

City of Truth or Consequences 505 Sims Street Truth or Consequences, New Mexico 87901 City (575) 952-0490• Fax (575) 894-0363

ADDENDUM #2

June 8, 2022

<u>PROJECT:</u> RFP #21-22-009 Engineering Services for the Truth or Consequences Airport Improvements

Owner: City of Truth or Consequences New Mexico

This addendum forms a part of the Contract Documents and modifies the original RFP Documents. Each proposer shall acknowledge receipt of addendum number two (2) on Appendix A below and <u>submit prior to the submission of their proposal</u>.

This addendum is in response to written questions submitted prior to or by the deadline of 6/10/22 and changes to the original RFP.

Q 1: A new Chief Procurement Officer was introduced at the meeting. In regards to Section E of the RFP, will the proposal be received by the current CPO or the new CPO? If it is the new CPO, could you please provide their name?

A 1: Please just send all correspondence, Response to proposals, etc. to:

Chief Procurement Officer 505 Sims Street Truth or Consequences, NM 87901 procurement@torcnm.org

Q 2: Will and updated project list be issued?

A 2: The Airport CIP (Capital Improvement Plan) will not be changed at this time. That is only completed and submitted to FAA and State once a year. However, we would like to make the following changes on the original RFP #21-22-009:

SECTION A: Project Description

The City of Truth or Consequences is soliciting qualification and experience information to be used in selecting principal consultants to provide planning and/or engineering services for the following potential projects at the Truth or Consequences Municipal Airport.

The City of Truth or Consequences plans to award a one-year contract with possibly three (3) one Year renewals for the engineering services for any and all engineering projects subject to Federal Assistance under the Airport and Airway Improvement Act of 1892 as amended. Contemplated Projects under this contract may include:

Rehabilitate Taxiway A (RS TW IM) (Preservation)

Environmental Assessment for Airfield Improvements

BIL – Rehabilitate Apron (RS AP IM) (Preservation)

Rehabilitate Runway 13/31 (RS RW IM) (Preservation)

Airfield Pavement Maintenance

Runway Safety Area Grading (SA RW SF)

Replace ASOS with AWOS (remove)

Update ALP/Action Plan or Master Plan

Environmental documentation for projects

Fuel Farm Improvement

Add: Moving of the entry gate to further north on the fence line

Q 3: See Below

- 1. Can we get an electronic copy of the 2007/2008 Action Plan/Master Plan/ALP Narrative or a more recent document if one has been completed?
- 2. Can we get a copy of the terminal area layout plan, airport business plan, or any derivative of such a document that was accomplished in the last 5 to 7 years?
- 3. Can we get a copy of the Ultimate Airport Layout Plan (ALP) and the Existing ALP with any pencil and ink revisions?
- 4. Has a crosswind study been conducted in the last 4 years and if so, can you please provide a copy of the study?

A 3: The only planning documents we have for the airport will be attached as follows:

2010 ALP Sheet1-signed

2010 ALP Sheet2-signed

14110 TCS Final RPT 02-27-2015 Financial Bus Analysis Terminal Plan

Ordinance 574-Airport Impact Overlay

TCS Airport Action Plan – August 2009 WH Pacific

APPENDIX A

ACKNOWLEDGEMENT OF RECEIPT OF ADDENDUM #2 TO RFP# 21-22-009

Engineering Services for the Truth or Consequences Airport Improvements

This Acknowledgement of Receipt of <u>Addendum #2</u> should be signed and submitted <u>prior to</u> the submission of the proposal on the June 16, 2022 due date.

In acknowledgement of receipt of this Addendum #2 for Request for Proposal, the undersigned agrees that he or she has received a complete copy of the Revised RFP and the Addendum #2.

The name and address below will be used for all correspondence related to the Request for Proposal.

DATE RECEIVED:		
ORGANIZATION:		
CONTACT NAME:		
TITLE:	PHONE NO.:	
E-MAIL:		
ADDRESS:		
CITY:	STATE: ZIP CODE:	

Submit Acknowledgement of Receipt of Addendum Form to:

To: Chief Procurement Officer

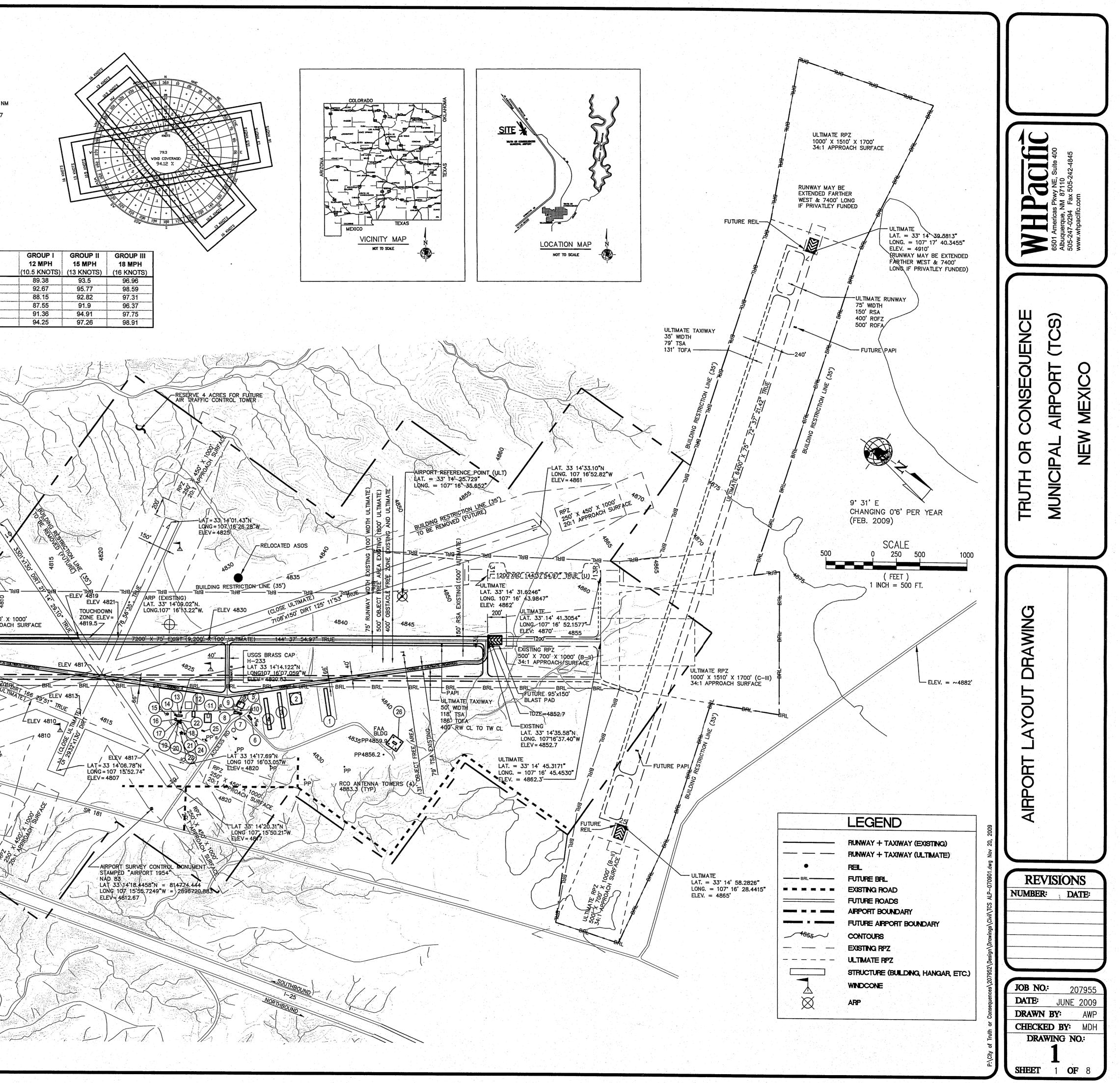
E-mail: procurement@torcnm.org

Subject Line: Addendum #2 RFP #21-22-009 Engineering Services for the Truth or Consequences Airport Improvements

DWG. NO. 3 AIRS DWG. NO. 4 RW 1	ORT LAYOUT DE A TABLES PACE 3—31 INNER A	PPROACH	SORGE
DWG. NO. 6 RW 1 DWG. NO. 7 PROF DWG. NO. 8 LAND) USE DRAWING	PROACH	TRUTH OR CONSEQUENCES, NM NATIONAL CLIMATIC DATA CENTER, 1998 – 2007
AIRPORT DATA AIRPORT DATA Airport Elevation (MSL) Airport Reference Point (NAD 83) Lattitude Longitude Mean Max Temperature of Hottest Month	A TABLE EXISTING ULTIMATE 4853' 4910' 33° 14' 09.22" 33° 14' 25.72" 107° 16' 13.22" 107° 16' 35.65" 95.8° F 95.8° F		
Airport Terminal Area NAVAIDS Magnetic Variation Date of Magnetic Variation NPIAS Service Level Airport Reference Code Design Aircraft Taxiway Lighting Taxiway Marking	9° 31' E" 9° 31' E" FEB. 2009 FEB. 2009 GA CS B-II C-III King Air B-737 Reflector MITL reflector MITL/reflector		RUNWAY 13-31 RUNWAY 1-19 RUNWAY 7-25
U.S.G.S. Quadrangel Township/Range C.B.D. to Airport Airport Acreage Flight Service Station Sectional Chart Coverage	7.5' CuchillosameT12S, R4Wsame7 mi Ssame7901060AlbuquerquesameAlbuquerquesame		RUNWAY 11-29 RUNWAY 15-33 COMBINED 13-31 & 7-25
Low Altitude UNICOM Frequency HOT SPRINGS MOTORPLEX LAND	L-4 same 122.80 same	Y	
			LAT. 33 13'49.86"N LONG. 107 16'04.29"W ELEV= 4811
ULTIMATE RPZ 1000' X 1516' X 1700' 34:1 APPROACH SURFACE			
	EXISTING RPZ 500' X 700' X 100 34:11 APRROACH SL 200 80 80		
$H = \frac{107 \cdot 15' 42.6}{H}$		BRL BRL BRL BRI	BRL BRL BRL BRL COSt UT 2081877 EXISTING LAT. = 33' 13' 51.24" LONG. = 107' 15' 55.68" ELEV. = 4805
		RPZ X 450' X 000' 250' X 450' X 000' 20:1 APPROACH SU' 20:1 APPROACH SU' 20:1 APPROACH SU' LAT. 33 3' LONG. 10	52.87 [#] N 15'45 73"W
FEDERAL AVIATION A SOUTHWEST F	DMINISTRATION	ELEV = 4798 SOUTHBOUND 1-25	$\sim \mathbf{N}$. \mathcal{G} is a second second second from I , I , I , I
APPROVA Approved subject to conditions/ 1/24/10 1/24/10	Comments in letter dated		
PREPARED BY: WHPACIFIC INCO DATE:			

12/11/09

DATE:



				2 4 4							
	Runway 13-31	Runway (13L-31)R		NEW Runway 7-25			RUNWAY DAI A TABLE				
RUNWAY DATA	Existing	Ultimate	Existing	Ultimate	Existing	25	Runway 11-29		Runway 615-33		
			<u> </u>			- Ontillate and	Existing	Ultimate	Existing	Ultimate	
Effective Gradient (%)	0.81	0.89	_		0.77	CLOSE		CLOSE		CLOSE	
Max. Elevation (MSL)	4852.7	4875	_		4825		0.43		0.32		
Runway Length	7,200	9,150	-	6,400	2,932		7 400				
Runway Width	75	100	-	75	130		7,108		2900		
Surface Type	PFC/Asphalt	PFC/Asphalt	-	PFC/Asphalt	Dirt		150		140		
Pavement Strength			-				Dirt		Dirt		
Single Wheel	12.5K	60K	-	12.5K				1415-144 1415-144			
Dual Wheel	30K	95K	-	60K	NA		NA				
Dual Tandem			_						NA		
Approach Surface Slope	34:1/34:1	34:1/34:1	-	34:1/34:1	20:1/20:1		20:1/20:1				
Approach Minimums	1 Mile/1 Mile	>3/4 Mile/1 Mile	-	>3/4 Mile/1 Mile	V/V		V/V	576575 5295765 5395755	20:1/20:1		
Visual Approach Aids	PAPI (2)/PAPI (2)	PAPI (4)/PAPI (4)	-	PAPI (4)/PAPI (4)	none		none		V/V		
Instrument Approach Aids		ODALS	-	ODALS					none none		
Runway Lighting	MIRL	MIRL	-	MIRL	none		none				
Runway Marking	NPI/NPI	NPI/NPI	-	NPI/NPI	none		none		none		
Airport Reference Code (ARC)	B-II	C-III	-	B-II	A-I Small Aircraft		A-I Small Aircraft				
Critical Aircraft	King Air	Boeing 737	-	Citation Jet II	Piper Cub		Cessna 180		A-I Small Aircraft		
Runway Object Free Area (ROFA)			-						Cessna 180		
Length Beyond Runway	300	1,000	-	300	240		240		240 CAA		
Width	500	800	-	500	250		250		240		
Runway Safety Area (RSA)			-						250		
Length Prior to Landing Threshold	300	600			240		240		<u>240</u>		
Length Beyond Runway End	300	1,000	-	300	240		240		240		
Width	150	500	-	150	120		120		120		
Runway Obstacle Free Zone (OFZ) Width	400	400		400	250		250		250		
Part 77 Category	C/C	C/D		C/C	A/A		A/A		A/A		
Runway End Coordinates (NAD 83)			-								
Lattitude	N33° 14' 37.78"/N33° 13' 39.83"	N33° 14'45.31"/N33° 13' 31.19"	-	N33° 14' 39.3813"/N33° 14' 58.28"	N33° 14' 03.65"/N33° 14' 09.01"		N33° 14' 35.31"/N33° 13' 55.11"		N33° 14' 17.69"/N33° 13' 51.24"		
Longitude	W107° 16' 27.87"/W107° 15' 38.57"	W107° 1645.45"/W107°15' 42.63"			W107° 16' 16.78"/W107° 15' 43.24"		W107° 16' 43.33"/W107° 15' 36.22"		W107° 16' 03.055"/W107° 15' 55.68"		N:
Runway End Elevations (MSL)	4852.7'/4794.3'	4875'/4801'		4910'/4865'	4825/4807		4861/4798		4820/4805		
Displaced Threshold Elevation (MSL)	4852.7'/4819.5'	4875'/4793'									
TDZ Elevation (MSL)	4652.774819.5	407374793		4910'/4884'	4825/4825		4861/4830	12.4	4820/4820		
Runway Protection Zone	1,000	1,700		1 700							
Length Inner Width	500	1,000		1,700	1,000		1,000		1,000		2027-52 2022-5
Outer Width	700	1,510		1510	250		250		250		
Central Portion of the RPZ	100			1510	450		450		450		
Width	500	1,000	-	1000	250						
Length	1,000	1,700		1,700	250 1,000		250		250		
Taxiway Width	35	50		198,0	none		1,000		1,000		
Taxiway Safety Area (TSA) Width	79	118			none		none		none		
Taxiway Object Free Area (TOFA) Width	131	186		131	none		none		none		
Building Restriction Line (BRL)				235			none		none		
Height at BRL	35	35	-	35	35	2452					
Distance from Runway Centerline	495	495	-	495	33		35		35		
Instrument Approach Procedures	RNAV(GPS)-A, VOR-A	RNAV(GPS)-13/31 /AVP-RNP	-	RNAV(GPS)-7/25 /AVP-RNP			370		370		
Approach/Departure Surfaces (AC 150/5300-13,		Rows 1-5 / Rows 4-9	-	Rows 1-5 / Rows 4-9	Rows 1-2		Powe 1.0				
Appendix 2 Table A2-1 rows)							Rows 1-2		Rows 1-2		
Lui		Dire			RE3621						

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	EXISTING AIRPORT FACILITIES DATA				
#	FACILITY NAME	Ground Elevation		FUTURE	
1	AUGIE HANGAR	4845	#	Facility Name	Top Elevation
2	LAFONT CORPORATE HANGAR	4837	A	TERMINAL	
3	NORTH "WHITE" T-HANGAR	4840	В	EECTRIC VAULT	
4	SOUTH "RED" T-HANGAR	4840	C	NEW FUEL STORAGE	
5	FUEL FARM				
6	MOBILE HOME	4844			
7	RESTROOMS	4838			
8	TERMINAL	4838			
9	POLE		1	· · · · · · · · · · · · · · · · · · ·	
10	PHILLIPS 66 SIGN			· · · · · · · · · · · · · · · · · · ·	
11	GRAY HANGAR (PIPPEN)	4836	1		
	FIRE STATION	4836	1		
13	ELECTRICAL VAULT (OLD FAA BLDG.)	4829	1		
14	WEST WEATHER OBSERVATION PLATFORM	4829	1		
15	ASOS @ TOWER	4829	1		
16	STORAGE (OLD FAA BLDG.)	4828			·
17	EAST WEATHER OBSERVATION PLATFORM	4832			
18	WELL ELECTRIC (OLD FAA BLDG.)	4840			
19	WELL	4832	1		
20	WATER METER			- All All All All All All All All All Al	
21	GENERATOR BLDG. (OLD FAA BLDG.)	4838	1		
22	WATER PRESSURE TANK (OLD FAA BLDG.)	4840			
23	ROTATING BEACON @ CENTER	4835		· · · · · · · · · · · · · · · · · · ·	
24	FAA SENSORS (OUT OF COMMISSION)	4832			
25	FUEL TANK (OLD AIR FORCE)	4829	1		· · · · · · · · · · · · · · · · · · ·
	FAA RCO (AUTOMATED STATION)	4851			
	GRAY T-HANGAR (OLD)	4817			

N. R. S.

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NOTE: AF FUEL STORAGE & OLD FAA BUILDINGS (TO BE REMOVED) EXCEPT WELL/TREATMENT BUILDING.

NON-STANDARD CONDITIONS

1. BUILDINGS IN RUNWAY VISIBILITY ZONE. CONDITION WILL BE MITIGATED WHEN DIRT RUNWAYS CLOSED

NOTES:

 UNPAVED RUNWAYS NOT CLOS UNTIL NEW PAVED 7-25 OPEN
 NEW RUNWAY 7-25 MAY BE LI & STRONGER IF PRIVATELY FUI

Runway 1-19 Existing 0.84 3301 130 Dirt	Ultimate CLOSE	NEW Runway 13R-31E Ultimate 1,200 60		
NA 20:1/20:1 V/V none		Asphalt 12.5K V/V none		WHAPPACIA 6501 Americas Pkwy NE, Suite 400 Albuquerque, NM 87110 505-247-0294 Fax 505-242-4845 www.whpacific.com
none none A-I Small Aircraft Cessna 180 240 250		Reflectors A-1 Small Aircraft Piper Cub 240 250		6501 Ame Albuquert 505-247-(www.whp
240 240 120 250 A/A N33° 13' 49.86"/N33° 14' 20.31" /107° 16' 04.29"/W107° 15' 50.21"	N33°	240 240 120 250 A/A 14' 41.3054"/N33° 14' 31.62"		ENCE (TCS)
4817/4817 1,000 250 450		16' 52.15"/W107° 16' 43.9847" 4865'/4862' 1,000 250 450		CONSEQUEN ARPORT (TC MEXICO
250 1,000 none none 35 370		250 1,000 25 35		PAL NEW
Rows 1-2		370 Rows 1-2		
				E B B B B B B B B B B B B B B B B B B B
LOSED PEN. E LONGER FUNDED.				DATA TABL
			88	
			ALP070901.dwg Nov 20, 2009	REVISIONS NUMBER: DATE:
			P:\City of Truth or Consequences\207952\Design\Drawings\Civil\TCS ALP	
			uth or Consequences 20795;	JOB NO.: 207955 DATE: JUNE 2009 DRAWN BY: AWP CHECKED BY: MDH
			P. City of Tr	DRAWING NO.: 2 SHEET 2 OF 8

Truth or Consequences Municipal Airport Financial and Business Analysis Terminal Area Plan



Prepared By: Delta Airport Consultants, Inc. 9711 Farrar Ct., Suite 101 Richmond, VA 23236



February 2015

City of Truth or Consequences, NM Truth or Consequences Municipal Airport Business Plan and Financial Analysis

Project Scope and Background

In an effort to support and advance the City of Truth or Consequences' (City) vision for the Truth or Consequences Municipal Airport (TCS), the City retained Delta Airport Consultants, Inc. (Delta) to undertake the development of a business plan to examine strategies that it may opt to pursue to:

- ✤ Increase the overall flow of revenue from airport operations
- ✤ Reduce costs
- ➔ Understand the potential impacts to TCS's financial and operational performance as the result of tourism, potential commercial development, and the construction and operation of Spaceport America.

The foundation for this work effort includes an examination of historical airport revenues and expenditures, development of a model to forecast future financial outcomes for TCS over the next five year period, benchmarking TCS against a peer facility, and providing recommendations and an action plan for consideration by the City Council.

