AMERICAN FORK CITY
PLANNING COMMISSION REGULAR SESSION
MARCH 4, 2020

Notice is hereby given that the American Fork City Planning Commission will meet in regular session on March 4, 2020 at the American Fork City Hall, 31 North Church Street, commencing at 7:00 p.m. The agenda shall be as follows:

1. Pledge of Allegiance

2. Discussion on the Northampton House Historic Building Conservation Project, located at 190 West 300 North in the R-2-7,500 Residential Zone-Historic Building Overlay

3. Hearing, review and action on the preliminary plan for the AF 10 Combined Project located in the area of 780 West 620 South in the PR-3.0 Residential Zone

4. Review and action on a Development Agreement for the Lake City Row Development (Vest Annexation Property), located in the area of 620 South 860 East

5. Hearing, review and action on amendments to the General Plan by providing a recommendation on the 2020 Transportation and Trails Master Plan and Impact Fee Facility Plan

6. Hearing, review and action on amendments to Section 15.01.1840 of the American Fork City Municipal Code

7. Hearing, review and action on amendments to Section 15.01.1880 of the American Fork City Municipal Code

8. Hearing, review and action on amendments to Section 15.01.1410 of the American Fork City Municipal Code

9. Hearing, review and action on various amendments to Section 15.01 and Section 17.9 of the American Fork City Municipal Code

10. Other Business

11. Site Plan Committee Report

12. Review and action on the minutes of the February 19, 2020 Planning Commission Regular Session

13. Adjournment

John H. Woffinden, P.G.
Planning Commission Chairman

The order of agenda items may change to accommodate the needs of the commission, city staff and the public

American Fork City Planning Commission

RE Property development 198 West 300 North

Planning Commission:

We respectfully request the Planning Commission consider a development proposal for the property located at 198 West 300 North American Fork.

Development plans proposed below take into careful consideration the discussions and recommendations of the prior Planning Commission meeting. We propose the following plan:

Phase 1 – **A New Residential Multi-Unit Addition for 55+ or Senior Independent Living** made part of the North and East sides of the existing structure. The Addition is comprised of approximately 39 units, increased from the last proposal to sufficiently adjust for smaller units and smaller revenue streams.

Phase 2 – **A Full remodel of existing structure to Mixed-Use senior residential living: 55+, Senior Independent Living, or Assisted Living.**

We believe the only potential obstacle to this proposal may be the size of the addition. However, our reality is that critical mass cannot be attained without this proposed development. The building cannot be sustainably maintained long-term by continuing its current use. The past 25 years have demonstrated that the current building and property costs far exceed what ours and many other businesses can sustain. Property taxes on the building are
beneficial to the community. This development will grow these community assets rather eliminate them through bare-ground development of the underlying zone. Such a proposal is not perfect, but it demonstrates a clear path to preserving our beautiful American Fork icon.

Sincerely,

Kirt Yingling

PS
Drawing depicts approximate density and size only. The plan does not define exact spacing, or how the addition will integrate to the existing structure of which the aesthetic and architectural motifs are minimums to the final plan. The overall character of the building is paramount to the design of the new addition.


200 W 300 N

AMERICAN FORK CITY
PLANNING COMMISSION

MEETING DATE: March 4, 2020
STAFF PRESENTATION: Adam Olsen

AGENDA TOPIC: Hearing, review and action on the preliminary plan for the AF 10 Subdivision, located in the area of 780 West 620 South, in the PR-3.0 (Planned Residential) zone.

ACTION REQUESTED: Approval of the preliminary plan.

BACKGROUND INFORMATION					
Location:		780 West 620 South			
Applicant:		Berg Engineering			
Existing Land Use:		Residential/Agriculture/Vacant			
Proposed Land Use:		Residential			
Surrounding Land Use:	North	Agriculture			
	South	Agriculture			
	East	Residential/Agriculture			
	West	Residential/Agriculture			
Existing Zoning:		PR-3.0			
Proposed Zoning:		N/A			
Surrounding Zoning:	North	Residential Agriculture 5 (Utah County)			
	South	Residential Agriculture 5 (Utah County)			
	East	Residential Agriculture 5 (Utah County)			
	West	PR-3.0			
Land Use Plan Designation:		Low Density Residential			
Zoning within density range of Land Use Plan?		x	Yes		No

Background

The Planning Commission approved a preliminary plan for the AF 10 Subdivision at its December 4, 2019 meeting. The proposal consisted of 47 lots/units with an overall density of 3.9 du/ac. Since the time of initial approval, the applicant has eliminated 17 lots/units; consolidated an area where a majority of those 17 lots/units were proposed and identified it as Lot 203 on a revised preliminary plan. The overall density has been reduced from 3.9 du/ac to 2.5 du/ac.

AF 10 Subdivision proposes a combination of both a Conservation Subdivision PUD and Low Density Attached Housing PUD. 30 lots/units are proposed, two lots having existing homes. Access is provided off 620 South. An open space area exists at the southern

portion of the subdivision, to be dedicated to the City. Additional common area is proposed around the attached/townhome units, south of 700 South.

Conservation subdivisions within the PR-3.0 zone require 25% open space. The subdivision meets this requirement.

As with other development options in the PR-3.0 zone, the Code allows the Planning Commission flexibility to require changes in the plan. Changes may include, but are not limited to, "adjustments in the density or number of structures, relocation of project elements, redesign of the road system, increase in the amount of open space and provisions for the disposal of surface water drainage" (17.7.503.D).

FINDING OF FACT:

After reviewing the preliminary plan for the AF 10 Subdivision, the following finding of fact is offered for consideration:

1. The project complies with the applicable design criteria as found throughout Section 17.7.503 of the Development Code.

POTENTIAL MOTIONS:

APPROVAL

Mr. Chairman, I move that we approve the preliminary plan for the AF 10 Subdivision, with the finding listed in the staff report and subject to any findings, conditions, and modifications listed in the Engineering report.

DENIAL

Mr. Chairman, I move that we deny the preliminary plan for the AF 10 Subdivision.

TABLE

Mr. Chairman, I move that we table action on the preliminary plan.

AMERICAN FORK CITY ENGINEERING DIVISION
STAFF REPORT

Planning Commission Meeting Date: 3/4/2020

This report is a summary of the American Fork City Engineering Division plan review comments regarding the subject plan as submitted by the applicant for American Fork City Land Use Authority approval:

Project Name: AF 10 Combined Project

Project Address: 780 West 620 South

Developer / Applicant's Name: Berg Engineering

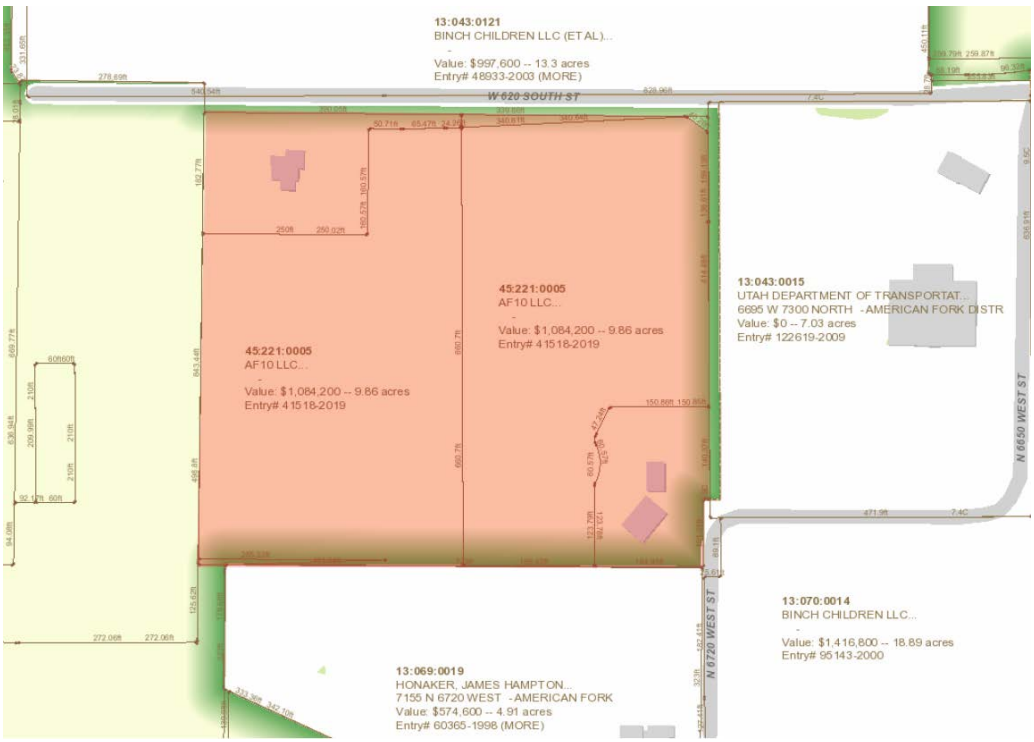
Type of Application:

- ☐ Subdivision Final Plat
- ☒ Subdivision Preliminary Plan
- ☐ Annexation
- ☐ Code Text Amendment
- ☐ General Plan Amendment
- ☐ Zone Change
- ☐ Commercial Site Plan
- ☐ Residential Accessory Structure Site Plan

Engineering Division Recommendation: The Engineering Division recommends APPROVAL of the proposed development subject to the following findings and conditions:

1. All Standard Conditions of Approval and items denoted as "Plan Modification(s) Required" in the 3/4/2020 Engineering Division Staff Report for the City Land Use Authority shall be addressed on all final project documents.

Project Map:



STANDARD CONDITIONS OF APPROVAL

Standard Conditions of Approval:

APPLICANT is responsible and shall submit/post/obtain all necessary documentation and evidence to comply with these Standard Conditions of Approval prior to any platting, permitting, or any other form of authorization by the City including plat recording or other property conveyance to the City and prior to scheduling a pre-construction meeting. All recording shall take place at the Utah County Recorder's Office.

1. **Title Report:** Submit an updated Title Report not older than 30 days or other type of appropriate verification that shows all dedications to the City are free and clear of encumbrances, taxes, or other assessments.
2. **Property Taxes and Liens:** Submit evidence that all the property taxes, for the current and/or previous years, liens, and agricultural land use roll over fees have been paid in full.
3. **Water Rights:** Submit evidence that all the required water rights have been conveyed to American Fork City.
4. **Performance Guarantee:** Post a performance guarantee for all required public and essential common improvements.
5. **Easements and Agreements:** Submit/record a long-term Storm Water Pollution Prevention Maintenance Agreement signed and dated by the property owner and any required easement documentation.
6. **Land Disturbance Permit:** Obtain a Land Disturbance Permit.
7. **Compliance with the Engineering Division Plan Review Comments:** All plans and documents shall comply with all the Technical Review Committee comments and the City Engineer's final review.
8. **Sensitive Lands:** Record all applicable documents required for compliance with the City's Sensitive Lands Ordinance.
9. **Utility Notification Form:** Submit a Subdivision Utility Notification Form.
10. **Professional Verification:** Submit final stamped construction documentation by all appropriate professionals.
11. **Fees:** Payment of all development, inspection, recording, street light, and other project related fees.
12. **Mylar:** Submit a Mylar. All plats will receive final verification of all formats, notes, conveyances, and other items contained on the plat by City staff (recorder, legal, engineer, GIS, planning).

TABULATIONS

ZONE =	PR-3.0
TOTAL AREA =	11.87 AC
AREA OF EXISTING ROADS =	0 AC
NET DEVELOPABLE AREA =	11.87 AC
AREA OF NEW ROADS =	2.29 AC
AREA IN LOTS =	9.58 AC
OPEN SPACE / LANDSCAPE	2.01 AC
LOW-DENSITY ATTACHED SUBDIVISION	
NUMBER OF UNITS =	17
CONSERVATION SUBDIVISION	
NUMBER OF SINGLE FAMILY LOTS	10
R-1-12 SUBDIVISION	
NUMBER OF SINGLE FAMILY LOTS	3

PLAT	AREA (ac)	ZONE	ALLOWED # OF LOTS	ACTUAL # OF LOTS
R-1-12	5.56	R-12	17	3
CONSERVATION	5.15	PR-3.0	15	10
LOW-DENSITY	1.16	PR-3.0	3	17
TOTAL	11.87		36	30
"CANYON" - FRONT LOAD				17
SINGLE FAMILY				13
		PROJECT DENSITY (DU/AC) =		**2.53**

PROJECT REQUIRED TABULATIONS				
REQUIRED OPEN SPACE		GROSS (AC)	OPEN SPACE (AC)	PROVIDED
CONSERVATION	25%	5.15	1.29	
LOW-DENSITY	25%	1.16	0.29	
TOTAL		6.31	1.58	**2.01**

BOUNDARY DESCRIPTION

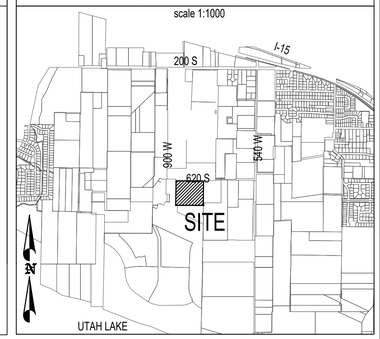
BEGINNING AT A POINT LOCATED SOUTH 96.23 FEET FROM THE SOUTHEAST CORNER OF SECTION 22, TOWNSHIP 5 SOUTH, RANGE 1 EAST, SALT LAKE BASE AND MERIDIAN;

THENCE NORTH 89°31'53" WEST 236.86 FEET; THENCE SOUTH 00°27'39" WEST 4.12 FEET; THENCE NORTH 89°31'53" WEST 47.72 FEET; THENCE NORTH 00°58'19" EAST 677.81 FEET; THENCE SOUTH 89°01'53" EAST 348.71 FEET; THENCE ALONG THE ARC OF A 1500.00 FOOT RADIUS CURVE TO THE LEFT A DISTANCE OF 48.73 FEET (CURVE HAVING A CENTRAL ANGLE OF 01°51'41" AND LONG CHORD BEARS S89°57'44"E 48.73 FEET); THENCE NORTH 89°06'26" EAST 332.40 FEET; THENCE SOUTH 55°17'33" EAST 40.28 FEET; THENCE SOUTH 00°07'40" EAST 554.84 FEET; THENCE SOUTH 89°52'26" WEST 9.61 FEET; THENCE SOUTH 00°00'58" EAST 101.31 FEET; THENCE NORTH 89°31'53" WEST 481.43 FEET TO THE POINT OF BEGINNING.

AREA = 517,010 SF OR 11.87 ACRES

BASIS OF BEARING IS NORTH 89°52'20" EAST ALONG SECTION LINE FROM THE SOUTH QUARTER CORNER OF SECTION 22, TOWNSHIP 5 SOUTH, RANGE 1 EAST, SALT LAKE AND MERIDIAN, TO THE SOUTHEAST CORNER OF SAID SECTION 22. (NAD 27)

VICINITY SKETCH



CONTACT LIST

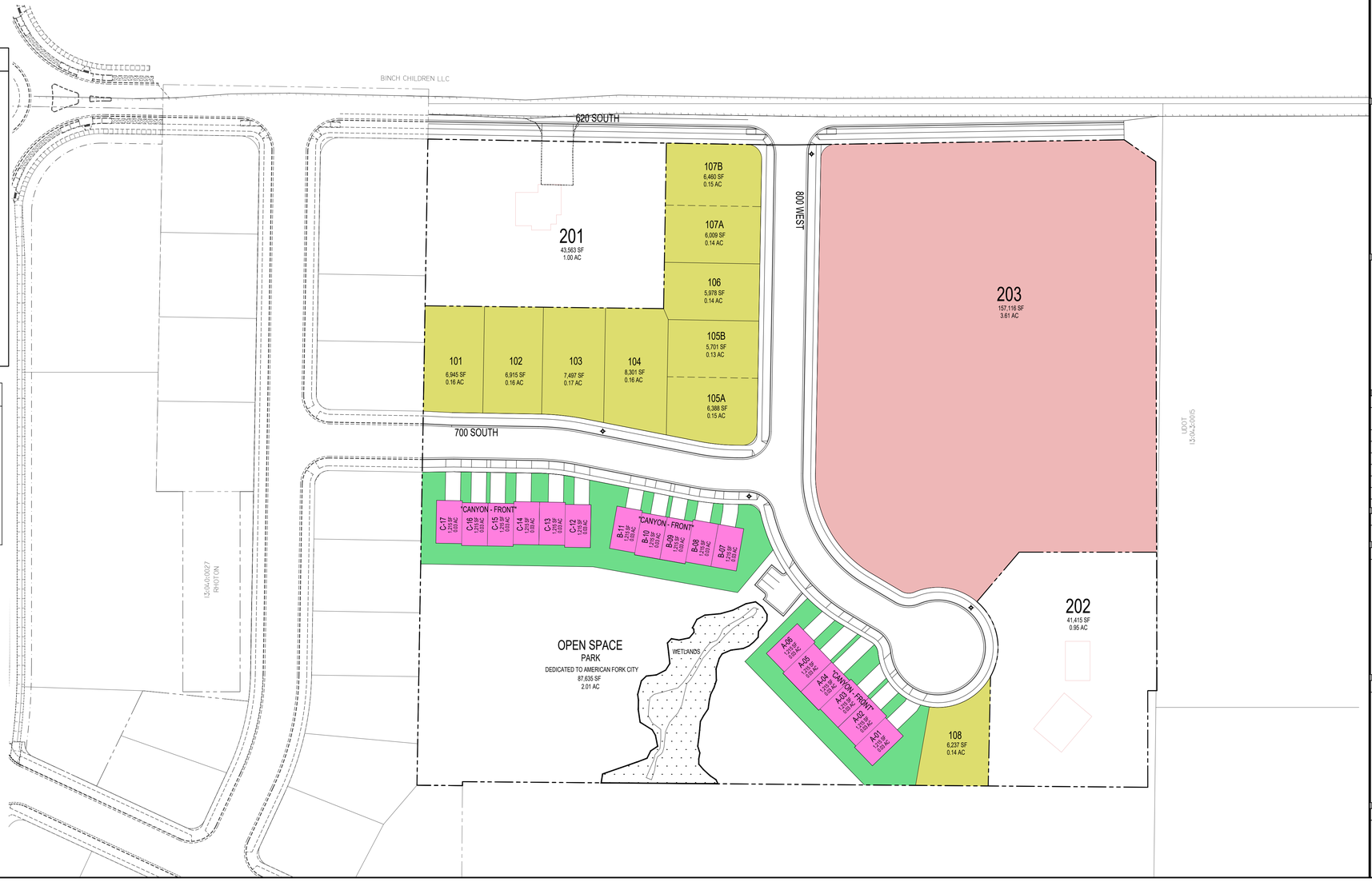
CIVIL ENGINEER		
BERG CIVIL ENGINEERING		(801) 492-1277
GEOTECHNICAL ENGINEER		
AMERICAN FORK CITY PLANNING DEPT.		(801) 763-3060
AMERICAN FORK CITY PUBLIC WORKS		(801) 763-3060
UTILITIES		
AF CULINARY WATER	(JAY BREMS)	(801) 763-3060
AF PRESSURIZED IRRIGATION	(JAY BREMS)	(801) 763-3060
AF SANITARY SEWER	(ASHTON HARDY)	(801) 763-3060
AF STORM DRAIN	(ASHTON HARDY)	(801) 763-3060
AF FIRE MARSHALL	(MAT SACCO)	(801) 763-3040
AF CITY INSPECTOR	(DEE HOWARD)	(801) 763-3060
AF SWPPP INSPECTOR	(HARLAN NELSON)	(801) 763-3060
AF FIBER	(WILL DAVIS)	(801) 897-9826
AF IRRIGATION COMPANY	(ERNIE JOHN)	(801) 471-6576
ROCKY MOUNTIAN POWER	(TERIA WALKER)	(801) 756-1510
COMCAST	(ELYSIA VALDEZ)	(801) 401-3017
TSSD	(DAVID BARLOW)	(801) 756-5231
MITCHELL HOLLOW IRRIGATION	(JEFF MITCHELL)	(801) 367-9026
CENTURY LINK	(RYAN ALLRED)	(385) 223-0084
DOMINION ENERGY	(TRENT JOHNSON)	(801) 853-6548

SHEET INDEX

C0	COVER
C1	PRELIMINARY PLAN
C2	OVERALL UTILITY PLAN
C3	GRADING PLAN
C4	700 SOUTH PLAN & PROFILE
C5	620 SOUTH PLAN & PROFILE
C6	780 WEST PLAN & PROFILE
C7	SWPPP
GN1	GENERAL NOTES
D0-D4	CONSTRUCTION DETAILS

NOTES

1. PROJECT ADDRESS IS 750 WEST 700 SOUTH
2. ELEVATION BENCHMARK IS THE NORTHEAST CORNER OF SEC 22 T5S; R1E; SLB&M ELEV = 4568.68' NAVD 88 DATUM (3" BRASS CAP) U.S. SURVEY FEET
3. LOWEST FLOOR SLAB ELEVATION MUST BE A MINIMUM OF 3 FEET ABOVE WATER LEVEL MEASURED DURING SPRING SEASON
4. LOWEST FOOTING SHALL BE AT LEAST 2' ABOVE OBSERVED HIGH GROUND WATER LEVEL
5. ALL HABITABLE STRUCTURES SHALL BE 1 FOOT ABOVE 100-YEAR FLOOD ELEVATION.
6. OFF-SET PINS TO BE PLACED IN THE BACK OF THE CURB AND 5/8" BY 24" REBAR WITH NUMBERED SURVEY CAP TO BE PLACED AT ALL LOTS REAR CORNERS PRIOR TO OCCUPANCY
7. BUILDING PERMITS WILL NOT BE ISSUED FOR ANY HOME UNTIL 1) ASPHALT PAVING IS INSTALLED AND 2) FIRE HYDRANTS ARE INSTALLED, APPROVED BY THE FIRE MARSHALL AND CHARGED WITH CULINARY WATER



ARDERO
520 South 850 East
Suite A1
Lehi, UT 84043
(385) 484-6337

DEVELOPMENT

AF 10 SUBDIVISION

0 30 60 120 180
SCALE: 1"= 60'
24" X 36" SHEET

berg
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REVISIONS			SEAL
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STATE OF UTAH — KENNETH K. BERG — 9725120 — 343602 — PROFESSIONAL ENGINEER

ACTION	DATE
FINAL	02/25/20

PROJECT

AF 10 SUBDIVISION

DESCRIPTION

FINAL CONSTRUCTION PLANS

SHEET NAME	SHEET NUMBER
COVER	C0

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CURVE TABLE

CURVE	RADIUS	LENGTH	DELTA	CHORD	BEARING
C1	1500.00	48.73	01°51'41"	48.73	S89°57'44"E

C1
RADIUS = 1500.00
DISTANCE = 48.73
DELTA = 01°51'41"
S 89°57'44" E 48.73

BINCH CHILDREN LLC

620 SOUTH

S89°01'53"E 348.71'

N89°06'26"E 332.40'

S55°17'33"E 40.28'

800 WEST

201
43,563 SF
1.00 AC

107B
6,460 SF
0.15 AC

107A
6,009 SF
0.14 AC

106
5,978 SF
0.14 AC

105B
5,701 SF
0.13 AC

105A
6,388 SF
0.15 AC

101
6,945 SF
0.16 AC

102
6,915 SF
0.16 AC

103
7,497 SF
0.17 AC

104
8,301 SF
0.16 AC

203
157,116 SF
3.61 AC

202
41,415 SF
0.95 AC

108
6,237 SF
0.14 AC

700 SOUTH

"CANYON - FRONT"

C-17 1,215 SF 0.03 AC
C-16 1,215 SF 0.03 AC
C-15 1,215 SF 0.03 AC
C-14 1,215 SF 0.03 AC
C-13 1,215 SF 0.03 AC
C-12 1,215 SF 0.03 AC

"CANYON - FRONT"

B-11 1,215 SF 0.03 AC
B-10 1,215 SF 0.03 AC
B-09 1,215 SF 0.03 AC
B-08 1,215 SF 0.03 AC
B-07 1,215 SF 0.03 AC

"CANYON - FRONT"

A-06 1,215 SF 0.03 AC
A-05 1,215 SF 0.03 AC
A-04 1,215 SF 0.03 AC
A-03 1,215 SF 0.03 AC
A-02 1,215 SF 0.03 AC
A-01 1,215 SF 0.03 AC

OPEN SPACE
PARK
DEDICATED TO AMERICAN FORK CITY
87,635 SF
2.01 AC

WETLANDS

BASIS OF BEARING
N 89°52'20" E (2651.87')

S 1/4 SEC 22
T5S, R1E, SLB&M

P.O.B.

N00°58'19"E 677.81'

S00°07'40"E 554.84'

S89°52'26"E 9.61'

S00°00'58"E 101.31'

N89°31'53"W 47.72'

S00°27'39"W 4.12'

N89°31'53"W 236.86'

SOUTH 96.23'

N89°31'53"W 481.43'

UDOT
15-043-0015

ARDERO

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DEVELOPMENT

AF 10 SUBDIVISION

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SCALE: 1"= 40'
24" X 36" SHEET

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STATE OF UTAH
KRBUM
KEVIN R. BUM
REGISTERED
PROFESSIONAL ENGINEER
02/25/20
343602

ACTION	DATE
FINAL	02/25/20

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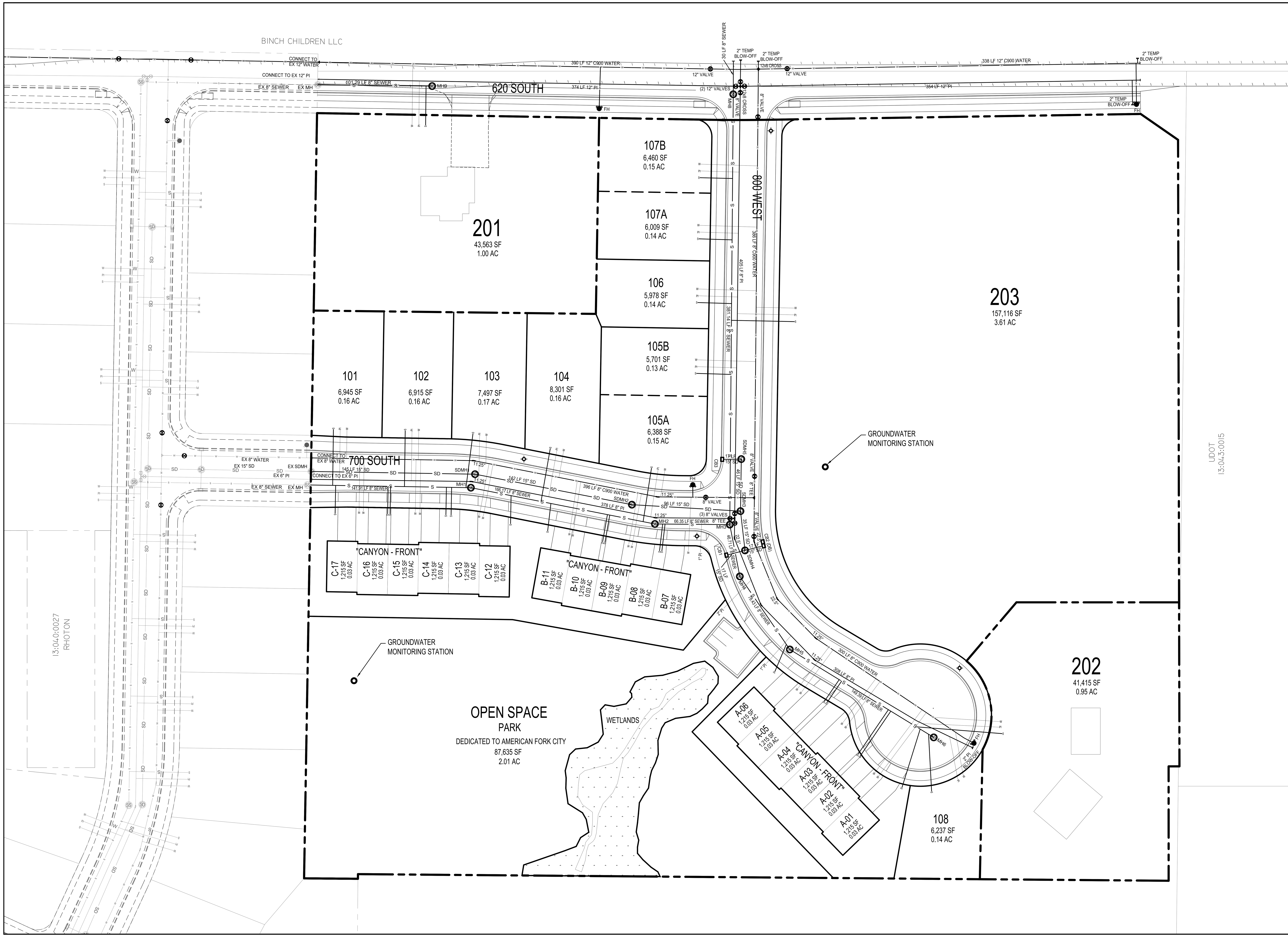
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SHEET NAME	SHEET NUMBER
PRELIMINARY PLAT	C1

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STATE OF UTAH
KENNETH R. BERG
2/25/20
343602
PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION

ACTION	DATE
FINAL	02/25/20

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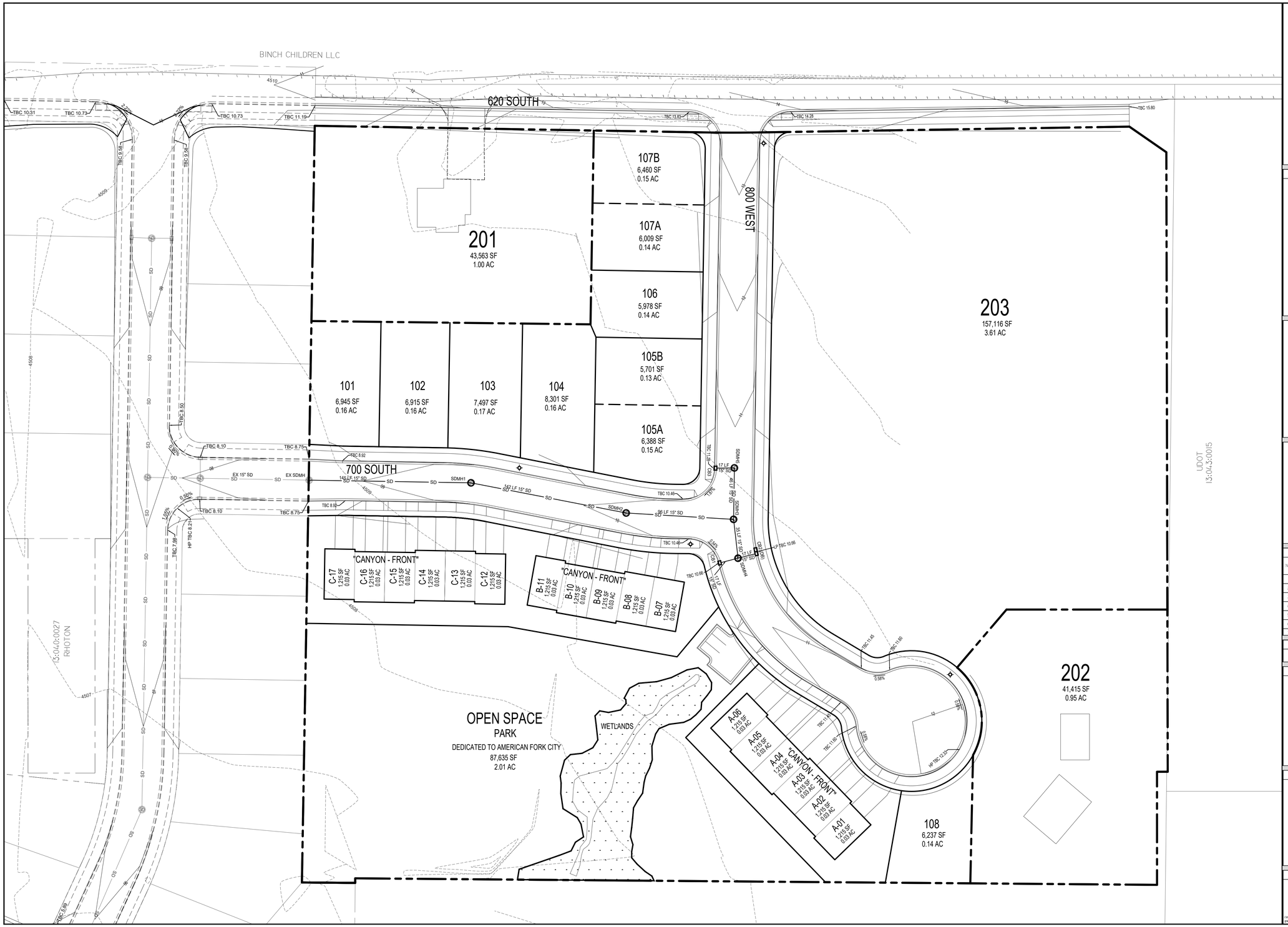
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SHEET NAME	SHEET NUMBER
UTILITY PLAN	C2

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FINAL	02/25/20

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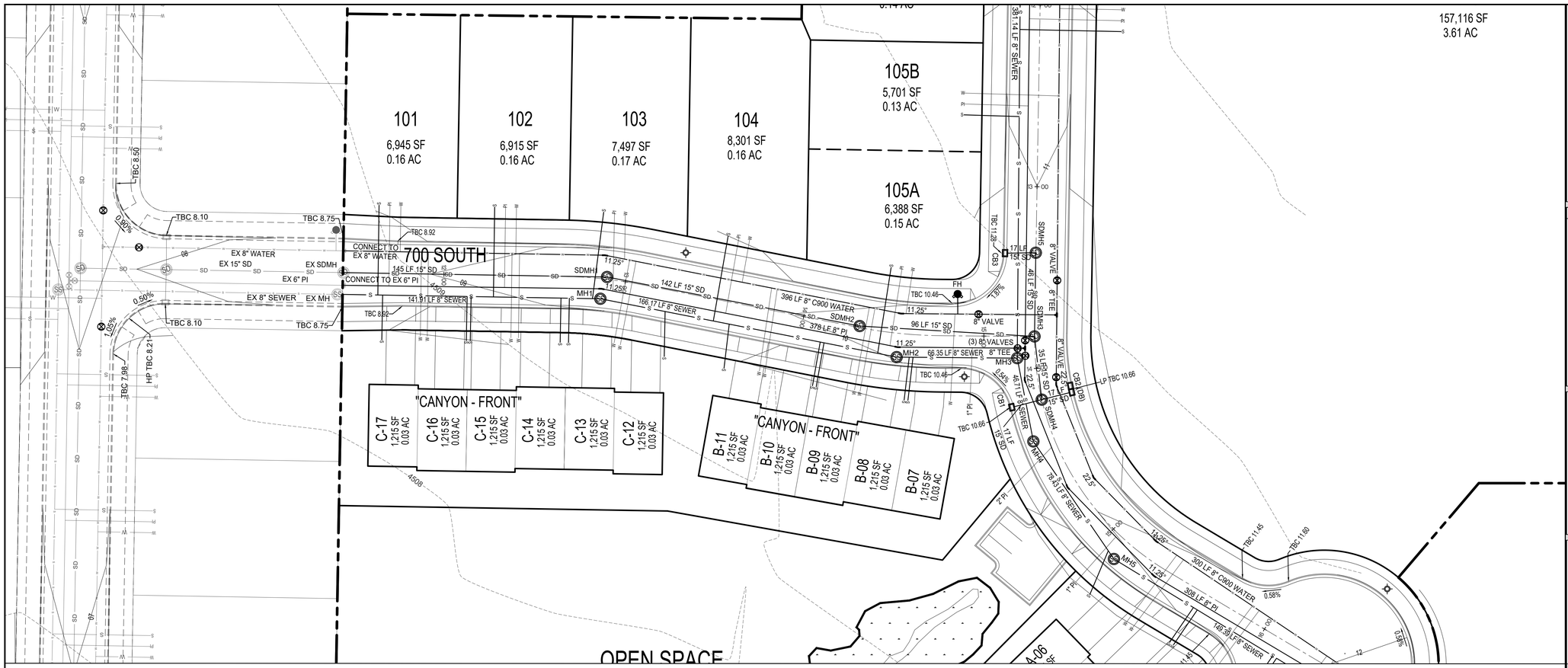
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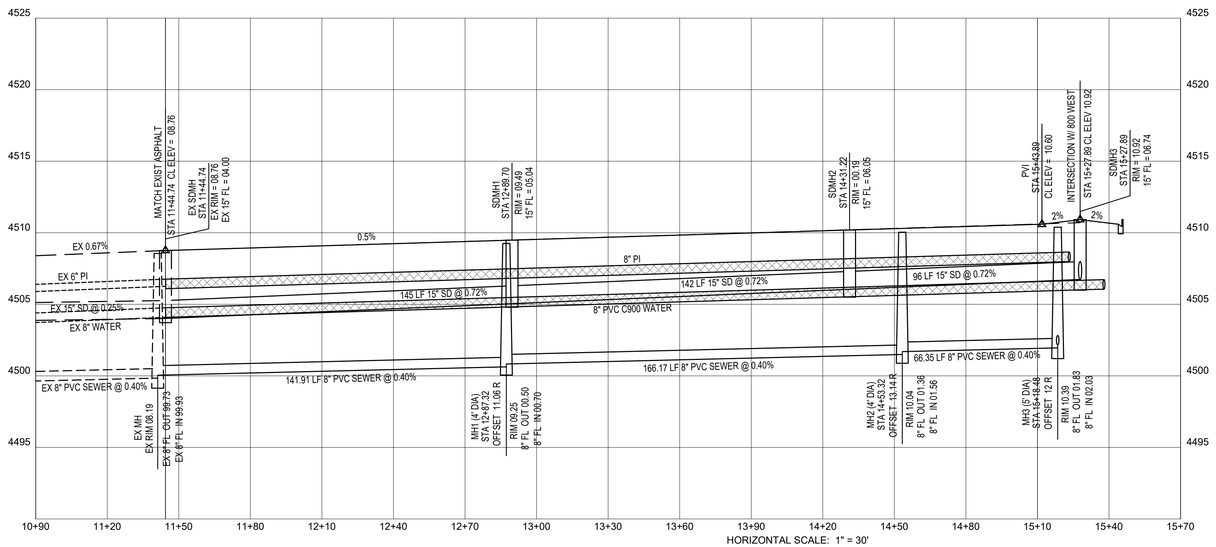
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GRADING PLAN	C3

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SEAL

STATE OF UTAH
R. BUM
CHRISTOPHER R. BUM
02/25/20
343602
PROFESSIONAL ENGINEER

ACTION	DATE
FINAL	02/25/20

PROJECT

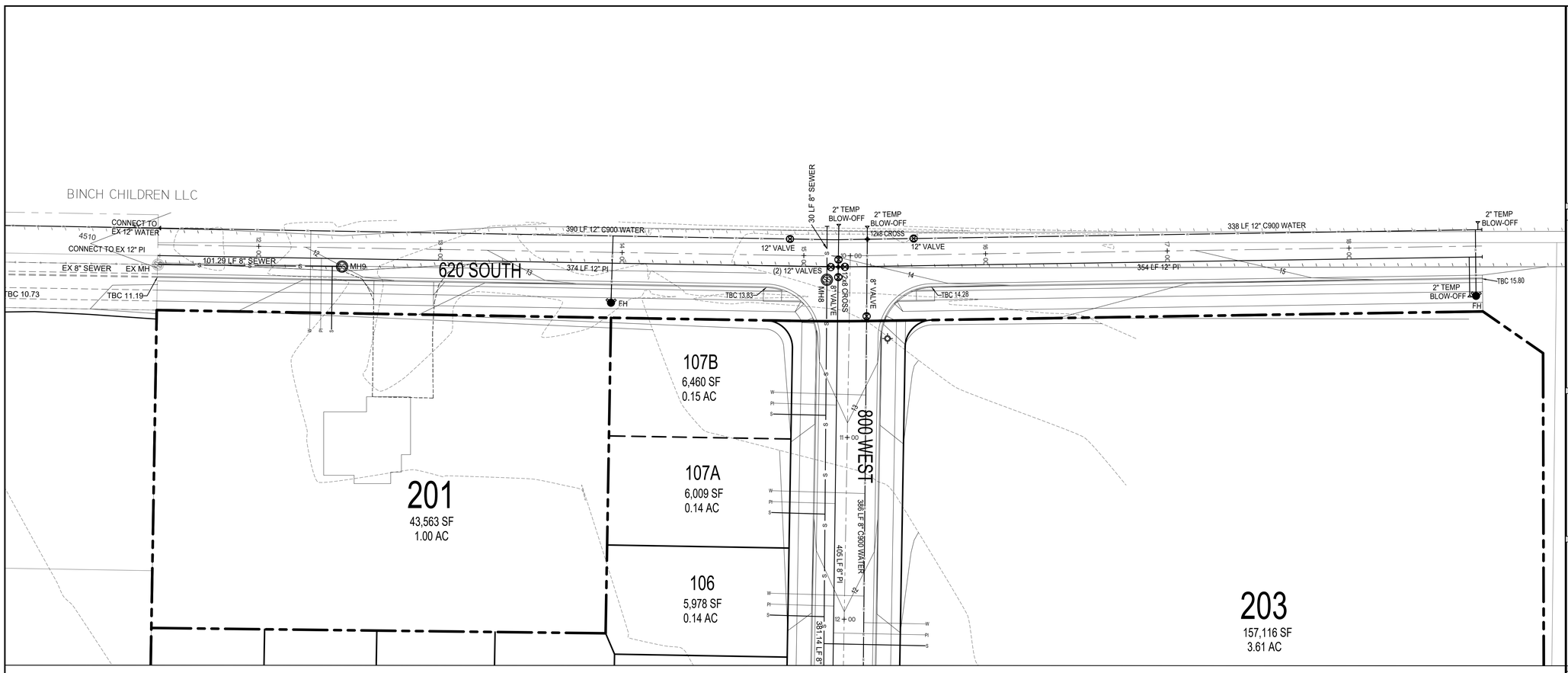
AF 10 SUBDIVISION

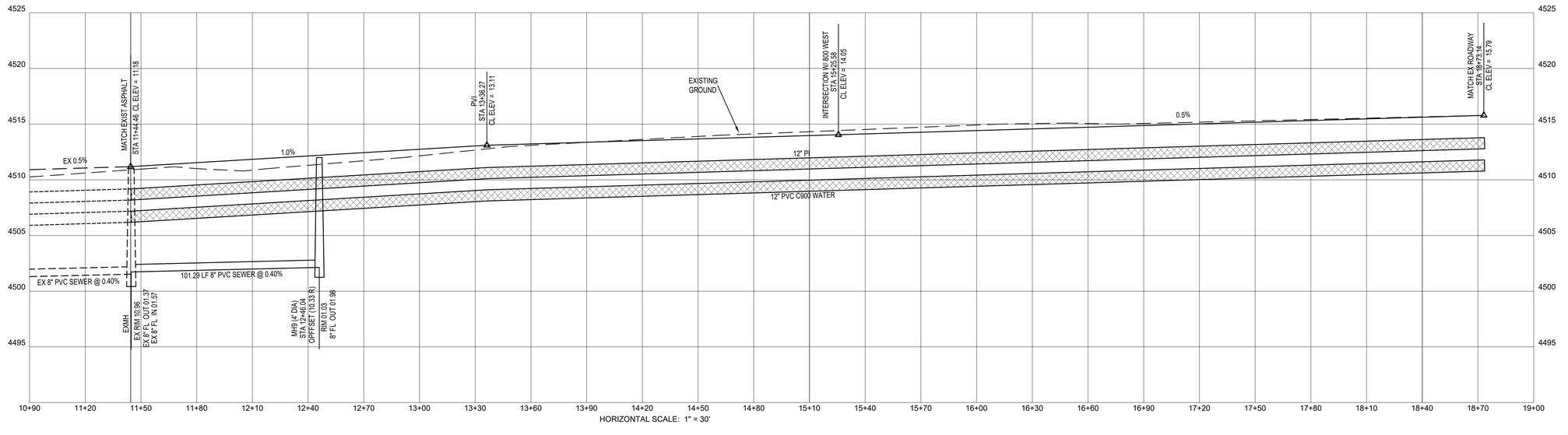
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FINAL CONSTRUCTION PLANS

SHEET NAME	SHEET NUMBER
700 SOUTH PLAN	*C4*

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DEVELOPMENT

AF 10 SUBDIVISION

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REVISIONS

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SEAL
STATE OF UTAH
KYLE R. BERG
05/20/20
343602
PROFESSIONAL ENGINEER

ACTION	DATE
FINAL	02/25/20

PROJECT

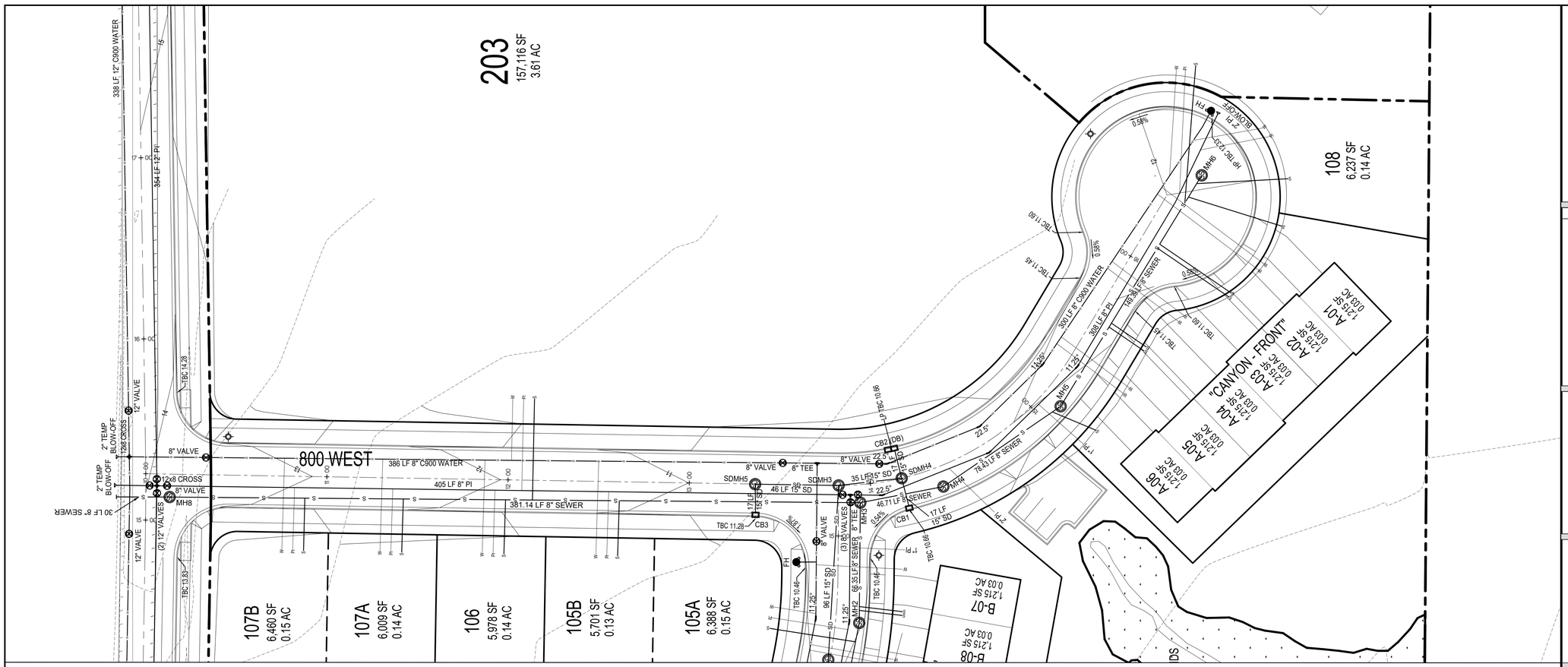
AF 10 SUBDIVISION

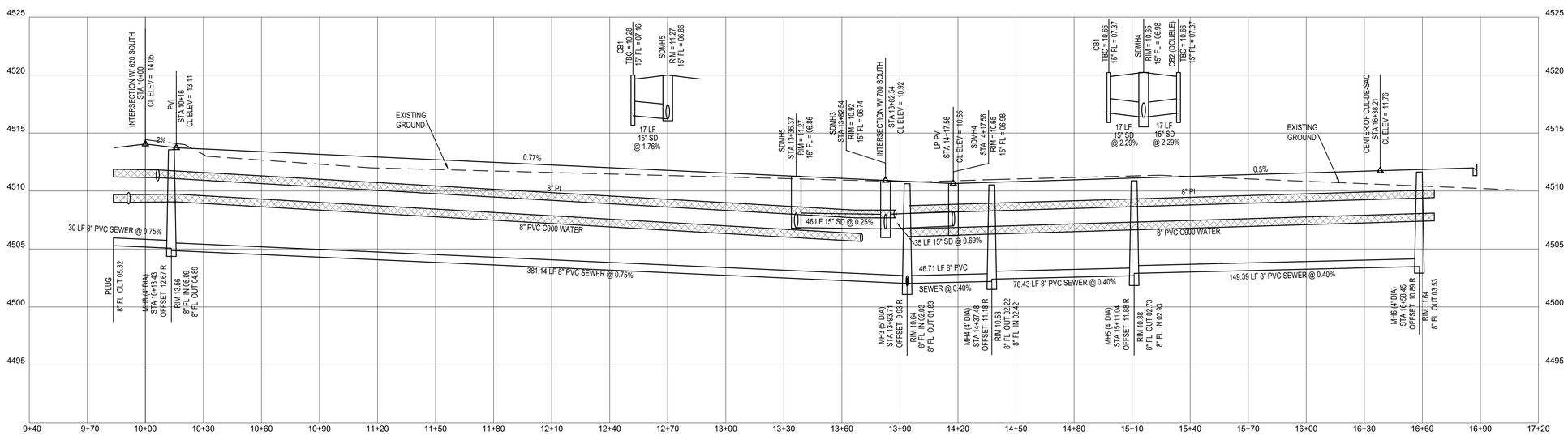
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FINAL CONSTRUCTION PLANS

SHEET NAME	SHEET NUMBER
620 SOUTH PLAN	C5

I:\my drive\berg civil\201\final\civil\cad 10\sht10 final cdsaf 10_05-final 620.dwg





ARDERO
520 South 850 East
Suite A1
Lehi, UT 84043
(385) 484-6337

DEVELOPMENT

AF 10
SUBDIVISION

0 15 30 60 90
SCALE: 1"= 30'
24" X 36" SHEET

berg
CIVIL ENGINEERING
11038 N. Highland Blvd Suite 400
Highland Ut, 84003
office (801) 492-1277
cell (801) 616-1677

REVISIONS

NO.	DATE	DESCRIPTION
1		
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7		

SEAL
STATE OF UTAH
R. BUM
CIVIL ENGINEER
02/25/20
343602
PROFESSIONAL ENGINEER

ACTION	DATE
FINAL	02/25/20

PROJECT

AF 10
SUBDIVISION

DESCRIPTION

FINAL
CONSTRUCTION
PLANS

SHEET NAME	SHEET NUMBER
800 WEST PLAN	C6

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BINCH CHILDREN LLC

620 SOUTH

700 SOUTH

800 WEST

201
43,563 SF
1.00 AC

107B
6,460 SF
0.15 AC

107A
6,009 SF
0.14 AC

106
5,978 SF
0.14 AC

105B
5,701 SF
0.13 AC

105A
6,388 SF
0.15 AC

101
6,945 SF
0.16 AC

102
6,915 SF
0.16 AC

103
7,497 SF
0.17 AC

104
8,301 SF
0.16 AC

203
157,116 SF
3.61 AC

202
41,415 SF
0.95 AC

108
6,237 SF
0.14 AC

"CANYON - FRONT"

C-17 1,215 SF 0.03 AC
C-16 1,215 SF 0.03 AC
C-15 1,215 SF 0.03 AC
C-14 1,215 SF 0.03 AC
C-13 1,215 SF 0.03 AC
C-12 1,215 SF 0.03 AC

"CANYON - FRONT"

B-11 1,215 SF 0.03 AC
B-10 1,215 SF 0.03 AC
B-09 1,215 SF 0.03 AC
B-08 1,215 SF 0.03 AC
B-07 1,215 SF 0.03 AC

"CANYON - FRONT"

A-06 1,215 SF 0.03 AC
A-05 1,215 SF 0.03 AC
A-04 1,215 SF 0.03 AC
A-03 1,215 SF 0.03 AC
A-02 1,215 SF 0.03 AC
A-01 1,215 SF 0.03 AC

OPEN SPACE
PARK
DEDICATED TO AMERICAN FORK CITY
87,635 SF
2.01 AC

WETLANDS

13:040:0027
RHOTON

SWPPP CERTIFICATION STATEMENT

"I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AD ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ENSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR PATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

_____ DATE _____
KENNETH R. BERG, PE

MAPPING LEGEND

SYMBOL	MAP UPDATING/LABEL	SYMBOL	MAP UPDATING/LABEL
			PORTABLE TOILET
			TRASH BIN
			DEFINED WASHOUT AREA
			FUEL TANKS/STORAGE
	INLET PROTECTION		STABILIZED EXIT/PAD; RIP RAP
	SIGNAGE		MATERIALS STORAGE, DEFINED STORAGE
			PROJECT BOUNDARY/AREA INDICATOR
			CUTBACK CURB/CHECK DAM
	CONSTRUCTION TRAILER/OFFICE		SILT FENCE/EARTHEN BERM

ARDERO
520 South 850 East
Suite A1
Lehi, UT 84043
(385) 484-6337

DEVELOPMENT

AF 10 SUBDIVISION

0 20 40 80 120
SCALE: 1"= 40'
24" X 36" SHEET

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STATE OF UTAH
KENNETH R. BERG
343602
PROFESSIONAL ENGINEER
02/25/20

ACTION	DATE
FINAL	02/25/20

PROJECT

AF 10 SUBDIVISION

DESCRIPTION

FINAL CONSTRUCTION PLANS

SHEET NAME	SHEET NUMBER
SWPPP	*C7*

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swppp.dwg

GENERAL NOTES

1. This project is located within the sensitive lands area of the city. Therefore a detailed engineering soils report has been prepared for the site. This soils report filed with American Fork city, gives specific recommendations that shall be followed concerning: Site Grading, Foundations, Concrete Slab on Grade, Subsurface Drains, Pavement, Backfill, and Utility Trenching.
2. City of American Fork, A.P.W.A, Utah Chapter and Utah Department of Transportation Construction and Material Specifications, current editions, and any supplements thereto (hereafter referred to as Standard Specifications), shall govern all construction items unless otherwise noted. If a conflict between specifications is found, the more strict specification will apply as decided by the City Engineer. Item Numbers listed refer to City of American Fork item numbers unless otherwise noted.
3. The City Engineer will not be responsible for means, methods, procedures, techniques, or sequences of construction that are not specified herein. The City Engineer will not be responsible for safety on the work site, or for failure by the Contractor to perform work according to contract documents.
4. The Developer or Contractor shall be responsible to obtain all necessary permits including but not limited to Road Cut Permits and Notices of Intent (NOI), Building Permits, etc.
5. The Contractor shall notify the City of American Fork, Public Works Department in writing at least 7 working days prior to beginning construction and request a pre-construction meeting. Bond for public improvements and inspection fees must be paid in full prior to requesting a pre-construction meeting.
6. The Contractor shall be solely responsible for complying with all federal, state and local safety requirements including the Occupational Safety and Health Act of 1970. The Contractor shall exercise precaution always for the protection of persons (including employees) and property. It shall also be the sole responsibility of the Contractor to initiate, maintain and supervise all safety requirements, precautions and programs in connection with the work, including the requirements for confined spaces per 29 CFR 1910.146.
7. Following completion of construction of the site improvements and before requesting occupancy, a proof survey shall be provided to the City of American Fork, Public Works Department, that documents "as-built" elevations, dimensions, slopes and alignments of all elements of this project. The proof survey shall be prepared, signed and submitted by the Professional Engineer who sealed the constructions drawings.
8. The Contractor shall restrict construction activity to public right-of-way and areas defined as permanent and/or temporary construction easements, unless otherwise authorized by the City Engineer.
9. The Contractor shall carefully preserve benchmarks, property corners, reference points, stakes and other survey reference monuments or markers. In cases of willful or careless destruction, the Contractor shall be responsible for restorations. Resetting of markers shall be performed by a License Utah Professional Surveyor as approved by the City Engineer.
10. Non-rubber tired vehicles shall not be moved on or across public streets or highways without the written permission of the City Engineer.
11. The Contractor shall restore all disturbed areas to equal or better condition than existed before construction. Drainage ditches or watercourses that are disturbed by construction shall be restored to the grades and cross-sections that existed before construction.
12. Tracking or spilling mud, dirt or debris upon streets, residential or commercial drives, sidewalks or bike paths is prohibited. Any such occurrence shall be cleaned up immediately by the Contractor at no cost to the City. If the Contractor fails to remove said mud, dirt, debris, or spillage, the City reserves the right to remove these materials and clean affected areas, the cost of which shall be the responsibility of the Contractor.
13. Disposal of excess excavation within Special Flood Hazard Areas (100-year floodplain) must be approved by the City Engineer.
14. All signs, landscaping, structures or other appurtenances within right-of-way disturbed or damaged during construction shall be replaced or repaired to the satisfaction of the City Engineer. The cost of this work shall be the responsibility of the Contractor.
15. All field tile broken or encountered during excavation shall be replaced or repaired and connected to the public storm sewer system as directed by the City Engineer. The cost of this work shall be the responsibility of the Contractor.
16. All precast concrete products shall be inspected at the location of manufacture. Approved precast concrete products will be stamped or have such identification noting that inspection has been conducted by the City of American Fork. Precast concrete products without proof of inspection shall not be approved for installation.
17. All trenches within public right-of-way shall be backfilled according to the approved construction drawings or securely plated during nonworking hours.
18. Trenches outside these areas shall be backfilled or shall be protected by approved temporary fencing or barricades during nonworking hours. Clean up shall follow closely behind the trenching operation.
19. All trees within the construction area not specifically designated for removal shall be preserved, whether shown or not shown on the approved construction drawings. Trees to be preserved shall be protected with high visibility fencing placed a minimum 15 feet from the tree trunk. Trees 6 - inches or greater at DBH (Diameter Breast Height) must be protected with fencing placed at the critical root zone or 15 feet, whichever is greater.
20. Trees not indicated on the approved construction drawings for removal may not be removed without prior approval of the Division of Engineering.
21. Permits to construct in the right-of-way of existing streets must be obtained from the City of American Fork, Public Works Department before commencing construction.
22. The Contractor shall be responsible for the condition of trenches within the right-of-way and public easements for a period of one year from the final acceptance of the work, and shall make any necessary repairs at no cost to the City.
23. Pavements shall be cut in neat, straight lines the full depth of the existing pavement, or as required by the City Engineer.
24. The replacement of driveways, handicapped ramps, sidewalks, bike paths, parking lot pavement, etc. shall be provided according to the approved construction drawings and the City of American Fork standard construction drawings.
25. Any modification to the work shown on drawings must have prior written approval by the City Engineer.
26. Traffic control and other regulatory signs shall comply with the Utah Department of Transportation Traffic Control guidelines and MUTCD Manual, current edition
27. Public street signs shall meet all City of American Fork specifications with lettering colored in white displayed over a green background.
28. Private street signs shall meet all City of American Fork specifications with lettering colored in white displayed over a blue background

TRAFFIC CONTROL

1. Traffic control shall be furnished, erected, maintained, and removed by the Contractor according to Utah Department of Transportation, Traffic Control guidelines or Manual of Uniform Traffic Control Devices, current edition.
2. All traffic lanes of public roadways shall be fully open to traffic from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM unless authorized differently by the City Engineer.
3. At all other hours the Contractor shall maintain minimum one - lane two - way traffic. Traffic circulation must be supervised by a Certified Flagger.
4. Steady - burning, Type "C" lights shall be required on all barricades, drums, and similar traffic control devices in use at night.
5. Access from public roadways to all adjoining properties for existing residents or businesses shall be maintained throughout the duration of the project for mail, public water and sanitary sewer service, and emergency vehicles.
6. The Contractor shall provide a traffic control plan detailing the proposed maintenance of traffic procedures. The traffic control plan must incorporate any traffic control details contained herein.
7. The traffic control plan proposed by the Contractor must be approved by the City Engineer prior to construction.
8. Traffic Control requiring road closures and/ or detouring must be approved by the City Council.

UTILITIES

1. The Contractor shall give notice of intent to construct to Blue Stake (telephone number 800-662-4111) at least 2 working days before start of construction.
2. The identity and locations of existing underground utilities in the construction area have been shown on the approved construction drawings as accurately as provided by the owner of the underground utility. The City of American Fork and the City Engineer assumes no responsibility for the accuracy or depths of underground facilities shown on the approved construction drawings. If damage is caused, the Contractor shall be responsible for repair of the same and for any resulting contingent damage.
3. Location, support, protection and restoration of all existing utilities and appurtenances, whether shown or not shown on the approved construction drawings, shall be the responsibility of the Contractor.
4. When unknown or incorrectly located underground utilities are encountered during construction, the Contractor shall immediately notify the owner and the City Engineer.

STRIPING AND SIGNING

1. All striping must be done following Utah Department of Transportation guidelines and MUTCD Manual recommendations, current edition.
2. All signing must be done following MUTCD Manual recommendations, current edition.
3. Only sand-blasting is allowed for removal of existing striping.
4. Contractor is responsible for removal of conflicting existing striping.
5. Materials used for striping must comply with the Utah Department of Transportation standard specifications.

EROSION AND SEDIMENT CONTROL

1. The Contractor or Developer is responsible for submitting a Notice of Intent (NOI) to be reviewed and approved by the Utah Division of Water Quality.
2. The NOI must be submitted to Utah Division of Water Quality 45 days prior to the start of construction and may entitle coverage under the Utah Division of Water Quality General Permit for Storm Water Discharges associated with construction activity. A project location map must be submitted with the NOI.
3. A sediment and erosion control plan must be submitted to the City Engineer for approval if a sediment and erosion control plan has not already been included with the approved construction drawings. This plan must be made available at the project site at all times.
4. A UPDES Storm water Discharge Permit may be required. The Contractor shall be considered the Permittee.
5. The Contractor shall provide sediment control at all points where storm water runoff leaves the site, including waterways, overland sheet flow, and storm sewers.
6. Accepted methods of providing erosion/sediment control include but are not limited to: sediment basins, silt filter fence, aggregate check dams, and temporary ground cover. Hay or straw bales are not permitted.
7. The Contractor shall provide adequate drainage of the work area at all times consistent with erosion control practices.
8. Disturbed areas that will remain un-worked for 30 days or more shall be seeded or protected within seven calendar days of the disturbance.
9. Other sediment controls that are installed shall be maintained until vegetative growth has been established. The Contractor shall be responsible for the removal of all temporary sediment devices at the conclusion of construction but not before growth of permanent ground cover.

USE OF FIRE HYDRANTS

1. The Contractor shall make proper arrangements with the American Fork City, Water Department for the use of fire hydrants when used for work performed under this project's approval.

