activities would be localized to each Project component, eagles could avoid the immediate area of Project disturbance and continue to hunt and scavenge elsewhere during construction, operation, and maintenance activities.

6.6 Human Resources

6.6.1 Socioeconomics

6.6.1.1 No Action Alternative

In addition to public health and safety impacts, the No Action Alternative could have direct and indirect impacts on other social and economic factors. Flooding can directly damage economic facilities such as businesses and public facilities as well as impact the provision of public goods and services. Flood damage repair would be paid for with funds that would otherwise be spent on economic or social development. Business disruptions could result in reduced employment opportunities and incomes. Flooding could also lead to adverse psychological effects because of physical danger or economic losses. Stress may affect a person's ability to recover from losses and may increase their vulnerability to future hardships. A perceived lack of safety after a flood event may hinder economic development and weaken social ties in the community.

6.6.1.2 Action Alternative

Long-term direct positive impacts would be expected from implementation of this alternative. It would prevent or minimize severe flooding in the City by conveying drainage to Kanab Creek and Potter's Pond. It would reduce the risk of flood-associated impacts to social and economic structures in Kanab. Construction of the Project would temporarily increase employment and incomes locally for business that were hired to implement the Project.

6.6.2 Historic Properties/Cultural Resources

6.6.2.1 No Action Alternative

There would be no direct or indirect impacts to historical properties or cultural resources from this alternative.

6.6.2.2 Action Alternative

Implementation of the Action Alternative would result in No Adverse Effects to Historic Properties as none of the sites within the APE are located within or will be adversely impacted by the final Project design. Road base will be added to an existing road that extends through non-contributing portions of site 42KA6165; however, Project-related ground disturbance will not occur within any of the sites within the APE.

6.6.3 Hazardous Materials

6.6.3.1 No Action Alternative

Implementation of the No Action Alternative would not have any direct impact on the Project area resulting from the use of hazardous materials. Severe flooding could continue to result in hazardous materials, such as fuels, solvents, pet waste, etc., being carried throughout the town of Kanab.

6.6.3.2 Action Alternative

Construction activities would involve the use of hazardous substances such as fuels, adhesives, and solvents. Inadvertent spills of these substances could runoff or percolate into the ground. In the unlikely event of an accident, any spills would be promptly cleaned up and disposed of appropriately according to applicable state and federal regulations. If a fuel/oil or other hazardous material spill occurs, actions would be taken to minimize the amount and spread of spill material. Measures would include straw bale plugs, earthen berms, or use of other absorbent materials. If necessary, soil remediation would be conducted and would include the removal of contaminated soils to an approved bioremediation facility. Soil samples would be taken to verify the success of the site remediation. In addition, the construction contractor would be required to follow any other local, state, or federal regulations related to the use, handling, storing, transporting, and disposing of hazardous materials. As a result of the implementation of the applicant-committed conservation measures and BMPs, any hazardous material spills would be minor and short-term in duration.

6.6.4 Public Health and Safety

6.6.4.1 No Action Alternative

Implementation of the No Action Alternative would continue to have direct effects and present a risk to public health and safety from flooding. The 100-year flood risk area could involve 636 structures, city streets, and Highway 89 thru Kanab. The risk of flooding could affect the security of human life or health for the estimated 5000 people residing within the potential inundation area and any who would travel through flooded areas. Flooding could also jeopardize essential public services.

6.6.4.2 Action Alternative

Implementation of the Action Alternative would benefit public health and safety by reducing flooding risk from the inadequate stormwater pipe along 200 North by conveying the stormwater to Kanab Creek rather than having it flood the town and further erode Town Wash. The upgrade of the stormwater pipe would convey controlled flows from the 100-year storm away from Town Wash and existing development. Residents would not be exposed to contaminated floodwater or the risk of toxic mold from flood water damage. The risk of drowning while attempting to drive through flooded roadways would also be reduced. Essential services would be less likely to be disrupted.

Construction of the sedimentation basin in Pugh Canyon and improvement of the drainage channel will contribute to the safety of vehicle and pedestrian traffic on Highway 89 by preventing the culverts under the highway that are a segment of the Pugh Canyon drainage channel from filling with debris and sediment and flooding the roadway.

The Pugh Canyon dam is classified as a high hazard dam, which means that dam failure could result in loss of human life or significant property destruction. A dam breach of the Pugh Canyon sedimentation basin dam would result in a moderate to high probability of loss of life. The dam breach inundation area extends through residential, commercial, and agricultural areas over approximately 3 miles before converging with Kanab Creek and being contained within the floodplain. Approximately 236 structures and Highway 89 would be within the inundation area.

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6.6.5 Recreation

6.6.5.1 No Action Alternative

Recreation trails would remain unchanged throughout the city boundaries.

6.6.5.2 Action Alternative

Access to a section of the Pugh Canyon Trail would be blocked by the Pugh Canyon dam and inundated by the water and sediment that would be stored behind the dam. As sediment accumulates, it would erase any evidence of the trail.

6.6.6 Visual Resources and Scenic Beauty

6.6.6.1 No Action Alternative

The No Action Alternative would have no direct impact on visual resources or scenic beauty within the Project area.

6.6.6.2 Action Alternative

Short-term direct impacts to visual quality would be anticipated at all sites due to construction equipment parked or operating in the downtown area during construction of the Tom's Canyon outfall improvements. Impacts would be minor, as disturbance would be temporary and disturbed areas would be restored after construction is completed.

Permanent impacts to the visual quality of Pugh Canyon would be expected because of the construction of a 60-foot-high dam, associated concrete spillways, and rip rap. Vegetation would be removed from the area. It is not planned that the dam would be constructed of materials that would blend with and are characteristic of the area. No camouflage is planned for the concrete spillways or rip rap. Residents living on Country Club Drive, the Kanab Visitor Center, and guests at Red Canyon Cabins could be expected to see the dam and spillways when looking in that direction.

Concrete channel improvements, an increase in the size of the Potter's Pond embankment, and subsequent concrete coating could be viewed by users of the recreational trail around Jackson Flat Reservoir.

6.6.7 Transportation Infrastructure

6.6.7.1 No Action Alternative

During precipitation events, city streets and Highway 89 would continue to be affected by flooding and sediment deposition. This causes closure or unsafe travel through water and follow-up cleaning the areas of sediment when the water recedes. Continued flooding can cause indirect effects such as weakening the pavement's strength and stiffness and weakening the underlying roadbed even when the surface remains intact.

6.6.7.2 Action Alternative

U.S. Highway 89 and dozens of city streets would be protected from flood damages during storm events up to and including a 100-year event in the City. This would result in reduced damages to the transportation infrastructure during these flood events.

Short-term road closures/detours (24 months) may occur during construction to facilitate the proposed modifications and new construction. Access to residences, businesses/offices, and public services would be maintained, but short delays in commuting could occur, resulting in minor traffic impacts during construction.

6.6.8 Noise

6.6.8.1 No Action Alternative

Implementation of the No Action Alternative would not result in additional noise sources within Kanab or the Pugh Canyon area.

6.6.8.2 Action Alternative

During construction activities (24 months), noise could be generated that would constitute a nuisance to nearby residential and other community properties. This effect would be short-term in nature, and noise minimization efforts would be used. In addition, noise control programs (42 U.S.C. 4913) and Kanab City Code noise regulations would be followed. Short-term noise impacts would be minor based on the duration of construction, implementation of BMPs, and adherence to noise programs/regulations.

6.7 Cumulative Effects

6.7.1 Introduction

Cumulative effects result from "the incremental impact of an action when added to other past, present, or reasonably foreseeable actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). The purpose of the Cumulative Effects section is to describe the interaction among the effects of the alternatives and relevant past, present, and reasonably foreseeable actions. This interaction may be:

- Additive: the effects of the actions add together to make up the cumulative effect
- Countervailing: the effects of some actions balance or mitigate the effects of other actions
- Synergistic: the effects of the actions together are greater than the sum of their individual effects

The following Projects in the area are currently occurring or have recently been completed and may result in cumulative effects when combined with the proposed Project.

6.7.2 Past, Present, and Reasonably Foreseeable Actions

6.7.2.1 Public Roads

It is anticipated that public use of existing roads in or near the Project area would continue to increase in the foreseeable future. The demand for new roads would increase as well. Noise and dust resulting from increased road construction and use would affect listed plant and animal species including those thought to occur near the Project area. Pollination of native plant species could be affected. Increased noise levels could cause other species to disperse from the area temporarily or permanently. New road installation and use would result in the continued fragmentation and loss of endangered and candidate species habitat. Impacts resulting from implementation of the Action Alternative would be cumulative to those occurring from public road use and development.

6.7.2.2 Continued Population Growth and Urban Expansion in Kane County

The Kane County population continues to grow. The demand for housing and development of infrastructure continues to increase. Impacts associated with these developments could affect listed plant and animal species. As the population increases, increased demand for homes, businesses, and recreation, such as hiking and off-highway vehicle use, could impact threatened, endangered, and candidate species habitat. The impacts resulting from these activities would be cumulative to those anticipated from the proposed Project.

6.7.3 Cumulative Effects Summary

6.7.3.1 No Action Alternative

As traffic and population continue to increase, the damage from flooding and sediment deposition would affect additional roads, put the health and safety of additional residents and visitors at risk, and jeopardize the stability of existing infrastructure. The No Action Alternative is additive to the negative cumulative effects of continued precipitation event flooding. The No Action Alternative would not add to any cumulative effects for damage or destruction of wildlife or plants resources.

6.7.3.2 Action Alternative

Impacts to resources from the Action Alternative would be short-term impacts during construction. Based on adherence to BMPs, most impacts consisting of temporary disturbances during construction, and activities occurring primarily in previously disturbed and developed areas, measurable cumulative impacts to most resources are not anticipated. Implementation of the Action Alternative would result in increased personal safety and a reduction in property and agriculture related damage.

6.7.3.2.1 Air Quality

Impacts to air quality in Kanab would be temporarily additive for the 24-month construction period to other actions taking place during this time as equipment emissions and fugitive dust would increase. The effects are expected to be temporary and localized and would not result in significant cumulative adverse impacts to air quality.

6.7.3.2.2 Noxious Weeds and Invasive Plants

Any surface disturbance presents the opportunity for the establishment of noxious weeds and invasive plants. Within Kanab, the residents have established lawns, gardens, and xeriscapes, some of which will be damaged or destroyed due to construction of the larger outfall pipe and the rerouting of sewer and water pipes. The 11.2 acres of surface disturbance resulting from the proposed action would be additive to other actions taking place in the vicinity of the proposed Project.

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6.7.3.2.3 Special-Status Animal Species and Migratory Birds

The Action Alternative would not have negative impacts to special-status species or migratory birds; however, cumulative impacts could occur to these resources during construction and may contribute a minor short-term disturbance to species if other actions occur at the same time and in the same area as the proposed action.

6.7.3.2.4 Historic Properties/Cultural Resources

6.7.3.2.4.1 Recreation

As the resident population and tourist visits increase, additional pressure is exerted on public access to recreational trails. The Action Alternative would eliminate a portion of a hiking trail, which would redirect hikers to the remaining trails, adding increased traffic, potential overuse, and damage to the remaining trails.

6.7.3.2.4.2 Visual Resources and Scenic Beauty

As additional infrastructure is constructed to support increasing household numbers, the wildland urban interface zone of transition between unoccupied land and land developed by human activity is pushed further and further into formerly scenic areas untouched by human activity. The Pugh Canyon dam is one such example and would add cumulatively to the change in the visual landscape experienced by residents and visitors because of increasing human activity.

6.7.3.2.4.3 Noise

During construction, there would be added noise from construction vehicles, traffic, and activity which would be a cumulative increase in noise when added to the increase in noise from additional traffic directly related to the increase in population. This would be temporary and localized to the immediate work area and not extend beyond the construction period. Maintenance of the Action Alternative improvements would sporadically increase noise during these activities and, again, it would be temporary and restricted to the immediate work area.

6.8 Irreversible and Irretrievable Resource Commitments

NEPA requires that environmental analysis include identification of "… any irreversible and irretrievable commitments of resources which would be involved in the Proposed Action should it be implemented." Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects this use could have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored because of the action (e.g., extinction of a threatened or endangered species or the disturbance of a cultural resource).

Implementing the Action Alternative would involve a commitment of a range of natural, physical, human, and fiscal resources. Considerable amounts of fossil fuels, labor, and construction materials would be expended. Additionally, large amounts of labor and natural resources would be used in the fabrication and preparation of construction materials. These materials are generally not retrievable. They are not, however, in short supply, and their use would not have an adverse effect upon continued availability of these resources. Any construction would also require a substantial one-time expenditure of federal and cost-share funds that would not be retrievable.

The commitment of these resources would be based on the premise that residents in the immediate area, the state, and the region would benefit from the improved quality of post-construction conditions. These benefits generally are anticipated to outweigh the permanent commitment of resources.

6.9 Risk and Uncertainty

A 50-year Project life was assumed for the proposed Project in calculating costs and economic evaluations. As with any long-term Project, estimating costs and benefits involves a degree of risk and uncertainty. Information can be uncertain, including errors in measurements and climatic changes that could alter rainfall storm events. Assumptions were made based on the best available information. Unit costs are based

on 2023 market prices based on similar Projects. Economic factors that cannot be predicted could increase Project cost. Economic benefits are based on values of floodplain property, infrastructure, urban land use, etc.

There is uncertainty related to land rights availability as the SLO does not own the property rights required for implementation of the Action Alternative. There is a substantial sum estimated to acquire the necessary property rights. Compensatory cultural mitigation is required for construction within the Pugh Canyon channel.

7 CONSULTATION, COORDINATION, AND PUBLIC PARTICIPATION

This section describes the coordination efforts with the public, agencies, Tribes, and SLOs for the Project.

7.1 Consultation

7.1.1 BLM

A formal request to be a cooperating agency on the Project was submitted to the BLM on August 25, 2021. The BLM responded, accepting cooperating agency status in a letter dated October 8, 2021 (**Appendix A**). The BLM is involved in all phases of the Project, as a cooperating agency with jurisdiction by law and special expertise as defined in 40 CER 1508.1 for the Project, since part of the Project is located on BLM-administered lands that would require BLM approval of a right-of-way and they have related program experience on BLM-administered lands within the Project area. The BLM participated in the Plan-EA agency scoping meeting on September 22, 2021, and was invited to review and comment on the Draft Plan-EA during the open comment period.

7.1.2 EPA

A formal request to be a cooperating agency on the Project was submitted to the EPA on August 25, 2021 (**Appendix A**). The EPA declined cooperating agency status in a letter dated October 7, 2021. The EPA was invited to comment on the Project during the scoping period, and comments were received. The EPA was invited to review and comment on the Draft Plan-EA during the open comment period.

7.1.3 USACE

USACE has jurisdiction over work in waters of the U.S. under Section 404 of the Clean Water Act. A formal request to be a cooperating agency on the Project was submitted to USACE on September 13, 2021. USACE declined cooperating agency status in a letter dated September 17, 2021. USACE was invited to review and comment on the Draft Plan-EA during the open comment period.

7.1.4 USFWS

A BA was completed and submitted to USFWS in October 2023. A written response is pending.

7.1.5 UDWR

UDWR was advised of the Project by the notice in the Federal Record, and the Public Lands Policy and Coordinating Office (PLPCO) submitted a comment on behalf of UDWR. UDWR was invited to review and comment on the Draft Plan-EA during the open comment period. Comments were provided during scoping by PLPCO on behalf of UDWR.

7.1.6 Utah State Historic Preservation Office (SHPO)

Utah SHPO was invited to comment on the Project during the scoping period, but no comment was received. A Cultural Resources Inventory Report was completed with the determination that there would be *No Adverse Effects to Historic Properties* from Project actions. The Cultural Resources Inventory Report was submitted by NRCS to Utah SHPO for concurrence with the determination, and SHPO concurrence was received on [Month Day, Year] (**Appendix E**). If cultural/archaeological resources are found during construction activities, construction would stop, and the appropriate agencies would be notified, according to NRCS protocol. SHPO was invited to review and comment on the Draft Plan-EA during the open comment period.

7.1.7 Tribal Consultation

Tribal consultation was completed for the Project to comply with EO 13175 and the NHPA. Tribes were invited to comment on the Project during the scoping comment period, and consultation letters were also sent to seventeen Tribes on January 14, 2022 (**Appendix A**). The following tribal entities responded to the letter, and the comments are summarized in **Table 7-1** and in **Appendix A**.

- Paiute Indian Tribe
- Hopi Indian Tribe

TABLE 7-1
TRIBAL CONSULTATION SUMMARY

Project Phase	Tribe	Response
Scoping	Paiute	A Paiute representative reviewed the Scoping material and submitted no objections to the Project as they were not aware of cultural resource sites, practices, or locations of importance in the Tribe's traditional religions or culture in the Project area.
Scoping	Hopi	The Hopi Tribe claims cultural affiliation to prehistoric cultural groups in Utah. They support the identification and avoidance of prehistoric archaeological sites.

7.2 Coordination

7.2.1 SLO

The City of Kanab is the SLO for the Project. Financial assistance for the Project was requested from NRCS through Standard Form 424-Application for Federal Assistance on April 22, 2021. Initial coordination was conducted with the Sponsors regarding the Project and the proposed measures. Meetings were conducted throughout the planning and engineering process to discuss the Project measures and identify potential concerns. The SLO was provided copies of the preliminary Plan-EA for review prior to issuance of the Draft Plan-EA to the public. SLO report comments or concerns were addressed and/or corrected prior to issuance of the Draft Plan-EA to the public.

7.2.2 Utah Division of Water Rights Dam Safety

Utah Dam Safety has jurisdiction over dams in the state, and new dams must meet Utah Division of Administrative Rules and regulations (Utah Division of Administrative Rules 2018). The proposed Pugh Canyon sedimentation basin would be constructed almost entirely above grade, with a 59-foot embankment, 375 feet deep at the base, and 670 feet wide at the crest of the dam. A principal spillway and 100-foot-wide auxiliary spillway will convey water to the channel. Concept design drawings for the dam were submitted to Dam Safety for review on [Month Day, Year]. Dam Safety replied on [Month Day, Year] indicating that

Commented [DB28]: Civil Science - Have you completed this? Please update this paragraph so it is accurate. I also need a copy of the correspondence with Dam Safety.

Commented [KS29R28]: Yes. Comments back 5/2/2024

7.2.3 Stakeholders

7.2.3.1 Landowners

A public scoping letter, Project fact sheet, and pre-addressed comment form were sent to landowners who own parcels that are directly adjacent to or within the Project area and downstream of the proposed basins. Additional individuals who participated in the scoping and public comment process for the Draft Plan-EA were also included on an email and/or hard copy mailing list. Paper copies of the fact sheet were mailed to 238 private landowners on September 10, 2021. Landowners were invited to review and comment on the Draft Plan-EA during the open comment period.

7.3 Public Participation

7.3.1 Public Participation Plan

The Public Participation Plan, dated September 2021, was prepared by Civil Science to provide effective procedures that define outreach to the public, stakeholders, affected landowners, and interested government agencies. The main goal of public participation is to involve a diverse group of public and government agency participants to solicit input and provide timely information throughout the NEPA review process. As part of the public participation process, the plan seeks to meaningfully engage minority, low-income, and traditionally under-represented populations during the NEPA review process.

7.3.2 Project Scoping

The participation of the public is a vital component of the Project so that those who are interested in or potentially affected by proposed alternatives have an opportunity to share their concerns and provide input regarding the Plan-EA during the initial stages of the process. The Project Scoping Report (**Appendix F**) outlines the scoping efforts and comments received from the agencies and public during the scoping process.

Project scoping questions, comments, and concerns were requested from the public and government agencies during the preliminary scoping period, both orally at public meetings and via written submittal of comments.

7.3.3 Public Outreach

Table 7-2 lists the Project's public outreach activities. The public, agencies, and/or organizations were notified of activities as described below and provided with opportunities to comment on the Project.

TABLE 7-2
PUBLIC OUTREACH ACTIVITES

Date	Purpose	Type
June 2020	Project Kickoff Meeting	Meeting with the NRCS and the SLOs to Identify Watershed Problems
September 2021	Scoping Announcement	Scoping Meeting and Request for Comment Announcement posted in Kanab City Library and Kanab City Office
September 2021	Scoping Announcement	Scoping Meeting and Request for Comment Announcement in the Southern Utah News, a weekly newspaper published in Kanab, Utah
January 14, 2022	Scoping Announcement	Letters Sent to Tribes
September 2021	Scoping Announcement	Scoping Notice Mailed to Public, Organizations, and Agencies

TABLE 7-2 PUBLIC OUTREACH ACTIVITES		
Date	**Purpose**	**Type**
September 10, 2021	Scoping Public Comment Period	Begins
September 2021	Scoping Announcement	Scoping Notice Posted to NRCS Website
September 22, 2021	Scoping Public Meeting	Virtual Online Meeting
October 11, 2021	Scoping Public Comment Period	Closed
Month Day, Year	Notice of Draft Plan-EA Public Comment Period	NOA of the Draft Plan-EA, comment period, and meeting announcements
Month Day, Year	Draft Plan-EA Comment Period	Open
Month Day, Year	Draft Plan-EA Public Meeting	Virtual Draft Plan-EA Meeting
Month Day, Year	Draft Plan-EA Comment Period	Closed
Month Year	Final Plan-EA	NOA and posting of the Final Plan-EA and FONSI to the NRCS website
[1] Table abbreviations: NOA = Notice of Availability.		

7.3.4 Agency and Organization Involvement

During the development of the Plan-EA, agencies were contacted to request input and participation in the Project. Agencies were provided letters of the scoping announcement, which notified them of the Project, public meeting time and locations, and open comment period and requested their input. The agencies accepting participation and/or providing input in the Project to date, in addition to the NRCS and the SLOs, are listed below. See **Section 11** for a list of all agencies that were included in the distribution list for Project information announcements. Consultation with agencies and organizations will continue during the Draft Plan-EA review period, and the results will be documented in the Final Plan-EA.

7.3.5 Tribal Involvement

Tribes were provided letters of the scoping announcement, which notified them of the Project, public meeting time and locations, and open comment period, and requested their input (**Appendix A**). Tribal consultation was completed to comply with EO 13175 and the NHPA. Tribal consultation letters, including a copy of the Cultural Resources Inventory Report, were sent out on [Month Day, Year] (**Appendix E**). Tribes were invited to review and comment on the Draft Plan-EA during the open comment period (**Appendix A**). See **Section 7.1.7** for a summary of Tribes consulted and tribal responses to date.

7.3.6 Agency Plan-EA Reviews

Before issuing the Draft Plan-EA to the public, the NRCS's National Water Management Center was provided copies of the preliminary report for review. Agency report comments or concerns were addressed and/or corrected prior to issuance of the Draft Plan-EA to the public.

7.3.7 Draft Plan-EA Public Comment

An NOA describing the proposed Project, information on the Draft Plan-EA public meeting, availability of the Draft Plan-EA for review, and solicitation of comments was mailed to interested parties before the start of the open comment period. These included mailings to 20 federal and state agencies, 4 local agencies and elected officials, 238 private parties, and 12 Tribes, as listed in **Section 11**. The NOA was published in the local newspaper Southern Utah News on September 16, 2021. The NOA and Draft Plan-EA were posted and available for download on the NRCS project website during the open comment period. Hard copies of the Draft Plan-EA were also available for review at the Town 1 Library and Town 2 Library. Documentation of Draft Plan-EA public notice is provided in **Appendix F**.

One virtual combined agency and public Draft Plan-EA meeting was conducted on September 22, 2021.The open comment period lasted from September 10, 2021, through October 11, 2021. Written comments could be submitted via e-mail or mail, and oral comments could be submitted via phone. Ten public comments, nine agency comments, and two tribal comments were received during the open comment period for the Draft Plan-EA. A Scoping Report is provided in **Appendix F**.

7.3.8 Final Plan-EA and FONSI

A Final Plan-EA will address comments received on the Draft Plan-EA and a FONSI will be prepared. An NOA of the Final Plan-EA and FONSI will be published in the local newspaper (The Southern Utah News) to notify the public of the finding and copies will be made available for download on the NRCS Project website.

8 PREFERRED ALTERNATIVE

8.1 Rationale for Preferred Alternative Selection

Alternatives were formulated following procedures outlined in the NWPM (NRCS 2015), NWPH (NRCS 2014), Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies (USWRC 1983), and other NRCS watershed planning policies. The preferred alternative was selected based on the ability to meet the purpose and need, compliance with the previously mentioned documents, the economic benefits it would provide, and the ability to meet the Project goals and objectives.

The Action Alternative was selected as the Preferred Alternative for the Project and is also the NEE Alternative. This Alternative would improve the stormwater conveyance from Tom's Canyon through an outfall large enough to protect 294 residences and apartments, 102 commercial properties, and 13 public properties from flooding during a modeled 100-year flood. Constructing a dam in Pugh Canyon to create a sedimentation basin to retain sediment and water and improve the existing drainage channel would protect 157 residences and apartments from flooding. It would also prevent the existing culverts in the drainage channel under Highway 89 from filling with debris and sediment and flooding the road and surrounding area. No long-term adverse impacts are anticipated from the proposed measures and alternative implementation would successfully meets the goals for the flood prevention authorized Project purposes.

8.2 Applicant-Committed Measures and Best Management Practices to Be Implemented

A summary of the Preferred Alternative Best Management Practices to avoid and/or minimize effects included below in **Table 8-1**. Refer to **Section 5.4.2** for a detailed description of the alternative.

Compensatory cultural mitigation would be required for the Pugh Canyon channel improvements.

TABLE 8-1
APPLICANT-COMMITTED MEASURES

Resource Area	Project Design Feature
General	Implementation of the Preferred Alternative will comply with all applicable federal and state laws and regulations, as well as local zoning and building ordinances, during all phases of the project.
	Construction activities will be limited to the smallest extent practicable within the project area.
	During construction activities, vehicle parking and material stockpiles will be located within designated staging areas.
	Construction personnel will adhere to state and local fire prevention and suppression requirements.
	Construction personnel will always have fire tools and extinguishers available.
	Disturbance of natural vegetation will be limited to the extent necessary to complete the project to reduce the impact to native plant species and ground-nesting pollinators.
	Areas of disturbance will be re-vegetated with native shrubs, forbs, and grasses as determined by the NRCS and local agencies.
	Fill materials would be free of fines, waste, pollutants, and noxious weeds/seeds.
	The number of ingress and egress routes to/from all Project sites would be kept to a minimum.