On August 27-28, 2014, representatives of Delta conducted a site visit to TCS to interview key Airport Stakeholders in order to gain an understanding of the TCS operating environment, gather legal and financial data, and obtain information on the region's travel and tourism attractions and amenities. Meetings were held with Airport Advisory Board members, the Assistant City Manager, Airport employees, the City Clerk, the Truth or Consequences Chamber of Commerce, based aircraft pilots, and the Sierra Grande Lodge and Spa. Subsequent to this site visit, Delta conducted a telephone interview with a representative of the Elephant Butte Chamber of Commerce. During this site visit, City representatives provided Delta with the following documents and data:

- ✤ Historical, detailed (account-by-account) financial statements for the period FY2011-14
- → Detailed year-to-date financial statements for the current year (FY2015)
- ↔ Current year (FY2015) adopted operating and capital budgets
- ✤ Background information on current capital improvement projects and major maintenance programs
- ✤ Current rates and charges schedules





- ✤ Airport lease, use, and privilege agreements
- ↔ Historical fuel delivery and cost data for the period FY2011-2014

These data provide the basis for developing an analysis of TCS's overall expense and revenue performance over the past several years as well as creating a five year forecast of operating revenues and expenses for TCS.

This report is organized to provide background on TCS, its mission, and operating profile; a summary of the findings from the interviews conducted with Airport Stakeholders; presentation of the financial model developed with the data provided by the City; a competitive analysis of TCS gauged against the Las Cruces International Airport; and recommendations and a proposed action plan for TCS. The outcome of this work effort provides the City with a financial overview of TCS with consideration given to the impacts of tourism, commercial development, and the operation of Spaceport America on the operation of this facility.

Airport Description and Background

TCS is a public use general aviation airport owned and operated by the City. It is served by a 7,202 x 75' paved runway with full parallel taxiway, four dirt/gravel surfaced runways, terminal building, fuel facility, and hangars. It is comprised of approximately 800 acres of property and is classified by the New Mexico Department of Transportation Aviation Division (NMAD) as a Regional General Aviation facility. TCS is also recognized in the Federal Aviation Administration's (FAA) National Plan of Integrated Airport Systems (NPIAS). The City owns and operates the fixed base operation at TCS and provides aviation fuel, line service, hangars, and tiedowns. The City has established the following Mission Statement related to its ownership and operation of TCS:

"The Mission of the Truth or Consequences Municipal Airport is to serve the aviation community at all times with professionalism and safety and to provide quality services and facilities, come rain or shine. We embrace current technologies and plan for the future of aviation."

According to the airport's FAA 5010 form published on April 21, 2014 thirty three aircraft are based at TCS consisting of twenty-seven single-engine, one jet, and five ultralight aircraft. In addition, the Airport supports approximately 16,000 aircraft operations each year. According to the 2009 New Mexico Airport System Plan Update published by NMAD, TCS has an economic impact of \$4.7 million to the greater Sierra County region, directly or indirectly supports 80 jobs, and produces \$1.92 million in payroll.





Airport Stakeholder Feedback

Responses, perceptions, and observations provided during interviews with Airport stakeholders are categorized below as organizational strengths, weaknesses, opportunities, and threats:

Strengths:

- ✤ Location relative to Interstate 25 easy access
- ✤ Basic amenities
- ✤ Service offered to pilots and aircraft owners by City employees
- ✤ No debt
- ✤ City funding support
- ✤ Wide range of aviation activity corporate aircraft, U.S. Forest Service, sport aircraft, military operations
- ✤ Hangar facilities
- ✤ Experienced and engaged Airport Advisory Board some members have over 30 years of service on Board

Weaknesses:

- → Budget shortfalls and reliance on annual City general taxpayer support
- ✤ Lack of "Gateway" image for airport terminal signage to/from interstate, entrance sign, and terminal building age/condition
- ✤ Age of fuel farm and need to bring it into compliance with state regulations
- ✤ Hangars; while properly maintained and relatively new, not all are used solely for storage of aircraft
- ✤ Limited supply of hangars
- ✤ Lack of 3-phase electrical power needed to provide larger hangars and ground support to larger aircraft
- ✤ Limited water availability
- ✤ Lack of availability of flight training, aircraft maintenance, and other typical services offered at a general aviation airport
- ✤ Runway pavement strength and length is limiting in terms of being able to accommodate larger business jet aircraft
- \rightarrow No helipad or designated approach for helicopters
- ✤ Lack of consistent data collection and monitoring related to type/time of daily aircraft operations, fuel sales, cost of fuel sold, aircraft hangar waiting list





Opportunities:

- ↔ Link TCS to Spaceport America and travel and tourism promotion efforts in region
- ✤ Outreach, promotion, and marketing with state/regional pilot and users group such as the "Experimental Aircraft Association" and New Mexico Pilots Association
- ✤ Expand military use of airfield and obtain Department of Defense Contract Fuel designation
- ↔ Strengthen relationship with U.S. Forest Service and helicopter operations
- ✤ Non-aeronautical use of airport property along Interstate 25
- \leftrightarrow Solar farm to generate electricity for TCS
- ✤ Conversion of abandoned Flight Service Station buildings to provide historical monument and attraction for guests and visitors
- ↔ Rehabilitate and preserve existing T-33 Air Force Fighter jet at Airport entrance
- ✤ Convert an existing "cross-wind" dirt runway to paved facility

<u>Threats:</u>

- → Fuel farm closure due to non-compliance with state regulations
- ✤ Reduction or elimination of City's General Fund transfer to Airport for annual operations
- ↔ Services, amenities, and facilities at Las Cruces International Airport
- ✤ Lack of AT&T cell phone service in region

The above feedback, observations, and perceptions provided by Airport stakeholders is to be assessed and evaluated in conjunction with development of the Financial Model in the following section to derive recommended action plans and strategies for the City to consider undertaking at TCS.

Financial Model

Organizationally, TCS is considered an Operating Division of the Department of Community Development, one of eleven City departments charged with delivering a broad range of services to citizens and guests of Truth or Consequences. The City utilizes a Fund Accounting System to monitor and track revenues and expenditures. The General Fund is the City's primary operating fund and accounts for all financial resources of the general government. It tracks Airport revenues and expenses in an Enterprise Fund (Airport Fund) for purposes of financial reporting.

The Finance Department acts as the fiscal agent for the Airport and is responsible for maintaining its budgetary as well as revenue and expenditure accounts. The City maintains





discrete financial records for itemized revenues and expenses of the Airport. The City's fiscal year (FY) is July – June and it utilizes the full accrual basis of accounting for reporting financial results. Annual budgets are prepared prior to June 1 each year and must be approved by resolution of the City Commissioners and submitted to the Department of Finance and Administration for state approval. The appropriated budget is prepared by fund, department, and program. The City utilizes eleven distinct Operating Revenue and thirty-five Operating Expenditure codes to track Airport revenues and expenses. For purposes of this analysis, historical financial data from these distinct categories were aggregated into broader functional areas. As such, both Revenue and Expenditure data generally corresponds to City records.

This analysis offers TCS a baseline evaluation of revenues and expenses over the past five years in order to provide a framework for understanding future expenditures and revenue streams. It is not intended to serve as a true Airport profit and loss statement; instead, it offers insight to emerging trends that could impact the future financial performance of TCS. The techniques utilized in this analysis are consistent with industry practices for similar studies. While it is believed that the approaches and assumptions are reasonable, it should be recognized that some assumptions regarding future trends and events might not materialize. Achievement of the proposed capital improvement plan as well as the operating results described herein is dependent upon the occurrences of future events and variations may be material.

Historical Airport Revenues

To aid this analysis as well as provide a clearer understanding of historical trends, the following broad revenue categories established by the City were utilized:

- ↔ Fuel Sales: Jet A and Aviation
- ✤ Fuel Sales: Regular Gas
- ✤ Rentals
- ✤ Lease Agreement
- ✤ Short Term Hangar Rental
- ➔ Insurance/Other
 Reimbursements

- ✤ Investment Income
- ✤ Rents/Royalties
- ✤ Government Gross Receipts
- → Transfers In
- ✤ Transfers Out

Table 1 depicts the Airport's historical revenues from FY2011 through FY2013 along with Estimated and Expected Revenues for FY2014 and FY2015, respectively. During this period, total Airport operating revenue experienced a decrease of approximately \$34,000 from \$194,724 in FY2011 to \$161,123 in FY2015 (Budget). This loss of operating revenue is attributable to one time receipts from



insurance claims by the City in Fiscal Years 2011 and 2012 as well as a decreased reliance on City General Fund Transfers during the period. In FY2011, \$115,000 was transferred from the City's General Fund to Airport Operations compared to \$70,000 expected in FY2015.

		1	1			
	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Estimated	FY 2015 Budgeted	FY11-15 CAGR
FUEL SALES						
JET FUEL SALES	\$103,781	\$154,127	\$159,244	\$114,941	\$109,000	1%
LESS: COGS JET FUEL	\$86,142	\$112,464	\$115,141	\$93,148	\$75,000	-3%
NET JET FUEL REVENUE	\$17,639	\$41,663	\$44,103	\$21,793	\$34,000	18%
AVIATION FUEL SALES	\$55,222	\$46,090	\$45,722	\$55 <i>,</i> 645	\$50,200	-2%
LESS: COGS AVIATION FUEL	\$51,938	\$41,493	\$42,109	\$41,428	\$42,000	-5%
NET AVIATION FUEL REVENUE	\$3,284	\$4,597	\$3,613	\$14,217	\$8,200	26%
REGULAR GAS SALES	\$3,740	\$2,162	\$678	\$0	\$0	-100%
LESS: COGS MOGAS	\$3,392	\$5,440	\$7,500	\$0	\$0	-100%
NET REGULAR GAS REVENUE	\$348	-\$3,278	-\$6,822	\$0	\$0	-100%
SUBTOTAL: TOTAL NET FUEL REVENUE	\$21,271	\$42,982	\$40,893	\$36,010	\$42,200	19%
HANGAR & LAND RENTAL REVENUE						
RENTALS	\$33,200	\$37,725	\$28,310	\$33,450	\$33,000	0%
LEASE AGREEMENT	\$0	\$0	\$9,000	\$7,700	\$7,800	-7%
SHORT TERM HANGAR RENTAL	\$540	\$237	\$500	\$15	\$0	-100%
SUBTOTAL: HANGAR & LAND	622 740	627.062	627 810	641 1CF	¢40.900	F0/
REVENUE	\$33,740	\$37,962	\$37,810	\$41,165	\$40,800	5%
OTHER REVENUE	4 4 4 4 4	4.0.1	400	4444	4000	
OIL SALES INSURANCE OTHER	\$483	\$61	\$98	\$293	\$300	-11%
REIMBURSEMENTS	\$17,012	\$24,212	\$4,604	\$100	\$100	-72%
INVESTMENT INCOME	\$21	\$21	\$18	\$25	\$23	2%
RENTS/ROYALTIES	\$1,290	\$3,285	\$4,020	\$1,675	\$1,700	7%
GOVT GROSS RECEIPTS	\$5,907	\$9,122	\$7,180	\$5,611	\$6,000	0%
SUBTOTAL: OTHER REVENUE	\$24,713	\$36,701	\$15,920	\$7,704	\$8,123	-24%
TRANSFERS						
IN	\$115,000	\$78,000	\$98,945	\$50,000	\$70,000	-12%
OUT	\$0	-\$9,519	-\$7,650	\$0	\$0	
SUBTOTAL: TRANSFERS (IN/OUT)	\$115,000	\$68,481	\$91,295	\$50,000	\$70,000	-12%
TOTAL REVENUE:	\$194,724	\$186,126	\$185,918	\$134,879	\$161,123	-5%

 Table 1. Historical Airport Revenue for TCS Municipal Airport.

CAGR: Compound Annual Growth Rate

Source: City of TCS Fiscal Years Ending 2011-2015 Financial & Budget Reports, Delta Airport Consultants, Inc.



Note:

Jet A fuel sales activity was positive during this period increasing one percent per year from \$103,781 in FY2011 to \$109,000 (Budget) for FY2015. Aviation fuel (100LL); however, witnessed a two percent per year decline from \$55,222 to \$50,200 during this period. Comparing the Cost of Goods Sold (COGS) against sales for both grades of fuel reveals that the City was able to maintain positive cashflow from these retail activities and generate a sustainable and consistent profit margin level. This is reflected by the fact that Total Net Revenue from fuel sales increased 19 percent per year during this period from \$21,271 in FY2011 to \$42,200 (Budget) in FY2015. While total fuel net revenue grew in a positive sustainable manner during this five year period, "Rentals" which represents collection of fees for occupancy and use of hangar facilities and Airport property, remained relatively unchanged during this period.

As of FY2015 (Budget) local property tax revenue support from the City's General Fund is expected to account for approximately 43 percent of the Airport's revenue base followed by Total Net Fuel Revenue at \$42,200 (26.2 percent) and Hangars and Land Rental Revenue at \$40,800 (25 percent). Collectively, these three sources of revenue account for 94.2 percent of the Airport's Operating Budget.

Historical Fuel Sales Analysis

As part of the analysis of historical airport revenues, fuel delivery information and invoices from the City's aviation fuel supplier, Ascent Aviation Group, Inc. were reviewed for the period FY2011-14. As depicted in *Figure 1*, Ascent delivered a total 39,553 gallons of 100LL and 110,440 gallons of Jet A fuel to TCS during this three year period. Deliveries of 100LL fuel to TCS generally occurred two to three times per year during this period with total volume averaging 9,888 gallons per year. Jet A turnover and sales greatly exceed the demand for 100LL with approximately five to six deliveries occurring each year and 27,611 gallons being off-loaded at TCS. Based on fuel delivery data, 100LL deliveries generally occur in the late summer and early spring of each year while the period October-February witnesses the greatest demand for Jet A fuel with deliveries clustered around this time period.

Figure 2 graphs the cost per gallon paid by the City for fuel during this period. The City's average cost for 100LL fuel during this period was \$4.49 while Jet A was priced at an average cost of \$3.19 per gallon. In conjunction with the purchase of this fuel, the City incurred a myriad of fees for freight, surcharges, and federal/state excise and special fund taxes. *Figure 3* notes that for 100LL, these costs and taxes ranged from \$0.73 cents per gallon in FY2011 to \$0.83 cents a gallon in FY2014; averaging \$0.78 per gallon for this period. In terms of Jet A, these fees and taxes ranged from \$0.45 per gallon in FY2011 to \$0.54 per gallon in FY2014; an average of \$0.52 for the period. These increases are primarily attributable to fuel surcharges that were assessed fuel deliveries by the Airport's fuel supplier starting in 2012.





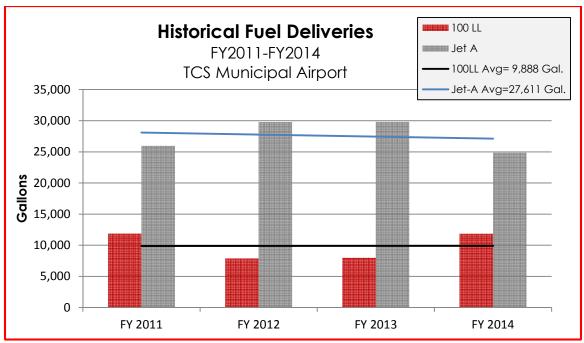


Figure 1. Gallons of Jet A and 100LL Fuel Delivered to TCS Municipal Airport, FY2011-FY2014.

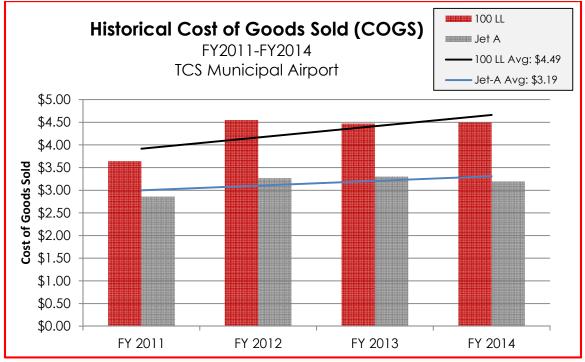


Figure 2. Cost of Fuel Sold at TCS Municipal Airport, FY2011-FY2014.





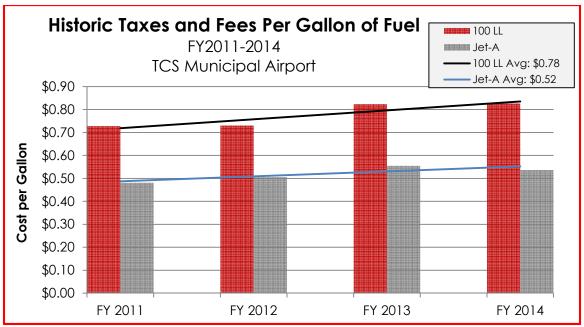


Figure 3. Taxes and Fees per Gallon of Fuel at TCS Municipal Airport, FY2011-FY2014.

Given these data, the City's total cost per gallon for 100 LL fuel ranged from an average of \$4.37 in FY2011 to an average of \$5.32 in FY2014. Correspondingly, the City's average Jet A total cost ranged from \$3.31 in FY2011 to \$3.73 in FY2014. Based on these trends, the City experienced a 23 percent increase in the average price per gallon it paid to Ascent Aviation Group, Inc. for 100LL and a 12 percent increase in its per gallon cost for Jet A.

As depicted in *Table 2* the City's Jet A and 100LL profit margins have experienced fluctuations over the course of the past five years ranging from \$0.64 cents per gallon in 2011 to \$1.60 per gallon in 2013 while the profit margin for 100LL ranged from \$0.33 to \$1.44 per gallon during this same period. Actual fuel sales data by year wasn't available from the City for this entire period; therefore, the average annual delivery amounts; 27,600 gallons for Jet A and 9,900 gallons of 100LL were utilized to approximate annual volume. With these fluctuations, the average profit margin attained by the City for Jet A was \$1.15 per gallon and \$0.70 per gallon for 100LL.





	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Estimated	FY 2015 Budgeted	FY11-15 AVG PROFIT
_JET FUEL						
JET FUEL SALES	\$103,781	\$154,127	\$159,244	\$114,941	\$109,000	
LESS: COGS JET FUEL	\$86,142	\$112,464	\$115,141	\$93,148	\$75,000	
NET JET FUEL REVENUE	\$17,639	\$41,663	\$44,103	\$21,793	\$34,000	
AVERAGE USAGE (GALLONS)	27,600	27,600	27,600	27,600	27,600	
PROFIT MARGIN (\$ PER GALLON)	\$0.64	\$1.51	\$1.60	\$0.79	\$1.23	\$1.15
AVIATION FUEL						
AVIATION FUEL SALES	\$55,222	\$46,090	\$45,722	\$55 <i>,</i> 645	\$50,200	
LESS: COGS AVIATION FUEL	\$51,938	\$41,493	\$42,109	\$41,428	\$42,000	
NET AVIATION FUEL REVENUE	\$3,284	\$4,597	\$3,613	\$14,217	\$8,200	
AVERAGE USAGE (GALLONS)	9,888	9,888	9,888	9,888	9,888	
PROFIT MARGIN (\$ PER GALLON)	\$0.33	\$0.46	\$0.37	\$1.44	\$0.83	\$0.69

 Table 2. Profit Margin Analysis for TCS Municipal Airport.

Source: City of TCS Fiscal Years Ending 2011-2015 Financial & Budget Reports Delta Airport Consultants, Inc. Analysis

Demand for Jet A fuel at TCS is driven by transient aircraft traffic during the late fall through spring timeframe. An examination of data from the "FlightAware" website: www.flightaware.com for TCS reveals that 98 jet aircraft operations occurred during this period with the Bombardier CL60 aircraft comprising 26 percent of these flights. The Cessna Citation X operated 13 percent of these flights with the remaining flights being operated by20 other small business jet aircraft. Among the top originating airports for these aircraft were:

- ✤ Denver International Airport, CO
- → Denver Centennial Airport, CO
- → DeKalb Peachtree Airport, GA
- → Aspen Pitkin Airport, CO
- ✤ Southwest Georgia Regional Airport, GA
- ↔ Baton Rouge Metropolitan Airport, LA

Although averaging only approximately 33 jet aircraft operations each year, TCS is demonstrating its capability to serve this segment of the market. As evidenced in Jet A fuel sales, this is a segment of the market that the City should explore means and methods to expand and grow.