SANITARY SEWERS

1. Sanitary sewage collection systems shall be constructed in accordance with the rules, regulations, standards and specifications of the City of American Fork, Public Works Department and the Utah Department of Health Code and Regulations.
2. The minimum requirements for sanitary sewer pipe with diameters 15 inches and smaller shall be reinforced concrete pipe ASTM C76 Class 3, or PVC sewer pipe ASTM D3034, SDR 35.
3. Pipe for 6-inch diameter house service lines shall be PVC pipe ASTM D3034, SDR 35. PVC pipe shall not be used at depths greater than 28 feet. Pipe materials and related structures shall be shop tested in accordance with City of American Fork Construction Inspection Division quality control requirements.
4. All manhole lids shall be provided with continuous self-sealing gaskets.
5. The approved construction drawings shall show where bolt-down lids are required.
6. Sanitary sewer manholes shall be precast concrete or as approved by the City Engineer and conform to the City of American Fork sanitary manhole standard drawing. Manhole lids shall include the word SEWER.
7. All PVC sewer pipes shall be deflection tested no less than 60 days after completion of backfilling operations.
8. At the determination of the City Engineer, the Contractor may be required to perform a TV inspection of the sanitary sewer system prior to final acceptance by the City. This work shall be completed by the Contractor at his expense.
9. Visible leaks or other defects observed or discovered during TV inspection shall be repaired to the satisfaction of the Engineer.
10. Roof drains, foundation drains, field tile or other clean water connections to the sanitary sewer system are strictly prohibited according to the American Fork Code of Ordinances.
11. All water lines shall be located at least 10 feet horizontally and 18 inches vertically, from sanitary sewers and storm sewers, to the greatest extent practicable.
12. Where sanitary sewers cross water mains or other sewers or other utilities, trench backfill shall be placed between the pipes crossing and shall be compacted granular material according to the city Standard Specifications. In the event that a water line must cross within 18 inches of a sanitary sewer, the sanitary sewer shall be concrete encased or consist of ductile iron pipe material.
13. Existing sanitary sewer flows shall be maintained at all times. Costs for pumping and bypassing shall be included in the Contractor's unit price bid for the related items.
14. The Contractor shall furnish all material, equipment, and labor to make connections to existing manholes.
15. All sewer lines shall be placed at a minimum depth of 4 feet measured from top of finished grade to top of sewer line.

WATER LINE

1. All water line materials shall be provided and installed according to current specifications of the City of American Fork, Water Department.
2. All public water pipe with a diameter 3 inches to 8 inches shall be Ductile Iron, Class 53. Public water pipe 12 inches in diameter or larger shall be Ductile Iron, Class 54.
3. Only fire hydrants conforming to City of American Fork standards will be approved for use.
4. Public water lines shall be disinfected by the City of American Fork, Water Department. Requests for water line chlorination shall be made through the City of American Fork, Water Department. The cost for chlorination shall be paid for by the Contractor.
5. All water lines shall be disinfected according to City of American Fork Standard specifications. Special attention is directed to applicable sections of American Water Works Association specification C-651, particularly for flushing (Section 5) and for chlorinating valves and fire hydrants (Section 7).
6. Pressure testing shall be performed in accordance with the City of American Fork, Construction and Material Specifications. When water lines are ready for disinfection, the Contractor shall submit two (2) sets of "as-built" plans, and a letter stating that the water lines have been pressure tested and need to be disinfected, to the City of American Fork, Water Department.
7. The Contractor shall be responsible for all costs associated with the disinfection of all water lines construction per this plan. Pressure testing shall be performed in accordance with the City of American Fork, Construction and Material Specifications.
8. The Contractor shall paint all fire hydrants according to City of American Fork standards. The cost of painting fire hydrants shall be included in the contract unit price for fire hydrants.
9. No water taps or service connections (e.g., to curb stops or meter pits) may be issued until adjacent public water lines serving the construction site have been disinfected by the City of American Fork, Water Department and have been accepted by the Public Works Department.
10. The Contractor shall notify the City of American Fork, Water Department at (801) 763 3060 at least 24 hours before tapping into existing water lines.
11. All water main stationing shall be based on street centerline stationing.
12. All bends, joint deflections and fittings shall be backed with concrete per City of American Fork standards.
13. The Contractor shall give written notice to all affected property owners at least 1 working day but not more than 3 working days prior to any temporary interruption of water service. Interruption of water service shall be minimized and must be approved by the City Engineer.
14. All water lines shall be placed at a minimum depth of 4 feet measured from top of finished grade to top of water line. Water lines shall be set deeper at all points where necessary to clear existing or proposed utility lines or other underground restrictions by a minimum of 18 inches.

SECONDARY WATER

1. All secondary water line materials shall be provided and installed according to current specifications of the City of American Fork.
2. Pressure testing shall be performed in accordance with the City of American Fork, Construction and Material Specifications. When water lines are ready for disinfection, the Contractor shall submit two (2) sets of "as-built" plans, and a letter stating that the secondary water lines have been pressure tested, to the City of American Fork
3. The Contractor shall notify the City of American Fork, secondary water Department at (801) 763 3060 at least 24 hours before tapping into existing water lines.
4. All secondary water main stationing shall be based on street centerline stationing.
5. All bends, joint deflections and fittings shall be backed with concrete per City of American Fork standards.
6. All secondary water lines shall be placed at a minimum depth of 2 feet measured from top of finished grade to top of water line. Secondary water lines shall be set deeper at all points where necessary to clear existing or proposed utility lines or other underground restrictions by a minimum of 18 inches.

STORM SEWER

1. All storm water detention and retention areas and major flood routing swales shall be constructed to finish grade and hydro - seeded and hydro - mulched according to the City of American Fork Standard Specifications.
2. Here private storm sewers connect to public storm sewers, the last run of private storm sewer connecting to the public storm sewer shall be Reinforced Concrete Pipe conforming to ASTM Designation C76, Wall B, Class IV for pipe diameters 12 inches to 15 inches, Class III for 18 inches to 24 inch pipes, and 27 inches and larger pipe shall be Class II, unless otherwise shown on the approved construction drawings.
3. Granular backfill shall be compacted granular material according to American Fork City Standard Specifications.
4. All public storm sewers shall be Reinforced Concrete Pipe conforming to ASTM Designation C76, Wall B, Class IV for pipe diameters 12 inches to 15 inches, Class III for 18 inches to 24 inch pipes, and 27 inches and larger pipe shall be Class II, unless otherwise shown on the approved construction drawings.
5. Headwalls and end walls shall be required at all storm sewer inlets or outlets to and from storm water management facilities. Natural stone and/or brick approved by the City Engineer shall be provided on all visible headwalls and/or end walls surfaces.
6. Storm inlets or catch basins shall be channelized and have bicycle safe grates. Manhole lids shall include the word STORM.
7. Storm sewer outlets greater than 18 inches in diameter accessible from storm water management facilities or watercourses shall be provided with safety grates, as approved by the City Engineer.

MAIL DELIVERY

1. The Contractor shall be responsible to ensure that US Mail delivery within the project limits is not disrupted by construction operations.
2. This responsibility is limited to relocation of mailboxes to a temporary location that will allow the completion of the work and shall also include the restoration of mailboxes to their original location or approved new location.
3. Any relocation of mailbox services must be first coordinated with the US Postal Service and the homeowner.
4. Before relocating any mailboxes, the Contractor shall contact the U.S. Postal Service and relocate mailboxes according to the requirements of the Postal Service.

ARDERO
520 South 850 East
Suite A1
Lehi, UT 84043
(385) 484-6337

DEVELOPMENT

AF 10 SUBDIVISION

24" X 36" SHEET

berg
CIVIL ENGINEERING
11038 N Highland Blvd Suite 400
Highland Ut, 84003
office (801) 492-1277
cell (801) 616-1677

REVISIONS

NO.	DATE	DESCRIPTION
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SEAL

STATE OF UTAH — R. BUG — 5/25/20 — 343602 — PROFESSIONAL ENGINEER

ACTION	DATE
FINAL	02/25/20

PROJECT

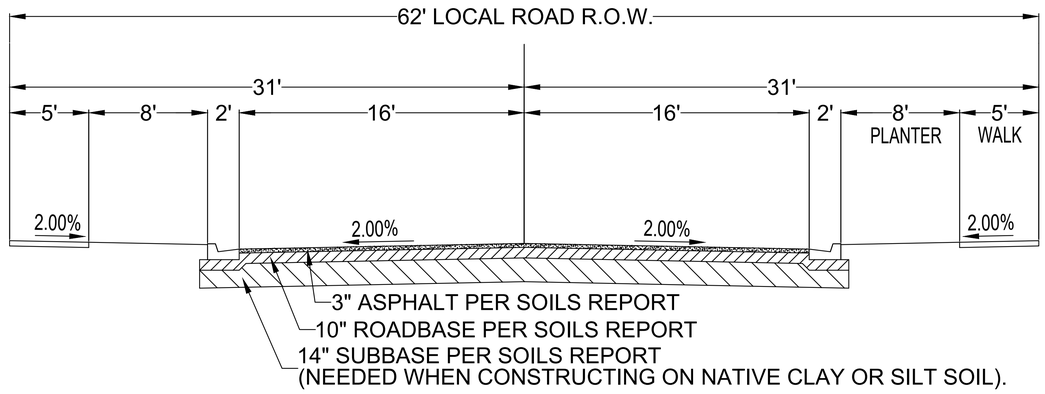
AF 10 SUBDIVISION

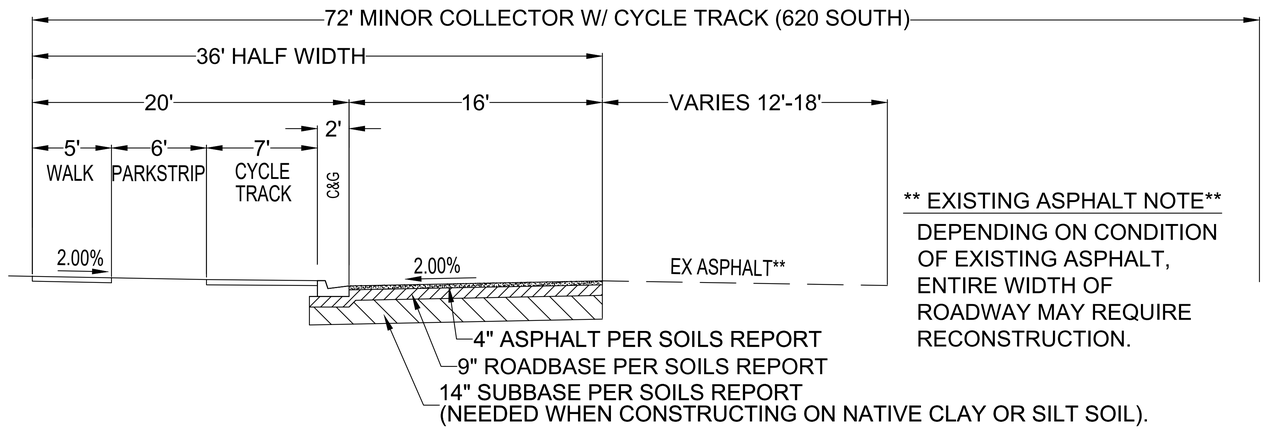
DESCRIPTION

FINAL CONSTRUCTION PLANS

SHEET NAME	SHEET NUMBER
GENERAL NOTES	GN1

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** EXISTING ASPHALT NOTE**

DEPENDING ON CONDITION OF EXISTING ASPHALT, ENTIRE WIDTH OF ROADWAY MAY REQUIRE RECONSTRUCTION.

ARDERO
520 South 850 East
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STATE OF UTAH
R. BUM
ENGINEERING
02/25/20
343602
PROFESSIONAL ENGINEER

ACTION	DATE
FINAL	02/25/20

PROJECT

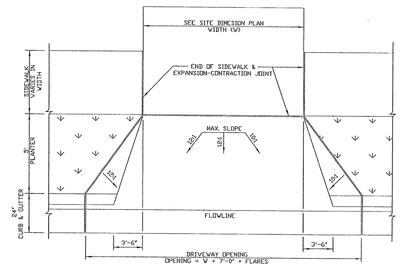
AF 10 SUBDIVISION

DESCRIPTION

FINAL CONSTRUCTION PLANS

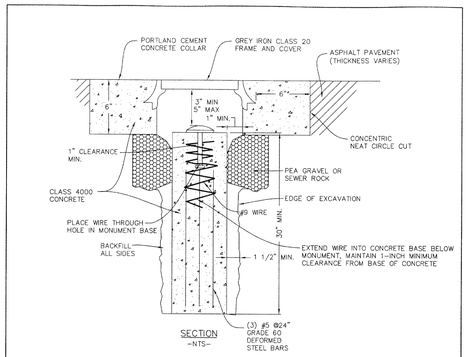
SHEET NAME	SHEET NUMBER
GENERAL DETAILS	*D0*

NOTE: SIDEWALK DEPTH SHALL BE 4" IN RESIDENTIAL ZONES; 6" ADJACENT TO RESIDENTIAL DRIVEWAY APPROACHES AND IN ALL COMMERCIAL AND INDUSTRIAL ZONES.



FLARED DRIVE APPROACH WITH PLANTER
-NTS-

DRAWN: JRP	Northern ENGINEERING • LAND PLANNING • CONSTRUCTION MANAGEMENT 1040 E. 800 N. OREM, UTAH 84057 (801) 802-9992	AMERICAN FORK CITY	STANDARD DETAIL FOR: FLARED DRIVE APPROACH WITH PLANTER	DRAWING NO. 15.9
REVISED:				
DATE: MAY 2002				
SCALE: VARIES				

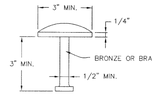


SECTION
-NTS-

NOTE: A MINIMUM OF TWO (2) SUBDIVISION MONUMENTS ARE REQUIRED ON EACH SUBDIVISION PLAT. THE LINE OF SIGHT BETWEEN EACH SUBDIVISION MONUMENT SHALL NOT BE OBSTRUCTED WITH PROPOSED BUILDINGS OR BUILDING ENVELOPES.



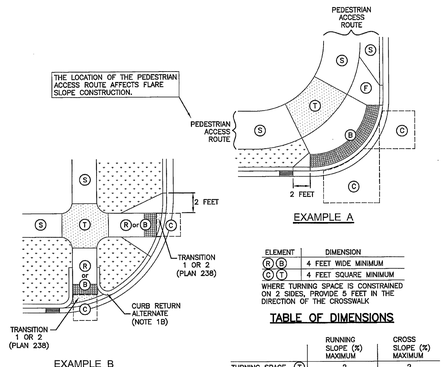
CAP PLAN
-NTS-



CAP SECTION
-NTS-

DRAWN: JRP	Northern ENGINEERING • LAND PLANNING • CONSTRUCTION MANAGEMENT 1040 E. 800 N. OREM, UTAH 84057 (801) 802-9992	AMERICAN FORK CITY	STANDARD DETAIL FOR: TYPE "A" MONUMENT CAP AND BASE	DRAWING NO. 15.28
REVISED:				
DATE: MAY 2002				
SCALE: VARIES				

TURNING SPACE AT SIDEWALK LEVEL



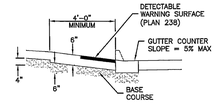
EXAMPLE B

EXAMPLE A

ELEMENT	DIMENSION
(R) (B)	4 FEET WIDE MINIMUM
(C) (T)	4 FEET SQUARE MINIMUM

WHERE TURNING SPACE IS CONSTRAINED ON 2 SIDES, PROVIDE 5 FEET IN THE DIRECTION OF THE CROSSWALK

TABLE OF DIMENSIONS



MATERIALS

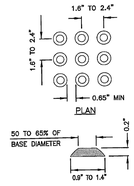
		RUNNING SLOPE (%) MAXIMUM	CROSS SLOPE (%) MAXIMUM
TURNING SPACE	(T)	2	2
CURB RAMP	(R)	8.33	2 (c)
BLENDED TRANSITION	(B)	5	2 (c)
CLEAR SPACE	(C)	5	2 (c)
SIDEWALK	(S)	STREET GRADE	2
FLARE	(F)	10	---

(a) RUNNING SLOPE IS IN THE DIRECTION OF PEDESTRIAN TRAVEL. RUNNING SLOPE OF FLARE IS PARALLEL TO BACK OF CURB.
(b) CROSS SLOPE IS PERPENDICULAR TO DIRECTION OF PEDESTRIAN TRAVEL.
(c) SLOPE MAY EQUAL STREET OR HIGHWAY GRADE AT CROSSWALKS WITHOUT VEHICULAR YIELD OR STOP CONTROL.

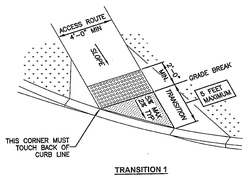
SLOPE TABLE

Corner curb cut assembly

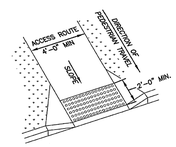
September 2011 | 63 | Plan 235 Sheet 1 of 4



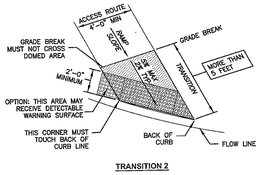
TRUNCATED DOME DETAIL



TRANSITION 1

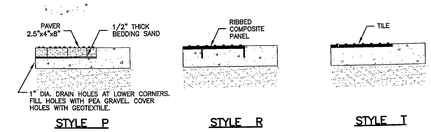


PERPENDICULAR ASSEMBLY



NON-PERPENDICULAR ASSEMBLY

TRANSITION 2



STYLE P | STYLE R | STYLE T

Detectable warning surface

July 2011 | 79 | Plan 238

ARDERO
520 South 850 East
Suite A1
Lehi, UT 84043
(385) 484-6337

DEVELOPMENT

AF 10 SUBDIVISION

24" X 36" SHEET

berg CIVIL ENGINEERING
11038 N Highland Blvd Suite 400
Highland UT, 84003
office (801) 492-1277
cell (801) 616-1677

REVISIONS			SEAL
NO.	DATE	DESCRIPTION	
1			
2			
3			
4			
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6			
7			

STATE OF UTAH · R. BUM · REGISTERED PROFESSIONAL ENGINEER · 02/25/20 · 343602

ACTION	DATE
FINAL	02/25/20

PROJECT

AF 10 SUBDIVISION

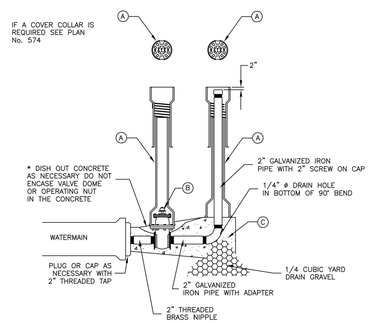
DESCRIPTION

FINAL CONSTRUCTION PLANS

SHEET NAME	SHEET NUMBER
GENERAL DETAILS	D1

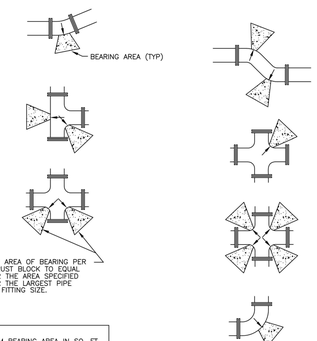
2" washout valve

1. CONCRETE: Class 2000 minimum per APWA Section 03 30 04. Pour concrete against undisturbed soil.
2. TAPE: Apply tape wrap to the exterior of all galvanized pipe per AWWA C209.
3. SPECIAL DESIGN: Watermains 12" and larger will require special washout assembly design.
4. DRAINAGE: After installation of washout valve assembly, verify the washout valve riser drains to gravel.
5. INSPECTION: Prior to backfilling around thrust block, secure inspection of installation by ENGINEER.
6. BACKFILL: Provide and place per APWA Section 33 05 20. Compact per APWA Section 31 23 26 to a modified proctor density of 95 percent or greater. Maximum lift thickness is 8 inches before compaction.



SECTION

LEGEND		
No.	ITEM	DESCRIPTION
(A)	VALVE BOX WITH LID	2 PIECE CAST IRON
(B)	4" GATE VALVE WITH SCREW ENDS	2"x 2" OPERATING NUT
(C)	CONCRETE THRUST BLOCK	SEE PLAN No. 561



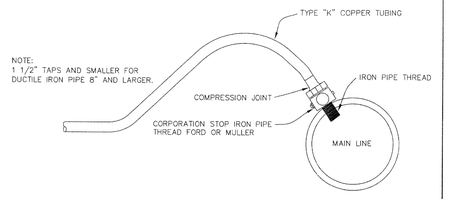
MINIMUM BEARING AREA IN SQ. FT.					
SIZE OF PIPE	TEES, VALVES AND CAPS	90° BENDS	45° BENDS	22 1/2° BENDS	11 1/4° BENDS
4"	2	3	2	2	2
6"	4	5.5	3	1.5	1
8"	6.5	9.5	5	2.75	1.5
12"	14	20	11	5.5	3
14"	19	26.5	14.5	7.5	4
16"	24	34	18.5	9.5	6
20"	27	52	28.5	14.5	16
24"	53	74	41	21	53
30"	81	114	62	32	16

2" Washout valve

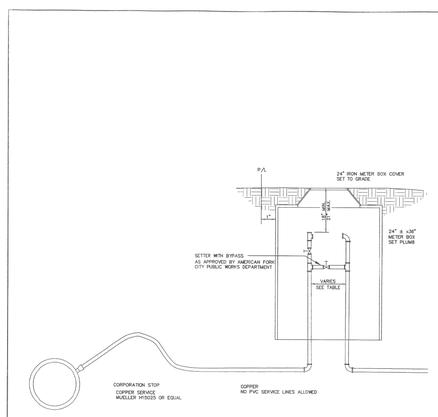
April 1997 | 243 | Plan No. 571

Direct bearing thrust block

April 1997 | 239 | Plan No. 561

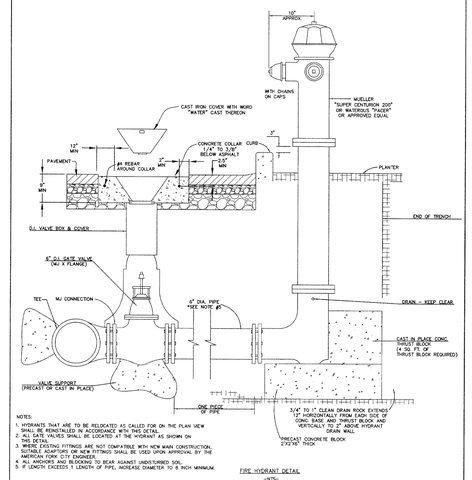


DRAWN: JRP REVISED: DATE: JULY 2002 SCALE: VARIES	Northern ENGINEERING LAND PLANNING CONSTRUCTION MANAGEMENT 1040 E. 800 N. OREM, UTAH 84057 (801) 802-8992	AMERICAN FORK CITY	STANDARD DETAIL FOR: TYPICAL WATERMAN TAPS	DRAWING NO.: 15.3



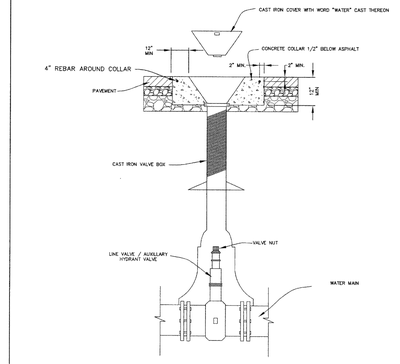
SPACING TABLE	
SIZE	SPACING
3/4"	7 1/2"
1"	10 3/4"
1 1/2"	13"
2"	17"

DRAWN: JRP REVISED: DATE: MAY 2002 SCALE: VARIES	Northern ENGINEERING LAND PLANNING CONSTRUCTION MANAGEMENT 1040 E. 800 N. OREM, UTAH 84057 (801) 802-8992	AMERICAN FORK CITY	STANDARD DETAIL FOR: CULINARY WATER SERVICE CONNECTION	DRAWING NO.: 15.5



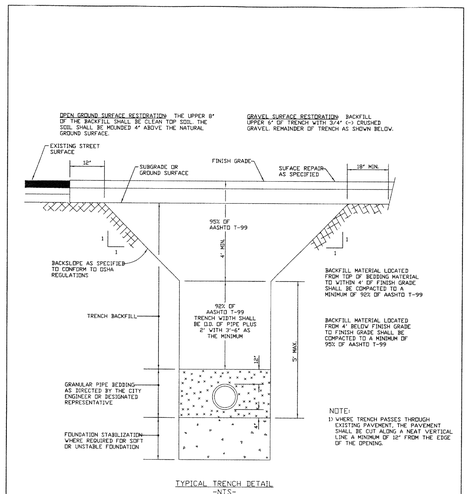
FIRE HYDRANT DETAIL
-NTS-

DRAWN: JRP REVISED: DATE: MAY 2002 SCALE: VARIES	Northern ENGINEERING LAND PLANNING CONSTRUCTION MANAGEMENT 1040 E. 800 N. OREM, UTAH 84057 (801) 802-8992	AMERICAN FORK CITY	STANDARD DETAIL FOR: FIRE HYDRANT	DRAWING NO.: 15.6



VALVE BOX DETAIL

DRAWN: JRP REVISED: DATE: JULY 2002 SCALE: VARIES	Northern ENGINEERING LAND PLANNING CONSTRUCTION MANAGEMENT 1040 E. 800 N. OREM, UTAH 84057 (801) 802-8992	AMERICAN FORK CITY	STANDARD DETAIL FOR: VALVE BOX DETAIL	DRAWING NO.: 15.4



TYPICAL TRENCH DETAIL
-NTS-

DRAWN: JRP REVISED: DATE: MAY 2002 SCALE: VARIES	Northern ENGINEERING LAND PLANNING CONSTRUCTION MANAGEMENT 1040 E. 800 N. OREM, UTAH 84057 (801) 802-8992	AMERICAN FORK CITY	STANDARD DETAIL FOR: TYPICAL TRENCH DETAIL	DRAWING NO.: 15.22

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Suite A1
Lehi, UT 84043
(385) 484-6337

DEVELOPMENT

AF 10 SUBDIVISION

24" X 36" SHEET

berg
CIVIL ENGINEERING
11038 N Highland Blvd Suite 400
Highland Ut, 84003
office (801) 492-1277
cell (801) 616-1677

REVISIONS

NO.	DATE	DESCRIPTION
1		
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7		

SEAL
STATE OF UTAH
R. BUM
REGISTERED
BERG
ENGINEER
02/25/20
343602
PROFESSIONAL ENGINEER

ACTION	DATE
FINAL	02/25/20

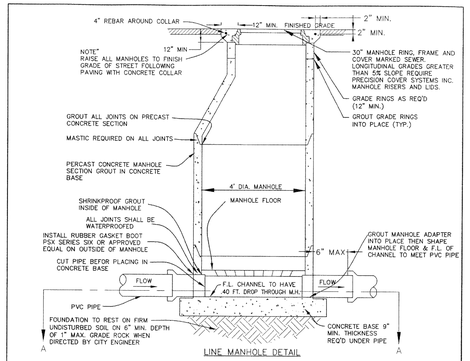
PROJECT

AF 10 SUBDIVISION

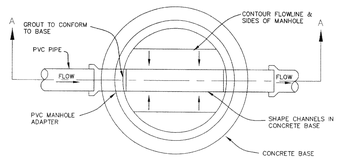
DESCRIPTION

FINAL CONSTRUCTION PLANS

SHEET NAME	SHEET NUMBER
WATER DETAILS	D2

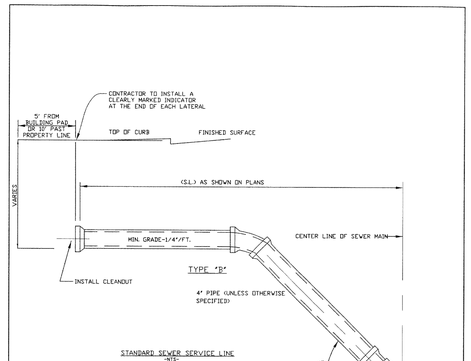


LINE MANHOLE DETAIL
-NTS-



SECTION A-A
-NTS-

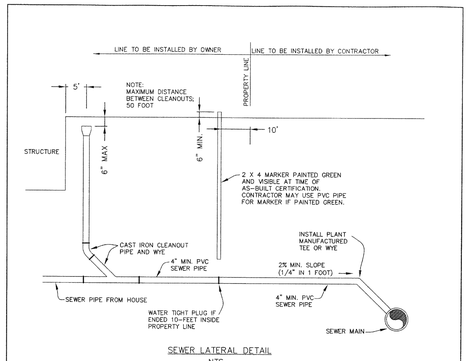
DRAWN: JRP	Northern Engineering & Land Planning, Consulting Civil Engineers & Surveyors, 1040 E. 800 N. Orem, Utah 84057 (801) 802-8992	AMERICAN FORK CITY	STANDARD DETAIL FOR: SANITARY SEWER LINE MANHOLE DETAIL	DRAWING NO. 15.12
REVISED:				
DATE: JULY 2002				
SCALE: VARIES				



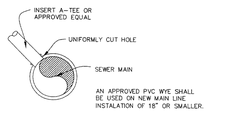
STANDARD SEWER SERVICE LINE
-NTS-

NOTE:
ALSO SEE DRAWING NO. 15.23

DRAWN: JRP	Northern Engineering & Land Planning, Consulting Civil Engineers & Surveyors, 1040 E. 800 N. Orem, Utah 84057 (801) 802-8992	AMERICAN FORK CITY	STANDARD DETAIL FOR: STANDARD SEWER SERVICE LINE	DRAWING NO. 15.19
REVISED:				
DATE: MAY 2002				
SCALE: VARIES				



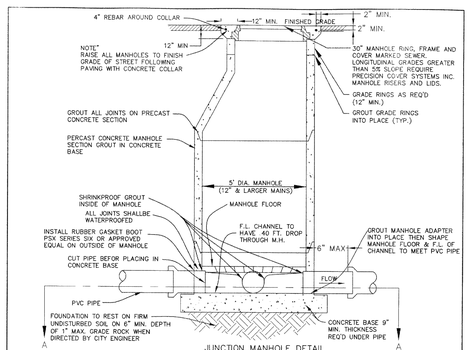
SEWER LATERAL DETAIL
-NTS-



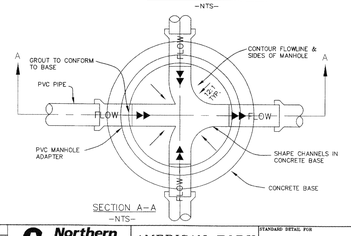
SEWER SERVICE LATERAL SADDLE
-NTS-

NOTE:
1) LATERAL SHALL NOT ENTER MANHOLE, UNLESS OTHERWISE APPROVED BY CITY ENGINEER.
2) FOR CONCRETE PIPE ADD CONCRETE COLLAR AROUND INSERT-A-TEE.
3) ALSO SEE DRAWING NO. 15.19

DRAWN: JRP	Northern Engineering & Land Planning, Consulting Civil Engineers & Surveyors, 1040 E. 800 N. Orem, Utah 84057 (801) 802-8992	AMERICAN FORK CITY	STANDARD DETAIL FOR: SANITARY SEWER LATERAL AND CLEAN OUT	DRAWING NO. 15.23
REVISED:				
DATE: JULY 2002				
SCALE: VARIES				

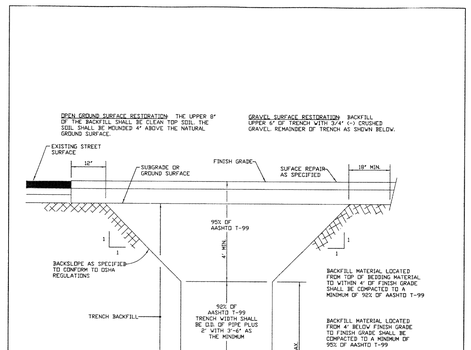


JUNCTION MANHOLE DETAIL
-NTS-



SECTION A-A
-NTS-

DRAWN: JRP	Northern Engineering & Land Planning, Consulting Civil Engineers & Surveyors, 1040 E. 800 N. Orem, Utah 84057 (801) 802-8992	AMERICAN FORK CITY	STANDARD DETAIL FOR: SANITARY SEWER JUNCTION MANHOLE DETAIL	DRAWING NO. 15.13
REVISED:				
DATE: JULY 2002				
SCALE: VARIES				



TYPICAL TRENCH DETAIL
-NTS-

DRAWN: JRP	Northern Engineering & Land Planning, Consulting Civil Engineers & Surveyors, 1040 E. 800 N. Orem, Utah 84057 (801) 802-8992	AMERICAN FORK CITY	STANDARD DETAIL FOR: TYPICAL TRENCH DETAIL	DRAWING NO. 15.22
REVISED:				
DATE: MAY 2002				
SCALE: VARIES				

ARDERO
520 South 850 East
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Lehi, UT 84043
(385) 484-6337

DEVELOPMENT

AF 10 SUBDIVISION

24" X 36" SHEET

Berg
CIVIL ENGINEERING
11038 N Highland Blvd Suite 400
Highland Ut, 84003
office (801) 492-1277
cell (801) 616-1677

REVISIONS

NO.	DATE	DESCRIPTION
1		
2		
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SEAL

STATE OF UTAH
R. BUM
REGISTERED
BERG
02/25/20
443602
PROFESSIONAL ENGINEER

ACTION	DATE
FINAL	02/25/20

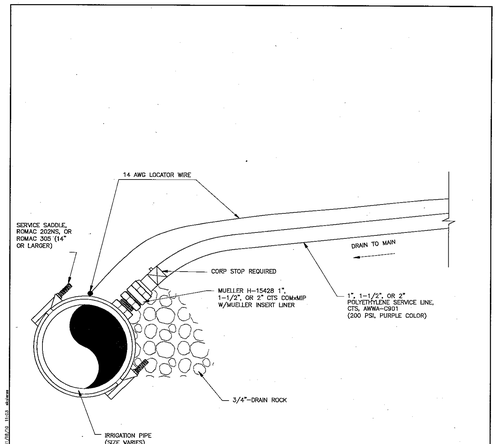
PROJECT

AF 10 SUBDIVISION

DESCRIPTION

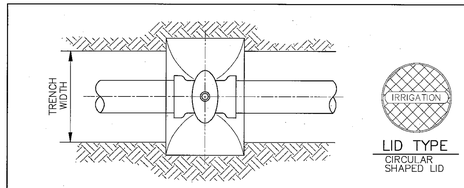
FINAL CONSTRUCTION PLANS

SHEET NAME	SHEET NUMBER
SEWER & STORM DRAIN DETAILS	D3



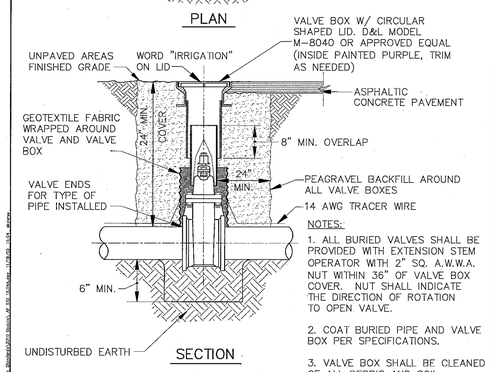
MUELLER 110 COMPRESSION INSERT LINER	
PART SIZE	PART NO.
1" CTS	504365
1 1/2" CTS	506139
2" CTS	506141

DRAWN:		AMERICAN FORK CITY	STANDARD DETAIL FOR: TYPICAL SECONDARY WATER MAIN TAP	DRAWING NO. 15.3A
REVISED: 11/2010	HORROCKS ENGINEERS ONE WEST MAIN P.O. BOX 377 AMERICAN FORK (801) 763-5100			
DATE:				
SCALE:				



PLAN

LID TYPE
CIRCULAR SHAPED LID



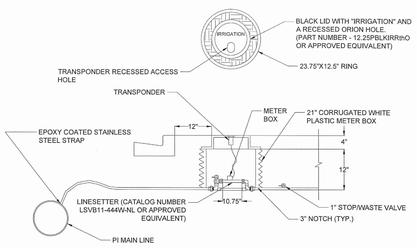
SECTION

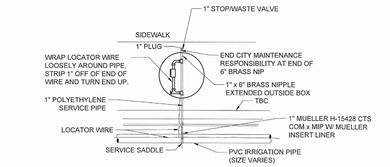
NOTES:

1. ALL BURIED VALVES SHALL BE PROVIDED WITH EXTENSION STEM OPERATOR WITH 2" SQ. A.W.W.A. NUT WITHIN 36" OF VALVE BOX COVER. NUT SHALL INDICATE THE DIRECTION OF ROTATION TO OPEN VALVE.
2. COAT BURIED PIPE AND VALVE BOX PER SPECIFICATIONS.
3. VALVE BOX SHALL BE CLEANED OF ALL DEBRIS AND SOIL.

VALVE BOX INSTALLATION

DRAWN:		AMERICAN FORK CITY	STANDARD DETAIL FOR: SECONDARY WATER VALVE BOX DETAIL	DRAWING NO. 15.4A
REVISED: 11/2010	HORROCKS ENGINEERS ONE WEST MAIN P.O. BOX 377 AMERICAN FORK (801) 763-5100			
DATE:				
SCALE: NONE				



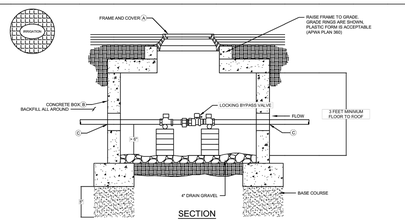


1" PLAN VIEW
NTS

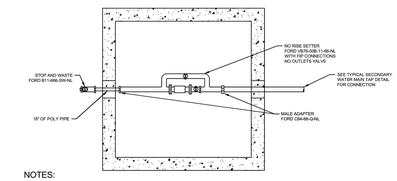
NOTES:

1. CITY MAINTENANCE RESPONSIBILITY ENDS AT THE END OF THE 6" BRASS NIPPLE.
2. STOP/WASTE VALVE IS THE PROPERTY OWNER'S VALVE TO ISOLATE SPRINKLER SYSTEM.
3. REFER TO SECTION 7.6 OF AMERICAN FORK STANDARDS FOR SECONDARY WATER SERVICE LATERAL CONNECTION.

MVU	AMERICAN FORK CITY	AMERICAN FORK CITY PUBLIC WORKS 275 EAST 200 NORTH (801) 763-9030	1" PI METER PLACEMENT	15.5D
MAY 2019				
VARIES				



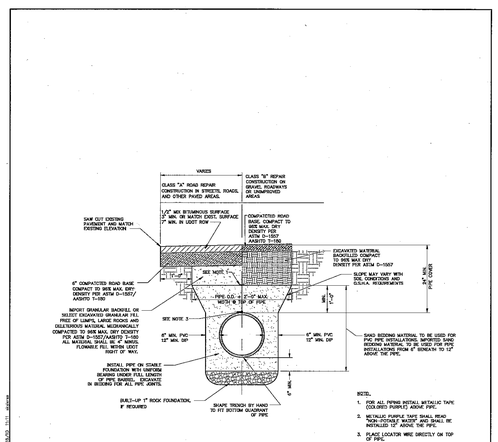
SECTION



NOTES:
VAULT TO BE PLACED ONE FOOT FRONT OF WALK WITHIN AN EIGHT FOOT PARK STRIP OR WITHIN 10' FRONT PUE.

LEGEND		
NO.	ITEM	DESCRIPTION
A	27" FRAME AND COVER	APWA PLAN 502. CAST IRON LID WITH "IRRIGATION" AND RECESSED ORION HOLE. PART NUMBER 12.25PBLKIRRMINO OR APPROVED EQUIVALENT.
B	CONCRETE BOX	APWA PLAN 505. 3' MINIMUM FLOOR TO ROOF.
C	CORE/KNOCKOUT THROUGH VAULT WALL	PIPES PASSING THROUGH CONCRETE VAULT SHALL BE PROTECTED AGAINST EXTERNAL CORROSION BY SHEATHING OR WRAPPING OR ANY OTHER MEANS THAT WILL WITHSTAND ANY REACTION FROM LIME AND ACID FROM CONCRETE, CINDER OR OTHER CORROSIVE MATERIAL. SHEATHING OR WRAPPING SHALL ALLOW FOR MOVEMENT INCLUDING EXPANSION AND CONTRACTION OF PIPING (IPC 305.1). REMAINING HOLE SHALL BE SEALED.

DRAWN: MVU	AMERICAN FORK CITY	AMERICAN FORK CITY PUBLIC WORKS 275 EAST 200 NORTH (801) 763-9030	STANDARD DETAIL FOR: 1-1/2" OR 2" PI METER PLACEMENT	DRAWING NO. 15.5E
REVISED:				
DATE: AUG 2019				
SCALE: VARIES				

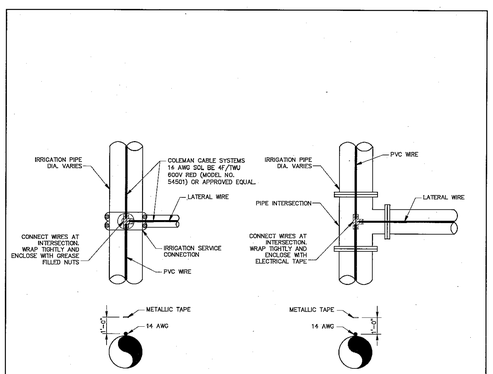


TYPICAL SECONDARY WATER TRENCH DETAIL

NOTES:

1. FOR ALL PIPING INSTALL METALLIC TAPE (COLORED PURPLE) ABOVE PIPE.
2. METALLIC PURPLE TAPE SHALL READ "CAUTION WATER LINE BELOW" TO BE INSTALLED 12" ABOVE THE PIPE.
3. PLACE LOCATOR WIRE DIRECTLY ON TOP OF PIPE.

DRAWN:		AMERICAN FORK CITY	STANDARD DETAIL FOR: TYPICAL SECONDARY WATER TRENCH DETAIL	DRAWING NO. 15.22A
REVISED: 11/2010	HORROCKS ENGINEERS ONE WEST MAIN P.O. BOX 377 AMERICAN FORK (801) 763-5100			
DATE:				
SCALE:				



14 AWG LOCATOR WIRE
NTS

NOTES:

1. STRIP MAIN WIRE 2" ⌀ LATERAL/SERVICE INTERSECTION. STRIP LATERAL WIRE 3". WRAP LATERAL WIRE TIGHTLY AROUND STRIPPED MAIN WIRE. USE ELECTRICAL TAPE TO WRAP AND COVER ALL BARC WIRES.
2. THIS DETAIL IS TYPICAL OF ALL PIPE INTERSECTIONS AND IRRIGATION SERVICE CONNECTIONS.
3. LOCATOR WIRE SHALL BE PLACED PARALLEL W/ ALL PVC PIPING DIRECTLY ABOVE PIPE.
4. FOR DUCTILE IRON PIPE AT PVC & DIP INTERSECTIONS AND AT IRRIGATION SERVICE CONNECTIONS, WRAP LOCATOR WIRE AROUND DIP AT LEAST TWICE.

DRAWN:		AMERICAN FORK CITY	STANDARD DETAIL FOR: LOCATOR WIRE DETAIL	DRAWING NO. 15.33
REVISED: 11/2010	HORROCKS ENGINEERS ONE WEST MAIN P.O. BOX 377 AMERICAN FORK (801) 763-5100			
DATE:				
SCALE:				

ARDERO
520 South 850 East
Suite A1
Lehi, UT 84043
(385) 484-6337

DEVELOPMENT

AF 10 SUBDIVISION

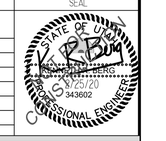
24" X 36" SHEET

berg
CIVIL ENGINEERING
11038 N Highland Blvd Suite 400
Highland Ut, 84003
office (801) 492-1277
cell (801) 616-1677

REVISIONS

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

SEAL



ACTION	DATE
FINAL	02/25/20

PROJECT

AF 10 SUBDIVISION

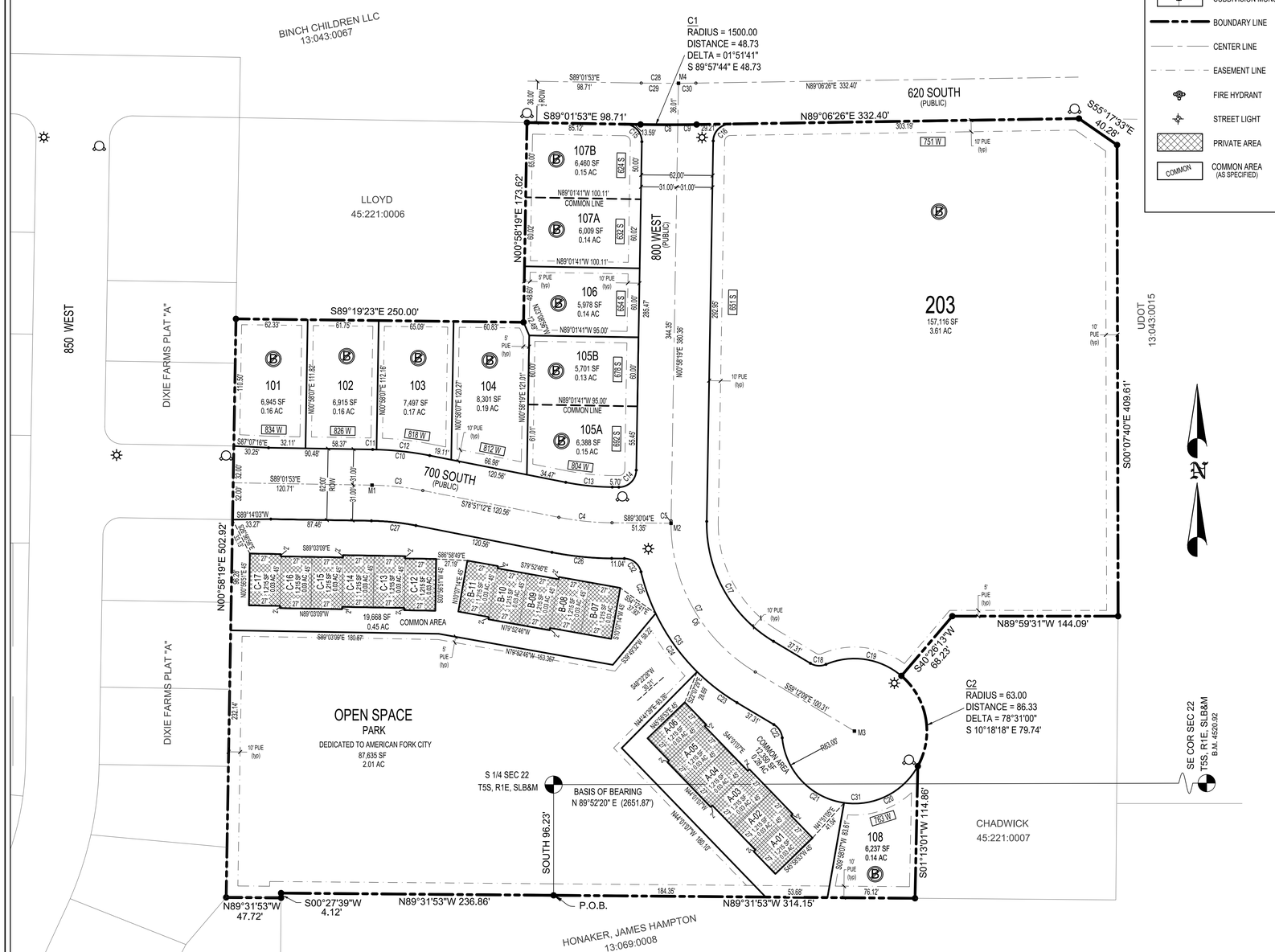
DESCRIPTION

FINAL CONSTRUCTION PLANS

SHEET NAME	SHEET NUMBER
SECONDARY WATER DETAILS	D4

AF 10 PLAT "A"

LOCATED IN THE SOUTHWEST QUARTER AND SOUTHEAST QUARTER OF SECTION 22
AND THE NORTHWEST QUARTER AND NORTHEAST QUARTER OF SECTION 27
TOWNSHIP 5 SOUTH, RANGE 1 EAST,
SALT LAKE BASE AND MERIDIAN.
AMERICAN FORK CITY, UTAH COUNTY, UTAH

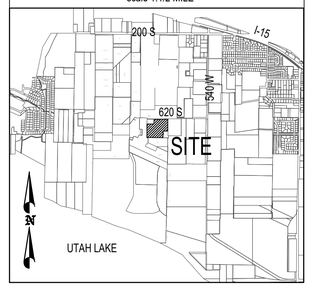


LEGEND

- SECTION CORNER
- PROPERTY CORNER
- SUBDIVISION MONUMENT
- BOUNDARY LINE
- CENTER LINE
- EASEMENT LINE
- FIRE HYDRANT
- STREET LIGHT
- PRIVATE AREA
- COMMON AREA (AS SPECIFIED)

VICINITY SKETCH

scale 1:1/2 MILE



TABULATIONS

DEVELOPMENT AREA	9.92 AC
EXISTING ZONING	PR 3.0
LAND USE:	VERY LOW RESIDENTIAL
FLOOD ZONE DESIGNATION:	A / X
FIRM MAP PANEL #:	495517 0110 B
EFFECTIVE DATE:	JULY 17, 2002

NOTES

1. IT IS HEREBY STATED, UNDERSTOOD, AND DEDICATED THAT ALL UNITS HAVE A CROSS-EASEMENT WITHIN THE EXTERIOR WALLS, ATTIC SPACE, ALL COMMON/DIVISION WALLS, AND BELOW THE BOTTOM FLOOR FOR THE PLACEMENT OF NECESSARY UTILITIES TO SERVE ADJACENT UNITS WITHIN A GIVEN BUILDING SHELL IF THE ABOVE EASEMENT IS NOT UTILIZED DURING THE INITIAL BUILDING CONSTRUCTION FOR THE FIRST OCCUPANCY, THE EASEMENT SHALL BE VACATED WHERE FURTHER USE WOULD CAUSE AN ADJACENT OWNER RECONSTRUCTION FOR PLACEMENT OF AN ADDITIONAL UTILTIY NOT ALREADY CONTAINED WITHIN THE SHELL. THERE SHALL BE NO VACATION OF THIS COMMON AREA AND CROSS-EASEMENT IN THE CASE OF ANY NECESSARY STRUCTURAL REMEDIATION OR REPAIRS TO UTILITIES ALREADY IN PLACE WITHIN A GIVEN AREA DEFINED HEREIN.

2. NO SPECIFIC BUILDING PLAN IS INCLUDED WITH THE UNIT AREAS DEFINED ON THE PLAN. THESE PRIVATE UNIT AREAS CONTAIN NO OTHER ENCUMBRANCES THAN THOSE STATED WITHIN THE NOTES OR IN THE CC&R'S.

3. OFFSET-PINS TO BE PLACED IN THE BACK OF THE CURB AND 5/8" BY 24" REBAR WITH NUMBERED SURVEY CAP TO BE PLACED AT ALL LOTS REAR CORNERS PRIOR TO OCCUPANCY.

4. BUILDING PERMITS WILL NOT BE ISSUED FOR ANY HOME UNTIL 1) ASPHALT PAVING IS INSTALLED AND 2) FIRE HYDRANTS ARE INSTALLED, APPROVED BY THE FIRE MARSHAL AND CHARGED WITH CULINARY WATER.

5. LOWEST FLOOR SLAB ELEVATION MUST BE A MINIMUM OF 3 FEET ABOVE WATER LEVEL MEASURED DURING SPRING SEASON.

RESERVATION OF COMMON AREAS

THE OWNER, IN RECORDING THIS PLAT ("THE DEVELOPMENT") HAS DESIGNATED CERTAIN AREAS OF THE DEVELOPMENT AS COMMON AREAS, INTENDED FOR THE OWNERS OF _____ FOR INGRESS, EGRESS, RECREATIONAL AND OTHER RELATED USES AS SET FORTH IN THE DECLARATION OF PROTECTIVE EASEMENTS, COVENANTS, CONDITIONS, AND RESTRICTIONS ("THE DECLARATION") PERTAINING TO THE DEVELOPMENT. THE DESIGNATED AREAS ARE NOT INTENDED, NOR ARE THEY DEDICATED, FOR USE BY THE GENERAL PUBLIC, BUT ARE RESERVED FOR THE COMMON USE AND ENJOYMENT OF THE OWNERS IN THE DEVELOPMENT, AS MORE FULLY PROVIDED IN THE DECLARATION RECORDED CONCURRENTLY WITH THE PLAT IN THE OFFICIAL RECORDS OF UTAH COUNTY, UTAH.

PUBLIC UTILITY EASEMENTS

IN ADDITION TO THE PUBLIC UTILTY EASEMENTS SHOWN ON THIS PLAT, ALL COMMON AND LIMITED COMMON AREAS ARE PUBLIC UTILITY EASEMENTS, INCLUDING FULL RIGHT-OF-WAY ACCESS THERETO, IN FAVOR OF AMERICAN FORK CITY.

REFERENCE DOCUMENTS:

NOTICE OF INTEREST, BUILDING REQUIREMENTS, AND ESTABLISHMENT OF RESTRICTIVE COVENANTS

RECORDED IN THE OFFICE OF THE UTAH COUNTY RECORDER AS ENTRY NO: _____

50 0 50 100 150

SCALE 1"=50'

ADDRESSES

A-01	771 W 700 SOUTH
A-02	777 W 700 SOUTH
A-03	781 W 700 SOUTH
A-04	785 W 700 SOUTH
A-05	793 W 700 SOUTH
A-06	797 W 700 SOUTH
B-07	803 W 700 SOUTH
B-08	805 W 700 SOUTH
B-09	807 W 700 SOUTH
B-10	809 W 700 SOUTH
B-11	813 W 700 SOUTH
C-12	817 W 700 SOUTH
C-13	821 W 700 SOUTH
C-14	825 W 700 SOUTH
C-15	829 W 700 SOUTH
C-16	833 W 700 SOUTH
C-17	837 W 700 SOUTH

CURVE TABLE

CURVE	RADIUS	LENGTH	DELTA	CHORD	BEARING	CURVE	RADIUS	LENGTH	DELTA	CHORD	BEARING
C1	1500.00	48.73	01°51'41"	48.73	S89°57'44"E	C18	15.00	14.10	53°51'40"	13.59	S86°07'59"E
C2	63.00	86.33	78°31'00"	79.74	S10°18'18"E	C19	63.00	69.82	63°30'02"	66.30	S81°18'48"E
C3	250.00	44.41	10°10'41"	44.35	S83°56'32"E	C20	63.00	76.11	69°12'59"	71.56	S63°33'41"W
C4	250.00	46.46	10°38'52"	46.39	S84°10'38"E	C21	63.00	84.10	76°29'21"	78.00	N43°35'09"W
C5	150.00	2.13	00°48'51"	2.13	N00°33'54"E	C22	15.00	14.10	53°51'40"	13.59	N32°16'19"W
C6	150.00	155.41	59°21'37"	148.52	S29°32'07"E	C23	181.00	43.90	13°53'48"	43.79	N52°15'15"W
C7	150.00	157.54	60°10'28"	150.40	S29°06'55"E	C24	181.00	62.55	19°47'56"	62.24	N35°24'23"W
C8	1500.00	32.41	01°14'16"	32.41	S89°39'01"E	C25	181.00	38.42	12°09'49"	38.35	N19°25'31"W
C9	1500.00	16.32	00°37'25"	16.32	N89°25'08"E	C26	281.00	52.22	10°38'52"	52.15	N84°10'38"W
C10	281.00	49.92	10°10'41"	49.85	S83°56'32"E	C27	219.00	38.90	10°10'41"	38.85	N83°56'32"W
C11	281.00	3.38	00°41'21"	3.38	S88°41'12"E	C28	1464.00	47.56	01°51'41"	47.56	S89°57'44"E
C12	281.00	46.54	09°29'20"	46.48	S83°35'52"E	C29	1464.00	32.41	01°16'06"	32.41	S89°39'56"E
C13	219.00	40.70	10°38'52"	40.64	S84°10'38"E	C30	1464.00	15.15	00°35'35"	15.15	N89°24'13"E
C14	15.00	23.44	89°31'37"	21.16	N45°40'58"E	C31	63.00	316.37	287°43'21"	74.31	S30°47'51"W
C15	15.00	23.56	90°00'12"	21.21	N44°01'47"W	C32	15.00	19.94	76°09'28"	18.50	N51°25'20"W
C16	15.00	23.07	88°08'07"	20.87	S45°02'22"W	C33	181.00	144.87	45°51'33"	141.04	N36°16'22"W
C17	119.00	124.98	60°10'25"	119.31	S29°06'55"E						

SURVEYOR'S CERTIFICATE

I, _____, DO HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR, AND THAT I HOLD A LICENSE IN ACCORDANCE WITH TITLE 58, CHAPTER 22, PROFESSIONAL ENGINEERS AND LAND SURVEYORS LICENSING ACT, UTAH CODE ANNOTATED, 1953 AS AMENDED, CERTIFICATE NO. _____. I FURTHER CERTIFY THAT BY AUTHORITY OF THE OWNERS, I HAVE MADE A SURVEY OF THE TRACT OF LAND SHOWN ON THIS PLAT AND DESCRIBED BELOW, HAVE SUBDIVIDED SAID TRACT OF LAND INTO LOTS, STREETS AND EASEMENTS, HAVE COMPLETED A SURVEY OF THE PROPERTY DESCRBED ON THIS PLAT IN ACCORDANCE WITH SECTION 17-23-17, UTAH CODE ANNOTATED, 1953 AS AMENDED, HAVE VERIFIED ALL MEASUREMENTS, AND HAVE PLACED MONUMENTS AS REPRESENTED ON THE PLAT. I FURTHER CERTIFY THAT EVERY EXISTING RIGHT-OF-WAY AND EASEMENT GRANT OF RECORD FOR UNDERGROUND FACILITIES, AS DEFINED IN SECTION 54-8a-2, UTAH CODE ANNOTATED, 1953 AS AMENDED, AND FOR OTHER UTILITY FACILITIES, IS ACCURATELY DESCRIBED ON THIS PLAT, AND THAT THIS PLAT IS TRUE AND CORRECT.

_____ DATE

_____ (SEE SEAL BELOW)

BOUNDARY DESCRIPTION

BEGINNING AT A POINT LOCATED SOUTH 96.23 FEET FROM THE SOUTH QUARTER CORNER OF SECTION 22, TOWNSHIP 5 SOUTH, RANGE 1 EAST, SALT LAKE BASE AND MERIDIAN;

THENCE NORTH 89°31'53" WEST 236.86 FEET; THENCE SOUTH 00°27'39" WEST 4.12 FEET; THENCE NORTH 89°31'53" WEST 47.72 FEET; THENCE NORTH 00°58'19" EAST 502.92 FEET; THENCE SOUTH 89°19'23" EAST 250.00 FEET; THENCE NORTH 00°58'19" EAST 173.62 FEET; THENCE SOUTH 89°01'53" EAST 98.71 FEET; THENCE ALONG THE ARC OF A 1500.00 FOOT RADIUS CURVE TO THE LEFT A DISTANCE OF 48.73 FEET (CURVE HAVING A CENTRAL ANGLE OF 01°51'41" AND LONG CHORD BEARS S89°57'44"E 48.73 FEET); THENCE NORTH 89°06'26" EAST 332.40 FEET; THENCE SOUTH 55°17'33" EAST 40.28 FEET; THENCE SOUTH 00°07'40" EAST 409.61 FEET; THENCE NORTH 89°59'31" WEST 144.09 FEET; THENCE SOUTH 40°26'13" WEST 68.23 FEET; THENCE ALONG THE ARC OF A 63.00 FOOT RADIUS CURVE TO THE RIGHT A DISTANCE OF 86.33 FEET (CURVE HAVING A CENTRAL ANGLE OF 78°31'00" AND LONG CHORD BEARS S10°18'18"E 79.74 FEET); THENCE SOUTH 01°13'01" WEST 114.86 FEET; THENCE NORTH 89°31'53" WEST 314.15 FEET TO THE POINT OF BEGINNING.

AREA = 432,032 SF OR 9.92 ACRES

BASIS OF BEARING IS NORTH 89°52'20" EAST ALONG SECTION LINE FROM THE SOUTH QUARTER CORNER OF SECTION 22, TOWNSHIP 5 SOUTH, RANGE 1 EAST, SALT LAKE AND MERIDIAN, TO THE SOUTHEAST CORNER OF SAID SECTION 22. (NAD 83)

NUMBER OF LOTS 28

OWNER'S DEDICATION

THE UNDERSIGNED OWNERS OF THE PROPERTY DESCRIBED ABOVE AND SHOWN ON THIS PLAT, HAVE CAUSED THE SAME TO BE SUBDIVIDED INTO LOTS, STREETS, AND EASEMENTS AND DO HEREBY DEDICATE ANY PUBLIC STREETS AND OTHER PUBLIC AREAS SHOWN THEREON FOR THE PERPETUAL USE OF THE PUBLIC. PURSUANT TO UTAH CODE 10-9A-604(1)(d) THE OWNER HEREBY CONVEYS THE COMMON AREA AS INDICATED HEREON, TO THE _____ HOME OWNER ASSOCIATION WITH A MAILING ADDRESS OF _____

IN WITNESS HEREOF WE HAVE HEREUNTO SET OUR HANDS THIS _____

DAY OF _____, A.D. _____

_____

_____

ACKNOWLEDGMENT

STATE OF UTAH
COUNTY OF UTAH } S.S.

ON THE ___ DAY OF _____, A.D. _____ PERSONALLY APPEARED BEFORE ME _____

_____

WHICH PERSON ACKNOWLEDGED TO ME THAT HE EXECUTED THE FOREGOING DEDICATION IN HIS RESPECTIVE CAPACITIES ON BEHALF OF _____, IN ACCORDANCE WITH THE GOVERNING DOCUMENTS OF SUCH COMPANY.

MY COMMISSION EXPIRES _____

_____ NOTARY PUBLIC

ACCEPTANCE BY LEGISLATIVE BODY

THE CITY COUNCIL OF AMERICAN FORK CITY COUNTY OF UTAH, APPROVES THIS SUBDIVISION AND HEREBY ACCEPTS THE DEDICATION OF ALL STREETS AND EASEMENTS FOR THE PERPETUAL USE OF THE PUBLIC THIS

_____ DAY OF _____, A.D. ____.

_____ MAYOR

_____ CITY COUNCIL MEMBER

_____ CITY COUNCIL MEMBER

_____ CITY COUNCIL MEMBER

_____ CITY COUNCIL MEMBER

_____ CITY COUNCIL MEMBER

APPROVED _____ CITY ENGINEER

ATTEST _____ CLERK-RECORDER

PLANNING COMMISSION APPROVAL

APPROVED THIS _____ DAY OF _____, A.D. _____ BY THE AMERICAN FORK CITY PLANNING COMMISSION

_____ PLANNER

_____ CHAIRMAN, PLANNING COMMISSION

AF 10 PLAT "A"

LOCATED IN THE SOUTHWEST QUARTER AND SOUTHEAST QUARTER OF SECTION 22
AND THE NORTHWEST QUARTER AND NORTHEAST QUARTER OF SECTION 27
TOWNSHIP 5 SOUTH, RANGE 1 EAST,
SALT LAKE BASE AND MERIDIAN.
AMERICAN FORK CITY, UTAH COUNTY, UTAH

SCALE: 1" = 50 FEET

SURVEYOR'S SEAL | NOTARY PUBLIC SEAL | CLERK-RECORDER SEAL

SEWER & WATER AUTHORITY APPROVAL

APPROVED THIS _____ DAY OF _____ A.D. 20____, BY THE WATER AUTHORITY.