TABLE 8-1 APPLICANT-COMMITTED MEASURES	
Resource Area	**Project Design Feature**
Construction Site Restoration	A detailed restoration plan, including revegetation and long-term weed management, will be provided to the NRCS for approval before construction. Seed would be distributed in a manner required by the NRCS (e.g., hand broadcast seeding; covering the seed with a rake or a device pulled by an all-terrain vehicle).
	All temporary ground disturbance areas will be restored to the original contours and revegetated following construction
	Where seeding is required, the applicant will use a BLM- and NRCS-approved, weed-free, native seed mix.
	Soil removed during construction will be reused. Topsoil will be kept separated from subsoil to preserve the seed bank.
	The Pugh Canyon dam embankments will be seeded with an appropriate seed mix per NRCS Practice Standard "Dam" (402). Where practicable, other disturbed areas will be seeded or planted with appropriate species per NRCS Practice Standard "Critical Area Planting" (342).
Air Quality	Disturbed soil within the Project area will be sprayed with water or another approved dust suppressant/soil binder. The quantity of water used for dust control will be minimized to prevent water from leaving the site.
	Procedures to reduce emissions during material transportation or handling may include wetting materials hauled in trucks, providing adequate freeboard (space from the top of the material to the top of the truck), or covering loads.
	Stabilized construction exits will be established at appropriate locations to reduce soil track-out onto the adjacent roadway network. Procedures may include wheel washing or rattle plates to remove sediment prior to vehicle exit from the site.
	If sediment is tracked off-site onto adjacent paved roadways, the sediment will be collected by sweeping, shoveling, or vacuuming and disposed of in a stable location.
	Material stockpiles will be wetted to prevent wind-blown emissions.
	Vegetation cover will be established on bare ground as soon as possible after grading to reduce wind-blown dust.
	Appropriate emission-control devices will be required on all construction equipment.
	The use of cleaner burning fuels will be required.
	Only properly operating, well-maintained construction equipment will be used.
Cultural	If any human remains are encountered, all ground activities within 50 feet of the discovery will stop. At all times, human remains must be treated with the utmost dignity and respect. Human remains and associated artifacts will be left in place and not disturbed. Law enforcement and the NRCS archaeologist will be contacted. Law enforcement will notify the coroner, and, if necessary, the NRCS archaeologist will consult with the Utah SHPO and the appropriate Tribes as stipulated by the Native American Graves Protection and Repatriation Act.
	If the applicant revises the location of any ground-disturbing activities that will impact areas beyond those previously surveyed and analyzed in this Plan-EA, a new cultural resources evaluation—including background research, Class III survey (as needed), and evaluation of visual resource concerns—will be conducted, and the NRCS archaeologist will be consulted.
	Procedures outlined in the Prototype Programmatic Agreement between the NRCS and SHPO shall be followed.

TABLE 8-1 APPLICANT-COMMITTED MEASURES	
Resource Area	**Project Design Feature**
Hazardous Materials and Waste	Contractors shall comply with all federal, state, and local laws/regulations pertaining to pollution and contamination of the environment to prevent pollution of surface water, groundwater, soil, and air with any hazardous materials.
	Refuse and trash, including stakes and flags, will be removed and properly disposed of on a regular basis.
	Portable toilets will be used on-site and maintained on a regular schedule.
	No oil, fuel, chemicals, or potentially hazardous substances will be drained on the ground. All must be disposed of at an approved site.
	Appropriate regulatory agencies, including the NRCS, will be immediately contacted in the event of a fuel/oil or hazardous material spill. Actions will be taken to minimize the amount and spread of the spilled material, including using straw bale plugs, earthen berms, and absorbent materials. If necessary, soil remediation will be conducted, including the removal of contaminated soils to an approved facility and soil sampling to verify successful site remediation.
Noise	Construction noise levels will be minimized to the extent possible with proper maintenance of construction equipment and the use of approved noise mufflers.
Noxious Weeds	Equipment will be washed prior to entering the Project areas to remove any soil and debris that may contribute to the spread of noxious weeds.
	Any materials used in implementation of the Project must be certified weed-free.
	The applicant will follow BLM and NRCS regulations pertaining to control of noxious weeds; use of herbicides also would comply with BLM and NRCS requirements.
	Any use of herbicides will comply with federal and state requirements.
Public Health	During construction, all personnel will be required to conform to contractor safety procedures. All personnel will be adequately trained to perform their tasks.
	Heavy equipment will be outfitted with Occupational Safety and Health Administration-required safety devices, such as backup warnings and seat belts.
	Hard hats, safety boots, ear/eye protection, and other personal safety equipment will be used on-site.
	All accidents and injuries will be reported to the appropriate contractor safety officer.
	Construction haul trucks will utilize caution and maintain safe travel speeds and distances.
Traffic	Signs will be posted in local communities regarding the schedule for construction at the proposed sites.
	Utah Department of Transportation will govern traffic control on the state highway during construction.
	A stormwater pollution prevention plan (SWPPP) will be prepared by the construction contractor prior to initiation of ground disturbance. The SWPPP will detail the best management practices and site-specific control features to prevent sediment and other pollutants from discharging off the site during construction. BMPs may include silt fence, fiber wattles, and earthen berms.
Wildlife	Vegetation would be removed during the fall and winter to avoid impacts during the bird breeding season (March 1–August 31). If vegetation removal activities must occur between March 1 and August 31, clearance surveys will be required within 10 days prior by a qualified biologist. Appropriate spatial and temporal buffers will be applied if nesting birds are located.

TABLE 8-1 APPLICANT-COMMITTED MEASURES	
Resource Area	**Project Design Feature**
	Construction would be scheduled between September 1 and March 31 to avoid the breeding season. If construction is not completed during this time, clearance surveys for nesting birds must be conducted.
	Excavated holes more than 2 feet deep will be covered at the close of each day or provided with one or more escape ramps. Alternatively, fencing may be erected around open pits or trenches.
	Before pits or trenches are filled, they will be inspected for trapped animals. If any animals are found, they will be moved out of harm's way by a qualified biologist approved by the UDWR or NRCS.
Riparian	Materials would not be stockpiled in the riparian areas or other sensitive areas (i.e., wetlands or Kanab Creek).
	Equipment would work from the top of the bank or from the channel to minimize disturbance to the riparian area and to protect the banks. Heavy equipment would avoid crossing and/or disturbing wetlands.
	Excavated material and construction debris may not be scrapped in any stream channel or placed in flowing waters or adjacent wetlands; this would include material such as grease, oil, joint coating, or any other possible pollutants. Excess material must be disposed of at an upland site away from any channel or habitat of a federally listed or sensitive species. All construction materials must be removed from the active channel at the end of the Project.
Vegetation	Vegetation removal would be limited as much as practicable.

8.3 Permits and Compliance

The federal, state, and local permits and compliance actions described in this section would be required for construction of the Preferred Alternative. A Watershed Agreement and a Memorandum of Understanding shall be completed and signed by the NRCS and SLO prior to the obligation of construction funds for the Project.

8.3.1 Federal

USFWS: A BA was submitted to the USFWS in October 2023 (**Appendix C**), with a determination of Not Likely to Adversely Affect for ESA species, and USFWS concurred with the determination for the Project and issued a BO on [Month day, year] (**Appendix C**).

FEMA: A letter of map change request must be submitted. By altering the stormwater drainage, FEMA will need to determine if the Special Flood Hazard Area identified by the National Flood Insurance Program requires revision.

8.3.2 State

Utah SHPO: A Cultural Resources Inventory Report was submitted to the Utah SHPO for concurrence with a determination that the Project would have Adverse Effects to Historic Properties. A SHPO concurrence letter, dated [Month day, year], was received and has been included in **Appendix E**. Should cultural/archaeological resources be found during construction activities, construction would stop, and the appropriate agencies would be notified according to NRCS protocol.

UDEQ: A Utah Pollutant Discharge Elimination System Construction General Permit from the Division of Water Quality is required for construction activities that disturb more than 1 acre. A SWPPP would be

developed, including submitting a Notice of Intent to the Utah DEQ. A 401 Water Quality Certification Application may also need to be completed for Project measures.

Utah Department of Natural Resources, Division of Water Rights: A Stream Alteration Permit is likely required due to installation, operation, and maintenance of the outfall energy dissipation structure. Approval will be required from the Utah State assistant engineer.

Utah Dam Safety: Approval through an application process is required prior to construction of high-hazard debris/detention basins.

8.3.3 Local

Any additional required city or county permits will be obtained prior to construction.

8.4 Installation and Financing

8.4.1 Planned Sequence of Installation

The SLO would complete all approvals and permits for the Project prior to the start of construction; these may take up to 24 months to obtain. The major construction elements for the Action Alternative would be sequenced to complete the critical path items first. Proposed sequence for construction completions is summarized below.

- Tom's Canyon: The construction work for Tom's Canyon would take place over an approximate a 9-month period. It is recommended that the work be completed in later fall to early spring to avoid winter runoff and summer monsoons
- Pugh Canyon: The construction work for Pugh Canyon would take place over an approximate 12-month period between [Month date to Month date] to avoid disturbance to habitat during sensitive bird nesting and fish spawning seasons. Additional planting may be required during the first growing season after construction, depending on the results of the restoration efforts

Deleted: [x years/months]

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Commented [KS30]: This should be updated according to bird migration patterns

8.4.2 Responsibilities

The roles and responsibilities for NRCS and the SLO would continue in accordance with this Plan-EA, the Watershed Agreement, and the Memorandum of Understanding. The NRCS is responsible for leading the planning efforts and providing engineering support, SLOs are responsible for environmental permits and construction implementation, and the NRCS or SLO are responsible for the Project design. The NRCS would assist SLO during construction by providing oversight and certifying completion of the Project.

8.4.3 Contracting

Rehabilitation improvements installed from NRCS funding mechanisms would be procured using contracts awarded. SLO would oversee and administer construction of the Project in coordination with NRCS.

8.4.4 Real Property and Relocations

Property within the Project area is on private land. Easements for proposed improvements (including egress/ingress), easements for future O&M activities, or property acquisition would need to be obtained.

8.4.5 Financing

The watershed plan must be authorized before funding may be made available for Project operations. NRCS would provide funding from the Watershed Protection and Flood Prevention Act (PL 83-566, as amended by PL 106-472), at the percentages detailed in **Table 8-2**. Federal assistance varies by project. Authorized purpose and alternative measures include purposes of flood prevention, watershed protection, public

recreation, and agricultural water management. SLOs are responsible for providing the remaining non-federally funded portions of the Project.

TABLE 8-2
COST SHARE BY AUTHORIZED PROJECT PURPOSE

Authorized Purpose	Construction		Engineering		Real Property Rights	
	NRCS	Sponsor	NRCS	Sponsor	NRCS	Sponsor
Flood Prevention	100%	0%	100%	0%	0%	100%
Watershed Protection	Variable	Variable	100%	0%	0%	100%
Public Recreation	Up to 50%	≥50%	100%	0%	Up to 50%	≥50%
Agricultural Water Management	Up to 75%	≥25%	≤ 100%	≥0%	0%	100%

Funding for O&M of facilities after construction would be derived from normal revenues of the SLOs. This O&M cost would be budgeted annually so that the facilities are kept in good condition.

8.5 Operation and Maintenance

Operation of facilities includes the administration, management, and performance of non-maintenance actions needed to keep the facilities safe and functioning as designed. Maintenance includes performance of work, measuring the recording instrumentation data, preventing deterioration of facility components, and repairing damage or replacing the facility components as needed. Repairing damage to completed facilities caused by normal deterioration, droughts, flooding, or vandalism is considered maintenance. Maintenance includes both routine and as-needed measures.

The SLO would be responsible for the operation, maintenance, and future modifications to facilities, and the estimated annual O&M cost for each Project site is shown in **Table 8.5**. A specific O&M Plan would be prepared by the NRCS and the SLO in accordance with the NRCS National Operation and Maintenance Manual (NRCS 2003). This plan and agreement would be entered into prior to the start of construction activities and would be in place for the extended life of the Project. The agreement would provide for inspections, reports, and procedures for performing the maintenance items. The agreement would include specific provisions for retention, use, and property improved with PL 83-566 (as amended by PL 106-472) assistance.

8.6 Costs

The installation cost for the Preferred and NEE Alternative is estimated to be $14,450,600, as identified in **Table 8-3**. Economic tables have been included to present information relevant to the costs and benefits of the Preferred Alternative and NEE Alternative. Assessments, considerations, and calculations are based on a 54-year evaluation period and a discount rate of 2.75 percent (Federal Water Resources FY 2024 discount rate).

TABLE 8-3
ESTIMATED INSTALLATION COST[1]

Works of Improvement	PL 83-566 Funds[2]	Other Funds[2]	Total
Tom's Canyon	$8,161,700	$812,600	$8,974,300

TABLE 8-3 ESTIMATED INSTALLATION COST[1]			
Works of Improvement	**PL 83-566 Funds[2]**	**Other Funds[2]**	**Total**
Pugh Canyon	$5,093,500	$382,800	$5,476,300.
Total	**$13,255,200**	**$1,195,400**	**$14,450,600**

[1] Prepared November 2023, using 20234 costs, 2.75% discount rate.
[2] All works of improvement will be on non-federal land.

The estimated cost distribution in **Table 8-4** shows the estimated installation costs for works of improvement between PL 83-566 funds and the costs borne by the SLO (Other Funds).

TABLE 8-4 ESTIMATED COST DISTRIBUTION—FLOOD PREVENTION												
Works of Improvement	Installation Cost—Public Law 83-566					Installation Cost—Other Funds						Total
	Construction	Engineering	Project Admin	Real Property Rights	Total Public Law 83-566	Mitigation	Real Property Rights	Water Rights	Permits	Project Admin	Total Other Funds	Installation Costs
Tom's Canyon	$7,251,300	$422,700	$487,700		$8,161,700		$617,500		$195,100		$812,600	$8,974,300
Pugh Canyon	$4,561,300	$266,100	$266,100		$5,093,500	$220,000	$105,800		$57,000		$382,800	$5,476,300
Total	$11,812,600	$688,800	$753,800		$13,255,200	**$220,000**	$723,300		$252,100		$1,195,400	$14,450,600

[1] Prepared November 2023, using 2023 costs, 2.75% discount rate.

Table 8-5 shows the Project cost amortized over the period of analysis (54 years).

TABLE 8-5
ESTIMATED AVERAGE ANNUAL NEE COSTS[1]

Improvements	Amortization of Installation Cost	O&M and Replacement Cost	Total
Tom's Canyon	$342,900	$5,700	$348,600
Pugh Canyon	$209,300	$49,200	$258,500
Total	**$552,200**	**$54,900**	**$607,100**

[1] Prepared November 2023; Cost base: 2023. Calculated using FY 2024 Water Resources Discount Rate (2.75%), annualized over 50 years, and 54-year period of analysis.

Table 8-6 summarizes the results of the flood damage reduction analysis conducted for this Project. The Preferred Alternative is projected to eliminate existing flood damages (up to and including a 100-year storm event) for both sites.

TABLE 8-6
ESTIMATED AVERAGE ANNUAL FLOOD DAMAGE REDUCTION BENEFITS

Item	Estimated Average Annual Damage		Average Annual Damage Reduction Benefit
	Without Project (No Action Alternative)	With Project (Preferred Alternative)	
Tom's Canyon Structures, Contents, Vehicles	$19,237,659	$81,267	$19,156,392
Pugh Canyon Structures, Contents, Vehicles	$1,095,559	$697,988	$397,571
Total	**$20,333,212**	**$779,255**	**$19,553,963**

[1]. Calculated using FY 2024 Water Resources Discount Rate (2.75%), annualized over 50 years, and 54-year period of analysis. Prepared November 2023.

Table 8-7 summarizes the benefits and costs of the Project and documents the overall benefit to cost ratio of the proposed improvements.

TABLE 8-7
BENEFITS AND COSTS OF PROPOSED IMPROVEMENTS

Item	Average Annual Costs	Average Annual Benefits	Benefit Cost Ratio	Net Economic Benefits
Tom's Canyon	$348,600	$19,156,392	54.95	$18,807,792
Pugh Canyon	$258,500	$397,571	1.54	$139,071
Total	**$607,100**	**$19,554,963**	**32.21**	**$18,946,863**

9 REFERENCES

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Utah Natural Heritage Program (UNHP). 2022. Utah Natural Heritage Program Online Species Search Report. Kanab Creek Watershed Ea. Report Number 13626. August 15, 2022.

10 LIST OF PREPARERS

Table 10-1 lists the people who participated in the preparation of this document.

TABLE 10-1
LIST OF PREPARERS

Name	Title (Years of Experience)	Education	Other
NRCS—Utah (Review and Coordination)			
Norm Evenstad	Assistant State Conservationist (25+)	B.S. Geology	Utah P.G.
Lance Smith	Project Engineer (15+)	B.S. Civil Engineering	Utah P.E.
Derek Hamilton	Water Resources Coordinator	M.S. Environmental Science	
Wayne Urie	Watershed Coordinator		
Tara Hoffman	Cultural Resources Specialist (10+)		
Transcon Environmental (Plan-EA Preparation)			
Brian Parker	Biologist/Project Manager (10+)	B.S. Terrestrial Biology	
Olivia Niziolek	Project Coordinator (13+)	M.S. Plant Physiology B.S Integrative Biology	
Debra Budrow	Environmental Planner	MBA M.S. Environmental Science	
Ronald Bolander	Environmental Planner	M.S. Botany	
Morgan White	Technical Editor (5+)	B.F.A. Creative Writing	
Civil Science (Map Production)			
Kelvin Smith	GIS Specialist (10)	M.S. Civil Engineering	Utah P.E.
Cody Howick	Project Manager (19+)	B.S. Civil Engineering	Utah P.E.
Austin Johnson	CAD Designer	B.S. Civil Engineering	
Austin Wilcox	Analyst	B.S. Civil Engineering	
Transcon Environmental (GIS)			
Matthew Gill	GIS Specialist (13)	M GIS B.A. Archaeology	
Gordon Solutions (Economic Analysis)			
Hal Gordon	Economist (30+)	B.S. Range Scientist M.S. Ag Economics	
Civil Science (Engineering, Concept Design)			
Jeff Peay	Landscape Architect (20+)		Utah PLA
Kelvin Smith	Project Engineer (10+)	M.S. Civil Engineering B.S. Civil and Environmental Engineering	Utah P.E.

Commented [DB31]: Civil Science - Please add your staff list here following the NRCS example.

Commented [KS32R31]: added

Deleted: 5

TABLE 10-1 LIST OF PREPARERS			
Name	**Title (Years of Experience)**	**Education**	**Other**
Cody Howick	Project Manager (19+)	B.S. Civil Engineering	Utah P.E.
Landmark Testing (Geotechnical Studies)			
Steven Wells	Geotechnical Engineer (25+)	M.S. Geological Engineering B.S. Geology	Utah P.E.
Transcon Environmental (Cultural Resource Surveys and Reporting)			
Jennifer Bannick	Archaeologist (10+)	B.S. Anthropology, Emphasis Archaeology	
Lindsey M. Evenson	Archaeologist (8+)	M.A. Cultural Resource Management	Statewide Principal Investigator
Transcon Environmental (Wetland Delineation, Biological Assessment and Reporting)			
Chris Melisi	Botanist/Ecologist (10+)	B.S. Environmental Science	
Olivia Niziolek	Biologist (13+)	M.S. Plant Physiology B.S. Integrative Biology	
Maribell Glass	Biologist (7+)	M.S. Agriculture B.S Range and Wildlife Management	

11 DISTRIBUTION LIST

This section lists the government agencies and organizations that are included on the Project distribution list for scoping notice and notices of availability for the Draft Plan-EA, Final Plan-EA, and FONSI.

11.1 Federal Government and State Agencies

- BLM, Kanab Field Office
- Bureau of Reclamation
- EPA, Region 8
- UDEQ
- UDWR
- USACE
- USFWS
- Utah Dam Safety
- Utah Department of Agriculture
- Utah Department of Environmental Health
- Utah Department of Heritage and Arts
- Utah Department of Public Safety
- Utah Department of Transportation, Region 4
- Utah Division of Water Rights
- Utah Division of Water Rights Southwestern
- Utah Governor's Office
- Utah Natural Heritage Program
- Utah Public Lands Policy Coordination Office
- Utah SITLA
- Utah State Clearing House
- Utah State Historic Preservation Office

11.2 Local Government and Elected Officials

- Kane County Commission
- Kane County School
- Kane County Water Conservancy District
- U.S. Congressional Representatives

11.3 Business and Organizations

- Southern Utah News

11.4 Tribes

- Hopi Tribe Chairman's Office
- Hopi Tribe of America
- Kaibab Band of Paiute Indians of the Kaibab Indian Reservation
- Las Vegas Tribe of Paiute Indians of the Las Vegas Indian Colony

- Moapa Band of Paiute Indians of the Moapa River Indian Reservation
- Navajo Nation Office of the President
- Paiute Indian Tribe of Utah
- Pueblo of Zuni
- San Juan Southern Paiute Tribe of Arizona
- Ute Indian Tribe of the Uintah & Ouray Reservation
- Ute Mountain Ute Tribe
- White Mesa, Ute Council

The names and addresses of private parties who received notice of the Draft Plan-EA and will receive notice of availability of the Final Plan-EA and FONSI are not listed in this section for privacy.

12 ACRONYMS, ABBREVIATIONS, AND SHORT FORMS

TABLE 12-1
ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Term
ac	acre
BA	Biological Assessment
BMPs	Best Management Practices
CFR	Code of Federal Regulations
cfs	cubic feet per second
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FR	Federal Register
GHG	greenhouse gas
IPaC	Information for Planning and Consultation
MBCC	Migratory Birds of Conservation Concern
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NEE	National Economic Efficiency
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRCS	U.S. Department of Agriculture Natural Resources Conservation Service
NRHP	National Register of Historic Places
O&M	Operations and Maintenance
PL	Public law
Plan-EA	Watershed Plan and Environmental Assessment
PM	particulate matter
PLPCO	Public Lands Policy and Coordinating Office
PR&G	Principles, Requirements, and Guidelines
SHPO	State Historic Preservation Office
SITLA	Utah School and Institutional Trust Lands Administration
SPC	Wildlife Species of Concern
SWPPP	Storm Water Pollution Prevention Plan
UDAQ	Utah Division of Air Quality

TABLE 12-1 ACRONYMS AND ABBREVIATIONS	
Acronym/Abbreviation	**Term**
UDEQ	Utah Department of Environmental Quality
UDWR	Utah Division of Wildlife Resources
USACE	U.S. Army Corps of Engineers
U.S.C	United States Code
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
USWRC	U.S. Water Resources Council
VOC	volatile organic compound
VRM	Visual Resource Management
WFPO	Watershed and Flood Prevention Operations

APPENDIX A

CONSULTATION LETTERS

APPENDIX B

MAPS

APPENDIX C

RESOURCE ASSESSMENT

APPENDIX D

INVESTIGATION AND ANALYSIS REPORT

APPENDIX E

CULTURAL RESOURCES

APPENDIX F

SCOPING REPORT

PUGH
ALTERNATIVE 3
July 30, 2024

ENGINEER'S OPINION OF COST

ITEM NO.	ITEM DESCRIPTION	EST QTY	UNIT	UNIT COST	AMOUNT
1	Mobilization & Demobilization	10%	LS	$ 345,600.00	$ 345,600.00
2	Temporary Controls	1	LS	$ 10,000.00	$ 10,000.00
3	Site Clearing & Demolition	15	AC	$ 3,000.00	$ 45,000.00
4	Potter's Pond Basin Fill (Plan Qty)	3000	CY	$ 12.00	$ 36,000.00
5	Basin Excavation (Plan Qty)	55300	CY	$ 10.00	$ 553,000.00
6	Auxiliary Spillway Excavation (Plan Qty)	62000	CY	$ 10.00	$ 620,000.00
7	Import Fill (Plan Qty)	82700	CY	$ 15.00	$ 1,240,500.00
8	30" RCP Storm Drain	1000	LF	$ 120.00	$ 120,000.00
9	Principal Spillway Structure	1	EA	$ 160,000.00	$ 160,000.00
10	Auxiliary Spillway Concrete	250	CY	$ 900.00	$ 225,000.00
11	Rip Rap	3300	CY	$ 120.00	$ 396,000.00
12	Restoration & Reseeding	1	LS	$ 50,000.00	$ 50,000.00
			Subtotal		**$ 3,801,100.00**
			Contingency	**20%**	**$ 760,200.00**
				Construction Total	**$ 4,561,300.00**
			Engineering Design	**7.0%**	**$ 266,100.00**
			Construction Administation	**7.0%**	**$ 266,100.00**
			Property & Landrights	**2.0%**	**$ 105,800.00**
			Mitigations	**0.0%**	**$ -**
			Permitting	**1.5%**	**$ 57,000.00**
				Project Total	**$ 5,256,300.00**

Disclaimer:

This Engineer's Opinion of Cost (EOC) is made on the basis of Engineer's experience, qualifications, general familiarity with the construction industry and represents the Engineer's best judgement as an experienced and qualified professional . However, because Engineer has no control over the cost of labor, materials, equipment, or services furnished by others, or over contractor's methods of determining prices, or over competitive bidding or market conditions, Engineer cannot and does not guarantee that proposals, bids, or actual construction cost will not vary from opinions of probable construction cost prepared by Engineer.

Notes:

1 - Quantities shown in the EOC are based off preliminary engineering design and modeling software.

2 - Unit costs are our best estimates based on similar projects. These costs are not guarantees. A number of factors may affect these costs when ultimately priced by a contractor.

3 - The EOC does not include fees that may be charged by the Owner such as impact fees, building permit fees, review fees, etc.

4 - Basin Excavation quantity include excavation to bedrock for stability for the base and the abutments of the structure. Abutments to be excavated with a machine to avoid fracturing from blasting.