Summary of Historical Airport Revenue

During the five year period FY2011-15 (Budget), total Airport operating revenue experienced a decrease of five percent per year from \$194,724 in FY2011 to \$161,123 in FY2015 (Budget). This decrease was driven more by receipt of one-time insurance proceeds and claims in FY2011-12 and a decreased need for City General Fund transfers rather than negative trends in fuel or business activity. While rents remained static during this period and 100LL fuel sales decreased, net revenue from fuel sales posted strong gains indicating that the City is achieving a sustainable profit margin for its fueling activities. Continued, systematic evaluation of fuel profit margins is encouraged to ensure the City is recouping its costs and providing a base to generate revenue for the benefit of the airport. The mix of small business aircraft that frequent TCS serves as a source for potential outreach and marketing as the City moves forward with attempting to attract and promote its airport facilities. Finally, those business activities and leases that constitute "Rentals" should be examined to ensure that rental fees and charges are being adjusted periodically.

Projected Airport Revenue

Estimates of the Airport's future revenues were developed based on historical trends from FY2011 through FY2013, estimated totals for FY2014, the FY2015 budget, and an analysis of future revenue potential. *Table 3 p*resents estimated revenues for FY2014 and 2015 as well as projected revenues for the period from FY2016 through FY2020.

It is expected that revenue will increase during this period at a compounded annual growth rate of 1 percent resulting in overall revenue levels growing from approximately \$154,419 to \$163,264; slightly above FY2015 forecasts. Expected trends for major sources of airport revenue activity are summarized below:

- → Fuel profit margins are maintained at \$1.15 per gallon for Jet A and \$0.70 per gallon for 100LL throughout the five year period. TCS's retail listed fuel price as of November 11, 2014 for Jet A was \$5.00 per gallon and \$6.00 per gallon for 100LL. Assuming fuel delivered price of \$3.72 per gallon for Jet A in August 2014 and \$5.51 for 100LL in June 2014, TCS is currently exceeding this target profit margin for Jet A; however, is approximately \$0.20 short of this goal for 100LL
- \leftrightarrow Rentals are increased three percent per year during this five year period
- ✤ Lease Agreement revenues also increase three percent per year

By achieving the target profit margin goals for Jet A and 100LL and applying annual rent increases for hangars, the City's General Fund Transfer for Airport Operations stabilizes during this period increasing one percent each year from \$71,500 in FY2016 to \$73,500 in FY2020.





 Table 3. Estimated Airport Revenues

	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020
	Estimated	Budgeted	Projected	Projected	Projected	Projected	Projected
FUEL SALES							
JET FUEL SALES	\$114,941	\$109,000	\$133,032	\$134,362	\$135,706	\$137,063	\$138,434
LESS: COGS JET FUEL	\$93,148	\$75,000	\$101,292	\$102,305	\$103,328	\$104,361	\$105,405
NET JET FUEL REVENUE	\$21,793	\$34,000	\$31,740	\$32,057	\$32,378	\$32,702	\$33,029
AVIATION FUEL SALES	\$55,645	\$50,200	\$57,123	\$57,694	\$58,271	\$58 <i>,</i> 854	\$59,442
LESS: COGS AVIATION FUEL	\$41,428	\$42,000	\$50,193	\$50 <i>,</i> 695	\$51,202	\$51,714	\$52,231
NET AVIATION FUEL REVENUE	\$14,217	\$8,200	\$6,930	\$6,999	\$7,069	\$7,140	\$7,211
SUBTOTAL: TOTAL NET FUEL REVENUE	\$36,010	\$42,200	\$38,670	\$39,057	\$39,447	\$39,842	\$40,240
HANGAR & LAND RENTAL REVENUE							
RENTALS	\$33,450	\$33,000	\$33,990	\$35,010	\$36,060	\$37,142	\$38,256
LEASE AGREEMENT	\$7,700	\$7,800	\$8,034	\$8,275	\$8,523	\$8,779	\$9,042
SHORT TERM HANGAR RENTAL	\$15	\$0	\$100	\$100	\$100	\$100	\$100
SUBTOTAL: HANGAR & LAND REVENUE	\$41,165	\$40,800	\$42,124	\$43,385	\$44,683	\$46,021	\$47,398
OTHER REVENUE							
OIL SALES	\$293	\$300	\$300	\$300	\$300	\$300	\$300
INSURANCE OTHER REIMBURSEMENTS	\$100	\$100	\$100	\$100	\$100	\$100	\$100
INVESTMENT INCOME	\$25	\$23	\$25	\$25	\$25	\$25	\$25
RENTS/ROYALTIES	\$1,675	\$1,700	\$1,700	\$1,700	\$1,700	\$1,700	\$1,700
GOVT GROSS RECEIPTS	\$5,611	\$6,000	\$0	\$0	\$0	\$0	\$0
SUBTOTAL: OTHER REVENUE	\$7,704	\$8,123	\$2,125	\$2,125	\$2,125	\$2,125	\$2,125
TRANSFERS							
IN	\$50,000	\$70,000	\$71,500	\$65,000	\$67,500	\$70,500	\$73,500
OUT	\$0	\$0					
SUBTOTAL: TRANSFERS (IN/OUT)	\$50,000	\$70,000	\$71,500	\$65,000	\$67,500	\$70,500	\$73,500
TOTAL REVENUE:	\$134,879	\$161,123	\$154,419	\$149,566	\$153,756	\$158,487	\$163,264

Source: City of TCS Fiscal Years Ending 2011-2015 Financial & Budget Reports Delta Airport Consultants, Inc. Analysis

Historical Operating Expenses

The Airport's historical operating expenses for FY2011 through FY2015 (Budget) are presented in *Table 4.* During this period, total airport operating expenses decreased approximately \$27,000; four percent per year, from \$182,144 in FY2011 to \$154,837 in FY2015 (Budget).





 Table 4. Historical Airport Expenses.

	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Estimated	FY 2015 Budgeted	FY11-15 CAGR
PERSONNEL EXPENSES						
FULL TIME WAGES	\$51,443	\$43,770	\$22,594	\$22,365	\$24,464	-17%
PART TIME WAGES	\$9,770	\$9,775	\$12,292	\$17,490	\$21,819	229
OVERTIME WAGES	\$5,343	\$4,553	\$2,034	\$1,926	\$0	-1009
DELAYED COMPENSATION	\$0	\$5,205	\$0	\$0	\$0	
FICA - REGULAR	\$4,041	\$3,785	\$2,219	\$2,508	\$2,870	-8
FICA - MEDICARE	\$945	\$885	\$519	\$586	\$671	-8
PERA	\$4,707	\$4,005	\$2,067	\$3,458	\$4,322	-2
HEALTH INSURANCE	\$16,894	\$14,827	\$10,212	\$11,762	\$11,934	-8
RETIREE INSURANCE	\$1,286	\$1,204	\$678	\$1,134	\$1,328	1
UNEMPLOYMENT INS.	\$161	\$286	\$191	\$996	\$109	-9
WORKER'S COMP ASSESSMENT	\$28	\$23	\$18	\$18	\$30	2
WORKER'S COMP PREMIUMS	\$1,394	\$1,948	\$1,867	\$944	\$2,440	15
OTAL PERSONNEL EXPENSES	\$96,012	\$90,266	\$54,693	\$63,187	\$69,987	-8
DTHER EXPENSES	\$90,012	<i>390,200</i>	ŞJ4,093	303,187	303,387	-(
UTILITIES	\$13,521	\$13,229	\$13,064	\$14,547	\$13,300	C
TELEPHONE	\$1,136	\$4,420	\$5,019	\$5,114	\$5,000	45
OIL & GAS	\$0	\$0 \$0	\$364	\$0,114	\$3,000 \$0	т.
OIL & DIESEL	\$0 \$0	\$231	\$304 \$176	\$793	\$600	3
LEASE OF PHILLIPS FUEL TANK	\$1,800	\$1,800	\$8,200	\$21,000	\$000 \$21,000	85
CREDIT CARD PROCESSING FEES	\$1,800	\$1,800	\$8,200 \$4,473	\$21,000	\$21,000	o. (
MAINT. WATER DISTRIBUTION	\$3,383	\$4,009	\$4,473	\$4,207	\$4,000 \$1,000	(
MAINT. WATER DISTRIBUTION MAINT. VEHICLE/EQUIPMENT	\$0 \$450	\$0 \$2,712	\$0 \$1,772	ېر \$770	\$1,600 \$1,600	37
MISC. EXPENSES (CHANGE FUND STOLEN)	\$430 \$0	\$2,712	\$1,772 \$0	\$770 \$0	\$1,000 \$0	5.
OTHER CONTRACTUAL SERVICE	\$1,523	\$0 \$7,091	\$20,440	\$0 \$2,321	\$0 \$10,000	60
OFFICE SUPPLIES	\$1,525	\$668	\$20,440	\$2,321	\$10,000	00
FIELD SERVICES	\$0 \$1,481	\$008 \$1,772		\$800 \$0	\$300 \$10,000	63
			\$28,595	-		
	\$338	\$655 ¢202	\$305	\$0 ¢200	\$500 ¢500	1(
	\$273	\$282 \$204	\$421	\$288	\$500 \$200	16
	\$130	\$294	\$600	\$0	\$300	23
PROPERTY LIABILITY INSURANCE	\$1,019	\$4,057	\$1,042	\$4,254	\$4,300	43
GENERAL LIABILITY INSURANCE	\$3,590	\$3,370	\$3,000	\$2,500	\$3,000	-4
	\$1,063	\$649	\$1,315	\$736	\$800	-7
	\$0	\$0	\$370	\$383	\$750	
PER DIEM	\$0	\$290	\$202	\$210	\$500	20
	\$0	\$171	\$0 ¢50	\$321	\$500	
DUES & SUBSCRIPTIONS	\$0	\$75	\$50	\$50	\$100	10
BLDG. & STRUCTURES	\$41,565	\$20	\$0	\$0	\$0	-100
EQUIP. & MACHINERY	\$630	\$0	\$0	\$0	\$0	-100
	\$7,478	\$169	\$0	\$0	\$0	-100
SOFTWARE AGREEMENT	\$939	\$160	\$0	\$0	\$0 t a	-100
PILOT SUPPLIES RESALE	\$347	\$0	\$0	\$0	\$0	-100
CAPITAL EQUIPMENT	\$0	\$0	\$0	\$0	\$0	
NEW MEXICO GROSS RECEIPTS TAX	\$5,264	\$7,521	\$8,369	\$5,750	\$6,000	~~~
OTAL OTHER OPERATING EXPENSES	\$86,132	\$53,645	\$100,980	\$64,104	\$84,850	(
OTAL OPERATING EXPENSES:	\$182,144	\$143,911	\$155,673	\$127,291	\$154,837	-4

Source:

City of TCS Fiscal Years Ending 2011-2015 Financial & Budget Reports Delta Airport Consultants, Inc. Analysis





Although the City's financial reporting system has established thirty-five distinct expenditure categories to account for Airport operations, Personnel Expenses (including wages, salaries and employee benefits), Utilities, Telephone, Lease of Phillips Fuel Truck, Credit Card Processing Fees, Other Contractual Services, Field Services, and Property Liability Insurances account for approximately 90 percent of all Airport expenditures and are the focus of this analysis.

Personnel Expenses

Included in the broad classification of Personnel Expenses are twelve distinct accounting codes representing personnel expenditures for the 2.0 full-time equivalent City employees who provide FBO line services, Building/Facilities Maintenance, and Administrative Support for TCS. Between FY2011 and FY2015 (Budget), these collective costs decreased \$26,025 from \$96,012 to \$69,987. Over the course of these five years, wages, salaries and benefits averaged \$74,829 per year and represented 49 percent of all airport expenditures. Several trends drove this decrease in expenditures during this period. First, in 2011 the City eliminated one full-time equivalent employee. This action generated the greatest savings for the City and spurred decreases in other ancillary benefit costs such as employee pension contributions, health care expenses, and FICA. It is noteworthy to point out that the most significant decreases occurred during the period FY2011-13 when this category declined approximately 43 percent. Since FY2013, these expenses have increased 28 percent from \$54,589 to \$69,987 partially eradicating the overall savings during this period and perhaps serving as a predictor that such savings are not sustainable in the long-run.

Utilities

Utility Service expenses are comprised of charges for electricity for Airport buildings and the airfield. In FY2015, these expenditures are expected to comprise nine percent of the TCS's overall operating expenses. This category of expenditures has remained relatively unchanged during this five-year period.

Telephone

It is expected that in FY2015 costs associated providing voice and data services to TCS will constitute three percent of total expenditures for the Airport. While not a significant element of the Airport's overall cost structure, the rate of growth for these services over the past five years is noteworthy. In FY2011, TCS incurred \$1,138 in Telephone/data services. In FY2015, \$5,000 is being programmed for these services. Should this level of expenditure be realized, this category will have increased on average 45 percent per year during this period. Such a rate of growth is not sustainable in the long-run and expenses and service contracts should be monitored and evaluated by the City going forward.





Lease of Phillips Fuel Tank

The City currently leases a Jet A fuel truck from Ascent Aviation for \$21,000 per year. This lease constitutes approximately fourteen percent of all operating expenses for TCS in FY2015. It was established in FY2012 and was required in order to ensure proper filtering of Jet fuel when delivered to aircraft. Upon installation of a new aircraft fuel farm at TCS, it is possible for the City to re-evaluate the need for this lease and explore the option of financing the purchase of a fuel vehicle and reduce costs.

Credit Card Processing Fees

This category of expenditures represents fees and charges assessed by major credit cards and fuel vendors for transactions associated with fuel purchases. Typically ranging between 2-3 percent per transaction, these fees should be monitored by the City to ensure such costs are recovered from the fuel purchaser and accounted for in TCS's fuel pricing strategy. Again, this category is a relatively minor component of the Airport's overall cost structure; however, these fees increased six percent per year during the period FY2011-15(Budget). Left unchecked and unmonitored, these costs could undermine the City's fuel profit margin structure and goals.

Property Liability Insurance

Included in this category of expenditures are all Airport property, fire and liability insurance premiums and policy deductibles for TCS. For the period FY2011-2015(Budget), premiums and deductible expenses increased forty-three percent per year averaging \$2,934 per year and constituting three percent of all Airport expenses. The age and condition of TCS's fuel farm were the primary reasons the City experienced this growth in premiums during this period.

Other Contractual Services

Costs associated with conducting services such as fuel farm testing and participation in the NMAD's Maintenance grant-in-aid program constitute this category of expenditures. As depicted in *Table 4*, expenditures in this category fluctuated significantly during the period FY2011-15, ranging from \$1,523 in FY2011 to \$20,440 in FY2013. With the availability of 90 percent grant-in-aid funding from NMAD for eligible maintenance related expenses and given that the City is going to be required to conduct ongoing annual testing on its fuel farm facility, it is recommended that a strategy be developed to build a five-year maintenance plan that maximizes available state funding for high priority maintenance equipment, projects, and supplies as well as program funding for required testing as part of the City's annual development of its operating budget.





Field Services

Similar to "Other Contractual Services" this category of expenses also witnessed significant fluctuations during the past five years ranging from \$1,481 in FY2011 to \$28,595 in FY2013. Expenses associated with preparation of property surveys and other professional services constitute this line item. Given the variability of expenses, it is recommended that the City consider a strategy of allocating \$10,000 each year to this account for such expenses or establish a reserve fund to allocate resources from on an as-needed basis.

Summary of Historical Total Airport Expenses

Airport expenditures decreased four percent per year from \$182,144 in FY2011 to \$154,837 in FY2015 (Budget). The ability of the City to achieve these reductions was realized through eliminating one full-time equivalent position from the Airport's operation. This action achieved total savings of \$26,025 in savings for the City during this period. Other Operating Expenses remained relatively unchanged during this period; decreasing \$1,282. The City attained this level of cost savings despite significant increases in credit card processing fees and a new lease for the City's Jet A fuel delivery truck.

Projected Operating Expenses

Estimates of the Airport's future operating expenses were developed based on historical trends from FY2011 through FY2013; estimated totals for FY2014 and the City's FY2015 adopted budget. **Table 5** presents estimated expenses for FY2014 and the adopted FY2015 budget as well as projected expenses for the period from FY2016 through FY2020. It is expected during this period, expenses will increase at a compounded annual growth rate of one percent from \$154,418 in FY2016 to \$163,263 in FY2020.

This forecast is built upon the following assumptions and trends in the two major categories of expenditures:

1. Personnel Expenses

Wages are anticipated to increase three percent per year while the City's contribution to the New Mexico Employee Retirement System will grow sixteen percent per year. New Mexico, like many state-sponsored employee defined benefit plans, has experienced significant change and challenges over the past five years. Given the uncertainty created by these changes, it is appropriate to plan for significant increases to occur going forward. Although there is a significant percentage change increase during the forecast period, the actual dollar change is somewhat modest; increasing from \$4,322 in FY2015 to \$9,078 in FY2020. Likewise, it is important to build a model on increases in health insurance premium expenses exceeding historical inflation rates. Eight percent per year





increases are included in the forecast growing to \$17,535 in FY2020. Finally, it is assumed the City will adjust its employee compensation during the planning period by three percent per year. Overall, Personnel expenses are programmed to increase five percent per year.

2. Other Expenditures

For purposes of forecasting future expenditures in this broad category, it is assumed that the significant cost increases for Telephone, Credit Card Processing Fees, and Insurance that occurred in the five year period between FY2011 and FY2015 (Budget) will grow at rates less than or equal to traditional rates of inflation. In addition, it is assumed that in FY2017 the City will terminate its current Jet A fuel truck lease and finance acquisition of a vehicle. Such action could generate savings to the City of approximately \$9,000 per year assuming it purchases such a vehicle for \$75,000 and finances it over a ten year period at five percent interest. It will be necessary to program funding for vehicle maintenance both for the Jet A vehicle and 100LL tender; therefore, \$12,000 per year is allocated annually during this period. Remaining line items in this broad category are held constant at FY2015 (Budget) levels. New Mexico Gross Receipts Tax payments are not eliminated; however, were accounted for in the Cost of Goods Sold calculations included in the "Projected Airport Revenue" worksheet.





 Table 5. Projected Expenses for TCS Municipal Airport.

	FY 2014 Estimated	FY 2015 Budgeted	FY 2016 Projected	FY 2017 Projected	FY 2018 Projected	FY 2019 Projected	FY 2020 Projected
PERSONNEL EXPENSES							
FULL TIME WAGES	\$22,365	\$24,464	\$25,198	\$25,954	\$26,732	\$27,534	\$28,360
PART TIME WAGES	\$17,490	\$21,819	\$22,474	\$23,148	\$23,842	\$24,557	\$25,294
OVERTIME WAGES	\$1,926	\$0	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
DELAYED COMPENSATION	\$0	\$0					
FICA - REGULAR	\$2,508	\$2,870	\$2,956	\$3,045	\$3,136	\$3,230	\$3,327
FICA - MEDICARE	\$586	\$671	\$691	\$712	\$733	\$755	\$778
PERA	\$3,458	\$4,322	\$5,014	\$5,816	\$6,746	\$7,826	\$9,078
HEALTH INSURANCE	\$11,762	\$11,934	\$12,889	\$13,920	\$15,033	\$16,236	\$17,535
RETIREE INSURANCE	\$1,134	\$1,328	\$1,341	\$1,355	\$1,368	\$1,382	\$1,396
UNEMPLOYMENT INS.	\$996	\$109	\$110	\$111	\$112	\$113	\$115
WORKER'S COMP ASSESSMENT	\$18	\$30	\$30	\$31	\$31	\$31	\$32
WORKER'S COMP PREMIUMS	\$944	\$2,440	\$2,538	\$2,639	\$2,745	\$2,854	\$2,969
TOTAL PERSONNEL EXPENSES	\$63,187	\$69,987	\$74,740	\$78,229	\$81,980	\$86,020	\$90,383
OTHER EXPENDITURES							
UTILITIES	\$14,547	\$13,300	\$13,433	\$13,567	\$13,703	\$13,840	\$13,978
TELEPHONE	\$5,114	\$5,000	\$5,050	\$5,101	\$5,152	\$5,203	\$5,255
OIL & GAS	\$0	\$0	\$500	\$500	\$500	\$500	\$500
OIL & DIESEL	\$793	\$600	\$500	\$500	\$500	\$500	\$500
LEASE OF PHILLIPS FUEL TANK	\$21,000	\$21,000	\$21,000	\$0	\$0	\$0	\$0
FUEL TRUCKS	\$0	\$0	\$0	\$12,000	\$12,000	\$12,000	\$12,000
CREDIT CARD PROCESSING FEES	\$4,267	\$4,600	\$4,738	\$4,880	\$5,027	\$5,177	\$5,333
MAINT. WATER DISTRIBUTION	\$0	\$1,000	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
MAINT. VEHICLE/EQUIPMENT	\$770	\$1,600	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
MISC. EXPENSES	\$0	\$0	\$143	\$252	\$129	\$245	\$70
OTHER CONTRACTUAL SERVICE	\$2,321	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
OFFICE SUPPLIES	\$800	\$500	\$750	\$750	\$750	\$750	\$750
FIELD SERVICES	\$0	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
NON-CAPITAL EQUIPMENT	\$0	\$500	\$500	\$500	\$500	\$500	\$500
SAFETY EQUIPMENT	\$288	\$500	\$500	\$500	\$500	\$500	\$500
UNIFORM/LINEN	\$0	\$300	\$300	\$300	\$300	\$300	\$300
PROPERTY LIABILITY INSURANCE	\$4,254	\$4,300	\$3,500	\$3,605	\$3,713	\$3,825	\$3,939
GENERAL LIABILITY INSURANCE	\$2,500	\$3,000	\$3,090	\$3,183	\$3,278	\$3,377	\$3,478
VEHICLE INSURANCE	\$736	\$800	\$824	\$849	\$874	\$900	\$927
TRAVEL & EDUCATION	\$383	\$750	\$750	\$750	\$750	\$750	\$750
PER DIEM	\$210	\$500	\$500	\$500	\$500	\$500	\$500
MILEAGE REIMBURSEMENT	\$321	\$500	\$500	\$500	\$500	\$500	\$500
DUES & SUBSCRIPTIONS	\$50	\$100	\$100	\$100	\$100	\$100	\$100
NEW MEXICO GROSS RECEIPTS TAX	\$5,750	\$6,000	\$0	\$0	\$0	\$0	\$0
TOTAL OTHER OPERATING EXPENSES	\$64,104	\$84,850	\$79,678	\$71,336	\$71,776	\$72,467	\$72,881
TOTAL OPERATING EXPENSES:	\$127,291	\$154,837	\$154,418	\$149,566	\$153,755	\$158,487	\$163,263

Source: City of TCS Fiscal Years Ending 2011-2015 Financial & Budget Reports Delta Airport Consultants, Inc. Analysis





Cash Flow Analysis

Table 6 provides a summary of cash flow from airport activities for the period FY2011-2015 (Budget). For purposes of this analysis, operating expenses are subtracted from Airport revenues to provide available net revenue. As shown in this Table, Airport Revenues over Expenditures produced positive cashflow for the City during this period. Such funds are in turn utilized by the City for Capital Improvements and or deposited to the Airport Fund Balance, which, according to the City's FY2013 Annual Financial Report, has a balance of \$126,728.