_____ SEWER & WATER AUTHORITY

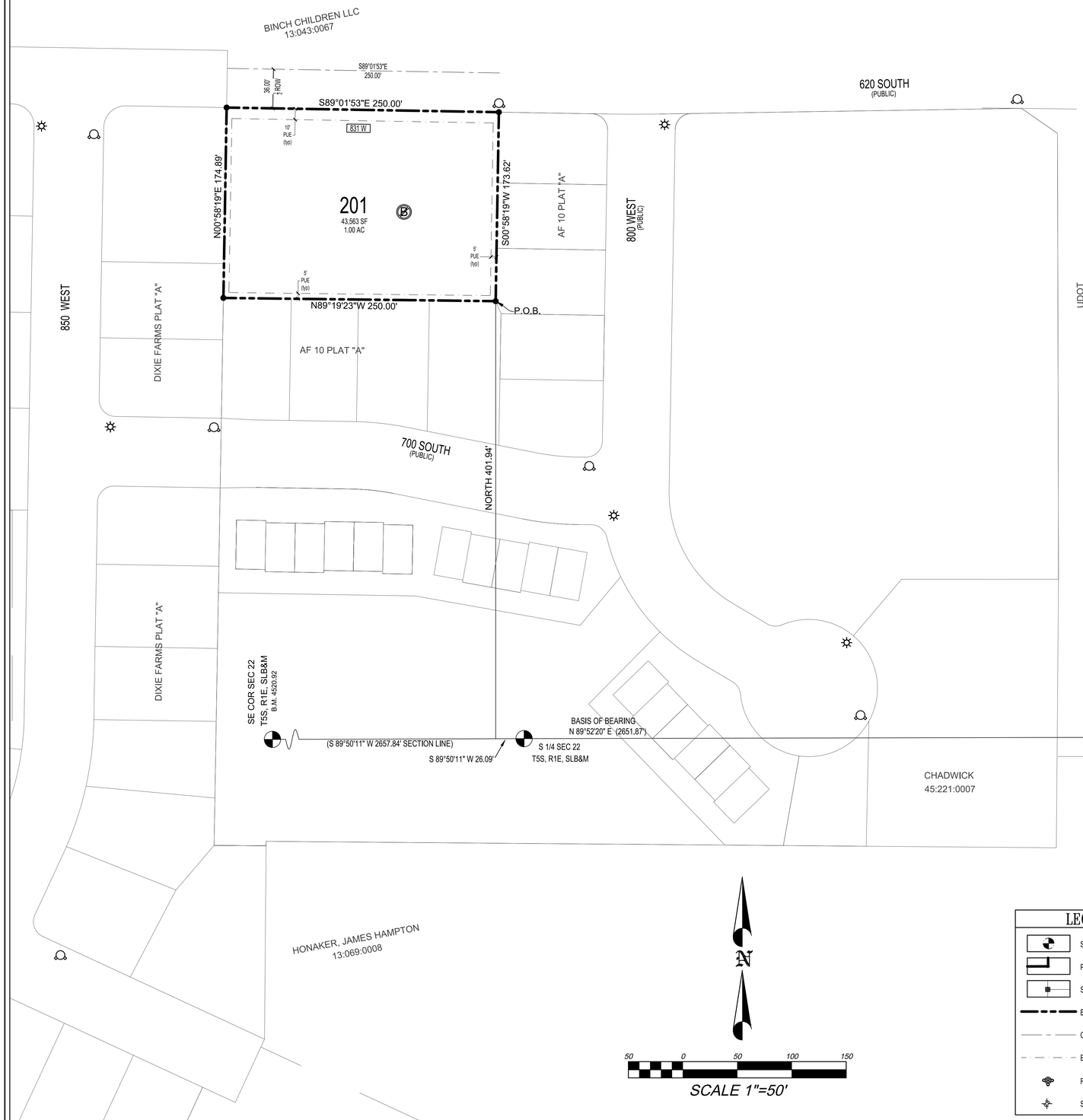
SURVEYOR
ENSIGN
THE STANDARD IN ENGINEERING
SALT LAKE CITY
45 W. 10000 S., Suite 500
Sandy, UT 84070
Phone: 801.255.0529

ENGINEER
berg
CIVIL ENGINEERING
11038 N Highland Blvd Suite 400
Highland Ut, 84003
office (801) 492-1277
cell (801) 616-1677

2/13/20 I:\My Drive\Berg Civil\2019\ARDEROA\F 10\AF10 FINAL CD\AF 10 PLAT A.dwg

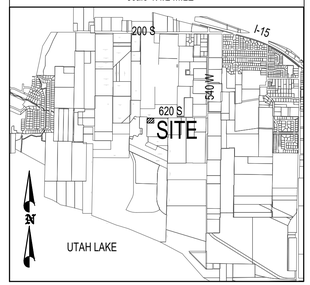
AF 10 PLAT "B"

LOCATED IN THE SOUTHWEST QUARTER AND SOUTHEAST QUARTER OF SECTION 22
TOWNSHIP 5 SOUTH, RANGE 1 EAST,
SALT LAKE BASE AND MERIDIAN.
AMERICAN FORK CITY, UTAH COUNTY, UTAH



VICINITY SKETCH

scale 1:1/2 MILE



TABULATIONS

DEVELOPMENT AREA	1.00 AC
EXISTING ZONING	PR 3.0
LAND USE:	VERY LOW RESIDENTIAL
FLOOD ZONE DESIGNATION:	X
FIRM MAP PANEL #:	495517 0110 B
EFFECTIVE DATE:	JULY 17, 2002

NOTES

1. OFFSET-PINS TO BE PLACED IN THE BACK OF THE CURB AND 5/8" BY 24" REBAR WITH NUMBERED SURVEY CAP TO BE PLACED AT ALL LOTS REAR CORNERS PRIOR TO OCCUPANCY.

2. BUILDING PERMITS WILL NOT BE ISSUED FOR ANY HOME UNTIL 1) ASPHALT PAVING IS INSTALLED AND 2) FIRE HYDRANTS ARE INSTALLED, APPROVED BY THE FIRE MARSHAL AND CHARGED WITH CULINARY WATER.

3. LOWEST FLOOR SLAB ELEVATION MUST BE A MINIMUM OF 3 FEET ABOVE WATER LEVEL MEASURED DURING SPRING SEASON.

REFERENCE DOCUMENTS:

NOTICE OF INTEREST, BUILDING REQUIREMENTS, AND ESTABLISHMENT OF RESTRICTIVE COVENANTS

RECORDED IN THE OFFICE OF THE UTAH COUNTY RECORDER AS ENTRY NO: _____

LEGEND

- SECTION CORNER
- PROPERTY CORNER
- SUBDIVISION MONUMENT
- BOUNDARY LINE
- CENTER LINE
- EASEMENT LINE
- FIRE HYDRANT
- STREET LIGHT

SURVEYOR

ENSIGN
THE STANDARD IN ENGINEERING
SALT LAKE CITY
45 W. 10000 S., Suite 500
Sandy, UT 84070
Phone: 801.255.0529

ENGINEER

berg
CIVIL ENGINEERING
11038 N Highland Blvd Suite 400
Highland Ut, 84003
office (801) 492-1277
cell (801) 616-1677

SEWER & WATER AUTHORITY APPROVAL

APPROVED THIS ____DAY OF _____A.D. 20___,
BY THE WATER AUTHORITY.

SEWER & WATER AUTHORITY

SURVEYOR'S CERTIFICATE

I, _____, DO HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR, AND THAT I HOLD A LICENSE IN ACCORDANCE WITH TITLE 58, CHAPTER 22, PROFESSIONAL ENGINEERS AND LAND SURVEYORS LICENSING ACT, UTAH CODE ANNOTATED, 1953 AS AMENDED, CERTIFICATE NO. _____. I FURTHER CERTIFY THAT BY AUTHORITY OF THE OWNERS, I HAVE MADE A SURVEY OF THE TRACT OF LAND SHOWN ON THIS PLAT AND DESCRIBED BELOW, HAVE SUBDIVIDED SAID TRACT OF LAND INTO LOTS, STREETS AND EASEMENTS, HAVE COMPLETED A SURVEY OF THE PROPERTY DESCRBED ON THIS PLAT IN ACCORDANCE WITH SECTION 17-23-17, UTAH CODE ANNOTATED, 1953 AS AMENDED, HAVE VERIFIED ALL MEASUREMENTS, AND HAVE PLACED MONUMENTS AS REPRESENTED ON THE PLAT. I FURTHER CERTIFY THAT EVERY EXISTING RIGHT-OF-WAY AND EASEMENT GRANT OF RECORD FOR UNDERGROUND FACILITIES, AS DEFINED IN SECTION 54-8a-2, UTAH CODE ANNOTATED, 1953 AS AMENDED, AND FOR OTHER UTILITY FACILITIES, IS ACCURATELY DESCRIBED ON THIS PLAT, AND THAT THIS PLAT IS TRUE AND CORRECT.

DATE (SEE SEAL BELOW)

BOUNDARY DESCRIPTION

BEGINNING AT A POINT LOCATED SOUTH 89°50'11" WEST 26.09 FEET ALONG THE SECTION LINE AND NORTH 401.94 FEET FROM THE SOUTH QUARTER CORNER OF SECTION 22, TOWNSHIP 5 SOUTH, RANGE 1 EAST, SALT LAKE BASE AND MERIDIAN;

THENCE NORTH 89°19'23" WEST 250.00 FEET; THENCE NORTH 00°58'19" EAST 174.89 FEET; THENCE SOUTH 89°01'53" EAST 250.00 FEET; THENCE SOUTH 00°58'19" WEST 173.62 FEET TO THE POINT OF BEGINNING.

AREA = 43,563 SF OR 1.00 ACRES

BASIS OF BEARING IS NORTH 89°52'20" EAST ALONG SECTION LINE FROM THE SOUTH QUARTER CORNER OF SECTION 22, TOWNSHIP 5 SOUTH, RANGE 1 EAST, SALT LAKE AND MERIDIAN, TO THE SOUTHEAST CORNER OF SAID SECTION 22. (NAD 83)

NUMBER OF LOTS 1

OWNER'S DEDICATION

THE UNDERSIGNED OWNERS OF THE PROPERTY DESCRIBED ABOVE AND SHOWN ON THIS PLAT, HAVE CAUSED THE SAME TO BE SUBDIVIDED INTO LOTS, STREETS, AND EASEMENTS AND DO HEREBY DEDICATE ANY PUBLIC STREETS AND OTHER PUBLIC AREAS SHOWN THEREONFOR THE PERPETUAL USE OF THE PUBLIC.

IN WITNESS HEREOF WE HAVE HEREUNTO SET OUR HANDS THIS _____

DAY OF _____, A.D. _____

_____

_____

ACKNOWLEDGMENT

STATE OF UTAH
COUNTY OF UTAH } S.S.
ON THE ___ DAY OF _____, A.D. _____ PERSONALLY APPEARED BEFORE ME _____
_____
WHICH PERSON ACKNOWLEDGED TO ME THAT HE EXECUTED THE FOREGOING DEDICATION IN HIS RESPECTIVE CAPACITIES ON BEHALF OF _____, IN ACCORDANCE WITH THE GOVERNING DOCUMENTS OF SUCH COMPANY.

MY COMMISSION EXPIRES _____ _____
NOTARY PUBLIC

ACCEPTANCE BY LEGISLATIVE BODY

THE CITY COUNCIL OF AMERICAN FORK CITY COUNTY OF UTAH, APPROVES THIS SUBDIVISION AND HEREBY ACCEPTS THE DEDICATION OF ALL STREETS AND EASEMENTS FOR THE PERPETUAL USE OF THE PUBLIC THIS

_____ DAY OF _____, A.D. ___.

_____ MAYOR _____ CITY COUNCIL MEMBER

_____ CITY COUNCIL MEMBER _____ CITY COUNCIL MEMBER

_____ CITY COUNCIL MEMBER _____ CITY COUNCIL MEMBER

APPROVED _____ CITY ENGINEER ATTEST _____ CLERK-RECORDER

PLANNING COMMISSION APPROVAL

APPROVED THIS _____ DAY OF _____, A.D. _____ BY THE AMERICAN FORK CITY PLANNING COMMISSION

_____ PLANNER _____ CHAIRMAN, PLANNING COMMISSION

AF 10 PLAT "B"

LOCATED IN THE SOUTHWEST QUARTER AND SOUTHEAST QUARTER OF SECTION 22
TOWNSHIP 5 SOUTH, RANGE 1 EAST,
SALT LAKE BASE AND MERIDIAN.
AMERICAN FORK CITY, UTAH COUNTY, UTAH

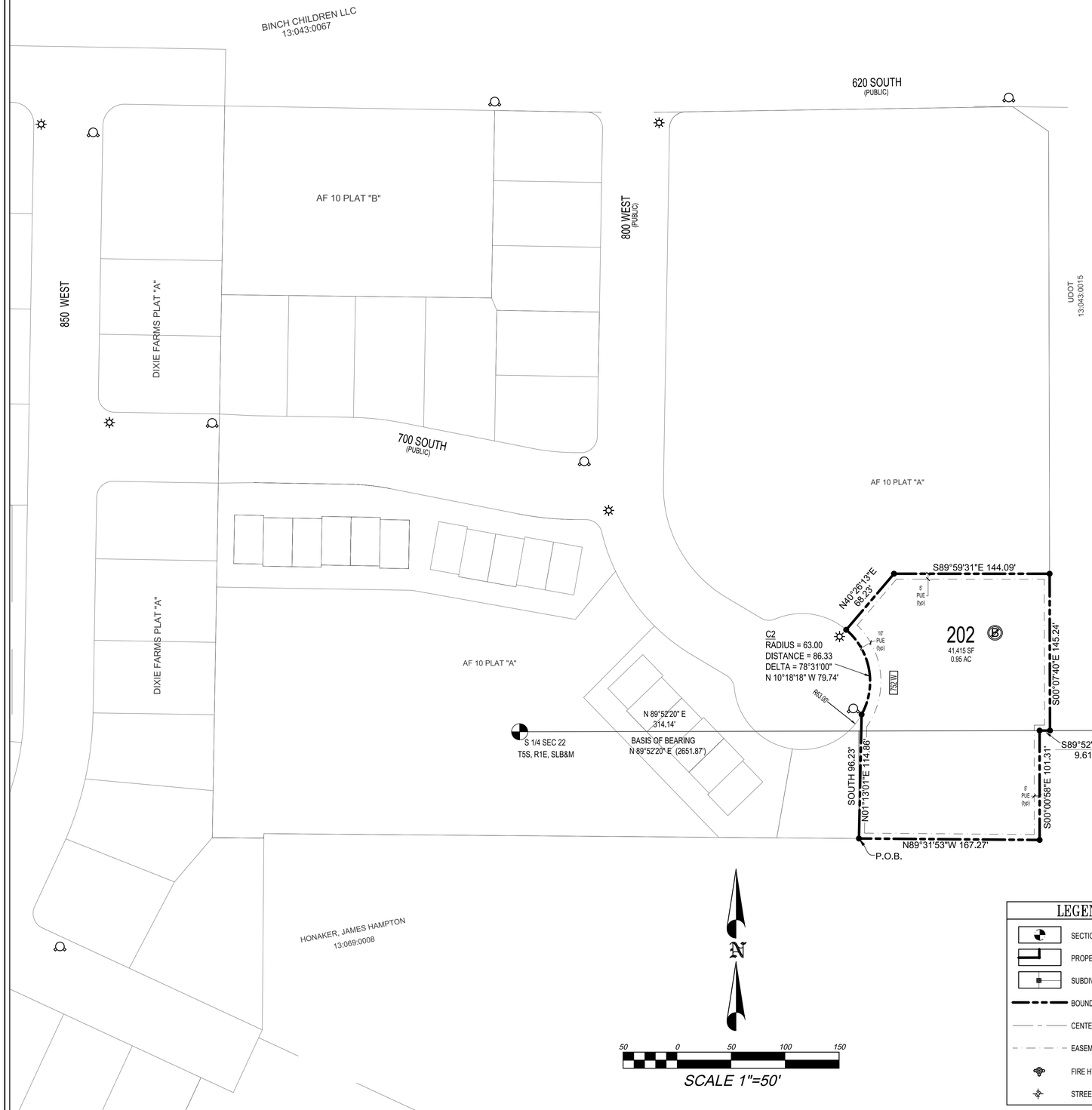
SCALE: 1" = 50 FEET

SURVEYOR'S SEAL	NOTARY PUBLIC SEAL	CLERK-RECORDER SEAL

2/13/20 I:\My Drive\Berg Civil\2019\ARBER\OAF 10\AF10 FINAL CD\AF 10 PLAT B.dwg

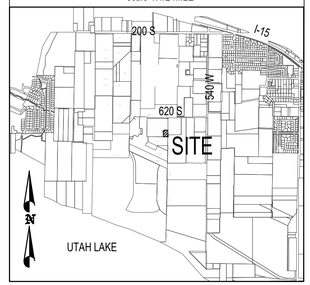
AF 10 PLAT "C"

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 22
AND THE NORTHEAST QUARTER OF SECTION 27
TOWNSHIP 5 SOUTH, RANGE 1 EAST,
SALT LAKE BASE AND MERIDIAN.
AMERICAN FORK CITY, UTAH COUNTY, UTAH



VICINITY SKETCH

scale 1:1/2 MILE



TABULATIONS

DEVELOPMENT AREA	0.95 AC
EXISTING ZONING	PR 3.0
LAND USE:	VERY LOW RESIDENTIAL
FLOOD ZONE DESIGNATION:	X
FIRM MAP PANEL #:	495517 0110 B
EFFECTIVE DATE:	JULY 17, 2002

NOTES

1. OFFSET-PINS TO BE PLACED IN THE BACK OF THE CURB AND 5/8" BY 24" REBAR WITH NUMBERED SURVEY CAP TO BE PLACED AT ALL LOTS REAR CORNERS PRIOR TO OCCUPANCY.

2. BUILDING PERMITS WILL NOT BE ISSUED FOR ANY HOME UNTIL 1) ASPHALT PAVING IS INSTALLED AND 2) FIRE HYDRANTS ARE INSTALLED, APPROVED BY THE FIRE MARSHAL AND CHARGED WITH CULINARY WATER.

3. LOWEST FLOOR SLAB ELEVATION MUST BE A MINIMUM OF 3 FEET ABOVE WATER LEVEL MEASURED DURING SPRING SEASON.

REFERENCE DOCUMENTS:

NOTICE OF INTEREST, BUILDING REQUIREMENTS, AND ESTABLISHMENT OF RESTRICTIVE COVENANTS

RECORDED IN THE OFFICE OF THE UTAH COUNTY RECORDER AS ENTRY NO: _____

LEGEND

- SECTION CORNER
- PROPERTY CORNER
- SUBDIVISION MONUMENT
- BOUNDARY LINE
- CENTER LINE
- EASEMENT LINE
- FIRE HYDRANT
- STREET LIGHT

SURVEYOR

ENSIGN
THE STANDARD IN ENGINEERING
SALT LAKE CITY
45 W. 10000 S., Suite 500
Sandy, UT 84070
Phone: 801.255.0529

ENGINEER

berg
CIVIL ENGINEERING
11038 N Highland Blvd Suite 400
Highland Ut, 84003
office (801) 492-1277
cell (801) 616-1677

SEWER & WATER AUTHORITY APPROVAL

APPROVED THIS ____DAY OF _____A.D. 20___,
BY THE WATER AUTHORITY.

SEWER & WATER AUTHORITY

SURVEYOR'S CERTIFICATE

I, _____, DO HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR, AND THAT I HOLD A LICENSE IN ACCORDANCE WITH TITLE 58, CHAPTER 22, PROFESSIONAL ENGINEERS AND LAND SURVEYORS LICENSING ACT, UTAH CODE ANNOTATED, 1953 AS AMENDED, CERTIFICATE NO. _____. I FURTHER CERTIFY THAT BY AUTHORITY OF THE OWNERS, I HAVE MADE A SURVEY OF THE TRACT OF LAND SHOWN ON THIS PLAT AND DESCRIBED BELOW, HAVE SUBDIVIDED SAID TRACT OF LAND INTO LOTS, STREETS AND EASEMENTS, HAVE COMPLETED A SURVEY OF THE PROPERTY DESCRBED ON THIS PLAT IN ACCORDANCE WITH SECTION 17-23-17, UTAH CODE ANNOTATED, 1953 AS AMENDED, HAVE VERIFIED ALL MEASUREMENTS, AND HAVE PLACED MONUMENTS AS REPRESENTED ON THE PLAT. I FURTHER CERTIFY THAT EVERY EXISTING RIGHT-OF-WAY AND EASEMENT GRANT OF RECORD FOR UNDERGROUND FACILITIES, AS DEFINED IN SECTION 54-8a-2, UTAH CODE ANNOTATED, 1953 AS AMENDED, AND FOR OTHER UTILITY FACILITIES, IS ACCURATELY DESCRIBED ON THIS PLAT, AND THAT THIS PLAT IS TRUE AND CORRECT.

DATE (SEE SEAL BELOW)

BOUNDARY DESCRIPTION

BEGINNING AT A POINT LOCATED NORTH 89°52'20" EAST 314.14 FEET AND SOUTH 96.23 FEET FROM THE SOUTH QUARTER CORNER OF SECTION 22, TOWNSHIP 5 SOUTH, RANGE 1 EAST, SALT LAKE BASE AND MERIDIAN;

THENCE NORTH 01°13'01" EAST 114.86 FEET; THENCE ALONG THE ARC OF A 63.00 FOOT RADIUS CURVE TO THE LEFT A DISTANCE OF 86.33 FEET (CURVE HAVING A CENTRAL ANGLE OF 78°31'00" AND LONG CHORD BEARS N10°18'18"W 79.74 FEET); THENCE NORTH 40°26'13" EAST 68.23 FEET; THENCE SOUTH 89°59'31" EAST 144.09 FEET; THENCE SOUTH 00°07'40" EAST 145.24 FEET; THENCE SOUTH 89°52'26" WEST 9.61 FEET; THENCE SOUTH 00°00'58" EAST 101.31 FEET; THENCE NORTH 89°31'53" WEST 167.27 FEET TO THE POINT OF BEGINNING.

AREA = 41,415 SF OR 0.95 ACRES

BASIS OF BEARING IS NORTH 89°52'20" EAST ALONG SECTION LINE FROM THE SOUTH QUARTER CORNER OF SECTION 22, TOWNSHIP 5 SOUTH, RANGE 1 EAST, SALT LAKE AND MERIDIAN, TO THE SOUTHEAST CORNER OF SAID SECTION 22. (NAD 83)

NUMBER OF LOTS 1

OWNER'S DEDICATION

THE UNDERSIGNED OWNERS OF THE PROPERTY DESCRIBED ABOVE AND SHOWN ON THIS PLAT, HAVE CAUSED THE SAME TO BE SUBDIVIDED INTO LOTS, STREETS, AND EASEMENTS AND DO HEREBY DEDICATE ANY PUBLIC STREETS AND OTHER PUBLIC AREAS SHOWN THEREONFOR THE PERPETUAL USE OF THE PUBLIC.

IN WITNESS HEREOF WE HAVE HEREUNTO SET OUR HANDS THIS _____

DAY OF _____, A.D. _____

_____

_____

ACKNOWLEDGMENT

STATE OF UTAH
COUNTY OF UTAH } S.S.
ON THE ___ DAY OF _____, A.D. _____ PERSONALLY APPEARED BEFORE ME _____

_____
WHICH PERSON ACKNOWLEDGED TO ME THAT HE EXECUTED THE FOREGOING DEDICATION IN HIS RESPECTIVE CAPACITIES ON BEHALF OF _____, IN ACCORDANCE WITH THE GOVERNING DOCUMENTS OF SUCH COMPANY.

MY COMMISSION EXPIRES _____ _____
NOTARY PUBLIC

ACCEPTANCE BY LEGISLATIVE BODY

THE CITY COUNCIL OF AMERICAN FORK CITY COUNTY OF UTAH, APPROVES THIS SUBDIVISION AND HEREBY ACCEPTS THE DEDICATION OF ALL STREETS AND EASEMENTS FOR THE PERPETUAL USE OF THE PUBLIC THIS

_____ DAY OF _____, A.D. ____.

_____ MAYOR _____ CITY COUNCIL MEMBER

_____ CITY COUNCIL MEMBER _____ CITY COUNCIL MEMBER

_____ CITY COUNCIL MEMBER _____ CITY COUNCIL MEMBER

APPROVED _____ CITY ENGINEER ATTEST _____ CLERK-RECORDER

PLANNING COMMISSION APPROVAL

APPROVED THIS _____ DAY OF _____, A.D. _____ BY THE AMERICAN FORK CITY PLANNING COMMISSION

_____ PLANNER _____ CHAIRMAN, PLANNING COMMISSION

AF 10 PLAT "C"

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 22
AND THE NORTHEAST QUARTER OF SECTION 27
TOWNSHIP 5 SOUTH, RANGE 1 EAST,
SALT LAKE BASE AND MERIDIAN.
AMERICAN FORK CITY, UTAH COUNTY, UTAH

SCALE: 1" = 50 FEET

SURVEYOR'S SEAL	NOTARY PUBLIC SEAL	CLERK-RECORDER SEAL

2/13/20 I:\My Drive\Berg Civil\2019\ARDER\DAF 10\AF10 FINAL CD\AF 10 PLAT C.dwg

Review and action on a Memorandum of Understanding for the Lake City Row development (Vest Annexation area), located in the area of 620 South 860 East

The overall concept plan for Lake City Row was approved by the City Council on November 26, 2019. The overall concept plan provides development parameters and grants vesting for a mixed-use development on approximately 90 acres located in the vicinity of 620 South 860 East.

The applicants request approval of a Memorandum of Understanding (MOU) prior to submission of individual site plans. The draft MOU addresses the following: (1) Road Infrastructure; specifically, construction and reimbursement of 620 South, and provision of transit stops along 860 East for a future regional transportation/transit loop, (2) Water Infrastructure; specifically, limitations in the number of allowed units until upgrading of water delivery infrastructure, and (3) Parking; specifically, allowance of shared parking provided certain minimum ratios are met. These ratios are called out in a table within the MOU.

Staff has reviewed the draft MOU and now brings it before the Planning Commission for review and recommendation. The MOU will then proceed to Council.

Potential Motions:

APPROVAL

Mr. Chairman, I move that we recommend approval of the Memorandum of Understanding.

DENIAL

Mr. Chairman, I move that we recommend denial of the Memorandum of Understanding.

TABLE

Mr. Chairman, I move that we table action on the Memorandum of Understanding.

ATTACHMENT "A"

SURVEYOR'S CERTIFICATE

I, Shane Johanson do hereby certify that I am a Professional Land Surveyor, and that I hold License No.7075114, in accordance with Title 58, Chapter 22 of the Professional Engineers and Land Surveyors Licensing Act, Utah Code Annotated, 1953 Amended. I further certify that by request of the Owners, I have made a plat of the tract of land shown on this plat and described below, hereafter to be known as Vest Annexation and that the same has been mapped drafted as referenced from county records and related to this map as shown hereon. Furthermore, I acknowledge that deed conflicts via records and possession lines could exist. These findings may not be shown as per this plat, and that those are elements that are a product of platting and the retracing of existing lines of record, that are disclosed or resolved in the finalization of a "Record of Survey". Are hereby acknowledging that this shall be initiated by the owner at time of finalizing this Annexation plat.
The purpose of this survey is to locate the boundaries of the described parcel, For the purpose to Initiate Annexation of the described below property.

300

PROPERTY DESCRIPTION

VEST ANNEXATION PARCEL
Beginning at a point that is located, on the section line of sections 25, 24 and the Easterly Bounds of North Valley Annexation Plat for American Fork city as per Utah County's Annexation Plats of Record; said point lies South 89° 35' 36" East along Section Line a distance of 1,339.41 feet from the North ¼ Corner of Section 25 Township 5 South, Range 1 East, Salt Lake Basin and Meridian;

Thence along said Annexation Plat North 00° 30' 38" East a distance of 59.75 feet, Thence North 89° 27' 34" West a distance of 70.84 feet, Thence South 00° 00' 00" West a distance of 8.81 feet, Thence North 89° 46' 15" West a distance of 756.02 feet, Thence North 00° 28' 28" East a distance of 44.96 feet, to the South Bounds of the Naterra West Annexation Plat; Thence along said plat the following courses: North 00° 37' 46" East a distance of 917.10 feet, Thence South 89° 26' 09" East a distance of 1715.23 feet, Thence South 00° 42' 35" East a distance of 508.28 feet, Thence South 89° 01' 35" East a distance of 277.10 feet, Thence North 00° 55' 39" West a distance of 13.61 feet, Thence South 88° 53' 32" East a distance of 218.34 feet, Thence South 88° 45' 29" East a distance of 177.16 feet, to the southernly Bounds of Pajela "B" Annexation Plat; thence along said plat North 90° 00' 00" East a distance of 225.07 feet to the Easterly bounds of Southwest Annexation Plat For Pleasant Grove City; Thence along said Plat the following courses: South 00° 00' 00" West a distance of 318.12 feet, Thence North 90° 00' 00" West a distance of 3.30 feet, Thence South 00° 05' 06" West a distance of 694.23 feet to the Northerly Bounds of Sager Annexation Plat For Pleasant Grove City; Thence along said plat South 89° 52' 18" West a distance of 808.21 feet to the Bounds of 860 East Street Annexation Plat For American Fork City, Thence along said plat the flowing courses: South 88° 37' 11" West a distance of 40.58 feet, Thence South 00° 20' 06" East a distance of 799.96 feet, Thence North 88° 57' 38" West a distance of 27.34 feet, to said Easterly Bounds of North Valley Annexation plat as described above, thence along said plat the remaining courses: Thence North 03° 13' 04" East a distance of 17.34 feet, Thence North 89° 56' 10" West a distance of 944.21 feet, Thence North 00° 42' 27" East a distance of 1303.97 feet to the point of beginning.
Containing 87.95 Acres More or less

BASIS OF BEARING N 89°35'45" W 2666.20' AS SHOWN HEREON

EXHIBIT B

REIMBURSEMENT AGREEMENT

This Reimbursement Agreement ("*Agreement*") is entered into as of this (day) day of (month), 20___, by and between (Name of Property Owner) with its principal offices located at (Property Owner Address) ("*Developer*") and American Fork City, a municipal corporation and political subdivision of the State of Utah with its principal offices located at 51 East Main Street, American Fork, Utah 84003 ("*City*").

RECITALS

WHEREAS, Developer owns certain parcels of property located in American Fork, Utah County, Utah, specifically Parcel (Parcel Tax ID Number) which consists of approximately (Number of Acres) acres and is further described in Exhibit A attached hereto (the "*Property*").

WHEREAS, the parties have learned that there are certain mutually beneficial, cooperative and cost-cutting ways their respective properties can assist in the development of the other;

WHEREAS, pursuant to Section 13.80.030 of the American Fork Code of Ordinances and in compliance with Section 11-36a-402 of the Utah Code Annotated, the parties desire to provide for certain "system improvements," as that term defined in Section 11-36a-102 of the Utah Code Annotated, in conjunction with the development of the Property by Developer;

NOW, THEREFORE, in consideration of the mutual covenants contained herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the City and Developer hereby agree as follows:

AGREEMENT

1. Sanitary Sewer Line. Developer is proposing to install sanitary sewer lines through its project at the required minimum size as required by City codes and standards. The City seeks to have the pipe within development upsized to a (Number) inch pipe to accommodate additional off-site uses. Each upsized pipe is a system improvement. The lengths of pipe, associated materials and costs are set forth, and agreed to as shown, in the attached Exhibit B.

2. Storm Sewer Line. Developer is proposing to install storm sewer lines through its project at the required minimum size as required by City codes and standards. The City seeks to have the pipe within development upsized to a (Number) inch pipe to accommodate additional off-site uses. Each upsized pipe is a system improvement. The lengths of pipe, associated materials and costs are set forth, and agreed to as shown, in the attached Exhibit B.

3. Culinary Water Line. Developer is proposing to install culinary water lines through

its project at the required minimum size as required by City codes and standards. The City seeks to have the pipe within development upsized to a (Number) inch pipe to accommodate additional off-site uses. Each upsized pipe is a system improvement. The lengths of pipe, associated materials and costs are set forth, and agreed to as shown, in the attached Exhibit B.

4. Pressurized Irrigation Line. Developer is proposing to install pressurized irrigation lines through its project at the required minimum size as required in City codes and standards. The City seeks to have the pipe within development upsized to a (Number) inch pipe to accommodate additional off-site uses. Each upsized pipe is a system improvement. The lengths of pipe, associated materials and costs are set forth, and agreed to as shown, in the attached Exhibit B.

5. Sidewalk/Trail. Developer is proposing to construct a sidewalk at the required minimum size as required in City codes and standards. The City seeks to have some or all of the sidewalk within the development upsized to a (Note both width or depth as they apply) to accommodate additional off-site uses. Each upsized sidewalk is a system improvement. The additional work, associated materials and costs are set forth, and agreed to as shown, in the attached Exhibit B.

6. Road. Developer is proposing to construct asphalt roads necessary for its development. The City seeks to have some of the asphalt roads within (Name of Development) constructed wider than is necessary for the development to accommodate additional off-site uses. Each upsized asphalt road is a system improvement. The construction of the road beyond that necessary for the development is reimbursable to the Developer. The additional square footage, associated materials and costs are set forth, and agreed to as shown, in the attached Exhibit B.

7. System Improvements Reimbursement. The public improvements described above are each a System Improvement and collectively the "System Improvements." The City agrees to reimburse Developer for the System Improvements in an amount equal to the actual costs of the System Improvements, not to exceed the amounts set forth in Exhibit B.

8. Time of Reimbursement. The City shall provide to Developer a single reimbursement payment within thirty days of completion of all system improvements for the Project. Completion shall mean completion of construction, inspection and acceptance by the City Council.

9. Choice of Law. This Agreement shall be governed by, and construed in accordance with, the laws of the State of Utah.

10. Entire Agreement. This Agreement constitutes the entire agreement between the parties regarding the subject matter hereof and supersedes all prior understandings, written or oral, regarding the subject matter hereof.

11. Modification. This Agreement may only be modified or altered by a writing signed by both parties.

12. Attorney Fees. In the event either party seeks to enforce the terms hereof in a lawsuit or other proceeding, the prevailing party shall be entitled to an award of the costs incurred, including reasonable attorney fees.

13. Execution. This Agreement may be executed in multiple original counterparts, each of which shall be deemed to be an original and all of which, taken together, shall constitute one and the same Agreement.

14. Severability. The provisions of this Agreement shall be deemed to be severable, and if any provision of this Agreement is determined to be invalid or unenforceable by any court of competent jurisdiction, such invalidity or unenforceability shall not affect or limit the validity or unenforceability of the remaining provisions hereof.

15. Third-Party Beneficiary Interests. Nothing contained in this Agreement is intended to benefit any person or entity other than the parties to this Agreement and/or their respective successors and assigns; and no representation or warranty is intended for the benefit of, or to be relied upon by, any person or entity which is not a party to this Agreement and/or their respective successors and assigns.

16. Binding Effect. This Agreement shall inure to the benefit of, and be binding upon, the parties hereto and their respective heirs, representatives, officers, agents, employees, members, successors and assigns.

WHEREFORE, the parties have executed the foregoing to be effective on the date appearing above.

DEVELOPER

_____
By: _____
Its: _____

AMERICAN FORK CITY

_____
Bradley J. Frost
Mayor, American Fork City

ATTEST:

_____
City Recorder

Approved as to form:

_____
City Attorney

Approved as to content:

_____
City Engineer

EXHIBIT A
Parcel Legal Description

EXHIBIT “B”

Description of Improvements and estimated cost (bid schedule)

EXHIBIT C

PIONEERING AGREEMENT

This Pioneering Agreement (hereinafter referred to as "Agreement") is entered into as of this [Day] day of [Month], 20___, by and between [Developer], a [Type of Entity] with its principal offices located at [Address] (hereinafter referred to as "Developer") and American Fork City, a municipal corporation and political subdivision of the State of Utah with its principal offices located at 51 East Main Street, American Fork, Utah 84003 (hereinafter referred to as the "City").

RECITALS

WHEREAS, Developer owns certain parcels of property located in American Fork, Utah County, Utah, specifically [Utah County Parcel Numbers] consisting of [Number of Acres] acres and further described in Exhibit A attached hereto (hereinafter referred to as the "Property");

WHEREAS, Developer has obtained approvals from the City to develop the Property into a [Type of Development] commonly known as [Name of Development]. However, development of the Property is subject to the installation of offsite [Type of Improvements] improvements (the "Project Improvements") identified on Exhibit B attached hereto.

WHEREAS, the Project Improvements will provide direct benefit to other developers and owners of surrounding properties (the "Benefited Properties") when they develop their properties. The Benefited Properties are identified by tax parcel number and owner in Exhibit C attached hereto.

WHEREAS, Developer desires to be reimbursed for a proportionate share of the costs associated with the design, construction and installation of the Project Improvements as the Benefitted Properties connect and/or utilize the improvements;

WHEREAS, City is willing to administer reimbursement payments from the owners of the Benefitted Properties in accordance with the terms and provisions of this Agreement; and

WHEREAS, this Agreement is entered into to ensure the orderly development of real property within City limits, while maintaining and enhancing property values.

NOW THEREFORE, in consideration of the mutual covenants contained herein, the parties hereto contract, covenant, and agree as follows:

AGREEMENT

1. Necessity of Improvements. Developer expressly acknowledges that the Project Improvements are necessary for development of [Name of Development], and are lawful conditions precedent for the approval and development of [Name of Development].

2. Developer's Obligation. Developer shall install the Project Improvements at Developer's cost and expense including all costs and expenses associated with engineering, planning,

surveying, design, materials, labor, easements, property, construction costs, and bonding relating to the Project Improvements, in accordance with the construction plans approved by the City for the development of [Name of Development] and/or required by City ordinances and regulations (the "Pioneering Costs"). Pioneering Costs shall bear no interest from the date hereof to date of payment.

3. Approval, Inspection, and Acceptance. Developer and its assigns shall install the Project Improvements and post applicable bonds and improvement completion assurances in accordance with City ordinances to guarantee the installation of the Project Improvements according to City ordinances, regulations, and standards. The Project Improvements shall be approved by the City and inspections shall be conducted by the City to ensure that the Project Improvements are constructed per City standards. Upon completion, Developer shall deliver to City a set of as-built plans of the Project Improvements (in both paper and electronic format) with the verified actual amount of the Pioneering Costs of the Project Improvements. Upon successful completion of the Project Improvements and acceptance in writing by the City, Developer shall also provide an Improvement Warranty in accordance with City ordinances to ensure that the Project Improvements remain in good condition and free from defects for a period of one (1) year. Upon successful completion, approval by the City, and posting of an Improvement Warranty by Developer, the City shall accept, own, operate, and maintain the Project Improvements. Developer shall dedicate to the City ownership of all facilities, easements, and property necessary to properly operate and maintain the Project Improvements and shall not retain any ownership interest therein, unless City ordinances, agreements, or regulations provide otherwise.

4. Collection of Pioneering Costs. The City will require owners of the Benefitted Properties that develop their land or apply for building permits to pay to the City their proportionate share of the Pioneering Costs of the Project Improvements prior to granting development or subdivision approval or issuing building permits. The proportionate share shall be determined by the City based upon consideration of the street frontage, parcel size, and other relevant factors of each respective Benefitted Property. In no event shall City be liable for failure to make collection; it being understood and agreed that City will use its best efforts to make such collection.

5. Distribution of Pioneering Costs Received. The funds collected shall be paid by the City to the Developer within 60 days of collection, unless the payment is made under protest by the owner of the Benefitted Property or the payment is the subject of a lawsuit (filed or threatened), complaint, advisory opinion, or appeal. In such a case, the City will retain the funds until such time as the matter is resolved. When the matter is resolved, the City shall disburse the funds to Developer within 60 days. Nothing in this Agreement shall preclude Developer from arranging for up-front financial contributions for the Project Improvements from the owners of the Benefitted Properties.

6. Duration of Pioneering Costs for all improvements. If a development application is made after 10 years from the date hereof, there shall be no required payment of Pioneering Costs related to streets as a pre-condition of development approval or issuance of a

building permit.

7. Full Compensation. The Developer hereby agrees it shall not be entitled to any reimbursement, compensation, incentive, or other payment from the City related to the Project Improvements. Nothing in this Agreement, however, shall preclude Developer from obtaining reimbursements or impact fee credits for "system improvements" or oversized public improvements requested or required by the City in relation to the Project. If the City requires Developer to upsize or extend any of the Project Improvements, the parties may negotiate a separate reimbursement agreement to be submitted to City Council for approval. Such upsizing costs, however, are not part of this Agreement.

8. Choice of law. This Agreement shall be interpreted and enforced under the laws of the State of Utah. Venue for any legal action brought on this Agreement shall lie with the Fourth Judicial District Court for Utah County, Utah.

9. Authority. Each individual executing this Agreement hereby represents and warrants that he or she has been duly authorized to sign this Agreement in the capacity and for the entities identified.

10. Recitals and Exhibits Incorporated. Each recital set forth above, and each exhibit attached to and referred to in this Agreement, is hereby incorporated by reference.

11. Counterparts and Severability. In the event that any provision of this Agreement shall be held invalid and unenforceable, such provision shall be severable from, and such invalidity and unenforceability shall not be construed to have any effect on, the remaining provisions of this Agreement. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which shall constitute one and the same instrument.

12. Entire Agreement. This Agreement constitutes and comprises the entire understanding of the parties hereto, and supersedes any previous written or oral communication or representation related to the subject matter hereof

13. Amendment. This Agreement may only be amended by written instrument signed by both parties hereto.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the day and year first above written.

AMERICAN FORK CITY

_____
Bradley J. Frost, Mayor

Attest:

_____
Terilyn Lurker, Recorder

DATED this ____ day of _____, 2018.

[DEVELOPER]

By: _____
Name (Print):
Its:

State of Utah

County of _____

On the _____ day of _____, 2018, personally appeared before me _____, of _____, whose identity has been proven on the basis of satisfactory evidence, and after being duly sworn acknowledges that he had authority to execute the foregoing Pioneering Agreement, for the purposes stated therein, and did so of his own voluntary act.

_____
Notary

MEMORANDUM OF UNDERSTANDING
BETWEEN
AMERICAN FORK CITY
AND
OZ AF EAST, LLC, SMART TOWN, LLC, KURT V. VEST TRUST, LARRY VEST, AND VILLAS AT ASPEN MEADOWS, LLC

THIS MEMORANDUM OF UNDERSTANDING ("MOU") is made and entered as of the ___ day of March, 2020, by and between the City of American Fork, a political subdivision of the State of Utah (hereinafter referred to as the "City"), and OZ AF East, LLC, Smart Town, LLC, Kurt V. Vest Trust, Larry Vest, and Villas at Aspen Meadows, LLC (collectively referred to as "Owners").

RECITALS

WHEREAS Owners own certain real property in American Fork consisting of approximately 78.65 acres, more fully described in Exhibit "A" (hereinafter referred to as the "Property");

WHEREAS Owners and the City desire that the Property be developed in a unified and consistent fashion pursuant to the Property Concept Plan approved _____, 2019;

WHEREAS the City has zoned the Property planned community;

WHEREAS the development of the Property in a manner that benefits all parties requires consideration of shared parking, construction of 620 South, a regional transportation loop, and construction of additional water infrastructure; and

WHEREAS the parties understand this MOU is not intended as, and shall not be considered, a binding obligation of either party, but rather a memorialization of the current understanding between the City and Owners regarding a collaborative effort to develop the Property in a manner that provides the greatest benefit to all parties.

NOW THEREFORE, in consideration of the mutual promises and covenants contained herein, the parties understand and agree as follows:

TERMS

1. **Purpose and Scope.** This MOU is intended to assist Owners in their preparation of submittals to the City for development of the Property. It is not intended to create any rights, benefits and/or responsibilities by or between the Parties.

2. **Road Infrastructure.** The parties understand and agree that 620 South and 860 East are critical components of development for Property and the City's overall road infrastructure.

    a. **Dedication of 620 South.** The right of way for 620 South was previously

dedicated to the City at the time of annexation. In the event any further dedication is required for the arterial road set forth on the City's master plan, Owners agree to dedicate the necessary right of way for 620 South to the City at the time of site plan approval. Compensation for such right-of-way will be made pursuant to the City's policy for reimbursement and shall be provided pursuant to the terms of the reimbursement agreement attached hereto as Exhibit B.

b. **Construction of 620 South.** Owners shall construct 620 South consistent with the City's Master Plan at the time of plan submittals.

c. **Reimbursement for Upsizing of 620 South.** The City shall reimburse the Owners for upsizing of 620 South consistent with the terms herein. ~~The necessary roadway to service development of the Property (i.e. local road, neighborhood collector, or arterial) has not, yet, been determined. Upon receipt of a traffic study acceptable by the City, the City will determine the necessary roadway for the development.~~ It understood by the parties that the City's master plan identifies 620 South as an arterial road. The City shall reimburse Owners for any required upsizing from the necessary roadway for the development to an arterial roadway consistent with the City's policies for reimbursement and shall utilize the City's reimbursement agreement attached hereto as Exhibit B.

d. **Connector's Agreement.** The construction of 620 South is necessary to provide the desired traffic pattern through the Property. Construction of 620 South will require Owners to construct a portion of the roadway along frontage of parcels not owned by Owners. City agrees to enter a Connector's Agreement for 620 South consistent with the agreement attached hereto as Exhibit C.

e. **Regional Transportation Loop**. Owners agree to consult with the City in the design 860 East to accommodate no less than two (2) bus stops. The City shall have final approval of the design. Approval shall not be unreasonably withheld.

3. **Water Infrastructure**. The construction of water infrastructure not currently identified on the City's Culinary Water IFFP is necessary prior to build out of the Property.

a. **Permitted Units.** Development of the Property shall be limited to 1,000~~750~~ units unless and until the City constructs the necessary water infrastructure to support additional units.

b. **City's Obligations.** The City is currently preparing plans for the necessary water infrastructure to provide an adequate service the Property. The City agrees to continue with securing the needed water infrastructure plans and further agrees to consider various funding sources to accomplish the installation of the needed infrastructure.

4. **Project Parking.** The project area consists of commercial and residential structures and qualifies for shared parking agreements pursuant to American Fork City Code.

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~~4.~~a. **Shared Parking Agreement.** The parties agree that Owners shall submit to the City shared parking agreements within the Property area satisfactory to the City.

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~~a.~~b. **Reduction.** ~~The City agrees that upon receipt of a shared parking agreement satisfactory to the City, e~~Each residential site plan shall be permitted to utilize the following parking standards so long as the overall parking ratio for each individual site plan is not less than 1.8:

Unit Size	Parking Spaces Per Dwelling Unit
Studio	1.25
One Bedroom	1.5
Two Bedroom or more	2.25

5. **Compliance with Concept Plan.** Development of the Property shall be in accordance with the Concept Plan approved by the City on _____ and all laws and regulations in effect at the time of site plan submittal.

6. **Third Party Beneficiaries**. Any claims of third party benefits under this MOU are expressly denied.

7. **Waiver.** The failure by either party to exercise any right, power or privilege under the terms of this Agreement will not be construed as a waiver of any subsequent or further exercise of that right, power or privilege or the exercise of any other right, power or privilege.

8. **Current Agreement.** This MOU supersedes any oral representations which may have been made by the Parties regarding the issues addressed in this MOU.

9. **Governing Law; Integration Clause**. It is mutually understood and agreed that this MOU shall be governed by the laws of the State of Utah, both as to interpretation and performance.

IN WITNESS WHEREOF, the parties hereto have executed this MOU by and through their respective, duly authorized representatives as of the day and year first herein above written.

DATE _____ AMERICAN FORK CITY

_____
Bradley J. Frost, Mayor

DATE _____ OZ AF EAST, LLC

_____
By:
Its:

DATE _____ SMART TOWN, LLC

_____
By:
Its:

DATE _____ KURT V. VEST TRUST

_____
By:
Its:

DATE _____ LARRY VEST

_____
By:
Its:

DATE _____ VILLAS AT ASPEN MEADOWS, LLC

_____
By:
Its:

MEMORANDUM OF UNDERSTANDING
BETWEEN
AMERICAN FORK CITY
AND
OZ AF EAST, LLC, SMART TOWN, LLC, KURT V. VEST TRUST, LARRY VEST, AND VILLAS AT ASPEN MEADOWS, LLC

THIS MEMORANDUM OF UNDERSTANDING ("MOU") is made and entered as of the ___ day of March, 2020, by and between the City of American Fork, a political subdivision of the State of Utah (hereinafter referred to as the "City"), and OZ AF East, LLC, Smart Town, LLC, Kurt V. Vest Trust, Larry Vest, and Villas at Aspen Meadows, LLC (collectively referred to as "Owners").

RECITALS

WHEREAS Owners own certain real property in American Fork consisting of approximately 78.65 acres, more fully described in Exhibit "A" (hereinafter referred to as the "Property");

WHEREAS Owners and the City desire that the Property be developed in a unified and consistent fashion pursuant to the Property Concept Plan approved _____, 2019;

WHEREAS the City has zoned the Property planned community;

WHEREAS the development of the Property in a manner that benefits all parties requires consideration of shared parking, construction of 620 South, a regional transportation loop, and construction of additional water infrastructure; and

WHEREAS the parties understand this MOU is not intended as, and shall not be considered, a binding obligation of either party, but rather a memorialization of the current understanding between the City and Owners regarding a collaborative effort to develop the Property in a manner that provides the greatest benefit to all parties.

NOW THEREFORE, in consideration of the mutual promises and covenants contained herein, the parties understand and agree as follows:

TERMS

1. **Purpose and Scope.** This MOU is intended to assist Owners in their preparation of submittals to the City for development of the Property. It is not intended to create any rights, benefits and/or responsibilities by or between the Parties.

2. **Road Infrastructure.** The parties understand and agree that 620 South and 860 East are critical components of development for Property and the City's overall road infrastructure.

    a. **Dedication of 620 South.** The right of way for 620 South was previously

dedicated to the City at the time of annexation. In the event any further dedication is required for the arterial road set forth on the City's master plan, Owners agree to dedicate the necessary right of way for 620 South to the City at the time of site plan approval. Compensation for such right-of-way will be made pursuant to the City's policy for reimbursement and shall be provided pursuant to the terms of the reimbursement agreement attached hereto as Exhibit B.

b. Construction of 620 South. Owners shall construct 620 South consistent with the City's Master Plan at the time of plan submittals.

c. Reimbursement for Upsizing of 620 South. The City shall reimburse the Owners for upsizing of 620 South consistent with the terms herein. It understood by the parties that the City's master plan identifies 620 South as an arterial road. The City shall reimburse Owners for any required upsizing from the necessary roadway for the development to an arterial roadway consistent with the City's policies for reimbursement and shall utilize the City's reimbursement agreement attached hereto as Exhibit B.

d. Connector's Agreement. The construction of 620 South is necessary to provide the desired traffic pattern through the Property. Construction of 620 South will require Owners to construct a portion of the roadway along frontage of parcels not owned by Owners. City agrees to enter a Connector's Agreement for 620 South consistent with the agreement attached hereto as Exhibit C.

e. Regional Transportation Loop. Owners agree to consult with the City in the design 860 East to accommodate no less than two (2) bus stops. The City shall have final approval of the design. Approval shall not be unreasonably withheld.

3. Water Infrastructure. The construction of water infrastructure not currently identified on the City's Culinary Water IFFP is necessary prior to build out of the Property.

a. Permitted Units. Development of the Property shall be limited to 1,000 units unless and until the City constructs the necessary water infrastructure to support additional units.

b. City's Obligations. The City is currently preparing plans for the necessary water infrastructure to provide an adequate service the Property. The City agrees to continue with securing the needed water infrastructure plans and further agrees to consider various funding sources to accomplish the installation of the needed infrastructure.

4. Project Parking. The project area consists of commercial and residential structures and qualifies for shared parking agreements pursuant to American Fork City Code.

a. Shared Parking Agreement. The parties agree that Owners shall submit to the City shared parking agreements within the Property area satisfactory to the City.

b. Reduction. Each residential site plan shall be permitted to utilize the following parking standards so long as the overall parking ratio for each individual site plan is not less than 1.8:

Unit Size	Parking Spaces Per Dwelling Unit
Studio	1.25
One Bedroom	1.5
Two Bedroom or more	2.25

5. **Compliance with Concept Plan.** Development of the Property shall be in accordance with the Concept Plan approved by the City on _____ and all laws and regulations in effect at the time of site plan submittal.

6. **Third Party Beneficiaries**. Any claims of third party benefits under this MOU are expressly denied.

7. **Waiver.** The failure by either party to exercise any right, power or privilege under the terms of this Agreement will not be construed as a waiver of any subsequent or further exercise of that right, power or privilege or the exercise of any other right, power or privilege.

8. **Current Agreement.** This MOU supersedes any oral representations which may have been made by the Parties regarding the issues addressed in this MOU.

9. **Governing Law; Integration Clause**. It is mutually understood and agreed that this MOU shall be governed by the laws of the State of Utah, both as to interpretation and performance.

IN WITNESS WHEREOF, the parties hereto have executed this MOU by and through their respective, duly authorized representatives as of the day and year first herein above written.

DATE _____ AMERICAN FORK CITY

_____
Bradley J. Frost, Mayor

DATE _____ OZ AF EAST, LLC

_____
By:
Its:

DATE _____ SMART TOWN, LLC

_____
By:
Its:

DATE _____ KURT V. VEST TRUST

_____
By:
Its:

DATE _____ LARRY VEST

_____
By:
Its:

DATE _____ VILLAS AT ASPEN MEADOWS, LLC

_____
By:
Its:

AMERICAN FORK CITY ENGINEERING DIVISION
STAFF REPORT

Planning Commission Meeting Date: 3/4/2020

This report is a summary of the American Fork City Engineering Division plan review comments regarding the subject plan as submitted by the applicant for American Fork City Land Use Authority approval:

Project Name: General Plan Amendments

Project Address: N/A

Developer / Applicant's Name: American Fork City

Type of Application:

- ☐ Subdivision Final Plat
- ☐ Subdivision Preliminary Plan
- ☐ Annexation
- ☐ Code Text Amendment
- ☒ General Plan Amendment
- ☐ Zone Change
- ☐ Commercial Site Plan
- ☐ Residential Accessory Structure Site Plan

Engineering Division Recommendation: The Engineering Division recommends APPROVAL of the proposed general plan amendments for the transportation element of the general plan. These updates reflect current development needs related to public infrastructure. These updates are consistent with the long-term planning and engineering goals for the City and are not detrimental to the general health, safety and welfare of its citizens.

POTENTIAL MOTIONS:

APPROVAL

Mr. Chairman, I move that we recommend approval of the code text amendment.

DENIAL

Mr. Chairman, I move that we recommend denial of the code text amendment.

TABLE

Mr. Chairman, I move that we recommend table of the code text amendment.

AMERICAN FORK CITY

IMPACT FEE FACILITIES PLAN

DRAFT

February 27, 2020

PREPARED BY

HORROCKS ENGINEERS

IMPACT FEE FACILITIES PLAN SUMMARY

UTAH CODE LEGAL REQUIREMENTS

Utah law requires communities to prepare an Impact Fee Facilities Plan (IFFP) prior to preparing an impact fee analysis and establishing an impact fee. The code also outlines the requirements of an IFFP. An IFFP is required to identify the following:

- The demands placed on existing public facilities by new development;
- A proposed means by which the local political subdivision will meet those demands; and
- A general consideration of all potential revenue sources to finance the impacts on system improvements.

EXISTING LEVEL OF SERVICE

According to the Impact Fee Act, level of service is defined as "the defined performance standard or unit of demand for each capital component of a public facility within a service area." The LOS of a roadway segment or intersection is used to determine if capacity improvements are necessary. LOS is measured on a roadway segment using its daily traffic volume as an approximation of PM peak hour congestion and at an intersection based on the average delay per vehicle. A standard of LOS D is a generally accepted LOS standard for urban areas and is used as the standard for American Fork.

DEMANDS PLACED ON EXISTING FACILITIES BY NEW DEVELOPMENT

As American Fork grows, new developments will require an increased roadway capacity throughout the City's street network in order to provide an acceptable level of service. Included is a Transportation Improvement Program (TIP) that identifies specific projects needed to provide an acceptable LOS to the residents of American Fork. The total transportation capital improvements needed to maintain an acceptable LOS over the next 10 years (through 2030) would cost approximately **$254,590,000**. Of the total cost, **$30,520,000** is impact fee eligible.

PROPOSED MEANS TO MEET DEMANDS OF NEW DEVELOPMENT

All possible revenue sources have been considered as a means of financing transportation capital improvements needed as a result of new growth. The potential revenue sources that could be used to fund transportation needs as a result of new development are discussed in the IFFP:

- Federal Funding
- State Funding
- Partnering Jurisdictions
- Local Funding
- Grants
- Impact Fees

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IMPACT FEE FACILITIES PLAN

UTAH CODE LEGAL REQUIREMENTS

Utah law requires communities to prepare an Impact Fee Facilities Plan (IFFP) prior to preparing an impact fee analysis and establishing an impact fee. The code also outlines the requirements of an IFFP. An IFFP is required to identify the following:

- The demands placed on existing public facilities by new development;
- A proposed means by which the local political subdivision will meet those demands; and
- A general consideration of all potential revenue sources to finance the impacts on system improvements.

This analysis incorporates the information provided in previous chapters regarding the upcoming demands on the existing infrastructure facilities that will be needed to accommodate future growth and provide an acceptable LOS. This section focuses on the improvements that are projected to be needed over the next ten years; however, Utah law requires that any impact fees collected for those improvements be spent within six years of being collected. Only capital improvement are included in this plan; all other maintenance and operation cost are assumed to be covered through the City's General Fund as tax revenues increase as a result of additional development.

NOTICE OF INTENT TO PREPARE AN IMPACT FEE FACILITIES PLAN

In accordance with Utah Code, a local political subdivision must provide written notice of its intent to prepare an IFFP before preparing the Plan. This notice must be posted on the Utah Public Notice website. The City of American Fork has complied with this noticing requirement of the IFFP by posting notice in 2017.

EXISTING LEVEL OF SERVICE

According to the Impact Fee Act, level of service is defined as "the defined performance standard or unit of demand for each capital component of a public facility within a service area." The LOS of a roadway segment or intersection is used to determine if capacity improvements are necessary. LOS is measured on a roadway segment using its daily traffic volume as an approximation of PM peak hour congestion and at an intersection based on the average delay per vehicle. A standard of LOS D is a generally accepted LOS standard for urban areas and is used as the standard for American Fork. This allows for speeds at or near free-flow speeds, but with some congestion during the peak times of the day. At intersections, LOS D means that vehicles should not have to wait more than one cycle to proceed through the intersection and experience delays less than 35 seconds, according to the Highway Capacity Manual 2010. **Table 1** summarizes the maximum capacities for roadway segments used by American Fork.

Table 1 Capacity Criteria in Vehicles per Day

Lanes	Arterial	Collector
2	5,500	5,000
3	13,000	11,500
5	30,500	NA
7	46,000	NA

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INTERSECTION STANDARDS

The performance of intersections has a large effect on the level of service of the roadway network. Intersections have different control types such as: no control, stop control, signal, roundabout, or yield. The level of service for each type of intersection is calculated depending on its control type. Intersection improvements will be necessary in some cases to maintain the desired level of service. One method to reduce costs is to coordinate the placement of signal wiring, foundations, and other features with roadway construction before the placement of the actual traffic signals and other elements are needed. The costs of these intersection improvements have been included in the roadway network cost estimates in **Table 2** The total costs for the full installation of these intersection improvements may be postponed, depending on the specific needs of the intersections in the future.

TRIPS

The unit of demand for transportation impact is the vehicle trip. A vehicle trip is defined by the Institute of Transportation Engineers (ITE) as a single or one-directional vehicle movement to or from a site during a normal week day. The total traffic impact of a new development can be determined by the sum of the total number of vehicle trips generated by a development in a day. This trip generation number or impact can be estimated for an individual development using the ITE Trip Generation Manual (currently 9th edition). This publication uses national data studied over decades to assist traffic engineering professionals to determine the likely impact of new development on transportation infrastructure.

There is a minor discrepancy in the way ITE calculates trips and the way trips or roadway volumes are calculated in the travel demand model used in the American Fork TMP. This discrepancy is explained by the model roadway volumes and capacities being calculated using daily traffic volumes rather than trips on the roadway. Essentially, this means that a travel demand model "trip" or unit of volume is counted once as a vehicles leaves home, travels on the road network, and then arrives at work. This vehicles will only be counted as it travels on the roadway network. The ITE Trip Generation method uses driveway counts as its measure of a trip. Therefore a vehicle making the same journey will be counted once as it leaves home and once again as it arrives at work for a total of two trips. This can be rectified simply by adjusting the ITE Trip Generation rates by one half, this calculation will be evident in the IFA.

An additional consideration is that certain developments do not generate primary trips or trips that originated for the sole purpose of visiting that development. An example of a primary trip is a home based work trip where someone leaves their house with the express purpose of going to work. This primary trip has been generated by a combination of the home where the trip originated and the place of occupation where the trip is terminated. Thus, it is easily understood that the impact of this trip should be attributed to the housing development and workplace development since without either of these locations, the trip doesn't happen. Some trips are not primary trips, they are defined as pass-by trips. This means that the trip (crossing the driveway of a development) was generated by a driver deciding to make a stop on their way to their primary destination. Good examples of pass-by trips are someone that stops at the gas station on their way to work (a gas station is a pass-by trip) or a driver that is enticed to stop at a fast food restaurant as they drive by because the "HOT DONUTS" sign is illuminated (the fast food restaurant is a pass-by trip). Pass-by trips do not add traffic to the roadway and, therefore, do not create additional impact. Each land use type in the ITE Trip Generation Manual has a suggested reduction for pass-by trips where applicable. In each case, the trip reduction rate will be applied to the trip generation rate used in the IFA.

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SYSTEM IMPROVEMENTS AND PROJECT IMPROVEMENTS

There are four primary classifications of roads, which include local streets, collectors, arterials, and freeways/expressways. The City of American Fork classifies street facilities based on the relative amounts of through and land-access service they provide. Local streets primarily serve land-access functions, while freeways and expressways are primarily meant for mobility. Each classification may have a variable amount of lanes, which is a function of the expected traffic volume and serves as the greatest measure of roadway capacity.

Improvements to collectors and arterials are considered "system improvements" as defined in the Utah Impact Fee Law, as these streets serve users from multiple developments. All system improvements must comply with the minimum cross-sections included in the American Fork TMP. System improvements may include anything within the roadway, such as curb and gutter, asphalt, road base, lighting, and signing for collectors and arterials. These projects are eligible to be funded with impact fees and are included in this IFFP.

PROPOSED LEVEL OF SERVICE

The proposed level of service provides a standard of evaluation for future roadway conditions. This standard will determine whether or not a roadway will need improvements. According to the Utah Impact Fee Law, the proposed level of service may:

1. Diminish or equal the existing level of service
2. Exceed the existing level of service if, independent of the use of impact fees, the political subdivision or private entity provides, implements, and maintains the means to increase the existing level of service for existing demand within six years of the date on which new growth is charged for the proposed level of service; or
3. Establish a new public facility if, independent of the use of impact fees, the political subdivision or private entity provides, implements, and maintains the means to increase the existing level of service for existing demand within six years of the date on which new growth is charged for the proposed level of service.

This IFFP will not make any changes to the existing level of service, and LOS D will be the standard by which the impacts of future growth will be evaluated.

EXISTING CAPACITY TO ACCOMMODATE FUTURE GROWTH

An important element of the IFFP is the determination of excess capacity on the roadway network. Excess capacity is defined as the amount of available capacity on any given street in the roadway network under existing conditions. This capacity is available for new development in the city before additional infrastructure will be needed. This represents a buy-in component from the City if the existing residents/property owners have already paid for these improvements. New roads do not have any excess capacity and roads which are not under City jurisdiction have their capacity information removed from the calculations. This analysis does not include analysis for any existing roadway segments to determine existing excess capacity.