5 - LS = Lump Sum; EA = Each; SF = Square Feet; SY = Square Yard; AC = Acre; LF = Linear Feet; CY = Cubic Yard; TON = Ton; GAL = Gallon; DAY = Day; HR = Hour; EST = Estimate

TOM'S CANYON
ALTERNATIVE 3
July 30, 2024

ENGINEER'S OPINION OF COST

ITEM NO.	ITEM DESCRIPTION	EST QTY	UNIT	UNIT COST	AMOUNT
1	Mobilization & Demobilization	10%	LS	$ 591,200.00	$ 591,200.00
2	Traffic Control	1	LS	$ 50,000.00	$ 50,000.00
3	Temporary Controls	1	LS	$ 70,000.00	$ 70,000.00
4	Site Clearing & Demolition	1	LS	$ 75,000.00	$ 75,000.00
5	6'x7' Concrete Box Pipe	4400	LF	$ 1,000.00	$ 4,400,000.00
6	36" HDPE Storm Drain Pipe	350	LF	$ 70.00	$ 24,500.00
7	4'x4' Catch Basin	2	EA	$ 6,000.00	$ 12,000.00
8	Reconstruct Sewer Line	1	LS	$ 500,000.00	$ 500,000.00
9	Loop Waterline	7	EA	$ 7,500.00	$ 52,500.00
10	Rip Rap	2400	CY	$ 120.00	$ 288,000.00
11	Asphalt Patch w/ Base	60000	SF	$ 6.50	$ 390,000.00
12	Restore Surface Improvements	1	LS	$ 50,000.00	$ 50,000.00
			Subtotal		**$ 6,503,200.00**
			Utility Relocation not Eligible for Construction Funds		**$ (552,500.00)**
			Contingency	**20%**	**$ 1,300,600.00**
				Construction Total	**$ 7,251,300.00**
			Engineering Design	**6.5%**	**$ 422,700.00**
			Construction Administation	**7.5%**	**$ 487,700.00**
			Property & Landrights	**9.5%**	**$ 617,500.00**
			Mitigations	**8.5%**	**$ 552,500.00**
			Permitting	**3.0%**	**$ 195,100.00**
				Project Total	**$ 9,526,800.00**

Notes:

1 - Quantities shown in the EOC are based off preliminary engineering design and modeling software.
2 - Unit costs are our best estimates based on similar projects. These costs are not guarantees. A number of factors may affect these costs when ultimately priced by a contractor.
3 - The EOC does not include fees that may be charged by the Owner such as impact fees, building permit fees, review fees, etc.
4 - LS = Lump Sum; EA = Each; SF = Square Feet; SY = Square Yard; AC = Acre; LF = Linear Feet; CY = Cubic Yard; TON = Ton; GAL = Gallon; DAY = Day; HR = Hour; EST = Estimate

RESOLUTION NO. 7-___-24 R

A RESOLUTION AUTHORIZING KANAB CITY TO ENTER INTO A WATERSHED WORK PLAN AGREEMENT WITH THE NATURAL RESOURCES CONSERVATION SERVICE, U.S. DEPARTMENT OF AGRICULTURE (NRCS)

WHEREAS, application has heretofore been made to the Secretary of Agriculture by Kanab City, Utah for assistance in preparing a plan for works of improvement for the Kanab Creek Watershed, Utah, under the authority of the Watershed Protection and Flood Prevention Act, as amended (16 U.S.C. Sections 1001 to 1008, 1010, and 1012; and

WHEREAS, the responsibility for administration of the Watershed Protection and Flood Prevention Act (Public Law 83-566), as amended, has been assigned by the Secretary of Agriculture to the NRCS;

WHEREAS, on August 13, 2024 the Kanab City Council met during the regular City Council Meeting and discussed the Watershed Work Plan Agreement; and

WHEREAS, the City Council has found that the proposed work plan agreement is in the best interest of the City to approve

NOW THEREFORE, The City Council hereby approves:

1.The Kanab Watershed Work Plan Agreement between Kanab City and the NRCS, substantially in the form presented to the City Council

2. The City Manager is hereby authorized and directed to execute the agreement on behalf of the City.

3. City staff are hereby authorized to approve minor clerical changes to the agreement, provided that such changes do not materially alter the rights and obligations of the City under the agreement.

This Resolution shall take effect immediately upon passage.

PASSED AND RESOLVED this _____ day of _____, 2024.

KANAB CITY

_____
MAYOR

ATTEST:

_____
RECORDER

VOTING:

Arlon Chamberlain	Yea ____ Nay ____
Scott Colson	Yea ____ Nay ____
Chris Heaton	Yea ____ Nay ____
Boyd Corry	Yea ____ Nay ____
Peter Banks	Yea ____ Nay _____

Acknowledged and agreed to this ____ day of _____, 2024:

KANE COUNTY

_____
AUTHORIZED REPRESENTATIVE

KANAB
UTAH

DATE: August 13, 2024
TO: Mayor and City Council
SUBJECT: Mini Tractor Purchase
PREPARED BY: City Manager, Kyler Ludwig

Background:

During the FY 25 Budget the City set aside $30,000 for the purchase of a tractor for the Parks Department.

Analysis:

The City received a bid under the state purchasing contract for $53,328.14 for a new John Deere 4052 Compact Utility Tractor and Backhoe Attachment. The trade in value of the old tractor is $20,000 bringing the total to $33,328.14.

Legal:

Approved as to form

Financial:

The City budgeted $30,000 in the parks capital budget for this purchase.

Recommendations/Actions: It is recommended the City Council:

Approve the purchase of a John Deere 4052 Compact Utility Tractor and the trade in of the old equipment.

JOHN DEERE

Customer:

Quotes are valid for 30 days from the creation date or upon contract expiration, whichever occurs first.

A Purchase Order (PO) or Letter of Intent (LOI) including the below information is required to proceed with this sale. The PO or LOI will be returned if information is missing.

☐ Vendor: Deere & Company
2000 John Deere Run
Cary, NC 27513

For any questions, please contact:

Kyle Peterson

Stotz Equipment
997 North 1100 West
St George, UT 84770

Tel: 435-673-4685
Fax: 435-673-4686
Email: kpeterson@stotzeq.com

☐ Signature on all LOIs and POs with a signature line

☐ Contract name or number; or JD Quote ID

☐ Sold to street address

☐ Ship to street address (no PO box)

☐ Bill to contact name and phone number

☐ Bill to address

☐ Bill to email address (required to send the invoice and/or to obtain the tax exemption certificate

☐ Membership number if required by the contract

Quotes of equipment offered through contracts between Deere & Company, its divisions and subsidiaries (collectively “Deere”) and government agencies are subject to audit and access by Deere's Strategic Accounts Business Division to ensure compliance with the terms and conditions of the contracts.

ALL PURCHASE ORDERS MUST BE MADE OUT TO (VENDOR):

Deere & Company
2000 John Deere Run
Cary, NC 27513
FED ID: 36-2382580
UEID: FNSWEDARMK53

ALL PURCHASE ORDERS MUST BE SENT TO DELIVERING DEALER:

Stotz Equipment
997 North 1100 West
St George, UT 84770
435-673-4685
XX8395@stotzeq.com

Quote Summary

Prepared For:

Kanab City
UT

Delivering Dealer:

Stotz Equipment
Kyle Peterson
997 North 1100 West
St George, UT 84770
Phone: 435-673-4685
kpeterson@stotzeq.com

Customer agrees to read Operator's Manual before operation of equipment.

Quote ID:	30960435
Created On:	14 May 2024
Last Modified On:	14 May 2024
Expiration Date:	31 May 2024

Equipment Summary	Selling Price		Qty		Extended
JOHN DEERE 4052M Compact Utility Tractor (40 PTO hp) **Contract:** UT Grounds Maintenance Equip MA2184 (PG 3A CG 22) **Price Effective Date:** May 13, 2024	$ 39,733.37	X	1	=	$ 39,733.37
JOHN DEERE 485A Backhoe **Contract:** UT Grounds Maintenance Equip MA2184 (PG 3A CG 22) **Price Effective Date:** May 13, 2024	$ 12,669.26	X	1	=	$ 12,669.26
Frontier SS1067B - Broadcast Spreader **Contract:** UT Grounds Maintenance Equip MA2184 (PG 3A CG 22) **Price Effective Date:** May 13, 2024	$ 925.51	X	1	=	$ 925.51
Equipment Total					**$ 53,328.14**

* Includes Fees and Non-contract items

Quote Summary

Equipment Total	$ 53,328.14
Trade In	
SubTotal	**$ 53,328.14**
Est. Service Agreement Tax	$ 0.00

Salesperson : X _____

Accepted By : X _____

ALL PURCHASE ORDERS MUST BE MADE OUT TO (VENDOR):

Deere & Company
2000 John Deere Run
Cary, NC 27513
FED ID: 36-2382580
UEID: FNSWEDARMK53

ALL PURCHASE ORDERS MUST BE SENT TO DELIVERING DEALER:

Stotz Equipment
997 North 1100 West
St George, UT 84770
435-673-4685
XX8395@stotzeq.com

Total	$ 53,328.14
Down Payment	(0.00)
Rental Applied	(0.00)
Balance Due	**$ 53,328.14**

Salesperson : X _____ **Accepted By : X** _____

JOHN DEERE

Selling Equipment

STOTZ EQUIPMENT

Quote Id: 30960435 **Customer Name:**

ALL PURCHASE ORDERS MUST BE MADE OUT TO (VENDOR):
Deere & Company
2000 John Deere Run
Cary, NC 27513
FED ID: 36-2382580
UEID: FNSWEDARMK53

ALL PURCHASE ORDERS MUST BE SENT TO DELIVERING DEALER:
Stotz Equipment
997 North 1100 West
St George, UT 84770
435-673-4685
XX8395@stotzeq.com

JOHN DEERE 4052M Compact Utility Tractor (40 PTO hp)

Hours:

Stock Number:

Contract: UT Grounds Maintenance Equip MA2184 (PG 3A CG 22)

Selling Price *
$ 39,733.37

Price Effective Date: May 13, 2024

* Price per item - includes Fees and Non-contract items

Code	Description	Qty	List Price	Discount%	Discount Amount	Contract Price	Extended Contract Price
035BLV	4052M Compact Utility Tractor (40 PTO hp)	1	$ 38,450.00	18.60	$ 7,151.70	$ 31,298.30	$ 31,298.30
	Standard Options - Per Unit						
0202	United States	1	$ 0.00	18.60	$ 0.00	$ 0.00	$ 0.00
0409	English Operator's Manual and Decal Kit	1	$ 0.00	18.60	$ 0.00	$ 0.00	$ 0.00
1520	eHydro™	1	$ 1,418.00	18.60	$ 263.75	$ 1,154.25	$ 1,154.25
1718	Factory Installed Loader with Bucket	1	$ 8,513.00	18.60	$ 1,583.42	$ 6,929.58	$ 6,929.58
2000	Open Station with Standard Seat	1	$ 0.00	18.60	$ 0.00	$ 0.00	$ 0.00
4061	Less iMatch™ Quick Hitch Category 1	1	$ 0.00	18.60	$ 0.00	$ 0.00	$ 0.00
5240	16.9-24 (6PR, R4 Industrial, 2 Position)	1	$ -50.00	18.60	$ -9.30	$ -40.70	$ -40.70
6240	10-16.5 (6PR, R4 Industrial, 2 Position)	1	$ 172.00	18.60	$ 31.99	$ 140.01	$ 140.01
	Standard Options Total		**$ 10,053.00**		**$ 1,869.86**	**$ 8,183.14**	**$ 8,183.14**
	Dealer Attachments/Non-Contract/Open Market						
LVA19706	Oil Line	1	$ 116.60	18.60	$ 21.69	$ 94.91	$ 94.91
LVA19123	Oil Line	1	$ 192.90	18.60	$ 35.88	$ 157.02	$ 157.02
	Dealer Attachments Total		**$ 309.50**		**$ 57.57**	**$ 251.93**	**$ 251.93**
Total Selling Price			**$ 48,812.50**		**$ 9,079.13**	**$ 39,733.37**	**$ 39,733.37**

JOHN DEERE 485A Backhoe

JOHN DEERE

Selling Equipment

STOTZ EQUIPMENT

Quote Id: 30960435 **Customer Name:**

ALL PURCHASE ORDERS MUST BE MADE OUT TO (VENDOR):
Deere & Company
2000 John Deere Run
Cary, NC 27513
FED ID: 36-2382580
UEID: FNSWEDARMK53

ALL PURCHASE ORDERS MUST BE SENT TO DELIVERING DEALER:
Stotz Equipment
997 North 1100 West
St George, UT 84770
435-673-4685
XX8395@stotzeq.com

Equipment Notes:
Hours:
Stock Number:
Selling Price *
Contract: UT Grounds Maintenance Equip MA2184 (PG 3A CG 22) $ 12,669.26
Price Effective Date: May 13, 2024

* Price per item - includes Fees and Non-contract items

Code	Description	Qty	List Price	Discount%	Discount Amount	Contract Price	Extended Contract Price
6185LV	485A Backhoe	1	$ 14,927.00	18.60	$ 2,776.42	$ 12,150.58	$ 12,150.58
	Standard Options - Per Unit						
0202	United States	1	$ 0.00	18.60	$ 0.00	$ 0.00	$ 0.00
0409	English Operator's Manual and Decal Kit	1	$ 0.00	18.60	$ 0.00	$ 0.00	$ 0.00
1000	Subframe Mounting	1	$ 0.00	18.60	$ 0.00	$ 0.00	$ 0.00
3016	16 In. Bucket	1	$ 118.00	18.60	$ 21.95	$ 96.05	$ 96.05
	Standard Options Total		**$ 118.00**		**$ 21.95**	**$ 96.05**	**$ 96.05**
	Dealer Attachments/Non-Contract/Open Market						
BLV10969	Power Beyond Kit (Cab and OOS)	1	$ 519.20	18.60	$ 96.57	$ 422.63	$ 422.63
	Dealer Attachments Total		**$ 519.20**		**$ 96.57**	**$ 422.63**	**$ 422.63**
Total Selling Price			**$ 15,564.20**		**$ 2,894.94**	**$ 12,669.26**	**$ 12,669.26**

Frontier SS1067B - Broadcast Spreader

Equipment Notes:
Hours:
Stock Number:
Selling Price *
Contract: UT Grounds Maintenance Equip MA2184 (PG 3A CG 22) $ 925.51
Price Effective Date: May 13, 2024

* Price per item - includes Fees and Non-contract items

Code	Description	Qty	List Price	Discount%	Discount Amount	Contract Price	Extended Contract Price
3063XF	SS1067B - Broadcast Spreader	1	$ 1,126.00	18.60	$ 209.44	$ 916.56	$ 916.56

JOHN DEERE

Selling Equipment

STOTZ EQUIPMENT

Quote Id: 30960435 **Customer Name:**

ALL PURCHASE ORDERS MUST BE MADE OUT TO (VENDOR):

Deere & Company
2000 John Deere Run
Cary, NC 27513
FED ID: 36-2382580
UEID: FNSWEDARMK53

ALL PURCHASE ORDERS MUST BE SENT TO DELIVERING DEALER:

Stotz Equipment
997 North 1100 West
St George, UT 84770
435-673-4685
XX8395@stotzeq.com

Standard Options - Per Unit							
1000	iMatch Compatible	1	$ 11.00	18.60	$ 2.05	$ 8.95	$ 8.95
	Standard Options Total		**$ 11.00**		**$ 2.05**	**$ 8.95**	**$ 8.95**
Total Selling Price			**$ 1,137.00**		**$ 211.49**	**$ 925.51**	**$ 925.51**

KANAB
UTAH

DATE: August 13, 2024
TO: Mayor and City Council
SUBJECT: Truck Purchase
PREPARED BY: City Manager, Kyler Ludwig

Background:

During the FY 25 Budget the City set Funds within Water and Stormwater to purchase vehicles for the Public Works Department Staff.

Analysis:

Under the State Purchasing Contract staff is proposing the purchase of 3 GMC Sierra 3500HD (specs attached).

Staff is not proposing a surplus or trade of existing staff vehicles. The trucks replaced by this purchase will be used in other departments within the City.

Legal:

Approved as to form

Financial:

The purchase of these vehicles was contemplated and sufficient capital budget is available in the water and stormwater funds. The City will purchase plow attachments at a future date through the transportation fund.

Recommendations/Actions: It is recommended the City Council:

Approve the purchase the 3 GMC Sierra 3500 Trucks through the State Purchasing Contract.

Young Automotive Group

Kanab City

Vehicle: [Fleet] 2024 GMC Sierra 3500HD (TK30743) 4WD Crew Cab 159" SLE

Out of Inventory Government Price $63,238.00

Young Automotive Group

Vehicle: [Fleet] 2024 GMC Sierra 3500HD (TK30743) 4WD Crew Cab 159" SLE (Complete)

Selected Model and Options

MODEL

CODE	MODEL	MSRP	MSRP
TK30743	2024 GMC Sierra 3500HD 4WD Crew Cab 159" SLE	$58,100.00	$58,100.00

COLORS

CODE	DESCRIPTION
GAZ	Summit White

EMISSIONS

CODE	DESCRIPTION	FRONT WEIGHT	REAR WEIGHT	MSRP	MSRP
FE9	Emissions, Federal requirements	0.00 lbs	0.00 lbs	$0.00	$0.00

ENGINE

CODE	DESCRIPTION	FRONT WEIGHT	REAR WEIGHT	MSRP	MSRP
L5P	Engine, Duramax 6.6L Turbo-Diesel V8, B20-Diesel compatible (470 hp [350.5 kW] @ 2800 rpm, 975 lb-ft of torque [1322 Nm] @ 1600 rpm) (Includes (K05) engine block heater.)	602.00 lbs	47.00 lbs	$9,490.00	$9,490.00

TRANSMISSION

CODE	DESCRIPTION	FRONT WEIGHT	REAR WEIGHT	MSRP	MSRP
MGM	Transmission, Allison 10-speed automatic (Included and only available with (L5P) Duramax 6.6L Turbo-Diesel V8 engine. Not available with (PTO) Power take-off.)	3.00 lbs	2.00 lbs	Inc.	Inc.

GVWR

CODE	DESCRIPTION	FRONT WEIGHT	REAR WEIGHT	MSRP	MSRP
G4Y	GVWR, 12,100 lbs. (5488 kg) with single rear wheels (Included and only available with TK30743 model and (L5P) Duramax 6.6L Turbo-Diesel V8 engine. Requires single rear wheels.)	0.00 lbs	0.00 lbs	Inc.	Inc.

Young Automotive Group

Vehicle: [Fleet] 2024 GMC Sierra 3500HD (TK30743) 4WD Crew Cab 159" SLE (Complete)

AXLE

CODE	DESCRIPTION	FRONT WEIGHT	REAR WEIGHT	MSRP	MSRP
GU6	Rear axle, 3.42 ratio (Included and only available with (L5P) Duramax 6.6L Turbo-Diesel V8 engine.)	0.00 lbs	32.00 lbs	Inc.	Inc.

PREFERRED EQUIPMENT GROUP

CODE	DESCRIPTION	FRONT WEIGHT	REAR WEIGHT	MSRP	MSRP
3SA	SLE Preferred Equipment Group includes standard equipment	0.00 lbs	0.00 lbs	$0.00	$0.00

WHEELS

CODE	DESCRIPTION	FRONT WEIGHT	REAR WEIGHT	MSRP	MSRP
PXD	Wheels, 18" (45.7 cm) machined aluminum wheel with Dark Grey metallic accents (STD) (Requires single rear wheels. Included with (RFX) X31 Off-Road and Protection Package.)	-13.00 lbs	-13.00 lbs	$0.00	$0.00

TIRES

CODE	DESCRIPTION	FRONT WEIGHT	REAR WEIGHT	MSRP	MSRP
QF6	Tires, LT275/70R18E all-terrain, blackwall (STD) (Requires single rear wheels. Included with (RFX) X31 Off-Road and Protection Package.)	0.00 lbs	0.00 lbs	$0.00	$0.00

PAINT

CODE	DESCRIPTION	FRONT WEIGHT	REAR WEIGHT	MSRP	MSRP
GAZ	Summit White	0.00 lbs	0.00 lbs	$0.00	$0.00

SEAT TYPE

CODE	DESCRIPTION	FRONT WEIGHT	REAR WEIGHT	MSRP	MSRP
AZ3	Seats, front 40/20/40 split-bench with covered armrest storage and under-seat storage (lockable) (STD)	0.00 lbs	0.00 lbs	$0.00	$0.00

Vehicle: [Fleet] 2024 GMC Sierra 3500HD (TK30743) 4WD Crew Cab 159" SLE (Complete)

SEAT TRIM

CODE	DESCRIPTION	FRONT WEIGHT	REAR WEIGHT	MSRP	MSRP
H0U	Jet Black, Cloth seat trim	-1.00 lbs	-1.00 lbs	$0.00	$0.00

RADIO

CODE	DESCRIPTION	FRONT WEIGHT	REAR WEIGHT	MSRP	MSRP
IOK	Audio System, 13.4" diagonal Premium GMC Infotainment System with Google built in apps such as navigation and voice assistance, includes color touch-screen, multi-touch display, AM/FM stereo, Bluetooth streaming audio for music and most phones; featuring wireless Android Auto and Apple CarPlay capability for compatible phones. (STD)	0.00 lbs	0.00 lbs	$0.00	$0.00

Young Automotive Group

Vehicle: [Fleet] 2024 GMC Sierra 3500HD (TK30743) 4WD Crew Cab 159" SLE (Complete)

ADDITIONAL EQUIPMENT - PACKAGE

CODE	DESCRIPTION	FRONT WEIGHT	REAR WEIGHT	MSRP	MSRP
B59	Remote Start Package includes (BTV) Remote Start, (UTJ) content theft alarm and (C49) rear-window defogger (Included in (PDU) SLE Value Package.)	0.00 lbs	0.00 lbs	$525.00	$525.00
PCQ	SLE Convenience Package includes (KI4) 120-volt power outlet, (KC9) 120-volt bed-mounted power outlet, (CJ2) dual climate control, (A2X) 10-way power driver seat including power lumbar, (N37) manual tilt/telescoping steering column, (UBI) 2 charge-only USB ports and (T3U) LED fog lights; Single rear wheel models also include (U01) Roof Marker Lamps (Included with (PDU) SLE Value Package. Requires (B59) Remote Start Package. With (ZW9) pickup bed delete, (KC9) 120 -volt bed-mounted power outlet will be deleted. Note (U01) Roof Marker Lamps are not available with (YF5) California state emissions requirements on single rear wheels.)	0.00 lbs	0.00 lbs	$1,140.00	$1,140.00
PED	Sierra HD Pro Safety Plus Package includes (UKV) Trailer Side Blind Zone Alert, (UFG) Rear Cross Traffic Alert; Crew Cab and Double Cab models include (UVN) Bed View Camera, (UV2) HD Surround Vision and (TRG) Trailer Camera Provisions (Includes (UD7) Rear Park Assist and (UET) In Vehicle Trailering App. Requires (C49) rear-window defogger. Requires (DWI) trailer mirrors. Not available with (ZW9) Pickup bed delete.)	0.00 lbs	0.00 lbs	$1,540.00	$1,540.00
VYU	Snow Plow Prep/Camper Package includes (KW5) 220-amp alternator, includes increased front GAWR on Heavy Duty models, (NZZ) skid plates (transfer case and oil pan), pass through dash grommet hole and roof emergency light provisions. Contact GM Upfitter Integration at www.gmupfitter.com for plow installation details and assistance. Note: if ordered for Camper usage, recommend ordering (UY2) Trailering wiring provisions (Requires 4WD model and includes (KW5) 220-amp alternator and is upgradeable to (KHF) Dual alternators (220-amp primary, 170-amp auxiliary). Not available with (F60) Heavy Duty Front Spring/Camper Package.)	1.00 lbs	0.00 lbs	$150.00	$150.00

Young Automotive Group

Vehicle: [Fleet] 2024 GMC Sierra 3500HD (TK30743) 4WD Crew Cab 159" SLE (✓ Complete)

ADDITIONAL EQUIPMENT - MECHANICAL

CODE	DESCRIPTION	FRONT WEIGHT	REAR WEIGHT	MSRP	MSRP
___	Battery, heavy-duty dual 730 cold-cranking amps/70 Amp-hr maintenance-free with rundown protection and retained accessory power (Included and only available with (L5P) Duramax 6.6L Turbo-Diesel V8 engine.)	0.00 lbs	0.00 lbs	Inc.	Inc.
___	Capped Fuel Fill (Included and only available with (L5P) Duramax 6.6L Turbo-Diesel V8 engine or (ZW9) pickup bed delete.)	0.00 lbs	0.00 lbs	Inc.	Inc.
K05	Engine block heater (Included with (L5P) Duramax 6.6L Turbo-Diesel V8 engine.)	2.00 lbs	0.00 lbs	Inc.	Inc.
K40	Exhaust Brake (Included and only available with (L5P) Duramax 6.6L Turbo-Diesel V8 engine.)	0.00 lbs	0.00 lbs	Inc.	Inc.
KW5	Alternator, 220 amps (Included with (L5P) Duramax 6.6L Turbo-Diesel V8 engine or (VYU) Snow Plow Prep/Camper Package. Free flow on (L8T) 6.6L V8 gas engine.)	0.00 lbs	0.00 lbs	Inc.	Inc.
NQH	Transfer case, two-speed active electronic Autotrac with push button control (Requires 4WD models.)	9.00 lbs	5.00 lbs	$200.00	$200.00
NZZ	Skid Plates protect the oil pan, front axle and transfer case (Included with (X31) X31 Off-Road Package or (VYU) Snow Plow Prep/Camper Package.)	8.00 lbs	1.00 lbs	Inc.	Inc.

Young Automotive Group

Vehicle: [Fleet] 2024 GMC Sierra 3500HD (TK30743) 4WD Crew Cab 159" SLE (✓ Complete)

ADDITIONAL EQUIPMENT - EXTERIOR

CODE	DESCRIPTION	FRONT WEIGHT	REAR WEIGHT	MSRP	MSRP
BHP	Winter Grille Cover (Included and only available with (L5P) Duramax 6.6L Turbo-Diesel V8 engine.)	1.00 lbs	1.00 lbs	Inc.	Inc.
CGN	Bed Liner, Spray-on Pickup bedliner with GMC logo (does not include spray-on liner on tailgate due to Black composite inner panel) (Included with (RFX) X31 Off-Road and Protection Package, (Z6A) Gooseneck / 5th Wheel Prep Package or (PDU) SLE Value Package. Not available with (ZW9) pickup bed delete. Available with Ship Thru code (SQE), not available with any other Ship Thru code.)	3.00 lbs	43.00 lbs	$545.00	$545.00
DWI	Mirrors, outside power-adjustable vertical trailering with heated and auto-dimming upper glass lower convex mirrors, turn signal indicators, puddle lamps, (U12) perimeter lighting, auxiliary lighting, power folding/manual extending (extends 3.31" [84.25mm]), Black (Requires (PCQ) SLE Convenience Package Includes Perimeter Lighting and (DD8) auto-dimming rearview mirror.)	4.00 lbs	0.00 lbs	$450.00	$450.00
T3U	Fog lamps, LED (Included and only available with (PCQ) SLE Convenience Package.)	0.00 lbs	0.00 lbs	Inc.	Inc.
U01	Lamps, Smoked Amber roof marker, (LED) (Standard with dual rear wheels. Not available with (YF5) California state emissions requirements on single rear wheels. Included with (PCQ) SLE Convenience Package.)	2.00 lbs	0.00 lbs	Inc.	Inc.
UF2	LED Cargo Area Lighting located in cargo bed activated with switch on center switch bank or key fob (Included with (PDQ) Preferred Package. Not available with (ZW9) pickup bed delete.)	0.00 lbs	1.00 lbs	$125.00	$125.00

Young Automotive Group

Vehicle: [Fleet] 2024 GMC Sierra 3500HD (TK30743) 4WD Crew Cab 159" SLE (✓ Complete)

ADDITIONAL EQUIPMENT - INTERIOR

CODE	DESCRIPTION	FRONT WEIGHT	REAR WEIGHT	MSRP	MSRP
A2X	Seat adjuster, driver 10-way power including lumbar (Included and only available with (PCQ) SLE Convenience Package.)	7.00 lbs	5.00 lbs	Inc.	Inc.
BTV	Remote vehicle starter system (Included and only available with (B59) Remote Start Package.)	0.00 lbs	0.00 lbs	Inc.	Inc.
C49	Defogger, rear-window electric (Included with (B59) Remote Start Package or (PDU) SLE Value Package.)	0.00 lbs	0.00 lbs	Inc.	Inc.
CJ2	Air conditioning, dual-zone automatic climate control (Included and only available with (PCQ) SLE Convenience Package.)	1.00 lbs	0.00 lbs	Inc.	Inc.
DD8	Mirror, inside rearview auto-dimming (Included and only available with (DWI) trailer mirrors.)	1.00 lbs	0.00 lbs	Inc.	Inc.
KC9	Power outlet, bed mounted, 120-volt (400 watts shared with (KI4) instrument panel mounted power outlet) (Included and only available with (KI4) 120-volt AC power outlet. Not available with (ZW9) pickup bed delete.)	0.00 lbs	1.00 lbs	Inc.	Inc.
KI4	Power outlet, instrument panel, 120-volt (400 watts shared with (KC9) bed mounted power outlet) (Included and only available with (PCQ) SLE Convenience Package.)	3.00 lbs	2.00 lbs	Inc.	Inc.
N37	Steering column, manual Tilt-Wheel and telescoping (Included and only available with (PCQ) SLE Convenience Package. Beginning February 27, 2023 through June 4, 2023 certain vehicles will be forced to include (N37) manual tilt/telescoping steering column that will remove the (N33) Tilt-Wheel manual steering column. See the window label for the features on a specific vehicle.)	1.00 lbs	0.00 lbs	Inc.	Inc.
UBI	USB ports, (2) charge-only, rear (Included and only available with (PCQ) SLE Convenience Package.)	0.00 lbs	0.00 lbs	Inc.	Inc.
UET	In-Vehicle Trailering App System, includes checklist, trailer maintenance reminders, trailer security alerts, trailer mileage, tow/haul reminder, trailer electrical diagnostics and Trailer Tire Pressure Monitor System module (Included and only available with (PED) Sierra HD Pro Safety Plus Package or (PDQ) Preferred Package. Includes trailer tire pressure monitoring alert when (PTT) trailer tire pressure monitor sensors are installed.)	1.00 lbs	1.00 lbs	Inc.	Inc.