	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Estimated	FY 2015 Budgeted
TOTAL REVENUE:	\$194,724	\$186,126	\$185,918	\$134,879	\$161,123
TOTAL EXPENSE:	\$182,144	\$143,911	\$155,673	\$127,291	\$154,837
Net Income:	\$12,580	\$42,215	\$30,245	\$7,588	\$6,286

: City of TCS Fiscal Years Ending 2011-2015 Financial & Budget Reports Delta Airport Consultants, Inc. Analysis

Projected cash flows (*Table 7*) for the period FY2016-20 anticipate TCS having the capacity to sustain a breakeven situation provided the assumptions described herein are realized. Should significant changes in personnel expenses, staffing, and/or business activity occur, this forecast may not be attainable void of additional allocations of funding from the Airport's General Fund.

	FY2014 Estimated	FY2015 Budgeted				FY2019 Projected	FY2020 Projected
TOTAL REVENUE:	\$134,879	\$161,123	\$154,419	\$149,566	\$153,756	\$158,487	\$163,264
TOTAL EXPENSE:	\$127,291	\$154,837	\$154,419	\$149,566	\$153,755	\$158,487	\$163,263
Net Income:	\$7,588	\$6,286	\$0	\$0	\$0	\$0	\$0

Table 7. Projected Net Income.

Source: City of TCS Fiscal Years Ending 2011-2015 Financial & Budget Reports Delta Airport Consultants, Inc. Analysis

Competitive Analysis

Feedback from Airport stakeholders obtained during the site visit phase of this project indicated that in terms of capturing transient high performance general aviation aircraft operations, the Las Cruces International Airport (LRU) is the primary competitor for TCS. This is especially true for current and anticipated flight activity associated with operations at Spaceport America (SA). Geographically, TCS is the closest public use airport to SA and is the only facility with direct, paved ground access. LRU is twice the distance from SA and guests and visitors must take a circuitous route to and from the facility with a major portion of the roadway sections being unpaved. While TCS is the closer of the





Source:

two facilities, LRU offers more services and is capable of handling larger aircraft in all-weather capabilities. LRU offers the availability of more runways, better instrument approaches to aid all-weather flight operations, enhanced aviation services, and is utilized more frequently than TCS by jet aircraft.

Although facilities and services at LRU exceed those offered at TCS, the City should evaluate the feasibility of developing a niche marketing plan to capture certain elements of the market to be generated at SA. Elements of this marketing plan should take advantage of the closer proximity of TCS to SA and could include:

- ightarrow Developing strategies to attract additional based aircraft owned/operated by staff of SA
- ✤ Promoting its ability to accept and service the smaller class of business jet aircraft, turboprop, and piston aircraft owners that will visit SA and its ancillary operations
- ✤ Stressing the convenience and personal service available at TCS
- ✤ Promoting tourism amenities available in the City and County in an ongoing basis

Although LRU is a larger facility and offers greater services than TCS, the City of Truth or Consequence can develop strategies to target a niche market and potentially grow its business base as the result of operations at SA.

Recommendations & Action Plan

This section of the TCS Business Plan is based upon Airport Stakeholder feedback and the financial analysis presented in the previous section. It offers specific recommendations and timeframes for implementation of the action items in the following broad categories and focus areas:

- ✤ Infrastructure and Facilities
- ✤ Marketing and Promotion
- ✤ Airport Operations

Infrastructure and Facilities

Throughout the interview phase of this project, significant feedback was provided related to the need for core infrastructure and modern facilities to be designed and constructed at TCS. Fundamental to establishing these core facilities is the need for the City to complete construction of a new fuel farm, provide a reliable, safe, and adequate supply of potable water for airport facilities, and offer an appropriate "Gateway" image through its general aviation terminal building and associated landside access. Without these core facilities in place, TCS will not be postured to sustain or potentially grow its business line and services. It is recommended that over the course of the next thirty-six months, the City aggressively seek out funding from all available sources including, but not limited to, the FAA and NMAD, for the following projects:





<u>FY2015-17</u>

- ✤ Construct Aviation Fuel Farm
- ➔ Airport Utilities Plan formulate a strategy to fund and provide 3-phase electrical power and potable water. This evaluation should include consideration of the installation of solar power for airport facilities.
- ➔ General Aviation Terminal Area Study and Conceptual Design to include Wayfinding signage from Interstate 25 and at the entrance to TCS

Upon completion of the above projects, the City should program funds to construct a replacement terminal building, automobile parking, and wayfinding signage. Beyond this initial five year period, it is recommended the City pursue capital improvement projects aimed at upgrading the airfield electrical system and signs and convert an existing dirt runway (7-25) to a paved facility to satisfy aircraft operational needs in crosswind conditions.

To proceed with this plan, the City should coordinate an update to its FAA and NMAD Airport Capital Improvement Program (ACIP) as soon as practical to reflect the above. The City should further take into consideration these projects as part of its annual budgeting process to ensure sufficient local funding is programmed. Finally, the City should seek other sources of funding from state/regional economic development agencies regarding the provision of adequate potable water service at TCS.

Beyond this short-term capital improvement plan, the City should pursue a plan to clean, polish, and repair the T-33 U.S. Air Force static display aircraft located at the entrance to TCS. Outreach to the Air Force Association (AFA), Veterans of Foreign Wars, and/or American Legion should occur to develop partnerships and potential funding to replace the aircraft tires, install a new cockpit canopy, and clean/polish the airframe of this aircraft. Not only is this aircraft an important link to the history of U.S. military aviation, its placement/location at the "front door" of TCS demands that it be properly maintained. Finally, the City should remove the modular home located inside the perimeter fence adjacent to the fuel farm area, and decommission unpaved Runways 1-19 and 15-33. Both runways lack sufficient Safety Areas and conflict with other airport amenities while the age and condition of the modular home detracts from an appropriate "Gateway" image for TCS.





Marketing and Promotion

Critical to sustaining and building core business lines for TCS is the need to continually foster close working relationships with Airport stakeholders. During the course of undertaking this study, the following key stakeholders were identified and/or confirmed:

- ✤ Airport Advisory Board Members
- → Regional Tourism representatives
- Owners/operators/managers of amenities, spas, and attractions
- ✤ The Chamber of Commerce
- ✤ Spaceport America

- ✤ The U.S. Military
- ✤ The Airport's fuel supplier
- ✤ On-line resources and websites
- ✤ Based aircraft owners and pilots
- ✤ Transient aircraft owners and pilots

Over the course of the next eighteen months, City, working in close coordination with its stakeholders, should formalize a marketing and promotion program for TCS built around the following key elements:

- 1. Identify pilot specific and/or community events to be hosted at the airport on an annual basis in order to increase awareness of the airport and its services. Pilot specific events could include working with the Experimental Aircraft Association, New Mexico Pilot's Association (NMPA), the local radio-controlled aircraft association, and other pilot organizations to host events, safety seminars, fly-ins, etc. In coordinating such events, the City should seek door prizes from local businesses and tourist attractions to be awarded during the event. The City should continue to sponsor Chamber events as well as other civic or business organizations in the region. Regardless of the event or audience, the purpose of this action item is to increase overall awareness of TCS and its facilities to the overall pilot population in the region/state as well as the citizens of the City and County.
- 2. Foster stronger working relationships with Spaceport America and overall New Mexico Space Industry. While LRU may have larger facilities and offer greater services than TCS, and therefore may be better positioned to attract greater operations and activity from the space industry, TCS can still identify and serve a niche role in these endeavors. To achieve this, City leadership should convene meetings and ongoing communication with all involved entities to promote TCS and the role it can play in facilitating the delivery of this industry's services and products. The City should link with local tourism





representatives and establish regular meetings to connect with key representatives to keep up-to-date on developments at SA and that TCS is positioned to fulfill its role in facilitating growth of this emerging industry.

- 3. Develop an outreach effort with U.S. Military installations in the region to promote the use of TCS for training operations on a more consistent basis. In conducting this outreach, the City should also engage base and wing leaders in conversations about how to attain status for military contract fueling for TCS. Beyond initial outreach, the City should develop a plan to maintain this dialogue on an ongoing basis to foster closer working relationships and dialogue.
- 4. Work in close partnership with the local Chamber of Commerce, tourism attractions, spas, and tourism leaders to ensure that in marketing, promotion, and website outreach efforts that these entities implement, TCS is prominently noted and highlighted. This partnership development effort could include quarterly or semi-annual meetings or roundtables for purposes of information sharing and updates on activities, promotions, and visitation trends.
- 5. Discuss with TCS's fuel supplier their recommendations for promotion and marketing the Airport and what programs it might make available to the City to build the transient customer base and business.
- 6. Establish formal outreach efforts with transient aircraft owners and pilots. Continually monitor the "flightaware" website and submit a "Thank You" letter from the City to aircraft owners acknowledging their business, the value they brought to the region, and seek feedback from them on the services they received and their visit as a whole. Develop means to track any feedback received from customers through this outreach or anecdotal observations from pilots and users as they interact with Airport employees.
- Consistently monitor general aviation industry websites to ensure the accuracy of TCS information. Consider purchasing banner advertisements on key sites such as www.airnav.com and www.aopa.org to promote TCS as a destination facility.
- 8. Build databases and monitor/report on trends and activities. In 2013, the City began tracking sales of fuel on a monthly basis both in terms of quantity and price. Collection, tracking, and evaluation of data related to the date, time, type of aircraft, and aircraft registration should also be collected and analyzed by the City in order to develop the direction of marketing and promotion efforts into the future.





Upon completion of this plan, the City, in conjunction with its identified stakeholders, should evaluate the efficacy of these measures, gauge their potential impact on airport services and operations, and develop a plan for the ensuing eighteen month period.

Airport Operations

The City's ongoing operation of TCS is reliant upon ensuring the availability of a properly trained, motivated, and energized workforce. As discussed in the financial plan section of this report, the City eliminated one full-time equivalent position from Airport staffing in 2011. While this measure yielded positive results to the cost structure of TCS, it is uncertain that the achieved cost savings are sustainable in the long-run. As previously noted, Personnel Costs have increased over the past twenty four months. At the forecasted pace of growth in wages and benefits, overall personnel costs are anticipated to return to 2010 levels by FY2020.

Beyond the cost aspects of staffing, the City should examine its capability to properly administer this facility. Currently, an Assistant City Manager/Community Development Director is assigned the responsibility for administering airport operations and manage the two on-site employees. The span of responsibility for this position extends beyond the Airport to encompass Building Inspections/Flood Plains, Code Compliance/Grants, and Risk Management functions. The responsibilities and work plans associated with these other functions leaves little time for this position to focus on airport matters; much less implementing and coordinating the marketing and promotion plan tasks listed in the previous section.

As the City embarks upon a plan to address core infrastructure needs of TCS, it should also evaluate a long-term staffing and administration plan for airport operations. Critical to this task is the need to first understand basic daily operating hours for its terminal building and how to build a staffing plan to coincide with typical daily aircraft activity. The collection and review of aircraft operational data is needed in order to understand these needs. Data may indicate that the need to provide staff at the terminal is not required on certain days of the week and/or there are periods of the day when the terminal can be left unattended to allow personnel to conduct maintenance on the airfield, inspections, and or make building repairs. As noted in the Marketing and Promotion section of this report, collecting and logging data pertaining to the type of aircraft, registration number, hour of operation, etc. is critical to aligning operating hours and work schedules with customer demand. Equipping staff with cellular phones and radios tuned to the Airport's Unicom channel can also facilitate their





ability to conduct other airport maintenance and operation functions beyond customer service and attending the terminal building.

In terms of employee development, the City should provide recurrent training on airfield maintenance, airfield lighting maintenance, airport operations, customer service, safety and risk management, and OSHA requirements and obligations. To assist with developing this training initiative, the City should consider the possibility of employees attending airport maintenance training offered by NMAD, risk management/safety training, or the American Association of Airport Executives (AAAE) Basic Airport Safety and Operations Specialist Schools. Although this AAAE program is aimed at employees at certificated air carrier airports, the core curriculum built around airport safety and standards would be of immense value to City employees. Should the City lack available funding to provide for this off-site training, it should seek available on-line resources to build a core curriculum for employee training. Sources for this training include publications of the Transportation Research Board, Airport Cooperative Research Program, the AAAE library, the National Aviation Trades Association, and National Business Aircraft Owners Association. Finally, the City should consider a succession management plan for its airport employees. One is a long-term tenured employee that holds a significant amount of institutional knowledge about the airport and its customers. This base of knowledge needs to be retained by the City and captured for future employees assigned to the airport.

Beyond staffing levels, training, and succession planning, the City should be proactive in the management of its lease and use agreements. Regular inspections of City-owned hangar facilities should be conducted to ensure that these facilities are being utilized in accordance with the terms and conditions of each lease. In addition a "Waiting List" of individuals/entities expressing interest to the City regarding basing an aircraft at TCS should be created and updated annually. Documenting this demand will assist the City in gauging the need to construct additional hangars and facilitate the transition of current leases when space is made available.

The above recommendations and action plans are intended to serve as a starting point for the City to address the core infrastructure needs of TCS, implement a marketing and promotion program for the airport to increase awareness of this facility and its services, and provide direction on its staffing and operating needs.





Summary

This financial analysis and business plan provides the City with recommendations and strategies to pursue to:

- ✤ Increase the overall flow of revenue from airport operations
- ✤ Reduce costs
- ➔ Understand the potential impacts to TCS's financial and operational performance as the result of tourism, potential commercial development, and the construction and operation of Spaceport America

In order for the City to achieve these strategies, it is critical that it provide core amenities and services to its customer base and stakeholders. With the financial support of the NMAD, the City is undertaking a project to replace its aviation fuel farm. Building upon this project is the need for the City to provide greater electrical capacity for airport operations, a reliable and safe source of potable water, and an appropriate "gateway" for the City and the region served by TCS. In addition, fostering close working relationships with community partners, based/transient aircraft owners, and pilot's groups and associations is crucial for the ongoing viability of TCS. Finally, appropriate staffing, data collection/analysis, employee training, and effective property management techniques are needed for the City to ensure that it can properly fulfill its mission.





TERMINAL AREA PLAN

City of Truth or Consequences, NM Truth or Consequences Municipal Airport Terminal Area Plan

Project Scope and Background

The purpose of this work effort is to provide a scaled drawing which depicts the existing and future staged development of general aviation facilities at Truth or Consequences Airport (TCS) in the immediate vicinity of the terminal and aircraft parking aprons. This drawing includes such items as configuration of aircraft aprons, terminal building location, storage hangars, Fixed Base Operations, aircraft maintenance buildings, other support facilities/buildings, fueling facilities, and ground access and automobile parking. Once adopted by the City, this plan is to be incorporated into the TCS Airport Layout Plan and presented to the Federal Aviation Administration and New Mexico Aviation Division (NMAD) for acceptance.

Terminal Area Plan

Exhibit 1 presents the existing layout of the TCS Terminal Area and depicts the location of the parallel and connector taxiway system, terminal area, fuel farm, automobile parking, access road, and associated hangar development. **Exhibit 2** provides a phased development plan (Base and Ultimate) for TCS. Key elements of development for this plan include:

Base Plan

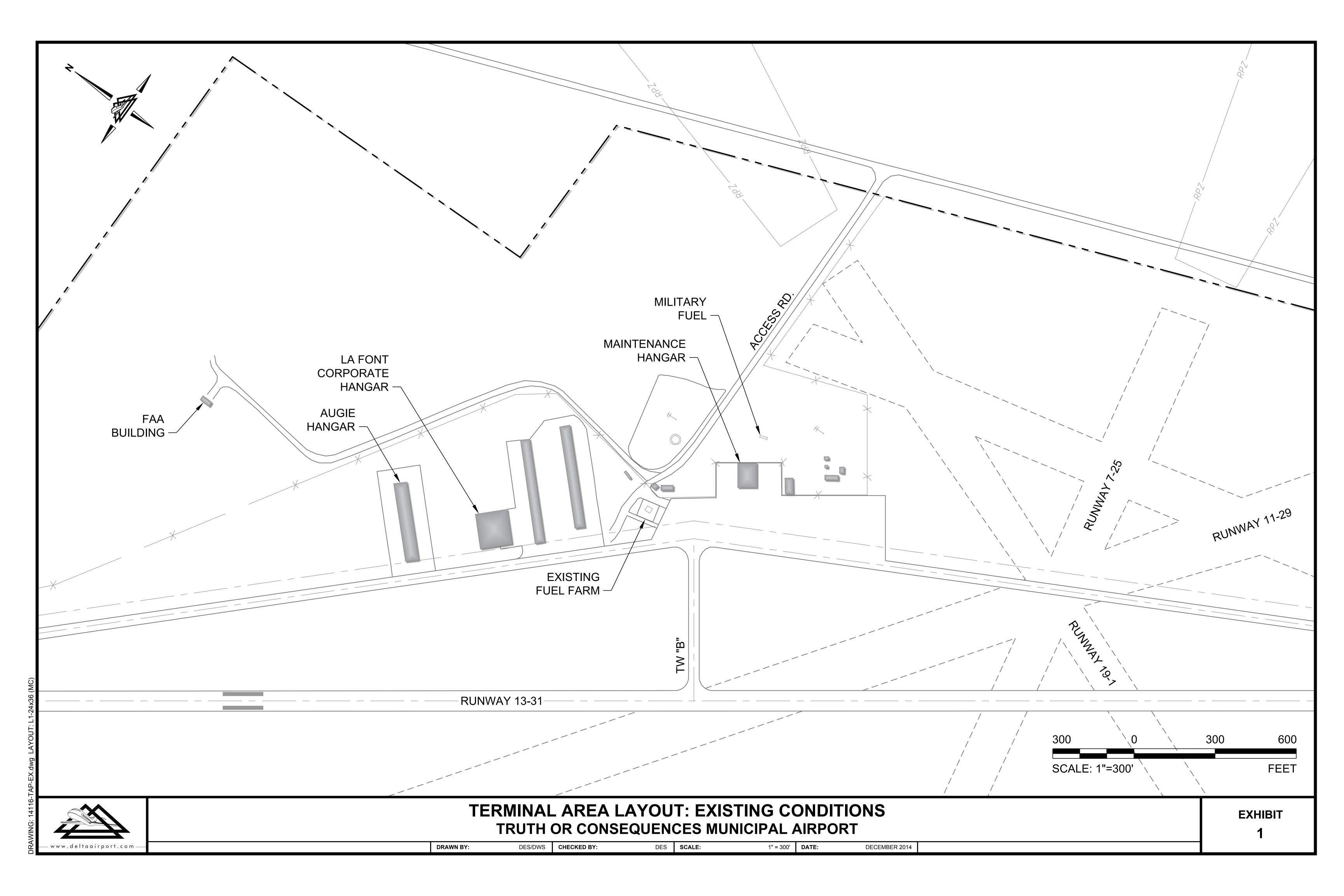
- ➔ New fuel farm and aircraft fueling area.
- ✤ Realign parallel taxiway to 400 foot separation from Runway 13-31 as recommended in FAA Airport Design Standards this work is to be phased to first focus on the section of taxiway between the intersection of Runway 11-29 and existing t-hangar row.
- ↔ Construct and realign all connector taxiways to conform to FAA Airport Design Standards.
- → Expand aircraft parking apron
- ↔ Construct new 3,000 square foot terminal building adjacent to current terminal building.
- earrow Expand automobile parking area and modify airport access road
- ↔ Construct 2, 100 x 100 foot box hangars
- ✤ Construct 4, 10-unit t-hangars