DEMANDS PLACED ON FACILITIES BY NEW DEVELOPMENT

To meet the requirements of the Utah Impact Fee law, to "identify demands placed upon existing public facilities by new development activity at the proposed level of service" and to "identify the means by which the political subdivision or private entity will meet those growth demands", the following steps were completed and are explained in further detail in the following sections:

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1. **Existing Demand-** The traffic demand at the present time was identified using traffic counts.
2. **Existing Capacity**- The capacity of the current roadway network was estimated using the calculated LOS.
3. **Existing Deficiencies-** The deficiencies in the current network were identified by comparing the LOS of the roadways to the LOS standard.
4. **Future Demand-** The future demand on the network was estimated using development projections.
5. **Future Deficiencies-** The deficiencies in the future network were identified by comparing the calculated future LOS with the LOS standard.
6. **Recommended Improvements-** Recommendations were made that will help meet future demands.

EXISTING ROADWAY NETWORK CONDITIONS

CONVERSIONS OF GROWTH AND DEVELOPMENT PROJECTIONS TO TRIP GENERATIONS

The basis of the future travel demand was projected using the Mountainland Association of Governments (MAG) Travel Demand Model. The inputs to the model consist of socio-economic and land use data provided by MAG and the City. The outputs from the model include peak hour trips and daily traffic volumes on each of the roadways in the network. The MAG Travel Demand Model was calibrated to existing traffic conditions in American Fork. Traffic counts for state roads were collected from UDOT and include annual average daily traffic (AADT) volumes as defined in *Traffic on Utah Highways.* On City owned roadways, traffic counts were either provided by American Fork or were manually counted as part of the IFFP.

EXISTING FUNCTIONAL CLASSIFICATION AND LEVEL OF SERVICE

The existing functional classification in American Fork is shown in **Figure 1**. The LOS was calculated according to the guidelines explained in the Level of Service section for the existing roadway network and is included in **Figure 2**.

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Figure 2-2 Existing Roadway Network



Figure 2 Existing Daily Traffic and LOS



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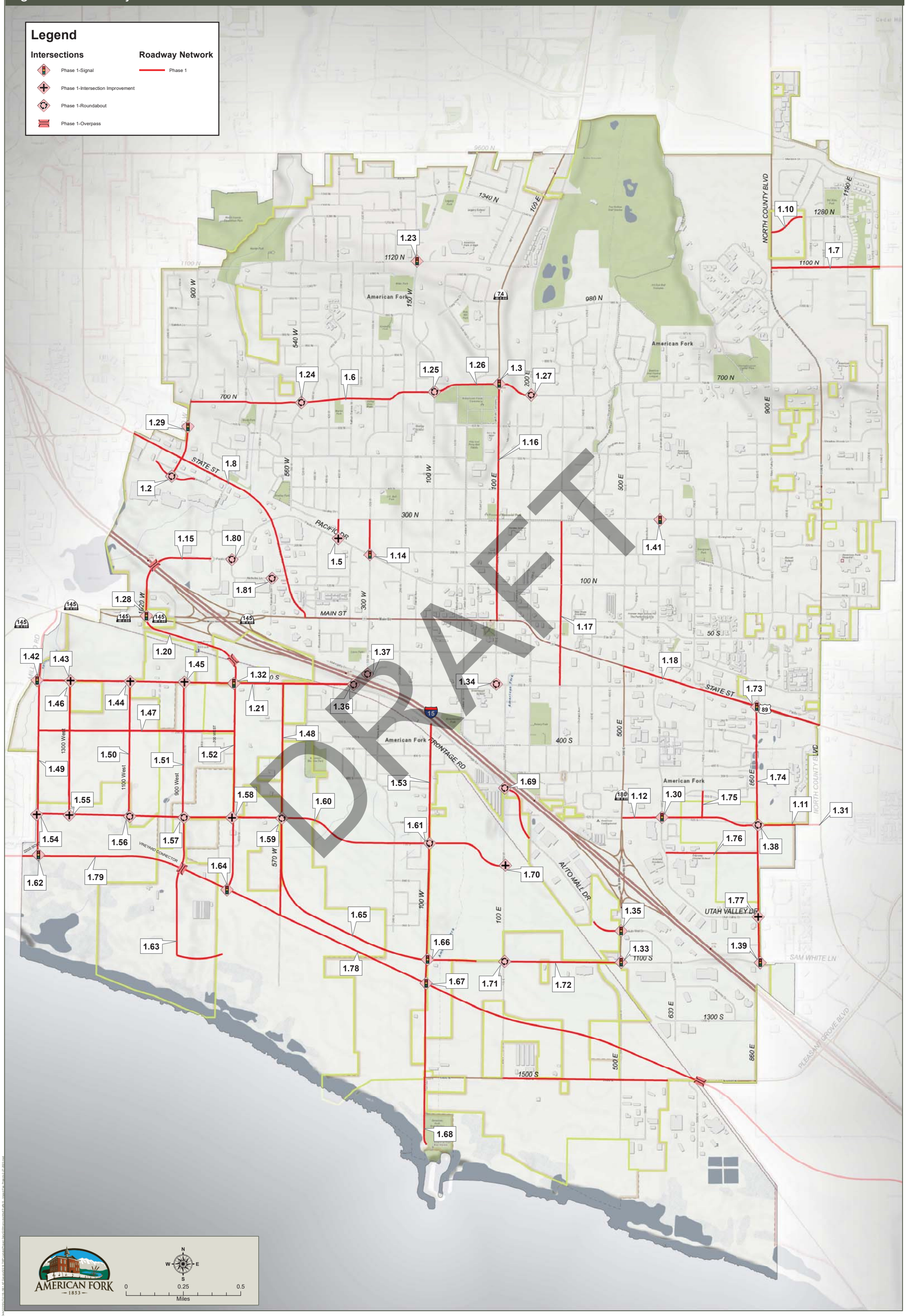
DEMANDS PLACED ON EXISTING FACILITIES BY NEW DEVELOPMENT

TRANSPORTATION IMPROVEMENT PROGRAM

As American Fork grows, new developments will require an increased roadway capacity throughout the City's street network in order to provide an acceptable level of service. The City has developed a Transportation Improvement Program (TIP) that identifies specific projects needed to provide an acceptable LOS to the residents of American Fork. The total transportation capital improvements needed to maintain an acceptable LOS over the next 10 years (through 2026) would cost approximately **$254,590,000** as shown in **Table 2**. Of the total cost, **$30,520,000** is impact fee eligible. Only roads classified as collectors and above are included in the ten year impact fee facilities plan. It is assumed that local roads will be paid for by developers, as these roads do not meet the regional demands of the entire City. **Figure 3** shows the ten year impact fee facilities plan projects.

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Figure 3 IFFP Projects



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Table 2 2026 Transportation Improvement Program

American Fork City Transportation Improvement Program (TIP)								
Type of Improvement	**Roadway or Location**	**From**	**To**	**Jurisdiction(s)**	**Total Project Costs[1]**	**Potential Funding Source[2]**	**American Fork Cost (Impact Fee Eligible)**	**Project Year (Range)**
Roundabout	900 West & Grasslands Dr	900 West	100 East	City	$857,000	F, C, O	$857,000	2020-2030
New Major Collector (3-Lanes)	700 North	100 East	200 East	City	$968,000		$242,000	2020-2030
Widen to Collector (2 to3)	400 West	300 North	Pacific Drive	City	$917,000	C, O	$0	2020-2030
New Traffic Signal	Pacific Drive & 400 West	-	-					
Upgrades to Major Collector (2 to 3-Lanes)	700 North	100 East	900 West	City	$51,000	F, C, O	$0	2020-2030
Widen to Collector (2 to 3 lanes)	1100 North	North County Blvd	East City-Limits	City	$612,000		$0	2020-2030
Upgrade to Principal Arterial	State Street	Main St	900 West	City/UDOT	$3,500,000	F, S, C, O	$0	2020-2030
New Collector (2 to 3-Lanes)	1280 North	North County Blvd	1030 East	City	$1,015,000	F, C, O	$10,000	2020-2030
New Arterial (5-Lanes)	620 South	600 East	East City-Limits	City	$4,633,000	F, C, O	$0	2020-2030
Widen to Arterial (5-Lanes)	620 South	500 East	600 East	City	$131,000	C, O	$0	2020-2030
Widen to Arterial (5-Lanes)	300 West	300 North	Pacific Drive	City	852,000	F, S, C, O	$0	2020-2030
New Traffic Signal	Pacific Drive & 300 West	-	-					
New Collector (2-3-Lanes)	Pacific Dr Extension	Pioneer Crossing	Meadow Lane	City/UDOT	$50,000,000	F, C, O	$0	2020-2030
Widen to Arterial (5-Lanes)	100 East	Main St	9800 North	City/UDOT	$15,200,000	C, O	$0	2020-2030
Widen to Major Collector (2 to 3 lanes)	300 East	300 North	200 South	City	$541,000	F, S, C, O	$0	2020-2030

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American Fork City Transportation Improvement Program (TIP)								
Type of Improvement	Roadway or Location	From	To	Jurisdiction(s)	Total Project Costs[1]	Potential Funding Source[2]	American Fork Cost (Impact Fee Eligible)	Project Year (Range)
Upgrade to Principal Arterial	State Street	500 East	East City-Limits	City	$19,800,000	C, O	$0	2020-2030
New Collector (2 to 3-Lanes)	1020 West	Pioneer Crossing	200 South	City	$20,000,000	C, O	$284,000	2020-2030
Widen to Arterial (5-Lanes)	200 South	West City-Limits	300 West / Frontage Rd	City	$2,632,000	C, O	$0	2020-2030
New Traffic Signal	1120 North & 150 West	-	-	City	$423,000	F, C, O	$423,000	2020-2030
New Roundabout	700 North & 540 West	-	-	City	$716,000	F, S, C, O	$716,000	2020-2030
New Roundabout	700 North & 100 West	-	-	City	$716,000	F, S, C, O	$716,000	2020-2030
New Traffic Signal	700 North & 100 East	-	-	City/UDOT	$524,000	C, O	$0	2020-2030
New Traffic Signal	700 North & 200 East	-	-	City	$679,000	F, S, C, O	$679,000	2020-2030
New Traffic Signal	Pioneer Crossing & 1020 West	-	-	City/UDOT	$423,000	O	$0	2020-2030
New Traffic Signal	900 West & 550 North	-	-	City	$423,000	F, S, C, O	$423,000	2020-2030
New Traffic Signal	600 East & 620 South	-	-	City	$423,000	F, C, O	$423,000	2020-2030
New Traffic Signal	200 South & 1020 West	-	-	City	$423,000	C,O	$423,000	2020-2030
New Traffic Signal	500 East & 1100 South	-	-	City	$458,000	F, C, O	$458,000	2020-2030
New Roundabout	100 East & 200 South	-	-	City	$716,000	F, S, C, O	$716,000	2020-2030
New Traffic Signal	Auto Mall Dr & 500 East	-	-	City	$429,000	F, C, O	$429,000	2020-2030
New Roundabout	200 South & Frontage Rd	-	-	City	$716,000	F, C, O	$716,000	2020-2030
New Roundabout	300 West & Mahogony Dr	-	-	City	$1,139,000	F, S, C, O	$1,139,000	2020-2030

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American Fork City Transportation Improvement Program (TIP)								
Type of Improvement	Roadway or Location	From	To	Jurisdiction(s)	Total Project Costs[1]	Potential Funding Source[2]	American Fork Cost (Impact Fee Eligible)	Project Year (Range)
New Traffic Signal	860 East & 620 South	-	-	City	$423,000	F, C, O	$423,000	2020-2030
Intersection Improvement	Sam White Ln & 860 East	-	-	City	$705,000	F, S, C, O	$705,000	2020-2030
Intersection Improvement	300 North & 600 East	-	-	City	$705,000	F, S, C, O	$705,000	2020-2030
New Traffic Signal	200 South & Vineyard Connector	-	-	City	$423,000	F, C, O	$423,000	2020-2030
Intersection Improvement	200 South & 1300 West	-	-	City	$705,000	C, O	$705,000	2020-2030
Intersection Improvement	1100 West & 200 South	-	-	City	$705,000	F, S, C, O	$705,000	2020-2030
Intersection Improvement	900 West & 200 South	-	-	City	$705,000	C, O	$705,000	2020-2030
New Arterial (5-Lanes)	1300 West	Vineyard Connector	200 South	City	$4,969,000	F, C, O	$1,143,000	2020-2030
New Arterial (5-Lanes)	350 South	700 West	Vineyard Connector	City	$6,486,000	F, C, O	$389,000	2020-2030
Widen to Collector (2 to 3 lanes)	570 West	700 South	200 South	City	$3,895,000	F, C, O	$0	2020-2030
New Collector (3-Lanes)	1100 West	200 South	Vineyard Connector	City	$2,900,000	F, C, O	$29,000	2020-2030
New Collector (2 to 3-Lanes)	1100 West	700 South	200 South	City	$3,248,000	F, C, O	$130,000	2020-2030
New Collector (3-Lanes)	900 West	Vineyard Connector	200 South	City	$4,314,000	F, C, O	$259,000	2020-2030
Widen to Collector (2 to 3 lanes)	700 West	200 South	Vineyard Connector	City	$2,690,000	F, C, O	$0	2020-2030
Widen to Major Collector (2 to 3-Lanes)	100 West	1500 South	Frontage Road	City	$4,658,000	F, C, O	$0	2020-2030
Intersection Improvement	700 South	-	-	City	$705,000	F, C, O	$705,000	2020-2030
Intersection Improvement	1300 West & 700 South	-	-	City	$705,000	F, C, O	$705,000	2020-2030

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American Fork City Transportation Improvement Program (TIP)								
Type of Improvement	Roadway or Location	From	To	Jurisdiction(s)	Total Project Costs[1]	Potential Funding Source[2]	American Fork Cost (Impact Fee Eligible)	Project Year (Range)
New Roundabout	1100 West & 700 South	-	-	City	$716,000	F, C, O	$716,000	2020-2030
New Roundabout	900 West & 700 South	-	-	City	$716,000	F, C, O	$716,000	2020-2030
New Roundabout	700 West & 700 South	-	-	City	$716,000	F, C, O	$716,000	2020-2030
New Roundabout	700 south & 570 West	-	-	City	$716,000	F, C, O	$716,000	2020-2030
New Collector (3-Lanes)	700 South	1730 West	100 East	City	$11,368,000	F, C, O	$455,000	2020-2030
New Roundabout	100 West & 700 South	-	-	City	$716,000	F, C, O	$716,000	2020-2030
New Traffic Signal	Vineyard Connector & 1300 West	-	-	City	$423,000	F, C, O	$423,000	2020-2030
New Collector (3-Lanes)	900 West	700 South	700 West	City	$7,767,000	F, C, O	$155,000	2020-2030
New Traffic Signal	Vineyard Connector & 700 West	-	-	City	$423,000	F, C, O	$423,000	2020-2030
New Collector (2 to 3-Lanes)	1100 South	100 East	700 South	City	$4,038,000	F, C, O	$404,000	2020-2030
New Roundabout	100 West & 1100 South Extension	-	-	City	$716,000	F, C, O	$716,000	2020-2030
New Traffic Signal	Vineyard Connector & 100 West	-	-	City	$423,000	F, C, O	$423,000	2020-2030
Widen to Collector (2 to 3-Lanes)	100 West	1500 South	American Fork Marina	City	$983,000	F, C, O	$0	2020-2030
New Collector	Auto Mall Drive	Auto Mall Drive	100 East	City	$2,049,000	F, C, O	$2,049,000	2020-2030
New Traffic Signal	Frontage Rd & 100 east	-	-	City				
New Roundabout	700 South Extension & 100 East	-	-	City	$716,000	F, C, O	$716,000	2020-2030
New Roundabout	100 East & 1100 South	-	-	City	$716,000	F, C, O	$716,000	2020-2030

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American Fork City Transportation Improvement Program (TIP)								
Type of Improvement	**Roadway or Location**	**From**	**To**	**Jurisdiction(s)**	**Total Project Costs[1]**	**Potential Funding Source[2]**	**American Fork Cost (Impact Fee Eligible)**	**Project Year (Range)**
Widen to Collector (2 to 3 lanes)	100 East to 500 East	100 East	500 East	City	$2,840,000	F, C, O	$0	2020-2030
Intersection Improvement	State St & 860 East	-	-	City	$705,000	F, C, O	$705,000	2020-2030
Widen to Major Collector (2 to 3-Lanes)	860 East	State Street	1100 South	City	$4,305,000	F, C, O	$0	2020-2030
New Collector (2 to 3-Lanes)	740 East	550 South	620 South	City	$505,000	F, C, O	$237,000	2020-2030
New Collector (3-Lanes)	Quality Drive	600 East	860 East	City	$2,171,000	F, C, O	$695,000	2020-2030
Intersection Improvement	Utah Valley Drive & 860 East	-	-	City	$705,000	F, C, O	$705,000	2020-2030
New Arterial (5-Lanes)	Vineyard Connector	Pony Express Extension	West City-Limits	City	$26,222,000	F, C, O	$195,000	2020-2030
New Arterial (5-Lanes)	Pony Express Extension	Vineyard Collector	West City-Limits	City	$13,637,000	F, C, O	$102,000	2020-2030
New Roundabout	Pacific Drive & 700 West	-	-	City	$716,000	F, C, O	$716,000	2020-2030
New Roundabout	130 North & 600 West	-	-	City	$716,000	F, C, O	$716,000	2020-2030
Total for Improvements needed by 2026					**$254,590,000**		**$30,520,000**	

[1]Cost represents existing (2017) construction, right of way, and engineering costs.
[2]Potential Funding Source: F-Federal, S-State, C-City, and O-Other

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TRAVEL DEMAND FROM NEW DEVELOPMENT

In order to determine the portion of future traffic that can be attributed to new development, travel demand modeling methodology using the MAG travel demand model was utilized. This is considered industry best practice and uses the best available data.

Travel Demand is a dynamic function of many different inputs, including socioeconomic characteristics, land use planning and roadway functional type. The travel demand model generates trips in TAZ, based on these and other inputs and then distributes these trips to attraction TAZ via the roadway network. Average Daily Traffic volumes can then be extracted from the individual roadway links in the network to assess the operating conditions of the network.

Using the travel demand model, it is possible to estimate the number of PM trips originating or terminating in American Fork for existing and future conditions. The difference between the future PM trips and the existing PM trips (the number of new trips in the City) becomes the denominator in the equation used to calculate the impact fee cost per PM peak hour trip for new development. American Fork City currently generates approximately **23,385** one-way PM peak hour trips. In 2040, this number is expected to increase to **38,985**, an increase of **67%**. The projected 2030 PM peak hour trip number for American Fork City is **31,034**, a **33%** increase on today's value.

Only the proportion of the roadway project which can be attributed to 10 year growth can be collected. The remaining will be collected in future impact fee periods as a "buy-in" component of the impact fee. **Table 3** shows the proportion of each project which will be attributed to 10 year growth. This is calculated using the existing, 10 year, and 2040 traffic volumes. The total growth for each roadway project is calculated as the difference between the existing and the 2040 traffic volumes. The 10 year growth is determined as the difference between the 10 year and existing volumes.

There is traffic which use roadways within American Fork which are considered pass-through traffic. A vehicle trip is considered pass-through when the origin and destination are outside of American Fork. Impact fees cannot be collected for these vehicles. A portion of the users on new roadways will be existing roadways users and is removed from the impact fee calculation. The 10 year growth includes a reduction for both pass-through and existing user share traffic and is included in **Table 3**.

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Table 3 Impact Fee Facilities Plan - Proportion Attributed to Growth

Impact Fee Facilities Plan – Proportion Attributed to Growth																
Type of Improvement	Roadway or Location	From	To	Existing Volume	10 Year Volume	10 Year Growth	Pass-Through %	Pass-Through Volume	Existing User Share %	Existing User Share Volume	10 Year Growth	2040 Volume	Total Growth	Growth Beyond 10 Years	Proportion Attributed to 10 Year Growth	Proportion Attributed to Growth Beyond 10 Years
New Major Collector (3-Lanes)	700 North	100 East	200 East	0	4,500	**4,500**	33.6%	**1,514**	2.0%	**90**	**2,896**	5,100	**5,100**	**600**	**56.8%**	**11.8%**
Widen, and New Traffic Signal	400 West, 400 West & Pacific Drive	300 North	Pacific Drive	2,600	2,900	**300**	32.0%	**96**	0.0%	**0**	**204**	3,600	**1,000**	**700**	**20.4%**	**70.0%**
Upgrades to Major Collector (2 to 3-Lanes)	700 North	100 East	900 West	4,050	11,000	**6,950**	66.4%	**4,615**	0.0%	**0**	**2,335**	12,300	**8,250**	**1,300**	**28.3%**	**15.8%**
Widen to Collector (2 to 3 lanes)	1100 North	North County Blvd	East City-Limits	800	600	**-200**	-222.0%	**444**	0.0%	**0**	**-644**	700	**-100**	**100**	**644.0%**	**-100.0%**
New Collector (2 to 3-Lanes)	1280 North	North County Blvd	1030 East	0	200	**200**	3.0%	**6**	2.0%	**4**	**190**	150	**150**	**-50**	**126.7%**	**-33.3%**
New Arterial (5-Lanes)	620 South	600 East	East City-Limits	0	3,600	**3,600**	31.8%	**1,145**	2.0%	**72**	**2,383**	11,100	**11,100**	**7,500**	**21.5%**	**67.6%**
Widen to Arterial (5-Lanes)	620 South	500 East	600 East	8,800	16,300	**7,500**	36.4%	**2,727**	0.0%	**0**	**4,773**	17,700	**8,900**	**1,400**	**53.6%**	**15.7%**
Widen to Arterial (5-Lanes) & New Traffic Signal	300 West, Pacific Drive & 300 West	300 North	Pacific Drive	2,600	2,900	**300**	32.0%	**96**	0.0%	**0**	**204**	3,600	**1,000**	**700**	**20.4%**	**70.0%**
Widen to Major Collector (2 to 3 lanes)	300 East	300 North	200 South	1,800	2,300	**500**	30.0%	**150**	0.0%	**0**	**350**	4,400	**2,600**	**2,100**	**13.5%**	**80.8%**
Upgrade to Principal Arterial	State Street	500 East	East City-Limits	30,800	31,500	**700**	2461.8%	**17,233**	0.0%	**0**	**-16,533**	33,600	**2,800**	**2,100**	**-590.5%**	**75.0%**
New Collector (2 to 3-Lanes)	1020 West Extension	Pioneer Crossing	200 South	0	2,400	**2,400**	0.0%	**0**	2.0%	**48**	**2,352**	2,600	**2,600**	**200**	**90.5%**	**7.7%**
Widen to Arterial (5-Lanes)	200 South	West City-Limits	300 West / Frontage Rd	900	4,000	**3,100**	0.6%	**17**	0.0%	**0**	**3,083**	10,600	**9,700**	**6,600**	**31.8%**	**68.0%**
New Arterial (5-Lanes)	1300 West	Vineyard Connector	200 South	0	3,100	**3,100**	0.1%	**3**	2.0%	**62**	**3,035**	6,200	**6,200**	**3,100**	**49.0%**	**50.0%**

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New Arterial (5-Lanes)	350 South	700 West	Vineyard Connector	0	900	**900**	0.6%	**5**	2.0%	**18**	**877**	1,000	**1,000**	**100**	**87.7%**	**10.0%**
Widen to Collector (2 to 3 lanes)	570 West	700 South	200 South	500	1,600	**1,100**	0.2%	**2**	0.0%	**0**	**1,098**	1,400	**900**	**-200**	**122.0%**	**-22.2%**
New Collector (3-Lanes)	1100 West	200 South	Vineyard Connector	0	100	**100**	0.0%	**0**	2.0%	**2**	**98**	600	**600**	**500**	**16.3%**	**83.3%**
New Collector (2 to 3-Lanes)	1100 West	700 South	200 South	0	3,100	**3,100**	0.1%	**4**	2.0%	**62**	**3,034**	5,000	**5,000**	**1,900**	**60.7%**	**38.0%**
New Collector (3-Lanes)	900 West	Vineyard Connector	200 South	0	700	**700**	0.0%	**0**	2.0%	**14**	**686**	2,000	**2,000**	**1,300**	**34.3%**	**65.0%**
Widen to Collector (2 to 3 lanes)	700 West	200 South	Vineyard Connector	0	900	**900**	0.4%	**4**	0.0%	**0**	**896**	3,800	**3,800**	**2,900**	**23.6%**	**76.3%**
Widen to Major Collector (2 to 3-Lanes)	100 West	1500 South	Frontage Road	500	400	**-100**	0.0%	**0**	0.0%	**0**	**-100**	600	**100**	**200**	**-100.0%**	**200.0%**
New Collector (3-Lanes)	700 South	1730 West	100 East	0	600	**600**	0.2%	**1**	2.0%	**12**	**587**	900	**900**	**300**	**65.2%**	**33.3%**
New Collector (3-Lanes)	900 West	700 South	700 West	0	200	**200**	0.0%	**0**	2.0%	**4**	**196**	170	**170**	**-30**	**115.3%**	**-17.6%**
New Collector (2 to 3-Lanes)	1100 South	100 East	700 South	0	1,300	**1,300**	0.2%	**2**	2.0%	**26**	**1,272**	1,600	**1,600**	**300**	**79.5%**	**18.8%**
Widen to Collector (2 to 3-Lanes)	100 West	1500 South	American Fork Marina	2	2	**0**	0.0%	**0**	0.0%	**0**	**0**	15	**13**	**13**	**0.0%**	**100.0%**
Widen to Collector (2 to 3 lanes)	1100 South	100 East	500 East	800	1,900	**1,100**	5.9%	**65**	0.0%	**0**	**1,035**	2,200	**1,400**	**300**	**73.9%**	**21.4%**
Widen to Major Collector (2 to 3-Lanes)	860 East	State Street	1100 South	3,600	1,500	**-2,100**	0.0%	**0**	0.0%	**0**	**-2,100**	1,600	**-2,000**	**100**	**105.0%**	**-5.0%**
New Collector (2 to 3-Lanes)	740 East	550 South	620 South	0	1,400	**1,400**	0.0%	**0**	2.0%	**28**	**1,372**	2,000	**2,000**	**600**	**68.6%**	**30.0%**
New Collector (3-Lanes)	Quality Drive	600 East	860 East	0	3,800	**3,800**	0.1%	**3**	2.0%	**76**	**3,721**	1,900	**1,900**	**-1,900**	**195.8%**	**-100.0%**
New Arterial (5-Lanes)	Vineyard Collector	Pony Express Extension	West City-Limits	0	13,300	**13,300**	88.1%	**11,711**	2.0%	**266**	**1,323**	21,600	**21,600**	**8,300**	**6.1%**	**38.4%**
New Arterial (5-Lanes)	Pony Express Extension	Vineyard Collector	West City-Limits	0	13,300	**13,300**	88.1%	**11,711**	2.0%	**266**	**1,323**	21,600	**21,600**	**8,300**	**6.1%**	**38.4%**

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PROPOSED MEANS TO MEET DEMANDS OF NEW DEVELOPMENT

All possible revenue sources have been considered as a means of financing transportation capital improvements needed as a result of new growth. This section discusses the potential revenue sources that could be used to fund transportation needs as a result of new development. Funding sources for transportation are essential if American Fork City recommended improvements are to be built. The following paragraphs further describe the various transportation funding sources available to the City.

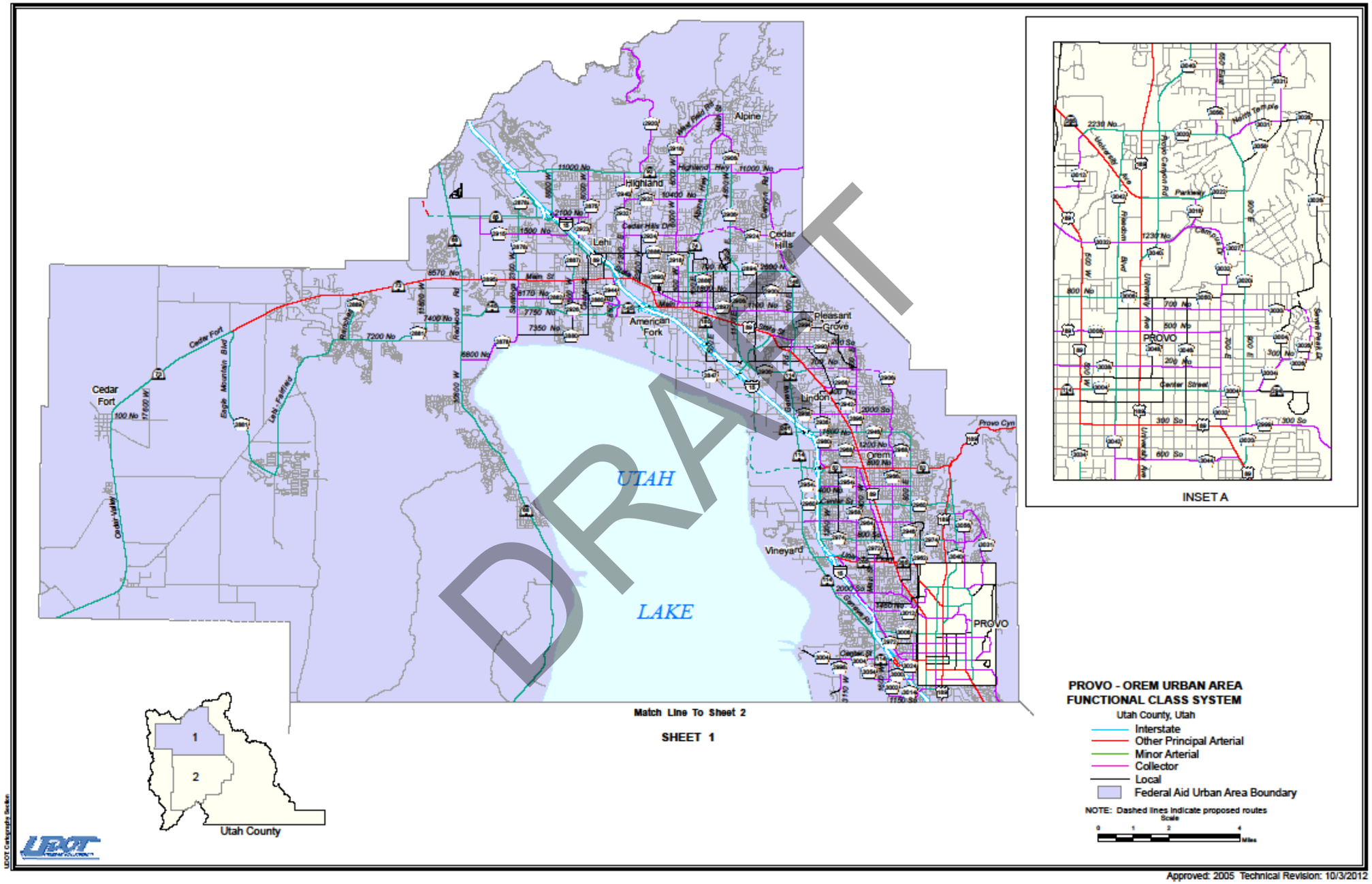
FEDERAL FUNDING

Federal monies are available to cities and counties through the federal-aid program. UDOT administers the funds. In order to be eligible, a project must be listed on the five-year Statewide Transportation Improvement Program (STIP).

The Surface Transportation Program (STP) funds projects for any roadway with a functional classification of a collector street or higher as established on the Utah State Functional Classification Map (**Figure 4**). STP funds can be used for both rehabilitation and new construction. The Joint Highway Committee programs a portion of the STP funds for projects around the state in urban areas. Another portion of the STP funds can be used for projects in any area of the state at the discretion of the State Transportation Commission. Transportation Enhancement funds are allocated based on a competitive application process. The Transportation Enhancement Committee reviews the applications and then a portion of those are passed to the State Transportation Commission. Transportation enhancements include 12 categories ranging from historic preservation, bicycle and pedestrian facilities and water runoff mitigation. Other federal and state trails funds are available from the Utah State Parks and Recreation Program.

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Figure 4 Utah State Functional Classification Map



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MAG accepts applications for federal funds through local and regional government jurisdictions. The MAG Technical Advisory and Regional Planning committees select projects for funding every two years. The selected projects form the Transportation Improvement Program (TIP). In order to receive funding, projects should include one or more of the following aspects:

- Congestion Relief – spot improvement projects intended to improve Levels of Service and/or reduce average delay along those corridors identified in the Regional Transportation Plan as high congestion areas.
- Mode Choice – projects improving the diversity and/or usefulness of travel modes other than single occupant vehicles.
- Air Quality Improvements – projects showing demonstrable air quality benefits.
- Safety – improvements to vehicular, pedestrian, and bicyclist safety.

STATE FUNDING

The distribution of State Class B and C Program monies is established by State Legislation and is administered by the State Department of Transportation. Revenues for the program are derived from State fuel taxes, registration fees, driver license fees, inspection fees, and transportation permits. Seventy-five percent of these funds are kept by UDOT for their construction and maintenance programs. The rest is made available to counties and cities. As many of the roads in American Fork fall under UDOT jurisdiction, it is in the interests of the City that staff is aware of the procedures used by UDOT to allocate those funds and to be active in requesting the funds be made available for UDOT owned roadways in the City.

Class B and C funds are allocated to each city and county by a formula based on population, road mileage, and land area. Class B funds are given to counties, and Class C funds are given to cities and towns. Class B and C funds can be used for maintenance and construction projects; however, thirty percent of those funds must be used for construction or maintenance projects that exceed $40,000. The remainder of these funds can be used for matching federal funds or to pay the principal, interest, premiums, and reserves for issued bonds.

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PARTNERING JURISDICTIONS

Transportation routes often span multiple jurisdictions and provide regional significance to the transportation network. As a result, other government jurisdictions often help pay for such regional benefits. Those jurisdictions could include the Federal Government, the State Government or the UDOT, or MAG. The City will need to continue to partner and work with these other jurisdictions to ensure the adequate funds are available for the specific improvements necessary to maintain an acceptable LOS. The City will also need to partner with adjacent communities to ensure corridor continuity across jurisdictional boundaries (i.e., arterials connect with arterials; collectors connect with collectors, etc.).

LOCAL FUNDING

Most cities utilize general fund revenues for their transportation programs. Another option for transportation funding is the creation of special improvement districts. These districts are organized for the purpose of funding a single specific project that benefits an identifiable group of properties. Another source of funding used by cities includes revenue bonding for projects felt to benefit the entire community.

Private interests often provide resources for transportation improvements. Developers construct the local streets within subdivisions and often dedicate right-of-way and participate in the construction of collector/arterial streets adjacent to their developments. Developers can also be considered a possible source of funds for projects through the use of impact fees. These fees are assessed as a result of the impacts a particular development will have on the surrounding roadway system, such as the need for traffic signals or street widening.

GENERAL FUND REVENUES

General fund revenues are typically reserved for operation and maintenance purposes as they relate to transportation. However, general funds could be used if available to fund the expansion or introduction of specific services. American Fork City does not currently have a general fund budgeted line item for transportation improvements. It is recommended that a plan be put in place to address this and to develop an annual budget amount to fund transportation projects should other funding options fall short or the needed amount.

GENERAL OBLIGATION BONDS

General obligation bonds are debt paid for or backed by the City's taxing power. In general, facilities paid for through this revenue stream are in high demand amongst the community. Typically, general obligation bonds are not used to fund facilities that are needed as a result of new growth because existing residents would be paying for the impacts of new growth. As a result, general obligation bonds are not considered a fair means of financing future facilities needed as a result of new growth.

SPECIAL ASSESSMENT AREAS (SAA)

Certain areas might require different needs or methods of funding other than traditional revenue sources. An SAA can be created for infrastructure needs that benefit or encompass specific areas of the City. Creation of the SAA may be initiated by the municipality by a resolution declaring the public health, convenience, and necessity requiring the creation of a SAA. The boundaries and services provided by the district must be specified and a public hearing held prior to creation of the SAA. Once the SAA is created, funding can be obtained from tax levies, bonds, and fees when approved by the majority of the qualified electors of the SAA. These funding mechanisms allow the costs to be spread out over time. Through the SAA, tax levies and bonding can apply to specific areas in the City needing and benefiting from the improvements.

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GRANTS

Grant monies are ideal for funding projects within the City since they do not need to be paid back and the City can greatly benefit from these funds. Grants are not easy to come by and therefore obtaining such funding is not likely for the City and should not be considered a viable revenue source.

IMPACT FEES

Impact fees are a way for a community to obtain funds to assist in the construction of infrastructure improvements resulting from and needed to serve new growth. The premise behind impact fees is that if no new development occurred, the existing infrastructure would be adequate. Therefore, new developments should pay for the portion of required improvements that result from new growth. Impact fees are assessed for many types of infrastructure and facilities that are provided by a community, such

as roadway facilities. According to state law, impact fees can only be used to fund growth related system improvements.

To help fund roadway improvements, impact fees should be established. These fees are collected from new developments in the City to help pay for improvements that are needed to the roadway system due to growth. At the culmination of the Transportation Master Planning process, a citywide IFFP will be developed according to state law to determine the appropriate impact fee values for the City.

IFFP CERTIFICATION

Horrocks Engineers certifies that this IFFP:

1. Includes only the costs of public facilities that are:
    a. Allowed under the Impact Fee Act; and
    b. Actually incurred; or
    c. Projected to be incurred or encumbered within six years after the day on which each impact fee is paid;
2. Does not include:
    a. Costs of operation and maintenance of public facilities;
    b. Costs for qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service that is supported by existing residents;
    c. An expense for overhead, unless the expense is calculated pursuant to the methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement; and
3. Complies in each and every relevant respect with the Impact Fees Act

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AMERICAN FORK CITY

TRANSPORTATION ELEMENT OF THE GENERAL PLAN

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FEBRUARY 2020

PREPARED BY

HORROCKS ENGINEERS

GLOSSARY OF TERMS

AASHTO	American Association of State Highways and Transportation Officials
ADA	American's with Disability Act
ADT	Average Annual Daily Traffic
BRT	Bus Rapid Transit
CFP	Capital Facility Plan
FHWA	Federal Highway Administration
GOPB	Governor's Office of Planning and Budget
HCM	Highway Capacity Manual
HOA	Home Owners Association
IFFP	Impact Fee Facility Plan
ITE	Institute of Transportation Engineers
LOS	Level of Service
LRTP	Long Range Transportation Plan
MAG	Mountainland Association of Governments
BRT	Bus Rapid Transit
MPO	Metropolitan Planning Organization
MUTCD	Manual on Uniform Traffic Control Devices
STIP	Statewide Transportation Improvement Program
STP	Surface Transportation Program
TAZ	Traffic Analysis Zone
TCM	Traffic Calming Measures
TE	Transportation Element of the General Plan
TIP	Transportation Improvement Program
TIS	Traffic Impact Study
TRAX	Transit Express (light rail)
TRB	Transportation Research Board
UDOT	Utah Department of Transportation
UTA	Utah Transit Authority

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EXECUTIVE SUMMARY

2020 UPDATE

The American Fork City Transportation Element of the General Plan, adopted in 2018 was updated in 2020 to include the following:

- Travel Demand Modelling (TDM) with the 2050 MAG TDM for existing and 10-Year, and 2040 models
- Roadway Level of Service (LOS)
- Updated 10-Year Capital Facilities Plan based on intersection and roadway analysis (included in appendix)
- Addition of "Legacy" classifications for roadways

INTRODUCTION

American Fork, in northern Utah County, is located 15 miles northwest of Provo and 30 miles south of Salt Lake. According to the US census bureau, American Fork had grown in population from 21,941 in 2000 to 26,263 in 2010. This represents an average annual growth rate of 2.0 percent for the 2000 to 2010 decade. The current population is estimated at 28,300 (2015).

The last version of the American Fork Transportation Element of the General Plan was completed in 2010. An update to the Transportation Master Plan was adopted by ordinance in August 2013. This document, titled the American Fork City Transportation Element of the General Plan, is intended to enable development of the roadway portion of the Capital Facilities Plan (CFP) by providing a plan that will accommodate the expected growth in the City's transportation system and to guide the efforts of the City engineering, public works, and planning departments as they plan for the future.

EXISTING CONDITIONS

A. Socioeconomic Conditions, Land Use, and Roadway Network

The City's current population is estimated at around 28,300 residents[1]. The 2000 to 2010 decade saw moderate growth in American Fork with an increase in population from 21,941 to 26,263 (20 percent). Approximately 50 percent of the land area within the City has been developed or is under development. The roadways in American Fork have been classified as Principal Arterials, Arterials, Major Collectors, Collectors, and Significant Local streets.

B. Traffic Volumes and Level of Service

Sections of 100 East, north of Main Street, currently experience unacceptable levels of service. The intersection of State Street and 500 East is also a trouble spot, particularly during the peak periods of the day. The split phasing is unable to serve the demand placed on the signal from I-15 traffic due to the heavy left turn movements. The roundabout at 900 West in "The Meadows" is also an area where operations are below acceptable standards. The distance between State Street and the roundabout is too short to accommodate the queuing traffic waiting to enter the roundabout.

Within American Fork City there are currently 26 operational traffic signals. The Utah Department of Transportation (UDOT) owns 18 of the 26 signals, American Fork City owns 3 signals, and Utah County

[1] Based on 2010 US census projected to 2015

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owns 5 signals. UDOT manages the operations of traffic signals Statewide through their i2 Central System, which allows the signals in the state to be monitored and adjusted in real time from the UDOT Traffic Operations Center. Currently 17 signals within American Fork City have fiber optic cables running to the signal cabinet and are connected to the i2 Central System. UDOT runs signal coordination along State Street (US-89) and American Fork Main Street seven days a week. Within American Fork City, there are several different innovative signals to help reduce delays to the traveling public. The signals include the Diverging Diamond Interchanges (DDI), split-phase intersections, and High-Intensity Activated Crosswalk Beacons (HAWK).

C. Alternative Transportation Modes

Alternative transportation modes to passenger vehicles are an important part of the overall transportation system. A complete transit system may include bus, bus rapid transit (BRT), light rail (TRAX), commuter rail (FrontRunner), and van share facilities. Non-Motorized traffic includes pedestrians, bicyclists, hikers, horseback riders, and joggers/walkers. These modes of transport should be accommodated wherever feasible in a vibrant and sustainable transportation system. The American Fork Bicycle and Pedestrian Master Plan (BPMP) has been adopted in conjunction with this element. The master plan sought to inventory the City's existing facilities as well as provide recommendations for future biking and walking trails systems. American Fork City recently opened a commuter rail station for the FrontRunner line on the west side of I-15 near Pioneer Crossing. With the construction of this new rail line, multiple bus routes between Utah and Salt Lake County were eliminated.

FUTURE CONDITIONS

A. Socioeconomic Conditions and Land Use

Future traffic patterns and the resulting operating conditions of a roadway network are directly related to land use planning and socioeconomic conditions. As traffic is not restricted to the American Fork area, and many of the roadways within the City act as regional roads linking communities north and south the City, the socioeconomic and land use data in the neighboring cities must also be considered when projecting future traffic conditions within the City. Thus, socioeconomic information for all of northern Utah County was obtained for use in the travel demand modeling process.

Based on the current land use, zoning, demographics, and growth patterns, American Fork is expected to grow to approximately 48,000 residents by the year 2040. This forecasted growth will place increased pressure on the City's infrastructure including its street system.

In its Land Use Plan, the City has sites planned for general, design, and neighborhood commercial; high, medium, low, very low density housing; public parks and open space, institutional lands such as schools and public facilities; shoreline protection areas and resorts; and major transportation facilities and transit oriented developments.

B. Travel Model Development

The MAG travel demand model was used to predict future traffic patterns and travel demand. 2040 was selected as the design year in order to be consistent with the Mountainland Association of Governments (MAG) planning process. The 2040 Metropolitan Transportation Plan (available at www.mountainland.org) was adopted by the Mountainland Metropolitan Planning Organization (MPO) Regional Planning Committee in 2015. The transportation plan is a guide to maintain and enhance the regional transportation system for urbanized Utah County.

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C. Projected Traffic Volumes and Conditions

A no-build scenario is intended to show what the roadway network would be like in the future if no action were taken to improve the City roadway network. If no improvements are made to American Fork's transportation infrastructure, projected traffic volumes for the planning year 2040 will significantly lower the Level of Service (LOS) of many of the major streets and intersections throughout the City. Some of the major areas of concern include Main Street, Pacific Drive, 100 East, Pioneer Crossing, the 900 West Roundabout in "the Meadows", and parts of 300 North, 300 West, 200 South, and 400 West.

The final recommended roadway network seeks to balance accommodating demand through the year 2040 with being fiscal responsibility, while also taking into consideration the planning efforts of MAG and the neighboring cities. It is expected that the roadway network recommended in this document will perform at an acceptable LOS through the planning year 2040. This will help in preserving the quality of life and economic vitality of the City.

D. Roadway Functional Classifications

The following street classifications have been selected by American Fork for inclusion in the Transportation Element (TE):

- Freeway – I-15
- Principal Arterial – 7 Lanes
- Arterial – 5 Lanes
- Major Collector – 3 Lanes
- Collector – 2 Lanes
- Local Road – 2 Lanes

Many of the major streets in American Fork pass through residential areas with homes fronting the roadways. The typical street section has been designed to lessen the impacts of needed roadway widening improvements to these homes.

E. Alternative Transportation Modes

Accommodating alternative modes of transportation to the passenger vehicle is a vital consideration when planning a livable and sustainable community. As a vibrant and growing city it is important for American Fork to continue to plan for improved transit, trails, and pedestrian facilities. These facilities will improve the overall quality of life of the residents while aiding in congestion relief and increasing the lifespan of the City's roadway network.

American Fork does not operate and maintain its own transit system. The combined efforts of The Utah Transit Authority (UTA), UDOT, MAG, and the City will largely dictate the nature of a future expanded transit system. The City should be actively involved in supporting public transit as a viable and attractive alternative transportation mode in the City. These planning and lobbying efforts will assist in procuring the necessary funding and support to develop, implement, and maintain a sustainable transit system.

F. Main Street Vision

In 2010 American Fork City, in conjunction with MAG, published the American Fork Main Street Vision Plan. The Main Street Vision plan includes recommendations on the physical, economic, and mobility characteristics of the downtown area.

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G. Access Management

Access management is the process of establishing and enforcing road and driveway accesses within the city. This includes establishing the location, number, spacing, type, and design of city streets and accesses to minimize vehicle conflicts and maximize the traffic capacity and safety of a roadway. American Fork City has adopted an *Access Management Manual* (AM Manual) in April of 2012. The access management concepts and standards presented in the AM Manual are consistent with guidelines established by the Federal Highway Administration (FHWA), the American Association of State Highway and Transportation Officials (AASHTO), the Transportation Research Board (TRB), and the Institute of Transportation Engineers (ITE).

H. Safety

One of the main goals of the Transportation Element of the General Plan and long term transportation planning in general is to estimate traffic growth and provide for adequate facilities as the need arises. The safe traffic operations of these future facilities are of equal importance. If residential driveways have to be on a collector or arterial street it is recommended to require circular driveways or a turn-around where vehicles don't have to back out on to the street, for example. Offset intersections should also be avoided wherever possible. To the extent possible, recommendations in the City's existing access management program.

I. Intersection Improvements

As traffic volumes increase throughout the community, intersection design will become more critical. Proper intersection design will typically facilitate larger traffic flows without widening existing roadway cross-sections. Typical intersection configurations are a helpful planning tool when preserving right-of-way and for project cost estimating. Traffic signals should not be installed unless at least one or more of the eight traffic signal warrants, as outlined in the Manual on Uniform Traffic Control Devices (MUTCD), have been met. The MUTCD should be used as the standard for determining how and when a stop sign is installed. The City of American Fork will consider roundabouts as an intersection alternative at specific locations pending more detailed traffic analysis as needs arise through the development and/or transportation improvement process.

J. Corridor Preservation

Corridor preservation is an important transportation planning tool that agencies should use and apply to all future transportation corridors. There are several new transportation facilities that have been identified in the TE. In planning for these future facilities, corridor preservation techniques should be employed.

K. Traffic Impact Studies

As growth occurs throughout the City, the City will evaluate the impacts of proposed developments on the surrounding transportation networks prior to giving approval to build. This will be accomplished by requiring that a Traffic Impact Study (TIS) be performed for new development in the City based on City staff recommendations and the policies adopted by the City herein.

L. Intelligent Transportation Systems

American Fork is committed to providing Intelligent Transportation Systems (ITS) in the City in the future. Many of the ITS applications are controlled by UDOT. UDOT is renowned nationally for its innovative use of technology and transportation solutions. As there are many UDOT facilities in the City, and due to UDOT's vast network of ITS components, American Fork has the opportunity to partner with the agency to provide more efficient ITS solutions.

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M. Wayfinding

Wayfinding, the method by which the public get directions to important civic sites, is an important element of a transportation system as it allows users to quickly and safely navigate to areas of interest or emergency services with visual clues. Wayfinding, when properly applied, provides a safer environment for travelers as they rely more on the visual cues in their eye line than on maps or GPS instructions.

N. Americans with Disabilities Act (ADA)

The ADA standards should be regularly reviewed to ensure that City standards and specifications are in compliance with Federal ADA regulations. All areas of newly designed and newly constructed buildings and facilities and altered portions of existing buildings and facilities shall comply with the ADA requirements as published.

O. Retroreflectivity

According to the Federal Highways Administration (FHWA), "retroreflectivity" refers to the property of a traffic sign to reflect light back to the driver. Retroreflective traffic signs are used to increase sign visibility at night. Maintaining traffic sign retroreflectivity is important since nighttime fatal crashes occur approximately three times as often as daytime fatal crashes. Retroreflectivity degrades over time. Upgrading poorly maintained traffic signs may reduce traffic injuries and fatalities. New FHWA requirements to maintain traffic signs in the City dictate that certain standards are met by certain compliance dates. The compliance dates are as follows:

- January 2012 – A sign replacement program must be in place
- January 2015 – All regulatory signs must comply with federal retroreflectivity standards
- January 2018 – All signs in the City must comply with federal retroreflectivity standards

CAPITAL FACILITIES PLAN

The City will need to construct new roads, widen existing transportation corridors, and make spot intersection improvements to provide future residents of the City with an adequate transportation system. Individual projects were identified and costs estimates were compiled to produce a Transportation Improvement Program (TIP) for the City. It is expected that the total cost (2018 dollars) of roadway improvements needed before 2040 will be approximately **$783,228,000**.

A few specific locations on American Fork City's street network may require some unique improvements to resolve traffic issues at these sites. Some of these are: Main Street and State Street, State Street and 500 East, State Street and Pacific Drive, the 900 West Roundabout in "The Meadows", Vineyard Connector, Railroad Crossings, 300 North and Pacific Drive, Mill Pond Road, and 300 West and 200 South.

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1.0 INTRODUCTION

1.1 2019 UPDATE

The American Fork City Transportation Element of the General Plan was updated in 2019 to include the following:

- Travel Demand Modelling (TDM) with the 2050 MAG TDM for existing and 10-Year models
- Roadway Level of Service (LOS)
- Updated 10-Year Capital Facilities Plan based on intersection and roadway analysis (included in appendix)
- Addition of "Legacy" classifications for roadways

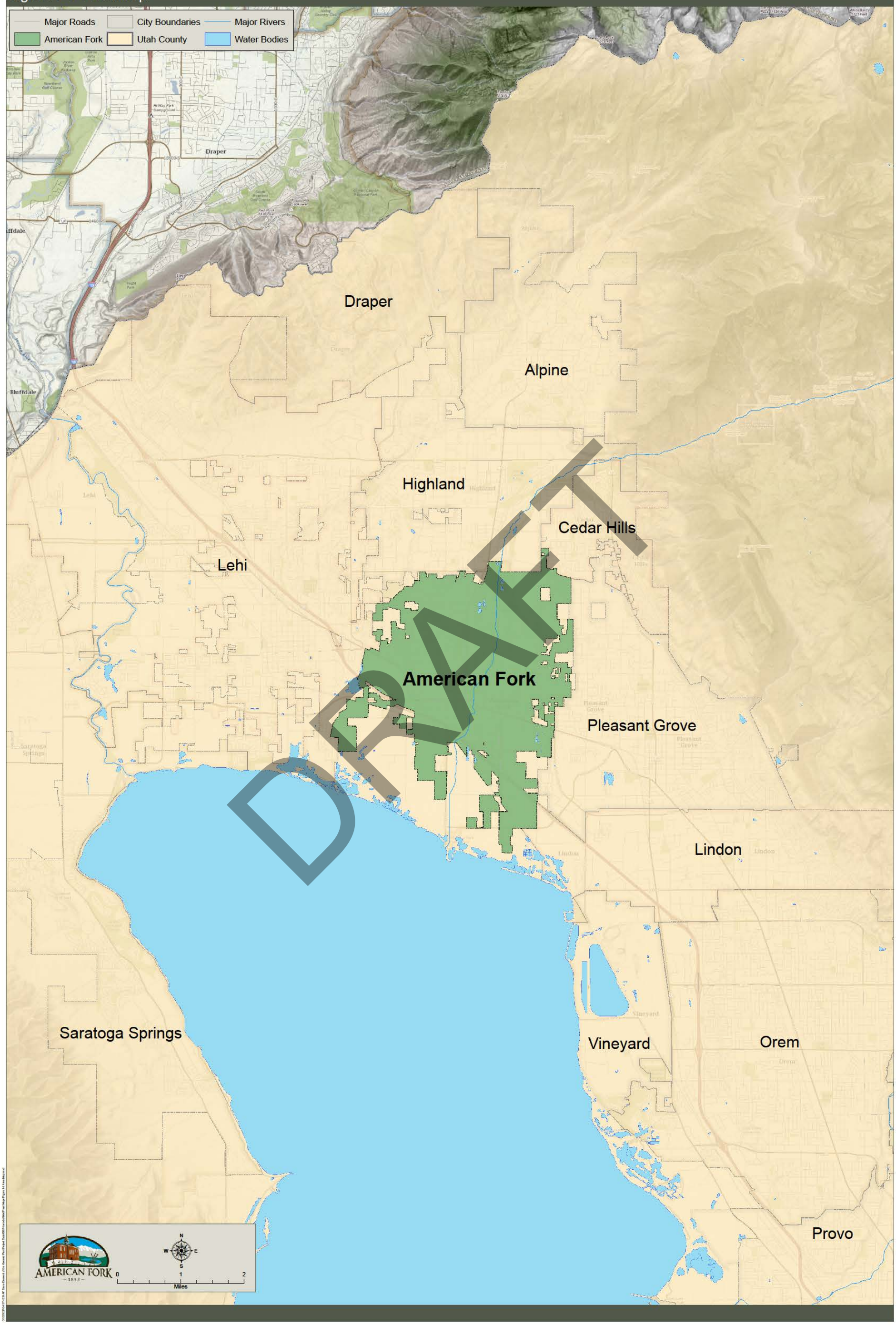
The last version of the American Fork Transportation Element of the General Plan was completed in 2010. Updates to the Transportation Master Plan were adopted by ordinance in 2013. More recent updates to certain portions of the General Plan have been adopted in 2017. The City has updated its General Plan Land Use Map and has commenced an update to its Capital Facility Plans as well as an evaluation of its impact fees. This document, titled the *American Fork City, Transportation Element of the General Plan*, is intended to enable development of the roadway portion of the Capital Facilities Plan (CFP) by providing a plan to provide capacity to accommodate the expected growth in the City's transportation system and to guide the efforts of the City's engineering, public works, and planning departments as they plan for the future.

1.2 EXISTING DEMOGRAPHICS

American Fork, in northern Utah County, is located 15 miles northwest of Provo and 30 miles south of Salt Lake City (see **Figure 1-1**). It is bordered by Utah Lake on the south and by the Wasatch Mountains to the east. Adjacent to it are the communities of Cedar Hills and Pleasant Grove to the east, Lehi to the west and Highland and Alpine to the north. Discovered by fur trappers and settled by Mormon pioneers, this historic town has become Utah's fifteenth largest city. Conveniently situated just off Interstate 15 between Provo and Salt Lake City, it has become a favorable location for commuters, families, and businesses. The City was incorporated on June 4, 1853. According to the U.S. Census Bureau, American Fork had grown in population from 21,941 in 2000 to 26,263 in 2010. This represents an average annual growth rate of 2 percent for the 2000 to 2010 decade. The current population is estimated at 28,300 (2015). When compared to the whole of Utah County, which has an average annual growth rate of 4 percent over the same time period, American Fork has had slightly less growth over the last decade than the county as a whole.

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Figure 1-1 Area Map



2.0 EXISTING CONDITIONS

A thorough documentation of the City's existing conditions was performed in order to evaluate the City's transportation system and update the Transportation Element of the City's General Plan (TE) to address the City's current and future needs. The data collected for this TE update includes:

- Key roadway traffic volumes
- Socioeconomic conditions
- Land use and zoning
- Signal locations and timings
- Roadway classifications/widths/cross sections
- Public transit routes
- Bicycle/pedestrian trails

This data forms the basis for analyzing the existing transportation system, as well as providing the foundation to project future traffic conditions.

2.1 EXISTING SOCIOECONOMIC CONDITIONS

The City's current population is estimated at around 28,300 residents[2]. The 2000 to 2010 decade saw moderate growth in American Fork, with an increase in population from 21,941 to 26,263 (20 percent). The City is issuing an average of 9 permits for residential dwelling units monthly. As a region, the northern Utah County area has experienced rapid development and growth in recent years and this trend is projected to continue into the foreseeable future.

Socioeconomic data used in the transportation analysis was obtained from the City and Mountainland Association of Governments (MAG). The MAG travel demand model was modified to more accurately estimate the travel demand in the City. The MAG travel demand model consists of various Traffic Analysis Zones (TAZ). Each TAZ contains information on the number of households, employment opportunities, and average income levels within the TAZ. This data is used to generate trips originating in each TAZ and assign them to the roadway network where they will be attracted to a destination within another TAZ. The MAG travel demand model predicts regional travel patterns; however, the TAZ structure must be modified to more accurately reflect traffic on the local city level. The TAZ structure within the American Fork area was modified by splitting the existing large TAZ into smaller, more uniform TAZ and verifying the accuracy of the socioeconomic data contained within each TAZ.

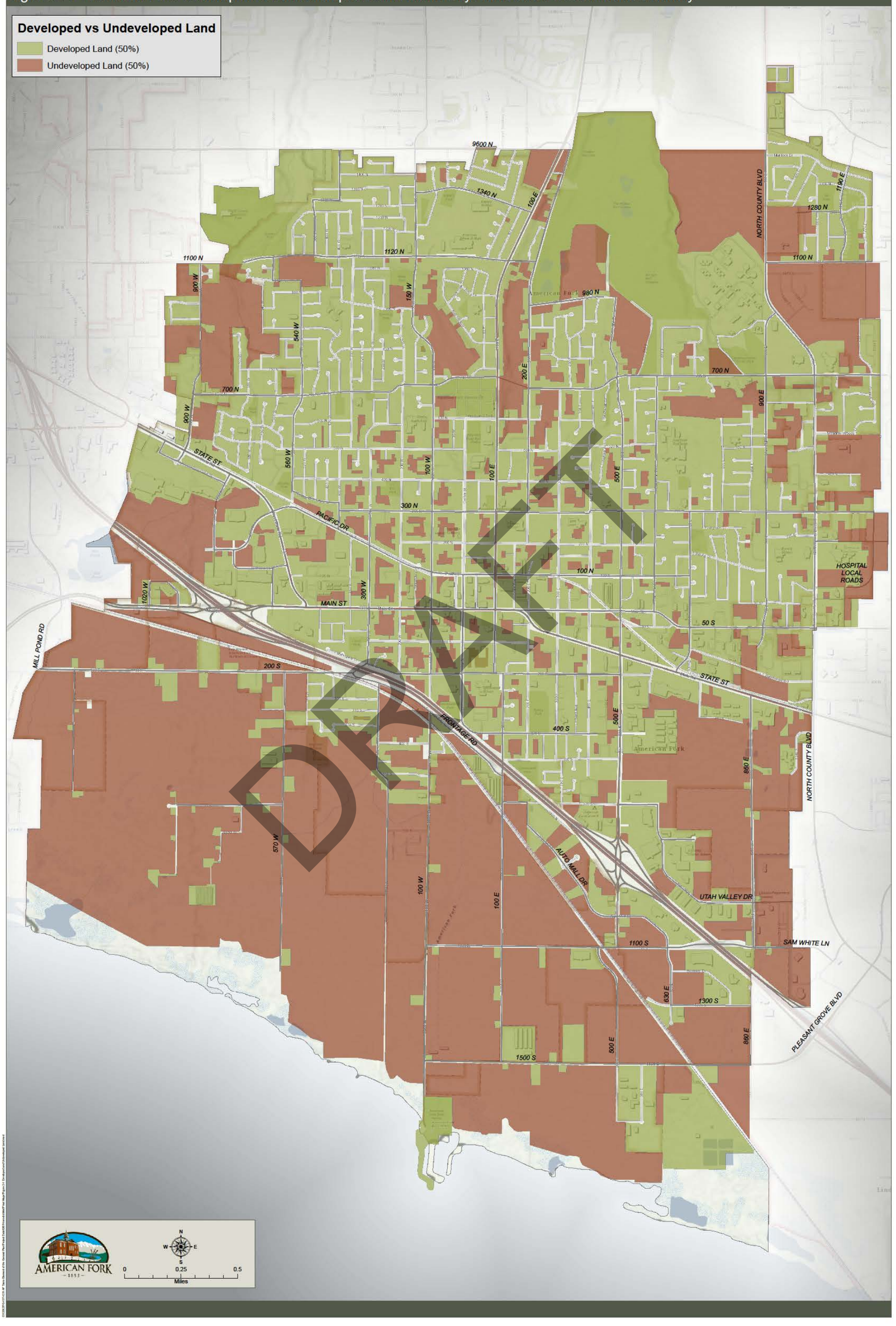
2.2 EXISTING LAND USE

Traffic patterns and demand are directly related to land use and development density. Approximately 50 percent of the land area within the City or within the City's annexation declaration boundary has been developed or is under development (see **Figure 2-1**). There are still several large parcels that remain, as well as numerous smaller tracts of land that will one day be developed.

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[2] Based on 2010 U.S. Census projected to 2015

Figure 2-1 American Fork Developed vs Undeveloped Land within City Annexation Declaration Boundary



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2.3 EXISTING ROADWAY FUNCTIONAL CLASSIFICATION

The roadways in American Fork have been classified as Principal Arterials, Arterials, Major Collectors, and Collectors. One of the reasons American Fork is considered a "gateway" city is because of its excellent access to the state's major north-south freeway, I-15. American Fork has two major freeway interchanges, located at Pioneer Crossing and 500 East. The recent completion of the I-15 CORE project has brought new and exciting opportunities to the City for both commercial and residential development. The existing roadway network also consists of several other major regional Utah Department of Transportation (UDOT) roadways including US-89 (State Street) that runs east-west through the City connecting Pleasant Grove and Lehi, SR-74 (100 East) that runs north-south connecting the City with Alpine on the north; and SR-145 (Pioneer Crossing) which connects I-15 at American Fork's Main Street to Redwood Road in Saratoga Springs. In addition to the state roads, the newly completed North County Boulevard (1100 E) runs north-south on the east edge of the City. North County Boulevard is a five-lane facility connecting Pleasant Grove Boulevard I-15 interchange with the communities of American Fork and Cedar Hills. It is anticipated that North County Boulevard will shortly become a state maintained facility. American Fork owns and maintains a number of local and regional collector streets; Pacific Drive/100 North (State Street to 600 East), 600 East (Main Street to 700 North) and 700 North. The existing roadway network, including functional type, is shown in **Figure 2-2**.