Vehicle: [Fleet] 2024 GMC Sierra 3500HD (TK30743) 4WD Crew Cab 159" SLE (Complete)

UTJ	Theft-deterrent system, unauthorized entry (Included and only available with (B59) Remote Start Package.)	0.00 lbs	0.00 lbs	Inc.	Inc.

ADDITIONAL EQUIPMENT - SAFETY-INTERIOR

CODE	DESCRIPTION	FRONT WEIGHT	REAR WEIGHT	MSRP	MSRP
R9L	Deleted 3 Years of OnStar Remote Access (Requires (UE1) OnStar. Required on vehicles being shipped to Puerto Rico, the Virgin Islands, or Guam.) *CREDIT*	0.00 lbs	0.00 lbs	($300.00)	($300.00)
TRG	Trailer Camera Provisions and trailer viewing software (Included and only available with (PED) Sierra HD Pro Safety Plus Package. Not available on Regular Cab models.)	2.00 lbs	1.00 lbs	Inc.	Inc.
UD7	Rear Parking Assist (Included and only available with (PED) Sierra HD Pro Safety Plus Package.)	0.00 lbs	0.00 lbs	Inc.	Inc.
UFG	Rear Cross Traffic Alert (Included and only available with (PED) Sierra HD Pro Safety Plus Package.)	0.00 lbs	0.00 lbs	Inc.	Inc.
UKV	Trailer Side Blind Zone Alert (Included and only available with (PED) Sierra HD Pro Safety Plus Package)	0.00 lbs	0.00 lbs	Inc.	Inc.
UV2	HD Surround Vision provides the driver with an overhead view of the scene around the vehicle on a center stack display. Includes front camera washer. (Included and only available with (PED) Sierra HD Pro Safety Plus Package. Not available on Regular Cab models.)	0.00 lbs	0.00 lbs	Inc.	Inc.
UVN	Bed View Camera camera in the CHMSL to show a view of the cargo bed, display located in infotainment screen, includes Two Trailer Camera Provisions (Included and only available with (PED) Sierra HD Pro Safety Plus Package. Not available on Regular Cab models or with (ZW9) pickup bed delete.)	0.00 lbs	1.00 lbs	Inc.	Inc.
	Options Total	**637.00 lbs**	**129.00 lbs**	**$13,865.00**	**$13,865.00**

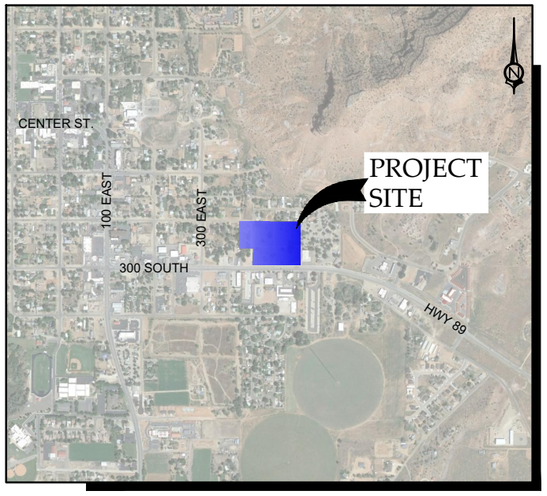
Young Automotive Group

Vehicle: [Fleet] 2024 GMC Sierra 3500HD (TK30743) 4WD Crew Cab 159" SLE (✓ Complete)

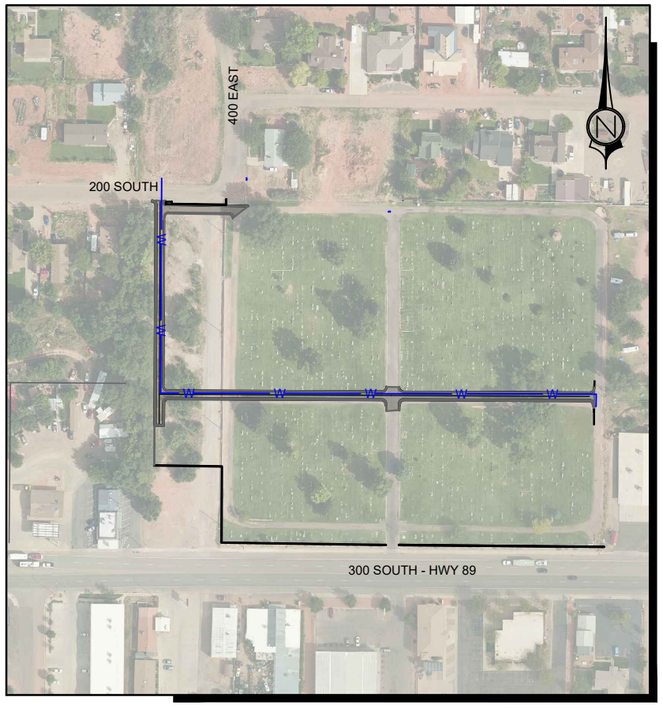
Note:Photo may not represent exact vehicle or selected equipment.

KANAB CEMETERY EXPANSION

CONSTRUCTION DRAWINGS
KANAB, UT
MAY, 2022



VICINITY MAP
(N.T.S.)



SHEET INDEX		
SHEET	#	TITLE
G1	1	COVER SHEET
G2	2	LEGEND & ABBREVIATIONS
G3	3	GENERAL NOTES
~~SP1~~	~~4~~	~~SITE & DEMOLITION PLAN~~
~~GP1~~	~~5~~	~~GRADING & DRAINAGE PLAN~~
~~LP1~~	~~6~~	~~LANDSCAPING PLANS~~
LP2-LP6	7-11	IRRIGATION PLANS
LP7-LP9	12-14	IRRIGATION DETAILS
~~DT1-DT2~~	~~15-16~~	~~CIVIL DETAILS~~

OWNER

KANAB UTAH
26 NORTH 100 EAST
KANAB, UTAH 84741
435.644.2534

PREPARED BY

CivilScience
1453 S DIXIE DRIVE, STE 150
ST. GEORGE, UT 84770
435.986.0100

STATE OF UTAH
Jeffrey K. Peay
356185-5301
LICENSED LANDSCAPE ARCHITECT
20MAY2022

THIS SEAL APPLIES TO ALL SHEETS CONTAINING THE INSCRIBED SIGNATURE

LICENSED PROFESSIONAL ENGINEER
CODY C. HOWICK
5/20/22
No.8159105
STATE OF UTAH

THIS SEAL APPLIES TO ALL SHEETS CONTAINING THE INSCRIBED SIGNATURE

811 Know what's below. Call before you dig.

PROJECT ENGINEER
AUSTIN WILCOX, E.I.T

LANDSCAPE ARCHITECT
JEFF PEAY, PLA

PROJECT MANAGER
CODY HOWICK, P.E.

CivilScience

REVISION NO.	DESCRIPTION	BY APP.	DATE

COVER SHEET

KANAB CEMETERY EXPANSION
CONSTRUCTION DRAWINGS

PROJ. #: Ex. 22138
DRAWN BY: ABJ
DESIGN BY: AW
CHECKED BY: CH
SHEET
G1

ABBREVIATIONS

AC	ACRE	GR	GRATE	UEC	UNDERGROUND ELECTRIC
AGGR	AGGREGATE	GV	GATE VALVE	UTBC	UNTREATED BASE COURSE
ALT.	ALTERNATE	HDPE	HIGH-DENSITY POLYETHYLENE	VAR.	VARIES
APPR.	APPROXIMATELY	HOR.	HORIZONTAL	VERT.	VERTICAL
AR MH	AIR RELEASE MANHOLE	HP	HIGH POINT	W	WEST
ARV	AIR RELEASE VALVE	HYD.	HYDRANT	WL	WATER LINE
AS	AS SHOWN	IN.	INCH		
ASSY.	ASSEMBLY	I.D.	INSIDE DIAMETER		
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	INS.	INSULATION		
		INV.	INVERT		
AVE	AVENUE	LB.	POUND		
BFV	BUTTERFLY VALVE	LEN.	LENGTH		
BFO	BURIED FIBER OPTIC	LF	LINEAR FEET		
BH	BORE HOLE	LP	LOW POINT		
BITUM.	BITUMINOUS	LT	LEFT		
BK	BACK	MAX	MAXIMUM		
BLV	BALL VAVLE	MFG.	MANUFACTURER		
B.O.	BY OTHERS	MH	MANHOLE		
BOA	BEGINNING OF ALIGNMENT	MIN.	MINIMUM		
BOP	BEGINNING OF PROJECT	MJ	MECHANICAL JOINT		
BTEL	BURIED TELEPHONE	MON.	MONUMENT		
BVC	BEGIN VERTICAL CURVE	N.	NORTH		
C&G	CURB AND GUTTER	NO.	NUMBER		
CB	CATCH BASIN	NTS	NOT TO SCALE		
C-C	CENTER TO CENTER	O.C.	ON CENTER		
CF	CUBIC FEET	O.D.	OUTSIDE DIAMETER		
CFS	CUBIC FEET PER SECOND	OH	OVERHEAD		
CI	CAST IRON	PC	POINT OF CURVATURE		
CIP	CAST IRON PIPE	PCC	POINT OF COMPOUND CURVATURE		
CL	CENTERLINE	PI	POINT OF INTERSECTION		
CMP	CORRUGATED METAL PIPE	PL	PROPERTY LINE		
CO	CLEANOUT	POLY	POLYETHYLENE		
CONC.	CONCRETE	POT.	POTABLE		
CONSTR.	CONSTRUCTION	PP	POWER POLE		
CSV	CURB STOP VALVE	PRC	POINT OF REVERSE CURVATURE		
CU	COPPER	PRV	PRESSURE REDUCING VALVE		
CY/CU YD	CUBIC YARD	PSI	POUNDS PER SQUARE INCH		
DBL	DOUBLE	PT	POINT OF TANGENCY		
DI	DUCTILE IRON	PVC	POLYVINYL CHLORIDE		
DIA/D	DIAMETER	PVI	POINT OF VERTICAL INTERSECTION		
DIP	DUCTILE IRON PIPE	PUE	PUBLIC UTILITY EASEMENT		
DR	DRIVE	RAD	RADIUS		
DWG	DRAWING	RCP	REINFORCED CONCRETE PIPE		
E.	EAST	REQ'D	REQUIRED		
EA.	EACH	ROW	RIGHT-OF-WAY		
EF	EACH FACE	RR	RAILROAD		
EG	EXISTING GRADE	RT	RIGHT		
EP	EDGE OF PAVEMENT	S.	SOUTH		
ELEC.	ELECTRICAL	SAN	SANITARY		
ELEV.	ELEVATION	SCH.	SCHEDULE		
ELOH	OVERHEAD ELECTRICAL	SD	STORM DRAIN		
EOA	END OF ALIGNMENT	SDR	STANDARD DIMENSION RATIO		
EOP	END OF PROJECT	SF/SQ FT	SQUARE FEET		
EQ	EQUAL	SHT	SHEET		
ESMT	EASEMENT	SIM.	SIMILAR		
EVC	END VERTICAL CURVE	SPA	SPACES		
EW	EACH WAY	SS	SANITARY SEWER		
EX.	EXISTING	ST	STREET		
EXT.	EXTENSION	ST. STL	STAINLESS STEEL		
FES	FLARED END SECTION	STA	STATION		
FH	FIRE HYDRANT	STD	STANDARD		
FL	FLOWLINE	SY/SQ YD	SQUARE YARD		
FM	FORCE MAIN	TEL	TELEPHONE		
FO	FIBER OPTIC	TBC	TOP BACK OF CURB		
FT.	FOOT/FEET	TBR	TO BE REMOVED		
GALV.	GALVANIZED	TW	TOP OF WALL		
GB	GRADE BREAK	TYP.	TYPICAL		

LEGEND

EXISTING	PROPOSED	
1850	1850	MAJOR CONTOUR
1850	1850	MINOR CONTOUR
	CUT	GRADING CUT LINE
	FILL	GRADING FILL LINE
		CURB AND GUTTER
		EDGE OF PAVEMENT
		EDGE OF GRAVEL
		STREET CENTERLINE
r/w	R/W	RIGHT-OF-WAY LINE
		PROPERTY LINE
		SECTION LINE
		SECTION CORNER
PUE	PUE	PUBLIC UTILITY EASEMENT
TCE	TCE	TEMPORARY CONSTRUCTION EASEMENT
X X	x x x	FIELD FENCE
		MASONRY WALL
SS	8"SS	SANITARY SEWER MAIN (SIZE AS NOTED)
S	S	SANITARY SEWER MANHOLE
W	8"W	WATER MAIN (SIZE AS NOTED)
		TEE
		CROSS
		GATE VALVE
		PRV
		AIR VAC
		FITTING
		STUB / CAP
		HYDRANT
		WATER METER
IRR	IRR	PRESSURIZED IRRIGATION
R	R	PRESSURE IRRIGATION SERVICE/VALVE
SD	18"SD	STORM DRAIN PIPE (SIZE AS NOTED
SD		CULVERT WITH FLARED END SECTION
D	D	STORM DRAIN MANHOLE
		STORM DRAIN CURB INLET

EXISTING	PROPOSED	
		STREET LIGHT
		SIGN (SINGLE POLE, 2 OR MORE POLES)
	00.00	IMPROVEMENT ELEVATIONS
		RIP-RAP
		PAVEMENT
		BASE COURSE
		SCARIFIED GROUND
		NATURAL GROUND
SECTION / DETAIL NUMBER	4 / 51 SHEET WHERE DRAWN	SECTION CALL-OUT SYMBOL
UEC	UEC	UNDERGROUND ELECTRIC LINE
ELOH	ELOH	OVERHEAD ELECTRIC LINE
BFO	1D	BURIED FIBER OPTIC LINE
BCTV	BCTV	BURIED CABLE TV
G	G	GAS LINE
BTEL	BTEL	BURIED TELEPHONE
TELOH	TELOH	OVERHEAD TELEPHONE
		POWER POLE
		GUY WIRE ANCHOR
EL.	E	ELECTRICAL BOX OR LOCKER
F.O.	F.O.	FIBER OPTIC PEDESTAL
	T	TELEPHONE PEDESTAL
T		TELEPHONE BOX
		GRADE TO DRAIN

CivilScience

NO.	DESCRIPTION	BY	APP.	DATE
REVISION				

LEGEND & ABBREVIATIONS

KANAB CEMETERY EXPANSION
CONSTRUCTION DRAWINGS

PROJ. #: Ex. 22138
DRAWN BY: ABJ
DESIGN BY: AW
CHECKED BY: CH

SHEET
G2

PLOT: 2022-06-01 01:01 PM
PATH: L:\UTAH\PROJECTS\ACTIVE 2022\PX22138.00 - KANAB CEMETERY EXPANSION\800 - CAD\840 - SHEETS\22138 - G.DWG

GENERAL:

1. STANDARD DRAWINGS & SPECIFICATIONS: ALL CONSTRUCTION SHALL CONFORM TO APWA MANUAL OF STANDARD PLANS AND APWA MANUAL OF STANDARD SPECIFICATIONS, LATEST EDITION UNLESS SPECIFIED OTHERWISE.
2. PROPERTY & CONSTRUCTION LIMITS: ALL CONSTRUCTION WORK INCLUDING VEHICLES, EQUIPMENT, MATERIALS, ETC. SHALL BE KEPT WITHIN EXISTING RIGHT-OF-WAY AND EASEMENTS OF THE PROJECT BOUNDARIES. CONSTRUCTION IS INTENDED TO BE WITHIN ROADWAY RIGHT-OF-WAY OR EASEMENTS. ANY WORK BEYOND CONSTRUCTION LIMITS IS TO BE APPROVED BY OWNER OR ENGINEER'S REPRESENTATIVE. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN WRITTEN RIGHT OF INGRESS AND EGRESS SHOULD THEY VENTURE ONTO PRIVATE PROPERTY WHICH IS NOT INCLUDED IN ACQUIRED RIGHTS-OF-WAY AND EASEMENTS.
3. EXISTING IMPROVEMENTS: CONTRACTOR SHALL TAKE NECESSARY MEASURES TO PRESERVE AND PROTECT EXISTING STRUCTURES, WALLS, DRIVEWAYS, TRAFFIC SIGNS, WATERWAYS, FENCES, LANDSCAPING, TREES, RIPRAP, DITCHES, ASPHALT AND CONCRETE PAVEMENTS, CURB AND GUTTER, MAILBOXES, SIDEWALK, AND OTHER IMPROVEMENTS. ANY SUCH IMPROVEMENTS REMOVED OR DAMAGED BY CONTRACTOR'S ACTIVITY SHALL BE REPLACED OR REPAIRED TO ORIGINAL OR BETTER CONDITION ACCORDING TO THE SPECIFICATIONS OF THE GOVERNMENTAL ENTITY HAVING JURISDICTION, AT THE SOLE EXPENSE OF THE CONTRACTOR.
4. TESTING: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED INSPECTION AND TESTING. WORK CONCEALED WITHOUT THE REQUIRED INSPECTION OR TESTING SHALL BE SUBJECT TO EXPOSURE AT THE CONTRACTOR'S SOLE EXPENSE.
5. NON-CONFORMING WORK: WORK PERFORMED WHICH IS NOT IN CONFORMANCE WITH THE DRAWINGS AND/OR SPECIFICATIONS OR WITHOUT OWNER OR ENGINEER REPRESENTATIVE'S APPROVAL SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S SOLE EXPENSE.
6. WORK HOURS & CONSTRUCTION NOISE: THE CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO DAYLIGHT HOURS ONLY AND NO CONSTRUCTION WORK WILL BE ALLOWED ON SATURDAYS, SUNDAYS, OR HOLIDAYS OBSERVED BY THE OWNER UNLESS OTHERWISE APPROVED BY THE OWNER OR ENGINEER'S REPRESENTATIVE.
7. OSHA COMPLIANCE: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL OSHA REGULATIONS AND STANDARDS ARE COMPLIED WITH ON THE PROJECT SITE DURING THE CONSTRUCTION PERIOD.
8. EPA COMPLIANCE: THE CONTRACTOR SHALL MEET ALL DEPARTMENT OF ENVIRONMENTAL QUALITY AND U.S. EPA REQUIREMENTS.
9. CONSTRUCTION ACTIVITIES: IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PERFORM CONSTRUCTION ACTIVITIES PER THE CONTRACT DOCUMENTS. ANY ADDITIONS, DELETIONS, OR MODIFICATIONS SHALL FIRST MEET WITH THE WRITTEN APPROVAL OF THE OWNER OR ENGINEER'S REPRESENTATIVE.
10. SETTLEMENT: CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ANY SETTLEMENT OF EXCAVATIONS, AND ANY DAMAGE OF UTILITIES RESULTING FROM SETTLEMENT.
11. SURVEY MONUMENTS: CONTRACTOR SHALL NOT DESTROY, REMOVE, OR DISTURB ANY EXISTING SURVEY MONUMENTS WITHOUT AUTHORIZATION OF CONTROLLING AGENCY. NO PAVEMENT CUTTING OR REMOVAL SHALL BEGIN UNTIL ALL SURVEY MARKERS OR MONUMENT POINTS THAT HAVE THE POTENTIAL OF BEING DISTURBED BY THE CONSTRUCTION OPERATIONS HAVE BEEN PROPERLY REFERENCED BY A REGISTERED LAND SURVEYOR. ALL SURVEY MONUMENTS OR POINTS DISTURBED BY THE CONTRACTOR SHALL BE ACCURATELY RESET BY A REGISTERED LAND SURVEYOR AFTER ALL RESTORATION AND RESURFACING HAS BEEN COMPLETED.
12. LANDSCAPE RESTORATION: CONTRACTOR SHALL STRIP, STOCKPILE, AND REPLACE EXISTING TOP SOIL (MINIMUM TOP 12 INCHES OF MATERIAL) WITHIN THE TRENCH CUT. CONTRACTOR SHALL GRADE AND RESTORE GROUND MATCHING OR EXCEEDING ORIGINAL LANDSCAPING CONDITIONS. THIS INCLUDES, BUT NOT LIMITED TO: TOPSOIL, GRASS, TREES, CONCRETE TRAIL, BOLLARDS, SPRINKLERS AND LANDSCAPE ROCKS, BARK AND VEGETATION. COORDINATE WITH OWNER ON LANDSCAPING PRIOR TO RESTORATION.
13. DISCREPANCIES, OMISSIONS AND CONFLICTS: THE CONTRACTOR SHALL NOTIFY THE OWNER OR ENGINEER'S REPRESENTATIVE OF ANY DISCREPANCIES, OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE DRAWINGS AND/OR SPECIFICATIONS BEFORE PROCEEDING WITH RELATED WORK.
14. CONSTRUCTION TIMELINE: THE CONTRACTOR RECOGNIZES THAT TIME IS OF THE ESSENCE WITH THIS PROJECT AND SHALL SELECT AND UTILIZE LABOR, EQUIPMENT, AND MATERIALS THAT MINIMIZE THE CONSTRUCTION TIMELINE. THE CONTRACTOR SHALL ALSO REGULARLY APPRISE THE OWNER OR ENGINEER'S REPRESENTATIVE OF THE ELEMENTS REQUIRING LONG LEAD, INSTALLATION OR CURE TIMES.
15. PRE-CONSTRUCTION DOCUMENTATION: PRIOR TO CONSTRUCTION, THE CONTRACTOR IS REQUIRED TO DOCUMENT WITH DIGITAL PHOTOGRAPH OR VIDEO THE EXISTING DRIVEWAYS, WALL, FENCES, SIDEWALKS, LANDSCAPING AND ALL OTHER ELEMENTS THAT WILL BE DISTURBED BY CONSTRUCTION. THE DOCUMENTATION MUST BE PROVIDED UPON THE REQUEST OF THE OWNER OR ENGINEER'S REPRESENTATIVE.
16. INCIDENTAL WORK: WORK INTENDED BY THE DRAWINGS AND SPECIFICATIONS, BUT NOT SPECIFICALLY IDENTIFIED IN A PARTICULAR BID ITEM SHALL BE CONSIDERED INCIDENTAL TO THE OTHER BID ITEMS.
17. LEGAL DISPOSAL: ANY DEBRIS RESULTING FROM THE PROJECT IS TO BE DISPOSED OF BY THE CONTRACTOR. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR DISPOSAL SITES AT WHICH DEBRIS MAY BE LAWFULLY WASTED.

UTILITIES:

1. EXISTING UTILITIES: UTILITIES SHOWN ON THE DRAWINGS ARE BASED ON THE BEST AVAILABLE INFORMATION PROVIDED BY OTHERS, AND SHOULD BE CONSIDERED APPROXIMATE AND FOR GENERAL INFORMATION ONLY. CONTRACTOR IS RESPONSIBLE TO LOCATE AND PROTECT ALL UTILITIES IN THE PROJECT AREA, INCLUDING THOSE THAT MAY NOT BE SHOWN OR THAT MAY BE SHOWN INCORRECTLY. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE REPAIR OF ANY UTILITY DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATIONS. RELOCATIONS AND/OR REPLACEMENTS OF EXISTING UTILITIES SHALL BE COORDINATED BY THE CONTRACTOR WITH THE UTILITY OWNER. CONTRACTOR SHALL CONTACT, SCHEDULE, AND ESTABLISH UTILITY SHUT DOWN TIMES AND DETERMINE THE RELOCATION AND/OR REPLACEMENT REQUIREMENTS OF EXISTING UTILITIES PRIOR TO THE START OF ANY WORK.