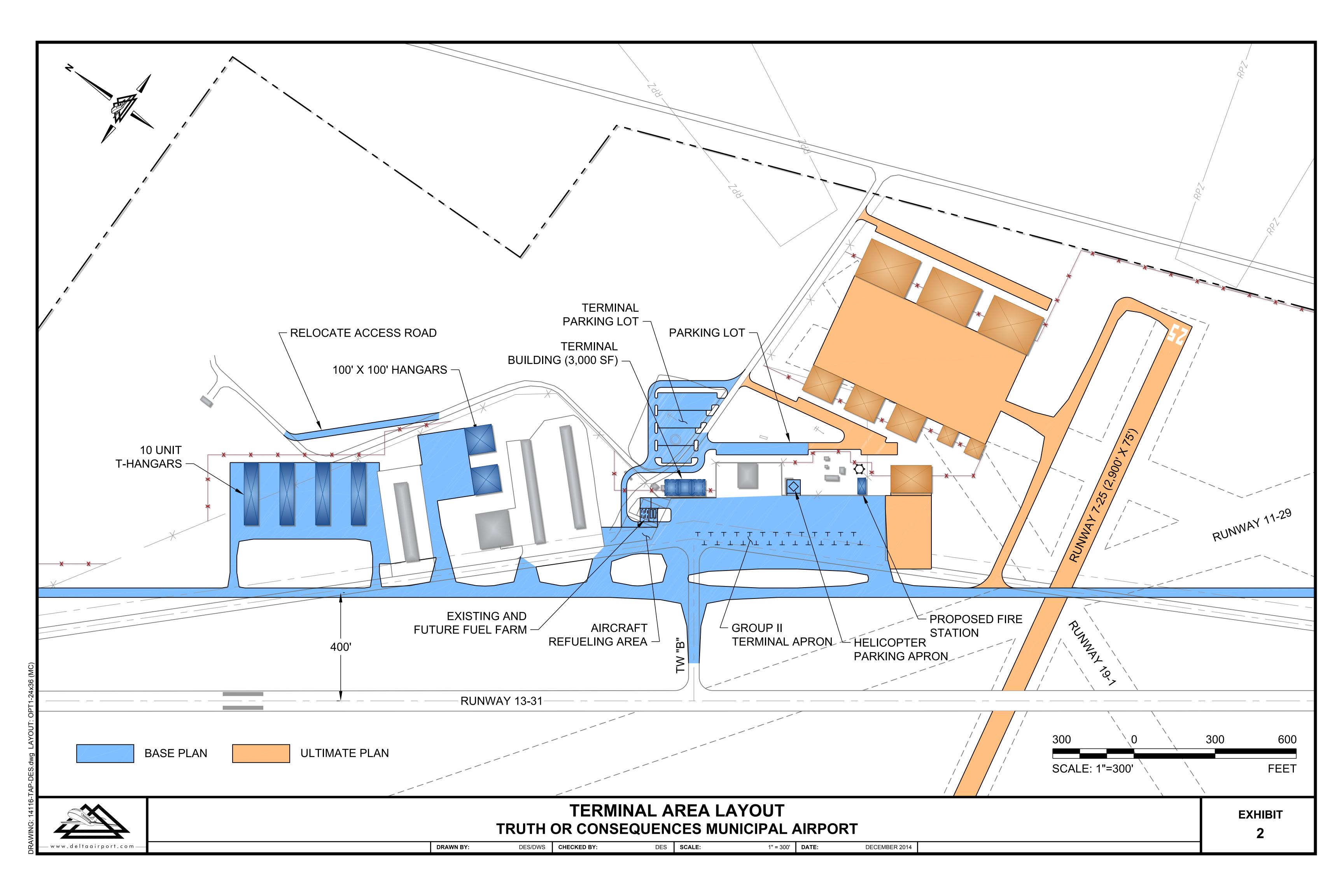
Ultimate Plan

- ✤ Close Runways 1-19 and 18-36
- ✤ Pave Runway 7-25 and construct partial parallel taxiway
- → Construct Aircraft Apron
- ✤ Construct 9 aircraft storage hangars

This plan was reviewed with City staff in December 2014 and presented to the Airport Advisory Board on February 4, 2015 at which time this concept was approved and accepted.









CITY OF TRUTH OR CONSEQUENCES CODE OF ORDINANCES

ordinance no. <u>574</u>

AN ORDINANCE CONCERNING ZONING ESTABLISHING REGULATIONS PERTAINING TO DEVELOPMENT WITHIN PROXIMITY OF THE AIRPORT, SPECIFICALLY CREATING THE AIRPORT IMPACT OVERLAY DISTRICT, AND AMENDING THE COMPREHENSIVE PLANNING AND ZONING CODE, ORDINANCE 570

WHEREAS, the City Commission has previously adopted Comprehensive Plan Policy 2.3 to promote and protect the public health, safety and welfare of the general public through zoning practices; and

WHEREAS, the City Commission has previously adopted Comprehensive Plan Policy 2.6 to encourage master planning efforts for the recently annexed area; and

WHEREAS, in order to implement Policy 2.6 the Zoning Map must be amended to provide appropriate zoning on publicly and privately owned parcels adjacent to the airport; and

WHEREAS, the City Commission has previously adopted Comprehensive Plan Policy 2.7 to make any and all necessary zone map amendments for the recently-annexed area; and

WHEREAS, the City Commission acknowledges there are significant safety and noise issues associated with airport operations for people and property on the ground and for the flying public; and

WHEREAS, the City Commission recognizes that special zoning is required to ameliorate those safety and noise issues; and

WHEREAS, the City Commission finds that adoption of the Airport Impact Overlay District will not impair an adequate supply of light and air to adjacent property; and

WHEREAS, the City Commission further finds that adoption of the Airport Impact Overlay District will not unreasonably increase the traffic in public streets; and

WHEREAS, the City Commission further finds that adoption of the Airport Impact Overlay District will not increase the danger of fire and will enhance public safety; and

WHEREAS, the City Commission further finds that adoption of the Airport Impact Overlay District contributes to the orderly and phased growth and development of the community; and

WHEREAS, the City Commission further finds that adoption of the Airport Impact Overlay District will not unreasonably impair established property values within the surrounding area; and

WHEREAS, the City Commission further finds that adoption of the Airport Impact Overlay District will contribute to the public health, safety and general welfare of the City; and

WHEREAS, the City Commission further finds that adoption of the Airport Impact Overlay District does not constitute a spot zone,

NOW, THEREFORE, pursuant to the authority granted by the State of New Mexico be it ordained by the governing body of the City of Truth or Consequences, that: Ordinance 570 is hereby amended to include additional definitions in Section 8: Definitions, and to add a new Section 11-17 for Overlay Districts, and specifically 11-17-1: Airport Impact Overlay District as follows:

PROPOSED AIRPORT IMPACT OVERLAY DISTRICT

ARTICLE 17 OVERLAY DISTRICTS

A. PURPOSE

The intent of this Overlay District is to provide supplemental development requirements and restrictions on land in the airport environs, in order to protect the public safety and welfare of people and land uses on the ground and the safety of the flying public. This zone lies atop the general, or base, zone: development must be consistent with both the General zoning District and this Overlay zone District. For certain areas of this Overlay District requests for events expected to attract large numbers of people must be reviewed by staff.

B. DEVELOPMENT STANDARDS

The Airport Impact Overlay District is divided into six (6) different impact areas, as defined by the Federal Aviation Administration (FAA) and tailored to the City of Truth or Consequences Municipal Airport. Differing development criteria are applied to each area, with Area 1 being the most restrictive. Prior to proposed development and/or to the issuance of a building permit, the project shall be reviewed according to the development criteria identified in Table 17-1, below, to ensure compatibility with airport operations and safety for people and property on the ground.

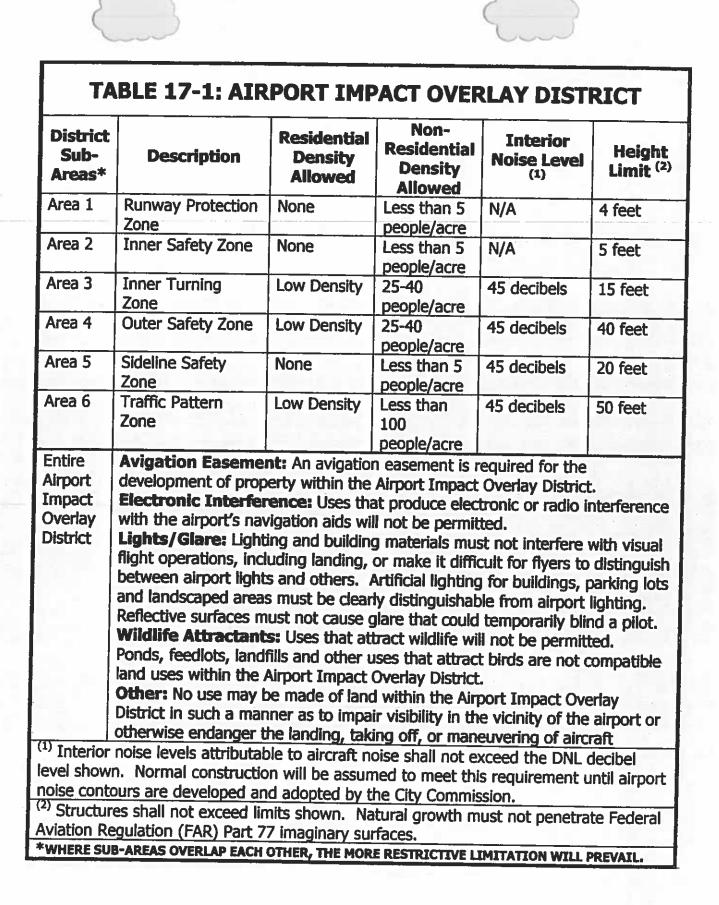
C: PERMITTED USES

Uses permitted by the underlying General District are allowed only if the use also meets the additional requirements of the Airport Impact Overlay District.

Events and activities involving one hundred (100) or more people are permitted in Area 6 of the Overlay District and may be permitted in Areas 3,4 and 5, subject to conditions.

D: SPECIAL USES

Special uses allowable under the General District may be allowed only if they also meet the supplemental criteria set forth in this Overlay District.







E: CONDITIONAL USES

Conditional uses allowable under the General District may be allowed if they also meet the criteria set forth in this Overlay District.

The City Manager, with the concurrence of the Airport Manager, must review requests for any event within Areas 3, 4 and 5 of this Overlay District that is expected to attract one hundred (100) or more people. Requests will not be approved for events or activities within Areas 1 and 2. Requests must be made at least thirty (30) days in advance of the event. Forms are available from the City Clerk.

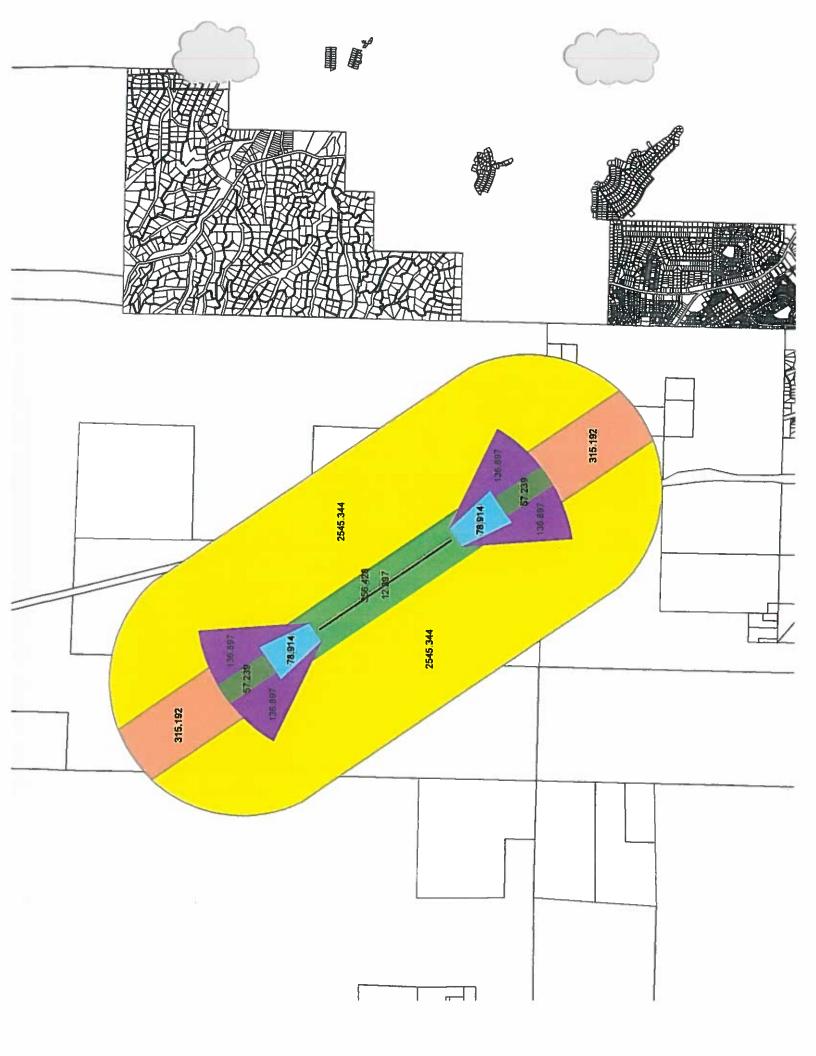
F. NON-CONFORMING USES

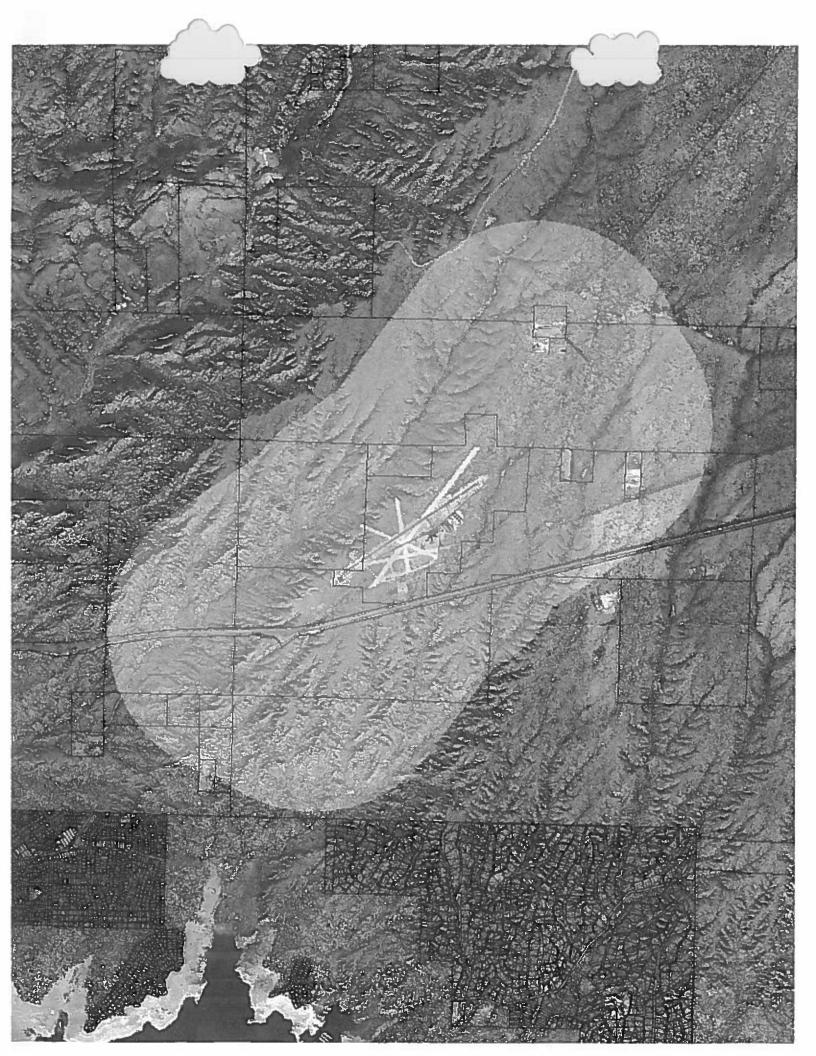
Legal uses that existed as of the date of adoption of this ordinance but do not meet the requirements of this Overlay District will be grandfathered in as nonconforming uses.

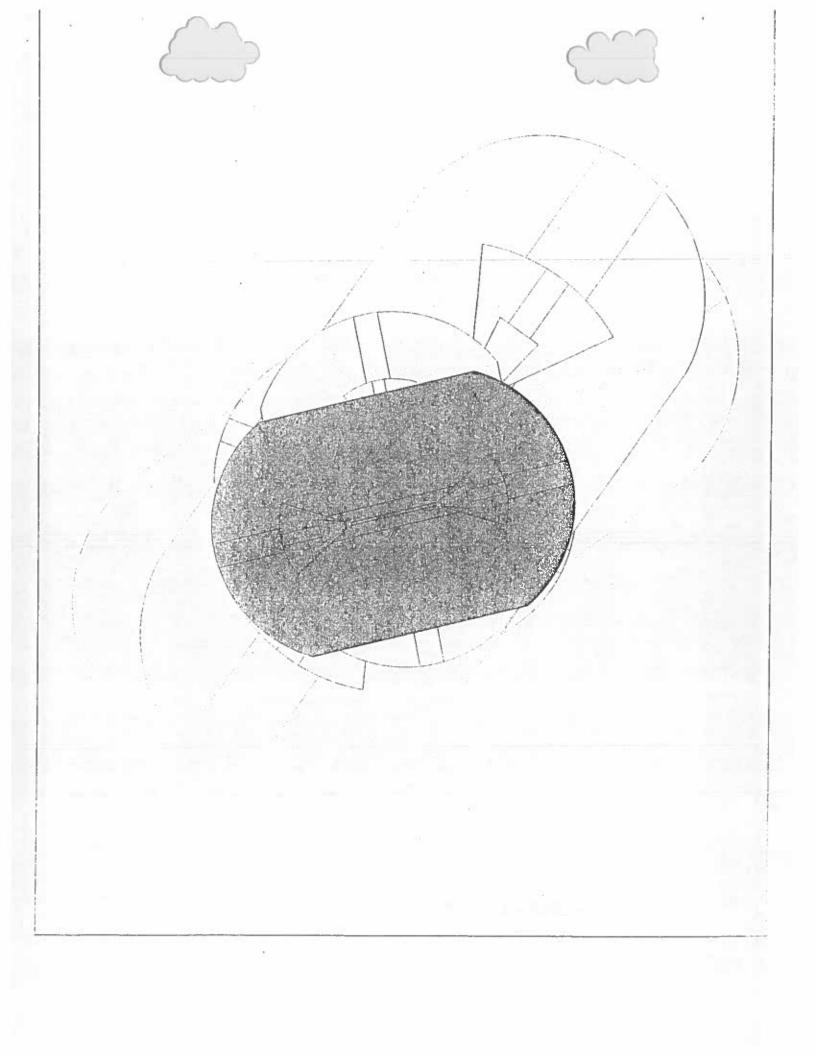
The owner of any legal non-conforming structure or natural growth is hereby required to permit the installation, operation and maintenance thereon of such markers and lights as shall be deemed necessary by the City to indicate to the operators of aircraft in the vicinity of the airport the presence of such airport hazards. Such markers and lights shall be installed, operated, and maintained at the expense of the City of Truth or Consequences.