Included in **Figure 2-2** are Arterial and Collector roadways classified as "Legacy" roadways. Over time, American Fork has developed typical cross-sections for development which have changed over time to improve travel for vehicle, bicycle and pedestrian traffic. There are sections of American Fork City that were developed before the most recent adopted typical cross-sections. To require future development and redevelopment to force the current functional classification widths into these areas would cause significant impact to the existing developments along these roadways. Although it is recommended to build the roadways to the standards for each classification identified in **Table 3-2**, the development requirements along a "Legacy" classified roadway will be determined on a case-by-case basis by City staff.

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Figure 2-2 Existing Roadway Network



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2.4 EXISTING TRAFFIC VOLUMES AND LEVEL OF SERVICE

The adequacy of an existing street system can be quantified by assigning Levels of Service (LOS) to major roadways and intersections. As defined in the *Highway Capacity Manual (HCM),* a document published by the Transportation Research Board (TRB), LOS serves as the traditional form of measurement of a roadway's functionality. The TRB identifies LOS by reviewing elements, such as the number of lanes assigned to a roadway, the amount of traffic using the roadway and the time of delay per vehicle traveling on the roadway and at the intersections. Levels of service range from A (free flow where users are virtually unimpeded by other traffic on the roadway) to F (traffic exceeds the operating capacity of the roadway).

2.4.1 ROADWAY LEVEL OF SERVICE

Roadway LOS is used as a planning tool to quantitatively represent the ability of a particular roadway to accommodate the travel demand. The following **Table 2-1, Table 2-2 and Table 2-3** were used as guides for quantifying LOS, and, subsequently the conditions of each of the major roadways in the City are based on HCM principles and regional experience. LOS D is approximately 80 percent of a roadway's capacity and is a common goal for urban streets during peak hours. After discussions with City staff, it was determined that adopting the industry standard of LOS D for system streets (collectors and arterials) was acceptable for future planning. Attaining LOS C on these streets would be potentially cost prohibitive and may present societal impacts, such as the need for additional lanes and wider street cross-sections. LOS D suggests that for most times of the day, the roadways will be operating at well below capacity. The peak times of day will likely experience moderate congestion characterized by a higher vehicle density and slower than free flow speeds.

A four-lane freeway facility can accommodate 70,000 vehicles per day at LOS D; adding two additional lanes will increase this threshold by 40,000 vehicles to 110,000 vehicles per day. Arterial streets can handle significantly less traffic at LOS D; a seven lane arterial (6 travel lanes and one center turn lane) can only accommodate approximately 50 percent of the traffic of a freeway of similar lane configuration (55,000 versus 110,000). Similarly, much capacity is lost when reducing the number of arterial lanes by one in each direction, which results in a 17,700 vehicle per day reduction in LOS D capacity. Collector streets are designed at lower speeds than arterials in order to be less intrusive and are not as strictly access-controlled. Again, this results in a loss of capacity when compared to arterial streets. A three lane collector street will be able to move 1,700 less vehicles per day than a three lane arterial street. Removing the center turn lane on a collector results in a loss of capacity of 1,300 vehicles per day. On local streets LOS C is the minimum expectation for design. This ensures that these streets are more "livable" for homes that may front these streets.

Table 2-1 Suburban Freeway LOS Capacity Criteria in Vehicles per Day

Lanes	LOS C	LOS D	LOS E
4	60,000	70,000	89,000
6	95,000	110,000	140,000

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Table 2-2 Suburban Arterial LOS Capacity Criteria in Vehicles per Day

Lanes	LOS C	LOS D	LOS E
3	12,400	15,100	17,700
5	28,500	32,800	40,300
7	43,000	50,500	63,400

Table 2-3 Suburban Collector LOS Capacity Criteria in Vehicles per Day

Lanes	LOS C	LOS D	LOS E
2	9,700	12,100	14,500
3	10,800	13,400	16,100

Source: Utah/Wasatch Front Specific Daily Capacity Estimates; MAG & WFRC

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2.4.2 INTERSECTION LEVEL OF SERVICE

Whereas roadway LOS considers an overall picture of a roadway to estimate operating conditions, intersection LOS looks at each individual movement at an intersection and provides a much more precise method for quantifying operations. Since intersections tend to be a source of bottlenecks in the transportation network, a detailed look into the delay at each intersection should be performed on a regular basis. The methodology for calculating delay at an intersection is outlined in the *Highway Capacity Manual* and the resulting criteria for assigning LOS to signalized and un-signalized intersections are outlined in **Table 2-4**. As in the case with roadways, LOS D is considered the industry standard for intersections in an urbanized area. LOS D at an intersection corresponds to an average control delay of 35-55 seconds per vehicle for a signalized intersection and 25-35 seconds per vehicle for an un-signalized intersection.

At a signalized intersection under LOS D conditions, the average vehicle will be stopped for less than 55 seconds. This is considered an acceptable amount of delay to experience during the times of the day when roadways are most congested. As a general rule, traffic signal cycle lengths (the length of time it takes for a traffic signal to cycle through each movement in turn) are kept below 90 seconds. An average delay of less than 55 seconds suggests that in most cases, no vehicles will have to wait more than one cycle before proceeding through an intersection.

Un-signalized intersections are generally stop-controlled. Areas where there is a predominate major street may be two-way stop-controlled, meaning only the minor street traffic must stop. In cases where traffic volumes are more evenly distributed or where sight distances may be limited, four-way stop-controlled intersections are common. LOS for an un-signalized intersection is assigned based on the average control at the worst approach (always a stopped approach) of the intersection. An un-signalized intersection operating at LOS D means that the average vehicle waiting at one of the stop-controlled approaches will wait no longer than 35 seconds before proceeding through the intersection. This delay may be caused by large volumes of traffic on the major street resulting in fewer gaps in traffic for a vehicle to turn into, or from queued vehicles waiting at the stop sign.

Table 2-4 Signalized and Unsignalized Intersection LOS Criteria

Level of Service	Signalized Intersections Average Control Delay (sec/veh)	Unsignalized Intersections Average Control Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 - 20	> 10 - 15
C	> 20 - 35	> 15 - 25
D	> 35 - 55	> 25 - 35
E	> 55 - 80	> 35 - 50
F	> 80	> 50

Note: LOS for unsignalized intersections is measured for the worst approach only

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2.4.3 EXISTING OPERATING CONDITIONS

In 2010, traffic counts were collected from UDOT, which included average annual daily traffic (AADT) volumes as defined in *Traffic on Utah Highways,* and manual traffic counts were also performed on many of the City-owned roadways within American Fork in 2012. As part of the TE update (2017), additional daily traffic counts were acquired to update existing LOS. **Figure 2-3** illustrates American Fork 2015-2017 average daily traffic volumes on selected major streets and their corresponding LOS as well as the operating conditions of the signals and roundabouts. Based on the analysis of these traffic count data, there are a few areas of concern within American Fork City. Sections of 100 East north of Main Street currently experience unacceptable levels of service. The intersection at State Street and 500 East is also a trouble spot, particularly during the peak periods of the day. The split phasing is unable to serve the demand placed on the signal from I-15 traffic due to the heavy left turn movements. The roundabout at 900 West in "The Meadows" is also an area where operations are below acceptable standards. The distance between State Street and the roundabout is approximately 200 feet and is too short to accommodate the queuing traffic waiting to enter the roundabout.

Several intersections throughout the City could also benefit from a signal timing analysis. As traffic patterns and volumes change, signal timing plans can become outdated. The timing of the traffic signals in the City should be periodically checked for efficiency and adjusted as needed to accommodate these fluctuations in traffic patterns and volumes. The City should coordinate with UDOT to develop a plan to re-time the signals within the City at regular intervals. Some areas where concerns were identified under the existing conditions are as follows:

- 900 West and State Street
- State Street and 100 East

Figure 2-3 Existing Daily Traffic and LOS



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2.4.4 TRAFFIC SIGNALS AND INTELLIGENT TRANSPORTATION SYSTEMS

Within American Fork City there are currently 25 operational traffic signals. **Table 2-5** provides a summary of the ITS elements associated with each signal. UDOT owns 18 of the 25 signals, American Fork City owns 2 signals, and Utah County owns five signals. The five Utah County signals are located along North County Boulevard and will be turned over to UDOT upon final completion of the project.

UDOT manages the operations of traffic signals statewide through their i2 Central System. Currently, 17 signals within American Fork City have fiber optic cables running to the signal cabinet and are connected to the i2 Central System. It is planned that the five signals along North County Boulevard will be connected into the i2 Central System upon final completion of the project. The two American Fork City signals and the signal at SR-74 and 1120 North are the only signals within American Fork City that are not connected to the i2 Central System. Additionally, 700 North and 900 West has conduit installed for a future fiber optic connection.

UDOT runs signal coordination along State Street (US-89) and American Fork Main Street seven days a week. The current coordination plans begin at the US-89 and SR-73 signal and continue south to the US-89 and 1100 East signal. The signal at American Fork Main and Kawakami Drive ties into the coordination plans running at the US-89 and American Fork Main signal. Currently, the US-89 and 300 West signal only runs coordination plans during the pm peak period Monday to Friday and runs in FREE operations all other times. Running a signal FREE allows the travel demand to dictate the length of green time for each movement. This is standard practice for off-peak times where travel patterns are not necessarily predictable or directional. The signals at 100 East and 100 North and at 100 East and 300 North run coordination and tie into the coordination plans at the US-89 and 100 East signal. The American Fork Main Street and I-15 DDI currently runs in FREE operations at all times of the day. Additionally, the signals at 500 East and 620 South, 500 East and NB I-15 DDI, and 500 East and SB I-15 DDI run in FREE operation.

Within American Fork City, there are several different innovative signals to help reduce delays to the traveling public. The signals include the Diverging Diamond Interchanges (DDI), split-phase intersections, and High-Intensity Activated Crosswalk Beacons (HAWK). The DDIs are located at the Pioneer Crossing/American Fork Main Street interchange and the 500 East interchange. The Pioneer Crossing DDI signal runs from one controller while the 500 East DDI signal runs from two controllers. Each of the controllers at the 500 East DDI controls one of the two I-15 ramps. Another innovative signal used in American Fork City is the split-phase intersection. Split phasing is a signal timing concept used when it is impractical to run two opposite directions concurrently. This is most common where there exists a double left turn lane where one of those lanes also accommodates through traffic. In this case, the opposite left turn movement would not be able to go as it would conflict with the through vehicles. Essentially a split phased signal will allow each direction its own separate phase. Currently, there are two split-phase intersections in American Fork located at US-89 and 500 East and at US-89 and American Fork Main Street. These two signals have heavy northbound and southbound left turn volumes but there is limited right-of-way to provide for traditional dual left turn lanes. The split-phase intersections have a dedicated left turn lane and a shared through-left turn lane. Because of the shared through-left turn lanes, the northbound and southbound through movements cannot be served at the same time so the split phasing allows both movements to be service separately while still maintaining the necessary lane capacity to service the heavy left turn volumes. The final innovative intersection found in American Fork City is the HAWK pedestrian signal. The HAWK signal allows for a protected signalized pedestrian mid-block crossing. Currently, the only HAWK signal in American Fork is on North County Boulevard in front of the American Fork Hospital.

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Outside of the traffic signals, American Fork City has some additional ITS elements such as CCTV cameras and ramp meters. Currently, there are CCTV cameras at the following locations in American Fork City:

- NB I-15 @ 500 East
- NB I-15 @ Pioneer Crossing
- SB I-15 @ Pioneer Crossing
- Main Street @ Kawakami Drive
- Main Street @ US-89
- Main Street (US-89) @ 100 East (SR-74)
- US-89 @ 500 East (SR-180)
- US-89 @ 1100 East
- NB I-15 @ 200 West
- Pioneer Crossing @ 1020 West

There are also four ramp meters in American Fork City at the following locations:

- NB I-15 @ 500 East
- SB I-15 @ 500 East
- NB I-15 @ Pioneer Crossing
- SB I-15 @ Pioneer Crossing

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Table 2-5 Existing Signal Inventory

Primary Street	Secondary Street	Owner of Signal	Integrated into the UDOT i2 Central System	Existing/Planned CCTV at signal	Existing/Planned Fiber connection	Running Coordination	Planned Future Signal Location	Intersection Configuration
US-89	900 West	UDOT	X		X	X		Standard 8-phase
900 West	700 North	AF City						Standard 4-phase
US-89	Pacific Drive	UDOT	X		X	X		Standard 8-phase
US-89	AF Main	UDOT	X	X	X	X		Split Phase
AF Main	I-15 DDI (2 Signals)	UDOT	X	X	X			DDI
AF Main	Kawakami Drive	UDOT	X	X	X	X		Standard 8-phase
US-89/AF Main	300 West	UDOT	X		X	X		Standard 4-phase
US-89/AF Main	Center Street	UDOT	X		X	X		Standard 4-phase
US-89/AF Main	100 East (SR-74)	UDOT	X	X	X	X		Standard 8-phase
100 East (SR-74)	100 North	UDOT	X		X	X		Standard 4-phase

Primary Street	Secondary Street	Owner of Signal	Integrated into the UDOT i2 Central System	Existing/Planned CCTV at signal	Existing/Planned Fiber connection	Running Coordination	Planned Future Signal Location	Intersection Configuration
100 East (SR-74)	300 North	UDOT	X		X	X		Standard 4-phase
100 East (SR-74)	1120 North	UDOT						Standard 4-phase
US-89	500 East	UDOT	X	X	X	X		Split Phase
500 East (SR-180)	620 South	UDOT	X		X			Standard 4-phase
500 East (SR-180	NB I-15 DDI	UDOT	X	X	X			DDI
500 East (SR-180	SB I-15 DDI	UDOT	X		X			DDI
US-89	700 East	UDOT	X		X	X		Standard 4-phase
700 East	50 South	AF City						Standard 4-phase
US-89	No. County Blvd	UDOT	X	X	X	X		Standard 8-phase
900 West	1120 North	AF City			X			Standard 4-phase
No. County Blvd	50 South	Utah County		X	X			Standard 4-phase
No. County Blvd	Hospital HAWK	Utah County			X			HAWK Signal
No. County Blvd	300 North	Utah County		X	X			Standard 4-phase
No. County Blvd	700 North	Utah County		X	X			Standard 4-phase
No. County Blvd	1100 North	Utah County			X			Standard 3-phase
No. County Blvd	1750 North	Utah County					X	

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2.5 EXISTING ALTERNATIVE TRANSPORTATION MODES

Alternative transportation modes are an important part of the overall transportation system. A complete transit system may include bus, bus rapid transit (BRT), light rail, commuter rail, and van share facilities. Non-motorized traffic includes pedestrians, bicyclists, hikers, horseback riders, and joggers/walkers. These modes of transport are very important and should be accommodated wherever feasible in a vibrant and sustainable transportation system.

2.5.1 EXISTING NON-MOTORIZED TRAFFIC

American Fork is committed to providing a trails network for bicycle and pedestrian traffic for both recreational and commuter trips. American Fork is an excellent location for recreation due to its proximity to both Utah Lake and the Wasatch Mountains. Trails connectivity is essential to provide access to these assets, as well as to neighboring community's trails and bikeways.

Trails serve many purposes from recreational uses to commuting to work and home. They also serve a diverse group of users; including children, bicyclists, walkers/joggers, and equestrian users. The American Fork Bicycle and Pedestrian Master Plan (BPMP) has been adopted in conjunction with this element. The master plan sought to inventory the City's existing facilities, as well as provide recommendations for future biking and walking trails. American Fork recognizes that trails and bikeways are a vital portion of any good transportation network; therefore, this transportation element of the General Plan should act as a companion volume to the BPMP.

The BPMP seeks to address the need for future trails connectivity to meet the growing need for both recreation and non-motorized commuters. The existing trails are listed in Table 2-6 and are also shown in **Figure 2-4.** The bikeways in the City are classified as shared-use paths, sidepaths, bike lanes, marked shared roadways and signed shared roadways. Sidewalks are generally present along the major roadways in the central part of the City. Some sidewalks are placed next to the curb, while others are buffered from the street by a park strip. The longest stand-alone trail in the City is the Art Dye shared-use path. The Art Dye trail travels from Art Dye Park north to American Fork's border with Highland. A connection to the Murdock Canal Trail can be made in Highland via the paved Art Dye Trail. The BPMP makes the following recommendations for trails classifications:

- Shared-Use Path
  - Paved facilities built in or adjacent to non-roadway rights-of-way, such as streams, canals, railroads, and utility corridors.
- Sidepath
  - Sidepaths are built adjacent to roadways with frequent driveway and intersection crossings. The distinction between sidepaths and shared-use paths is important because they have very different operational characteristics. Sidepaths typically have more frequent at-grade crossings of driveways and intersections than shared-use paths. They also encourage bicyclists to travel against traffic, which often places them in locations where motor vehicle drivers may not see them.
- Bike Lanes
  - A bike lane is a portion of the roadway designated by striping, signage, and pavement markings for the preferential use of bicyclists. Bike lanes create a visual separation between bicycle and automobile facilities, thereby increasing bicyclists' comfort and confidence. Bike lanes are typically used on major streets with average daily traffic of 3,000 or higher and carry bicycle traffic in the same direction as motor vehicle traffic.
- Marked Shared Roadway
  - Marked shared roadways are used where traffic volumes and speeds are relatively low or where it is not possible to install higher-level bikeways like bike lanes. As the name suggests, "sharrow" pavement markings are used to indicate that a given lane is to be shared between drivers and bicyclists. Marked shared roadways may have any combination of parking, shoulder space, and number of lanes. Typically, this alternative should not be chosen if the speed limit is greater than 35 mph. Speed limits of 20-30 mph are preferable. A common use of marked shared roadways is bridging a gap between other road segments that have bike lanes or another higher-level bikeway type.
- Signed Shared Roadway
  - This bikeway type is very similar to marked shared roadways. The only significant difference is that green "BIKE ROUTE" signs rather than pavement markings are used to designate these routes. A common use of signed shared roadways is along roads with shoulder space where parking is allowed but infrequently used.

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- Cycle Track
  - A cycle track is an exclusive bike facility that has elements of a separated path and on-road bike lane. A cycle track, while still within the roadway, is physically separated from motor traffic and is distinct from the sidewalk. Cycle tracks may be one-way or two-way, and may be at road level, at sidewalk level, or at an intermediate level. They all share in common some separation from motor traffic with bollards, parking or barriers.

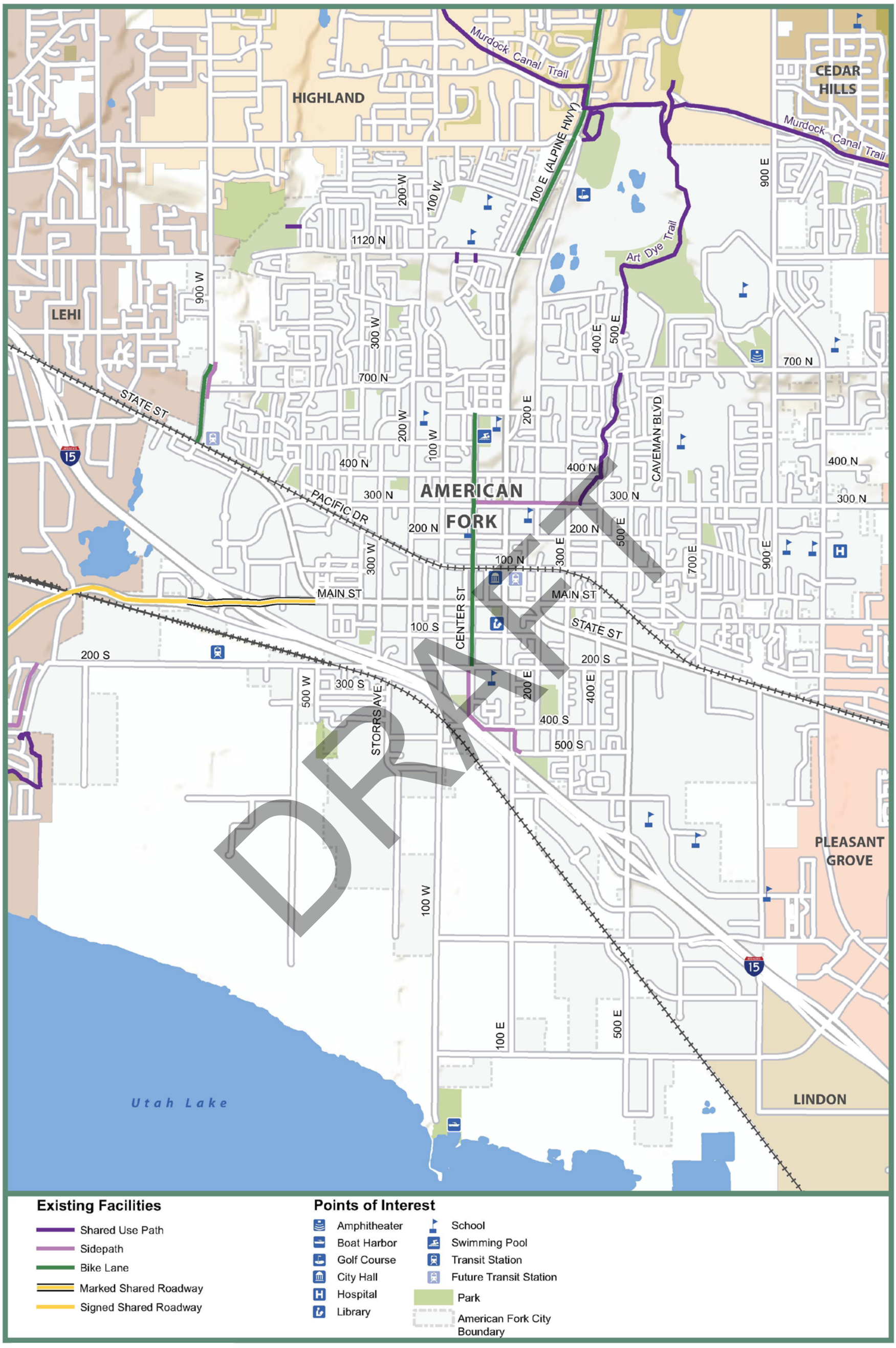
Table 2-6 Existing Trails

Trail Identification	*Existing Miles*	*Trail Type*
American Fork River	0.68	Shared-Use Path
Art Dye	1.09	Shared-Use Path
Fox Hollow Loop Trail/Reservoir Trail	0.41	Shared-Use Path
Murdock Canal Trail	0.51	Shared-Use Path
Center St / 400 S / 100 E	0.55	Sidepath
Center Street Sidepath	0.46	Sidepath
Center Street	1.12	Bike Lane
Alpine Highway	0.58	Bike Lane
Pioneer Crossing	0.57	Marked Shared Bikeway
Pioneer Crossing	0.35	Signed Shared Roadway
Total	**6.32**	

Source: American Fork Bicycle & Pedestrian Master Plan 2013

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Figure 2-4 Existing Trails Network



2.5.2 EXISTING TRANSIT SERVICE

The Utah Transit Authority (UTA) is the provider of public transportation throughout the Wasatch Front. It operates fixed route buses, express buses, Bus Rapid Transit (BRT) lines, ski buses, light rail, and commuter rail. In this capacity, UTA is responsible for the operation of the transit network in American Fork City. It is the responsibility of the City and UTA to work cooperatively to provide transit planning to accommodate alternative transportation options to its residents as demand increases.

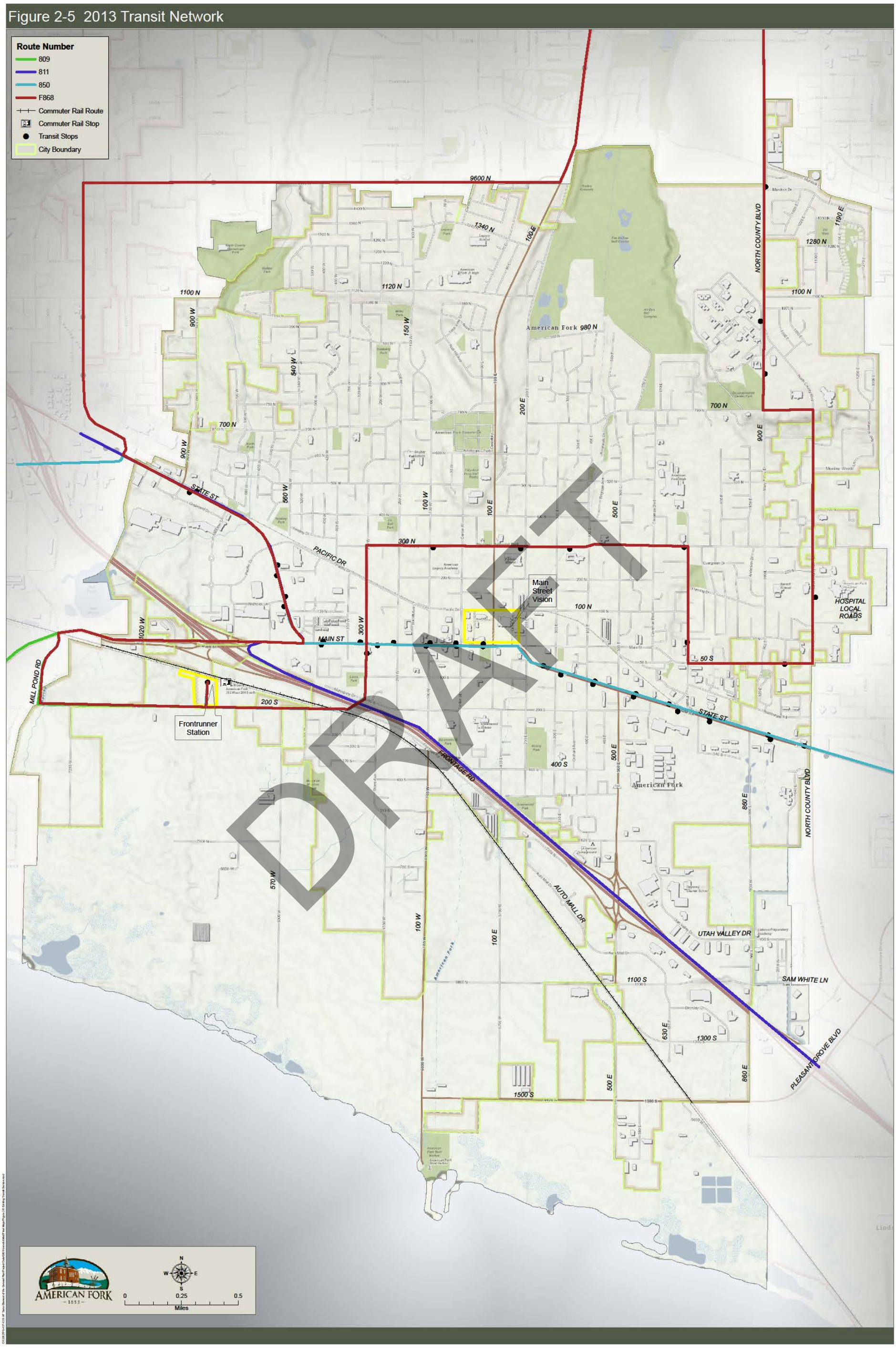
American Fork City recently opened a commuter rail station for the FrontRunner line on the west side of I-15 near Pioneer Crossing. With the construction of this new rail line, multiple bus routes between Utah and Salt Lake County were eliminated. The following transit routes and stations are currently in operation in American Fork:

- Bus Route 809: American Fork/Eagle Mountain
  - Originating at the American Fork FrontRunner station, route 809 runs along Pioneer Crossing through Saratoga Springs and terminates in Eagle Mountain at a church park & ride lot in the vicinity of Golden Eagle Road. The service runs on weekdays and is predominantly for commuter traffic running eastbound in the morning between 5:07 am and 7:51 am and westbound in the evening between 4:30 pm and 6:55 pm.
- Bus Route 811: Utah Valley TRAX Connector – Sandy/UVU
  - Originating at Utah Valley University, route 811 connects to the Civic Center TRAX station in Sandy at 10000 South. At Pioneer Crossing, the bus route leaves I-15 to make stops in American Fork. The bus travels along Main Street before taking State Street north into Lehi. Buses run every thirty to forty-five minutes on weekdays.
- Bus Route 850: North/South State Street
  - Route 850 originates at State Street and 100 East in Lehi. The service runs on State Street with a detour to the American Fork FrontRunner station and terminates at the Provo FrontRunner station. Service runs every 30 minutes all day long on weekdays from 4:59 am to 9:08 pm. Service is also regular on Saturdays, running every hour from 7:08 am to 10:20 pm.
- Flex Bus Route F868: American Fork/Alpine
  - Flex routes travel a fixed route but may deviate up to ¾ mile to pick up or let off passengers. Flex service is designed to provide the convenience of curb to curb drop off while maintaining a fixed schedule. Flex route F868 serves as a loop from the American Fork FrontRunner station east to 1100 East, north to Canyon Crest Road and west to 1200 East. The ability to deviate by ¾ mile allows this route to serve almost all of American Fork. Route F868 runs every hour from 6:56 am to 8:02 pm.
- FrontRunner: American Fork Station at 782 W. 200 S.
  - In April 2008, UTA introduced the state's first commuter rail line, FrontRunner. The line originally connected Salt Lake, Davis, and Weber Counties. In 2012, UTA completed construction of a southern portion of the FrontRunner line, which now connects Salt Lake County to Utah County as far south as Provo. Plans are in place to continue this southern portion to Payson. The American Fork station provides commuter rail service every 30 minutes during the commute times in the morning and evening and every hour during the off-peak times. Saturday service runs every 90 minutes all day. There is currently no Sunday service.

Figure 2-5 displays the existing transit routes and stations at the time of this report. However, UTA maintains up-to-date route information at www.rideuta.com.

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Figure 2-5 2013 Transit Network



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3.0 FUTURE CONDITIONS

Future traffic patterns and the resulting operating conditions of a roadway network are directly related to land use planning and socioeconomic conditions. As traffic is not restricted to the American Fork area and many of the roadways within the City act as regional roads linking communities north and south of the City, the socioeconomic and land use data in the neighboring cities must also be considered when projecting future traffic conditions within the City. Thus, socioeconomic information for all of northern Utah County was obtained for use in the travel demand modeling process.

3.1 FUTURE SOCIOECONOMIC CONDITIONS

The projected socioeconomic data used in this study comes mostly from the MAG travel demand model, which is based upon the best available statewide data provided by the Governor's Office of Planning and Budget (GOPB). This data was supplemented and verified using the data provided by the City planning department in the form of the adopted Land Use Plan and Zone Map (see **Figure 3-1** and **Figure 3-2**). This information is considered the best available for predicting future travel demand; however, land use planning is a dynamic process and the assumptions made in this report should be used as a guide and should not supersede other planning efforts.

Based on the current land use, zoning, demographics, and growth patterns, American Fork is expected to grow to approximately 48,000 residents by the year 2040 (**Table 3-1**). This forecasted growth will place increased pressure on the City's infrastructure, including its street system. American Fork is also committed to increasing its commercial, office, and retail base, providing greater opportunity for its residents to live, work and play in the City. This growth will have considerable impact on traffic volumes. The projected traffic volumes for the planning year 2040 show a corresponding increase in average traffic of 40 percent on the City's roadways.

Table 3-1 American Fork City Projected Population Growth

Year	*Population*	*Population Change*	*Population Change %*
2000	21,941	-	-
2010	26,263	4,493	20.5%
2020	32,566	6,132	23.2%
2030	39,635	7,069	21.7%
2040	47,678	8,043	20.3%
2050	54,000	6,322	13.3%
Buildout	~60,000	~6,000	11.1%

Source: Governor's Office of Planning and Budget & Mountainland Association of Governments

American Fork aims to plan for and encourage responsible and sustainable growth in the City. Part of the commitment to provide a sustainable system includes encouraging a reduction in vehicle trips by providing a balance of roads, trails and bikeways, and public transit facilities. Today's transportation system should not only accommodate existing travel demands, but should also have built-in capacity to

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account for the demand that will be placed on the system in the future. While considering the socioeconomic data used in this report and the anticipated growth in the City, some precautions should be considered. First, the TAZ specific socioeconomic data only approximates the boundary conditions of the City and is based on data provided by MAG and the City's planning documents. Second, actual values may vary somewhat as a result of the large study area of the regional travel demand model, which includes the unincorporated areas around American Fork. Therefore, the recommendations in this report represent a planning level analysis and should not be used for construction of any project without review and further analysis.

As the designated Metropolitan Planning Organization (MPO) for the Utah Valley area, MAG, organized in 1972, is largely responsible for regional transportation planning in the three-county region of Summit, Wasatch and Utah Counties. In this capacity, MAG produces a 30 Year Long Range Transportation Plan (LRTP) and a 5 Year Transportation Improvement Program (TIP). Both of these products are constrained by reasonably available revenue. As a result, the LRTP does not always include the regional facility improvements, which are planned by local communities. This TE makes great efforts to supplement the regional plans produced by MAG and to provide direction for future regional planning efforts that will include American Fork City.

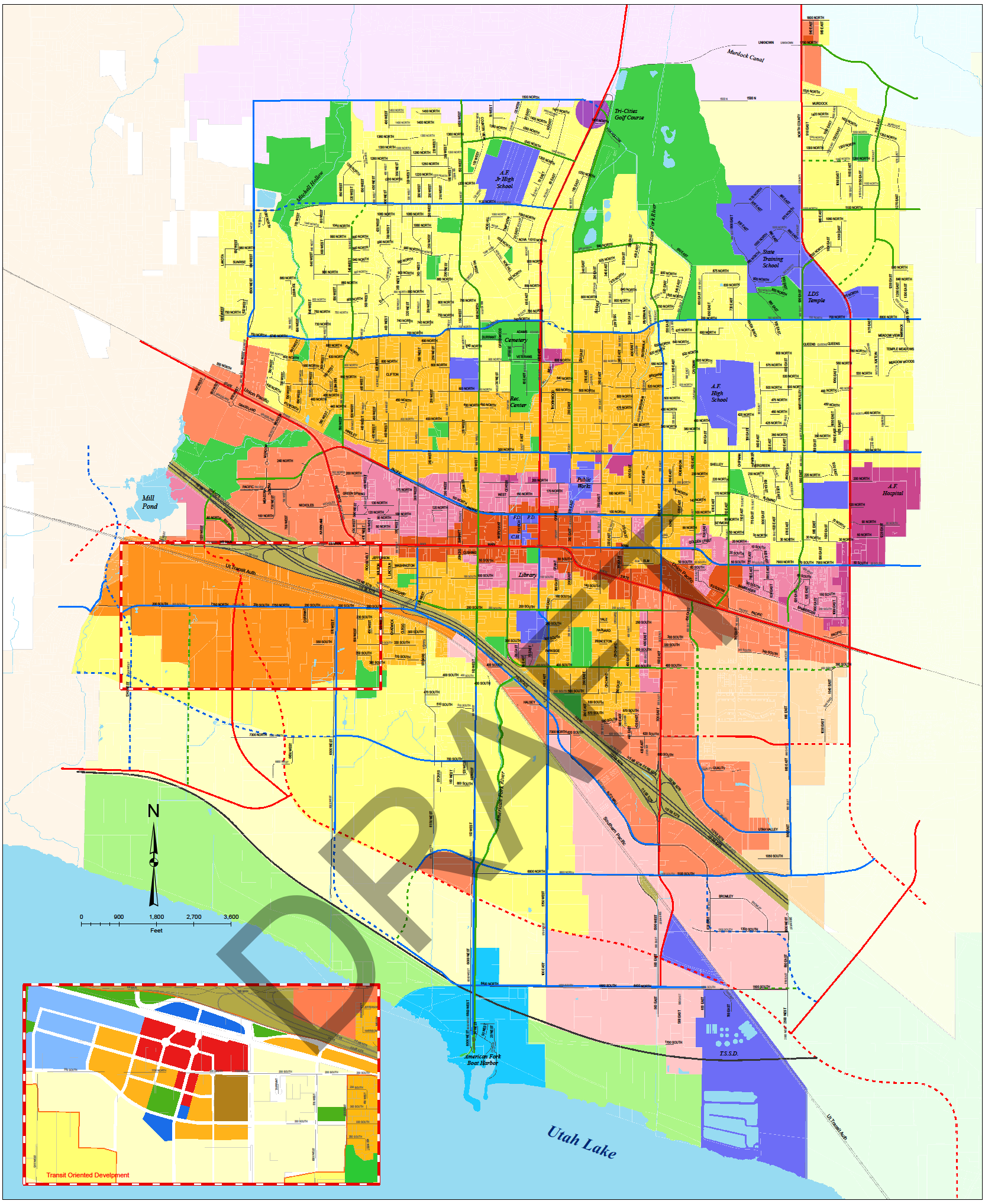
3.2 FUTURE LAND USE

In its Land Use Plan, the City has sites planned for general, design, and neighborhood commercial; high, medium, low, very low density housing; public parks and open space, institutional lands such as schools and public facilities; shoreline protection areas and resorts; and major transportation facilities and transit oriented developments. There is also a planned community in the Land Use Plan and a transit oriented development. These areas were identified and reviewed individually in addition to the MAG land use assumptions. **Figure 3-1** and **Figure 3-2** show the latest Land Use Plan and Zone Map respectively.

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Figure 3-1 American Fork City Land Use Plan

AMERICAN FORK CITY - LAND USE MAP JULY 2017



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American Fork City -- Land Use Map
Last Updated: September 1, 2016

American Fork City Public Works Department
GIS/CAD Division -- (801) 763-3060
275 E. 200 N., American Fork, Utah 84003

This Map is the "Official American Fork City Land Use map" as adopted by the American Fork City Council. Questions regarding American Fork City planning should be directed to the American Fork City Planning Department: 31 N. Church Street, American Fork, Utah 84003, (801) 763-3000.

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Transit Oriented Development

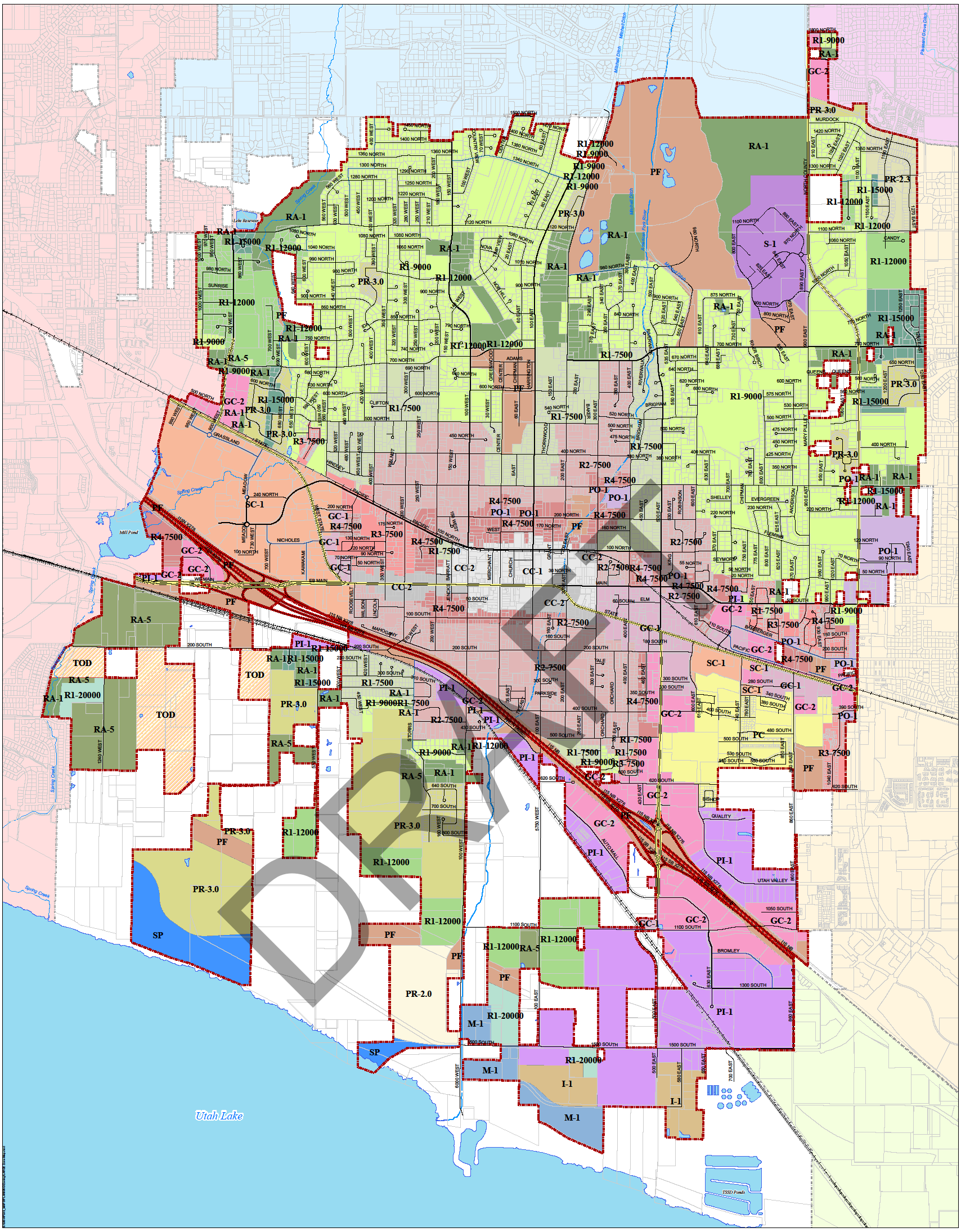
- Business and Office Campus Commerce Center
- Civic and Community Support Facilities
- High Density Multy Family Residential 25-40 du/ac
- Medium Density Detached Single Family Residential Lots 4-6 du/ac
- Medium Density Multi Family Residential Attached Housing 10-30 du/ac
- Parks, Plazas and Open Space Corridor
- Development core Mixed Use of High Density Residential, Offices and Neighborhood Commercial 35-

MAP LEGEND

- Local and/or Paved Roads
- Federal & State Roads
- Arterial Collectors
- Major Collectors
- Minor Collectors
- Parcels
- Railroads
- Streams & Canals
- Lakes & Ponds
- <all other values>
- Alpine
- Cedar Hills
- Highland
- Lehi
- Lindon
- Pleasant Grove
- Vineyard
- Professional Office
- Design Industrial
- General Commercial
- Design Commercial
- Neighborhood Commercial
- Residential High Density
- Residential Medium Density
- Residential Low Density
- Residential Very- Low Density
- Planned Community
- Shoreline Protection
- Public Parks & Open Space
- Resort
- Institutional Lands, Schools and Public Facilities
- Major Transportation Facilities
- Transit Oriented Development

Figure 3-2 American Fork City Zone Map

AMERICAN FORK CITY - ZONE MAP FEBRUARY 2018



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American Fork City -- Zone Map
Last Updated: February 15, 2018

American Fork City Public Works Department
GIS Division
275 E. 200 N.
American Fork, UT 84003
(801) 763-3060
afgis@afcity.net

This Map is the "Official American Fork City Zone Map" as adopted by the American Fork City Council. Questions regarding American Fork City Zones should be directed to the City Planning Department:
Planning Department
275 E. 200 N.
American Fork, UT 84003
(801) 763-3060

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MAP LEGEND

Federal	American Fork River	CC-1	PO-1	R2-7500
Arterial	Creeks	CC-2	PR-2.0	R3-7500
Major Collector	Canals and Ditches	GC-1	PR-2.3	R4-7500
Minor Collector	Lakes&Ponds	GC-2	PR-3.0	RA-1
Significant Local		I-1	R1-12000	RA-5
Local		M-1	R1-15000	S-1
Alley		PC	R1-20000	SC-1
Private		PF	R1-7500	SP
Future		PI-1	R1-9000	TOD

3.3 TRAVEL MODEL DEVELOPMENT

Projecting future travel demand is a function of projected land use and socioeconomic conditions. The MAG travel demand model was used to predict future traffic patterns and travel demand. The travel demand model was modified to reflect better accuracy through the American Fork area by creating smaller TAZ and a more accurate and extensive roadway network. Existing conditions were simulated in the travel demand model and compared to the observed traffic count data to get a reasonable base line for future travel demand. Once this effort was completed, future land uses and socioeconomic data was input into the model to predict the roadway conditions for the design year 2040, as well as intermediate years 2030 (ten year condition) and 2040 (mid-range planning). 2040 was selected as the design year. The 2050 Metropolitan Transportation Plan (available at www.mountainland.org) was adopted by the Mountainland MPO Regional Planning Committee in 2019. The transportation plan is a guide to maintain and enhance the regional transportation system for urbanized Utah County.

3.4 PROJECTED TRAFFIC VOLUMES AND CONDITIONS

The resulting outputs of the travel demand model were made up of traffic volumes on all of the classified streets in the City and surrounding area. This data was used to identify the need for future roadway improvements to accommodate the projected growth in the City. A number of modeled alternatives were reviewed by the Planning Commission and City Council to establish the recommended roadway network for 2040. The following two scenarios were analyzed in detail to assess the travel demand and resulting network performance in the City:

- No-Build
- Recommended Roadway Network

3.4.1 NO-BUILD CONDITIONS

A no-build scenario is intended to show what the roadway network would be like in the future if no action were taken to improve the City roadway network. The travel demand model was again used to predict this condition by applying the future growth and travel demand to the existing roadway network. As shown in **Figure 3-3**, if no improvements are made to American Fork's transportation infrastructure, projected traffic volumes for the planning year 2040 will significantly lower the LOS of many of the major streets and intersections throughout the City. Some of the major areas of concern include Main Street, Pacific Drive, 100 East, Pioneer Crossing, the 900 West roundabout in "The Meadows", and parts of 300 North, 300 West, 200 South, and 400 West.

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Figure 3-3 2040 No-Build Traffic Volumes and LOS



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3.4.2 RECOMMENDED 2040 ROADWAY CONDITIONS

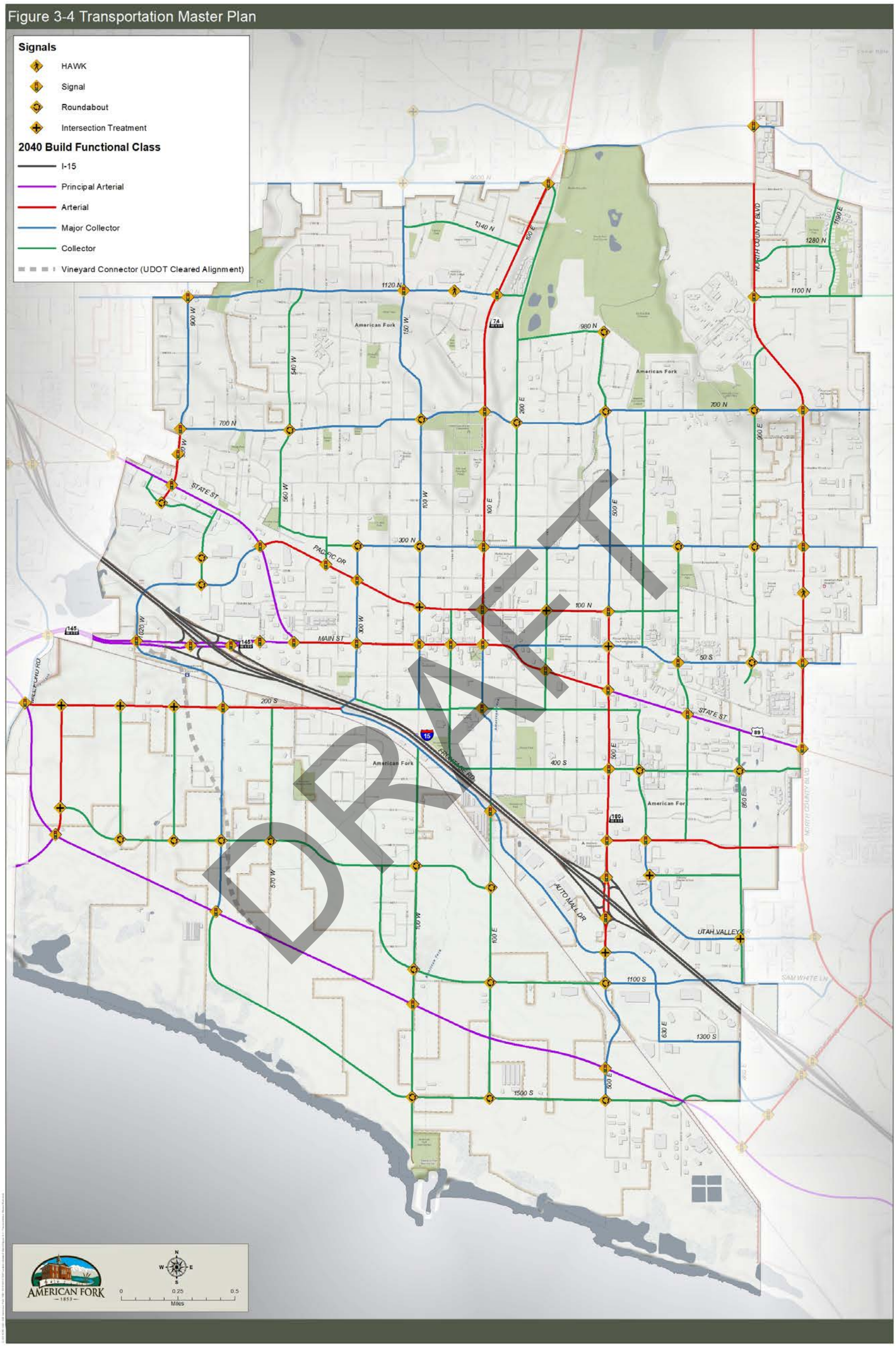
Improvements will need to be made as growth occurs in order to preserve the quality of life for American Fork residents and to maintain an acceptable LOS on City streets and intersections. These improvements will also provide a sound street system that will support the City's growing economic base.

LOS for signals is very difficult to predict so far out into the future. It is expected that at least some of the signals will fail to operate at LOS D or better as growth occurs and traffic patterns change and new roadways are added to the network. It is recommended that the signalized intersections in the City be regularly monitored and signal timings adjusted as needed to maintain acceptable operating conditions. Additionally, care should be taken to regularly monitor the non-signalized intersections in the City and, where appropriate, signal warrant studies should be performed to assess whether a traffic signal is warranted. Funding sources for signals should be explored and may include general funds, impact fees where appropriate and/or a special transportation improvement fund.

Areas of future concern in the American Fork street system were identified using traffic models of existing and projected traffic volumes to evaluate existing and projected level of service conditions. A recommended roadway network was created for the planning year 2040. This network was developed through a series of iterations with input from City staff, planning commission and city council. The final recommended roadway network seeks to balance accommodating demand through the year 2040 with fiscal responsibility, while also considering the planning efforts of MAG and the neighboring cities. Many of the neighboring cities and other jurisdictional stake holders including Lehi City, Lindon City, Pleasant Grove City, Highland, Cedar Hills and UDOT were consulted and their input welcomed and considered during this planning process. Transportation plans from each of the participating stakeholders are included in the appendix of this report. The culmination of this analysis, as well as the efforts of the Planning Commission and City Council, is shown as a recommended 2040 roadway network in **Figure 3-4**. It is expected that the roadway network recommended in this document will perform at an acceptable LOS through the planning year 2040. This will help in preserving the quality of life and economic vitality of the City. The specific details of the recommended roadway network are discussed more extensively in subsequent sections.

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Figure 3-4 Transportation Master Plan



3.5 ROADWAY FUNCTIONAL CLASSIFICATION

A major reason for transportation planning is to provide adequate transportation solutions for connectivity with the surrounding region, while at the same time preserving the quality of life of the residents in the City. The key to maintaining this balance exists in the ability to adequately plan for major corridors that minimize cut-through traffic in neighborhoods and coordinating land use and transportation plans that capitalize on the efficient movements of people and goods. To accomplish this objective, this plan defines a hierarchy of streets known as a Functional Classification of Streets. The following street classifications have been selected by American Fork for inclusion in the TE:

- Freeway – I-15
- Principal Arterial – 7 Lanes
- Arterial – 5 Lanes
- Major Collector – 3 Lanes
- Collector – 2 Lanes
- Local Road – 2 Lanes

Each of these roadway classifications has a specific purpose and function. Access and mobility are competing functions. This recognition is fundamental to the design of roadway systems that preserve public investments, contribute to traffic safety, reduce fuel consumption and vehicle emissions, and do not become functionally obsolete. Suitable functional design of the roadway system also preserves the private investment in residential and commercial development. The Federal Highway Administration (FHWA) defines the roadway classifications as follows:

- Arterial
  - Provides the highest level of service at the greatest speed for the longest uninterrupted distance, with some degree of access control.
- Collector
  - Provides a less highly developed level of service at a lower speed for shorter distances by collecting traffic from local roads and connecting with arterials.
- Local
  - Consists of all local roads not defined as arterials or collectors; primarily provides access to land with little or no through movement.

A typical trip on an urban street system can be described as occurring in identifiable steps. These steps can be sorted into a definite hierarchy with respect to how the competing functions of mobility and access are satisfied. For example, the primary purpose of an arterial street is to move large volumes of traffic at higher speeds and provide access to collector roads and higher density retail and commercial land uses. Some key arterial streets that currently traverse the City of American Fork include State Street, Pioneer Crossing, 100 East and North County Boulevard. At the low end of the hierarchy are local roads that provide good access to abutting properties, but provide limited opportunity for through movement. Collector roads provide a transition between arterials and local roadways by providing both access and traffic moving capacity. Examples of existing collector roads within the City include 300 North and 900 West. Collector type facilities serve moderate traffic volumes at moderate speeds. At the highest end of the hierarchy are freeway facilities that provide good mobility by limiting and controlling access to the roadway, thereby reducing conflicts that slow the flow of through traffic. Interstate 15 is the only freeway facility serving American Fork.

Roadway specialization simply means using each individual street facility to perform the desired mix of functions of access or movement. This is accomplished by classifying corridors with respect to the amount of access or mobility they are to provide and then identifying and using the most effective facility to perform that function.

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Typical roadway cross-section dimensions are included in the American Fork City Standards and Specifications which can be accessed through the American Fork City website: https://afcity.org/DocumentCenter/View/73/Standards-and-Specifications-Drawings-Only-PDF. Included in the TE is a summary table for all typical cross-sections included in the standards and specifications as shown in **Table 3-2**.

Table 3-2 Roadway Cross Sections

Roadway Classification	ROW Length (ft)	Roadway Width (ft)	# of Lanes
City Cross-Sections			
Local Street (all variations)	64	34	2
Minor Collector	72	42	2
Minor Collector w/ 14' Sidepath	72	38	2
Minor Collector w/ 10' Sidepath	72	42	2
Major Collector	84	54	3
Major Collector w/ 14' Sidepath	84	50	3
Major Collector w/ 10' Sidepath	84	14	3
Arterial	100	70	5
Arterial w/ 14' Sidepath	100	66	5
Arterial w/ 10' Sidepath	100	70	5
Private Roadway Cross-Sections			
Private Street (trees)	62	32	2
Private Street (no trees)	52	32	2
Alley	40	32	2
Transit Oriented Development Cross-Sections			
Major Arterial	84	64	4
Business Arterial	112.5	74.5	4
Core Collector	92	35	2
Neighborhood Collector	92	49	2
District Connector	96	49	2
Business - Core Loop	98	47	2
Neighborhood Street	53	25	2
One-sided (residential)	61	25	2
Rear Lane (residential)	20	20	2
Rear Alley (non-residential)	26	26	2

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Impacts to adjacent properties can be limited by applying minimal typical sections to stretches of roadway between intersections. Typically, intersections are choke points in a traffic system. Providing sufficient left and right turn pockets to accommodate at least the average expected peak hour at intersections could maximize capacity. Treatments at intersections are discussed further in the section below entitled *Intersection Improvements*. Pedestrian and bicycle traffic should also be considered in the design of major roadways as discussed in the next sections.

Accommodating alternative modes of transportation is a vital consideration when planning a livable and sustainable community. As a vibrant and growing city, it is important for American Fork to continue to plan for improved transit, trails, and pedestrian facilities. These facilities will improve the overall quality

of life of the residents while aiding in congestion relief and increasing the lifespan of the City's roadway network.

It is also important that the correct speed limits be posted on the streets in the roadway network. Arterials will typically have higher speeds than collector streets. The City's access management standards recommend that the City use the following guidelines when posting speed limits:

- Collector 25 mph
- Major Collector 30 mph
- Arterial 35 mph
- Principal Arterial 45 mph

3.6 FUTURE ALTERNATIVE TRANSPORTATION MODES

3.6.1 NON-MOTORIZED TRAFFIC

Pedestrian and bicycle safety is an important feature of any transportation master plan. People will be more inclined to walk or ride their bicycle when the experience is pleasant, they feel safe, and distances are reasonable. High-density housing near high-traffic generators or main street type areas encourages people to use alternative travel options to the automobile. Provision has been made in the design of the typical cross-sections for use in American Fork City to accommodate pedestrian and bicycle facilities. Each of the standard cross-sections shown in Error! Reference source not found. **3-2** includes a five-foot sidewalk coupled with a five-foot parkstrip to provide a buffer between pedestrians and vehicular traffic. The Bicycle and Pedestrian Master Plan also provides guidelines on the location and nature of future trails and bikeways to accommodate the future needs of the City. This document seeks to integrate the recommendations provided in the BPMP with the recommended roadway cross sections shown above. Error! Reference source not found. **3-2** shows roadway cross-sections for roadways that are on both the TE and BPMP.

The BPMP should be used to guide the transportation planning efforts in terms of trails and pedestrian facilities in the future. Specifically, the trails portion of the plan includes several recommendations, which are reiterated in the TE as priorities for the future planning in the City. The recommendations in the plan can be categorized into the following ideas:

- Connect all areas of the City
- Fill critical gaps in the walking and bicycling networks
- Identify existing and planned facilities on the City's perimeter so that recommended facilities provide seamless connections to surrounding communities
- Where possible, recommend facility types that serve the widest range of users, particularly those who are less comfortable riding bicycles in close proximity to traffic
- Recommend facilities than can feasibly be constructed and maintained by the City
- Use a phased implementation approach that provides logical short- and medium-term recommendations, while retaining long-term visionary recommendations
- Avoid impacting on-street parking or traffic lanes along the critical roadways where those impacts would be highly undesirable

In order to create a more connected and complete trails system, each of the roads that appear on both the Transportation Master Plan and the Recommended Bikeways Map (shown in **Figure 3-5**) will include bicycle facilities. The design guidelines set forth in the Trails Master Plan should be followed when planning and constructing the additional trails. For more info on where the standards and guidelines are see https://afcity.org/DocumentCenter/View/73/Standards-and-Specifications-Drawings-Only-PDF

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The BPMP identifies the following bikeway classifications for future construction:

- Shared-Use Paths
  - Shared-use paths are generally located within rights-of-way separated from roadways (such as streams, utility corridors, and railroads) and serve all types of non-motorized users. They are the facility of choice for many people who wish to avoid bicycling near traffic. However, they are also the most expensive bikeway type, may not serve transportation purposes as well as on-street facilities, and have limited opportunities for development due to the scarcity of non-roadway rights-of-way. Shared-use paths are typically 10' wide or greater and can be constructed of asphalt or concrete.
- Sidepaths
  - Sidepaths are similar to shared-use paths in terms of pavement, desired width, and user mix, although they are sometimes narrower than shared-use paths where right-of-way is tight. They are called "sidepaths" because they run parallel to roads with frequent driveways or intersections. This creates an operational difference that distinguishes sidepaths from shared-use paths. Shared-use paths travel for long distances without encountering vehicle crossings and generally cross roads at right angles. Sidepaths, on the other hand, encounter more complex driveway and intersection conflicts with cars, particularly when bicyclists ride in the direction opposite the traffic flow on the road adjacent to the sidepath.
  - Sidepaths can be useful for pedestrians as well as children and adults who bicycle slowly and exhibit behavior similar to pedestrians. However, they are not a good alternative for faster or more experienced bicyclists because they place bicyclists in places where drivers may not expect them. In situations where a shared-use path is preferred but not feasible, short stretches of sidepath can be used as a substitute to connect shared-use paths on both ends of the sidepath.
- Bike Boulevards
  - Bike boulevards are a relatively new bikeway type. They take advantage of low-speed, low-traffic streets where many people prefer to bicycle. Typically these types of streets work well for bicyclists for a few blocks at a time but pose a challenge as soon as the street intersects a larger or higher speed road. Key components of bike boulevards are intersection improvements such as median islands and signage that allow bicyclists to safely cross busy streets.
  - Bike boulevards are not typically installed on collector or arterial roads because dedicated space (such as a bike lane) is not provided on bike boulevards to separate bicycles from cars. Neighborhood traffic circles, curb extensions, and other traffic calming measures often accompany bike boulevards in order to keep traffic volumes and speeds low. Maintenance requirements for bike boulevards are generally limited to necessary upkeep of neighborhood traffic circles or intersection treatments.
- Buffered Bike Lanes
  - Buffered bike lanes use a painted buffer space to provide a measure of separation from car traffic. People who are uncomfortable bicycling near traffic usually prefer buffered bike lanes to "regular" bike lanes.
  - Buffered bike lanes may require more frequent sweeping than car lanes because cars tend to push rocks into the buffered bike lanes. As a result, they accumulate debris without regular sweeping.

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- Bike Lanes
  - Bike lanes use a single white stripe to separate bicycle traffic from car traffic. Bike lanes will normally accommodate confident and experienced bicycle riders, but they may not provide enough separation from high-speed cars to attract less-experienced riders. As with buffered bike lanes, regular sweeping may be needed to keep the lanes free from debris pushed into them by car tires.
  - Care must be taken to transition bike lanes (and buffered bike lanes) through intersections in a safe manner and also protect the lanes from car doors in instances where the bike lanes are next to car parking
- Marked Shared Roadways
  - Marked shared roadways are typically implemented in corridors where dedicated space for higher-level treatments cannot be allocated or where traffic speeds and volumes dictate that a higher-level facility is not warranted. This treatment should not be used on any roadways with a speed limit in excess of 35 mph, although it is preferable to limit them to roads with speed limits of 30 mph or less.
  - Unless speeds and volumes are low, many people will not feel comfortable riding on a road with this treatment. However, in instances where a higher-level facility is not technically or politically feasible they can serve as valuable treatments to legitimize experienced riders who choose to bicycle there. The markings can be accompanied by optional signage that further notifies automobile drivers that bicyclists should be expected to ride in the lane where the markings are placed. Proposed marked shared roadways are listed in **Figure 3-5**
- Signed Shared Roadways
  - Signed shared roadways do not have any dedicated roadway space for bicycles. They simply provide signage designating the road as a bike route. Signed shared roadways can be created on roads with or without shoulders as well as with or without parking. It is a particularly effective treatment on roads with wide shoulders where parking is permitted but is infrequently used. In these instances the shoulders behave like de-facto bike lanes for long stretches.
  - Care should be taken when considering implementing this type of bikeway on roads with little or no shoulder or on roads with heavy parking volumes. In those cases a marked shared roadway may be a better option as long as the speed limit does not exceed 35 mph.
- Walkways
  - The walkways recommended in this master plan consist of prioritized sidewalk installations, sidepaths, shared-use paths, and unpaved trails. Sidewalks were chosen for prioritized status based on proximity to schools, location on collector and arterials streets where lots of traffic is present, and whether at least one side of the road already has a sidewalk.
- Cycle Track
  - Cycle tracks combine the off-street separation of shared-use paths with on-street elements of bike lanes. Between intersections, they provide the greatest amount of separation between cars and bicyclists of any on-street bikeway type. However, intersections must be treated at a very high level in order to safely transition cycle tracks through. The distinguishing characteristic of a cycle track is some form of physical separation between moving cars and bicycles. Less-experienced bicyclists often prefer cycle tracks over other bikeway types because of the separation from car traffic.