UTILITY CONTACT INFORMATION			
UTILITY COMPANY	**CONTACT NAME**	**UTILITY**	**TELEPHONE**
SOUTH CENTRAL COMMUNICATIONS	JENNI FISHER	TELEPHONE (BURIED)	435-676-0501
GARKANE ENERGY	MARK PALMER	POWER (OVERHEAD)	435-565-6926
KANAB CITY	JAKE DUTTON	CITY UTILITIES	435-889-9573

2. UTILITY FIELD VERIFICATION: CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND INVERT ELEVATIONS OF EXISTING MANHOLES, PIPE SIZES AND OTHER UTILITIES BEFORE CONSTRUCTING ANY NEW SEWER, WATER, STORM DRAIN OR OTHER UTILITY LINES. REPORT ANY DISCREPANCIES BETWEEN EXPECTED LOCATION AND ACTUAL LOCATION TO THE OWNER OR ENGINEER'S REPRESENTATIVE IMMEDIATELY.
3. ALIGNMENT & DEPTH: LAY PIPE TO DEPTH OR SPECIFIC SLOPE AND ALONG HORIZONTAL ALIGNMENT AS DEFINED IN THESE DRAWINGS. CONTRACTOR SHALL NOT DEVIATE FROM PROPOSED ALIGNMENT OR DEPTH. GRAVITY PIPE INSTALLATION SHALL REQUIRE LASER GRADE LINE BE USED AND WILL BE CHECKED PRIOR TO ANY PIPE ACCEPTANCE.
4. UTILITY IMPACTS: AVOID EXISTING UTILITIES WHERE POSSIBLE. WHERE IMPACTS TO UTILITIES ARE EXPECTED OR ENCOUNTERED, COORDINATED RELATED CONSTRUCTION ACTIVES AND REQUIRED UTILITY MODIFICATION WITH UTILITY OWNERS AND OWNER OR ENGINEER'S REPRESENTATIVE. THE CONTRACTOR SHALL INFORM AND COORDINATED PLANNED PROJECT CONSTRUCTION WITH ALL UTILITY OWNERS WITHIN PROJECT AREA PRIOR TO CONSTRUCTION.
5. FLOW DIVERSION: CONTRACTOR WILL BE REQUIRED TO DIVERT WATER OR WASTEWATER OF EXISTING FLOWS FOR FULL DURATION OF PROJECT.
6. UTILITY SHUTDOWN: ALL UTILITY SHUTDOWNS REQUIRE AT LEAST 72 HOURS IN ADVANCE OR AS REQUIRED BY UTILITY COMPANY.
7. TRENCH OPERATIONS: CONTRACTOR IS SOLELY RESPONSIBLE FOR CONFORMANCE WITH LOCAL AND FEDERAL CODES GOVERNING SHORING AND BRACING OF EXCAVATIONS AND TRENCHES. CONTRACTOR IS RESPONSIBLE FOR THE SAFETY OF THE PUBLIC AND PROTECTION OF PERSONNEL AND WORKERS. TRENCH SUPPORTS AND DEWATERING SHALL BE RESPONSIBILITY OF THE CONTRACTOR. MAXIMUM OPEN TRENCH DURING WORK HOURS SHALL BE 200 FEET AND ALL TRENCHES SHALL BE BACKFILLED AND/OR PLATED DURING NON-WORKING HOURS.
8. POT HOLING: CONTRACTOR SHALL VERIFY THE EXACT LOCATION, SIZE, TYPE, AND ELEVATION OF ALL UTILITIES PRIOR TO CONSTRUCTION BY POT HOLING A MINIMUM OF 400 FEET IN ADVANCE OF TRENCHING OPERATIONS TO CONFIRM CLEARANCE FROM THE PROPOSED PIPELINES.
9. NEW PIPE PROTECTION: CONTRACTOR SHALL IMPLEMENT MEASURES DURING CONSTRUCTION THAT WILL PREVENT RUNOFF, DEBRIS AND SEDIMENT FROM ENTERING UNFINISHED PORTIONS OF THE NEW PIPE DURING CONSTRUCTION.
10. DEWATERING: GROUND WATER AND SURFACE WATER CONTROL SHALL BE PERFORMED AND RESPONSIBLY HANDLED BY THE CONTRACTOR ACCORDING TO, AND IN COMPLIANCE WITH, ALL LOCAL GOVERNING AUTHORITIES. HEAVY GROUND WATER AND/OR SURFACE WATER PUMPING MAY BE REQUIRED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE POTENTIAL PUMPING NEEDS. THE CONTRACTOR SHALL NOT RELY ON OWNER SUPPLIED PROCTOR, GROUND WATER AND/OR SURFACE WATER DATA. CONTRACTOR SHALL OBTAIN DEWATERING PERMIT AS NECESSARY.
11. MATERIAL CONDITION: INSTALL ALL MATERIALS ACCORDING TO MANUFACTURER RECOMMENDATIONS AND STATE AND LOCAL REQUIREMENTS. USE ONLY NEW AND UNUSED MATERIALS. ALL MATERIALS SHALL BE PROVIDED BY MANUFACTURERS REGULARLY ENGAGED IN PRODUCING SAID ITEMS, AND WHICH SHALL BE FIRST QUALITY, HEAVY DUTY, COMMERCIAL/INDUSTRIAL GRADE, SUITABLE FOR THE INTENDED USE.

WATER

1. CONTRACTOR SHALL PROVIDE ANY ADDITIONAL TEMPORARY BLOW OFF VALVES & FITTINGS AS NEEDED TO FLUSH AND DISINFECT NEW WATERLINES. THE CONTRACTOR SHALL PROVIDE DISINFECTION PLAN TO THE OWNER OR ENGINEER'S REPRESENTATIVE FOR APPROVAL BEFORE BEGINNING CONSTRUCTION. TEMPORARY BLOWOFF & FITTINGS SHALL BE REMOVED PRIOR TO PUTTING NEW LINE INTO SERVICE.
2. WATERLINE SHALL BE MINIMUM SLOPE OF 0.3%, UNLESS INDICATED OTHERWISE, WITH NO LOCAL HIGH POINTS EXCEPT AS INDICATED ON THE DRAWINGS.
3. DEFLECTIONS IN PIPE JOINTS SHALL NOT EXCEED 5 DEGREES FOR DI PIPE, OR MANUFACTURER'S PUBLISHED DEFLECTIONS, WHICHEVER IS SMALLER.
4. USE JOINT RESTRAINT AT ALL BENDS, FITTINGS, VALVES, ETC. THRUST RESTRAINTS ARE REQUIRED FOR ALL BURIED FITTINGS.
5. ALL DUCTILE RON PIPE AND ALL COMPRESSION COUPLINGS, MECHANICAL JOINTS, FLANGED JOINTS, VALVES, HYDRANTS AND FITTINGS INCLUDING TEES, WYES, ELBOWS, PLUGS, ETC. EXPOSED TO SOIL SHALL BE WRAPPED WITH 8 MIL THICK POLYETHYLENE FILM TUBE. ALL FITTINGS, VALVES AND EXPOSED NUTS & BOLTS SHALL BE LIBERALLY COATED WITH FM GREASE PRIOR TO WRAPPING. THE FILM SHALL BE HELD IN PLACE BY 2-INCH WIDE PLASTIC BACKED ADHESIVE TAPE EQUAL TO POLYKEN NO. 900 OR SCOTCHRAP NO. 50. THE TAPE SHALL BE INSTALLED TO TIGHTLY SECURE THE FILM TO THE PIPE. ENOUGH FILM SHALL BE USED TO OVERLAP ADJOINING SECTIONS OF FILM A MINIMUM OF ONE (1) FOOT.
6. VALVES SHALL BE WRAPPED BY BRINGING THE WRAP ON THE ADJACENT PIPE OVER THE BELLS OR FLANGES OF THE VALVE AND SEALING WITH THE ADHESIVE TAPE. THE VALVE BODIES ARE THEN WRAPPED WITH A FLAT SHEET OF THE FILM PASSED UNDER THE VALVE BOTTOM AND BROUGHT UP AROUND THE BODY TO THE STEM AND FASTENED IN PLACE WITH THE ADHESIVE TAPE.
7. POLYETHYLENE WRAP SHALL BE PROTECTED FROM THE SUN AND WEATHERING PRIOR TO USE. CARE SHALL BE EXERCISED DURING BACK FILLING OF THE PROTECTED AREAS TO PREVENT PUNCTURING OF THE FILM.
8. ALL PVC WATER PIPE SHALL BE AWWA C-900 SDR-18 PC 235. ALL DUCTILE IRON PIPE SHALL BE CL350 MIN. ALL OTHER PIPE AND FITTINGS SHALL BE RATED TO 200 PSI MIN.
9. MINIMUM PIPE SEPARATION: MAINTAIN A MINIMUM 18" VERTICAL SEPARATION BETWEEN WATER LINES AND SEWER OR STORM DRAIN LINES. WHERE OWNER OR ENGINEER'S REPRESENTATIVE DETERMINES MECHANICAL COMPACTION CANNOT BE ADEQUATELY PERFORMED, CONTRACTOR SHALL BACKFILL TRENCH AREAS WHERE NEW WATER LINES CROSS OVER EXISTING BURIED UTILITIES WITH CEMENT TREATED FLOWABLE FILL. FOR EXISTING SEWER LINE CROSSINGS, CONTRACTOR SHALL COORDINATE WITH OWNER OR ENGINEER'S REPRESENTATIVE TO EITHER BACKFILL WITH CEMENT TREATED FLOWABLE FILL OR LOOP WATERLINE.
10. ABANDONED WATER PIPES SHALL HAVE INLETS AND OUTLETS SEALED WITH PIPE PLUGS AND GROUT.
11. CONTRACTOR SHALL PROTECT ADJACENT PRESSURE PIPELINES AND PROVIDE TEMPORARY THRUST RESTRAINT AS NECESSARY DURING CONSTRUCTION INCLUDING EXISTING VALVES, TEES, BENDS, ETC.
12. ALL EXISTING PUBLIC VALVES ARE TO BE OPERATED BY AUTHORIZED EMPLOYEES. GIVE PRIOR NOTICE TO OWNER OR ENGINEER'S REPRESENTATIVE BEFORE ANY WATERLINES REQUIRE SHUTOFF TO AVOID ANY AMBIGUITIES.

STORM DRAIN

1. CONTRACTOR WILL BE REQUIRED TO DIVERT WATER OF EXISTING STORM DRAIN FLOWS FOR FULL DURATION OF PROJECT.

POWER

1. CONTRACTOR SHALL COMPLY WITH SAFETY REQUIREMENTS FOR OPERATING CONSTRUCTION EQUIPMENT AND CONSTRUCTION ACTIVITIES BENEATH HIGH VOLTAGE POWER LINES.

FIRE

1. ON ANY BUILDING CONSTRUCTION SITE, ACCESSIBLE FIRE HYDRANTS SHALL BE INSTALLED BEFORE COMBUSTIBLE MATERIALS ARE DELIVERED TO THE SITE AND CONSTRUCTION COMMENCES. SAID FIRE HYDRANTS SHALL BE IN GOOD WORKING ORDER WITH REQUIRED WATER SUPPLY.
2. IF DURING CONSTRUCTION IT BECOMES NECESSARY TO CLOSE ANY CONTROL VALVE OR PLACE A HYDRANT OUT OF SERVICE, THE OWNER OR ENGINEER'S REPRESENTATIVE SHALL BE NOTIFIED.
3. UNOBSTRUCTED ACCESS TO FIRE HYDRANTS SHALL BE MAINTAINED AT ALL TIMES. THE FIRE DEPARTMENT SHALL NOT BE DETERRED OR HINDERED FROM GAINING IMMEDIATE ACCESS TO FIRE PROTECTION EQUIPMENT OR FIRE HYDRANT.

ROADWAY & TRAFFIC CONTROL

1. CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLAN AND ALL SIGNING BARRICADES AND TRAFFIC DELINEATION SHALL CONFORM TO THE PROJECT SPECIFICATIONS AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES - CURRENT EDITION. ALL TRAFFIC CONTROL PLANS ARE TO BE APPROVED BY OWNER OR ENGINEER'S REPRESENTATIVE PRIOR TO TRAFFIC CONTROL IMPLEMENTATION. PROVIDE A MINIMUM OF ONE WEEK FOR TRAFFIC CONTROL REVIEW AND APPROVAL.
2. CONTRACTOR SHALL MAINTAIN TWO-WAY TRAFFIC AT ALL TIMES WHILE CONSTRUCTION OCCURS AND ACCOMMODATE LOCAL AND THROUGH TRAFFIC. CONTRACTOR MAY NOT DISRUPT MAIL SERVICE TO RESIDENTS.
3. ALL LOCAL CITIES, COUNTIES, EMERGENCY SERVICES (I.E. HOSPITALS), SCHOOL DISTRICTS, AND PROPERTY OWNERS SHALL BE NOTIFIED OF LANE LIMITATION AND/OR ROAD CLOSURES 14 DYAS PRIOR TO COMMENCEMENT OF LIMITATION OR CLOSURE. CENTRAL DISPATCH OF EACH IMPACTED AGENCY AND ADJOINING ENTITIES SHALL RECEIVE NOTIFICATION.
4. BASE COURSE MATERIAL SHALL BOT BE PLACED ON THE SUBGRADE UNTIL SUBGRADE REQUIREMENTS HAVE BEEN COMPLETED AND ACCEPTED BY THE OWNER OR ENGINEER'S REPRESENTATIVE.
5. EXACT POINTS OF MATCHING, TERMINATION, OVERLAY AND PAVEMENT CUTTING MAY, WHERE APPLICABLE, BE DETERMINED IN THE FIELD BY THE OWNER OR ENGINEER'S REPRESENTATIVE.
6. NO PAVING CONSTRUCTION SHALL BE STARTED UNTIL ALL UNDERGROUND UTILITIES WITHIN THE ROADWAY ARE COMPLETED AND HAVE PASSED TESTING REQUIREMENTS.
7. ALL GRINDING AND/OR EPOXY PATCHING OF DAMAGED OR INCORRECTLY INSTALLED ELEMENTS SHALL NOT BE PERMITTED. ALL REPAIRS SHALL BE MADE BY REPLACING WHOLE UNITS.
8. NO MATERIALS OR EQUIPMENT OF ANY KIND SHALL BE STORED OR STOCKPILED ON NEWLY PAVED ASPHALT OR CONCRETE SURFACES.
9. ALL NEW PAVEMENTS AND CONCRETE SURFACE SHALL BE SWEPT CLEAN AND DEBRIS PROPERLY DISPOSED OF AND ALL SURVEY MONUMENTS SHALL BE FULLY INSTALLED AS WELL AS ALL UTILITY ADJUSTMENTS MADE PRIOR TO THE OWNER OR ENGINEER'S REPRESENTATIVE RECOMMENDING FINAL ACCEPTANCE.
10. ALL PAVEMENT MARKINGS SHALL COMPLY WITH THE REQUIREMENTS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES - CURRENT EDITION AND INSTALLED WITHIN FIVE DAYS OF COMPLETION OF THE FINAL LIFT OF ASPHALT. CONTRACTOR SHALL SPOT MARK THE ENTIRE PROJECT BEFORE APPLYING ANY PAVEMENT MARKINGS AND NOTIFY THE OWNER OR ENGINEER'S REPRESENTATIVE FOR ACCEPTANCE BEFORE APPLYING ANY PERMANENT MARKINGS.
11. WHEN STRIPING OBLITERATION IS REQUIRED, IT SHALL BE ACCOMPLISHED BY WATER BLASTING UNLESS OTHERWISE APPROVED BY OWNER OR ENGINEER'S REPRESENTATIVE AND MAY BE REQUIRED BEYOND THE PROJECT LIMITS SO THAT THE NEW STRIPING WILL MATCH PERMANENT EXISTING PAVEMENT MARKINGS. IF OBLITERATION CAUSES SHADOWING, OR IN THE OPINION OF THE OWNER OR ENGINEER'S REPRESENTATIVE WILL CAUSE CONFUSION ON THE PART OF THE DRIVER, THE CONTRACTOR SHALL SEAL THE AREA WITH SLURRY. APPLYING PAINT OVER STRIPING SHALL NOT CONSTITUTE STRIPE OBLITERATION.

QUANTITY TABLE

ITEM NO.	ITEM DESCRIPTION	UNIT	QTY
1	EXCAVATION	CY	510
2	3" PLANT-MIX BITUMINOUS PAVEMENT	SF	15,300
3	6" UNTREATED BASE COURSE	CY	290
4	TYPE G CURB & GUTTER	LF	1,275
5	8" PVC C900 DR18 WATERLINE	LF	1,100
6	2'X2' CATCH BASIN (OPTIONAL)	EA	1
7	6" HDPE STORM DRAIN PIPE (OPTIONAL)	LF	30
8	TYPE F CURB	LF	1,130
9	DECORATIVE MASONRY BLOCK WALL	LF	950
10	COLUMBARIUM	EA	1
11	SANDSTONE ENTRANCE SIGN	EA	1

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GENERAL NOTES

KANAB CEMETERY EXPANSION
CONSTRUCTION DRAWINGS

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CEMETERY EXPANSION

MANUAL DRAIN VALVE LOCATED AT LOW SPOT IN EACH ZONE, IF NO QUICK COUPLER INSTALLED

RPZ BACKFLOW DEVICE

STOP & WASTE VALVE

IRRIGATION POINT OF CONNECTION. CONNECT OFF EXISTING WATER SUPPLY LINE DIRECTLY AFTER THE WATER METER. INSTALL 1" IRRIGATION MAIN LINE, ISOLATION VALVE & BACKFLOW DEVICE.

INSTALL ONE (1) IRRIGATION CLOCK / CONTROLLER IN LOCKABLE WEATHERPROOF OUTDOOR PEDESTAL. SEE DETAILS. CONTROLLER REQUIRES A 110V POWER CONNECTION.

4" STUB FOR FUTURE SYSTEM IMPROVEMENTS

4" STUB FOR FUTURE SYSTEM IMPROVEMENTS

EXISTING PAVED ROAD

A

B

C

D

MANUAL DRAIN VALVE (LOW SPOT IN SYSTEM)

SLEEVE UNDER WALL FOR FUTURE DRIP SYSTEM

FUTURE DRIP CONNECTION CAP MAINLINE

SLEEVE UNDER WALL FOR FUTURE DRIP CONNECTION CAP MAINLINE

HIGHWAY 89

FUTURE DRIP CONNECTION CAP MAINLINE

IRRIGATION LEGEND

SYM	MANUF.	DESCRIPTION	UNIT	QTY
M	Approved	2" Meter as per city standards. Refer to details for installation.	EA	1
N	Wilkins	1 1/2" Reduced pressure zone backflow preventer, epoxy coated ductile iron body Item # 6CUN5 Mfr. #975XL2SEUSH	EA	1
	Mueller	2" Stop & waste valve. Install as per local code.	EA	1
C	Rainbird	ESPLXD-50-200 Refer to details	EA	1
	Rainbird	Control zone kit, model # XCZ-150-PRB-COM (Drip zones) (Or approved equal)	EA	1
	Rainbird	PEB - Series valve, See plan for size (Or approved equal)	EA	51
	Approved	Line size ball valve	EA	52
	Signature	1" Quick coupler	EA	17
	Approved	Manual drain valve. Installed at low point on main and drip lines. Refer to plans and details.	EA	23
	Rainbird	8005 Rotor w/ standard flow kit B81620 #12 nozzle TOTAL #12	EA	156
	Rainbird	8005 Rotor w/ standard flow kit B81620 #12 nozzle		
	Rainbird	8005 Rotor w/ standard flow kit B81620 #12 nozzle		
	Rainbird	8005 Rotor w/ standard flow kit B81620 #12 nozzle		
	Rainbird	8005 Rotor w/ standard flow kit B81620 #6 nozzle TOTAL #6	EA	51
	Rainbird	8005 Rotor w/ standard flow kit B81620 #6 nozzle		
	Rainbird	8005 Rotor w/ standard flow kit B81620 #6 nozzle		
	Rainbird	8005 Rotor w/ standard flow kit B81620 #6 nozzle		
	Rainbird	3504-FC-SAM-PRS Rotor w/ 3.0 nozzle	EA	2
	Rainbird	3504-PC-SAM-PRS Rotor w/ 2.0 nozzle	EA	7
	Rainbird	3504-PC-SAM-PRS Rotor w/ 1.5 nozzle	EA	44
	Rainbird	3504-PC-SAM-PRS Rotor w/ .75 nozzle	EA	5
	Approved	4" SCH 40 PVC mainline	LF	2,614
	Approved	SCH 40 PVC lateral line, 2"	LF	11,712
= = =	Approved	6" SCH 40 PVC sleeve. Number indicates number of sleeves in that location 3	LF	995
- - -	Toro	1" Blue stripe hose (Or approved equal)	LF	716
		2 Wire irrigation timer wire (Not shown on plans)	LF	2,472
		Weed barrier fabric see detail 2 on LP1	LF	6,525
		6" Landscape curb	LF	64

NOTES:

1. System design is based on maximum flow of 50 G.P.M. with 100 P.S.I. at irrigation control valves. Contractor shall verify flow rates and pressure and report any discrepancies to the Landscape Architect.
2. ZONES 4-6 & 24-28 Are all the new irrigation zones. All other zones are designed based upon new replacement plan for entire irrigation system.
3. SCH 40 PVC Lateral Lines, Size as noted on Plans Minimum lateral irrigation line size is 1"
4. Adjust head layout in the field as necessary to avoid conflicts with existing burial plots, headstones and trees.
5. Contractor shall install two 6" PVC spare conduit at each sleeve location under new roadway.

N

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IRRIGATION PLANS

KANAB CEMETERY EXPANSION
CONSTRUCTION DRAWINGS

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IRRIGATION POINT OF CONNECTION
WATER METER
STOP & WASTE VALVE
BACKFLOW PREVENTER
INSTALL ONE (1) IRRIGATION CLOCK / CONTROLLER IN LOCKABLE WEATHERPROOF OUTDOOR PEDESTAL. SEE DETAILS. CONTROLLER REQUIRES A 110V POWER CONNECTION.
SLEEVE UNDER WALL FOR FUTURE DRIP
FUTURE DRIP CONNECTION CAP MAINLINE
HIGHWAY 89

X1 1.5" 3.59
T2 2" 37.2
T3 2" 44.8
T4 2" 44.8
T6 2" 44.8
T7 2" 44.4
T8 2" 44.4
T9 2" 33.3
T10 2" 33.3
T11 2" 33.3
T12 2" 44.4
T13 2" 44.4
T14 2" 44.4
T1 2" 36

ZONE & FLOW CHART

ZONE I.D.	GPM	VALVE SIZE
T1	36	2"
T2	37.2	2"
T3	44.8	2"
T4	44.8	2"
X1	3.06	1.5"
T6	44.8	2"
T7	44.4	2"
T8	44.4	2"
T9	33.3	2"
T10	33.3	2"
T11	33.3	2"
T12	44.4	2"
T13	44.4	2"
T14	44.4	2"

ZONE I.D.
VALVE SIZE
G.P.M.

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IRRIGATION PLAN AREA A

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IRRIGATION PLANS

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ZONE & FLOW CHART

ZONE I.D.	GPM	VALVE SIZE
T15	33.3	2"
T16	44.4	2"
T17	33.3	2"
T18	44.4	2"
T19	44.4	2"
T20	44.4	2"
T21	44.4	2"
T22	44.4	2"
T23	44.4	2"
T24	27.7	2"

ZONE I.D.
VALVE SIZE — G.P.M.

CAP MAINLINE

SLEEVE UNDER DRIVE FOR FUTURE DRIP CONNECTION

T15 2" 33.3
T16 2" 44.4
T17 2" 33.3
T18 2" 44.4
T19 2" 44.4
T20 2" 44.4
T21 2" 44.4
T22 2" 44.4
T23 2" 44.4
T24 2" 27.7

B

HIGHWAY 89

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IRRIGATION PLAN AREA B

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IRRIGATION PLANS

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ZONE & FLOW CHART

ZONE I.D.	GPM	VALVE SIZE
T25	44.8	2"
T26	33.6	2"
T27	33.6	2"
T28	44.8	2"
T29	44.4	2"
T30	44.4	2"
T31	44.4	2"
T32	44.4	2"
T33	44.4	2"
T34	44.4	2"
T35	44.4	2"
T36	44.4	2"
T37	44.4	2"
T38	44.4	2"

ZONE I.D.
VALVE SIZE
G.P.M.

EXISTING PAVED ROAD

0 40
20

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IRRIGATION PLAN AREA C

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IRRIGATION PLANS

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ZONE & FLOW CHART

ZONE I.D.	GPM	VALVE SIZE
T39	44.4	2"
T40	44.4	2"
T41	44.4	2"
T42	44.4	2"
T43	44.4	2"
T44	44.4	2"
T45	44.4	2"
T46	44.4	2"
T47	44.4	2"
T48	33.3	2"
T49	33.3	2"
T50	44.4	2"
T51	44.4	2"

ZONE I.D.
VALVE SIZE
G.P.M.

EXISTING PAVED ROAD

CAP MAINLINE

SLEEVE UNDER DRIVE FOR FUTURE DRIP CONNECTION

0 40
20

Know what's below. Call before you dig.

IRRIGATION PLAN AREA D

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IRRIGATION PLANS

KANAB CEMETERY EXPANSION
CONSTRUCTION DRAWINGS

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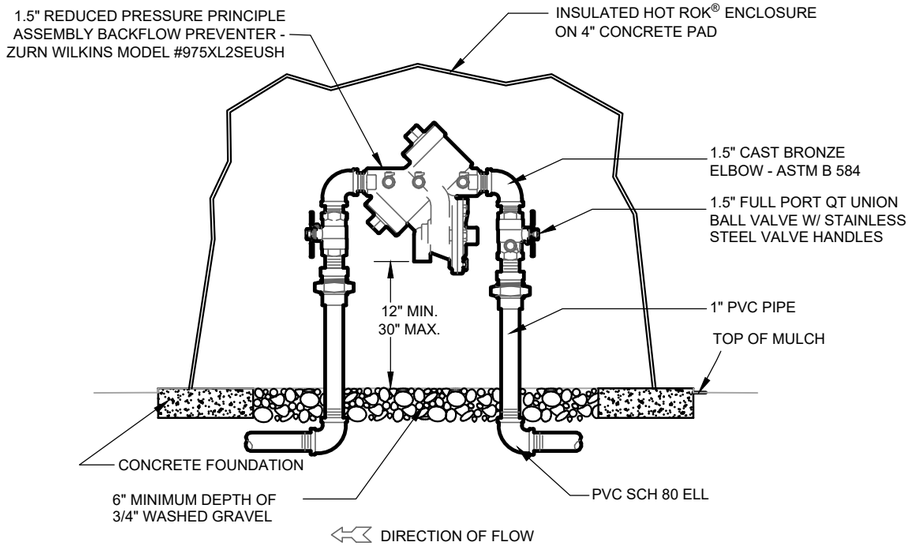
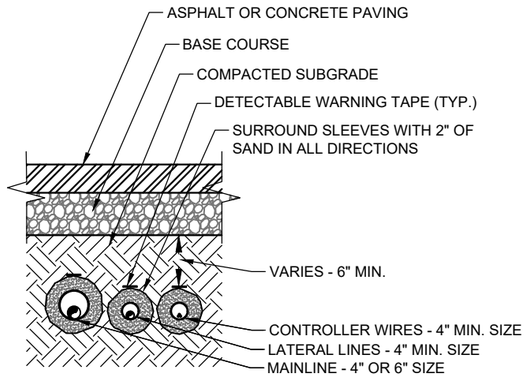


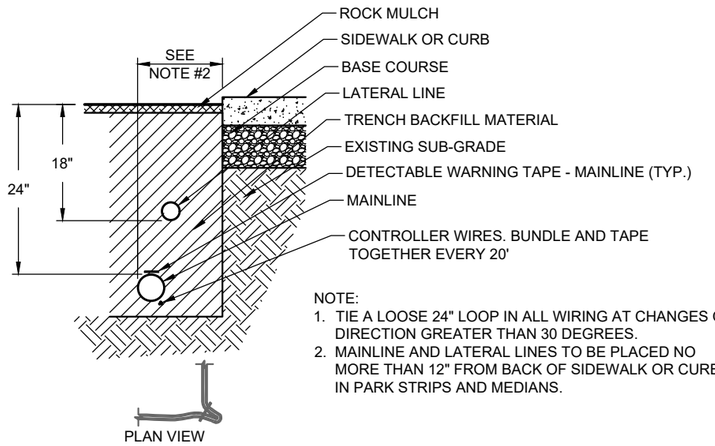
NOTES:
1. ENCLOSURE TO BE HOT BOX INSULATED FIBERGLASS ROK MODEL #HR015040030S. ENCLOSURE TO BE LIFT OFF TYPE IN TAN COLOR. REFER TO MANUFACTURERS SPECIFICATIONS FOR INSTALLATION DETAILS.
2. INSTALL BACKFLOW PREVENTER AS PER APWA SPECIFICATIONS AND MANUFACTURERS SPECIFICATIONS.