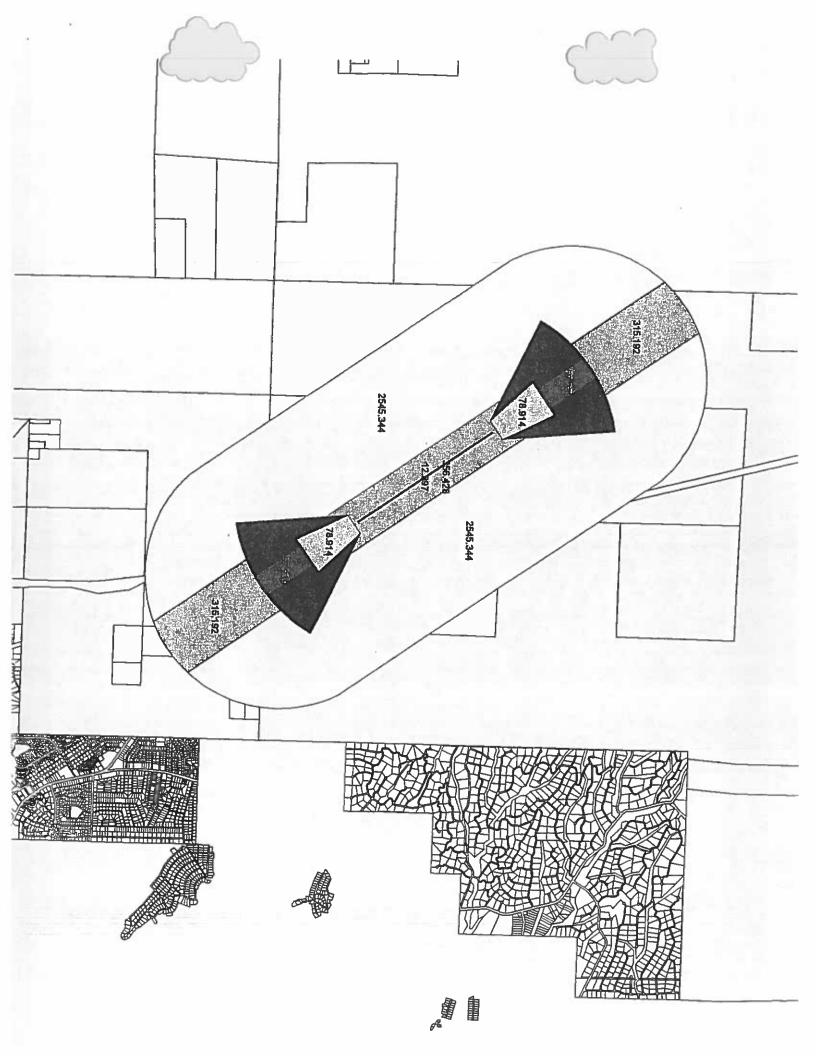
Additional Edits to Zoning Code Needed

- Update table of contents
- Pg 2, add overlay district list of zoning districts
- Pg 7, add "easements" to Section 11-3-4 "Legal Documents to Ensure Compliance"
- Definitions to be added
 - Avigation Easement: A right to use the airspace over real property whereby an airport proprietor and aircraft owners and operators are granted the right to operate aircraft in the airspace over the real property of another.
 - DNL: Day-night average sound level (DNL) is a noise measure used to describe the average sound level over a 24-hour period, typically an average day over the course of a year. In computing DNL, and extra weight of 10 decibels is assigned to noise occurring between the hours of 10 pm and 7 am to account for increased annoyance when ambient noise levels are lower.
 - Overlay District: supplemental regulations that that been tailored to a specific area of the City. The regulations are applied in conjunction with a general, or base, zone to address specific issues, such as development adjacent to the airport.







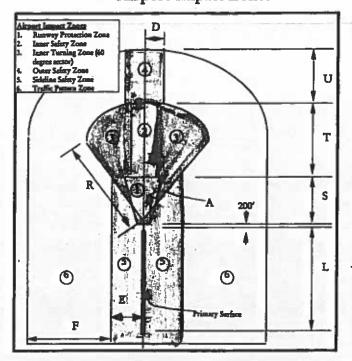


V. Airport and Local Land Use Planning Processes

density residential development and industrial development accommodating fewer than 100 people per acre.

density residential dev AIRFORT IMPACT fewer than 100 people <u>ZONES</u> <u>RESID</u> <u>I. NONE</u> <u>SPED</u> <u>AIRFORT</u> <u>RESID</u> <u>I. NONE</u> <u>SPED</u> <u>SPED</u> <u>SES</u> <u>LO dENSITZ</u> <u>AS-40</u> <u>III</u> <u>LO dENSITZ</u> <u>AS-40</u> <u>III</u> <u>ES-40</u> <u>III</u> <u>III</u> <u>III</u> <u>ES-40</u> <u>III</u> <u>III</u> <u>III</u> <u>III</u> <u>III</u> <u>ES-40</u> <u>III</u> <u>IIII</u> <u>III</u> <u>III</u> <u>IIII</u> <u>III</u> <u>IIII</u> <u>IIII</u>

Airport Impact Zones



Airport Impact Zone Dimension (in Feet)

	Runway Length Category (L)		
Dimension	Runway less than 4,000	Runway 4,000 to 5,999	Runway 6,000 or more
Α	125	250	500
B	225	\$05	875
C	225	500	500
D	225	500	500
E	500	1,000	1,000
F	4,000	5,000	5,000
R (60 Sector)	2,500	4,500	5,000
5	1,000	1,700	2,500
T	1,500	2,800	2,500
U	2,500	3,000	5,000

Data Source: NTSB accident investigations 1984-1991.

<u>Hustration Source</u>: Hodges and Shurt, Institute of Transportation Studies,



mery LORI S. MONTGOMERY, MAYOR

ATTEST:

 $m_{WTRW} = n$

MARY B. PÉNNER, CITY CLERK

Prepared for: City of Truth or Consequences Prepared by: WHPacific, Inc. in association with Airport Planning West



WHPacific

Table of Contents

Chapter One – INVENTORY	Page
AIRPORT LOCATION AND ACCESS	1-1
AREA TOPOGRAPHY	1-2
CLIMATE	1-2
COMMUNITY AND AIRPORT HISTORY	1-3
AVIATION ACTIVITY	1-4
EXISTING FACILITIES	
AIRSIDE FACILITIES	
Runways	1-9
Taxiways	1-10
Aprons and Aircraft Parking	1-10
Airfield Lighting	1-11
Airport Navigational Aids	1-11
Airfield Signage	1-11
Automated Surface Weather Observing Station (ASOS)	1-12
LANDSIDE FACILITIES	1-12
Airport Buildings	1-12
Aviation Services	
Vehicle Access and Parking	
AIRPORT SUPPORT	1-13
Emergency Services	1-13
Airport Maintenance	1-14
Security Lighting	1-14
Fencing	1-14
Utilities	1-14
Drainage	1-15
Fuel	
AIRSPACE	1-15
OFF-AIRPORT LAND USE AND DEVELOPMENT	1-18

Chapter Two – FORECASTS

FORECASTING GUIDELINES AND ASSUMPTIONS	
HISTORICAL DEMAND AND PREVIOUS AIRPORT FORECASTS	
AVIATION TRENDS AND FORECASTS	
SOCIOECONOMIC TRENDS AND FORECASTS	
POPULATION	
HOT SPRINGS LAND DEVELOPMENT	
TURTLEBACK MOUNTAIN RESORT	
ELEPHANT BUTTE LAKE RECREATIONAL VISITORS.	
SPACEPORT AMERICA	



Table of Contents

TRUTH OR CONSEQUENCES MUNICIPAL AIRPORT FORECASTS	10
BASED AIRCRAFT2-1	11
Low-Growth Scenario	12
High-Growth Scenario	12
Medium-Growth Scenario	
Preferred Forecast	
OPERATIONS	13
Low-Growth Scenario2-1	14
Medium-Growth Scenario2-1	15
High-Growth Scenario2-1	15
Preferred Forecast	15
PEAKING CHARACTERISTICS2-1	
PASSENGER AND CARGO FORECASTS2-1	17
Chapter Three – REQUIREMENTS	
PLANNING CRITERIA	
AIRPORT ROLE	
AIRPORT REFERENCE CODE	
INSTRUMENT APPROACH VISIBILITY MINIMUMS	
CORPORATE JET CRITERIA	
AIR TAXI SERVICE	
PART 139 CRITERIA	-7
AIRSIDE REQUIREMENTS	
AIRFIELD CAPACITY	-8
RUNWAYS	_
Number and Orientation of Runways	-8
Runway Length	-9
Other Runway Design Requirements	13
LIGHT SPORT AIRCRAFT/ULTRALIGHT FACILITIES	15
HELICOPTER FACILITIES	15
TAXIWAYS	15
APRON	
AIRPORT PAVEMENT CONDITION	
AIRFIELD LIGHTING, SIGNAGE, AND MARKING	8
NAVIGATIONAL AIDS AND WEATHER REPORTING	
AIR TRAFFIC CONTROL TOWER	20
LANDSIDE REQUIREMENTS	20
HANGARS	
AVIATION SERVICES AND AIRPORT SUPPORT	21
General Aviation Terminal	
Fixed Base Operator (FBO)	21

Table of Contents

Fuel Storage	
Emergency Services	
Security	
Vehicular Access and Parking	
UTILITIES AND DRAINAGE	
Airfield Utilities	
Utilities for Automated Surface Observation Station (ASOS)	
Utilities for Airport Facilities and Development Facilities	
Utility Right-of-Way	
Drainage	
HIGH GROWTH SCENARIO	
AIRSIDE	
LANDSIDE	

Chapter Four – ALTERNATIVES

SITE AND AIRFIELD NEEDS ANALYSIS	
IDENTIFICATION OF ALTERNATIVES	
COMPARATIVE EVALUATION	
SELECTION OF PREFERRED ALTERNATIVES	4-9

Chapter Five – IMPROVEMENTS

13 18

CAPITAL IMPROVEMENT PROJECTS	5-1
MAJOR OVERALL DEVELOPMENT OBJECTIVE- NEW CROSSWIND RUNWAY	
PROJECT DESCRIPTIONS	5-3
Acquire Land Leased for Last Runway 13-31 Extension	5-4
Benefit-Cost Analysis for Runway Improvements	5-4
Complete Taxiway A Reflectors	
Environmental Assessment for Airfield Improvements	5-4
Acquire Land for Crosswind Runway and Primary Runway Extension	
Design and Construct Taxilanes for T-Hangars	5-5
Design Taxiway A Realignment	
Construct New T-Hangar Bank	5-5
Design New Crosswind Runway	
Realign Taxiway A	
Relocate South T-Hangar Bank	
Remove/Mitigate Old FAA Buildings	
Assess/Replace AF Fuel Storage Tank	
Construct Crosswind Runway Phase I	
Access Road and Parking	
ASOS Relocation	
Construct Crosswind Runway Phase II	5-6

Table of Contents

GA Terminal	
Longer Term Projects	

List of Exhibits

	Page
1A. Location Map	
1B. Existing Conditions	1-7
1C. Existing Conditions - Terminal Area	1-8
1D. Pavement Condition Analysis	
1E. Hot Springs Land Development Conceptual Land Use Plan	
4A. Alternative 1	4-5
4B. Alternative 2	
4C. Alternative 3	
Airport Layout Plan (ALP) Drawing Set	g Page 5-12

List of Tables

	Page
1A. Airport Activity	1-5
1B. Area Public Use Airports Comparison (within 60 nm)	
2A. FAA's Historical Based Aircraft and Operations for Truth or Consequences	2-2
2B. Previous Forecasts for Truth or Consequences	2-3
2C. GA Industry Projections from FAA Aerospace Forecasts 2008-2025	2-5
2D. Historical Population for Truth or Consequences	2-7
2E. Comparison of Cedar City and Truth or Consequences	
2F. Comparison of Based Aircraft Growth Forecasts	
2G. Based Aircraft Forecast by Fleet Mix	
2H. Operations Forecasts by Scenario	2-14
2I. Preferred Forecast for Operations	2-15
2J. Preferred Forecast for Operations by Aircraft Type	2-16
2K. Peaking Characteristics for Operations	2-17
3A. Airport Reference Code (ARC) Components	3-4
3B. Business Aviation Requirements	3-6
3C. DayJet Standards for Airport Use/Classification	3-7

Table of Contents

3D. Percent Wind Coverage	
3E. FAA Computer Model Results for Runway Length at Truth or Consequences	
3F. Business Jet Runway Length Requirements for Truth or Consequences	
3G. Taxiway Dimensional Standards for Various Airplane Design Groups	
3H. Apron Demand	
3I. Future Airfield Pavement Needs	
3J. Hangar Requirements	
3K. GA Terminal Building Requirements	
3L. GA Terminal Auto Parking Requirements	
3M. High-Growth Scenario Requirements (HSLD)	
4A. Comparative Evaluation of Alternatives	
-	
5A. Capital Improvement Program	

Chapter OneAction PlanINVENTORYTruth or Consequences Municipal Airport

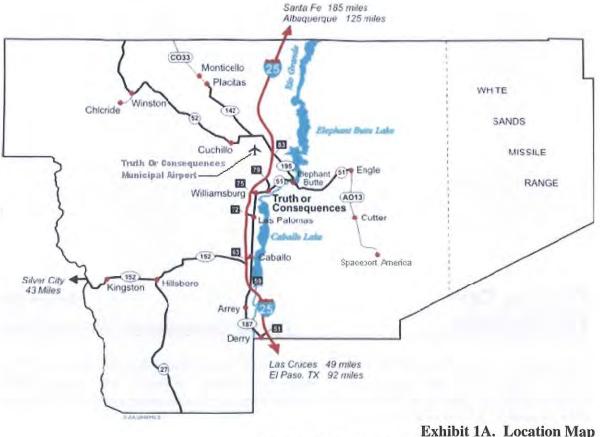
The purpose of this Action Plan is to provide a means for documenting the City's short-term goals for the Truth or Consequences Municipal Airport (Airport), any issues needing consideration, the current physical condition of the Airport, its anticipated growth, and proposed development to accommodate that growth.

Inventory is the first of several key planning tasks, which are all documented in chapters in the Action Plan. The Inventory Chapter documents the existing conditions for the Airport and its surroundings. This information was identified in August 2008 and derived from a variety of sources, including the City of Truth or Consequences, a physical inspection of the Airport, interviews with airport users and other stakeholders, and a review of published materials by local, state, and federal sources.

AIRPORT LOCATION AND ACCESS

The Truth or Consequences Municipal Airport is located six miles north of the City of Truth or Consequences off State Route 181, just north of where it intersects Interstate 25. Albuquerque is 149 miles northeast of the City of Truth or Consequences, and the City of El Paso, Texas is 119 miles to the southeast. Truth or Consequences, also referred to as a spa city for its hot springs, is the county seat for Sierra County. **Exhibit 1A** is a map of Sierra County and depicts the location

of Truth or Consequences, Interstate 25, various major highways, Elephant Butte Lake and State Park, the Rio Grande River, White Sands Missile Range, and Spaceport America. Spaceport America is a commercial spaceport currently under development in an uninhabited area of Sierra County, approximately 30 miles southeast of Truth or Consequences.



(Courtesy of Sierra County Economic Development Organization)

AREA TOPOGRAPHY

The Truth or Consequences Municipal Airport is at an elevation of 4,853 feet mean sea level (MSL). The highest ground is in the northern part of the airfield while the south end of the airfield drops nearly 60 feet. Further, there are significant drops in terrain off the ends of Runways 1 and 7 into a major drainage channel (arroyo). The city is lower than the Airport with an elevation of 4,245 feet MSL.

CLIMATE

Truth or Consequences has a semi-arid climate with warm summers averaging in the 90s and mild winters in the high 20s to low 30s. Average annual rainfall is less than 10 inches.

According to the Western Regional Climate Center, the mean maximum temperature of the hottest month, July, is 95.8 degrees Fahrenheit.

COMMUNITY AND AIRPORT HISTORY

Truth or Consequences, consisting of 12.8 square miles, is located on the Rio Grande River near the Elephant Butte Reservoir. The community was originally named Hot Springs for its numerous hot springs. Major settlement in the area began around 1912 when the Elephant Butte Dam and Reservoir were constructed. The town was incorporated as "Hot Springs" in 1916, and became the Sierra County seat in 1937. However, it later took the name Truth or Consequences from the 1950 radio game show as part of a contest; the game show host, Ralph Edwards agreed to host the show in the first community to rename itself Truth or Consequences.

Today, the City continues to attract tourists for its hot springs, spas, nearby state parks, abundant sunshine, and numerous outdoor activities. These factors along with affordable housing are attracting a growing number of retirees to the City, too.

Truth or Consequences is the largest city in Sierra County with a population of 6,689 according to the 2007 population estimates from the U.S. Census Bureau. The next largest city in Sierra County is Elephant Butte, located only 5.5 miles northeast of Truth or Consequences. Elephant Butte's estimated population is 1,265. Sierra County's total population is estimated at 12,316, so the combined population of Truth or Consequences and Elephant Butte represents 65% of the County's population.

The Truth or Consequences Municipal Airport is the only public use airport in Sierra County. The Airport was originally constructed by the military in the 1930s as a potential training field, but was never used by the military. TWA provided commercial service through the 1950s using a DC-3, but that service ended in the late 1950s. The Airport has received numerous federal and state grants to fund airport improvement projects over the years. The Airport is eligible for federal grants since it is included in the National Plan of Integrated Airport Systems (NPIAS). The U. S. Department of Transportation, Federal Aviation Administration (FAA), publishes the NPIAS. The New Mexico Airport System Plan (NMASP), published in 2003 by the New Mexico Department of Transportation (NMDOT) Aviation Division, identifies the Truth or Consequences Municipal Airport's role as a GA Gateway facility. The NMASP defines Gateway airports as "…those GA airports needed to provide access to business aircraft within 30 minutes driving time from population centers."

There are no previous airport action plans or master plans for the Truth or Consequences Municipal Airport. However, a 1997 report titled *Truth or Consequences Municipal Airport Development Plan* contains elements similar to an action plan or master plan. The City prepared an Environmental Assessment (EA) for the Airport in 2000 to address the possible environmental impacts of the Runway 13-31 extension, which was subsequently constructed. As this Action Plan was initiated, the most current FAA-approved Airport Layout Plan (ALP) drawing was dated January 2006 with an FAA-approval date of April 17, 2006.

Highlights of the Airport's development in recent years include:

- 1993: Rehabilitated runway, apron, and taxiway (total federal grant: \$422,021).
- 1997: Prepared airport development plan (total federal grant \$35,789).
- 1998: Rehabilitated runway, apron, and taxiway; installed perimeter fencing; installed runway vertical/visual guidance system (total federal grant: \$174,202). Constructed new domestic water well.
- 1999-2001: Replaced Medium Intensity Runway Lighting (MIRL) system on Runway 13-31; installed airfield guidance signs (total federal grant \$122,156).
- 2000: Prepared environmental assessment.
- After 2000: City annexed airport property.
- 2001: Phase I of Runway 31 extension project; acquired land; improved access road.
- 2002: Constructed gray maintenance hangar.
- 2003: Acquired land patent for additional land from the Bureau of Land Management (BLM) for proposed Runway 13-31 extension. Obtained long-term lease from New Mexico State Land Office for land for the proposed runway extension.
- 2003: Extended Runway 13-31 by 1,602 feet (total project \$966,667 with federal \$870,000, state \$48,333, and local match \$48,333). Constructed apron around the gray maintenance hangar (total project \$37,526, with state and local 50/50 funding at \$18,763 each).
- 2004: Extended parallel Taxiway A by 1,602 feet with connecting taxiway to Runway 31 (total federal grant \$570,950). Constructed apron for 13-unit T-hangar. Reconstructed hangar taxilanes.
- 2006: Rehabilitated apron and taxiway (total federal grant \$540,000).
- 2007: Constructed corporate aircraft apron (200 by 400 feet). Reconstructed terminal area apron and T-hangar apron.
- 2008: Conduct airport action plan (under way).

AVIATION ACTIVITY

Truth or Consequences Municipal Airport is a general aviation airport. Aviation activity at a general aviation airport is typically measured by the number of based aircraft and annual aircraft operations. An operation is a takeoff or a landing; a touch-and-go performed during flight training would count as two operations. Aircraft operations are also divided between local and itinerant activity. Local operations refer to aircraft remaining near the airport and include training activity such as touch-and-go operations, aircraft maneuvers in a practice area near the airport, and skydiving operations. Itinerant activity refers to all other operations that depart to or arrive from another airport.

GA aircraft operations are estimated to represent 92% of total annual operations at the Airport, while military aircraft operations represent the remaining 8% of annual operations.

The FAA Airport Master Record (FAA Form 5010) for the Airport reports an estimated 15,700 annual operations and 49 aircraft based at the Airport. The airport manager confirmed these

numbers. The based aircraft fleet consists of 44 single-engine aircraft and five ultralights. Ultralight aircraft do not require pilot licensing, medical certification, or aircraft registration.

Table 1A summarizes the data on the FAA Form 5010 and the Airport Manager's remarks regarding the type of activity and operations fleet mix.

Table 1A. An port Activity		
Description	FAA Airport Master Record FAA (2007/2008)	Remarks
GA Local Operations	4,500	Primarily touch-and-go training activity
GA Itinerant Operations	10,000	Recreational, corporate, medical, training
Military Operations	<u>1,200</u>	Associated with training operations in the area
Total Operations	15,700	Average 302 operations weekly, 43 operations daily
Based Aircraft	49	44 single-engine and 5 ultra-lights

Table	1A.	Airport	Activity
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Source: FAA Airport Master Record (Last Inspection April 12, 2008) and City of Truth or Consequences.