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- In snowy climates care must be taken to design cycle tracks to facilitate snow removal. Smaller plows or the use of removable bollard posts are ways to construct cycle tracks which can be cleared of snow and winter debris. Cycle tracks may also require frequent sweeping to keep the pavement clear and safe for bicycle travel.

Approximately 106 miles of bikeway and walkway are planned in the City for the future. 24 of these miles are walkways and 82 miles are bikeways. It is recommended that the Bicycle and Pedestrian Master Plan be the determining document for when pedestrian and bicycle facilities are constructed on a given roadway. The number of bikeway and walkway miles needed in the future is summarized by facility type in

Table 3-3. **Figure 3-6** shows the recommended future walkways.

Table 3-3 Recommended Bikeways and Walkways

Facility Type	Length (miles)
Shared-Use Path	26.46
Bikeway Sidepath	7.86
Bike Boulevard	9.14
Buffered Bike Lane	12.70
Bike Lane	22.40
Marked Shared Roadway	2.03
Signed Shared Roadway	0.45
Undefined Bikeway	1.27
5’ Sidewalk Walkway	12.34
Walkway Sidepaths	9.47
Unpaved Trails	2.04
Total	**106.16**

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Figure 3-5 Recommended Bikeways

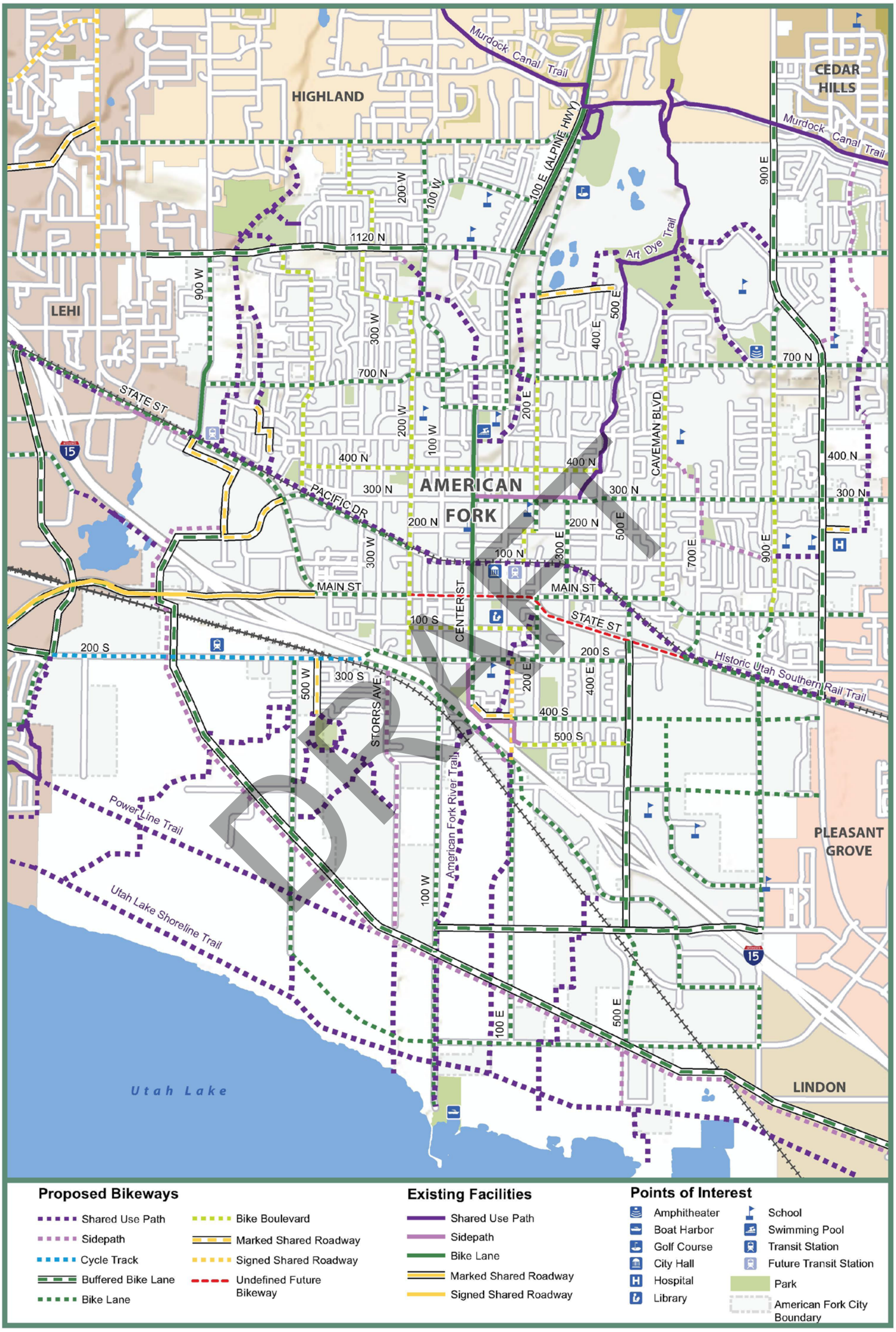
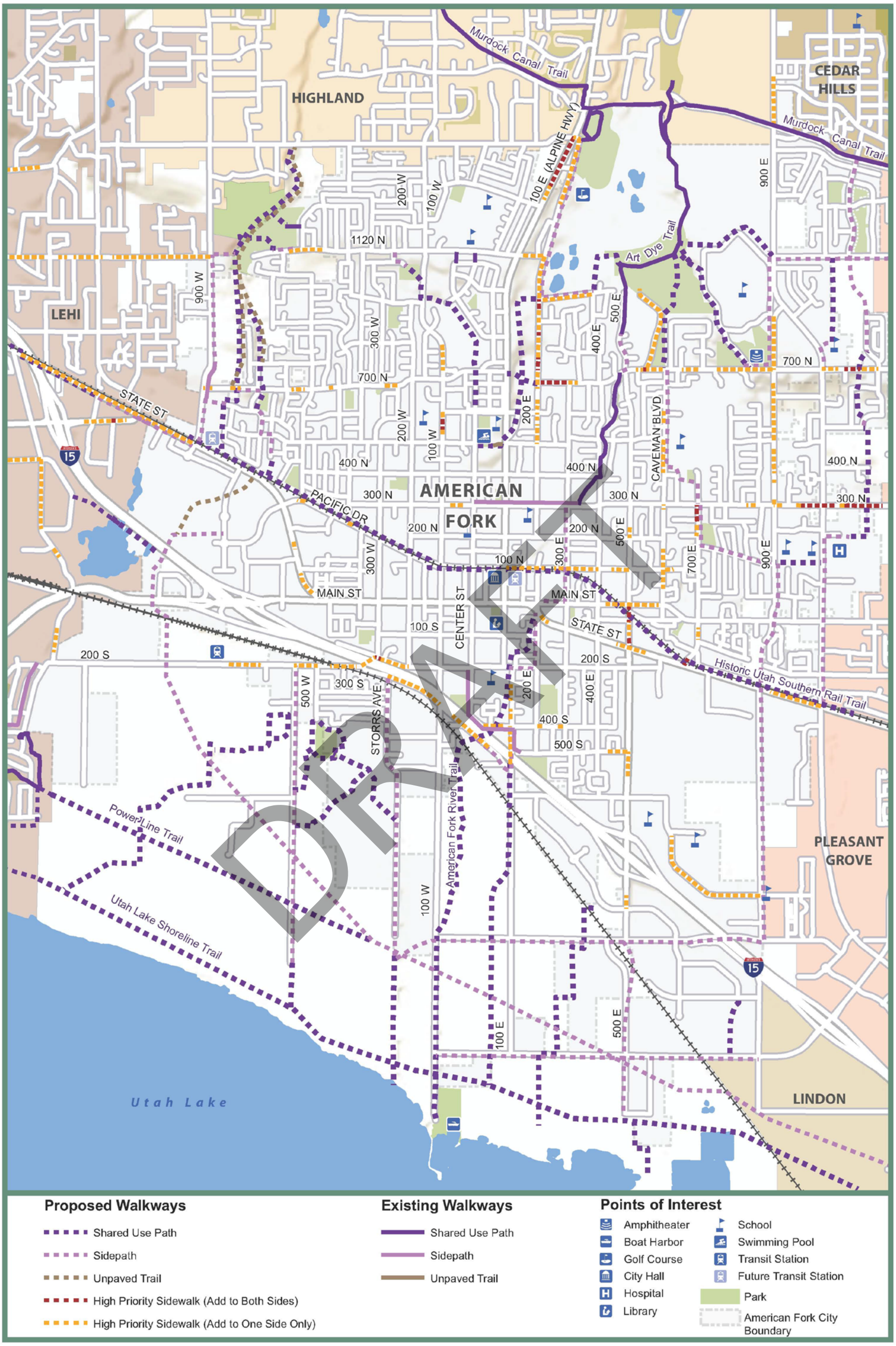


Figure 3-6 Recommended Walkways



3.6.2 FUTURE TRANSIT SERVING AMERICAN FORK CITY

American Fork does not operate and maintain its own transit system. The combined efforts of UTA, UDOT, MAG, and the City will largely dictate the nature of a future expanded transit system. The City should be actively involved in supporting transit as a viable and attractive alternative transportation mode in the City. These planning and lobbying efforts will assist in procuring the necessary funding and support to develop, implement, and maintain a sustainable transit system.

The UTA bussing system is versatile as routes and stops can be adjusted as the demand and other factors require it. With the recent addition of the FrontRunner commuter line into Utah County, many bus lines were adjusted or eliminated. The MAG transit plan can be seen in **Figure 3-7**.

3.6.2.1 BUS RAPID TRANSIT (BRT)

BRT is a relatively new public transportation alternative in Utah. In July 2008, UTA opened its first MAX BRT line. The line currently operates along 3500 South between the 3300 South Light Rail station and Magna. BRT is often referred to as light rail with rubber tires as it can and often does operate in a dedicated guide way, separate from traffic. BRT offers limited stops and traffic signal priority, significantly decreasing route travel times. UTA has plans to begin operating additional BRT routes along 5600 West in Salt Lake County and along University Parkway on Orem. Several other BRT routes are identified in the MAG regional transit plan including two in American Fork.

The MAG regional transit plan for 2040 shows a planned Bus Rapid Transit (BRT) line running through American Fork in two places.

North County Boulevard BRT

North County Boulevard connects State Street in Lindon, north through American Fork to SR-92 at Alpine. The MAG transit plan shows a BRT line following this roadway corridor.

State Street

State Street runs from Springville Main Street to Lehi near Thanksgiving Point. A BRT line is shown on the MAG transit plan along State Street through American Fork that continues west along Pioneer Crossing towards Saratoga Springs and Eagle Mountain.

3.6.2.2 LIGHT RAIL: TRAX

Light Rail, called “TRAX” in Utah, has been operating in Salt Lake County for more than a decade. There are currently three lines in operation with two more under construction that are expected to open before 2015. There are no existing TRAX lines in Utah County or any under construction. According to the MAG regional plan, the first TRAX line in Utah County will be an extension of the existing TRAX line in Draper. However, it is not anticipated to come online in Utah County until 2031-2040. The new TRAX line will have stops in American Fork near 900 West/State Street, 100 East/Main Street, and North County Boulevard/State Street. As a rule of thumb, at least one mile spacing between Light Rail stations is typical, compared to commuter rail stations that are approximately 5+ miles apart.

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Figure 3-7 Future Transit Plan



3.6.2.3 COMMUTER RAIL: FRONTRUNNER

The most recent addition to the Utah statewide transportation system is UTA's FrontRunner commuter rail line. The line connects Davis, Weber, Salt Lake, and Utah counties with stations along the Wasatch Front. Many stations have a connection to the TRAX and bus networks. FrontRunner is a push/pull locomotive system, which can travel up to 79 mile per hour. Future planned expansions will add service to Brigham City in the north and Payson in the South. Part of the MAG *Vision* plan, which extends beyond 2040, includes a FrontRunner line connecting American Fork to Santaquin via Lehi, Saratoga Springs, Eagle Mountain, Cedar Fort, Fairfield and Goshen west of Utah Lake.

An essential consideration of a good transportation system is the ability to seamlessly transfer from one transportation mode to the next. This could be from car to commuter rail, bike to bus, or foot to light rail. Each of these transfers must be accomplished efficiently in order for a transit system to be attractive to users. One way to accomplish exceptional connectivity is with an intermodal center. Intermodal centers are transit hubs where multiple modes of transportation converge and passengers enter using one form of transportation and leave by another. Transfers can occur between as many modes as the physical space can permit. The FrontRunner station in American Fork provides this connectivity as it serves as a park and ride lot, FrontRunner station and bus hub. In the future, TRAX will be integrated into the area and bus, BRT, and trails routes will be added.

3.7 MAIN STREET VISION

In 2010, American Fork City, in conjunction with the MAG, published the *American Fork Main Street Vision Plan*. The American Fork Main Street Vision Plan is an initiative of the City of American Fork, and is funded and managed by the MAG. This visioning and planning process was intended to help define a desired future vision for Main Street, and identify potential opportunities and strategies for strengthening Main Street's role in the community. Implementing the Main Street Vision will be a long process. Achieving the complete Vision may require 30-40 years of individual public works projects and numerous public/private partnerships. The Main Street Vision plan has been fully incorporated into the planning of the Transportation Element of the General Plan and is included in the appendix of this report. Main Street through the vision study area will remain a 5-lane roadway and Pacific Drive will be upgraded to a 5-lane facility. These parallel facilities will serve both purposes of maintaining traffic flow and providing a sustainable and vibrant downtown area.

The Main Street Vision plan includes recommendations on the physical, economic, and mobility characteristics of the downtown area. These recommendations include beautification and urban design strategies, identifying and creating a community development area, prioritizing projects and identifying potential funding sources, clarifying policies regarding City offered incentives, issuing requests for qualifications to developers clearly outlining the goals and incentives for the downtown development, adopting the Main Street Vision into both the City and regional transportation master plans, preserving funds for roadway enhancements, exploring the option for increased parking availability, and updating zoning and development regulations to include bicycle and pedestrian infrastructure.

The Main Street Vision study area is split into 6 distinct districts shown below in **Figure 3-8**. Each district has distinct objectives and characteristics. For a complete narrative please see the published American Fork Main Street Vision document. The major objectives and how they relate to the Transportation Element of the General Plan are considered in the following paragraphs.

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Figure 3-8 Main Street Vision Districts



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3.7.1 DOWNTOWN HISTORIC CORE DISTRICT

The downtown historic district is the heart of the City. It is comprised of several historic structures that have long served as attractions to the downtown area.

The Main Street Vision Plan focuses on strengthening the Historic Core District as the Heart of the City by encouraging preservation and reuse of historic buildings; adopting strategies for infill development of multi-story uses to strengthen the street wall; improving the pedestrian infrastructure; encouraging the restaurants, professional offices and specialty retail stores to locate downtown; and locating cultural facilities and community events in the downtown area. Focused attention also needs to be placed on ensuring that the Historic Core remains a destination with good access to I-15 and neighboring communities by restricting speed through the Historic Core, reducing pedestrian and vehicular conflicts, encouraging on-street parking, introducing multi-modal transportation infrastructure, and utilizing bulb-outs as possibilities for on-street sales and dining.

Building heights should be limited to three stories. Street furniture, such as signs, lamps, and benches, should be used to enhance the pedestrian experience. Building materials and styles should be consistent with the historic feel of the downtown area. High speeds should be discouraged through the downtown area. Historic buildings and fabric should not be destroyed wherever possible.

3.7.2 TOD DISTRICT

The Transit Oriented Development (TOD) district will take advantage of its close proximity to the future TRAX/BRT station on Pacific Drive. The district should have higher density mixed use developments and infrastructure to support multimodal travel, particularly bicycle and pedestrian activity.

The TOD district should be developed and designed to serve the needs of daily residents and employees, as well as acting as a destination for visitors, by providing mixed uses within the district, expanding the amount of housing in the downtown area to accommodate varying levels of life cycle stages and age groups, and promoting higher density development to support transit and non-motorized travelers. The transportation hub must be an effective point for transit related activity with safe and efficient transfer between transportation modes, the ability to complete multiple daily activities within the district without automobile use, providing adequate parking for areas where automobile use is desired, and construction of safe and attractive pedestrian facilities.

Building heights of three to five stories should be encouraged. Multi-level mixed-use buildings should have a first floor retail element. Varying and interesting building designs should be encouraged to complement the Historic Core District. Community gathering places for events should be provided. Surface parking should be consolidated and multilevel parking structures considered. Parking should not be placed between buildings and the adjacent street. "Big box" retail should not be permitted.

3.7.3 EASTERN GATEWAY DISTRICT

The area between 500 East and 1100 East should serve as the eastern gateway to American Fork's Downtown and should focus on office parks, medical/employment support, and infill development. The street will be developed into an attractive entrance to the downtown area.

The goals of the Main Street Vision are to create a distinguished entry and eastern gateway into American Fork's downtown and attract a business and retail environment providing local employment opportunities. This can be accomplished by developing State Street into a pleasant seven-lane boulevard with attractive landscaping, balancing the need for mobility with pedestrian access by providing adequate and functional pedestrian facilities and signal progression; utilizing the existing right-of-way for frontage roads; bike paths, and pedestrian facilities; exploring the opportunity for a TRAX station close to 1100 East; encouraging infill development; developing master plans for large undeveloped areas; capitalizing on the proximity of the Hospital by creating a medical office park; increasing the number of retail facilities that support business parks; and considering housing opportunities close to the business centers.

Low maintenance trees and landscaping should be used to minimize future costs. Development should be limited in height to three stories and include street infrastructure to ensure State Street is pedestrian friendly by tying open space and trails facilities into similar facilities on State Street. Large parking lots between developments and the roadway should be discouraged.

3.7.4 MAIN STREET BUSINESS DISTRICT

The Main Street business district between Pacific Drive and I-15 serves as a transition zone between the "big box" Meadows district and the Historic Core district. This district consists mostly of small-scale businesses and professional offices and should continue to provide these land uses in the future.

Focus should be placed on reinforcing Main Street as a retail and business destination and making Main Street a "complete street". This can be achieved by encouraging infill development to create a continuous street wall; ensuring pedestrian activity is encouraged with businesses facing Main Street; developing a Main Street improvement program to include landscaping, street furniture, and pedestrian facilities; ensuring that automobile traffic moves efficiently through the area at pedestrian friendly speeds; making Main Street multimodal; and encouraging on-street parking.

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New development should be scaled and designed to complement the existing architecture and character of Main Street. Buildings should be limited to three stories. High speeds on Main Street should be discouraged.

3.7.5 "MEADOWS" WESTERN GATEWAY DISTRICT

The "Meadows" is a predominantly regional commercial district and is dominated by "big box" retail. It is one of Utah County's largest retail centers and serves the entirety of northern Utah County. Mobility and visibility in this area are crucial to its viability and sustainability as a regional commercial center.

The focus points for the Meadows region are to redefine the area as an entry to American Fork and to make the district accessible by multiple modes of transportation. This would include beautification, wayfinding, landscaping, parks and trails, water features, mixed development areas, improved roadway facilities, an I-15 flyover, and TRAX line.

Surface parking lots should have trees and plantings at regular intervals. Building setbacks should be encouraged at less than 30 feet on new developments. Structures should not be oriented away from the street. Entryways to buildings should not be restricted to parked areas only. Although additional "big box" development may be desirable, it should not allow one-story strip style developments.

3.7.6 STATE STREET BUSINESS DISTRICT

The State Street Business District forms a transition between the Eastern Gateway and TOD districts. Businesses supportive to the TOD are required to provide necessary support to surrounding developments. The District should also include attractive and iconic landmarks in the City.

Focus should be placed on creating and enhancing this district as a connection and focal point for all other districts. This can be achieved by capitalizing on the Main Street and State Street jog to create an iconic landmark feature, providing improved street and intersection treatments, installing enhanced pedestrian facilities, encouraging infill development on vacant and underutilized lots, and providing a mix of uses, including housing in this district.

Iconic architecture and design should be encouraged. Pedestrian connections should be made between this district and the Western Gateway and TOD districts. Parking lots should not be located between buildings and street sidewalks.

3.8 ACCESS MANAGEMENT

Access management is the process of establishing and enforcing road and driveway accesses within the City. This includes establishing the location, number, spacing, type, and design of city streets and accesses to minimize vehicle conflicts and maximize the traffic capacity and safety of a roadway. Unmanaged or unorganized development along travel corridors can result in poor and unsafe roadways. In some cases, each individual landowner along a corridor has their own access driveway; partly due to the order development occurs. One owner is ready to develop while the adjacent landowner may not be. Numerous access points along travel corridors create unnecessary conflicts between turning and through traffic, which causes delays and reduces safety. Numerous benefits are derived from controlling the location and number of access points to a roadway. Those benefits include:

- Improving overall roadway safety
- Reducing the total number of vehicle trips on the roadway
- Decreasing interruptions in traffic flow

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- Minimizing traffic delays and congestion
- Maintaining roadway capacity
- Extending the useful life of roads
- Avoiding costly highway projects
- Improving air quality
- Encouraging compact development patterns
- Improving access to adjacent land uses
- Enhancing pedestrian and bicycle facilities

3.8.1 PRINCIPLES OF ACCESS MANAGEMENT

Increasing traffic congestion, traffic safety, and the cost of upgrading roads has generated interest in managing access, not only with the highway system, but on city surface streets as well. Access management is the process that provides access to land development while simultaneously preserving the flow of traffic on the surrounding road system in terms of safety, capacity, and speed. Access management attempts to balance the need to provide good mobility for through traffic with the requirements for reasonable access to adjacent land uses.

A very important concept when administering access management standards is to understand that the movement of traffic and access to property are not mutually exclusive. No facility can simultaneously move traffic efficiently and provide unlimited access. **Figure 3-9** shows the relationship between mobility, access, and the functional classification of streets. The extreme examples of this concept are freeways and cul-de-sacs. Freeways move traffic very well with few opportunities for access, while the cul-de-sac has many opportunities for access, but doesn't move traffic very well. In many cases, accidents and congestion are the result of an imbalance in serving both mobility and access at the same time. A good access management program will accomplish the following:

- Limit the number of conflict points at driveway locations
- Separate conflict areas
- Reduce the interference of through traffic
- Provide sufficient spacing for at-grade, signalized intersections
- Provide adequate on-site circulation and storage

Access management strategies attempt to end the cycle of road improvements followed by increased access, increased congestion, and the need for more road improvements.

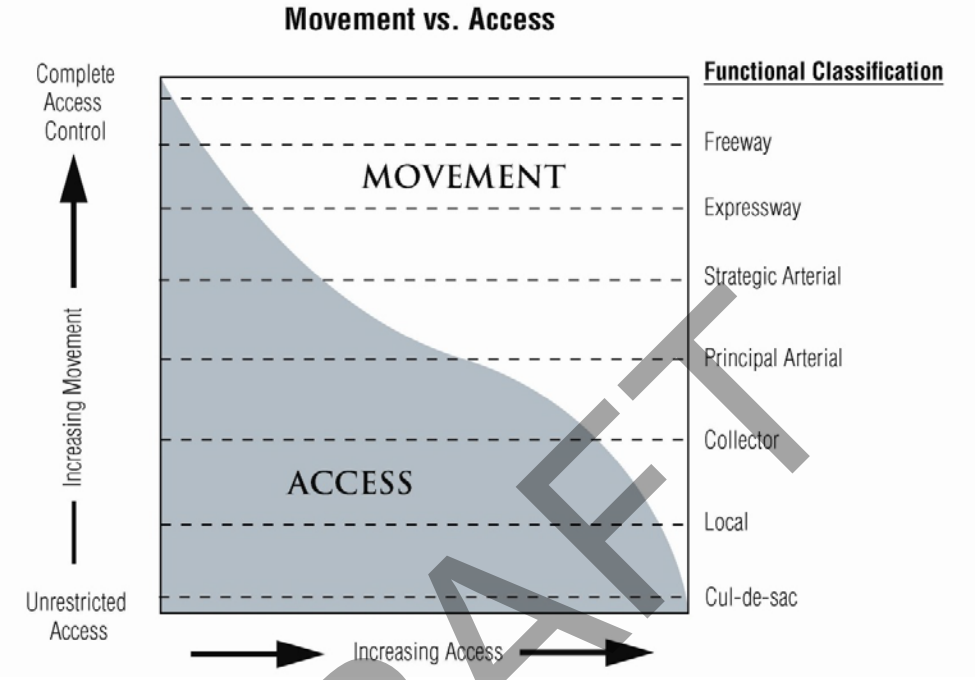
Poor planning and inadequate control of access can quickly lead to an unnecessarily high number of direct accesses along roadways. The movements that occur on and off roadways at driveway that are too closely spaced make it difficult for through traffic to flow smoothly at desired speeds and levels of safety. An American Association of State Highways and Transportation Officials (AASHTO) publication states, "*the number of accidents is disproportionately higher at driveways than at other intersections…thus their design and location merits special consideration*." Studies have shown that anywhere between 50 and 70 percent of all crashes that occur on the urban street system are access related.

Fewer direct accesses, greater separation of driveways, and better driveway design and location are the basic elements of access management. There are fewer occasions for through traffic to brake and change lanes in order to avoid turning traffic when these techniques are implemented uniformly and comprehensively.

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Consequently, with good access management, the flow of traffic will be smoother and average travel speeds higher, with less potential for crashes. Before and after analyses by FHWA show that routes with well managed access can experience 50 percent fewer accidents than comparable facilities with no access controls.

Figure 3-9 Mobility vs. Access by Functional Classification



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3.8.2 ROADWAY NETWORK AND ACCESS MANAGEMENT STANDARDS

American Fork City has adopted an *Access Management Manual* (AM Manual) in April of 2012. The access management concepts and standards presented in the AM Manual are consistent with guidelines established by the FHWA, AASHTO, TRB, and ITE. It is recommended that the detailed access management strategies not be duplicated in the General Plan in order to reduce the potential for conflicts between this document and the AM Manual. The City and the public should refer to the AM Manual when planning or designing new roadways or driveways. For roadways that are in the city limits but are owned by UDOT, UDOT's access management guidelines apply and should be followed.

There are a number of access management techniques that can be used to preserve or enhance the capacity of a roadway. Specific techniques for managing access are discussed in the AM Manual with tables, charts and illustrated examples. Not all techniques will apply to every situation. Some of them are more appropriate to less developed rural areas of the City, whereas others are more appropriate in the urban areas. In areas where redevelopment occurs, the access management standards in the AM Manual may not always be attainable. In these situations City staff should consult and follow the guidelines for access management contained in the AM Manual as closely as possible.

3.8.2.1 NUMBER OF ACCESS POINTS

It is important to balance good commercial/retail access while maintaining traffic flow. More access points or driveways on a roadway increase potential vehicle, pedestrian, and bicycle conflicts. Commercial

developments should be encouraged to share accesses where possible to reduce the number of accesses along a roadway.

3.8.2.2 SPACING OF ACCESS POINTS

Establishing a minimum distance between access points reduces the number of points a driver has to observe and reduces the opportunity for conflicts. Spacing requirements are based on the classification and design speed of the road, the existing and projected volume of traffic as a result of the proposed development, and the physical conditions of the site. Minimum spacing standards should be applied to both residential and commercial/industrial developments.

To ensure efficient traffic flow, new signals should be limited to locations where the progressive movement of traffic will not be impeded significantly. Uniform, or near uniform, spacing of signals will benefit the progression of traffic and allow for better signal coordination. Typically, signals are spaced no less than one-quarter mile (1,320 feet) apart on any street. On principal arterial streets, signals should be placed no closer than one-half mile (2,640 feet).

Un-signalized accesses are far more common than signalized accesses. Traffic operational factors suggest that longer distances between driveways improve roadway traffic operations, especially at medium/high-volume driveways. Properly spaced accesses help with traffic weaving, merging, stopping sight distance, acceleration rates, and storage distance for back-to-back left turns. From a spacing perspective, high-volume driveways can operate the same as some public streets.

Restricted access movement (i.e. right-in/right-out access) can provide for additional access to promote economic development with minimum impact to the roadway facility. This type of access should be spaced to allow for a minimum of traffic conflicts and provide distance for deceleration and acceleration of traffic in and out of the access. For detailed access management requirements, consult the most current American Fork City Access Management Manual.

3.9 SAFETY

One of the main goals of the Transportation Element of the General Plan and long term transportation planning in general is to estimate traffic growth and provide for adequate facilities as the need arises. The safe traffic operations of these future facilities are of equal importance. As a result, all of these facilities should be constructed and maintained to applicable design and engineering standards such as those set forth in American Fork City ordinances, AASHTO “Policy on Geometric Design of Highways and Streets,” and the Manual on Uniform Traffic Control Devices (MUTCD). This includes implementing applicable Americans with Disabilities Act (ADA) standards and school zone treatments.

3.9.1 RESIDENTIAL DRIVEWAYS ON MAJOR STREETS

Due to population growth, geometric limitations, right-of-way, or funding, residential driveways are sometimes found on collector or arterial streets. If residential driveways have to be on a collector or arterial street, it is recommended to require circular driveway or a turn-around where vehicles don’t have to back out on to the street. Backing maneuvers into busy streets can be very dangerous, as this is not a typical action drivers expect. Any new development should restrict any residential access on collector or arterial roadways.

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3.9.2 OFFSET INTERSECTIONS

Offset intersections often have negative impacts on traffic flow and can potentially create capacity problems at intersections where the left turn storage areas overlap, forcing queued vehicles into through traffic lanes. Aligning access on both sides of the street will minimize conflict points in the roadway and provide safer and more efficient traffic flow. Offset intersections should be avoided wherever possible and should never be approved with new development.

3.10 INTERSECTION IMPROVEMENTS

As traffic volumes increase throughout the community, intersection design will become more critical. Proper intersection design will typically facilitate larger traffic flows without widening existing roadway cross-sections. This can minimize impacts to adjacent properties. Therefore, emphasis was placed on identifying critical intersections during the traffic modeling process.

Intersections are a critical element to future roadway functionality and should provide sufficient turn lanes and adequate turn pockets to accommodate vehicle queues. In the future, many intersections throughout the City may require signalization in order to maintain a desirable LOS (**Figure 3-4**). Stop signs and traffic signals should not be used when not warranted per the MUTCD. Studies have shown that in areas where intersection control has been installed and not warranted, a higher percentage of the motoring public will disregard the control measure and create a more unsafe condition.

As in the case with the typical roadway cross sections found in Error! Reference source not found., typical intersection configurations are a helpful planning tool when preserving right-of-way and for project cost estimating. This document includes some typical intersection treatments, including expanded right-of-way requirements, turn pocket configurations, and taper lengths. **Figure 3-4** shows intersections where future traffic signals are likely to be needed as well as areas where other intersection treatments may be more desirable than a signal. These areas may include two-way or all-way stop-controlled intersections, yield-controlled intersections, or roundabouts. Each intersection must be considered separately but the guidelines in the following sections should be followed.

3.10.1 TRAFFIC SIGNALS

Traffic signals should not be installed unless at least one or more of the nine traffic signal warrants (as outlined in the MUTCD) have been met. Even if warrants are met for a particular intersection, justification for installation should still be based on information obtained through engineering studies and comparisons with the requirements set forth in the MUTCD. As stated in the MUTCD, "*the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal*." The nine warrants outlined in the MUTCD include the following:

- Warrant 1: Eight-Hour Vehicular Volume
- Warrant 2: Four-Hour Vehicular Volume
- Warrant 3: Peak Hour
- Warrant 4: Pedestrian Volume
- Warrant 5: School Crossing
- Warrant 6: Coordinated Signal System
- Warrant 7: Crash Experience
- Warrant 8: Roadway Network
- Warrant 9: Intersection Near a Grade Crossing (Railroad)

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Traffic signals may be warranted at the intersection of any two roadways depending upon the parameters outlined above. The design of the signal and intersection will depend primarily on the amount of traffic passing through the intersection during the peak times of day. Design parameters that are essential to a well-designed signalized intersection include lane configuration, turn radii, and turn pocket lengths and taper lengths. Each of these parameters is a function of the road classification, peak hour volumes, and design speeds. Typical signalized intersection designs for different functional classifications are given in the following paragraphs and should be treated as guidelines for planning purposes only. The typical intersection layouts shown in the following sections are for planning purposes only, it is imperative that each intersection be studied and designed individually prior to construction. In the case of the left and right turn pockets, each design shows a 100' turn pocket; this length will be adjusted based on anticipated turning volumes for each individual intersection.

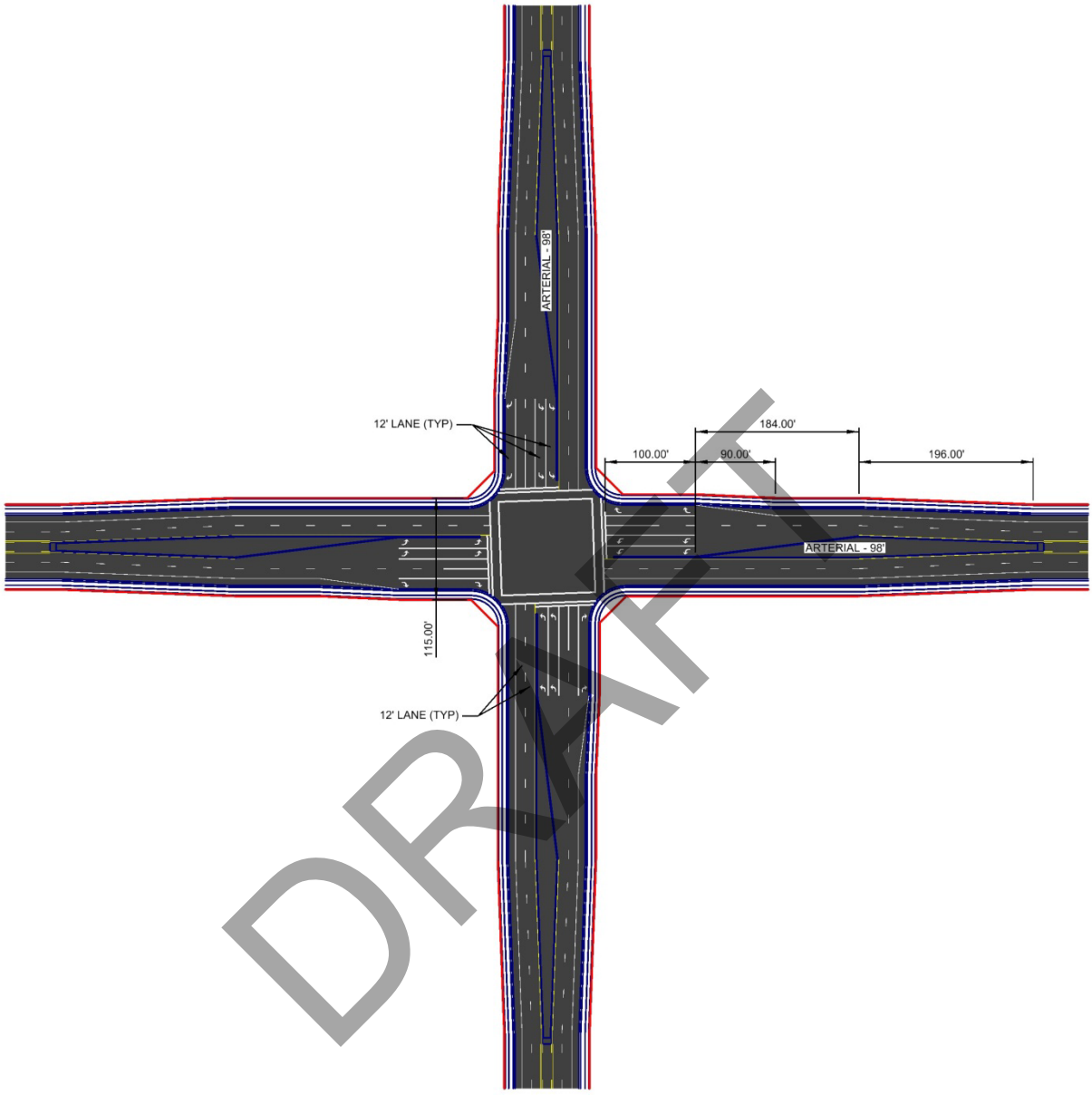
3.10.1.1 INTERSECTION OF TWO ARTERIAL STREETS

As previously discussed, Arterial streets are typically high volume, high speed, and low access roadways. They provide the backbone of the roadway network and, as such, carry the greatest burden of traffic movement in the City. Due to the high volume of traffic on Arterial streets, signals will be almost certainly warranted and necessary where two Arterials intersect. It is also highly probable that the volume of traffic will warrant dedicated right turn lanes and double left turn lanes. Signals should be timed to provide protected left turns wherever double left turn lanes are needed. Progression and platooning are essential elements of an effective Arterial street and care should be taken to ensure that Arterial corridor signals are coordinated to allow safe and efficient progression of vehicles, especially at peak times of the day. **Figure 3-10** shows a typical intersection design where two Arterials meet.

As shown below, where two Arterials meet, additional right-of-way should be preserved to accommodate the expanded lane configuration. The typical cross section for an Arterial street consists of a 98 foot right-of-way. In order to ensure sufficient room at the intersections for turn pockets, 115 foot of right-of-way should be preserved. 100 foot long turn pockets were assumed for conceptual design which will require a total length of tapers of 480 feet from the intersection stop bar before returning to the typical Arterial cross-section. This length will increase if an individual intersection study finds that the turn pocket lengths should be increased.

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Figure 3-10 Intersection of Two Arterial Streets

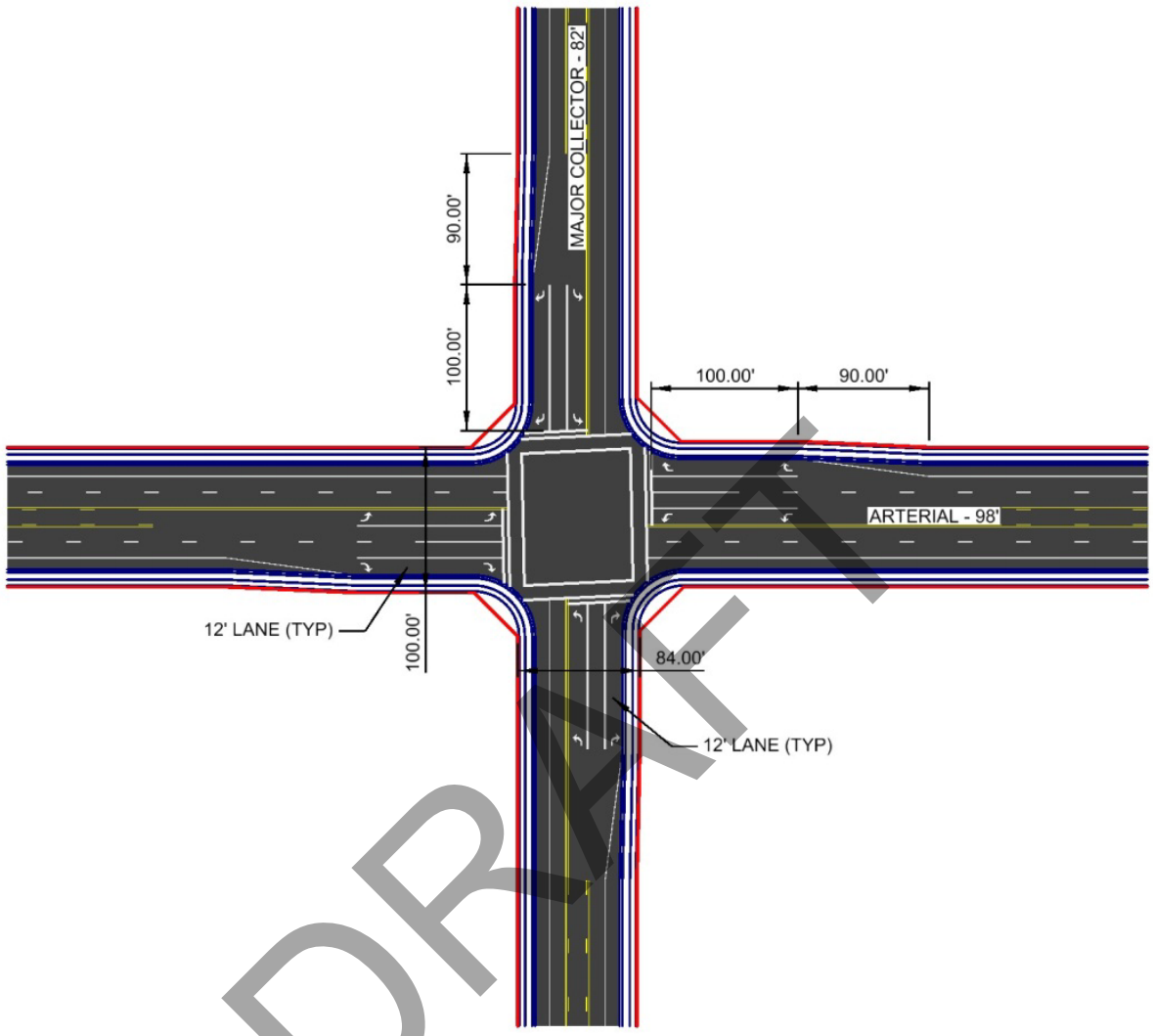


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3.10.1.2 INTERSECTION OF ARTERIAL AND MAJOR COLLECTOR

Major Collectors also have relatively high volumes, sometimes in excess of 1,000 vehicles during the peak times of day. When these roads intersect with Arterials, signals are often necessary. Right turn pockets are generally desirable, as are dedicated left turn lanes. Dual left turn lanes are however less likely to be needed. Protected left turn movements may be desired where the amount of conflicting through traffic causes there to be few gaps. Coordination of the signals along a corridor can help to provide gaps through platooning, the idea that groups of vehicles arrive and leave a signal together. Where there are sufficient gaps in opposing traffic, a protected/permitted or permitted only left turn phase may be more efficient. **Figure 3-11** shows a typical intersection design where an Arterial meets a Major Collector.

Figure 3-11 Intersection of Arterial and Major Collector



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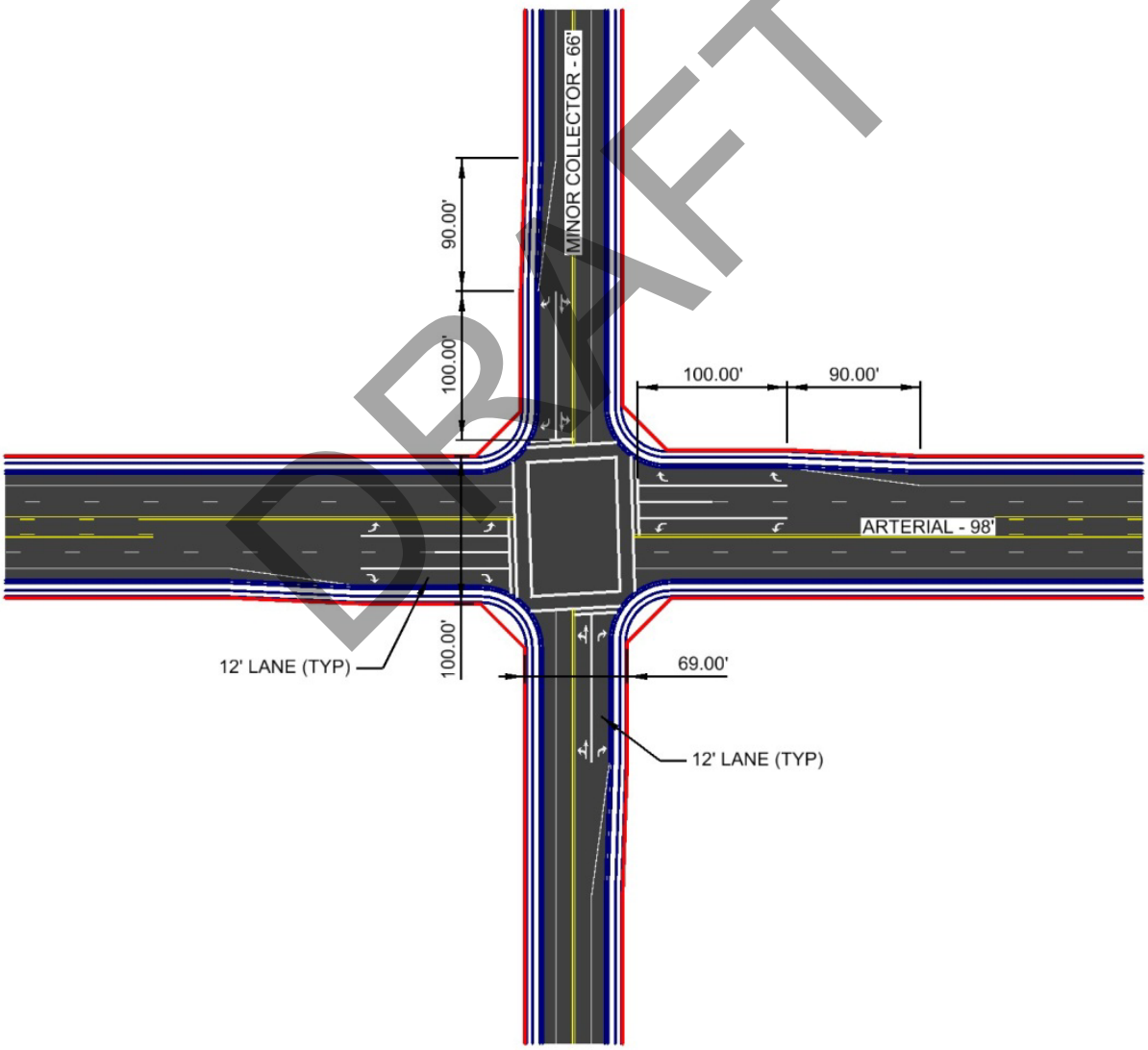
As both the Arterial and Major Collector typical sections provide a two-way left turn lane, a dedicated left turn pocket will require little or no widening at the intersection. The addition of a right-turn pocket however will require additional right-of-way. The Arterial cross-section should be widened from 98 feet on the main line to 100 feet at the intersection. Use of the shoulder on the Major Collector as a right turn lane will mean that only 2 feet of additional right-of-way may be needed making the right-of-way width at the intersection 84 feet as opposed to 82 feet. The length of the expanded cross-section requirement assuming 100 foot turn pocket lengths will be 190 feet for both the Arterial and the Major Collector. Where longer turn pockets are required, the taper lengths should be modified accordingly.

3.10.1.3 INTERSECTION OF ARTERIAL AND MINOR COLLECTOR

Minor Collectors have lower volumes and so may not require signalization. As with all intersections where signalization is considered, the guidelines in the MUTCD should be strictly followed. In the case that the intersection of an Arterial and Minor Collector does warrant signalization, the volume on the Minor Collector is typically small enough to not require expansive intersection treatments. It is generally

accepted that turning movements from Arterials should have dedicated lanes so that slowing vehicles making the turn do not cause a safety hazard to the fast moving through travelling vehicles. As such, right and left turn lanes should be provided wherever possible on the Arterial leg of the intersection. In the case of the Minor Collector, dedicated right and left turn pockets are often not required. As the Minor Collector does not have a two-way left turn lane, some provision must be made to create a turn pocket for either left turning or right turning vehicles at the intersection. Each individual intersection should be studied to determine whether a dedicated left or dedicated right turn is preferable. Typically, a dedicated right turn is preferred to a dedicated left turn unless the proportion of left turns to right turns is high. A dedicated right turn allows the vehicles turning right to turn on a red light where there is no opposing traffic. Where a shared right/through lane is used, right-turning vehicles can be blocked behind a through vehicle stopped on red. Generally, a protected/permitted phase is desired for the Arterial left turn movement but a permitted only phase is sufficient for the Minor Collector left turn movement. **Figure 3-12** shows a typical intersection design where an Arterial meets a Minor Collector.

Figure 3-12 Intersection of Arterial and Minor Collector



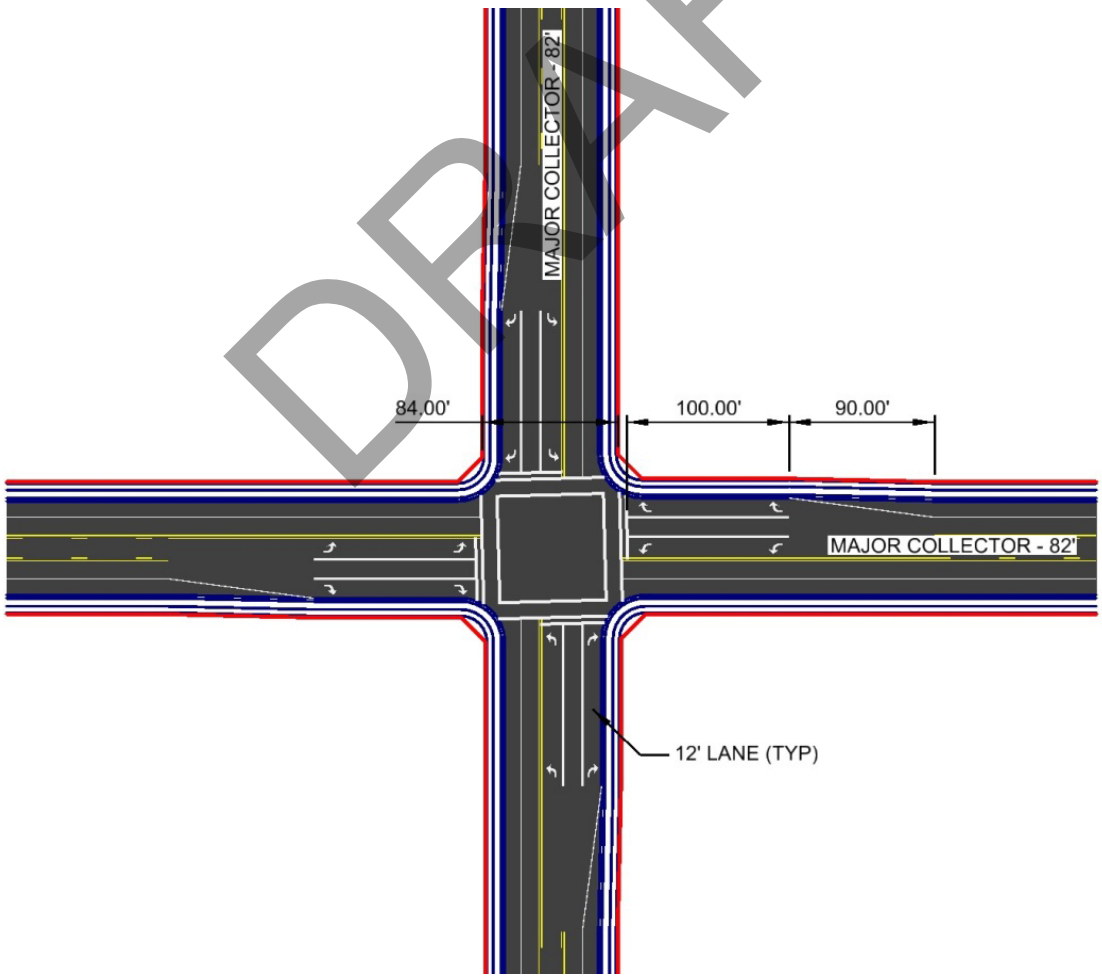
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Expanded right-of-way will be needed on both the Arterial and Minor Collector at the intersection. The Arterial will need to be widened to 100 feet at the intersection for a distance of 190 feet back from the stop bar. The Minor Arterial will need to be widened to 69 feet from 66 feet for a distance of 190 feet back from the stop bar. In many cases a two-way stop controlled intersection may be the preferred intersection control where an Arterial meets a Minor Collector. The STOP sign should be places on the Minor Collector approach and care should be taken to ensure that adequate sight distances are maintained.

3.10.1.4 INTERSECTION OF TWO MAJOR COLLECTORS

Where two Major Collectors meet, a signal may be warranted. In this case, dedicated left and right turn lanes are desirable to remove slow turning vehicles from the traffic stream and provide a more efficient signal. The expanded right-of-way requirements for an intersection where two Major Collectors meet will be similar to the requirements on a Major Collector, which intersects an Arterial. This is illustrated in **Figure 3-13**. The intersection of two Major Collectors may also be treated with two-way or four-way stop control. In the case of two-way stop control, the STOP sign should be placed on the approach with the least volume. Stop control should never be used as a traffic calming method. Roundabouts are also a very efficient method of controlling traffic at Major Collector intersections. Roundabouts are discussed in more detail in subsequent sections.

Figure 3-13 Intersection of Two Major Collectors

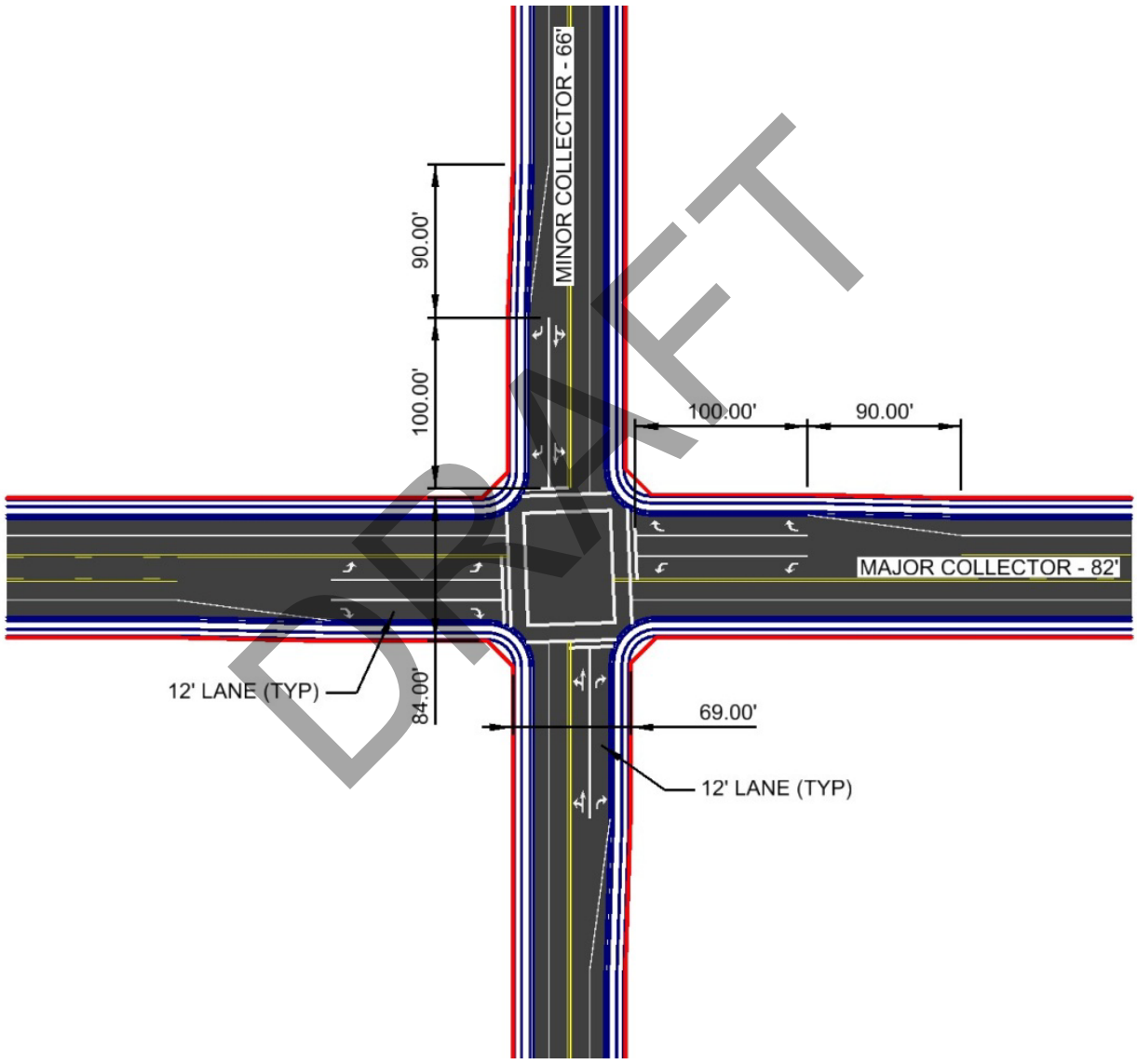


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3.10.1.5 INTERSECTION OF A MAJOR COLLECTOR AND MINOR COLLECTOR

Intersections of Major Collectors and Minor Collectors may, in rare cases, warrant signalization. Where this is the case, the design parameters in **Figure 3-14** should be applied. Protected left turn movements will likely not be required in this situation and in some cases, the need for dedicated left and/or right turn lanes may not be present. Stop control is also a viable intersections treatment where warranted at the intersection of a Major and Minor Collector. Two-way stop control is generally preferred and the STOP sign should be placed on the Minor Collector approach. As with all STOP sign applications, appropriate sight distances should be maintained. Roundabouts should also be considered in this situation.

Figure 3-14 Intersection of Major Collector and Minor Collector



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3.10.1.6 MINOR COLLECTORS AND LOCAL STREETS

Intersections of two Minor Collectors, two Local Streets, or a Minor Collector and a Local Street will rarely warrant expanded intersection areas. Nevertheless, intersection studies should be performed in these

locations to ensure that safe traffic operations can be maintained. Small roundabouts and stop or yield control may be the most appropriate intersection control in these situations.

3.10.2 STOP SIGNS

The MUTCD should be used as the standard for determining how and when a stop sign is installed. As stated in the MUTCD, "*Stop signs should be used if engineering judgment indicates that one or more of the following conditions exist:*

- *Intersection of a less important road with a main road where application of the normal right-of-way rule would not be expected to provide reasonable compliance with the law;*
- *Street entering a through highway or street;*
- *Un-signalized intersection in a signalized area; and*
- *High speeds, restricted view, or crash records indicate a need for control by the stop sign*."

The number of vehicles that are required to stop should be minimized, if at all possible, to preserve capacity and functionality of the roadway network; therefore, when deciding which road to stop, the street carrying the lowest volume of traffic should be chosen. Less restrictive traffic control such as a yield sign can be used as an alternative to stop signs, if at all possible, to minimize delays. Yield signs should also be installed per the MUTCD guidelines. Stop signs should not be used to control speed, but to designate right-of-way at intersecting roadways.

4-way stop control may be used as a safety measure at intersections where the volume of traffic is approximately equal for all approaches and where safety is of concern, or as an interim measure where a traffic signal is justified and has yet to be installed. Engineering judgment and the guidelines outlined in the MUTCD should be used to determine the appropriate application of stop and yield signs.

3.10.3 ROUNDABOUTS

Many communities in the United States are beginning to embrace the concept of roundabouts. A roundabout is an intersection control measure used successfully in Europe and Australia for many years. A roundabout is composed of a circular, raised, center island with deflecting islands on the intersecting streets to direct traffic movement around the circle. Traffic circulates in a counter-clockwise direction making right turns onto the intersecting streets. There are no traffic signals; rather, entering traffic yields to vehicles already in the roundabout.

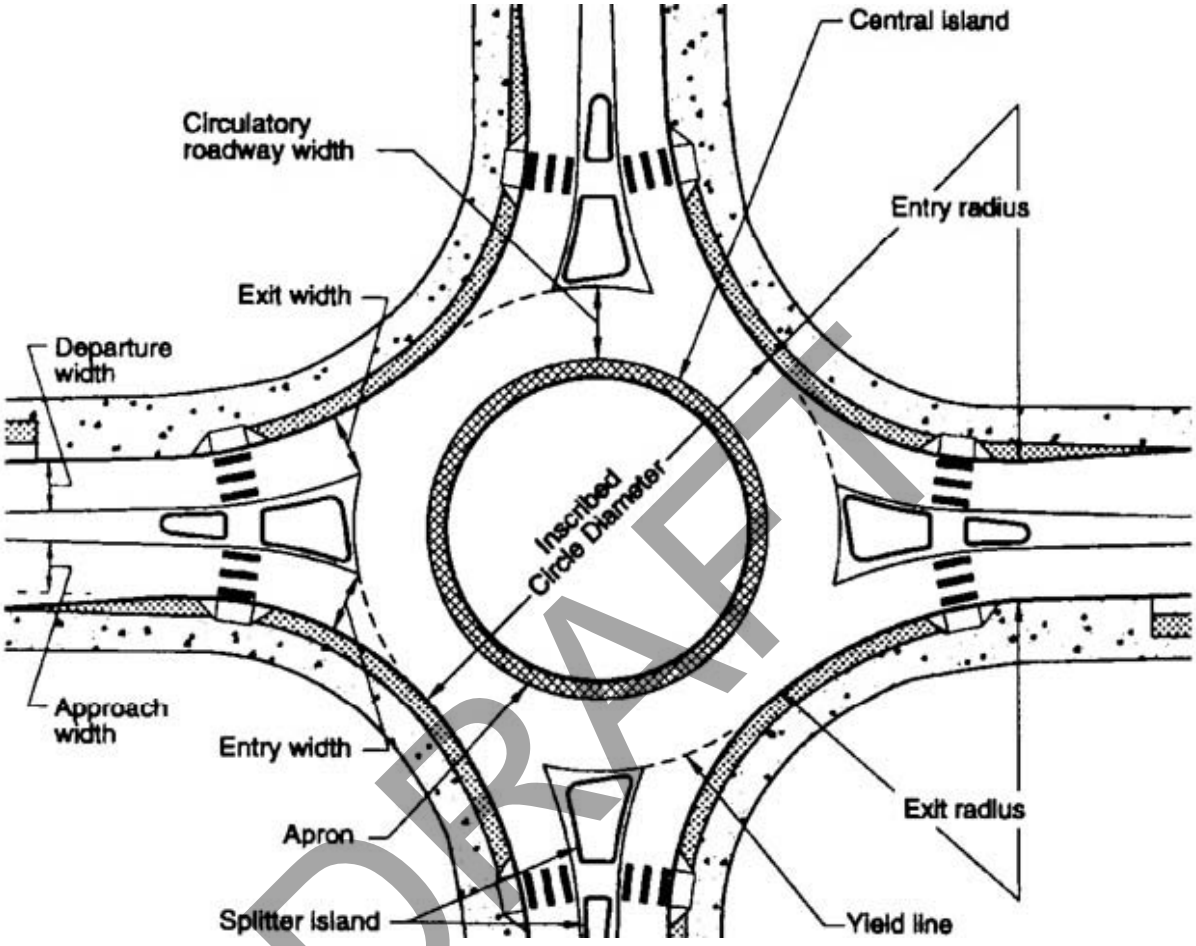
Advantages of roundabouts include reduced traffic delays, increased safety, and reduced right-of-way requirements. They can reduce delays compared to a signalized intersection due to the all red phase being eliminated. At the same time, roundabouts can improve safety because the number of potential impact points and conflict points the driver must monitor are substantially reduced over a conventional four-way intersection. Properly designed roundabouts can also accommodate emergency vehicles, trucks, and snow plowing equipment. The roundabout nearly eliminates the "T-bone" accidents that happen at intersections.

Unlike the typical New England "traffic circle" or "rotary," design standards for roundabouts are very specific and FHWA has prepared a design guide for modern roundabouts in the United States (http://www.fhwa.dot.gov/publications/research/safety/00067/00067.pdf). Development of a roundabout will only occur as a result of an intersection study performed by a qualified Traffic Engineer and when the minimum capacity and design criteria are met. The FHWA has determined that the maximum flow rate that a roundabout can accommodate depends on the geometric elements (circle diameter, number of lanes, etc.), the circulating flow (vehicles going around the circle), and entry flow

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(vehicles entering the circle). A single lane roundabout can accommodate up to 1,800 vehicles per hour and a double lane roundabout can accommodate up to 3,400 vehicles per hour. **Figure 3-15** shows an example of a typical single lane roundabout design.