1 DETAIL - BACKFLOW PREVENTER & ENCLOSURE



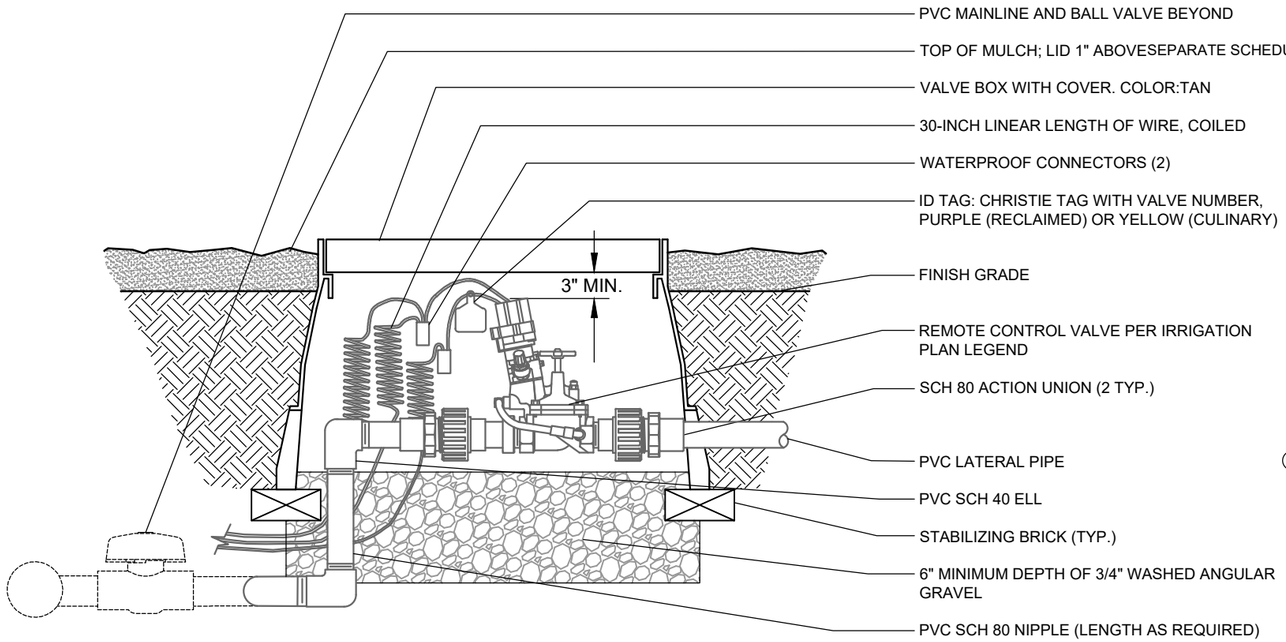
NOTE:
1. WHEN MULTIPLE PIPES OCCUR IN ONE TRENCH ADD MULTIPLE SLEEVES.
2. WIRES SHALL BE IN SEPARATE SLEEVE.

2 DETAIL - SLEEVE SECTION

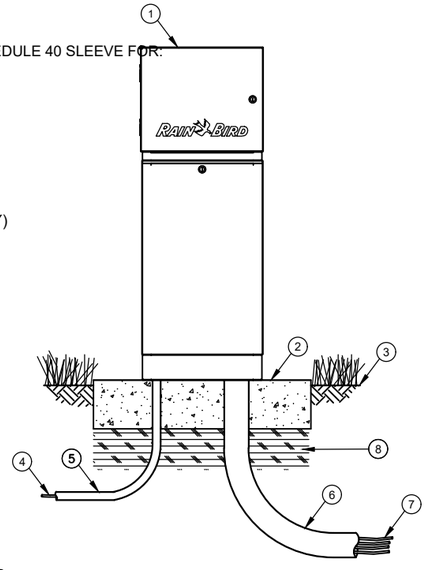


NOTE:
1. TIE A LOOSE 24" LOOP IN ALL WIRING AT CHANGES OF DIRECTION GREATER THAN 30 DEGREES.
2. MAINLINE AND LATERAL LINES TO BE PLACED NO MORE THAN 12" FROM BACK OF SIDEWALK OR CURB IN PARK STRIPS AND MEDIANS.

3 DETAIL - IRRIGATION TRENCH SECTION



4 DETAIL - REMOTE CONTROL IRRIGATION VALVE



1. IRRIGATION CONTROLLER: RAIN BIRD ESPLXD - 50-200 CONTROLLER WITH LXMM METAL CABINET AND LXMMPED METAL PEDESTAL. INSTALL CONTROLLER, CABINET AND PEDESTAL PER MANUFACTURER'S RECOMMENDATIONS.
2. CONCRETE PAD: 6-INCH MINIMUM THICKNESS
3. FINISH GRADE
4. POWER SUPPLY WIRE
5. 1-INCH SCH 40 PVC CONDUIT, FITTINGS AND SWEEP ELL FOR POWER SUPPLY
6. 3-INCH SCH 40 PVC CONDUIT, FITTINGS AND SWEEP ELL FOR STATION WIRES
7. WIRES TO REMOTE CONTROL VALVES
8. COMPACTED SUBGRADE

NOTES:
1. ESPLXD - 50-200 CONTROLLER TO INCLUDE 2-WIRE DECODER CONTROLLER.
2. FOR EASE OF INSTALLATION INTO A CONTROLLER WITH MORE THAN 48 STATIONS, INSTALL A JUNCTION BOX AT THE BASE OF CONTROLLER AND TRANSITION LARGER VALVE AND COMMON WIRES FROM FIELD TO 18 AWG MULTI CONDUCTOR WIRE TO BE USED IN CONTROLLER.
3. PROVIDE PROPER GROUNDING COMPONENTS TO ACHIEVE GROUND RESISTANCE OF 10 OHMS OR LESS.

5 DETAIL - ESPLXD 50-200 CONTROLLER IN METAL PEDESTAL

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IRRIGATION DETAILS

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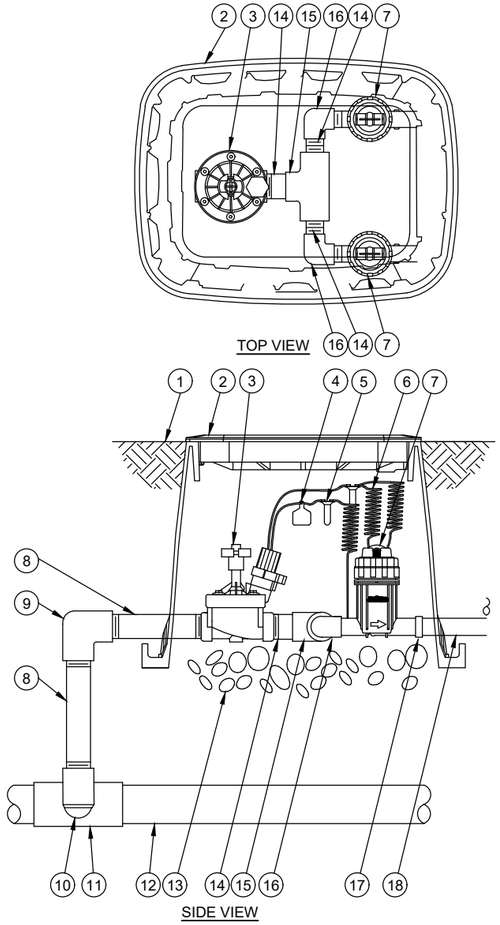
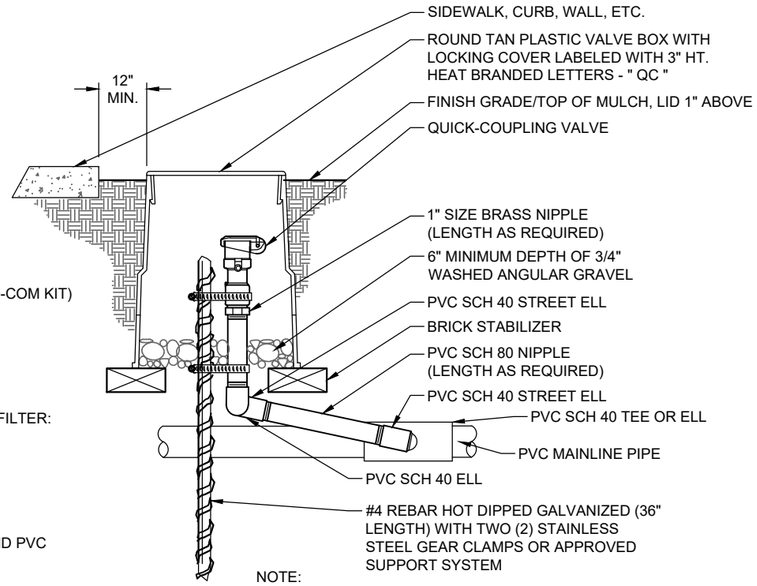


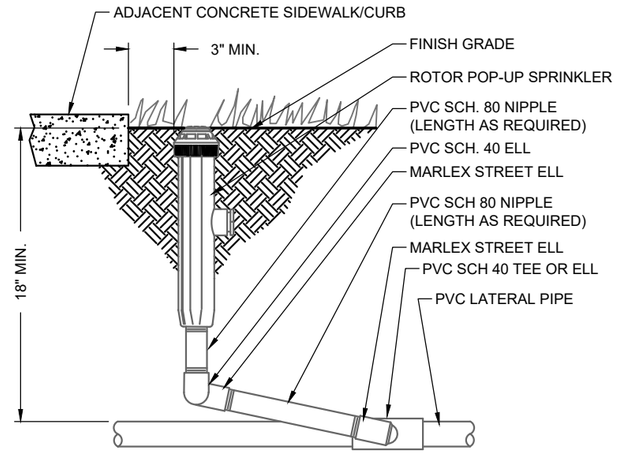
1. FINISH GRADE/TOP OF MULCH
2. VALVE BOX WITH COVER: RAIN BIRD VB-STD
3. REMOTE CONTROL VALVE: RAIN BIRD 150-PESB (INCLUDED IN XCZ-PRB-150-COM KIT)
4. ID TAG
5. WATERPROOF CONNECTION: RAIN BIRD DB SERIES
6. 30-INCH LINEAR LENGTH OF WIRE, COILED
7. PRESSURE REGULATING QUICK CHECK BASKET FILTER: RAIN BIRD PRB-QKCHK-100 (INCLUDED IN XCZ-PRB-150-COM KIT)
8. PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
9. PVC SCH 40 ELL
10. PVC SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND PVC SCH 40 ELL
11. PVC SCH 40 TEE OR ELL
12. MAINLINE PIPE
13. 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
14. PVC SCH 80 NIPPLE, CLOSE (INCLUDED IN XCZ-PRB-150-COM KIT)
15. PVC SCH 40 TEE (INCLUDED IN XCZ-PRB-150-COM KIT)
16. PVC SCH 40 ELL (INCLUDED IN XCZ-PRB-150-COM KIT)
17. PVC SCH 40 FEMALE ADAPTOR
18. LATERAL PIPE

1 DETAIL - COMMERCIAL CONTROL ZONE KIT IN VALVE BOX STRAIGHT CONFIGURATION

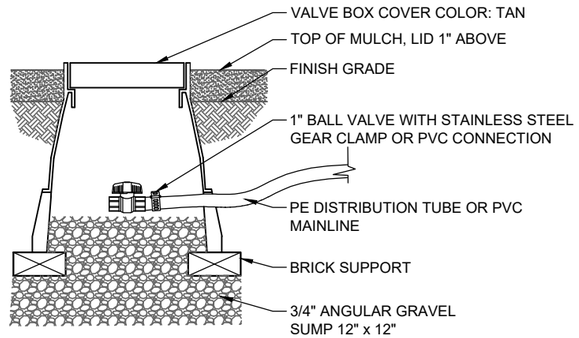


NOTE:
1. FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE.

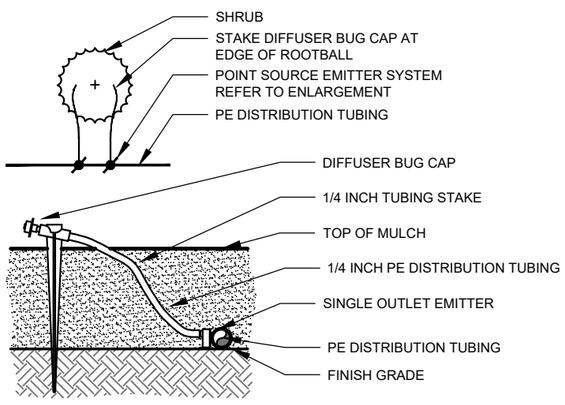
2 DETAIL - QUICK COUPLER



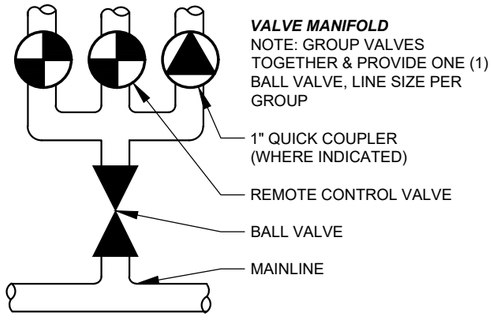
3 DETAIL - ROTOR POP UP SPRINKLER



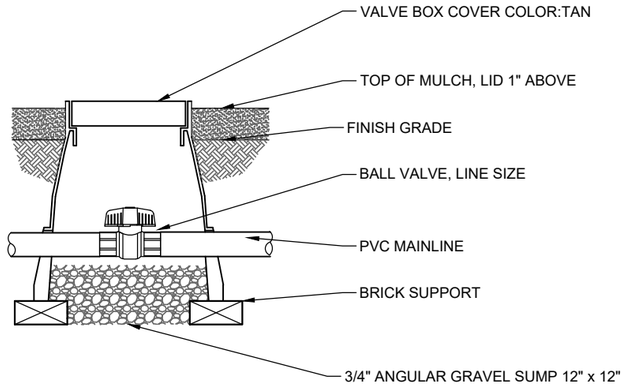
4 DETAIL - MANUAL DRAIN VALVE



5 DETAIL - SHRUB EMITTER LAYOUT



6 DETAIL - VALVE TIE IN CONFIGURATION



7 DETAIL - BALL VALVE

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IRRIGATION DETAILS

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CONSTRUCTION DRAWINGS

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IRRIGATION NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC ONLY. CONTRACTOR TO FIELD VERIFY DRAWINGS PRIOR TO ANY INSTALLATION OR ORDERING OF MATERIALS. NOTIFY LANDSCAPE ARCHITECTURE OF ANY DISCREPANCIES BETWEEN DRAWINGS AND SITE IF CONTRACTOR FAILS TO NOTIFY LANDSCAPE ARCHITECT, HE ASSUMES FULL RESPONSIBILITY FOR ANY NECESSARY ALTERATIONS TO THE SYSTEM.
2. ALL MATERIALS USED SHALL BE INSTALLED PER PLAN AND MANUFACTURER'S SPECIFICATIONS. DEVIATIONS FROM DRAWINGS OR MATERIALS USED SHALL BE APPROVED BY OWNER'S REPRESENTATIVE OR LANDSCAPE ARCHITECT.
3. IRRIGATION SYSTEM DESIGN IS BASED ON MAX FLOW OF 50 G.P.M. WITH AT LEAST 100 P.S.I. AT VALVES. CONTRACTOR TO FIELD VERIFY PRESSURE PRIOR TO STARTING IRRIGATION INSTALLATION. NOTIFY CONSULTANT OF ANY DIFFERENCE FROM STATED PRESSURE. IF CONTRACTOR FAILS TO NOTIFY CONSULTANT HE ASSUMES FULL RESPONSIBILITY FOR ANY SYSTEM ALTERATIONS.
4. CONTRACTORS SHALL CONNECT AT IRRIGATION P.O.C. AFTER WATER METER AND BEGIN A 2" SCHEDULE 40 PVC IRRIGATION MAIN LINE FOR THE SPRINKLER SYSTEM.
5. USE 2 WIRE CABLE, DOUBLE JACKETED 'MAXI CABLE', UNDERGROUND DIRECT BURIAL WIRE WITH SPEARS' DRI-SPLICE WIRE CONNECTORS OR SIMILAR, FOR ALL VALVE CONNECTIONS. ALL SPLICES MUST BE PLACED IN VALVE BOXES & PULL BOXES.
6. IRRIGATION CONTRACTOR RESPONSIBLE FOR ALL LANDSCAPE SLEEVING. CONTRACTOR TO COORDINATE SLEEVING INSTALLATION WITH CONCRETE FLATWORK AND PAVING. ALL SLEEVES TO BE EXTENDED AT LEAST 3" BEYOND CONCRETE STRUCTURES. ALL HARDSCAPE 4'-0" OR WIDER TO BE SLEEVED.
7. CONTRACTOR SHALL INSTALL ALL PIPING AND WIRING UNDER PAVED AREAS IN SLEEVES AS SHOWN ON PLANS. WIRE SHALL BE SLEEVED SEPARATELY FROM PIPING.
8. ALL MAIN LINE AND LATERAL LINE PIPE SHALL BE PVC SCHEDULE 40. ALL PIPE FITTINGS SHALL BE SHEDULE 40, EXCEPT WHERE SPECIFIED AS SCHEDULE 80 IN DETAILS. INSTALL ALL PRESSURE LINES AT A MINIMUM DEPTH OF 24". INSTALL LATERAL LINES AT A MINIMUM DEPTH OF 18". INSTALL TORO 1" BLUE STRIPE XERIGATION HOSE (OR APPROVED EQUAL) AND RAINBIRD DT-025 (OR APPROVED EQUAL) ABOVE TOPSOIL AND WEED BARRIER FABRIC. STAKE TUBING AT A MAX OF 8' INTERVALS AND COVER WITH ROCK MULCH.
9. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT SITE CONDITIONS AND EXISTING IRRIGATION SYSTEM (IF ANY). CONTRACTOR SHALL VERIFY LOCATION OF EXISTING UTILITIES PRIOR TO EXCAVATION. SHOULD DAMAGE BE INCURRED, THE CONTRACTOR SHALL REPAIR THE DAMAGE TO ITS ORIGINAL CONDITION AT HIS OWN EXPENSE.
10. THE OWNER RESERVES THE RIGHT TO REFUSE MATERIAL OR WORK WHICH DOES NOT CONFORM TO THESE DRAWINGS AND SPECIFICATIONS. REJECTED WORK SHALL BE REMOVED AND CORRECTED AS SOON AS POSSIBLE AT CONTRACTOR'S EXPENSE.
11. CONTRACTOR TO PROVIDE, INSTALL, AND SET UP ONE RAINBIRD CONTROLLER MODEL #LXD-50-100. CONTROLLER SHALL BE INSTALLED NEAR A 110 POWER OUTLET, ACTUAL LOCATION TO BE DETERMINED BY OWNER PRIOR TO INSTALLATION.
12. PRIOR TO OWNER APPROVAL, CONTRACTOR SHALL COMPLETE THE FOLLOWING:
   - 12.a. ALL IRRIGATION EQUIPMENT (INCLUDING PIPE LINES AND SLEEVES) TO BE DOCUMENTED FROM 2 STATIONARY POINTS.
   - 12.b. LABEL AND LAMINATE VALVE SCHEDULE, ATTACH TO INSIDE OF CONTROLLER.
   - 12.c. ALL IRRIGATION HEADS TO BE ADJUSTED TO THE PROPER HEIGHT.
13. CONTRACTOR SHALL ADJUST THE PERFORMANCE OF THE IRRIGATION SYSTEM FOR OPTIMUM PLANT GROWTH BASED ON ACTUAL SITE CONDITIONS, INCLUDING SOIL TYPES, SLOPE OR OTHER VARIABLES THAT MAY DEVIATE FROM PROJECT PLANS. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES BETWEEN PROJECT PLANS AND ACTUAL SITE CONDITION PRIOR TO INSTALLATION.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING THE INSTALLATION OF A FULLY FUNCTIONAL AUTOMATED IRRIGATION SYSTEM PRIOR TO STARTING PLANTING. IF THE IRRIGATION SYSTEM IS INTERRUPTED FOR ANY REASON THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTINUE MANUAL WATERING OF ALL TURF AND PLANT MATERIAL UNTIL THE IRRIGATION SYSTEM IS FULLY OPERATIVE.
15. THE CITY SHALL BE RESPONSIBLE FOR ALL WATER METER SETTINGS & SUPPLY LINE CONNECTIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL IRRIGATION CONNECTIONS DOWN STREAM OF THE WATER METERS.
16. REFER TO IRRIGATION SPECIFICATIONS AND DETAILS FOR INSTALLATION PROCEDURES.
17. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL PIPING NECESSARY TO PROVIDE A COMPLETE AND FULLY OPERATIONAL IRRIGATION SYSTEM INCLUDING ALL SUB-LATERAL PIPING TO EACH PLANT EMITTER AS SPECIFIED AND DETAILED WHETHER OR NOT PIPING IS SHOWN ON PLANS.
18. REFER TO GENERAL CONSTRUCTION NOTES FOR ADDITIONAL CONSIDERATIONS THAT RELATE TO SCOPE OF WORK WITHIN THIS SECTION.
19. IRRIGATION CONTRACTOR SHALL PROVIDE 100% HEAD TO HEAD COVERAGE IN ALL TURF AREAS. FIELD ADJUST HEAD LOCATIONS AS REQUIRED. ACTUAL SITE CONDITIONS MAY VARY FROM DRAWINGS AND NECESSITATE ADJUSTMENT OF HEAD LAYOUT, NOZZLES OR QUANTITIES OF HEADS AT NO ADDITIONAL COST TO THE OWNER.
20. POP UP AND ROTOR HEADS SHALL BE LOCATED 1" WAY FROM AND 1/4" BELOW EXISTING ADJACENT CURBS, WALLS, WALKS AND MOWSTRIPS.

DISTANCE CHART:

REFER TO THE FOLLOWING TABLE THAT LISTS THE LENGTH (IN FEET) FOR EACH SIZE/TYPE FITTING WITHIN WHICH ALL JOINTS JUST BE RESTRAINED. ALL FITTINGS AND JOINT RESTRAINTS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS & SPECIFICATIONS.

AS AN EXAMPLE, IF YOU ARE INSTALLING A 3" MAINLINE WITH A DIRECTIONAL CHANGE OF 90°, REFER TO CHART UNDER PIPE SIZE TO 3" AND UNDER BENDS 90 YOU WILL SEE THE DISTANCE OF 11'. IF THERE IS ANY JOINT (VALVE, BELL, ETC.) YOU MUST INSTALL A JOINT RESTRAINT WITHIN 11' OF THE 90° MAINLINE DIRECTIONAL CHANGE.

PIPE SIZE	BENDS				REDUCERS			DEAD END	
	11°	22°	45°	90°	1 STEP	2 STEP	3 STEP	BLIND	SERV. B.
2"	1'	1'	2'	6'	-	-	-	19'	6'
2.5"	1'	2'	4'	9'	4'	-	-	23'	10'
3"	2'	3'	6'	11'	8'	10'	-	30'	15'
4"	2'	4'	9'	20'	14'	20'	31'	45'	25'
6"	3'	6'	13'	29'	30'	40'	53'	63'	40'
8"	4'	8'	15'	38'	33'	55'	63'	75'	70'
10"	5'	9'	19'	45'	36'	56'	75'	96'	90'
12"	5'	10'	21'	53'	38'	60'	83'	112'	110'

INSTALLATION CHART

REFER TO THE FOLLOWING TABLE WHICH LISTS THE NUMBER OF BOLTS, SIZE, AND TORQUE FOR EACH BOLT IN REFERENCE TO THE SIZE OF PIPE WHICH IS BEING RESTRAINED.

AS AN EXAMPLE, IF YOU HAVE A 3" PIPE, YOU WILL NEED 2 BOLTS THAT ARE 3/8 X 2.5" AND TIGHTEN THEM WITH A TORQUE WRENCH TO 20 FT-LBS.

PIPE SIZE	NO. BOLTS	BOLT SIZE	TORQUE FT-LBS.
2"	2"	3/8" x 2.5"	20
2.5"	2"	3/8" x 2.5"	20
3"	2"	3/8" x 2.5"	20
4"	2"	1/2" x 3"	50
6"	2"	1/2" x 3.5"	50
8"	4"	1/2" x 4"	50
10"	4"	5/8" x 5.5"	100
12"	4"	5/8" x 5.5"	100

CONTACT TONY GARNER @ (208) 631-7787, THE LEEMCO REPRESENTATIVE, FOR ALL QUESTIONS CONCERNING LEEMCO PRODUCTS. COORDINATE AN INSTALLATION CLINIC WITH TONY GARNER PRIOR TO INSTALLING THE MAINLINE.

NOTE: INSTALL PER MANUFACTURERS STANDARDS

INSTALLATION CHART

All tees, Bends, Reducers and End Caps should be restrained using LH-Series restraints. A certain number of joints
before and after a restrained fitting may also require joint restraints as set forth in Tables below.
Below Tables establish values for the minimum length of pipe ("L") within which other joints must be restrained.
Values (in feet/meters) are based on 125 PSI line pressure, 24" cover, Sandy-Clay type soil and a safety factor of 2.
For other line pressures, multiply the "L" values by the actual pressure and divide by 125.