The FAA Terminal Area Forecast (TAF) database also includes operations and based aircraft data for the Airport since it is in the federal system of airports. In comparison, the TAF data shows that the existing 2006 operations totaled 12,200 or 22% less than the Master Record operations total for 2007/2008. The TAF also reported 46 aircraft based at the Airport in 2006.

The Airport is used for a variety of business and leisure flights. The transient aircraft fleet mix operating at the Airport includes single-engine (SE), multi-engine (ME), business jets, and helicopters.

Aviation activity is fairly steady through the year and operations on weekdays are similar to weekend levels. However, there is an apparent seasonal shift in the fleet mix. According to the Airport Manager, aviation gasoline (Avgas) sales are highest for half of the year (between March and September) while Jet fuel sales are highest for the other half (between September and March). The transition that occurs in September is also coincident with the regional large game hunting season.

The general aviation service area for Truth or Consequences Municipal Airport generally encompasses Sierra County and a small southern portion of Socorro County where it borders the Socorro Municipal Airport's service area. This is supported by the residential status of most based aircraft operators. Of the 44 single-engine aircraft based at the Airport, the Airport Manager estimates that 41 belong to area residents and three belong to pilots outside the area: one El Paso, Texas resident, one Durango, Colorado resident, and one Arizona resident. The ultralights belong to area residents. All aircraft based at the Airport are primarily used for personal and business purposes. To provide more insight into the character of an airport and how it is serving the community and region, it is important to understand who is using the Airport and for what purpose. The type of transient aircraft operations varies widely. Regular corporate operators flying into Truth or Consequences originate from Texas, Kansas, and New York. One corporate operator flies for a retail company in Houston. Several real estate-related corporate operations originate from New York City and Houston flying Falcon 50, Citation Excel, and similar aircraft. Corporate ALCO representatives from Kansas travel to Truth or Consequences on a regular basis in a Citation 500 and King Air to visit their Truth or Consequences store. Ted Turner's Challenger 604 aircraft flies into the Airport about 15 times between November and March each year.

Flight training also occurs regularly at the Airport. Examples of routine training users include Blue Feather Aero from Doña Ana County Airport, which flies in weekly in a Cessna 152, and Cochise College from Arizona, which flies in two aircraft monthly for flight training. The Airport is often used as a cross-country destination for training. Mesa Airlines out of Farmington, New Mexico uses the Airport for daytime and nighttime training on a monthly basis using two Bonanza aircraft from Mesa Airlines' training fleet. As Truth or Consequences is a tourist destination, there are numerous recreational operations annually, also.

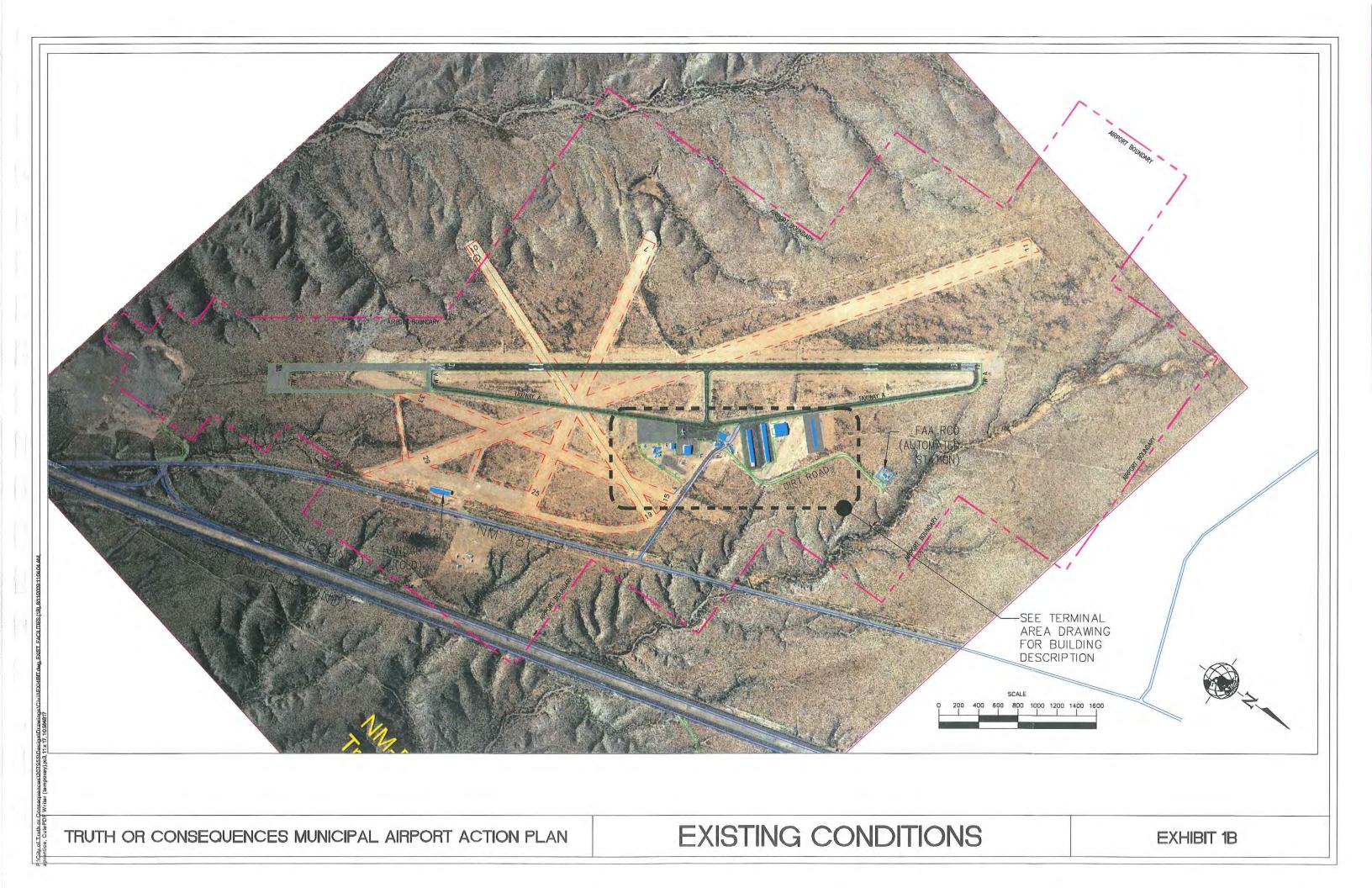
In late September, crop dusters arrive and operate from the Airport for a couple of weeks to spray BLM and state lands and, sometimes, ranches in the area.

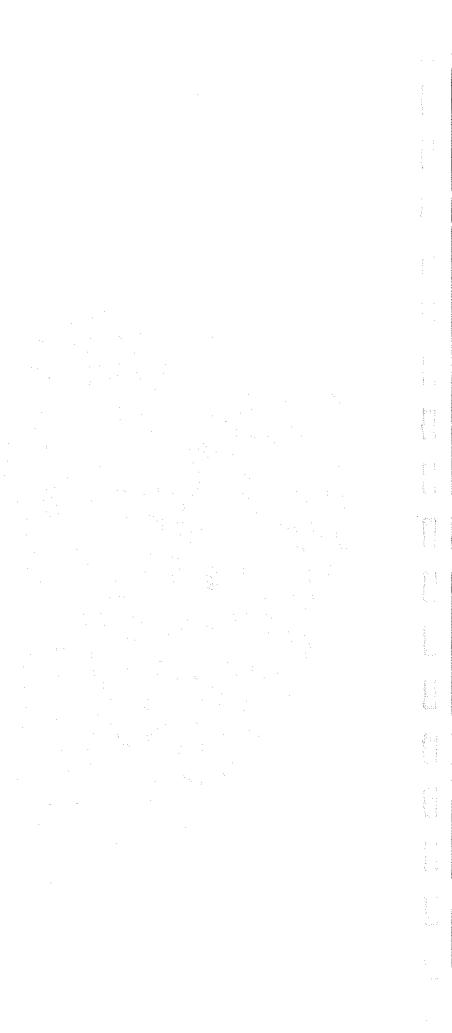
Medical flights at the Airport are daily and conducted by a Cessna 414 most frequently, but there are medical helicopter and medical King Air flights as well. Several medical flight operators use the Airport. During firefighting season, several aircraft fly in for fuel.

EXISTING FACILITIES

This section describes the existing airside, landside, and support facilities at the Airport. Airside facilities include aircraft movement areas such as runways, taxiways, and aprons. Hangars, airport terminal building, auto parking, other airport buildings, and similar facilities fall into the landside category. Support facilities include utilities, fencing, emergency service, fuel, and other miscellaneous facilities. **Exhibits 1B** and **1C** depict the existing facilities at the Airport.

The Truth or Consequences Municipal Airport property consists of 790 acres. All Airport facilities appear to be located within the boundary, with the possible exception of the dirt Runway 1 threshold, as shown on Exhibit 1B. Further research or surveying may be needed to determine if Runway 1 is fully located within the Airport.







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AIRSIDE FACILITIES

Runways

Truth or Consequences Municipal Airport has five runways, but only one is paved—Runway 13-31. Based on the Airport Master Record, Runway 13-31 is 7,200 feet long and 75 feet wide with a pavement strength rating estimated at 12,500 pounds single wheel loading (SWL) and 30,000 pounds dual wheel loading (DWL). However, the strength rating is based on pavement design criteria and, except for the 1,600-foot extension completed in 2003, the runway is 34 years old. The older portion will need reconstruction fairly soon, particularly if it is subjected to more frequent use and heavier aircraft in the future. According to an evaluation of the pavements at Truth or Consequences in November 2006 as part of a statewide study, the weighted pavement condition index (PCI) for Runway 13-31 is 91.56, where 86 to 100 represents a "good" condition rating (**Exhibit 1D**). The older runway pavement condition is probably worse than Exhibit 1D shows. The PCI survey was a visual inspection of the surface and the surface showed relatively few cracks since a porous friction course (PFC) had been applied recently.

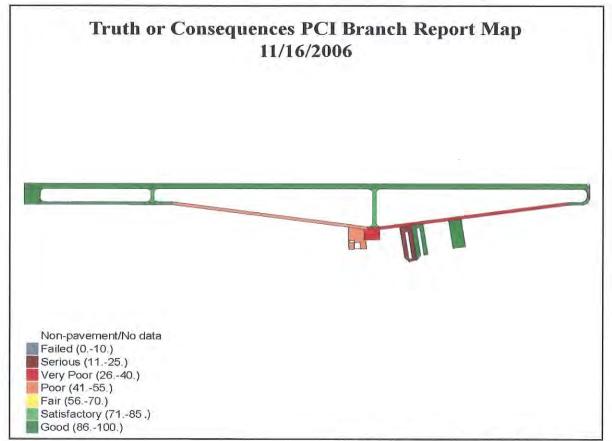


Exhibit 1D. Pavement Condition Analysis (Courtesy of NMDOT Aviation Division)

Runway 13-31 markings are in fair condition. The runway safety area for Runway 13-31 is properly graded. The Runway 13 end is the high point on the runway at an elevation of 4,852.7 feet, while the Runway 31 end is the low point at 4,794.3 feet MSL—a difference of 58.4 feet.

According to the Airport Master Record and Airport Facility Directory (July 2008), the remaining four runways, which are unpaved, have dimensions as follows:

- Runway 1-19 3,301 by 130 feet
- Runway 7-25 2,932 by 130 feet
- Runway 11-29 7,108 by 150 feet
- Runway 15-33 2,900 by 140 feet

Taxiways

Taxiway A is 35 feet wide and functions as a full-length parallel taxiway for Runway 13-31. Only the southern 1,600 feet is actually parallel to the runway, located 250 feet from the runway, measured between centerlines. The remainder of Taxiway A diverges from the runway and at its farthest point is located 600 feet from the runway, centerline-to-centerline. There are four connecting taxiways to the runway. A large turnaround area was constructed at the Runway 31 threshold when the runway was extended in 2004, because the parallel taxiway was not extended at the same time as the runway. Taxiway A runs along the apron areas so there are no connecting taxiways between the apron and Taxiway A. Taxiway A's pavement strength is estimated at 12,500 pounds SWL and 30,000 pounds DWL, but like the runway, most of Taxiway A is 34 years old and its strength has probably deteriorated.

According to the November 2006 pavement evaluation (Exhibit 1D), the taxiways connecting Runway 13-31 to Taxiway A are in good or satisfactory condition, which may be an overstatement for those that are 34 years old. The newest and southernmost 1,600 feet of Taxiway A is rated as good, while the remaining 5,600 feet of taxiway is rated poor to very poor condition. Hold lines are properly marked on all four taxiway for proper setbacks from the dirt runway intersection.

Aprons and Aircraft Parking

There are two apron areas referred to as the GA/terminal area apron and the corporate apron, but they are a part of one contiguous piece of pavement.

The GA/terminal area apron, with dimensions of 150 by 430 feet, has served as the primary apron for several years and contains 13 tiedown spaces for small aircraft. Following a very poor condition rating on the northern half of the apron in late 2006, the northern portion was reconstructed in 2007 and is in good condition today. The southern portion was rated poor in late 2006 and still requires improvements. The GA/terminal area apron has an estimated pavement strength rating of 12,500 pounds SWL and 30,000 pounds DWL, the same as the runway and taxiway pavements. This apron is used for transient aircraft, since all based aircraft are stored in hangars.

The corporate aircraft apron, constructed in 2007, has dimensions of 200 by 400 feet, and is located south of the GA/terminal area apron. The corporate apron is designed for 30,000 pounds DWL and has three large aircraft parking spaces with concrete hardstands for the main gear. Although there are two additional concrete hardstands on the southern portion of the GA/terminal area apron for large aircraft parking overflow, they coexist with five of the small aircraft tiedown spaces so they may not be used concurrently.

Helicopters also use the apron since the Airport does not have a separate public use helipad. Helicopters typically make their approach down the runway and then hover taxi to the ramp. Most of the smaller helicopters park on the south end of the GA/terminal area apron near the fire station and the bigger helicopters park on the corporate apron.

Airfield Lighting

Runway 13-31 has a Medium Intensity Runway Lighting (MIRL) system that replaced the old system in 2001. The current MIRL system is in good condition.

Taxiway A has some centerline reflectors, but no edge or centerline lighting.

Airport Navigational Aids

Airport navigational aids, also referred to as NAVAIDS, include both visual and instrument approach aids.

Visual Aids. Visual aids at Truth or Consequences Municipal Airport include a rotating beacon, one lighted primary wind cone, two lighted supplemental wind cones, two unlighted wind cones, and a Precision Approach Path Indicator (PAPI) system on both Runways 13 and 31. The PAPI systems provide visual glide slope information to the pilot.

Instrument Approach Aids. Instrument approach aids are typically used for airports that permit flying by instrument flight rules (IFR), which means that operations are permitted when the visibility and cloud ceiling are below minimums for visual flight rules (VFR). Truth or Consequences Municipal Airport does not have any on-airport instrument approach aids, such as a localizer or a glideslope antenna. However, the Airport has two published nonprecision instrument approaches with 1-mile visibility minimums consisting of a RNAV (GPS)-A approach and a VOR-A approach. The RNAV approach relies on satellite navigation and the VOR approach relies on a Very High Frequency Omnidirectional Range (VOR) station located 2.8 nautical miles to the northeast. The VOR's offset from Runway 13-31 does not allow straight-in instrument approaches.

Airfield Signage

Existing airfield signage is in good condition and substantially up to current FAA standards.

Automated Surface Weather Observing Station (ASOS)

An automated surface weather observing station (ASOS) is located at the Airport near several old FAA Flight Service Station (FSS) buildings and near the corporate apron. Concern has been expressed that data collected by the system may be affected by this location because of the affect of nearby buildings and parked aircraft.

LANDSIDE FACILITIES

Airport Buildings

Buildings at the Airport include the terminal building, public restroom building, conventional hangars, T-hangars, a residence, a Remote Communication Outlet (RCO) building and five former FAA FSS buildings that are used for storage.

Terminal Building. The terminal building consists of 800 square feet and contains the airport manager's office, pilot lounge/waiting area, and restrooms. The building is in need of significant improvement or replacement.

Public Restroom Building. The 420-square-foot public restroom building is located just north of the terminal building and remains open at all times so Airport users have restroom access when the terminal building is locked.

T-hangars. There are four banks of T-hangars. The three newer T-hangar buildings are located north of the terminal building. The fourth and oldest building is located near Highway 181 and the threshold of dirt Runway 29.

The northernmost T-hangar building is 50 feet wide by 290 feet long and has 13 units, with seven on the north side and six on the south side, all filled with based aircraft. The T-hangar is privately owned on a ground lease.

Two T-hangar buildings are City-owned and contain 12 units each; they are commonly referred to as the North White T-hangar and South Red T-hangar. The North White T-hangar is 35 by 385 feet, and the South Red T-hangar is 35 by 330 feet. Both City-owned T-hangar buildings are filled with based aircraft.

The oldest T-hangar building, located near Highway 181, is 35 wide by 195 feet long. It is Cityowned, and contains an office and six units that provide storage for the remaining based aircraft and ultralights. Taxilane access between the airfield and T-hangar building is unpaved.

Conventional Hangars. There are two conventional hangars. One is located among the T-hangars, is privately owned, provides storage for four based aircraft, and is referred to as the LaFont Hangar. The LaFont hangar is 120 by 120 feet. The second conventional hangar is located south of the terminal building; it was privately developed as a maintenance hangar, but reverted to the City in recent years. The lack of a Certificate of Occupancy has prevented this building from being leased or occupied. The hangar is 70 by 90 feet.

Residence. The City has a park-host agreement with a resident at the Airport. The City offered a lot on Airport property, including propane, electricity, water, and sewer free of charge, in exchange for residing in a mobile home there to provide enhanced security when the Airport is unattended. The resident located a 14-by-60-foot mobile home where he has a view of the terminal area and a portion of the airfield.

Fire Station. The City's auxiliary fire station has dimensions of 30 by 60 feet and opens to the aircraft apron and the vehicle parking lot. The facility provides storage for two out-of-service trucks. The fire station was built in 1996.

Former FAA Buildings 1 through 5. The FAA turned over ownership of five old FSS buildings to the City in 2002. One building, referred to as Old FAA Building 1 (16 by 60 feet), contains the airfield electrical systems and regulators. Building 2 (15 by 25 feet) is used for airport storage. Building 3 (5 by 5 feet) contains electrical panels for the well. Building 4 (12 by 16 feet) contains an inoperative generator that was last used in the early 1990s. Building 5 (10 by 12) contains the water well pressure tank and treatment equipment.

FAA Remote Communication Outlet (RCO). The FAA RCO contains the Regional Sector Office (RSO) building, four towers, a concrete block enclosure, and is all fenced with barbed wire. The area is 130 by 125 feet.

Aviation Services

The City is the Fixed Base Operator (FBO) at the Airport with three City staff: one full-time airport manager, one full-time airport attendant, and one part-time airport attendant. All three staff members provide aircraft fueling service, aircraft/airport advisory information, and airport maintenance. No aircraft service beyond fuel is available.

Vehicle Access and Parking

Airport Road provides access from Highway 181 to the terminal area. The access road is paved with recycled pavement millings and a "chip seal" surface. Dirt roads provide access to building areas on the Airport.

The terminal auto parking area is just south of and adjacent to the terminal building. The lot is partially paved with recycled pavement millings and a "chip seal" surface; the remaining parking is dirt and gravel. Most tenants park inside their hangars or on their lots.

AIRPORT SUPPORT

Emergency Services

Both the City Police and State Police serve the law enforcement needs of the Airport. Either may respond depending on a unit's proximity to the Airport at the time local dispatch receives a call.

Firefighting is provided by the City's all-volunteer firefighters and four fire trucks. Response time ranges from 30 to 45 minutes since the firefighters are located more than 15 minutes from the Airport and must report to the City fire station for trucks and other equipment/gear. The last firefighting incident had a 45-minute response time. No functional firefighting equipment is currently stored in the fire station on the Airport property.

Airport Maintenance

Airport staff handles regular airport maintenance with City-owned equipment, but it is not stored at the Airport. The City Streets Department assists with maintenance on occasion.

Security Lighting

The apron area has limited security lighting. There are two poles with lights by the terminal building. There is also a pole light just north of the maintenance hangar that provides some limited apron lighting at the fence line. A street pole light near the restroom provides lighting for the roadway and landside portion of the terminal area. There is also a security area light on a tower by the former FAA buildings.

Fencing

Three-strand barbed wire fencing that is in fair to good condition surrounds the Airport. There is six-foot chain link fencing around the terminal area, which is in good condition.

There are four vehicle gates and four pedestrian gates. One of the four vehicle gates is automated using an electronic keypad and is located at the terminal. The other three vehicle gates are manual, with combination locks, and are located near the old T-hangar (near Highway 181), near the driveway to the terminal that accesses the taxiway at Runway 19 (for service vehicles), and at the northernmost T-hangar.