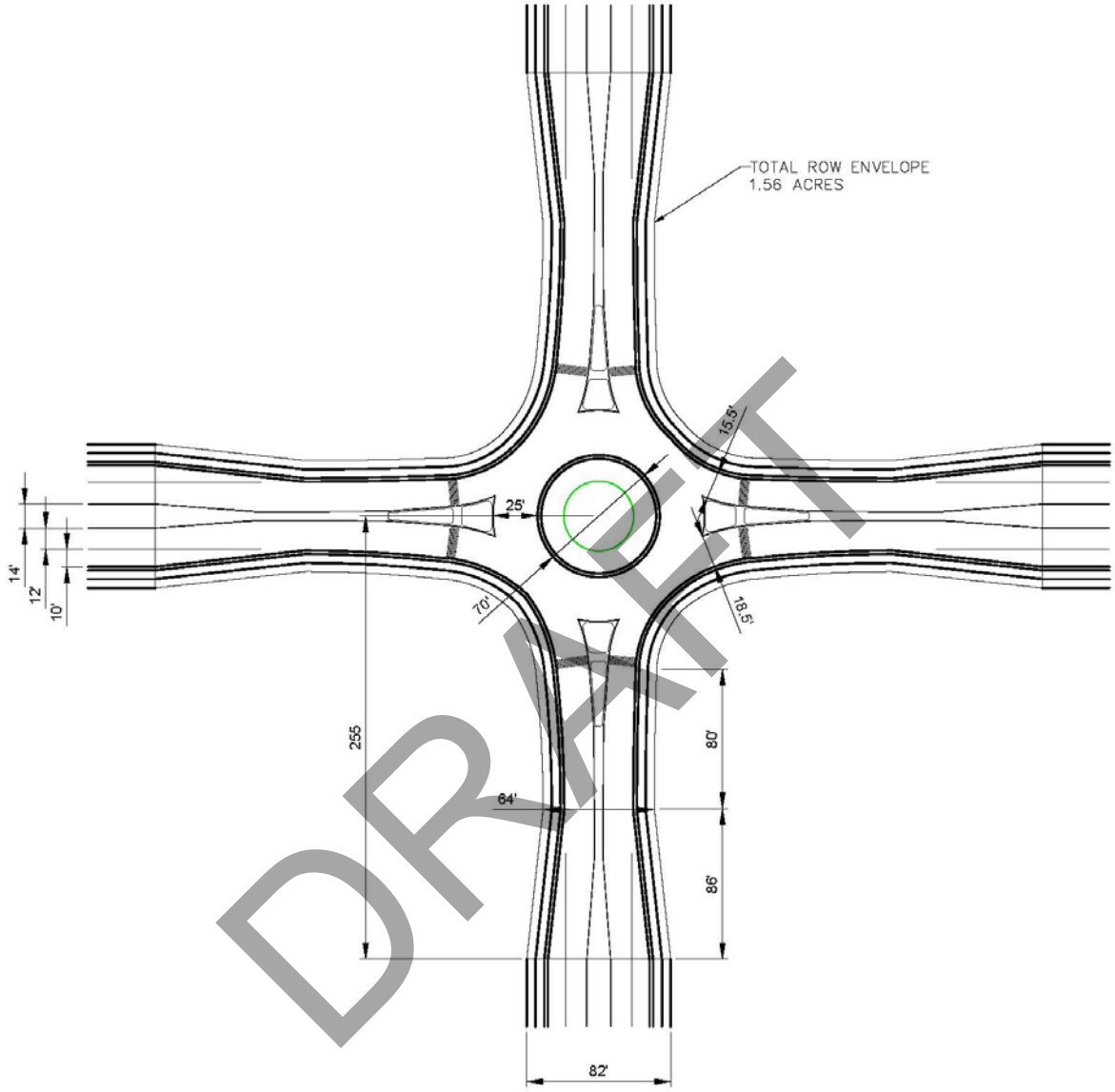
Figure 3-15 Typical Roundabout Design



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TRB examined traffic delays before and after a roundabout was installed at eight intersections in the United States. The study determined that delays (the time spent stopped and moving up to the intersection) decreased on average by 78 percent and 76 percent during the AM and PM peak hour, respectively. The results indicate that roundabouts can reduce congestion in certain circumstances. In addition, the FHWA studied safety characteristics of a sample of eleven roundabouts in the United States. The agency determined that the number of personal injury accidents and property damage-only accidents decreased 51 percent and 29 percent, respectively, after roundabouts replaced conventional intersections. Roundabouts are an appropriate solution for certain problem intersections in the region. **Figure 3-16** shows a typical roundabout design with right-of-way envelope area and dimensions. Caution must be taken to design each roundabout in the City on a case by case basis, the information provided here is for illustrative and planning purposes only.

Figure 3-16 Roundabout Design with Right-of-Way



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There are numerous reasons for selecting a roundabout as a preferred alternative, with each reason carrying its own considerations and trade-offs. Below are some potential applications for roundabouts[3]:

[3] Source: NCHRP Report 672, Roundabouts: An Informational Guide Second Edition

- New Residential Subdivisions

  Developers have begun to use roundabouts in residential subdivisions with increasing frequency. Roundabouts provide a variety of operational and aesthetic benefits and create a sense of place that is attractive to developers and homeowners.
- Urban Centers

  Roundabouts may be considered an optimal choice in situations where existing or planned access-management strategies along a corridor facilitate U-turn movements at nearby intersections.
- Suburban Municipalities and Small Towns

  Smaller municipalities are often ideal locations to consider roundabouts. Right-of-way is often less constrained, traffic volumes are lower, and the aesthetic opportunities for landscaping and gateway treatments are enticing. Existing operational and/or safety deficiencies can also often be addressed. Roundabouts can also be less costly to maintain than typical intersections.
- Rural Settings and Small Communities

  Safety may often be the driving factor over capacity in making a roundabout an appealing choice. Within small communities along an extended highway, a roundabout is ideal for supporting speed reductions.
- Interchanges

  Situations where an intersection ramp terminal has the potential for a high proportion of left-turn flows from the off-ramps and to the on-ramps may be ideal candidate for a roundabout.
- Commercial Developments

  Roundabouts in commercial developments provide for a central focus point for a development and enhance aesthetic qualities. They are also capable of processing high volumes of traffic.
- Unusual Geometry

  Intersections with unusual geometric configurations, intersection angles, or more than four legs are often difficult to manage operationally. Roundabouts are a proven traffic control device in such situations, effectively managing traffic flows without the need for costly expenditures on unique signal controller equipment or unusual signal timing.
- Closely Spaced Intersections

  Roundabouts balance traffic flows and manage queue lengths between closely spaced intersections.

The City of American Fork will consider roundabouts as an intersection alternative at specific locations pending more detailed traffic analysis as needs arise through the development process. There is one roundabout relocation/modification project in this Master Plan that is planned to be addressed due to the close proximity to a major highway. It is highly recommended that all roundabouts be designed or reviewed by qualified engineers.

3.11 CORRIDOR PRESERVATION

Corridor preservation is an important transportation planning tool that agencies should use and apply to all future transportation corridors. There are several new transportation facilities that have been identified in this plan. In planning for these future facilities, corridor preservation techniques should be employed. The main purposes of corridor preservation are to:

- Preserve the viability of future options,

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- Reduce the cost of these options, and
- Minimize environmental and socio-economic impacts of future implementation.

Corridor preservation seeks to preserve the right-of-way needed for future transportation facilities and prevent development that might be incompatible with these facilities. This is primarily accomplished by the community's ability to apply land use controls, such as zoning and approval of developments. Adoption of the TE by American Fork City is a commitment to citizens and future leaders in the community that the identified future corridors will be the ultimate location for transportation facilities.

Perhaps the most important elements of corridor preservation are ensuring that the corridors are preserved in the correct location and that they meet the applicable design and right-of-way standards for the type of facility being preserved. As the master plan does not define the exact alignment of each future corridor, it becomes the responsibility of the City to make sure that the corridors are correctly preserved. This will have to be accomplished through the engineering and planning reviews done within the City as development and annexation requests are approved that involve properties within or adjacent to the future corridors.

The City's Access Management Manual should be the guide when laying out and planning future roadways.

3.11.1 CORRIDOR PRESERVATION TECHNIQUES

Some examples of specific corridor preservation techniques that may be most beneficial and easily implemented include the following:

- Developer Incentives and Agreements: Public agencies can offer incentives in the form of tax abatements, density credits, or timely site plan approvals to developers who maintain property within proposed transportation corridors in an undeveloped state.
- Exactions: As development proposals are submitted to the City for review, efforts should be made to exact land identified within the future corridors. Exactions are similar to impact fees, except they are paid with land rather than cash.
- Fee Simple Acquisitions: This will most likely consist of hardship purchases or possible city acquisition of property identified within the corridors. Parcels obtained in fee title can later be sold at market value to the owner of the transportation facility when construction begins.
- Transfer of Development Rights and Density Transfers: Government entities can provide incentives for developers and landowners to participate in corridor preservation programs using the transfer of development rights and density transfers. This is a powerful tool in that there seldom is any capital cost to local governments.
- Land Use Controls: This method allows government entities to use its policing power to regulate intensity and types of land use. Zoning ordinances are the primary controls over land use and the most important land use tools available for use in corridor preservation programs.
- Purchase of Options and Easements: Options and easements allow government agencies to purchase interests in property that lies within highway corridors without obtaining full title of the land. Usually, easements are far less expensive than fee title acquisitions.
- Annexation: American Fork City has adopted the policy of requiring right-of-way for roadways be dedicated to the City during the annexation process. This becomes part of the annexation

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agreement and is an effective and efficient was to procure needed right-of-way for future expansion.

3.12 TRAFFIC IMPACT STUDIES

As growth occurs throughout the City, the City will evaluate the impacts of proposed developments on the surrounding transportation networks prior to giving approval to build. This will be accomplished by requiring that a Traffic Impact Study (TIS) be performed for any development in the City based on City staff recommendations. A TIS will allow the City to determine the site specific impacts of a development including internal site circulation, access issues, and adjacent roadway and intersection impacts. In addition, a TIS will assist in defining possible impacts to the overall transportation system in the vicinity of the development. The area and items to be evaluated in a TIS include key intersections and roads as determined by the City Engineer on a case by case basis.

Each TIS will be conducted by a qualified Traffic Engineer chosen by the developer at their cost and approved by the City. A scoping meeting will be required by the developer/Traffic Engineer with the City Engineer to determine the scope of each TIS. American Fork Traffic Impact Study Requirements are included in the appendix of this report. The City Engineer will review the TIS or assign someone to do so and will respond in writing to the TIS report within 30 days.

Included in the appendix of this report are guidelines for developers to completing a TIS and submitting it to the City. The requirements include when a TIS will be required and what level of effort must be established in the study, who may or may not perform a TIS, and when certain elements must be included. The TIS guidelines presented in the appendix follow closely the guidelines outlined by UDOT. It is important that these guidelines be fluid and that each development be treated individually, as special cases may require more or less information than the standard requires. The City reserves the right to waive any and all TIS requirements as well as requiring extra information at the discretion of the City Engineer.

3.13 INTELLIGENT TRANSPORTATION SYSTEMS

Intelligent Transportation Systems (ITS) are becoming an increasingly important part of the transportation system. ITS seek to provide innovative services to different modes of transportation and traffic management and allow users to receive information. A more informed travelling public is generally a safer and more efficient travelling public. American Fork is committed to providing ITS in the City in the future. Many of the ITS applications are controlled by UDOT. UDOT is renowned nationally for its innovative use of technology and transportation solutions. As there are many UDOT facilities in the City, and due to UDOT's cast network of ITS components, American Fork has the opportunity to partner with the agency to provide more efficient ITS solutions.

3.13.1 UDOT MAXVIEW CENTRAL SYSTEM

As mentioned in the existing conditions section of this report, UDOT manages the operations of traffic signals statewide through their MaxView Central System. Many of the American Fork signals are currently on the MaxView Central System. It is recommended that the signals at SR-74 and 1120 North and the two American Fork owned signals at 700 East and 50 South and at 900 West and 700 North be connected to the MaxView Central System. The City is willing to coordinate with UDOT to assist with this process through an agreement. This will allow for these signals to be remotely controlled via the UDOT Traffic Operations Center (TOC) in the case of emergency or a special event. There are currently no plans for UDOT to connect the signal at SR-74 and 1120 North to the MaxView system; however, the City should

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actively lobby UDOT to make this connection. In order to connect the two American Fork City signals into the UDOT MaxView Central System, there needs to be a connection to the UDOT ATMS fiber network either through installation of fiber to the signals or installation of wireless radios at the two signals that would connect to nearby signals along State Street (US-89). All future signals in the City should be connected via fiber to the UDOT MaxView Central System.

3.13.2 OTHER ITS ELEMENTS

Many other ITS elements exist that may or may not be important to the City in the future. These elements are discussed further here and a recommendation made as to their importance in future transportation solutions.

3.13.2.1 TRAFFIC CONTROL CENTER

The American Fork City public works building is already fiber optic connected. With this connection, a simple traffic control center would be available to the City. As a signal partner, UDOT generally will accommodate and fund a traffic control center consisting of a fiber connection and console in the City public works building. This connection to the i2 system will allow the City access to all of the state CCTV cameras as well as the ability to monitor and adjust the City owned signals on the system. This will become more of a priority as the City adds more signals to its network.

3.13.2.2 VARIABLE MESSAGE SIGNS (VMS)

VMS are extremely effective in informing travelers of expected delays, travel times, and alternate routes in the case of accidents. UDOT maintains multiple VMS on their freeway and highway networks. The closest VMS to American Fork is on Pioneer Crossing and gives travelers information regarding travel times on I-15. Similar VMS should be installed on State Street, east of Kawakami Drive to provide the same information for westbound travelers. In the future, VMS should also be considered on other major routes in the City, including North County Boulevard.

3.13.2.3 CLOSED CIRCUIT TELEVISION (CCTV)

CCTV cameras are located around the City on state routes and I-15. Most of the UDOT intersections that are on the i2 Central System are installed with CCTV. This allows the intersection to be monitored from the TOC and aids in safe and efficient traffic operations. All of the future signals in the City should be installed with CCTV cameras. Other possible locations for CCTV cameras include Main Street, Pacific Drive, 500 East, and 100 East.

3.13.2.4 TRANSIT APPLICATIONS

As American Fork becomes more and more transit friendly, ITS become more and more important. The new FrontRunner station and future TRAX line provide excellent opportunities for the City to pave the way for integrated multimodal ITS solutions. This can include route timing on VMS throughout the City, delay information for trains as well as roadways, and automated advanced warning signs at railroad crossings.

3.14 WAYFINDING

Wayfinding is essentially directions for the travelling public. This could include motorists, bicyclists, pedestrians, and transit riders. Wayfinding is an important element of a transportation system as it allows

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users to quickly and safely navigate to areas of interest or emergency services with visual clues. Wayfinding, when properly applied, provides a safer environment for travelers as they rely more on the visual cues in their eye line than on maps or GPS instructions. In each case the MUTCD chapter 2 governs the application of wayfinding signs and should be used as the design guide for sign shape, size, and color.

There are three main types of wayfinding signs available to the City and identified in the following MUTCD chapters: General Service Signs (Chapter 2I), Recreational and Cultural Interest Area Signs (chapter 2M), and Community Wayfinding Signs (Chapter 2D).

3.14.1 GENERAL SERVICE SIGNS

The MUTCD states that general service signs are generally used for commercial services such as gas, food, and lodging on major routes. These types of signs are typically found on Freeways and major Highways. General Service signage is usually not required in urban areas except for hospitals, law enforcement assistance, tourist information centers, and camping.

The MUTCD standard for General Service Signs is as follows:

> *Standard:*
>
> *All General Service signs and supplemental sign panels shall have white letters, symbols, arrows, and borders on a blue background.*
>
> > *Guidance:*
> >
> > *General Service signs should be installed at a suitable distance in advance of the turn-off point or intersecting highway.*
> >
> > *States that elect to provide General Service signing should establish a statewide policy or warrant for its use, and criteria for the availability of services. Local jurisdictions electing to use such signing should follow State policy for the sake of uniformity.*
>
> *Standard:*
>
> *General Service signs, if used at intersections, shall be accompanied by a directional message.*
>
> > *Option:*
> >
> > *The Advance Turn (M5 series) or Directional Arrow (M6 series) auxiliary signs with white arrows on blue backgrounds as shown in Figure 2I-1 may be used with General Service symbol signs to create a General Service*
> >
> > *Directional Assembly.*
> >
> > *The General Service sign legends may be either symbols or word messages.*

In American Fork, only the Hospital and Police Station qualify for General Service signs. The hospital is well signed from I-15, State Street, North County Boulevard, Pioneer Crossing and Timpanogos Highway. No further signs are needed. The police station, located at 75 East 80 North, is set back from the main roads in the City and is therefore not easy to find from the main roads. Signs indicating where to turn from State Street to get to the Police Station should be erected. **Figure 3-17** shows the MUTCD recommended signs for a police station. **Figure 3-18** shows an example directional arrow.

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Figure 3-17 D9-14 Police



Figure 3-18 Directional Arrow M6-1



3.14.2 RECREATIONAL AND CULTURAL INTEREST AREA SIGNS

Recreational and cultural interest area signs can be used for attractions or traffic generators that are open to the general public for the purpose of play, amusement, or relaxation. Recreational attractions include such facilities as parks, campgrounds, gaming facilities, and ski areas, while examples of cultural attractions include museums, art galleries, and historical building sites.

The purpose of recreation and cultural interest area signs is to guide road users to a general area and then to specific facilities or activities within the area.

As an important public facility, adding a sign on State Street indicating the correct place to turn for the library will make this facility more appealing to residents and improve quality of life in the City. Other facilities such as public parks, the recreation center, and historic landmarks may also be considered for recreational and cultural interest area signs. **Figure 3-19** shows an example directional assembly sign for recreational and cultural interest areas.

Other facilities of interest to the residents of American Fork include the Fitness Center, Amphitheater, Boat Harbor, Art Dye Park and the Cemetery. Each of these facilities should at a minimum have wayfinding signs on State Street at the most convenient place to turn to access the facility. Additional signs closer to the actual facility would also be desirable.

Figure 3-19 Swimming Sign (RS-061) with Directional Assembly



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3.14.3 COMMUNITY WAYFINDING SIGNS

According to the MUTCD, community wayfinding signs form part of a coordinated and continuous system of signs that direct tourists and other road users to key civic, cultural, visitor and recreational attractions and other destinations within a city.

Community wayfinding guide signs are a type of destination guide sign for conventional roads with a common color and/or identification enhancement marker for destinations within an overall wayfinding guide signs plan for an area.

The MUTCD Standard for community wayfinding signs is as follows:

> *The use of community wayfinding guide signs shall be limited to conventional roads. Community wayfinding guide signs shall not be installed on freeway or expressway mainlines or ramps. Direction to community wayfinding destinations from a freeway or expressway shall be limited to the use of a Supplemental Guide sign (see Section 2E.35) on the mainline and a Destination sign (see Section 2D.37) on the ramp to direct road users to the area or areas within which community wayfinding guide signs are used. The individual wayfinding destinations shall not be displayed on the Supplemental Guide and Destination signs except where the destinations are in accordance with the State or agency policy on Supplemental Guide signs.*
>
> *Community wayfinding guide signs shall not be used to provide direction to primary destinations or highway routes or streets. Destination or other guide signs shall be used for this purpose as described elsewhere in this Chapter and shall have priority over any community wayfinding sign in placement, prominence, and conspicuity.*
>
> *Because regulatory, warning, and other guide signs have a higher priority, community wayfinding guide signs shall not be installed where adequate spacing cannot be provided between the community wayfinding guide sign and other higher priority signs. Community wayfinding guide signs shall not be installed in a position where they would obscure the road users' view of other traffic control devices.*
>
> *Community wayfinding guide signs shall not be mounted overhead.*

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Community wayfinding signs should be considered in planning the Main Street Vision to identify and sign the specific Main Street Vision districts and attractions.

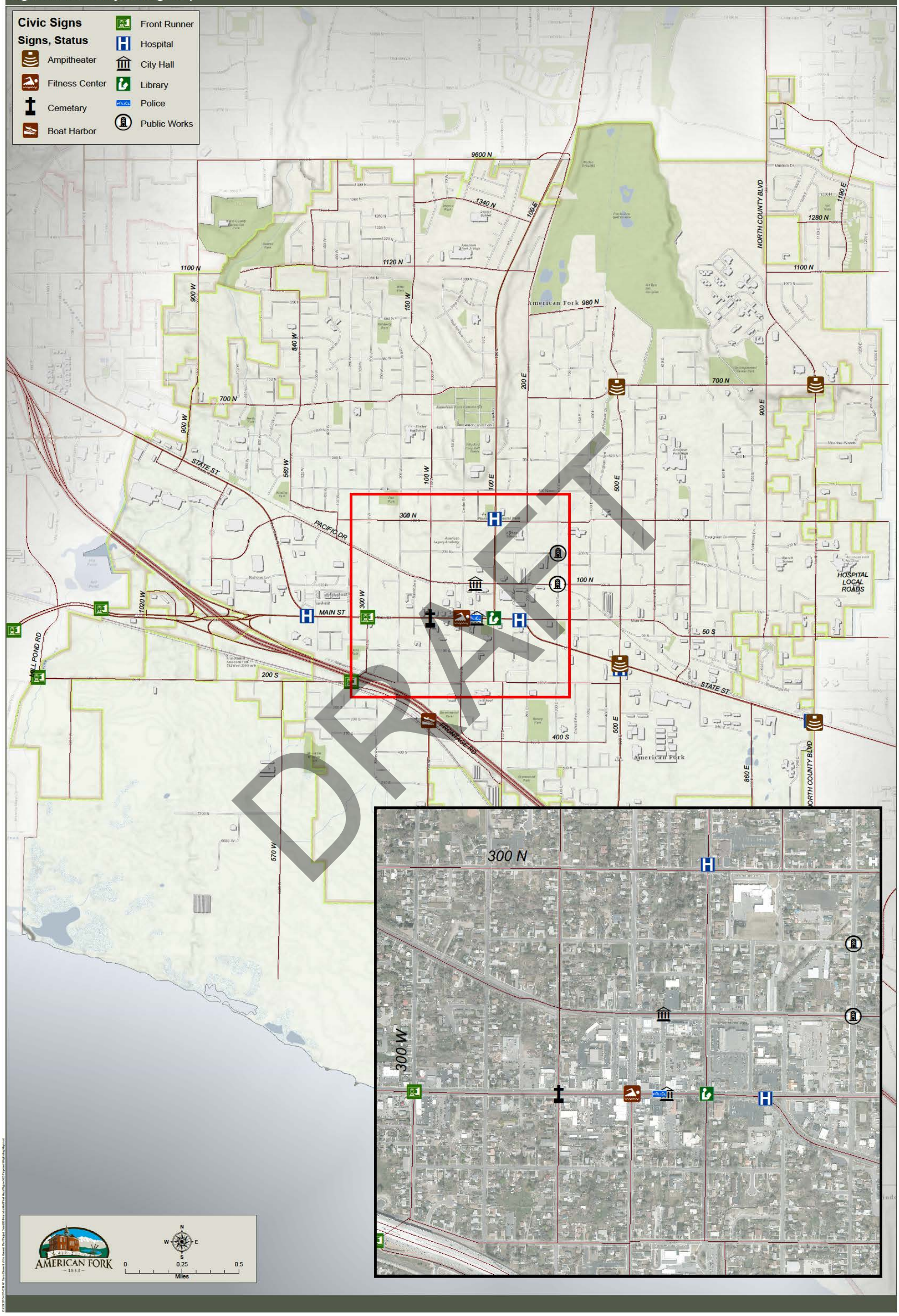
City Hall has the same problem as the Police Station; it is set back from the Main Street and is not easily visible. Adding a turning sign on State Street would help people navigate to City Hall. The Public Works building is located in a residential area and is not signed from any major street. Signs should be added on State Street and 200 West indicating where people should turn. It may also be helpful to sign the public works building from City Hall in the case that a resident visits City Hall and is directed that the service they require is located at the public works building. Adding turning signs on 100 North is recommended. **Figure 3-20** shows the MUTCD recommended sign for a directional community wayfinding sign. **Figure 3-21** gives some recommendations on wayfinding sign placement for each sign type.

Figure 3-20 Directional Community Wayfinding Sign



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Figure 3-21 Wayfinding Map



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3.15 AMERICANS WITH DISABILITIES ACT (ADA)

The Americans with Disabilities Act of 1990 prohibits discrimination and ensures equal opportunity and access for persons with disabilities.

ADA standards govern the construction and alteration of places of public accommodation, commercial facilities, and state and local government facilities. The Department of Justice (DOJ) maintains ADA standards that apply to all ADA facilities except transit facilities, which are subject to similar standards issued by the Department of Transportation (DOT). The DOJ published revised regulations for Titles II and III of the American with Disabilities Act of 1990 in the Federal Register on September 15, 2010, which are available online at http://www.ada.gov/2010ADAstandards_index.htm. Chapter 4: Accessible Routes of the 2010 ADA Standards for Titles II and II Facilities governs the design of Accessible Routes.

The ADA standards should be regularly reviewed to ensure that City standards and specifications are in compliance with Federal ADA regulations. All areas of newly designed and newly constructed buildings and facilities and altered portions of existing buildings and facilities shall comply with the ADA requirements as published. Although only new and altered facilities must be in compliance with ADA standards, in order to improve the quality of life of American Fork residents with disabilities, a thorough review of all public rights-of-way and facilities should be conducted over the next few years, as far as is economically viable.

The City Public Works Department will budget funds for survey, inventory and reconstruction of existing facilities to identify areas of non-compliance. American Fork City intends to inventory the City facilities that are eligible for ADA compliance over the next two years. These facilities will be stored within a Geographic Information Systems (GIS) database and areas of ADA deficiency will be cataloged. Once a database has been established, a plan will be set in motion to budget for improving those facilities that can be readily approved in compliance with the 2010 ADA standards. Priority will be given to sensitive facilities such as the senior center, schools, senior care centers and medical centers. In addition, the City will prioritize public facilities over private or residential areas. Some areas where compliance issues will be addressed as priorities include ramps at pedestrian crossings, missing sidewalks and deficient sidewalk widths.

3.16 RETROREFLECTIVITY

According to FHWA, “retroreflectivity” refers to the property of a traffic sign to reflect light back to the driver. Retroreflective traffic signs are used to increase sign visibility at night. Maintaining traffic sign retroreflectivity is important since nighttime fatal crashes occur approximately three times as often as daytime fatal crashes.

Retroreflectivity degrades over time. Upgrading poorly maintained traffic signs may reduce traffic injuries and fatalities. New FHWA requirements to maintain traffic signs in the City dictate that certain standards are met by certain compliance dates. The MUTCD outlines new retroreflectivity requirements in sections 2A.07 and 2A.08. **Table 3-4** shows the minimum required retro-reflectivity levels per the MUTCD.

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Table 3-4 Minimum Maintained Retroreflectivity Levels

Sign Color	Sheeting Type (ASTM D4956-04)				Additional Criteria
	Beaded Sheeting			Prismatic Sheeting	
	I	II	III	III, IV, VI, VII, VIII, IX, X	
White on Green	W*; G ≥ 7	W*; G ≥ 15	W*; G ≥ 25	W ≥ 250; G ≥ 25	Overhead
	W*; G ≥ 7	W ≥ 120; G ≥ 15			Post-mounted
Black on Yellow or Black on Orange	Y*; O*	Y ≥ 50; O ≥ 50			[2]
	Y*; O*	Y ≥ 75; O ≥ 75			[3]
White on Red	W ≥ 35; R ≥ 7				[4]
Black on White	W ≥ 50				–

[1] The minimum maintained retroreflectivity levels shown in this table are in units of cd/lx/m² measured at an observation angle of 0.2° and an entrance angle of -4.0°.
[2] For text and fine symbol signs measuring at least 48 inches and for all sizes of bold symbol signs
[3] For text and fine symbol signs measuring less than 48 inches
[4] Minimum sign contrast ratio ≥ 3:1 (white retroreflectivity ÷ red retroreflectivity)
* This sheeting type shall not be used for this color for this application.

Bold Symbol Signs

- W1-1,2 – Turn and Curve
- W1-3,4 – Reverse Turn and Curve
- W1-5 – Winding Road
- W1-6,7 – Large Arrow
- W1-8 – Chevron
- W1-10 – Intersection in Curve
- W1-11 – Hairpin Curve
- W1-15 – 270 Degree Loop
- W2-1 – Cross Road
- W2-2,3 – Side Road
- W2-4,5 – T and Y Intersection
- W2-6 – Circular Intersection
- W2-7,8 – Double Side Roads
- W3-1 – Stop Ahead
- W3-2 – Yield Ahead
- W3-3 – Signal Ahead
- W4-1 – Merge
- W4-2 – Lane Ends
- W4-3 – Added Lane
- W4-5 – Entering Roadway Merge
- W4-6 – Entering Roadway Added Lane
- W6-1,2 – Divided Highway Begins and Ends
- W6-3 – Two-Way Traffic
- W10-1,2,3,4,11,12 – Grade Crossing Advance Warning
- W11-2 – Pedestrian Crossing
- W11-3,4,16-22 – Large Animals
- W11-5 – Farm Equipment
- W11-6 – Snowmobile Crossing
- W11-7 – Equestrian Crossing
- W11-8 – Fire Station
- W11-10 – Truck Crossing
- W12-1 – Double Arrow
- W16-5P,6P,7P – Pointing Arrow Plaques
- W20-7 – Flagger
- W21-1 – Worker

Fine Symbol Signs (symbol signs not listed as bold symbol signs)

Special Cases

- W3-1 – Stop Ahead: Red retroreflectivity ≥ 7
- W3-2 – Yield Ahead: Red retroreflectivity ≥ 7; White retroreflectivity ≥ 35
- W3-3 – Signal Ahead: Red retroreflectivity ≥ 7; Green retroreflectivity ≥ 7
- W3-5 – Speed Reduction: White retroreflectivity ≥ 50
- For non-diamond shaped signs, such as W14-3 (No Passing Zone), W4-4P (Cross Traffic Does Not Stop), or W13-1P,2,3,6,7 (Speed Advisory Plaques), use the largest sign dimension to determine the proper minimum retroreflectivity level.

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The following sections summarize the new FHWA requirements and outlines a plan for the City to comply with the new guidelines.

3.16.1 SIGN MAINTENANCE PROGRAM

FHWA has declared that local government agencies should have had a sign maintenance program that can regularly address the new minimum sign retroreflectivity requirements in place by January 2012. The program does not need to be implemented by this time, but must be in place.

The most efficient way to track retroreflectivity is in a GIS database. American Fork is currently in the process of upgrading their GIS and now is a perfect time to integrate retroreflectivity standards into the GIS platform. The existing sign inventory in the City should be collected via GPS data collection. The type and location of each of the City owned signs should be inventoried. The advantages of a GIS database are that vast amounts of the information required by the new FHWA guidelines can be stored and spatially related to individual signs. Once the database is established, it will be easy for the City to identify signs that do not meet the applicable standards and plan and budget for their replacement. Also, as new signs are added to the City inventory, they can be added to the database with relative ease.

A sign maintenance program can be constructing using any of the following methods as prescribed in the MUTCD:

> *A. Visual Nighttime Inspection—The retroreflectivity of an existing sign is assessed by a trained sign inspector conducting a visual inspection from a moving vehicle during nighttime conditions. Signs that are visually identified by the inspector to have retroreflectivity below the minimum levels should be replaced.*
>
> *B. Measured Sign Retroreflectivity—Sign retroreflectivity is measured using a retroreflectometer. Signs with retroreflectivity below the minimum levels should be replaced.*
>
> *C. Expected Sign Life—When signs are installed, the installation date is labeled or recorded so that the age of a sign is known. The age of the sign is compared to the expected sign life. The expected sign life is based on the experience of sign retroreflectivity degradation in a geographic area compared to the minimum levels. Signs older than the expected life should be replaced.*
>
> *D. Blanket Replacement—All signs in an area/corridor, or of a given type, should be replaced at specified intervals. This eliminates the need to assess retroreflectivity or track the life of individual signs. The replacement interval is based on the expected sign life, compared to the minimum levels, for the shortest-life material used on the affected signs.*

The method of maintenance chosen will depend on the information available to the City. If information on historical sign degradation is known as well as information on the date of sign installation, the expected sign life method may be favorable. Where this information is not readily available, either the visual nighttime inspection or measured sign retroreflectivity methods should be employed. Blanket replacement is also a viable option where financial constraints are less of a problem. Currently, the City is replacing its regulatory and address signs based on the date of installation and the orientation of the sign. South and West facing show signs of degradation quicker than East and North facing signs due to the orientation of the sun. The City is replacing its South and West facing signs every four years and its North and East facing signs every six years.

One of the simplest methods of establishing the existing retroreflectivity of the signs in the City is to test retroreflectivity during the inventory process. This would require the City to hire or purchase a retroreflectometer and test each sign as it is inventoried. Where a spatial sign inventory exists, using the visual nighttime inspection method may be more efficient.

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3.16.2 PARTIAL COMPLIANCE

By January 2015, the City must comply with the new retroreflectivity requirements for most of their traffic signs they have installed, including all “regulatory” signs (such as STOP signs and Speed Limit signs), yellow “warning” signs, and green/white “guide” signs.

As such, the City should prioritize these types of signs during the next two years when the City signs are added to the GIS database. Any signs that are found to be noncompliant with the regulations must be replaced by January 2015. As City budgets are set well in advance of January, collecting the data on these signs must become a priority so that adequate funds can be allocated to replace noncompliant signs prior to January 2015.

3.16.3 FULL COMPLIANCE

By January 2018, the City must comply with the new retroreflectivity requirements for all signs including overhead guide signs and all street name signs. This will require much more effort than the guide signs required before 2015. The same process will need to be followed to ensure that all guide signs and street signs are in compliance. It may be cost efficient for the City to blanket replace all street signs installed before a certain date but a thorough cost analysis of the alternative compliance methods should be performed. In any case, a GIS database of existing sign inventory is advantageous and the guide and street signs should be added to this database.

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4.0 CAPITAL FACILITIES PLAN

As shown and discussed in Section 4, the City will need to construct new roads, widen existing transportation corridors, and make spot intersection improvements to provide future residents of the City with an adequate transportation system. A concept plan for future growth between the planning years of 2019-2050 is provided below. The Impact Fee Facilities Plan (IFFP) includes detailed analysis on projects from 2020-2030. This document is separate from the TMP. Contact the City to obtain a copy of the document.

4.1 TRANSPORTATION NEEDS AS A RESULT OF NEW DEVELOPMENT

The specific transportation needs resulting from future growth throughout the City are identified in **Table 4-1** below. This table will need to be regularly updated by the City as project scopes change and development occurs in the City. Individual projects were identified and costs estimates were compiled to produce a Transportation Improvement Plan (TIP) for the City. The table identifies the specific projects that will be necessary between now and the year 2040; however, only arterial and collector improvements were identified since any local roads would be required to be built as part of future development. All costs have not been adjusted for inflation and therefore represent 2020 costs. The cost estimates shown represent the costs of construction, right-of-way, and engineering. Impact fee eligible costs, as well as other potential funding sources, were identified for each project in the table below. Roadways of regional significance were assumed to be built through help from other jurisdictions, such as UDOT and MAG.

The table is split into three phases. The Phase 1 projects are expected in the ten-year planning timeframe; this is consistent with the impact fee facilities plan requirements. The Phase 2 timeframe represents a mid-range planning estimate and Phase 3 is consistent with the regional planning efforts of MAG and UDOT. The recommended timing is intended as a planning tool only based on projected growth and land use. Actual development and transportation needs should provide the final decision on project timing. It is expected that the total cost of roadway improvements needed will be **$411,086,000**.

This 2020 master plan update focused on Phase 1 projects to determine an updated TIP list and associated project costs. The analysis included specific intersection analysis to determine requirements at the intersection and to update the project costs based on the results. See the Appendix for a memorandum regarding the intersection analysis. The project lists and costs for Phase 2 and Phase 3 remain unchanged unless the project was moved to/from Phase 1.

It is recommended to fully update this master plan to incorporate all planning efforts through the year 2050 within the next couple of years.

Table 4-1 American Fork City Recommended Transportation Improvements

American Fork City Transportation Improvement Program (TIP)							
Project Number	**Type of Improvement**	**Roadway or Location**	**From**	**To**	**Jurisdiction(s)**	**Total Project Costs[1]**	**Potential Funding Source[2]**
1.2	Roundabout	900 West & Grasslands Dr	-	-	City	$857,000	F, C, O
1.3	New Major Collector (3-Lanes)	700 North	100 East	200 East	City	$968,000	

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American Fork City Transportation Improvement Program (TIP)							
Project Number	**Type of Improvement**	**Roadway or Location**	**From**	**To**	**Jurisdiction(s)**	**Total Project Costs[1]**	**Potential Funding Source[2]**
1.5	Widen to Collector (2 to3)	400 West	300 North	Pacific Drive	City	$917,000	C, O
	New Traffic Signal	Pacific Drive & 400 West	-	-	City	$51,000	C, O
1.6	Upgrades to Major Collector (2 to 3-Lanes)	700 North	100 East	900 West	City	$51,000	F, C, O
1.7	Widen to Collector (2 to 3 lanes)	1100 North	North County Blvd	East City-Limits	City	$612,000	
1.8	Upgrade to Principal Arterial	State Street	Main St	900 West	City/UDOT	$3,500,000	F, S, C, O
1.10	New Collector (2 to 3-Lanes)	1280 North	North County Blvd	1030 East	City	$1,015,000	F, C, O
1.11	New Arterial (5-Lanes)	620 South	600 East	East City-Limits	City	$4,633,000	F, C, O
1.12	Widen to Arterial (5-Lanes)	620 South	500 East	600 East	City	$131,000	C, O
1.14	Widen to Arterial (5-Lanes)	300 West	300 North	Pacific Drive	City	852,000	F, S, C, O
	New Traffic Signal	Pacific Drive & 300 West	-	-			
1.15	New Collector (2-3-Lanes)	Pacific Dr Extension	Pioneer Crossing	Meadow Lane	City/UDOT	$50,000,000	F, C, O
1.16	Widen to Arterial (5-Lanes)	100 East	Main St	9800 North	City/UDOT	$15,200,000	F, S,C, O
1.17	Widen to Major Collector (2 to 3 lanes)	300 East	300 North	200 South	City	$541,000	F, S, C, O
1.18	Upgrade to Principal Arterial	State Street	500 East	East City-Limits	City/UDOT	$19,800,000	F, S, C, O
1.20	New Collector (2 to 3-Lanes)	1020 West	Pioneer Crossing	200 South	City	$20,000,000	C, O
1.21	Widen to Arterial (5-Lanes)	200 South	West City-Limits	300 West / Frontage Rd	City	$2,632,000	C, O
1.23	New Traffic Signal	1120 North & 150 West	-	-	City	$423,000	F, C, O
1.24	New Roundabout	700 North & 540 West	-	-	City	$716,000	F, S, C, O
1.25	New Roundabout	700 North & 100 West	-	-	City	$716,000	F, S, C, O
1.26	New Traffic Signal	700 North & 100 East	-	-	City/UDOT	$524,000	C, O

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American Fork City Transportation Improvement Program (TIP)							
Project Number	Type of Improvement	Roadway or Location	From	To	Jurisdiction(s)	Total Project Costs[1]	Potential Funding Source[2]
1.27	New Traffic Signal	700 North & 200 East	-	-	City	$679,000	F, S, C, O
1.28	New Traffic Signal	Pioneer Crossing & 1020 West	-	-	City/UDOT	$423,000	O
1.29	New Traffic Signal	900 West & 550 North	-	-	City	$423,000	F, S, C, O
1.30	New Traffic Signal	600 East & 620 South	-	-	City	$423,000	F, C, O
1.32	New Traffic Signal	200 South & 1020 West	-	-	City	$423,000	C,O
1.33	New Traffic Signal	500 East & 1100 South	-	-	City	$458,000	F, C, O
1.34	New Roundabout	100 East & 200 South	-	-	City	$716,000	F, S, C, O
1.35	New Traffic Signal	Auto Mall Dr & 500 East	-	-	City	$429,000	F, C, O
1.36	New Roundabout	200 South & Frontage Rd	-	-	City	$716,000	F, C, O
1.37	New Roundabout	300 West & Mahogony Dr	-	-	City	$1,139,000	F, S, C, O
1.38	New Traffic Signal	860 East & 620 South	-	-	City	$423,000	F, C, O
1.39	Intersection Improvement	Sam White Ln & 860 East	-	-	City	$705,000	F, S, C, O
1.41	Intersection Improvement	300 North & 600 East	-	-	City	$705,000	F, S, C, O
1.42	New Traffic Signal	200 South & Vineyard Connector	-	-	City	$423,000	F, C, O
1.43	Intersection Improvement	200 South & 1300 West	-	-	City	$705,000	C, O
1.44	Intersection Improvement	1100 West & 200 South	-	-	City	$705,000	F, S, C, O
1.45	Intersection Improvement	900 West & 200 South	-	-	City	$705,000	C, O
1.46	New Arterial (5-Lanes)	1300 West	Vineyard Connector	200 South	City	$4,969,000	F, C, O
1.47	New Arterial (5-Lanes)	350 South	700 West	Vineyard Connector	City	$6,486,000	F, C, O
1.48	Widen to Collector (2 to 3 lanes)	570 West	700 South	200 South	City	$3,895,000	F, C, O
1.49	New Collector (3-Lanes)	1100 West	200 South	Vineyard Connector	City	$2,900,000	F, C, O

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American Fork City Transportation Improvement Program (TIP)							
Project Number	**Type of Improvement**	**Roadway or Location**	**From**	**To**	**Jurisdiction(s)**	**Total Project Costs[1]**	**Potential Funding Source[2]**
1.50	New Collector (2 to 3-Lanes)	1100 West	700 South	200 South	City	$3,248,000	F, C, O
1.51	New Collector (3-Lanes)	900 West	Vineyard Connector	200 South	City	$4,314,000	F, C, O
1.52	Widen to Collector (2 to 3 lanes)	700 West	200 South	Vineyard Connector	City	$2,690,000	F, C, O
1.53	Widen to Major Collector (2 to 3-Lanes)	100 West	1500 South	Frontage Road	City	$4,658,000	F, C, O
1.54	Intersection Improvement	700 South	-	-	City	$705,000	F, C, O
1.55	Intersection Improvement	1300 West & 700 South	-	-	City	$705,000	F, C, O
1.56	New Roundabout	1100 West & 700 South	-	-	City	$716,000	F, C, O
1.57	New Roundabout	900 West & 700 South	-	-	City	$716,000	F, C, O
1.58	New Roundabout	700 West & 700 South	-	-	City	$716,000	F, C, O
1.59	New Roundabout	700 south & 570 West	-	-	City	$716,000	F, C, O
1.60	New Collector (3-Lanes)	700 South	1730 West	100 East	City	$11,368,000	F, C, O
1.61	New Roundabout	100 West & 700 South	-	-	City	$716,000	F, C, O
1.62	New Traffic Signal	Vineyard Connector & 1300 West	-	-	City	$423,000	F, C, O
1.63	New Collector (3-Lanes)	900 West	700 South	700 West	City	$4,341,000	F, C, O
1.64	New Traffic Signal	Vineyard Connector & 700 West	-	-	City	$423,000	F, C, O
1.65	New Collector (2 to 3-Lanes)	1100 South	100 East	700 South	City	$4,038,000	F, C, O
1.66	New Roundabout	100 West & 1100 South Extension	-	-	City	$716,000	F, C, O
1.67	New Traffic Signal	Vineyard Connector & 100 West	-	-	City	$423,000	F, C, O
1.68	Widen to Collector (2 to 3-Lanes)	100 West	1500 South	American Fork Marina	City	$983,000	F, C, O

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American Fork City Transportation Improvement Program (TIP)							
Project Number	**Type of Improvement**	**Roadway or Location**	**From**	**To**	**Jurisdiction(s)**	**Total Project Costs[1]**	**Potential Funding Source[2]**
1.69	New Collector	Auto Mall Drive	Auto Mall Drive	100 East	City	$2,049,000	F, C, O
	New Traffic Signal	Frontage Rd & 100 East	-	-	City	$2,840,000	C, O
1.70	New Roundabout	700 South Extension & 100 East	-	-	City	$716,000	F, C, O
1.71	New Roundabout	100 East & 1100 South	-	-	City	$716,000	F, C, O
1.72	Widen to Collector (2 to 3 lanes)	100 East to 500 East	100 East	500 East	City	$2,840,000	F, C, O
1.73	Intersection Improvement	State St & 860 East	-	-	City	$705,000	F, C, O
1.74	Widen to Major Collector (2 to 3-Lanes)	860 East	State Street	1100 South	City	$4,305,000	F, C, O
1.75	New Collector (2 to 3-Lanes)	740 East	550 South	620 South	City	$505,000	F, C, O
1.76	New Collector (3-Lanes)	Quality Drive	600 East	860 East	City	$2,171,000	F, C, O
1.77	Intersection Improvement	Utah Valley Drive & 860 East	-	-	City	$705,000	F, C, O
1.78	New Arterial (5-Lanes)	Vineyard Connector	Pony Express Extension	West City-Limits	City	$26,222,000	F, C, O
1.79	New Arterial (5-Lanes)	Pony Express Extension	Vineyard Collector	West City-Limits	City	$13,637,000	F, C, O
1.80	New Roundabout	Pacific Drive & 700 West	-	-	City	$716,000	F, C, O
1.81	New Roundabout	130 North & 600 West	-	-	City	$716,000	F, C, O
				Total for Improvements needed for Phase 1		**$254,047,000**	
2.1	Intersection Improvement	1340 North & 150 West	-	-	City	$705,000	C, O
2.2	New Roundabout	980 North & 550 East	-	-	City	$705,000	C, O
2.3	Widen to Arterial (5-Lanes)	500 East	State Street	Pacific Drive (100 North)	City	$3,092,000	C, O
2.4	New Roundabout	700 North & Caveman Blvd	-	-	City	$705,000	C, O

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American Fork City Transportation Improvement Program (TIP)							
Project Number	**Type of Improvement**	**Roadway or Location**	**From**	**To**	**Jurisdiction(s)**	**Total Project Costs[1]**	**Potential Funding Source[2]**
2.5	New Roundabout	700 North & 900 East	-	-	City	$705,000	C, O
2.6	I-15 NB On Ramp	Pacific Drive & NB I-15	-	-	City/UDOT	$20,000,000	S, C, O
2.7	Widen to Arterial (5-Lanes)	Pacific Dr.	State St	500 East	City/UDOT	$9,945,000	F, S, C, O
2.8	Upgrades to Major Collector (2 to 3-Lanes)	300 West	200 South	Pacific Drive	City	$1,399,000	C, O
2.9	Intersection Improvement	Pacific Drive & 100 West	-	-	City	$705,000	C, O
2.10	Intersection Improvement	100 North & 300 East	-	-	City	$705,000	C, O
2.11	Intersection Improvement	100 North & 500 East	-	-	City	$705,000	C, O
2.12	Intersection Improvement	300 East & Main Street	-	-	City	$705,000	C, O
2.13	New Roundabout	700 North & 500 East	-	-	City	$705,000	C, O
2.14	New Roundabout	50 South & 900 East	-	-	City	$705,000	C, O
2.15	Upgrades to Major Collector (2 to 3-Lanes)	Frontage Road	200 South	100 East	City	$4,923,000	C, O
2.16	New Signal	400 South & 660 East	-	-	City	$705,000	C, O
2.17	Upgrades to Major Collector (2 to 3-Lanes)	Auto Mall Dr. / 1300 South	100 East	East City-Limits	City	$11,286,000	C, O

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American Fork City Transportation Improvement Program (TIP)							
Project Number	**Type of Improvement**	**Roadway or Location**	**From**	**To**	**Jurisdiction(s)**	**Total Project Costs[1]**	**Potential Funding Source[2]**
2.18	Intersection Improvement	Utah Valley Dr & Quality Dr	-	-	City	$705,000	C, O
2.19	Upgrades to Major Collector (2 to 3-Lanes)	Utah Valley Dr.	620 South	East City-Limits	City	$4,664,000	C, O
2.20	New Roundabout	1500 South & 700 West	-	-	City	$705,000	C, O
2.21	Widen to Arterial (5-Lanes)	500 East	Sam White Ln (1100 S)	1000 South (Auto Mall Dr.)	City	$1,459,000	C, O
2.22	Intersection Improvement	1100 South & 630 East	-	-	City	$705,000	C, O
2.23	New Arterial (5-Lanes)	500 East	Vineyard Connector	Sam White Ln (1100 S)	City	$19,297,000	C, O
2.24	Widen to Major Collector	1300 South	630 East	860 East	City	$1,034,000	C, O
2.25	Widen to Major Collector	860 East	1300 South	Pleasant Grove Blvd	City	$813,000	C, O
2.26	New Roundabout	1500 S & 660 East	-	-	City	$705,000	C, O
Total for Improvements needed for Phase 2						**$88,487,000**	
3.1	New Traffic Signal	N County Blvd & Harvey Blvd	-	-	City	$705,000	C, O
3.2	New Roundabout	300 North & 300 West	-	-	City	$705,000	C, O
3.3	New Roundabout	300 North & 100 West	-	-	City	$705,000	C, O
3.4	Intersection Improvement	300 North & 200 East	-	-	City	$705,000	C, O

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American Fork City Transportation Improvement Program (TIP)							
Project Number	**Type of Improvement**	**Roadway or Location**	**From**	**To**	**Jurisdiction(s)**	**Total Project Costs[1]**	**Potential Funding Source[2]**
3.5	Upgrades to Minor Arterial (2 to 3-Lanes)	300 North	300 West	East City-Limits	City	$11,155,000	C, O
3.6	New Roundabout	300 North & 500 East	-	-	City	$705,000	C, O
3.7	New Roundabout	300 North & 700 East	-	-	City	$705,000	C, O
3.8	New Roundabout	300 North & 900 East	-	-	City	$705,000	C, O
3.9	New Business Core Loop	150 South	900 West	1300 West	City	$2,925,000	C, O
3.10	New Core Collector	1100 West	200 South	150 South	City	$1,010,000	C, O
3.11	New Traffic Signal	500 East & 400 South	-	-	City	$705,000	C, O
3.12	New Collector	400 South			City		C, O
3.13	New Roundabout	620 South & 740 East	-	-	City	$705,000	C, O
3.14	New Collector (3-Lanes)	1500 South	Vineyard Connector (at 700 West)	100 West	City	$13,017,000	C, O
3.15	Widen remaining sections to Major Collector (3-Lanes)	Sam White Lane (1100 South)	500 East	East City-Limits	City	$9,611,000	C, O
3.16	New Roundabout	1500 South & 100 West	-	-	City	$705,000	C, O
3.17	Widen to Collector (3-Lanes)	1500 South	100 West	100 East	City	$9,867,000	C, O
3.18	Widen to Collector (3-Lanes)	100 East	1500 South	I-15	City	$10,571,000	C, O
3.19	New Roundabout	1500 South & 100 East	-	-	City	$705,000	C, O
3.20	New Traffic Signal	Vineyard Connector & 500 East	-	-	City	$705,000	C, O
3.21	New Roundabout	500 East & 1500 South	-	-	City	$705,000	C, O

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American Fork City Transportation Improvement Program (TIP)							
Project Number	**Type of Improvement**	**Roadway or Location**	**From**	**To**	**Jurisdiction(s)**	**Total Project Costs[1]**	**Potential Funding Source[2]**
3.22	New Collector (2-Lanes) Connection to Vineyard Connector	1500 South	600 East	750 East	UDOT	$1,231,000	S,C,O
Total for Improvements needed for Phase 3						**$68,552,000**	
Total for All Improvements						**$411,086,000**	

[1]Cost represents existing (2019) construction, right of way, and engineering costs.
[2]Potential Funding Source: M-MAG, S-State, C-City, and O-Other

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4.2 PLANNING FOR THE FUTURE (VISION)

In addition to identifying the projects needed to accommodate growth through the year 2040, an ultimate "vision" for the City was developed. This vision scenario includes probable projects that will be needed to accommodate growth throughout the City through build-out. It also includes projects that are included in the vision planning efforts of MAG, UDOT, and other agencies.

These vision projects do not have a timeframe other than it is not anticipated that they will be needed before 2050. The vision projects consist mainly of widening roads that either currently exist or are expected to be needed at a lower classification by 2050. The long-term transportation vision for American Fork is shown in **Figure 4-1**. Cost estimates were also created for these vision projects (see **Table 4-2**) however, it must be noted that these projects are considered very long-term and must be re-evaluated on a regular basis to ensure the assumptions made are still valid. **Figure 4-2** illustrates the anticipated timing of the recommended roadway improvements. Timing is split into short-term (2030), mid-term (2040), long-term (2050) and very long-term (vision).

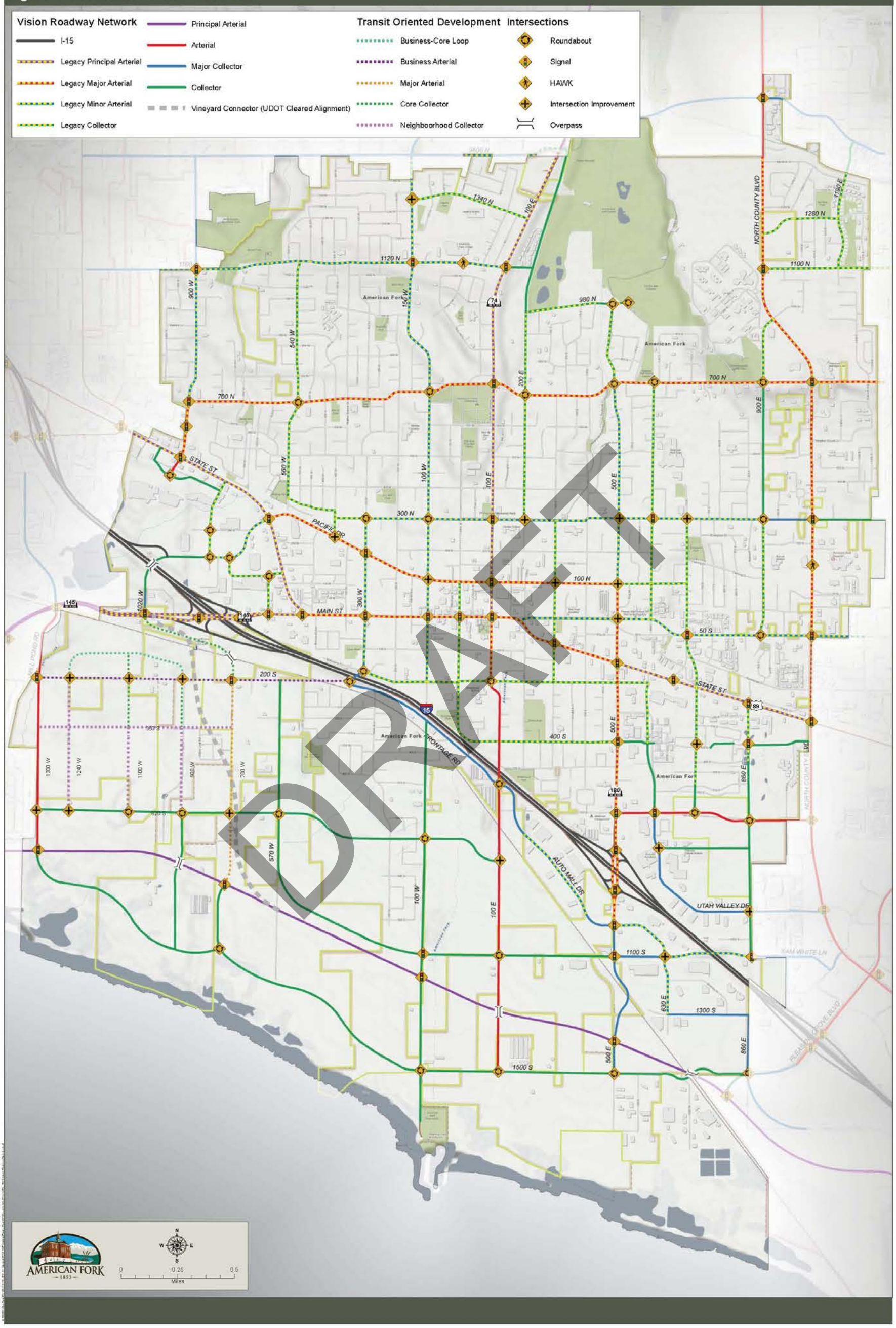
Table 4-2 Vision Project Cost Estimates

American Fork City Transportation Improvement Program (TIP)							
Project Number	**Type of Improvement**	**Roadway or Location**	**From**	**To**	**Jurisdiction(s)**	**Total Project Costs[1]**	**Potential Funding Source[2]**
V.1	Widen to Arterial (5-Lanes)	100 East	State Street	Vineyard Connector	City	$7,979,000	C, O
V.2	Widen to Arterial (5-Lanes)	700 North	900 West	City Limits	City	$13,364,000	C, O
Total for "Vision" Improvements						**$21,343,000**	

[1]Cost represents existing (2017) construction, right of way, and engineering costs.
[2]Potential Funding Source: F-Federal, S-State, C-City, and O-Other

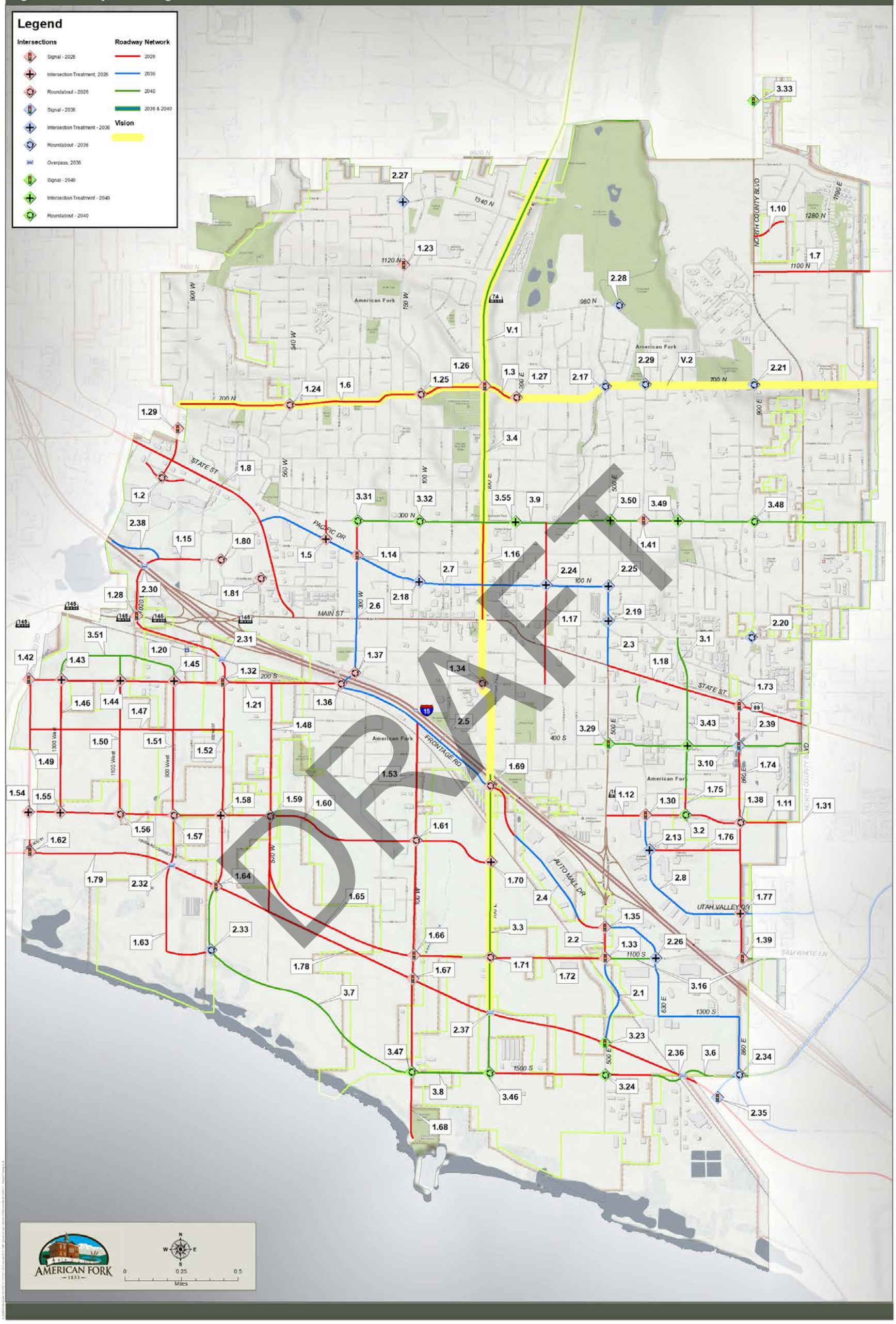
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Figure 4-1 Probable "Vision" Network



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Figure 4-2 Project Timing



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4.3 SPECIAL CONSIDERATIONS

A few specific locations on American Fork City's street network may require some unique improvements to resolve traffic issues at these sites. These areas are identified below along with the unique characteristics of each location.

4.3.1 MAIN STREET AND STATE STREET

The Main Street and State Street intersection in American Fork has been a trouble spot for some time. American Fork Main Street, 200 East, and State Street intersect in this location. Main Street runs parallel into State Street, and WB traffic from Main Street is stop controlled. 200 East intersects with Main Street and continues south to intersect with State Street leaving a raised island between the three streets. There are a high number of crashes at this location. This location is also part of the Bicycle and Pedestrian Master Plan and provides a potential connection point between the areas north and south of State Street. The intersection skew angle and s-curve through this area pose a significant problem to safety as well as mobility. To mitigate the safety concerns at this intersection, Main Street will be re-aligned to connect perpendicular to State Street. 200 East will be realigned so it only connects to Main Street. The intersection at 300 East and State Street will be signalized, increasing the amount of gaps for vehicles to turn onto State Street from Main Street.

4.3.2 STATE STREET AND 500 EAST

The eastbound and westbound leg of the existing intersection consist of two through lanes, a right turn lane, and a protected/permissive left turn lane. The northbound leg consists of one shared through/left turn lane, one left turn only lane, and a right turn lane. The southbound leg consists of a shared through/left turn lane and a shared through/right turn lane. The northbound and southbound legs operate on a split phase signal. The crossing streets at this intersection are skewed. Between 2009 and 2011, 46 vehicles were involved in crashes at this intersection. In order to accommodate the high volumes of traffic turning onto State Street from 500 East, and because of restricted right-of-way, the signal at State Street and 500 East is split phased. This is the only option at a signal where a protected left turn phase includes a shared through/left lane.

At some point in the future, this intersection will need to be improved. The considered safety and capacity improvements should include widening of the north leg of the intersection to provide a left turn only lane, and converting the through/left lane to a through only lane. A through only lane will also be added on the south leg of the intersection, and the existing shared through/left will be converted to a through only lane. The existing pavement width on the south is sufficient to provide the additional lane without any widening. The intent of the additional lanes is to eliminate the split phase signal and allow the left turns to operate as protected/permissive. It is expected that these improvements will lower congestion on the eastbound and westbound legs.

4.3.3 STATE STREET AND PACIFIC DRIVE

The northbound leg of the existing intersection consists of two through lanes with a protected/permissive left turn lane. The southbound leg consists of two through lanes with dual left turn lanes, as well as a third through "trap" lane that terminates at a right turn lane. The eastbound and westbound legs consist of a through lane, a right turn lane, and a permissive left turn lane. Between 2009 and 2011, 76 vehicles were involved in crashes at this intersection. The American Fork police department indicated that delays

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on the eastbound and westbound legs are excessive, which contributes to poor driver decisions. The intersection is located on a curve which impedes sight distance for left turning vehicles.