1 JOINT RESTRAINT DETAIL

NOT TO SCALE

GENERAL CONSTRUCTION NOTES:

1. NOTES SHALL BE USED FOR GENERAL REFERENCE IN CONJUNCTION WITH ALL WORK ELEMENTS SHOWN ON THE ENCLOSED PLANS.
2. VERIFY CRITICAL DIMENSIONS, REFERENCE POINT LOCATIONS, AND CONSTRUCTION CONDITIONS PRIOR TO INITIATING WORK. NOTIFY OWNER'S REPRESENTATIVE SHOULD CONFLICTS ARISE.
3. REFER TO ENGINEERING PLANS FOR CONSTRUCTION AND GRADING CONSIDERATIONS OF THE SITE. CROSS REFERENCE WORK THAT MAY IMPACT IMPROVEMENTS SHOWN ON THESE DOCUMENTS.
4. LANDSCAPE CONTRACTOR SHALL ACCEPT THE SITE AND ALL GRADING AT +/- 3"
5. CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS BEFORE CONSTRUCTION.
6. CONTRACTOR SHALL ADHERE TO ALL LOCAL, STATE, AND/OR FEDERAL LAWS PERTAINING TO THE PROJECT'S WORK.
7. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL CONSTRUCTION ELEMENTS WITH OTHER TRADES PRIOR TO INSTALLATION AND BECOME FAMILIAR WITH THE LOCATIONS OF UNDERGROUND SERVICES AND IMPROVEMENTS.
8. THE CONTRACTOR SHALL EXAMINE THE SITE AND FULLY DETERMINE THE CONDITIONS UNDER THIS CONTRACT. NO ALLOWANCE WILL BE MADE FOR FAILURE OF BIDDERS TO ASCERTAIN ALL ASPECTS OF THE PROJECT.
9. PRIOR TO DIGGING, EXCAVATION, OR UNDERGROUND WORK, CONTRACTOR SHALL CONTACT BLUESTAKES TO LOCATE AND PROTECT EXISTING UTILITIES AND SUBSURFACE SYSTEMS. CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR REPAIR AND EXPENSES INCURRED TO UTILITIES THAT BECOME DAMAGED AS A RESULT OF HIS WORK.
10. CONTRACTOR SHALL INSPECT WITH OWNER'S REPRESENTATIVE ALL PAVEMENT, SIDEWALK AND CURB DEFECTS PRIOR TO BEGINNING WORK. ALL HARDSCAPE SHALL BE RE-INSPECTED DURING FINAL INSPECTION. ANY DAMAGED AREAS SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE.
11. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE QUANTITIES AND MATERIALS REQUIRED TO COMPLETE THE WORK IN ACCORDANCE WITH THE PLANS.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING GRADES AS ESTABLISHED BY THE PROJECT ENGINEER. RUNOFF AND DRAINAGE FLOWS SHALL NOT BE ALTERED OR IMPEDED.
13. THE CONTRACTOR SHALL FURNISH ALL LABOR, TOOLS, EQUIPMENT, MATERIALS, EMPLOYEE, AND SUBCONTRACTOR SUPERVISION FOR IT'S PORTION OF THE PROJECT TO IMPLEMENT PLANS AND SPECIFICATIONS.
14. THE CONTRACTOR ASSUMES ALL RISKS IN THE PERFORMANCE OF THE WORK AND RE-RESPONSIBILITY FOR LOSS AND EXPENSE RESULTING FROM ON-SITE INJURY.
15. THE CONTRACTOR IS RESPONSIBLE FOR SUPERVISION, SAFETY, ADMINISTRATION SCHEDULING, COORDINATION AND MANAGEMENT OF SUBCONTRACTORS.
16. THE CONTRACTOR SHALL PROTECT ALL PERSONS NEAR OR ON THE PREMISES FROM UNREASONABLE RISK OF INJURY. PROVIDE WARNING SIGNS, LIGHTS, BARRICADES, RAILINGS, FLAGMEN OR OTHER NECESSARY SAFEGUARD.
17. THE CONSULTANTS INSPECTIONS SHALL NOT BE DEEMED SUPERVISION OR CONTROL OF CONSTRUCTION BY CONTRACTOR OR SUBCONTRACTORS.
18. ALL CONTRACTS SHALL BE WRITTEN DIRECTLY BETWEEN CONTRACTOR AND THE OWNER. SPECIFIC TERMS OF WORK SHALL BE NEGOTIATED DIRECTLY BETWEEN PARTIES. THE CONSULTANT SHALL NOT BE RESPONSIBLE FOR DISCREPANCIES IN CONTRACT, PAYMENT AMOUNTS, SCHEDULE OR QUALITY OF WORKMANSHIP.
19. IF REQUIRED AS PART OF THE AGREED SCOPE OF WORKS, THE CONSULTANT AGREES TO REVIEW SHOP DRAWINGS, PRODUCT DATA AND SAMPLE SUBMITTED BY THE CONTRACTOR AS PART OF A CONSTRUCTION ADMINISTRATION CONTRACT FOR THE SOLE PURPOSE OF COMPLIANCE WITH THE DESIGN CONCEPT AND WITH INFORMATION GIVEN NOT BEEN REVIEWED AND AUTHORIZED IN WRITING.
20. WHERE TWO OR MORE REQUIREMENTS CREATE OVERLAPPING CONDITIONS, CONFLICTING, MINIMUMS OR LEVELS OF QUALITY, THE MORE STRINGENT REQUIREMENTS OR THE HIGHER QUALITY LEVEL IS INTENDED, AND SHALL BE ENFORCED. CONFLICTING REQUIREMENTS SHALL B REFERRED TO THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE WHOSE INTERPRETATION SHALL BE FINAL.

MAINTENANCE & GUARANTEE:

1. LANDSCAPE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE FIVE (5) DAYS PRIOR TO COMPLETING IMPROVEMENTS IN ACCORDANCE WITH PLANS AND SPECIFICATIONS TO REQUEST AN INSPECTION FOR SUBSTANTIAL COMPLETION. LANDSCAPE ARCHITECT SHALL PREPARE PUNCHLIST OF ALL WORK REQUIRING CORRECTION. MAINTENANCE PERIOD SHALL BEGIN WHEN ALL PUNCHLIST ITEMS ARE CORRECTED.
2. PLANTS NOT IN HEALTHY CONDITION OVER A ONE YEAR WARRANTY PERIOD SHALL BE REMOVED AND REPLACED AT NO COST TO THE OWNER.
3. PROVIDE ONE (1) YEAR WRITTEN GUARANTEE TO WARRANT IRRIGATION SYSTEM AND ALL TREES FROM ACCEPTANCE DATE.
4. IN ORDER TO PROTECT HIS GUARANTEE, LANDSCAPE CONTRACTOR SHALL GIVE PRINTED MAINTENANCE INSTRUCTIONS FOR THE YEARLY CARE AND FEEDING OF THE LANDSCAPE.
5. AS BUILT DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR FOR ACTUAL AS BUILT CONDITIONS ON SITE AS IT RELATES TO THE LANDSCAPE AND IRRIGATION SYSTEM. THESE PLANS SHALL BE SUBMITTED TO THE OWNER AT FINAL INSPECTION.

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IRRIGATION DETAILS

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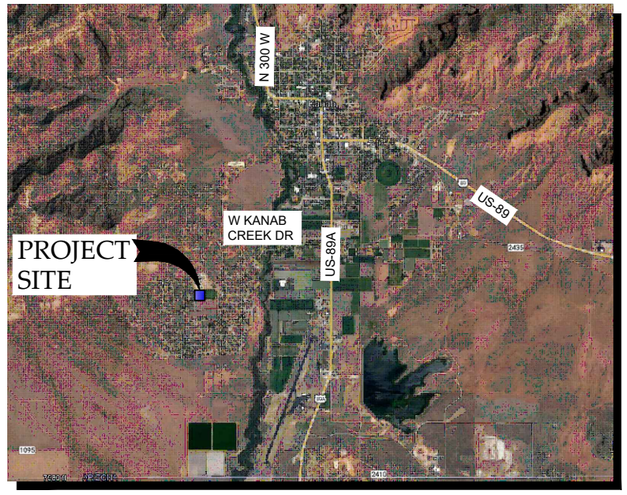
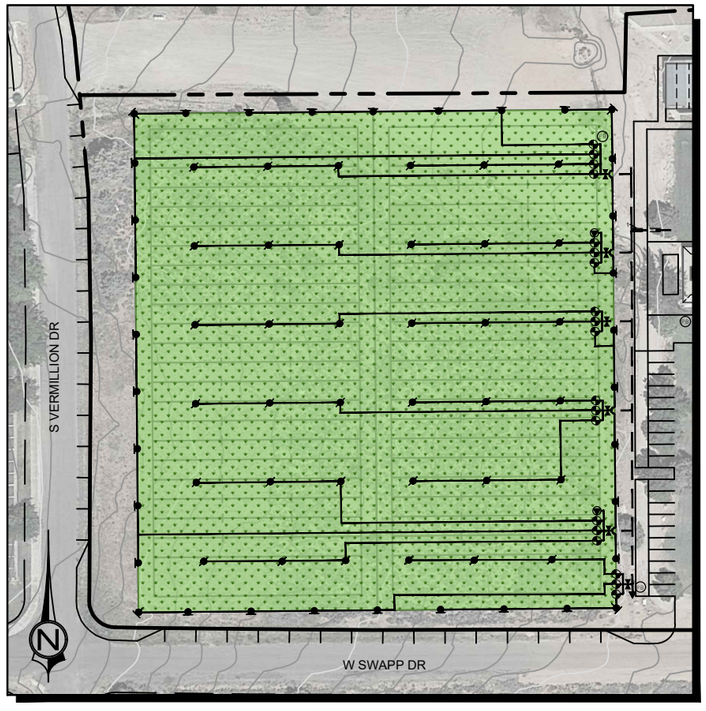
RANCHOS PARK IRRIGATION

CONSTRUCTION DRAWINGS
KANAB, UT
FEB, 2024



VICINITY MAP
(N.T.S.)



SHEET INDEX		
SHEET	#	TITLE
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IR3	5	IRRIGATION DETAILS
IR4	6	IRRIGATION DETAILS

OWNER

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26 NORTH 100 EAST
KANAB, UTAH 84741
435.644.2534

PREPARED BY

CivilScience
1453 S DIXIE DRIVE, STE 150
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CONTAINING THE INSCRIBED SIGNATURE

LANDSCAPE ARCHITECT
JEFF PEAY, PLA

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REVISION NO.	DESCRIPTION	BY AWR	DATE

NOT FOR CONSTRUCTION

COVER SHEET

RANCHOS PARK IRRIGATION
CONSTRUCTION DRAWINGS

PROJ. #: Ex. 23399.00	
DRAWN BY: JG	
DESIGN BY: JG	
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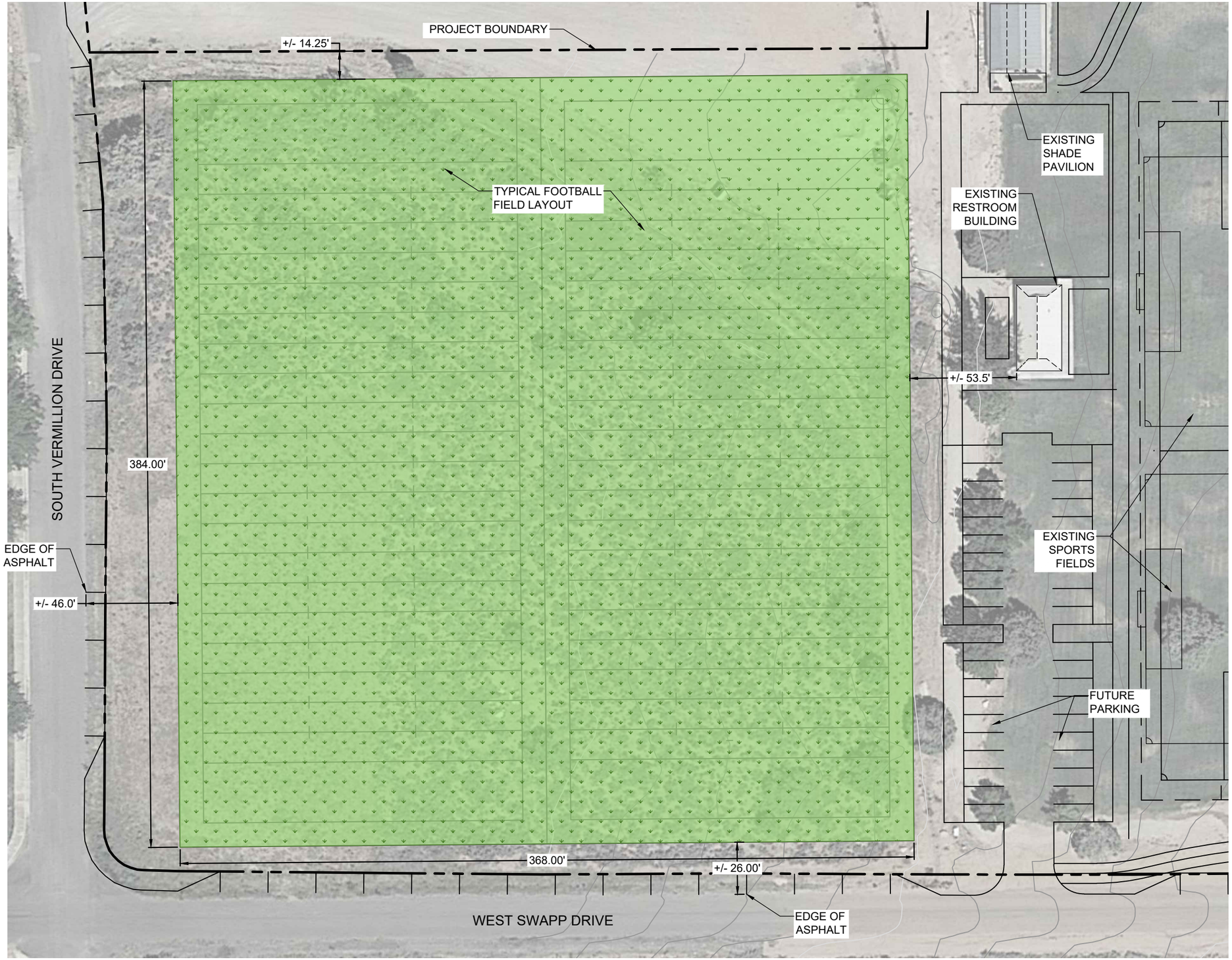
SHEET
G1



LANDSCAPE SCHEDULE

SYMBOL	DESCRIPTION
	TURF GRASS BY OTHERS

NOTE:

1. CLEARING, GRUBBING, AND GRADING TO BE BY OTHERS

N

0 50

25

SCALE: 1" = 50'-0"

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LANDSCAPE PLAN

RANCHOS PARK IRRIGATION
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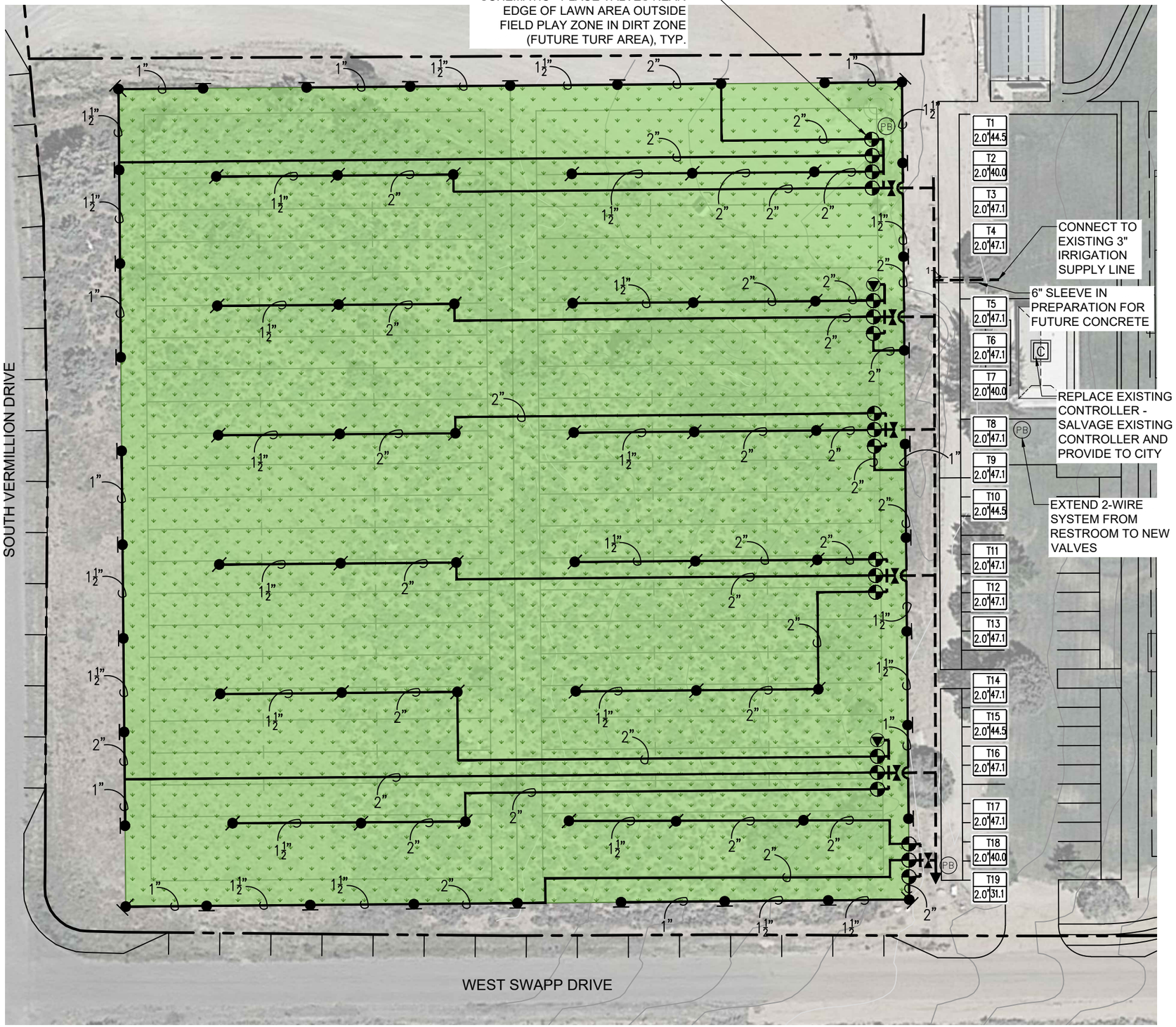

IRRIGATION SCHEDULE

SYMBOL	MANUF.	DESCRIPTION
C	RAIN BIRD	ESP-LXD TWO WIRE DECODER CONTROLLER. REFER TO DETAILS.
	RAIN BIRD	REMOTE CONTROL TURF VALVE, MODEL NO. PESB-PRS (OR APPROVED EQUAL). SEE PLANS FOR SIZE.
	APPROVED	BALL VALVE, LINE SIZE
	SIGNATURE	1" QUICK COUPLER
PB	APPROVED	PULL BOX
	APPROVED	MANUAL DRAIN VALVE. INSTALLED AT LOW POINT OF MAIN LINE.
	APPROVED	3" SCH 40 PVC MAINLINE WITH CAP
	APPROVED	SCH 40 PVC LATERAL LINE - SEE PLAN FOR SIZE
2	APPROVED	6" SCH 40 PVC SLEEVE. NUMBER INDICATES NUMBER OF SLEEVES IN THAT LOCATION
	APPROVED	IRRIGATION CONTROLLER WIRE, #14 U.F.WIRE
	RAIN BIRD	6504 HEAD - 360 DEGREE SPRAY PATTERN - #16 NOZZLE
	RAIN BIRD	6504 HEAD - 180 DEGREE SPRAY PATTERN - #8 NOZZLE
	RAIN BIRD	6504 HEAD - 90 DEGREE SPRAY PATTERN - #4 NOZZLE

ZONE I.D.
VALVE SIZE
G.P.M.

IRRIGATION NOTES:

1. SYSTEM DESIGN IS BASED ON MAXIMUM FLOW OF 50 G.P.M. WITH 70 P.S.I. AT IRRIGATION CONTROL VALVES. CONTRACTOR SHALL VERIFY FLOW RATES AND PRESSURE AND REPORT ANY DISCREPANCIES TO THE LANDSCAPE ARCHITECT.
2. SCH 40 PVC LATERAL LINES, SIZE AS NOTED ON PLANS. MINIMUM LATERAL IRRIGATION LINE SIZE IS 1".
3. ADJUST HEAD LAYOUT IN THE FIELD AS NECESSARY TO AVOID CONFLICTS.

N
0 50
25
SCALE: 1" = 50'-0"

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IRRIGATION PLAN

RANCHOS PARK IRRIGATION CONSTRUCTION DRAWINGS

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IR1

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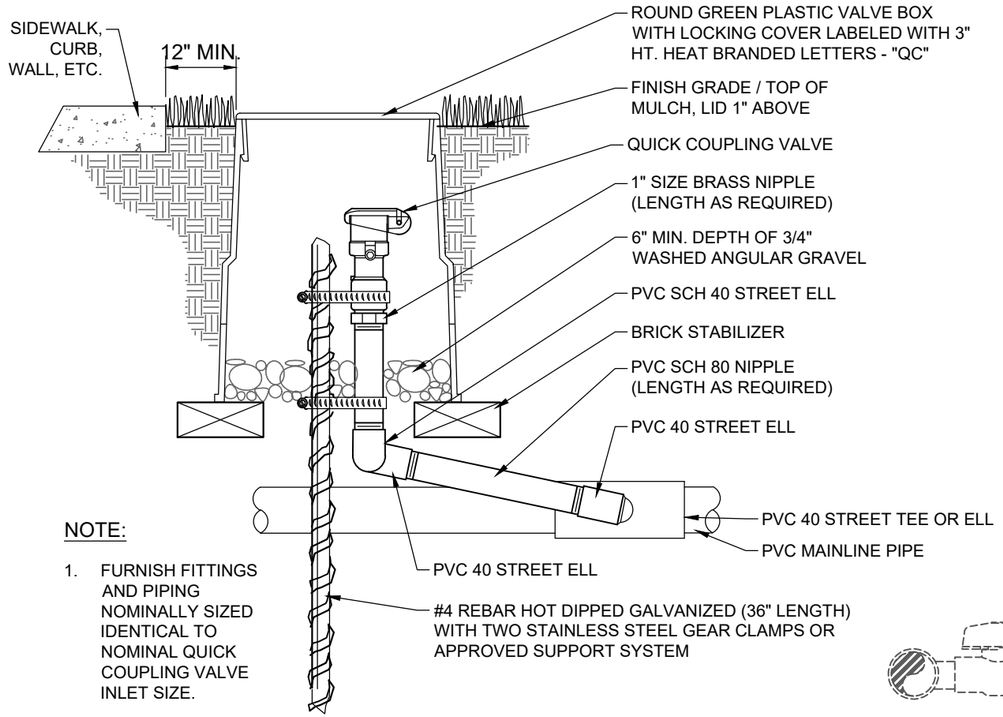
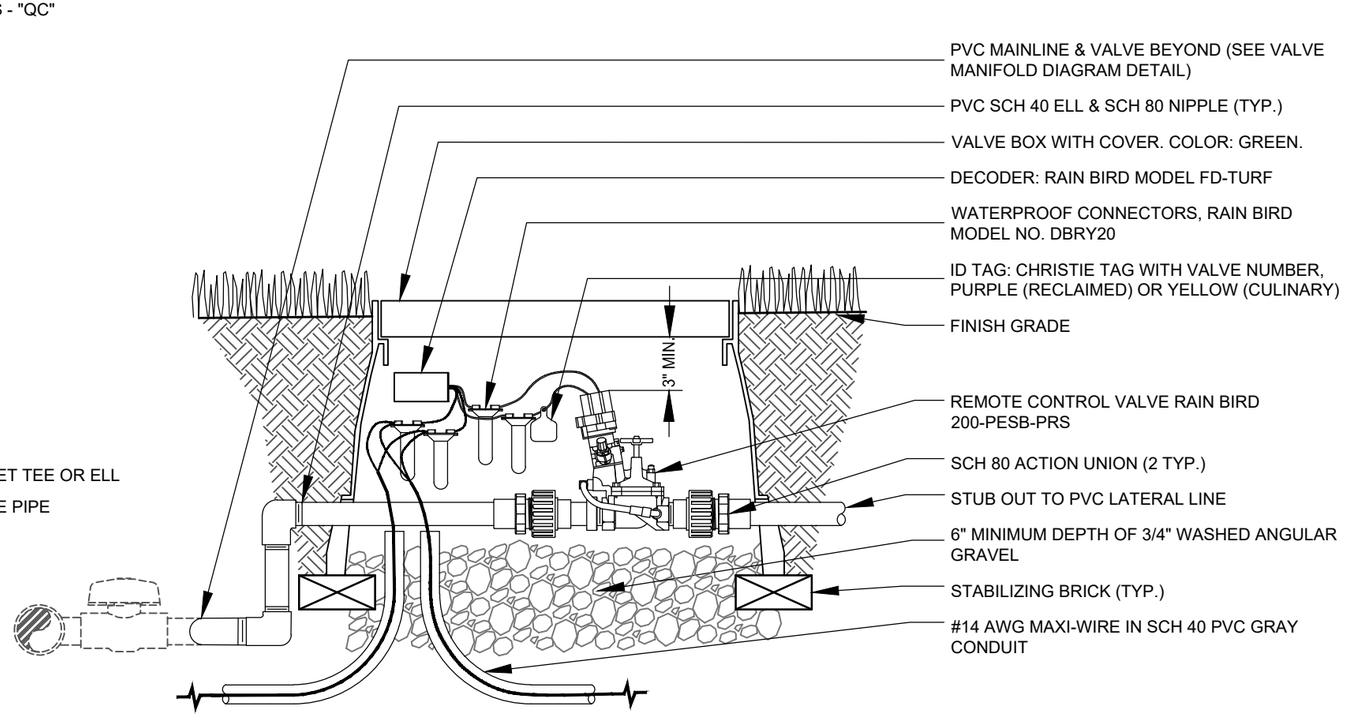


NOTE:

1. FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE.

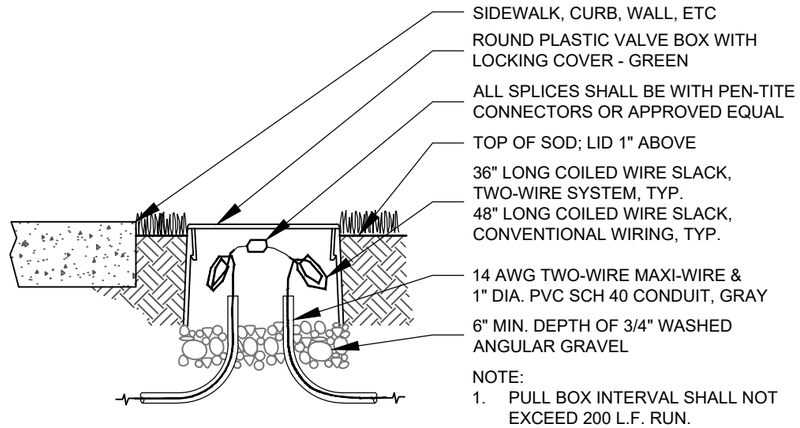
1 QUICK COUPLER

NOT TO SCALE



2 REMOTE CONTROL VALVE - TWO WIRE SYSTEM

NOT TO SCALE

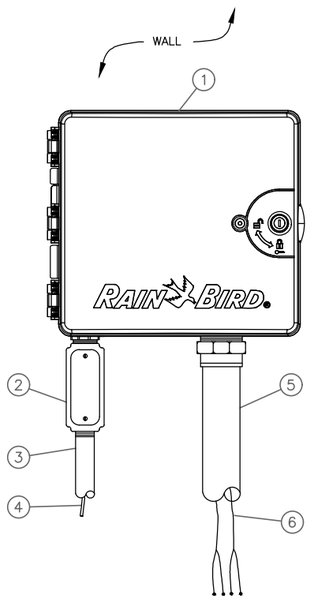


NOTE:

1. PULL BOX INTERVAL SHALL NOT EXCEED 200 L.F. RUN.
2. VALVE BOX COLOR: GREEN IN TURF, TAN IN LANDSCAPE AREA.

3 PULL BOX

NOT TO SCALE



1. TWO-WIRE DECODER CONTROLLER: RAIN BIRD ESP-LXD TWO-WIRE DECODER CONTROLLER IN PLASTIC CABINET WITH WALL MOUNT. INSTALL CONTROLLER AND CABINET ON WALL PER MANUFACTURER'S RECOMMENDATIONS.
2. JUNCTION BOX
3. 1-INCH CONDUIT AND FITTINGS TO POWER SUPPLY
4. POWER SUPPLY WIRE
5. 2-INCH CONDUIT AND FITTINGS FOR TWO-WIRE CABLE
6. MAXICABLE TWO-WIRE PATH TO DECODERS USE A DIFFERENT CABLE JACKET COLOR FOR EACH PATH.