The proposed safety improvements include the addition of dual left turns with a protected only phase in the northbound direction. The improvements can likely be completed within the existing pavement if the southbound trap lane is terminated prior to Pacific Drive and the shoulders are eliminated at the intersection.

4.3.4 900 WEST ROUNDABOUT IN "THE MEADOWS"

The 900 West Roundabout is not operating efficiently. Frequently, and especially during peak shopping times, the southbound leg of the roundabout backs up and interferes with traffic on State Street. This presents a significant safety hazard on State Street. Also, the excessive delays at the roundabout can cause drivers to become impatient and violate the yield rules, thus presenting a further unsafe condition. The problem is not particularly the roundabout itself, rather the lack of available storage on the north leg of the roundabout. This could be mitigated by moving the roundabout south closer to the retail stores and increasing the vehicle storage on the north leg. Doing so would require a new roundabout design and allow for some minor improvements to the roundabout itself to increase capacity.

4.3.5 VINEYARD CONNECTOR

The Vineyard Connector is a proposed UDOT highway which runs from Lindon all the way to Saratoga Springs. A large portion of the roadway runs along the south edge of American Fork adjacent to Utah Lake. The highway will eventually break off and travel north to connect to Pioneer Crossing, bisecting the undeveloped land south of I-15 in American Fork.

Timing on the Vineyard Connector has been somewhat of a contentious issue in the past. Early on in the planning process, it was expected that the entire highway would be built in the near future (10 years), but more recently, the MAG transportation plans shows the highway to be constructed between 2030 and 2040. This poses a problem to the City, as the area south of I-15 is in the future annexation boundary but is not all incorporated into the City. Planning efforts in this area must account for traffic growth and assume that the Vineyard Connector will not be built before 2040. This may result in larger than expected cross-sections on some of the roads in the south area of the City. These roads will likely experience a significant drop in traffic volumes after the construction of the Vineyard Connector, but will continue to experience traffic growth beyond 2040. It is expected that the cross-sections used to accommodate growth without Vineyard Connector will be appropriate for a very long term "vision" traffic scenario when the City is built to capacity.

4.3.6 RAILROAD CROSSINGS

There are a number of railroad crossings in the City on both the north and south side of I-15. The Union Pacific Railroad line, which is also the probable future TRAX rail line, runs parallel to State Street and Pacific Drive for much of the City. The new FrontRunner high speed rail line runs close to I-15 on the south side.

Each of these rail lines must be treated with extreme caution when planning the roadway network. The potential for catastrophic vehicle/train or pedestrian/train accidents are very high at at-grade rail crossings. Wherever feasible, grade separated rail crossings should be provided. Where there are areas of high pedestrian activity, such as in mixed-use zoning and transit oriented development, or around transit stops, provision must be made to include a physical barrier between the pedestrian facilities and the rail tracks. Grade separated pedestrian walkways are more feasible than grade separated vehicular

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facilities and should be used where possible. When grade separation is not feasible, strict adherence to design and safety standards must be maintained and all plans should be prepared by a qualified engineer.

4.3.7 300 NORTH TO PACIFIC DRIVE

Getting vehicles from 300 North to Pacific Drive is challenging. The favored route is currently to use 400 West. 400 West is a short road with an at-grade railroad crossing close to Pacific Drive. Vehicles frequently back up to 300 North during the peak times of day. There is a very heavy left turn movement from 300 North onto 400 West. Once vehicles are on 400 West, it is near impossible to make a left turn onto Pacific Drive due to the high volume of cross traffic.

The Transportation Master Plan proposes that the main north-south route from 300 North to Pacific Drive be moved from 400 West to 300 West. 300 West provides much more storage for southbound vehicles queuing at Pacific Drive. 300 West is also classified as a Major Collector and runs south until it crosses under I-15. This is the natural north-south street for vehicles wishing to move between the north and south sides of I-15. There is also a much better situation for signalization on Pacific Drive at 300 West, as it is approximately ½ mile from the signal at US-89 and Pacific Drive, whereas 400 West is just over ¼ mile from US-89.

4.3.8 300 WEST AND 200 SOUTH

300 West passes under I-15 and connects to the Frontage Road and 200 South. This is the only Freeway crossing between 500 East and the Pioneer Crossing interchanges. Due to the recent completion of the I-15 CORE project, it is unlikely that any other crossings will be permitted along this stretch of I-15 in the foreseeable future. As such, this connection is vital to maintaining good connectivity between the north and south side of the Freeway and avoiding a "divided" community. There are two intersections very close to each other on either side of I-15, one at Mahogany Drive and one at Frontage Road. The closeness of these intersections poses an interesting traffic dilemma as any excessive delay between the two may result in unsafe operating conditions.

Two possible scenarios have been identified to ensure that the two intersections work in harmony and can meet the traffic demand. The first consisted of a coordinated two signal solution where both intersections would become traffic signals. The second solution would involve constructing a roundabout at each intersection. Although both scenarios would function adequately, the risk of a signal back up is greater than with a free-flowing roundabout. In this case, the two roundabout solution is recommended, but a two signal solution will also function adequately.

4.3.9 560 WEST AND PACIFIC DRIVE

The intersection of 560 West and Pacific Drive is an important north-south connection in the future. This connection will help to alleviate traffic congestion on the local street network, particularly on 300 North and 400 W. It will also help to ease delay at the newly proposed 300 West and Pacific Drive signal. Due to the close proximity of 560 West to the existing signal at State Street and Pacific Drive, it is unlikely that a full movement intersection will provide acceptable operations at 560 West. As such it is important that this intersection be studied in detail before any decision is made as to the nature of the intersection treatment. At a minimum, left turns onto 560 West from eastbound Pacific Drive should be restricted. This could come in the form of a three quarter intersection where only right turns are permitted from Pacific Drive. A High-T intersection is also a possibility, this would result in free-flowing eastbound

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movements on Pacific Drive and would possibly eliminate any queue blocking the State Street intersection and causing an unsafe situation.

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5.0 APPENDIX

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AMERICAN FORK CITY ENGINEERING DIVISION
STAFF REPORT

Planning Commission Meeting Date: 3/4/2020

This report is a summary of the American Fork City Engineering Division plan review comments regarding the subject plan as submitted by the applicant for American Fork City Land Use Authority approval:

Project Name: Code Text Amendment of Section 15.01.1840

Project Address: American Fork City

Developer / Applicant's Name: Public Work Department – Engineering Division

Type of Application:

- ☐ Subdivision Final Plat
- ☐ Subdivision Preliminary Plan
- ☐ Annexation
- ☒ Code Text Amendment
- ☐ General Plan Amendment
- ☐ Zone Change
- ☐ Commercial Site Plan
- ☐ Residential Accessory Structure Site Plan

Engineering Division Recommendation: With additional roadway classifications, this an update to include all roadway classifications. The Engineering Division recommends APPROVAL of the proposed code text amendment

POTENTIAL MOTIONS:

APPROVAL

Mr. Chairman, I move that we recommend approval of the code text amendment.

DENIAL

Mr. Chairman, I move that we recommend denial of the code text amendment.

TABLE

Mr. Chairman, I move that we recommend table of the code text amendment.

Sec. 15.01.1840 Access Provisions

This section discusses what types of accesses are permitted on the various types of roadways within American Fork. The roadway network and land use are interconnected, therefore allowing certain types of land use and accesses adjacent to certain types of roadways will lead to the correct type of access and mobility that would be expected for a certain type of road. Table 1 shows allowable accesses for each roadway classification.

Table 1. Access Provisions

Street Classification	Commercial Access[7]	Multi-Family Residential Access[7]	Residential Access[7]	Public Street Access[7]
Arterial street	Yes[1]	No[3]	No	Yes
Major collector	Yes	Yes	No[5]	Yes
Minor collector	Yes	Yes	Yes[4]	Yes
Local street	No[2]	Yes	Yes	Yes
TOD				
Major arterial	Yes[1]	No[3]	No	Yes
Business-core loop	Yes	Yes	Yes[6]	Yes
Core collector	Yes	Yes	Yes	Yes
Neighbor collector	Yes	Yes	Yes	Yes

Notes:

1. Commercial access to an arterial should be consolidated for several parcels and gained using a traffic signal or a public street. Where direct access is given to an arterial, if possible, the access should be a RIRO access.
2. Exceptions to this standard would be for small commercial developments or for secondary access to a development.
3. Very large multi-family developments may have private accesses that resemble public streets in form and function, and therefore would be an exception to this standard.
4. Direct access and frontage of residential properties to a minor collector may result in less-than-desirable livability for residents and should be avoided where practical.
5. Direct access and frontage of residential properties to a major collector may result in less-than-desirable livability for residents and should be avoided where practical; however, if base residential zoning allow access, then a traffic impact study showing acceptable operations and safety can be mitigated, then an engineering review will determine the applicability of this standard.
6. Subject to permitted uses within sub-district.
7. Exceptions may be granted by the City Engineer based on justification as to why the standard cannot be met.

(Ord. No. 2012-05-15, § 2, 5-8-2012)

Sec. 15.01.1840 Access Provisions

This section discusses what types of accesses ~~should~~ are~~be~~ permitted on the various types of roadways within American Fork. The roadway network and land use are interconnected, therefore allowing certain types of land use and accesses adjacent to certain types of roadways will lead to the correct type of access and mobility that would be expected for a certain type of road. Table 1 shows ~~recommended~~ allowable accesses for each roadway classification.

Table 1. Access Provisions

Street Classification	Commercial Access[7]	Multi-Family Residential Access[7]	Residential Access[7]	Public Street Access[7]
Arterial street	Yes[1]	No[3]	No	Yes
Major collector	Yes	Yes	No[5]	Yes
Minor collector	Yes	Yes	Yes[4]	Yes
Local street	No[2]	Yes	Yes	Yes
TOD				
Major arterial	Yes[1]	No[3]	No	Yes
Business-core loop	Yes	Yes	Yes[6]	Yes
Core collector	Yes	Yes	Yes	Yes
Neighbor collector	Yes	Yes	Yes	Yes

Notes:

1. ~~Preferably, c~~Commercial access to an arterial should be consolidated for several parcels and gained using a traffic signal or a public street. Where direct access is given to an arterial, if possible, the access should be a RIRO access.
2. Exceptions to this ~~recommendation~~ standard would be for small commercial developments or for secondary access to a development.
3. Very large multi-family developments may have private accesses that resemble public streets in form and function, and therefore would be an exception to this ~~recommendation~~standard.
4. Direct access and frontage of residential properties to a minor collector may result in less-than-desirable livability for residents and should be avoided where practical.
5. Direct access and frontage of residential properties to a major collector may result in less-than-desirable livability for residents and should be avoided where practical; however, if base residential zoning allow access, then a traffic impact study showing acceptable operations and safety can be mitigated, then an engineering review will determine the applicability of this standard.
6. Subject to permitted uses within sub-district.
~~5.~~7. Exceptions may be granted by the City Engineer based on justification as to why the standard cannot be met.

~~Recommendations listed in Table 1 may not always be feasible depending on whether or not other access exists for a given parcel of land. The feasibility of these recommendations is also highly dependent upon land use and transportation planning for American Fork City.~~

(Ord. No. 2012-05-15, § 2, 5-8-2012)

AMERICAN FORK CITY ENGINEERING DIVISION
STAFF REPORT

Planning Commission Meeting Date: 3/4/2020

This report is a summary of the American Fork City Engineering Division plan review comments regarding the subject plan as submitted by the applicant for American Fork City Land Use Authority approval:

Project Name: Code Text Amendment to Section 15.01.1410

Project Address: N/A

Developer / Applicant's Name: Public Works Department – Engineering Division

Type of Application:

☐ Subdivision Final Plat	☐ Subdivision Preliminary Plan	☐ Annexation
☒ Code Text Amendment	☐ General Plan Amendment	☐ Zone Change
☐ Commercial Site Plan	☐ Residential Accessory Structure Site Plan	

Engineering Division Recommendation: The Public Works Department at the request of the Water Division has looked at modifying the 1" culinary water meter detail to provide clarification and direction to those that install new water meters. The Engineering Division recommends APPROVAL of the proposed code text amendment.

POTENTIAL MOTIONS:

APPROVAL

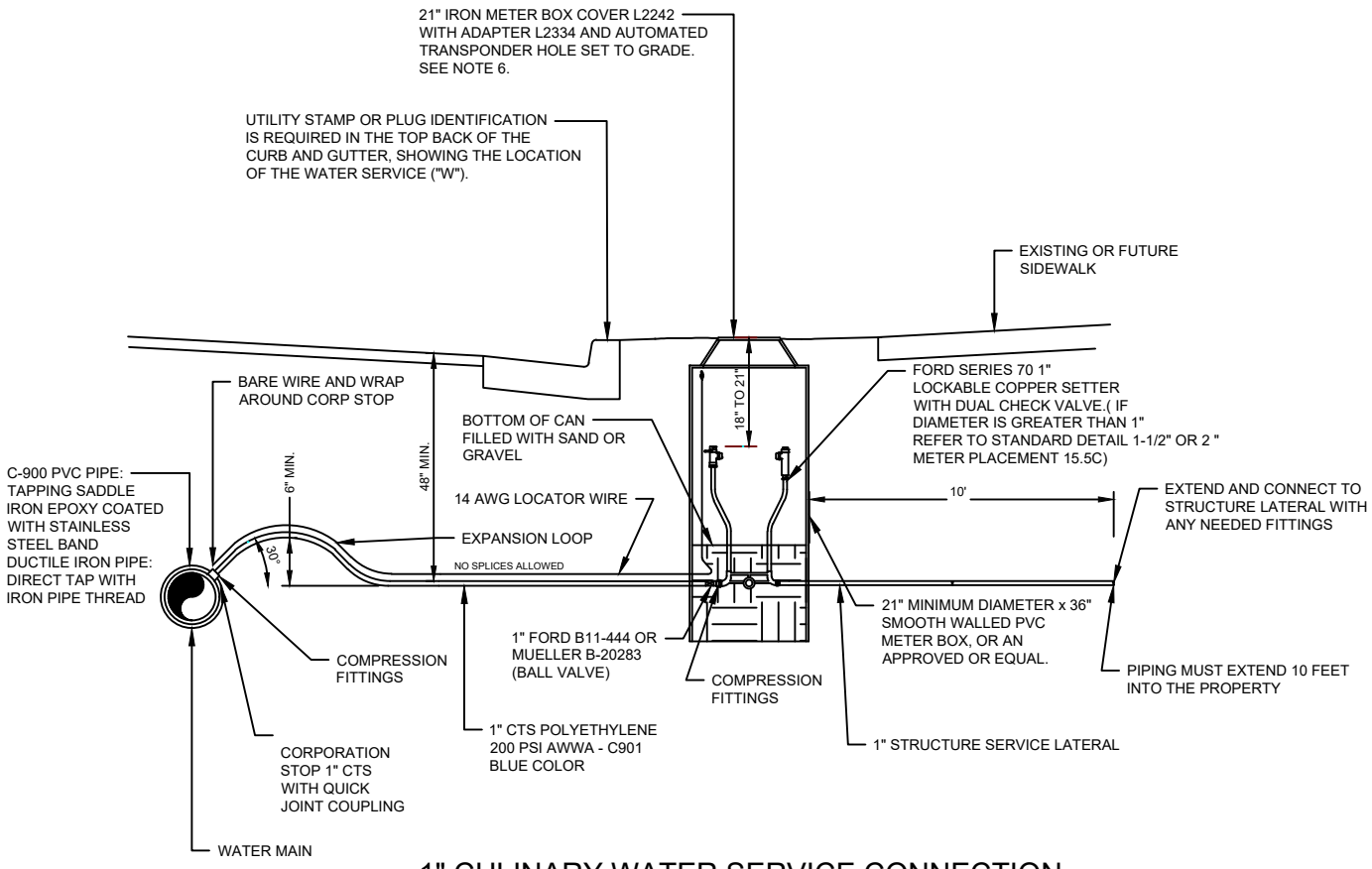
Mr. Chairman, I move that we recommend approval of the code text amendment.

DENIAL

Mr. Chairman, I move that we recommend denial of the code text amendment.

TABLE

Mr. Chairman, I move that we recommend table of the code text amendment.



1" CULINARY WATER SERVICE CONNECTION

NOTES:

1. METER BOX, COVER, COPPERSETTER, CORPORATION STOP, & SERVICE LINES TO BE FURNISHED AND INSTALLED BY CONTRACTOR, METER IS REQUIRED AND MUST BE PURCHASED BY THE PROPERTY OWNER FROM THE CITY. METER IS PROVIDED AND INSTALLED BY THE CITY.
2. STAINLESS STEEL STIFFENERS ARE REQUIRED ON ALL POLYETHYLENE CONNECTIONS.
3. CULINARY WATER LATERALS THAT ARE LAID PARALLEL TO A SEWER MUST BE LAID AT LEAST 10' (EDGE TO EDGE)FROM ANY EXISTING OR PROPOSED SEWER LATERAL. (PER UTAH CODE R309-550-7)
4. WHERE WATER AND SEWER LATERALS MUST CROSS, WATER LATERAL SHALL BE A MINIMUM OF 18" ABOVE THE SEWER LATERAL AS MEASURED EDGE TO EDGE. (PER UTAH CODE R309-550-7)
5. TEFLON TAPE OR APPROVED EQUAL IS REQUIRED ON ALL THREADED CONNECTIONS.
6. ALL METER BOX LIDS WITHIN CONCRETE SHALL BE D&L SUPPLY MODEL B-5021(LIGHT TRAFFIC) WITH A RECESSED TRANSPONDER HOLE SET TO GRADE.
7. ALL FITTINGS SHALL BE CTS.
8. SPLICING /REPAIR OF EXISTING POLY PIPE ; MECHANICAL COMPRESSION WITH INTERNAL STIFFENERS ARE REQUIRED.MUST BE APPROVED BY AMERICAN FORK CITY.
9. LATERALS SHALL BE OF ONE CONTINUOUS LENGTH OF PIPE FROM MAIN TO SETTER AND FROM SETTER TO STRUCTURE AND SHALL BE BURIED AT A MINIMUM OF 48" UNLESS APPROVED BY THE CITY ENGINEER.
10. METER CAN SHALL BE INSTALLED AT THE CENTER OF THE PARK STRIP BETWEEN FRONT OF SIDEWALK AND BACK OF CURB.

DRAWN BY NLP REVISED ABM DATE 9/18/2019. SCALE VARIES	AMERICAN FORK — 1853 —	AMERICAN FORK CITY PUBLIC WORKS 275 EAST 200 NORTH (801)763-9030	1" CULINARY WATER SERVICE CONNECTION	DRAWING NO 15.5

AMERICAN FORK CITY ENGINEERING DIVISION
STAFF REPORT

Planning Commission Meeting Date: 3/4/2020

This report is a summary of the American Fork City Engineering Division plan review comments regarding the subject plan as submitted by the applicant for American Fork City Land Use Authority approval:

Project Name: Code Text Amendment Related to Improvement Assurances & Warranty

Project Address: N/A

Developer / Applicant's Name: Public Works Department – Engineering Division

Type of Application:

☐ Subdivision Final Plat	☐ Subdivision Preliminary Plan	☐ Annexation
☒ Code Text Amendment	☐ General Plan Amendment	☐ Zone Change
☐ Commercial Site Plan	☐ Residential Accessory Structure Site Plan	

Engineering Division Recommendation: City requires the posting of an improvement assurance and warranty to ensure the timely construction of required public infrastructure. These revisions are to provide clarification to applicants on the processes and procedures of posting an assurance/warranty, requesting a release of assurance/warranty, duration of assurance/warranty periods, etc. The Engineering Division recommends APPROVAL of the proposed code text amendment.

POTENTIAL MOTIONS:

APPROVAL

Mr. Chairman, I move that we recommend approval of the code text amendment.

DENIAL

Mr. Chairman, I move that we recommend denial of the code text amendment.

TABLE

Mr. Chairman, I move that we recommend table of the code text amendment.

Sec. 15.01.220. - Guarantee of work.

The infrastructure improvements outlined in this chapter shall be guaranteed per section 17.9.200. All public infrastructure improvements shall be completed prior to acceptance by the city and release of the final construction bond.

(Ord. No. 2007-07-31, § 2.4, 7-10-2007)

17.9.101 - Terms and definitions.

A. *Actual construction of required infrastructure improvements*. The city shall require actual construction of all of the required public landscaping and public infrastructure improvements prior to plat recordation or development activity.

B. *Improvement assurance*. Improvement assurance means an escrow account, cash deposit with the city, secured letter of credit or surety bond provided, upon the applicant's request, to guaranty the proper completion of landscaping or infrastructure improvement required as a condition precedent to:

1. Recording a subdivision plat; or

2. Development of a commercial, industrial, mixed use, or multifamily project.

C. *Improvement warranty*. Improvement warranty means applicant's unconditional warranty that the applicant's installed and accepted landscaping or infrastructure improvement:

1. Complies with the city's written standards for design, materials, and workmanship; and

2. Will not fail in any material respect, as a result of poor workmanship or materials, within the improvement warranty period.

D. *Infrastructure improvement*. Infrastructure improvement means permanent infrastructure that an applicant must install:

1. Pursuant to published installation and inspection specifications for public infrastructure improvements; and

2. As a condition of:

i. Recording a subdivision plat; or

ii. Development of a commercial, industrial, mixed use, condominium, or multifamily project.

(Ord. No. 2017-11-60 , 11-14-2017)

17.9.200 - TYPE OF ASSURANCE OR WARRANTY ACCEPTED

The type of improvement assurance or improvement warranty shall be limited to one of the following:

A. *Cash deposit with the city*. A cash deposit with the city. Prior to the assurance being deemed acceptable by the city, the deposit shall be verified by the city's financial institution as a completed transaction. The deposit shall be in an amount sufficient to cover the requisite improvement assurance amount as determined by Section 17.9.300 or 17.9.400, as applicable. Any interest derived shall inure to the benefit of the applicant, provided the applicant makes a written request for payment of said interest on an annual basis thirty days prior to the

anniversary date of deposit with the city. Failure of the applicant to make such a request for said interest shall be considered forfeiture of said funds.

B. *Escrow account*. Establishment of an escrow account by a financial institution acceptable to the city. Said account shall include a written agreement between the city and financial institution containing provisions which include: (1) the amount of the assurance, (2) a provision that any release of funds will require the written prior approval of the city (3) be for a period of time equal to improvement assurance period established for the project according to 17.9.300 and 17.9.400, plus six months, and (4) authorization for direct payment to the city by the issuer of the account upon receipt of a notice of default from the city and a request for payment. Any interest derived from the account shall inure to the benefit of the applicant. The escrow shall be in an amount sufficient to cover the requisite improvement assurance amount as determined by Section 17.9.300 or improvements warranty amount as determined by 17.9.400, as applicable.

C. *Secured letter of credit*. A secured letter of credit issued by a federally insured bank, savings and loan, or credit union acceptable to the city, in a form approved by the city attorney. Said form shall include, at minimum, (1) the amount of the assurance, (2) a provision that any release of funds will require the written prior approval of the city, (3) be for a period of time no less than that established for the project according to 17.9.300 and 17.9.400, plus six months, (4) authorization for direct payment to the city upon receipt of a notice of default from the city and request for payment. The secured letter of credit shall be in an amount sufficient to cover the requisite improvement assurance amount as determined by 17.9.300 or improvement warranty amount as determined 17.9.400, as applicable.

D. *Surety bond*. Establishment of a surety bond with a bonding company acceptable to the city. Said bond shall be payable to the city and shall be in an amount sufficient to cover the requisite of infrastructure improvements as determined by Section 17.9.300 and section 17.9.400, as applicable. A surety bond shall not be released until (1) all infrastructure improvements have been installed, inspected and approved by the city, and (2) the City Council accepts the infrastructure improvements pursuant to Section 17.9.300 and Section 17.9.400. No surety bond may be released based upon time alone.

(Ord. No. 2017-11-60 , 11-14-2017)

17.9.301 - Amount of improvement assurance—Tasks to be included under assurance.

The amount of the improvement assurance shall be in an amount equal to or less than one hundred ten percent of the estimated cost for construction of all required public infrastructure improvements for the project, including: (1) cost of materials, (2) cost of installation, (3) contingency amount for the public infrastructure improvements, (4) cost for clean-up of the site following completion of construction, (5) amount of reimbursement for public infrastructure improvements constructed by previous developers, if any, and (6) estimated cost of inspection, administration, and enforcement by the city and their agents.

(Ord. No. 2017-11-60 , 11-14-2017)

17.9.303 - Duration of improvement assurance period.

A. The duration of the improvement assurance shall be for twelve months, or such period of time specified for completion of the respective type of development, if other than twelve months. The improvement assurance period shall also include any extensions for completion of public infrastructure improvements approved in accordance with paragraph B. of this section. The improvement assurance period shall commence on the day of recording of any final plat at the office

of the county recorder, date of approval action by the land use authority when no recording of a plat is required, or when the improvement assurance is established, whichever occurs later. The city may allow that the duration of the improvement assurance be extended for a period of up to six additional months in order to provide adequate time for completion of public infrastructure improvements. The improvement assurance period shall continue until the passage of time herein above specified and until the City Council shall have issued a notice of completion and acceptance of public infrastructure improvements and release of the improvement assurance.

B. An extension of the improvement assurance period may be granted by the City Council upon receipt of a request by the project owner, provided: (1) that such application is submitted at least sixty days prior to the expiration of the improvement assurance period, (2) the issuer of the assurance is willing to extend the time of the assurance, (3) the city makes a finding that work in completing the required public infrastructure improvements is satisfactory, (4) the estimated cost of performing the remaining tasks is less than the amount of the assurance remaining, or the amount of the improvement assurance is increased in an amount sufficient to cover the remaining tasks and (5) the City Engineer or designated representative makes a finding that the uncompleted work does not pose a hazard or unreasonable inconvenience to the public or adjacent residents. If an extension is not granted by the City Council, then default shall occur according to 17.9.500.

C. Any required public infrastructure improvements to be installed within existing street right-of-way currently in use by the public shall be diligently pursued and completed with minimum disruption to public safety and convenience. In the event that work within the right-of-way area is not diligently pursued in accordance with good engineering and construction practice, the City Council, subject to a finding that the quality or timing of construction is unsatisfactory, inconsistent with reasonable norms of construction practice, and poses unreasonable hazard and inconvenience to the public, may declare part or all of the improvement assurance in default and proceed to collection of the proceeds as provided under the terms of Section 17.9.500.

(Ord. No. 2017-11-60 , 11-14-2017)

17.9.304 - Partial releases authorized—Conditions and procedures.

The city may authorize partial release(s) of the improvement assurance in an amount not greater than one hundred percent of the: (1) estimated cost of materials and (2) estimated cost of installation of the required public landscaping and public infrastructure improvements. The amount of any partial release shall be in an amount commensurate with the estimated proportionate share of public infrastructure improvements completed as of the date of the request, as determined by the City Engineer or designated representative, following an on-site review of the project. Requests for partial releases shall be made not more frequently than thirty days and shall be authorized in writing by the City Engineer or the designated representative, subject to a finding that the materials and workmanship conform to city standards and good engineering practice.

(Ord. No. 2017-11-60 , 11-14-2017)

17.9.305 - Procedure for final disposition and release.

A. At such time as all required public infrastructure improvements have been completed and all outstanding fees due to the city paid, the applicant may request a final release of the improvement assurance. An applicant requesting final release shall submit a written notice of completion and request for release. The city may require a copy of lien releases, documentation from all suppliers of materials and sub-contractors showing that their costs have been fully satisfied, a current title report,

or such other measure or report as deemed appropriated by the city as a means of determining the existence of any unreported liens upon the project.

B. Following receipt of the notice of completion and request for release, the City Engineer or the designated representative, following an on-site review of the project, shall prepare a report setting forth the condition of the public infrastructure improvements. If the final inspection report specifies corrections of the infrastructure improvements, corrections shall be completed within 30 days or the City Council may deem the applicant in default per section 17.9.500. When all infrastructure improvements are approved by the City Engineer or designated representative, the final report shall be submitted to City Council for review.

C. If the condition of the public infrastructure improvements is found to be satisfactory; all liens have been released; all outstanding fees, costs of administration and reimbursement payments to prior developers (if any) have been made; and the project clean-up is found to be satisfactory then the City Council shall act to accept the public infrastructure improvements and authorize release of the remainder of the improvement assurance , except such portion of said assurance intended to be applied as part of the improvement warranty pursuant to the terms of Section 17.9.400.

D. Upon issuance of the notice of acceptance of the public infrastructure improvements and release of the improvement assurance relating thereto, the city shall be deemed to have assumed title to the public infrastructure improvements.

E. The city may initiate the final release and acceptance prior to the end of the improvement assurance period without receipt of a request from the applicant, subject to a finding that construction of the public infrastructure improvements has been completed in accordance with city standards or that early activation of the public infrastructure improvements is necessary to provide access, circulation and/or utility or fire service to adjacent properties.

(Ord. No. 2017-11-60 , 11-14-2017)

17.9.402 - Length of improvement warranty period—Purpose.

The length of the improvement warranty period shall be a minimum of 12 months after the city's acceptance of required public infrastructure improvements. If, during the improvement warranty period, the quality of materials and workmanship of the public infrastructure improvements is found to be satisfactory, the improvement warranty shall be released in accordance with the procedure set forth in Section 17.9.400. If, however, during the improvement warranty period the quality of materials or workmanship of the public infrastructure improvements fails in any material respect, or if it becomes evident that certain work was not completed or that the public infrastructure improvements do not otherwise comply with the city's written standards for design, material, and workmanship, said condition shall be corrected by the applicant. If the durability inspection report specifies corrections of the infrastructure improvements, corrections shall be completed within 30 days or the City Council may deem the applicant in default per Section 17.9.500 and use the improvement warranty funds to defray the cost of any required work.

(Ord. No. 2017-11-60 , 11-14-2017)

17.9.403 - Release of improvement warranty.

A. At the conclusion of the improvement warranty period, the City Engineer or the designated representative, following an on-site review of the project and a finding that the quality of construction and materials have endured without evidence of poor workmanship or materials, nonconformance of the city's written standards, or need for remedial action, shall prepare a report

setting forth the condition of the public infrastructure improvements. When all infrastructure improvements are approved by the City Engineer or designated representative, a durability report shall be submitted to city council for review.

B. The City Council may authorize the release of the improvement warranty.

(Ord. No. 2017-11-60 , 11-14-2017)

17.9.500 - DEFAULT

Where, in the opinion of the City Council: (1) a developer fails or neglects to satisfactorily install the required public landscaping or public infrastructure improvements within the required time frame or make required correction thereto, or (2) fails to pay all liens in connection with said public infrastructure improvements, or (3) fails to make payment to the city for reimbursement charges for public infrastructure improvements previously installed by others, or (4) otherwise fails to carry out the activity for which the improvement assurance or improvement warranty was required, the City Council may, after due notice on the matter, declare the assurance forfeited. Upon issuance of a declaration of forfeiture, the city shall notify the issuer of the improvement assurance and upon receipt of the funds held by the issuer, proceed to install or repair or cause to be installed or repaired, the required but uncompleted or unsatisfactory public infrastructure improvements. Provided, however, that the city shall not be responsible for work beyond the limits of the improvement assurance or improvement warranty amount. Any portion of the improvement assurance or improvement warranty remaining after completion of the required public infrastructure improvements shall be returned to the issuer.

(Ord. No. 2017-11-60 , 11-14-2017)

17.9.601 - Time frame for construction of required infrastructure improvements—Extensions permitted.

A. The maximum period of time for which the council's approval action of a subdivision or other development project which includes the sale of individual parcels and requires recording at the office of the county recorder shall remain valid (delay-in-recording period) not more than two hundred seventy-five days from the date of action by the City Council. An extension of the time, not to exceed ninety days may be granted by the City Council provided:

1. Application is made by the developer and submitted sixty days prior to the end of the two hundred seventy-five-day period; or

2. The City Council finds that the developer has been delayed by circumstances beyond control.

B. At the end of the approved delay-in-recording period and any extensions which may have been granted, the city may declare the project a dormant project and proceed to terminate approval as provided under Section 17.9.700.

(Ord. No. 2017-11-60 , 11-14-2017)

17.9.800 - PERFORMANCE ASSURANCE—CITY RIGHTS-OF-WAY

The format for securing the improvement assurance for a single public rights-of-way permit shall be per Section 17.9.200. Amount of said assurance shall be a minimum of two thousand dollars. Following receipt of the notice of completion and request for release, the City Engineer or the designated representative, following an on-site review of the project, shall prepare a report setting forth the condition of the public infrastructure. One half of the assurance shall be released upon initial completion with the

remaining balance of not less than $1,000 being held during the improvement warranty period per section 17.9.400.

In the event that an entity, contractor, franchise utility, or other party providing an assurance for work in city rights-of-way wishes to secure sufficient assurance with the city to provide for multiple projects, said applicant shall provide a performance assurance in the amount not less than five times the minimum assurance amount to secure permission for an ongoing performance assurance per Section 17.9.200. This assurance will allow the applicant to complete multiple projects with a single assurance. Additional bonds may be required for each project exceeding the minimum amount.

This assurance shall then serve as sufficient guarantee to allow the applicant to continue work in the city streets until such time as release is requested and all warranty period have passed for work completed under said assurance, or when the city exercises the assurance to complete or remediate work or workmanship. The City Engineer or designated representative shall be the authority determining release and/or calls for performance assurance funds associated with city rights-of-way permitting and work remediation.

In the event a street excavation permit is associated with a development project for which an improvement assurance has been provided, the primary means of guarantee for the work in city rights-of-way shall be the amounts secured by the development to ensure completion of the project per Section 17.9 of the City Code.

(Ord. No. 2017-11-60 , 11-14-2017)

Sec. 15.01.220. - Guarantee of work.

The ~~improvement~~infrastructure improvements outlined in this chapter shall be guaranteed per section 17.9.200. All public ~~improvement~~infrastructure improvements shall be completed ~~through escrow bonds. Two sets of certified construction record (as-built) drawings shall be furnished to the city engineer~~ prior to acceptance by the city and releas~~e of ing~~ the final construction bond. ~~The standard durability test period of two years begins once all improvements are completed, including property pins installed in top of curb and any required subdivision monuments, and construction record (as-built) drawings are accepted by the city.~~

(Ord. No. 2007-07-31, § 2.4, 7-10-2007)

17.9.101 - Terms and definitions.

A. *Actual construction of required ~~improvement~~infrastructure improvement~~s~~ ~~–~~*. The city shall require actual construction of all of the required public landscaping and public infrastructure improvements prior to plat recordation or development activity.

B. *Improvement~~s~~ ~~completion~~ assurance ~~–~~*. Improvement ~~completion~~ assurance means an escrow account, cash deposit with the city, secured letter of credit or surety bond provided, upon the applicant's request, to guaranty the proper completion of landscaping or infrastructure improvement required as a condition precedent to:

1. Recording a subdivision plat; or
2. Development of a commercial, industrial, mixed use, or multifamily project.

C. *Improvement~~s~~ warranty ~~–~~*. ~~Improvements~~Improvement warranty means applicant's unconditional warranty that the applicant's installed and accepted landscaping or infrastructure improvement:

1. Complies with the city's written standards for design, materials, and workmanship; and
2. Will not fail in any material respect, as a result of poor workmanship or materials, within the improvement warranty period.

D. *Infrastructure improvement ~~–~~*. Infrastructure improvement means permanent infrastructure that an applicant must install:

1. Pursuant to published installation and inspection specifications for public ~~improvement~~infrastructure improvements; and
2. As a condition of:
   i. Recording a subdivision plat; or
   ii. Development of a commercial, industrial, mixed use, condominium, or multifamily project.

(Ord. No. 2017-11-60 , 11-14-2017)

17.9.200 - TYPE OF ASSURANCE OR WARRANTY ACCEPTED

The type of improvement ~~completion~~ assurance or improvement warranty shall be limited to one of the following:

A. *Cash deposit with the city. ~~–~~* A cash deposit with the city. Prior to the ~~guarantee~~assurance being deemed acceptable by the city, the deposit shall be verified by the city's financial institution as a

completed transaction. The deposit shall be in an amount sufficient to cover the requisite improvement ~~completion~~ assurance amount as determined by Section 17.9.300 or 17.9.400, as applicable. Any interest derived shall inure to the benefit of the applicant, provided the applicant makes a written request for payment of said interest on an annual basis thirty days prior to the anniversary date of deposit with the city. Failure of the applicant to make such a request for said interest shall be considered forfeiture of said funds.

B. *Escrow account* . Establishment of an escrow account by a financial institution acceptable to the city. Said account shall include a written agreement between the city and financial institution containing provisions which include: (1) the amount of the ~~guarantee~~assurance, (2) a provision that any release of funds will require the written prior approval of the city (3) be for a period of time equal to improvement ~~the guarantee~~assurance period established for the project according to 17.9.300 and 17.9.400, plus six months, and (4) authorization for direct payment to the city by the issuer of the account upon receipt of a notice of default from the city and a request for payment. Any interest derived from the account shall inure to the benefit of the applicant. The escrow shall be in an amount sufficient to cover the requisite improvement ~~completion~~ assurance amount as determined by Section 17.9.300 or improvements warranty amount as determined by 17.9.400, as applicable.

C. *Secured letter of credit* . A secured letter of credit issued by a federally insured bank, savings and loan, or credit union acceptable to the city, in a form approved by the city attorney. Said form shall include, at minimum, (1) the amount of the ~~guarantee~~assurance, (2) a provision that any release of funds will require the written prior approval of the city, (3) be for a period of time no less than that established for the project according to 17.9.300 and 17.9.400, plus six months, (4) authorization for direct payment to the city upon receipt of a notice of default from the city and request for payment. The secured letter of credit shall be in an amount sufficient to cover the requisite improvement ~~completion~~ assurance amount as determined by 17.9.300 or ~~improvements~~improvement warranty amount as determined 17.9.400, as applicable.

D. *Surety bond* . Establishment of a surety bond with a bonding company acceptable to the city. Said bond shall be payable to the city and shall be in an amount sufficient to cover the requisite of ~~improvement~~infrastructure improvements ~~improvement completion assurance amount~~ as determined by Section 17.9.300 ~~or~~ and section 17.9.400, as applicable. A surety bond shall not be released until (1) all ~~improvement~~infrastructure improvements have been installed, inspected and approved by the city, and (2) the ~~city council~~City Council accepts the ~~improvement~~infrastructure improvements pursuant to Section 17.9.304 and Section 17.9.403. No surety bond may be released based upon time alone.

(Ord. No. 2017-11-60 , 11-14-2017)

17.9.301 - Amount of improvement ~~completion~~ assurance—Tasks to be included under assurance.

The amount of the improvement ~~completion~~ assurance shall be in an amount equal to or less than one hundred ten percent of the estimated cost for construction of all required public ~~improvement~~infrastructure improvements for the project, including: (1) cost of materials, (2) cost of installation, (3) contingency amount for the public ~~improvement~~infrastructure improvements, (4) cost for clean-up of the site following completion of construction, (5) amount of reimbursement for public ~~improvement~~infrastructure improvements constructed by previous developers, if any, and (6) estimated cost of inspection, administration, and enforcement by the city and their agents.

(Ord. No. 2017-11-60 , 11-14-2017)

17.9.303 - Duration of improvement assurance period.

A. The duration of the improvement ~~completion~~ assurance shall be for twelve months, or such period of time specified for completion of the respective type of development, if other than twelve months. The improvement ~~completion~~ assurance period shall also include any extensions for completion of public ~~improvement~~infrastructure improvements approved in accordance with paragraph B. of this section. The improvement ~~completion~~ assurance period shall commence on the day of recording of any final plat at the office of the county recorder, date of approval action by the land use authority when no recording of a plat is required, or when the improvement assurance is established, whichever occurs later. The city may allow ~~require~~ that the duration of the improvement ~~completion~~ assurance be extended for a period of up to six additional months ~~longer than the established improvement completion assurance period,~~ in order to provide ~~an~~ adequate time for completion of public ~~improvement~~infrastructure improvements. ~~a determination of default and collection of the remaining proceeds.~~ The improvement ~~completion~~ assurance period shall continue until the passage of time herein above specified and until the ~~city council~~City Council shall have issued a notice of completion and acceptance of public ~~improvement~~infrastructure improvements and release of the improvement assurance. ~~assurance. With the mutual written consent of all parties, the length of the improvement completion assurance period may be shortened.~~

B. An extension of the improvement ~~competition~~ assurance period may be granted by the ~~city council~~City Council upon receipt of a request by the project owner, provided: (1) that such application is submitted at least sixty days prior to the expiration of the improvement~~s~~ ~~construction guarantee~~assurance period, (2) the issuer of the ~~guarantee~~assurance is willing to extend the time of the assurance, (3) the city ~~council~~ makes a finding that work in completing the required public ~~improvement~~infrastructure improvements is satisfactory, (4) the estimated cost of performing the remaining tasks is less than the amount of the assurance remaining, or the amount of the improvement ~~completion~~ assurance is increased in an amount sufficient to cover the remaining tasks and (5) the ~~city engineer~~City Engineer or designated representative makes a finding that the uncompleted work does not pose a hazard or unreasonable inconvenience to the public or adjacent residents. If an extension is not granted by ~~city council~~ the City Council then default shall occur according to 17.9.500.

C. Any required public ~~improvement~~infrastructure improvements to be installed within existing street right-of-way currently in use by the public shall be diligently pursued and completed with minimum disruption to public safety and convenience. In the event that work within the right-of-way area is not diligently pursued in accordance with good engineering and construction practice, the ~~city council~~City Council, subject to a finding that the quality or timing of construction is unsatisfactory, inconsistent with reasonable norms of construction practice, and poses unreasonable hazard and inconvenience to the public, may declare part or all of the improvement ~~completion~~ assurance in default and proceed to collection of the proceeds as provided under the terms of Section 17.9.500.

(Ord. No. 2017-11-60 , 11-14-2017)

17.9.304 - Partial releases authorized—Conditions and procedures.

The city may authorize partial release(s) of the improvement ~~completion~~ assurance in an amount not greater than one hundred percent of the: (1) estimated cost of materials and (2) estimated cost of installation of the required public landscaping and public infrastructure improvements. The amount of any partial release shall be in an amount commensurate with the estimated proportionate share of public ~~improvement~~infrastructure improvements completed as of the date of the request, as determined by the ~~city engineer~~City Engineer or designated representative, following an on-site review of the project. Requests for partial releases shall be made not more frequently than thirty days and shall be authorized in

writing by the ~~city engineer~~City Engineer or ~~his~~ the designated representative, subject to a finding that the materials and workmanship conform to city standards and good engineering practice.

(Ord. No. 2017-11-60 , 11-14-2017)

17.9.305 - Procedure for final disposition and release.

A. At such time as all required public ~~improvement~~infrastructure improvements have been completed and all outstanding fees due to the city paid, the applicant may request a final release of the improvement ~~completion~~ assurance. An applicant requesting final release shall submit a written "notice of completion and request for release". The city may require ~~and also~~ a copy of lien releases, ~~or other~~ documentation from all suppliers of materials and sub-contractors showing that their costs have been fully satisfied~~.~~, ~~The city may also require~~ a current title report, or such other measure or report as deemed appropriated by the city as a means of determining the existence of any unreported liens upon the project.

B. Following receipt of the notice of completion and request for release, the ~~city engineer~~City Engineer or the~~his~~ designated representative, following an on-site review of the project, shall prepare a report setting forth the condition of the public ~~improvement~~infrastructure improvements. If the final inspection report specifies corrections of the ~~improvement~~infrastructure improvements, ~~the~~ corrections shall be completed within 30 days or the City Council may deem the applicant in default per section 17.9.500. When all ~~improvement~~infrastructure improvements are approved by the City Engineer or designated representative, the final report shall be ~~submitted. Said report shall be~~ submitted to ~~c~~City ~~c~~Council for review.

C. If the condition of the public ~~improvement~~infrastructure improvements is found to be satisfactory; all liens have been released; all outstanding fees, costs of administration and reimbursement payments to prior developers (if any) have been made; and the project clean-up is found to be satisfactory then the ~~city council~~City Council shall act to accept the public ~~improvement~~infrastructure improvements and authorize release of the remainder of the ~~construction guarantee~~ improvement assurance , except such portion of said ~~guarantee~~ assurance intended to be applied as part of the improvement warranty pursuant to the terms of Section 17.9.400.

D. Upon issuance of the notice of acceptance of the public ~~improvement~~infrastructure improvements and release of the improvement ~~completion~~ assurance relating thereto, the city shall be deemed to have assumed title to the public ~~improvement~~infrastructure improvements.

E. The city may initiate the final release and acceptance prior to the end of the improvement ~~completion~~ assurance period without receipt of a request from the applicant, subject to a finding that construction of the public ~~improvement~~infrastructure improvements has been completed in accordance with city standards or that early activation of the public ~~improvement~~infrastructure improvements is necessary to provide access, circulation and/or utility or fire service to adjacent properties.

(Ord. No. 2017-11-60 , 11-14-2017)

17.9.402 - Length of improvement warranty period—Purpose.

The length of the improvement warranty period shall be a minimum of 12 months ~~be no later than one year~~ after the city's acceptance of required public ~~improvement~~infrastructure improvements. ~~landscaping or one year after the city's acceptance of required infrastructure unless the city determined, for good cause, that the 12 month one year period would be inadequate to protect the public health, safety, and welfare and has substantial evidence, on the record, of prior poor performance by the applicant~~

~~or that the area upon which the infrastructure will be constructed contains suspect soil and the city has not otherwise required the applicant to mitigate the suspect soil~~. ~~The improvement warranty shall provide an unconditional warranty that (1) the applicant's installed and accepted landscaping and/or infrastructure improvement complies with the city's written standards for design, materials, and workmanship and (2) will not fail in any material respect, as a result of poor workmanship or materials, within the improvement warranty period.~~

If, during the improvement warranty period, the quality of materials and workmanship of the public ~~improvement~~infrastructure improvements is found to be satisfactory, the improvement warranty ~~retainer~~ shall be released in accordance with the procedure set forth in Section 17.9.400~~3~~. If, however, during the improvement warranty period the quality of materials or workmanship of the public ~~improvement~~infrastructure improvements fails in any material respect, or if it becomes evident that certain work was not completed or that the public ~~improvement~~infrastructure improvements do not otherwise comply with the city's written standards for design, material, and workmanship, said condition shall be corrected by the applicant. ~~If the corrections are not made within a reasonable time, the city council may declare the applicant in default~~ If the durability inspection report specifies corrections of the ~~improvement~~infrastructure improvements, corrections shall be completed within 30 days or the City Council may deem the applicant in default per ~~s~~Section 17.9.500 and use the improvement warranty funds to defray the cost of any required work.

(Ord. No. 2017-11-60 , 11-14-2017)

17.9.403 - Release of improvement warranty.

A. At the conclusion of the improvement warranty period, the ~~city engineer~~City Engineer or the~~his~~ designated representative, following an on-site review of the project and a finding that the quality of construction and materials have endured without evidence of poor workmanship or materials, nonconformance of the city's written standards, or need for remedial action, shall prepare a report setting forth the condition of the public ~~improvement~~infrastructure improvements. When all ~~improvement~~infrastructure improvements are approved by the City Engineer or designated representative, ~~the~~ a durability report shall be submitted to city council for review. ~~and provide said report to city council.~~

B. The ~~city council~~City Council may authorize the release of the improvement warranty.

(Ord. No. 2017-11-60 , 11-14-2017)

17.9.500 - DEFAULT

Where, in the opinion of the ~~city council~~City Council: (1) a developer fails or neglects to satisfactorily install the required public landscaping or public infrastructure improvements within the required time frame or make required correction thereto, or (2) fails to pay all liens in connection with said public ~~improvement~~infrastructure improvements, or (3) fails to make payment to the city for reimbursement charges for public ~~improvement~~infrastructure improvements previously installed by others, or (4) otherwise fails to carry out the activity for which the improvement~~s~~ ~~construction guarantee~~assurance or improvement warranty was required, the ~~city council~~City Council may, after due notice on the matter, declare the ~~guarantee~~assurance forfeited. Upon issuance of a declaration of forfeiture, the city shall notify the issuer of the improvement ~~completion~~ assurance and upon receipt of the funds held by the issuer, proceed to install or repair or cause to be installed or repaired, the required but uncompleted or unsatisfactory public ~~improvement~~infrastructure improvements. Provided, however, that the city shall not be responsible for work beyond the limits of the improvement ~~completion~~ assurance

or improvement warranty amount. Any portion of the improvement ~~completion~~ assurance or improvement warranty remaining after completion of the required public ~~improvement~~infrastructure improvements shall be returned to the issuer.

(Ord. No. 2017-11-60 , 11-14-2017)

17.9.601 - Time frame for construction of required ~~improvement~~infrastructure improvements—Extensions permitted.

A. The maximum period of time for which the council's approval action of a subdivision or other development project which includes the sale of individual parcels and requires recording at the office of the county recorder shall remain valid (delay-in-recording period) not more than two hundred seventy five days from the date of action by the ~~city council~~City Council. An extension of the time, not to exceed ninety days may be granted by the ~~city council~~City Council provided:

1. Application is made by the developer and submitted sixty days prior to the end of the two hundred seventy five day period; or

2. The ~~city council~~City Council finds that the developer has been delayed by circumstances beyond ~~his/her~~ control.

B. At the end of the approved delay-in-recording period and any extensions which may have been granted, the city may declare the project a dormant project and proceed to terminate approval as provided under Section 17.9.700.

(Ord. No. 2017-11-60 , 11-14-2017)

17.9.800 - PERFORMANCE ~~GUARANTEE~~ ASSURANCE—CITY RIGHTS-OF-WAY

The format for securing the improvement ~~completion~~ assurance~~s~~ for a single public rights-of-way ~~excavation~~ permit ~~or single permit for excavation within other properties owned by the city~~ shall be per ~~any of the options listed in~~ Section 17.9.200. Amount of said ~~guarantee~~ assurance shall be a minimum of two thousand dollars ~~as amended from time to time by the city council~~. Following receipt of the notice of completion and request for release, the ~~city engineer~~City Engineer or the designated representative, following an on-site review of the project, shall prepare a report setting forth the condition of the public infrastructure. One half of the ~~right-of-way excavation guarantee~~ assurance shall be released upon initial completion with the remaining balance of not less than $1,000 being held during the ~~for one year as an~~ improvement warranty period per section 17.9.4002.~~.~~

In the event that an entity, contractor, franchise utility, or other party providing an ~~guarantee~~ assurance for work in city rights-of-way wishes to secure sufficient ~~guarantee~~ assurance with the city to provide for multiple projects, said ~~contractor~~ applicant shall provide ~~two components to~~ a performance assurance in the amount not less than five times the minimum assurance amount to secure permission for an ongoing performance ~~guarantee~~ assurance per Section 17.9.200. This ~~guarantee~~ assurance will allow the ~~entity~~ applicant to complete multiple projects with a single ~~guarantee~~ assurance. Additional bonds may be required for each project~~:~~ exceeding the minimum amount.

~~1. A surety bond in an amount not less than fifteen times the minimum guarantee amount per section 12.~~.

~~2. A cash deposit with the city, per allowable options as defined in Section 17.9.200, in the amount of two times an average street excavation.~~ . ~~This amount shall be as determined by the city engineer.~~

This ~~guarantee~~assurance shall then serve as sufficient guarantee to allow the applicant to continue work in the city streets until such time as release is requested and all warranty period have passed for work completed under said ~~guarantee~~assurance, or when the city exercises the ~~guarantee~~assurance to complete or remediate work or workmanship. The City ~~e~~Engineer or ~~duly~~ designated representative shall be the authority determining release and/or calls for performance ~~guarantee~~assurance funds associated with city rights-of-way permitting and work remediation.

In the event a street excavation permit is associated with a development project for which an ~~performance guarantee~~ improvement assurance has been provided, the primary means of guarantee for the work in city rights-of-way shall be the amounts secured by the development to ensure completion of the project per Section 17.9 of the City Code.

(Ord. No. 2017-11-60 , 11-14-2017)

AMERICAN FORK CITY
PLANNING COMMISSION MINUTES
FEBRUARY 19, 2020

The American Fork City Planning Commission met in a regular session on February 19, 2020 at the American Fork City Hall, 31 North Church Street, commencing at 7:00 p.m.

Present:	John Woffinden
	Chris Christiansen
	Geoff Dupaix
	Harold Dudley
	Ryan Hunter
	Christine Anderson
	Rod Brocious
Absent:	Rebecca Staten
Staff Present:	Adam Olsen, City Planner
	Wendelin Knobloch, Planner
	Ben Hunter, Engineer
	Lisa Halversen, Administrative Assistant

Also Present:

1. Pledge of Allegiance

Chairman Woffinden welcomed everyone and those present recited the Pledge of Allegiance. He indicated that items 2 and 3 will be discussed together and voted on separately.

2. Review and action on the final plat of IFA Subdivision No. 2, located at 504 North 900 West in the GC-2 Planned Commercial zone

Mr. Olsen stated that the site plan and subdivision cover the same area; therefore, one staff report will review both items. The site plan and subdivision consist of approximately 1.5 acres; southwest, and in front of, the IFA building at approximately 500 N. 900 W. The area is currently vacant. At one time, a car wash was approved for the site, but was never constructed.

The subdivision plat splits Lot 1, IFA American Fork Commercial Subdivision, into two separate lots - becoming Lots 6 and 7, IFA Subdivision No. 2. Apollo Burger is proposed on Lot 6, and Bank of America is proposed on Lot 7. Points of access are from the interior parking area, as well as one additional point off of 900 W. This will function as right-in/right-out.

The site plan proposes two structures. Apollo Burger (3,450 sq. ft.) and Bank of America (4,559 sq. ft.). Parking and landscaping are provided per Code. Renderings of the bank and restaurant structures are included in the submittal materials.

Mr. Ben Hunter said that this project will involve a reimbursement agreement, this will help facilitate extending the median in the middle of 900 West up to the intersection of IFA. There will be improvements to the intersection of 900 West at the IFA entrance. A signal will be installed at this intersection as a condition of approval. Sewer laterals are existing from the IFA parking lot, that's why there's a right-in, right-out entrance only.

Mr. Dupaix expressed his concerns about traffic in this area, there's been a lot of problems with people wanting to turn into that commercial area near Del Taco, there have been several rear-end crashes because the accesses are so close to the intersections. More accesses that are so close to the intersection is not good traffic management. Extending the median on 900 West is a good idea. It looks like the proposed access will be very close to the south end of the project. He is very concerned about safety.

Mr. Ben Hunter replied that he doesn't have data on the number of accidents, he agreed that the south entrance near the Del Taco is probably a valid concern. He doesn't know if they can go back and rescind that entrance. There is an access in the proposal that was shifted, he'll go back and look at that.

Mr. Dupaix said that at the south-west corner of the Bank of America, he can see that someone will want to make a quick left turn into the bank or Apollo and that is not a safe move. He wants to express the safety concerns regarding traffic situations, and use a more holistic approach to review plans.

Mr. Brocious asked if a traffic study was done and where the signal would be. When do we require a traffic study?

Mr. Ben Hunter replied that this site didn't require a traffic study, the original IFA site can be looked at regarding accesses. Engineering Division will go back and study the access locations.

Mr. Dupaix also doesn't like that the closest access to State Street at the Medallus gets bogged down. He is worried about traffic backing up onto State Street. The south end is a very confined space with many conflict points.

Ms. Anderson asked if there is a thru-way entrance to IFA, Mr. Hunter affirmed. People already make a hard left to get to IFA, the numbers would just increase. She asked if the the turn-in from 900 West could be further up by the IFA to shift access more to the north. She added that both businesses need an access off 900 West, could we maybe make the Monarch access more straight? She feels that the number of accesses are fine, she would just like to alleviate some of the traffic concerns.

Parker Robertson, representing Wadsworth, is the property owner. He addressed traffic concerns. He said there are additional things they have to deal with as the last ones to develop, such as the

traffic signal. He understands there are traffic problems in the area. There is an existing curb cut access to the site but they can't force Monarch Dental to do anything different with their access. He understands the concerns, they don't want people coming in off 900 West across the road. He doesn't want traffic backing up onto State Street, but it's a really busy area. They've been working with city staff to make it as safe as possible.

Mr. Dupaix said that bad decisions were made in the past and we need to see if it can be made safer. The Quick-Quack development is an example of poor planning.

Mr. Robertson wants to be a good neighbor and wants to make it work. Perhaps they didn't think about traffic as much as they probably should have.

Ms. Anderson reconsiders her desire to work with Monarch Dental's access, it would take too long. She's ok with it as it is.

Mr. Christiansen agreed that the entrance by Del Taco needs to be addressed in the long run. He thinks that perhaps adding another access may actually improve the situation near the IFA.

Mr. Ryan Hunter asked if a traffic study can be put as a condition of approval.

Chairman Woffinden stated that certain criteria have to be met in order to require a traffic study, you can't arbitrarily throw a condition on a property.

Ms. Anderson clarified that both accesses are right-in, right-out.

Ms. Anderson moved to recommend approval of the final plat for IFA Subdivision No. 2, with the finding (#2) listed in the staff report and subject to any findings, conditions and modifications found in the Engineering report.

Mr. Christiansen seconded the motion. Voting was as follows:

Chairman Woffinden	**Aye**
Chris Christiansen	**Aye**
Christine Anderson	**Aye**
Geoff Dupaix	**Aye**
Harold Dudley	**Aye**
Rod Brocious	**Aye**
Ryan Hunter	**Aye**

The motion carried.

3. Hearing, review and action on a commercial site plan for Bank of America and Apollo Burger located at 504 North 900 West in the GC-2 Planned Commercial zone

Public Hearing Opened

Public Hearing Closed

Ms. Anderson moved to recommend approval of the site plan for Bank of America and Apollo Burger, with the finding (#1) listed in the staff report and subject to any findings, conditions and modifications found in the Engineering Report.

Mr. Ryan Hunter seconded the motion. Voting was as follows:

Chairman Woffinden	**Aye**
Chris Christiansen	**Aye**
Christine Anderson	**Aye**
Geoff Dupaix	**Aye**
Harold Dudley	**Aye**
Rod Brocious	**Aye**
Ryan Hunter	**Aye**

The motion carried.

4. Hearing, review and action on amendments to Section 17.4.608 (6) (TOD Zone) of the American Fork City Municipal Code

Mr. Olsen stated that the proposed amendments deal with the mixed-use core area of the TOD. Proposed amendments include a requirement to provide mixed-use within residential structures, as well as minimum story requirements for lot types within the core. The mixed-use core, while intended for the highest residential densities (60+ du/ac), is envisioned to hold other uses (office, commercial, etc.) in conjunction with density. While the TOD Code is new, development proposals within the core area have consisted strictly of higher density, no mixed-use elements. Concern has been expressed that if the core area fills with high density and nothing else (no mixed-use), opportunity will have been lost to provide a true urban center where density is but one component of overall development.

The amendments propose a requirement to provide an equivalent of 100% of the ground floor area to be use/uses other than residential for buildings fronting 200 South. For buildings fronting streets other than 200 South, the requirement is reduced to an area equivalent of 25% of the ground floor area.

The amendments also propose a minimum story requirement for buildings within the core area. The Code provides maximum story requirements, but no minimum. Providing minimum requirements will help ensure the area develops as densely and intensely as envisioned.

Chairman Woffinden suggested changing “fronting” to “abutting” to avoid confusion over what is meant by fronting.

Ms. Anderson asked about the mixed-use requirement equal to 100%, should it be restricted to the lower floors? She doesn't want to end up with businesses on the 4th floor for example.

Mr. Olsen wants to make these changes while the door is still open.

Mr. Ryan Hunter said that the market will not currently support the mixed use. He thinks it should be built residential with a footprint that could be switched to mixed-use from residential in the future. This mixed-use requirement along with a minimum-height requirement really puts a large burden on a developer.

Mr. Olsen says that maybe if the market won't support this today, the time to develop is not today. We have a vision for how we want it to look in the future.

Chairman Woffinden says that we have to get this right, he has seen too many cities mess it up. We are being watched by several other cities.

Mr. Ryan Hunter likes the idea, but feels that there's not many businesses that would build and put a store on the bottom level right next to the TOD.

Mr. Olsen says it may remain vacant for a while, but it's a better opportunity than straight residential. The "100% of ground floor level requirement" is only along 200 South, the core of the new development.

Mr. Dupaix said that there are many vacant ground floors at the 860 East development, but the rest of the buildings are full.

Mr. Olsen said that's how they met the density requirements. They may stay vacant for a while.

Chairman Woffinden thinks that we should stick to our guns on this, we are being watched.

Ms. Anderson asked about the rationale for differing requirements, why is 100% ground-level mixed-use required in some areas and 25% in others?

Mr. Olsen explained that the core of the TOD will be along 200 South and that's the focus for now.

Mr. Ben Hunter has no comments from the Engineering Division.

Public Hearing Opened

Public Hearing Closed

Mr. Christiansen moved to recommend approval of the proposed amendments.

Mr. Dupaix seconded the motion. Voting was as follows:

Chairman Woffinden	**Aye**
Chris Christiansen	**Aye**
Christine Anderson	**Aye**
Geoff Dupaix	**Aye**
Harold Dudley	**Aye**
Rod Brocious	**Aye**
Ryan Hunter	**Nay**

The motion carried.

5. Hearing, review and action on amendments to Section 15.01.1850 of the American Fork City Municipal Code

Mr. Ben Hunter said that the Engineering Division recommends adopting this change. Access spacing recommendations are not currently requirements, from a legal standpoint they should be changed to requirements. In addition, the current code doesn't show access recommendations or requirements for TOD roads.

Mr. Dupaix asked if changes after the fact might cause problems.

Mr. Brocious said that changes are being made for safety reasons.

Mr. Ben Hunter replied that it would give developers a rule, it would not be optional as is the case now. This would also cover the entire city. Right now Engineering can only tell developers their recommendations.

Public Hearing Opened

Public Hearing Closed

Mr. Dupaix moved to recommend approval of the code text amendment.

Mr. Christiansen seconded the motion. Voting was as follows:

Chairman Woffinden	**Aye**
Chris Christiansen	**Aye**
Christine Anderson	**Aye**
Geoff Dupaix	**Aye**
Harold Dudley	**Aye**
Rod Brocious	**Aye**
Ryan Hunter	**Aye**

The motion carried.

6. Other Business

Adam reminds commissioners of the dinner on Friday, February 21 at 6 pm. It will be held at the Nazca Grill.

7. Site Plan Committee Report

Mr. Knobloch reviewed the upcoming Planning Commission items, these include the developments moving through TRC. It is a relatively long agenda with quite a few code amendments. The general plan will be amended for trails. There will be a possible development agreement, the AF10 project, and discussion on Northhampton House. The next meeting will be held on March 4, 2020.

8. Review and action on the minutes of the February 5, 2020 Planning Commission Regular Session

Mr. Dupaix moved to recommend approval of the minutes of the February 5, 2020 Planning Commission Regular Session.

Mr. Dudley seconded the motion. Voting was as follows:

Chairman Woffinden	**Aye**
Chris Christiansen	**Aye**
Christine Anderson	**Aye**
Geoff Dupaix	**Aye**
Harold Dudley	**Aye**
Ryan Hunter	**Aye**
Rod Brocious	**Aye**

The motion carried.

9. Adjournment

Mr. Dudley moved to adjourn.
Ms. Anderson seconded the motion. All concurred.

Meeting adjourned at 8 pm.

Lisa Halversen, Administrative Assistant