NOTES:

1. ESP-LXD CONTROLLER COMES WITH 50 STATIONS AVAILABLE. TWO ADDITIONAL 75 STATION ESPLXD-SUM75 MODULES MAY BE ADDED TO EXPAND THE CONTROLLER UP TO 200 TOTAL STATIONS.
2. USE STEEL CONDUIT FOR ABOVE GRADE AND SCH 40 PVC CONDUIT FOR BELOW GRADE CONDITIONS.
3. PROVIDE PROPER GROUNDING COMPONENTS TO ACHIEVE GROUND RESISTANCE OF 10 OHMS OR LESS.

4 ESP-LXD TWO-WIRE DECODER CONTROLLER IN PLASTIC CABINET

NOT TO SCALE

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IRRIGATION DETAILS

RANCHOS PARK IRRIGATION
CONSTRUCTION DRAWINGS

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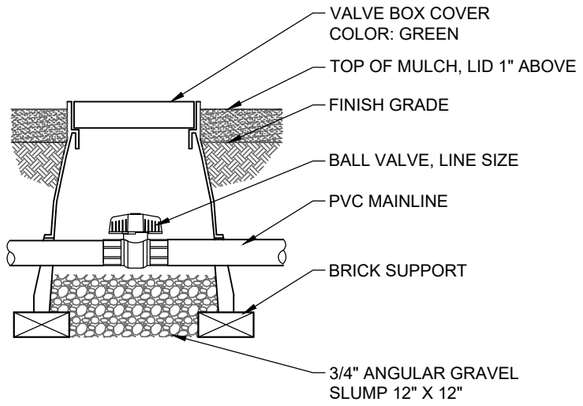
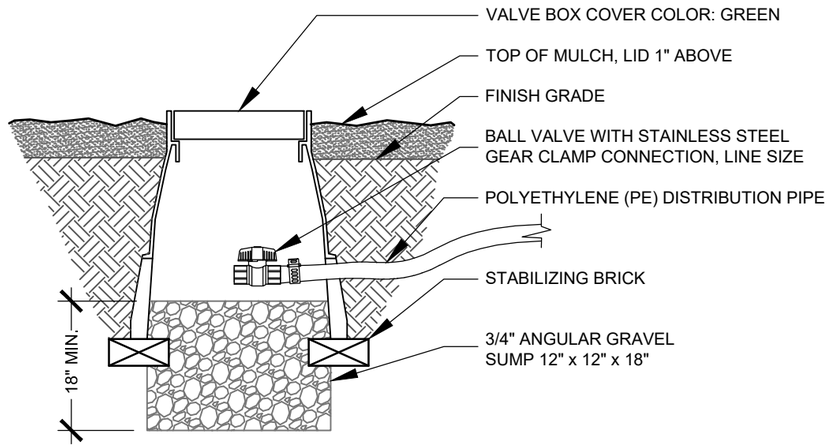
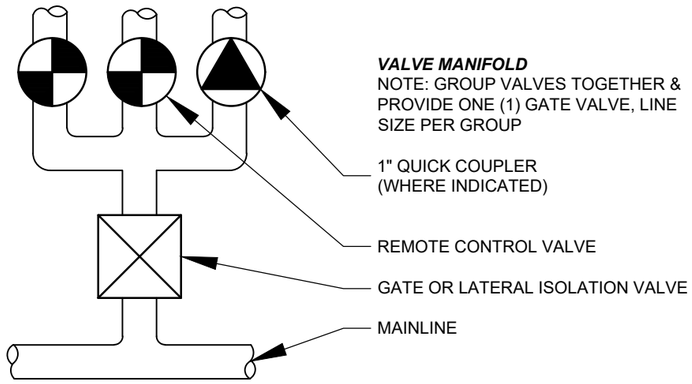
IR2



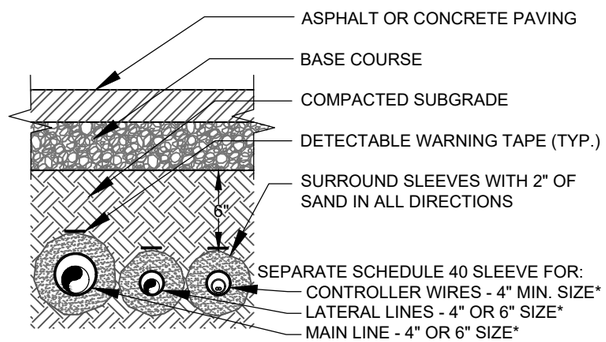
1 BALL VALVE
NOT TO SCALE



2 MANUAL DRAIN VALVE
NOT TO SCALE

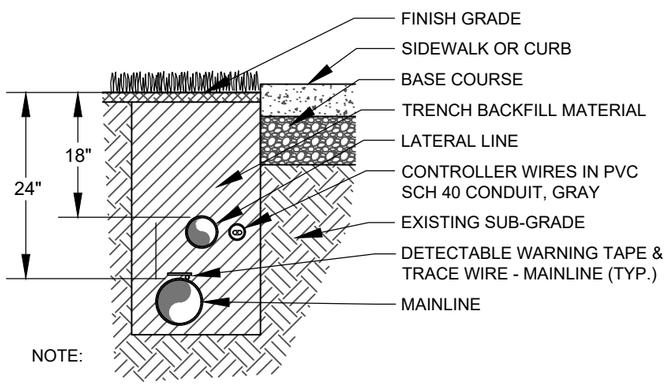


3 VALVE MANIFOLD DIAGRAM
NOT TO SCALE



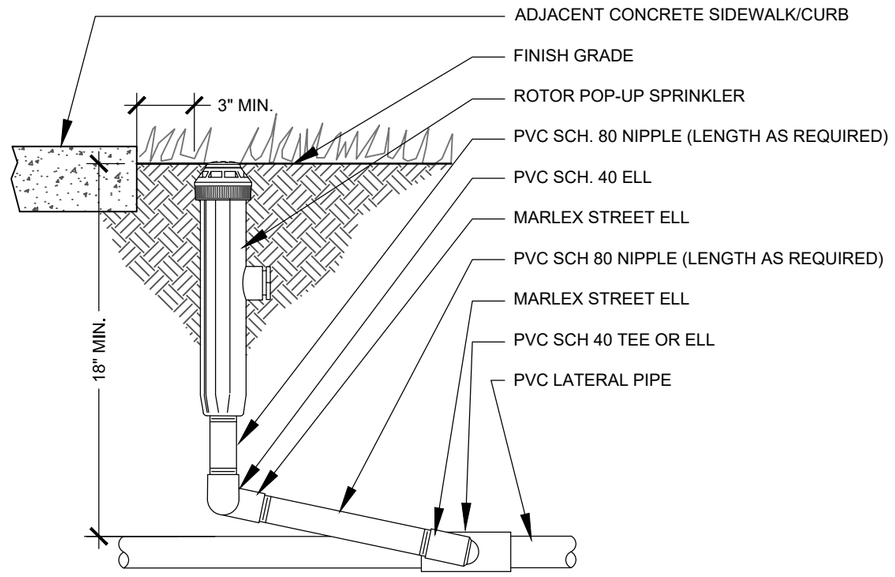
NOTE:
1. WHEN MULTIPLE PIPES OCCUR IN ONE TRENCH ADD MULTIPLE SLEEVES.
2. WIRES & WIRE CONDUITS SHALL BE IN SEPARATE SLEEVE.

4 IRRIGATION SLEEVE
NOT TO SCALE



NOTE:
1. MAINLINE AND LATERAL LINES TO BE PLACED NO MORE THAN 12" FROM BACK OF SIDEWALK OR CURB IN PARK STRIPS AND MEDIANS.

5 IRRIGATION TRENCH
NOT TO SCALE



6 TURF ROTOR
NOT TO SCALE

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IRRIGATION DETAILS

RANCHOS PARK IRRIGATION
CONSTRUCTION DRAWINGS

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DRAWN BY: JG
DESIGN BY: JG
CHECKED BY: JP
SHEET
IR3

IRRIGATION NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC ONLY. CONTRACTOR TO FIELD VERIFY DRAWINGS PRIOR TO ANY INSTALLATION OR ORDERING OF MATERIALS. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES BETWEEN DRAWINGS AND SITE. IF CONTRACTOR FAILS TO NOTIFY LANDSCAPE ARCHITECT, HE ASSUMES FULL RESPONSIBILITY FOR ANY NECESSARY ALTERATIONS TO THE SYSTEM.
2. ALL MATERIALS USED SHALL BE INSTALLED PER PLAN AND MANUFACTURER'S SPECIFICATIONS. DEVIATIONS FROM DRAWINGS OR MATERIALS USED SHALL BE APPROVED BY OWNER'S REPRESENTATIVE OR LANDSCAPE ARCHITECT.
3. IRRIGATION SYSTEM DESIGN IS BASED ON MAX FLOW OF 50 G.P.M. WITH AT LEAST 70 P.S.I. AT VALVES. CONTRACTOR TO FIELD VERIFY PRESSURE PRIOR TO STARTING IRRIGATION INSTALLATION. NOTIFY CONSULTANT OF ANY DIFFERENCE FROM STATED PRESSURE. IF CONTRACTOR FAILS TO NOTIFY CONSULTANT HE ASSUMES FULL RESPONSIBILITY FOR ANY SYSTEM ALTERATIONS.
4. CONTRACTORS SHALL CONNECT TO EXISTING IRRIGATION SUPPLY LINE AND BEGIN A 3" SCHEDULE 40 PVC IRRIGATION MAIN LINE FOR THE SPRINKLER SYSTEM.
5. USE 2 WIRE CABLE, DOUBLE JACKETED 'MAXI CABLE', UNDERGROUND DIRECT BURIAL WIRE WITH SPEARS' DRI-SPLICE WIRE CONNECTORS OR SIMILAR, FOR ALL VALVE CONNECTIONS. ALL SPLICES MUST BE PLACED IN VALVE BOXES & PULL BOXES.
6. IRRIGATION CONTRACTOR RESPONSIBLE FOR ALL LANDSCAPE SLEEVING. CONTRACTOR TO COORDINATE SLEEVING INSTALLATION WITH CONCRETE FLATWORK AND PAVING. ALL SLEEVES TO BE EXTENDED AT LEAST 3" BEYOND CONCRETE STRUCTURES. ALL HARDSCAPE 4'-0" OR WIDER TO BE SLEEVED.
7. CONTRACTOR SHALL INSTALL ALL PIPING AND WIRING UNDER PAVED AREAS IN SLEEVES AS SHOWN ON PLANS. WIRE SHALL BE SLEEVED SEPARATELY FROM PIPING.
8. ALL MAIN LINE AND LATERAL LINE PIPE SHALL BE PVC SCHEDULE 40. ALL PIPE FITTINGS SHALL BE SHEDULE 40, EXCEPT WHERE SPECIFIED AS SCHEDULE 80 IN DETAILS. INSTALL ALL PRESSURE LINES AT A MINIMUM DEPTH OF 24". INSTALL LATERAL LINES AT A MINIMUM DEPTH OF 18".
9. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT SITE CONDITIONS AND EXISTING IRRIGATION SYSTEM (IF ANY). CONTRACTOR SHALL VERIFY LOCATION OF EXISTING UTILITIES PRIOR TO EXCAVATION. SHOULD DAMAGE BE INCURRED, THE CONTRACTOR SHALL REPAIR THE DAMAGE TO ITS ORIGINAL CONDITION AT HIS OWN EXPENSE.
10. THE OWNER RESERVES THE RIGHT TO REFUSE MATERIAL OR WORK WHICH DOES NOT CONFORM TO THESE DRAWINGS AND SPECIFICATIONS. REJECTED WORK SHALL BE REMOVED AND CORRECTED AS SOON AS POSSIBLE AT CONTRACTOR'S EXPENSE.
11. CONTRACTOR TO PROVIDE, INSTALL, AND SET UP ONE RAINBIRD CONTROLLER MODEL ESP-LXD. CONTROLLER SHALL BE INSTALLED NEAR A 110 POWER OUTLET, ACTUAL LOCATION TO BE DETERMINED BY OWNER PRIOR TO INSTALLATION.
12. PRIOR TO OWNER APPROVAL, CONTRACTOR SHALL COMPLETE THE FOLLOWING:
    - 12.a. ALL IRRIGATION EQUIPMENT (INCLUDING PIPE LINES AND SLEEVES) TO BE DOCUMENTED FROM 2 STATIONARY POINTS.
    - 12.b. LABEL AND LAMINATE VALVE SCHEDULE, ATTACH TO INSIDE OF CONTROLLER.
    - 12.c. ALL IRRIGATION HEADS TO BE ADJUSTED TO THE PROPER HEIGHT.
13. CONTRACTOR SHALL ADJUST THE PERFORMANCE OF THE IRRIGATION SYSTEM FOR OPTIMUM PLANT GROWTH BASED ON ACTUAL SITE CONDITIONS, INCLUDING SOIL TYPES, SLOPE OR OTHER VARIABLES THAT MAY DEVIATE FROM PROJECT PLANS. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES BETWEEN PROJECT PLANS AND ACTUAL SITE CONDITION PRIOR TO INSTALLATION.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING THE INSTALLATION OF A FULLY FUNCTIONAL AUTOMATED IRRIGATION SYSTEM PRIOR TO STARTING PLANTING. IF THE IRRIGATION SYSTEM IS INTERRUPTED FOR ANY REASON THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTINUE MANUAL WATERING OF ALL TURF AND PLANT MATERIAL UNTIL THE IRRIGATION SYSTEM IS FULLY OPERATIVE.
15. THE CITY SHALL BE RESPONSIBLE FOR ALL WATER METER SETTINGS & SUPPLY LINE CONNECTIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL IRRIGATION CONNECTIONS DOWN STREAM OF THE WATER METERS.
16. REFER TO IRRIGATION SPECIFICATIONS AND DETAILS FOR INSTALLATION PROCEDURES.
17. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL PIPING NECESSARY TO PROVIDE A COMPLETE AND FULLY OPERATIONAL IRRIGATION SYSTEM INCLUDING.
18. REFER TO GENERAL CONSTRUCTION NOTES FOR ADDITIONAL CONSIDERATIONS THAT RELATE TO SCOPE OF WORK WITHIN THIS SECTION.
19. IRRIGATION CONTRACTOR SHALL PROVIDE 100% HEAD TO HEAD COVERAGE IN ALL TURF AREAS. FIELD ADJUST HEAD LOCATIONS AS REQUIRED. ACTUAL SITE CONDITIONS MAY VARY FROM DRAWINGS AND NECESSITATE ADJUSTMENT OF HEAD LAYOUT, NOZZLES OR QUANTITIES OF HEADS AT NO ADDITIONAL COST TO THE OWNER.
20. POP UP AND ROTOR HEADS SHALL BE LOCATED 1" WAY FROM AND 1/4" BELOW EXISTING ADJACENT CURBS, WALLS, WALKS AND MOWSTRIPS.

DISTANCE CHART:

REFER TO THE FOLLOWING TABLE THAT LISTS THE LENGTH (IN FEET) FOR EACH SIZE/TYPE FITTING WITHIN WHICH ALL JOINTS JUST BE RESTRAINED. ALL FITTINGS AND JOINT RESTRAINTS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS & SPECIFICATIONS.

AS AN EXAMPLE, IF YOU ARE INSTALLING A 3" MAINLINE WITH A DIRECTIONAL CHANGE OF 90°, REFER TO CHART UNDER PIPE SIZE TO 3" AND UNDER BENDS 90 YOU WILL SEE THE DISTANCE OF 11'. IF THERE IS ANY JOINT (VALVE, BELL, ETC.) YOU MUST INSTALL A JOINT RESTRAINT WITHIN 11' OF THE 90° MAINLINE DIRECTIONAL CHANGE.

PIPE SIZE	BENDS				REDUCERS			DEAD END	
	11°	22°	45°	90°	1 STEP	2 STEP	3 STEP	BLIND	SERV. B.
2"	1'	1'	2'	6'	-	-	-	19'	6'
2.5"	1'	2'	4'	9'	4'	-	-	23'	10'
3"	2'	3'	6'	11'	8'	10'	-	30'	15'
4"	2'	4'	9'	20'	14'	20'	31'	45'	25'
6"	3'	6'	13'	29'	30'	40'	53'	63'	40'
8"	4'	8'	15'	38'	33'	55'	63'	75'	70'
10"	5'	9'	19'	45'	36'	56'	75'	96'	90'
12"	5'	10'	21'	53'	38'	60'	83'	112'	110'

INSTALLATION CHART

REFER TO THE FOLLOWING TABLE WHICH LISTS THE NUMBER OF BOLTS, SIZE, AND TORQUE FOR EACH BOLT IN REFERENCE TO THE SIZE OF PIPE WHICH IS BEING RESTRAINED.

AS AN EXAMPLE, IF YOU HAVE A 3" PIPE, YOU WILL NEED 2 BOLTS THAT ARE 3/8 X 2.5" AND TIGHTEN THEM WITH A TORQUE WRENCH TO 20 FT-LBS.

PIPE SIZE	NO. BOLTS	BOLT SIZE	TORQUE FT-LBS.
2"	2"	3/8" x 2.5"	20
2.5"	2"	3/8" x 2.5"	20
3"	2"	3/8" x 2.5"	20
4"	2"	1/2" x 3"	50
6"	2"	1/2" x 3.5"	50
8"	4"	1/2" x 4"	50
10"	4"	5/8" x 5.5"	100
12"	4"	5/8" x 5.5"	100

CONTACT TONY GARNER @ (208) 631-7787, THE LEEMCO REPRESENTATIVE, FOR ALL QUESTIONS CONCERNING LEEMCO PRODUCTS. COORDINATE AN INSTALLATION CLINIC WITH TONY GARNER PRIOR TO INSTALLING THE MAINLINE.
NOTE: INSTALL PER MANUFACTURERS STANDARDS

INSTALLATION CHART

All tees, Bends, Reducers and End Caps should be restrained using LH-Series restraints. A certain number of joints
before and after a restrained fitting may also require joint restraints as set forth in Tables below.
Below Tables establish values for the minimum length of pipe (“L”) within which other joints must be restrained.
Values (in feet/meters) are based on 125 PSI line pressure, 24” cover, Sandy-Clay type soil and a safety factor of 2.
For other line pressures, multiply the “L” values by the actual pressure and divide by 125.

1 JOINT RESTRAINT DETAIL
NOT TO SCALE

GENERAL CONSTRUCTION NOTES:

1. NOTES SHALL BE USED FOR GENERAL REFERENCE IN CONJUNCTION WITH ALL WORK ELEMENTS SHOWN ON THE ENCLOSED PLANS.
2. VERIFY CRITICAL DIMENSIONS, REFERENCE POINT LOCATIONS, AND CONSTRUCTION CONDITIONS PRIOR TO INITIATING WORK. NOTIFY OWNER'S REPRESENTATIVE SHOULD CONFLICTS ARISE.
3. LANDSCAPE CONTRACTOR SHALL ACCEPT THE SITE AND ALL GRADING AT +/- 3"
4. CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS BEFORE CONSTRUCTION.
5. CONTRACTOR SHALL ADHERE TO ALL LOCAL, STATE, AND/OR FEDERAL LAWS PERTAINING TO THE PROJECT'S WORK.
6. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL CONSTRUCTION ELEMENTS WITH OTHER TRADES PRIOR TO INSTALLATION AND BECOME FAMILIAR WITH THE LOCATIONS OF UNDERGROUND SERVICES AND IMPROVEMENTS.
7. THE CONTRACTOR SHALL EXAMINE THE SITE AND FULLY DETERMINE THE CONDITIONS UNDER THIS CONTRACT. NO ALLOWANCE WILL BE MADE FOR FAILURE OF BIDDERS TO ASCERTAIN ALL ASPECTS OF THE PROJECT.
8. PRIOR TO DIGGING, EXCAVATION, OR UNDERGROUND WORK, CONTRACTOR SHALL CONTACT BLUESTAKES TO LOCATE AND PROTECT EXISTING UTILITIES AND SUBSURFACE SYSTEMS. CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR REPAIR AND EXPENSES INCURRED TO UTILITIES THAT BECOME DAMAGED AS A RESULT OF HIS WORK.
9. CONTRACTOR SHALL INSPECT WITH OWNER'S REPRESENTATIVE ALL PAVEMENT, SIDEWALK AND CURB DEFECTS PRIOR TO BEGINNING WORK. ALL HARDSCAPE SHALL BE RE-INSPECTED DURING FINAL INSPECTION. ANY DAMAGED AREAS SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE.
10. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE QUANTITIES AND MATERIALS REQUIRED TO COMPLETE THE WORK IN ACCORDANCE WITH THE PLANS.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING GRADES AS ESTABLISHED BY THE PROJECT ENGINEER. RUNOFF AND DRAINAGE FLOWS SHALL NOT BE ALTERED OR IMPEDED.
12. THE CONTRACTOR SHALL FURNISH ALL LABOR, TOOLS, EQUIPMENT, MATERIALS, EMPLOYEE, AND SUBCONTRACTOR SUPERVISION FOR IT'S PORTION OF THE PROJECT TO IMPLEMENT PLANS AND SPECIFICATIONS.
13. THE CONTRACTOR ASSUMES ALL RISKS IN THE PERFORMANCE OF THE WORK AND RESPONSIBILITY FOR LOSS AND EXPENSE RESULTING FROM ON-SITE INJURY.
14. THE CONTRACTOR IS RESPONSIBLE FOR SUPERVISION, SAFETY, ADMINISTRATION SCHEDULING, COORDINATION AND MANAGEMENT OF SUBCONTRACTORS.
15. THE CONTRACTOR SHALL PROTECT ALL PERSONS NEAR OR ON THE PREMISES FROM UNREASONABLE RISK OF INJURY. PROVIDE WARNING SIGNS, LIGHTS, BARRICADES, RAILINGS, FLAGMEN OR OTHER NECESSARY SAFEGUARD.
16. THE CONSULTANTS INSPECTIONS SHALL NOT BE DEEMED SUPERVISION OR CONTROL OF CONSTRUCTION BY CONTRACTOR OR SUBCONTRACTORS.
17. ALL CONTRACTS SHALL BE WRITTEN DIRECTLY BETWEEN CONTRACTOR AND THE OWNER. SPECIFIC TERMS OF WORK SHALL BE NEGOTIATED DIRECTLY BETWEEN PARTIES. THE CONSULTANT SHALL NOT BE RESPONSIBLE FOR DISCREPANCIES IN CONTRACT, PAYMENT AMOUNTS, SCHEDULE OR QUALITY OF WORKMANSHIP.
18. IF REQUIRED AS PART OF THE AGREED SCOPE OF WORKS, THE CONSULTANT AGREES TO REVIEW SHOP DRAWINGS, PRODUCT DATA AND SAMPLE SUBMITTED BY THE CONTRACTOR AS PART OF A CONSTRUCTION ADMINISTRATION CONTRACT FOR THE SOLE PURPOSE OF COMPLIANCE WITH THE DESIGN CONCEPT AND WITH INFORMATION GIVEN NOT BEEN REVIEWED AND AUTHORIZED IN WRITING.
19. WHERE TWO OR MORE REQUIREMENTS CREATE OVERLAPPING CONDITIONS, CONFLICTING, MINIMUMS OR LEVELS OF QUALITY, THE MORE STRINGENT REQUIREMENTS OR THE HIGHER QUALITY LEVEL IS INTENDED, AND SHALL BE ENFORCED. CONFLICTING REQUIREMENTS SHALL BE REFERRED TO THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE WHOSE INTERPRETATION SHALL BE FINAL.

MAINTENANCE & GUARANTEE:

1. LANDSCAPE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE FIVE (5) DAYS PRIOR TO COMPLETING IMPROVEMENTS IN ACCORDANCE WITH PLANS AND SPECIFICATIONS TO REQUEST AN INSPECTION FOR SUBSTANTIAL COMPLETION. LANDSCAPE ARCHITECT AND OWNERS REPRESENTATIVE SHALL PREPARE PUNCHLIST OF ALL WORK REQUIRING CORRECTION. MAINTENANCE PERIOD SHALL BEGIN WHEN ALL PUNCHLIST ITEMS ARE CORRECTED.
2. PLANTS NOT IN HEALTHY CONDITION OVER A ONE YEAR WARRANTY PERIOD SHALL BE REMOVED AND REPLACED AT NO COST TO THE OWNER.
3. PROVIDE ONE (1) YEAR WRITTEN GUARANTEE TO WARRANT IRRIGATION SYSTEM FROM ACCEPTANCE DATE.
4. IN ORDER TO PROTECT HIS GUARANTEE, LANDSCAPE CONTRACTOR SHALL GIVE PRINTED MAINTENANCE INSTRUCTIONS FOR THE YEARLY CARE AND FEEDING OF THE LANDSCAPE.
5. AS BUILT DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR FOR ACTUAL AS BUILT CONDITIONS ON SITE AS IT RELATES TO THE IRRIGATION SYSTEM. THESE PLANS SHALL BE SUBMITTED TO THE OWNER AT FINAL INSPECTION.

CivilScience

NO.	DESCRIPTION	REVISION	BY	AWR	DATE

NOT FOR CONSTRUCTION

IRRIGATION DETAILS

RANCHOS PARK IRRIGATION
CONSTRUCTION DRAWINGS

PROJ. #: Ex. 23399.00
DRAWN BY: JG
DESIGN BY: JG
CHECKED BY: JP
SHEET
IR4

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PLOT: 2024-02-06 04:02 PM
PATH: L:\UT\AH\PROJECTS\ACTIVE 2023\IP23399.00 - RANCHOS PARK IRRIGATION PLAN & CEMETERY EXPANSION\700 - CAD\SHEET_FILES\23399_IR.DWG