One pedestrian gate is located at the terminal, one is at the fire station, and two are near the maintenance hangar.

Utilities

Airport utilities include electricity, propane gas, water, wastewater, and telephone. The Airport also has free wireless Internet access provided at the terminal building that extends approximately 600 feet from the building.

Electricity. Sierra Electric Coop provides electricity. All hangars have power.

Gas. Ikard & Newsom provide propane gas for the terminal on an as-needed basis. The propane tank is at the northeast corner of the terminal building.

Water. An on-airport city well provides all water at approximately 30 gallons per minute. The terminal building has a filtering system and a reverse osmosis system for drinking water. The

well has water lines to all of the hangars with the exception of the oldest T-hangar. The water line continues to the northwest to other side of Highway 52.

Wastewater. The terminal area is served by a septic system.

Telecommunications. Windstream provides telecommunication services to the Airport, City of Truth or Consequences, and most of Sierra County.

Drainage

The Airport sits on a mesa with a large arroyo and drainage basin (Yampa Arroyo) to the west and arroyos leading to the east. Generally, Runway 13-31 divides the drainage on the Airport, with storm flows flowing to the west of the runway and to the east of the runway. The drainage flows to the west enter the Yampa Arroyo and flow to Cuchillo Creek, which eventually joins the Rio Grande River south of the Elephant Butte Dam. Drainage flows to the east gather in small arroyos, which travel in culverts under Highway 181 and Interstate 25 and eventually flow to Elephant Butte Lake.

Fuel

There are two fuel storage areas, but only one is used. It consists of a 60-by-60-foot recessed containment area with a 4,000- gallon Avgas (100LL) tank and a 6,000-gallon Jet A tank. This fuel farm is located inside the security fencing. An unused fuel farm belonged to the Air Force before it was turned over to the City. The old Air Force fuel farm consists of a 10,000-gallon tank, which was used for Jet A fuel. This system would require significant rehabilitation to bring it to permittable condition.

AIRSPACE

Airspace surrounding the Truth or Consequences Municipal Airport must be considered in the planning process so it may be protected. The Airport's airspace is reviewed here with respect to 14 Code of Federal Regulations (CFR) Part 77 imaginary surfaces, specific types of airspace identified on the aeronautical chart for pilots, and any other relevant airspace-related issues near the Airport. Protecting airspace around an airport is important to protect the long-term viability of operations.

The most important airspace includes the runway approach paths since an obstruction in the runway approach could be hazardous to aviation. Runway 13-31, the primary runway, has a clear approach surface at both ends; the imaginary surface slopes up from the runway at a 34 (horizontal) to 1 (vertical) slope, which complies with guidelines for the current classification of runway and instrument approach. Further, the Airport Master Record (FAA Form 5010) for Truth or Consequences reports that Runway 13 is clear down to a 50:1 approach surface and Runway 31 is clear down to a 46:1 approach surface where it intercepts a fence located 385 feet from the runway end. The four unpaved runways should protect for a 20:1 approach surface. However, the Airport Master Record indicates the four unpaved runways have obstructions on

Runway **Runway Approach End Clearance/Obstruction** 13-31 R13 clears 50:1 R31 clears 46:1 (fence) 1 - 19R1 clears 50:1 R19 clears 6:1 (road) 7-25 R7 clears 50:1 R25 clears 13:1(road) R11 clears 0:1 (brush) 11-29 R29 clears 50:1 15-33 R15 clears 3:1 (road) R33 clears 1:1 (aircraft)

one or both runway ends. The following summarizes the approach surface conditions from the Airport Master Record:

Airspace within the traffic pattern and the local region should also be reviewed. The Airport traffic pattern is a standard left pattern for all runway ends since there are no obstructions requiring a non-standard right turn pattern.

Within the region, there is a substantial area of restricted airspace associated with the White Sands Missile Range east of the Airport. Within restricted airspace, the flight of aircraft is subject to restrictions, although not wholly prohibited. However, a portion of this restricted airspace is strictly off limits to civilian use and prevents travel east of the Truth or Consequences Municipal Airport. The Airport does not get east-west traffic due to this restricted airspace.

There are no Military Operating Areas (MOA) over the Truth or Consequences Municipal Airport. However, the Cato MOA and Smitty MOA are approximately 42 miles to the northwest. A MOA is an area of airspace established to separate certain military training activities from IFR traffic and to identify for VFR traffic where these activities are conducted. There are no wilderness areas, which often require overflight restriction, identified in the Airport vicinity.

Coordination with FAA regarding development on and around the Airport, through the submittal of FAA Form 7460-1/Notice of Proposed Construction, should continue so the airspace may be protected from potential hazards to aviation.

There are no airspace conflicts with other public use airports in the region since the closest, Hatch Municipal, is 35 nautical miles from Truth or Consequences. **Table 1B** summarizes the public use airports and their facilities and activity within 60 nautical miles of Truth or Consequences. Truth or Consequences Municipal Airport is included for comparison.

Private use airports in the Truth or Consequences area include Adobe Ranch, Emergency Operations Center, and Sierra Vista Hospital. There are presently no airspace conflicts between the Truth or Consequences Municipal Airport and these airports. Spaceport America will be constructed approximately 20 nautical miles southeast of the Airport and is anticipated to be operational in late 2010.

Airport, Elevation, & Acreage	Distance (nm) to TCS	Runway(s)	Lighting, Navaids	Services	Based Aircraft & Operations (ops)
Truth or Consequences Municipal Airport 4,853' MSL 751 acres	-	Paved R13-31 7,200' x 75' Dirt Runways R1-19: 3,301' x 130' R7-25: 2,932' x 130' R11-29: 7,108' x 150' R15-33: 2,900' x 140'	Rotating Beacon, MIRL, Lighted Wind Indicator, PAPI, MIRL, RNAV (GPS), VOR	Avgas, Jet A, ASOS, Minor A&P Service	44 aircraft 15,700 ops
Hatch Municipal 4,080' MSL 166 acres	35 nm S	Paved R11-29 4,110' x 60'	Rotating beacon, Non-standard approach lighting, wind indicator, PASI		2 aircraft 2,400 ops
Socorro Municipal 4,875' MSL 670 acres	51 nm N	Paved Runways R6-24: 4,590' x 60' R15-33: 5,841'x100'	Rotating Beacon, Lighted Wind Indicator, Segniented Circle, VASI, MIRL	Avgas	16 aircraft 5,400 ops
Whiskey Creek (privately owned) 6,126' MSL (ac. unavail.)	55 nm SW	Paved R17-35 5,400' x 50'	Rotating Beacon, Wind Indicator	Avgas, Jet A	13 aircraft 1,900 ops
Grant County 5,446' MSL 740 acres	57 nm SW	Paved 8-26 6,802' x 100' Dirt Runways R3-21: 4,537' x 80' R12-30: 4,675' x 75' R17-35: 5,473' x 75'	Rotating Beacon, Lighted Wind Indicator, Segmented Circle, MIRL, REIL, MALS, PAPI, localizer, VOR	Avgas, Jet A, A&P Service, Charter	27 aircraft 7,850 ops
Las Cruces International 4,456' MSL 2,193 acres	60 nm S	Paved Runways R4-22: 7,499' x 100' R8-26: 6,069' x 100' R12-30: 7,499' x 100'	Rotating beacon, MIRL, lighted wind indicator/ segmented circle, VASI, MALSR, RNAV (GPS), ILS, VOR	Avgas, Jet A, Major A&P Service,	166 aircraft 100,208 ops
A&P = Airframe & Powerplant ASOS = Automated Surface Observing System GPS = Global Positioning System MALS = Medium Intensity Approach Lighting System MIRL = Medium Intensity Runway Lighting MSL=Mean Sea Level Operation = take-off or landing			 PAPI= Precision Approach Path Indicator (glide slope navigational aid similar to VASI) PASI = Passive Approach Slope Indicator (retro- reflective panels) REIL = Runway End Identifier Lights RNAV = Area Navigation VASI= Visual Approach Slope Indicator VOR=Very High Frequency Omnidirectional Range Station (electronic navigation aid) 		

Table 1B. Area Public Use Airports Comparison (within 60 nm)

Sources: FAA Airport Master Records, AirNav

OFF-AIRPORT LAND USE AND DEVELOPMENT

This section identifies the existing and proposed land use development around the Airport as discussed in the Truth or Consequences Comprehensive Plan adopted August 9, 2004. Further, a conceptual land use plan proposed to the City by Hot Springs Land Development (HSLD) is also addressed. It is important to review existing and proposed land use development near an airport to identify potential impacts to that airport and to the nearby development. Development around an airport should be compatible with airport operations. Land use controls should be in place to protect the airport and the airport neighbors.

When the City annexed the airport property and its surroundings, it nearly doubled the size of the City. According to the 2004 Comprehensive Plan, the City intends to promote commercial and light industrial development on public and privately owned parcels in the newly annexed area. The Comprehensive Plan included existing and future land use plans for the area. The Existing Land Use exhibit simply designated the Airport property and its surroundings as "Vacant or Reserve" land use. The Future Land Use exhibit designated the Airport property as "Industrial" with "Commercial" to the southeast, and blocks of "Vacant or Reserve" to the south and to the east of the Airport.

Since the 2004 Comprehensive Plan, additional discussion and conceptual planning for the area has continued. Hot Springs Land Development completed a land exchange with the New Mexico State Land Office in mid-April 2008. In the exchange, Hot Springs acquired 7,388 acres of trust lands surrounding the Truth or Consequences Municipal Airport, which was valued at \$2.53 million. Hot Springs identified their conceptual plans to develop 12 square miles of property that would include land uses such as Industrial (I); Airport Industrial (AI); Research & Development Park (R&D); Commercial (C); Recreational Vehicle (RV); Low, Medium and High Density Residential (LDR, MDR, and HDR); Civic (CVC); Ranch Estates; Motorplex; Golf; Town Center and Convention Center. Exhibit 1E is the latest version of Hot Springs Land Development's conceptual plan.

Inventory 1-18



Exhibit 1E. Hot Springs Land Development Conceptual Land Use Plan (Courtesy of Hot Springs Land Development)

Chapter Two FORECASTS

Action Plan Truth or Consequences Municipal Airport

This chapter projects aviation demand at Truth or Consequences 20 years into the future. Forecasts help to determine when and to what extent airport improvements are needed. However, changes in the aviation industry, fluctuations in the economy, and changes in the community and region may result in various peaks and valleys in airport activity, but the intent of the forecasts is to provide the "big picture" of anticipated long-term demand. Therefore, the City should remain flexible in responding to that demand over the years.

FORECASTING GUIDELINES AND ASSUMPTIONS

In forecasting, it is important to define the parameters of the forecasting effort. The guidelines and assumptions identified here are those parameters. They are a basic component of the forecasts so they, too, should be reviewed and updated when forecasts are updated in the future.

Airports near Truth or Consequences will remain open and continue to maintain their ۲ airport facilities to serve their users so no demand will be displaced to Truth or Consequences.

2-1

- The facilities and services needed for projected aviation demand will be provided in the future. In other words, it is assumed that forecasts represent unconstrained demand. However, any forecasts that rely on historical or current activity may actually be constrained by facility and service deficiencies at the Airport. For example, the lack of appropriate hangars available for rent may have constrained the number and type of based aircraft. In addition, deficiencies in facilities and services desired by corporate aviation may have discouraged some transient traffic.
- Aviation industry trends, existing forecasts, and available local and regional socioeconomic data are used.
- Base year for forecasting is 2007 where data is available.
- The most current socioeconomic and aviation statistics and publications available at the time of the forecasting effort are used.
- Forecasting models most appropriate to the data available for this master planning effort are used.
- Low, medium, and high growth scenarios should be examined in order to consider the impact of the significant economic development initiatives in the region.
 - The low growth scenario is based on historical data and projections that do not account for the significant aviation demand growth that may result from Hot Springs Land Development and Spaceport America activities.
 - The high growth scenario should reflect Hot Springs Land Development's vision for the airport and the community.
 - $\circ\,$ The medium growth scenario should fall between the low and high growth scenarios.

HISTORICAL DEMAND AND PREVIOUS AIRPORT FORECASTS

As part of a forecasting effort, historical activity is typically reviewed for growth trends. The latest publication of the FAA Terminal Area Forecast (TAF) is the only comprehensive source of historical aircraft operations and based aircraft available. **Table 2A** lists the TAF's last five years of historical data.

Year	Based Aircraft	Operations
2002	33	12,200
2003	33	12,200
2004	33	12,200
2005	33	12,200
2006	46	12,200

Table 2A. FAA's Historical Based Aircraft and Operations for Truth or Consequences

Source: FAA Terminal Area Forecasts, December 2007

The Truth or Consequences Municipal Airport lacks an air traffic control tower and commercial passenger service, which are both sources of reliable aviation activity records. The TAF for the Airport uses estimates that are not reliably kept updated. In contrast to the TAF estimates above, the airport manager states that there are 49 aircraft currently based at the Airport of which 44 are single-engine aircraft and five are ultralights. Further, the airport manager estimates annual operations at 15,700, which is also reflected on the current FAA Airport Master Record (Form 5010-1).

IFR arrival data available for Truth or Consequences Municipal Airport from 2003 through 2007 indicate that IFR arrivals grew 34% or an average of 7.6% annually. Although IFR arrivals comprise a small percentage of the total operations at the Airport, a review of this element of activity reveals that there is a growing number of higher performance aircraft flying into the Airport.

Forecasts that have been prepared for the Airport include:

- Truth or Consequences Municipal Airport Development Plan (Leedshill-Herkenhoff, Inc., 1997)
- New Mexico Airport System Plan (ASCG Incorporated of New Mexico, in association with Airport Planning West and Wilbur Smith Associates, 2003)
- Terminal Area Forecast (FAA, 2007)

Table 2B summarizes the average annual growth rate associated with these previous forecasts.

Table 2	2B. Previous Forecasts	for Truth or Consequen	ces
	Airport Development Plan (1997)	NMASP Low-High (2003)	FAA TAF (2007)
Based Aircraft:			
Base Year	30	33	46
2011	41	37-56	46
2016	45	39-73	46
Average Annual Growth	2.05%	1.15% - 5.43%	0.00%
Operations:			
Base Year	12,200	11,000	12,200
2011	16,700	11,786-14,846	12,200
2016	18,500	12,195-17,238	12,200
Average Annual Growth	2.10%	0.69% - 3.04%	0.00%

Note: Some figures interpolated.

Source: 1997 Airport Development Plan, 2003 NMASP, FAA TAF

AVIATION TRENDS AND FORECASTS

Truth or Consequences Airport is part of a system of air transportation. Trends in the aviation industry may influence the activity at each airport in the system at varying levels depending on an airport's role. As a general aviation (GA) airport, trends in the GA segment of the industry are of most interest to Truth or Consequences.

Although the events of 9/11 did affect GA, not all GA segments were negatively impacted. Corporate GA has grown, since many businesses started using GA in lieu of commercial airline travel to minimize lost productivity associated with new security measures at commercial service airports. Further, businesses have more control over scheduling, can minimize time away from home, and can access many more airports in aircraft that require less runway length than the large passenger carriers do.

Several publications provide insight into current aviation trends and serve as resources for monitoring the industry. Both public and private sectors often use FAA's publications because of the FAA's interactive role with the industry. Two reports, in particular, are commonly used as reference in airport master planning forecasts: the FAA Terminal Area Forecasts (TAF) and the FAA Aerospace Forecasts. The TAF includes forecasts for airports included in the federal system of airports, such as Truth or Consequences Municipal Airport. The FAA Aerospace Forecasts a broader industry review of economic and aviation-related indicators. This report focuses on the trends and forecasts most related to general aviation.

As shown in Table 2B, the latest FAA TAF projects no growth for Truth or Consequences in both based aircraft and operations. However, the TAF projects an average annual growth rate of 1.16% for total statewide-based aircraft and 1.39% for statewide operations. Instrument operations across New Mexico are expected to grow at 1.55% annually—a slightly higher pace than total operations.

According to the FAA, general aviation (GA) is expected to grow. This is due, in large part, to the influx of Very Light Jets (VLJs). Compared to traditional business jets, VLJs are relatively inexpensive. As a result, there is considerable interest by business travelers who have typically flown with commercial airliners because corporate jet charter or ownership has been cost-prohibitive. As a result, the FAA projected that 350 VLJs would enter the GA fleet in 2007. Although the total for 2007 was actually 143 VLJs, the FAA is forecasting that VLJ growth will be strong through 2025. In fact, FAA is projecting an estimated 400 to 500 VLJs will enter the active fleet annually for a total of 8,145 by 2025. **Table 2C** identifies a 5.6% annual growth projection in jet aircraft, but total GA aircraft are expected to grow at 1.4% annually. Table 2C also shows FAA's projections for GA hours flown, which is expected to average 3.0 % per year through 2025. This healthy growth is attributed to VLJs joining the fleet.

Aircraft Category	Aircraft	Hours Flown
Total Piston Fixed Wing	0.3%	0.7%
SE	0.5%	1.0%
ME	(0.9%)	(1.2%)
Total Turbine Fixed Wing	4.2%	6.2%
Turboprop	1.6%	1.2%
Turbojet	5.6%	7.7%
Total Rotorcraft	3.1%	3.1%
Piston	4.7%	5.0%
Turbine	1.9%	2.2%
Experimental	2.2%	2.5%
Light Sport*	9.9%	12.1%
Total General Aviation	1.4%	3.0%

Table 2C. GA Industry Projections from FAA Aerospace Forecasts 2008-2025

Source: FAA Aerospace Forecasts 2008-2025

* Light Sport is a fairly new category for FAA; its high growth rate is partly due to the lack of historical data. $SE = single \ engine / ME = multi-engine$

In addition to the positive growth anticipated for GA aircraft and hours flown, the FAA projects the total number of pilots to grow at 0.6 % annually; growth in some of the pilot subcategories include student pilots at 1.0%, instrument-rated pilots at 0.6%, and rotorcraft pilots at 2.1%. Other GA indicators include Avgas and jet fuel. The FAA is forecasting that Avgas consumption will grow at 0.6% annually while jet fuel consumption will grow much faster at 6.8% annually; total fuel consumption is projected at 5.3% annually.

Overall, the FAA's forecasts are optimistic about the growth in the aviation industry following several setbacks including the events of 9/11, high fuel prices, and air carrier bankruptcies. While these forecasts were prepared and published recently, the economy has suffered recent setbacks that have slowed aviation growth and caused many airports to see decreases in aviation activity. For this reason, forecasts should be used as a long-term planning tool since fluctuations are expected.

SOCIOECONOMIC TRENDS AND FORECASTS

The local and regional economy often influences the activity at an airport. For the Truth or Consequences Municipal Airport, this requires consideration of factors such as:

- Area population trends
- Hot Springs Land Development's ongoing plans for motorplex, residential, commercial, industrial, and resort development near the Airport
- Turtleback Mountain Resort's ongoing residential golf course community development
- Elephant Butte Lake recreational visitors
- Spaceport America located just 30 minutes from Truth or Consequences

The Truth or Consequences Comprehensive Plan (adopted August 2004) has a section on Economic Development, which includes recommendations for airport improvements (Page 56). The Plan states:

Increase the runway width and infrastructure extensions for the airport in order to use the site as a magnet for warehousing and distribution industries that will then create new jobs.

The Comprehensive Plan discusses the Airport further in a later section about Economic Development opportunities. The report states:

The Truth or Consequences Municipal Airport is in a strategic location to accommodate flights from the Forest Service that need to refuel and replenish fire retardant and water to fight fires in Southern New Mexico. Annually New Mexico sees acres of forest land burned due to natural and prescribed burns. Having an airport with runways long enough and that have enough depth to cushion the weight of medium-scale jets is an asset to the City, which recently annexed the airport. Other distribution related business could locate in Truth or Consequences, near the airport. United Parcel Service could be a company interested in Truth or Consequences due to its airport and proximity to the Interstate, both of which could facilitate the timely delivery of packages to more rural, mid-state destinations.

POPULATION

Table 2D provides an overview of population trends from the 2000 Census data to the estimates published in 2007. These figures show that Sierra County and its largest cities have decreased in population while the state has grown.

Table 2D. Historical Population for Truth of Consequences						
	2000 Census	2007 Estimates	Average Annual Growth			
Truth or Consequences	7,289	6,689	-1.22%			
Elephant Butte	1,390	1,265	-1.34%			
Sierra County	13,270	12,316	-1.06%			
New Mexico	1,819,046	1,969,915	1.14%			

Table 2D. Historical Population for Truth or Consequences

Source: University of New Mexico, BBER Department/U.S. Census Bureau

Following the 2000 Census, the U.S. Census Bureau published population projections for Sierra County that revealed a modest 0.18% average annual growth rate through 2030. The University of New Mexico BBER Department has published a lower projection of 0.09% average annual growth for Sierra County through 2035. In contrast, the U.S. Census Bureau projects New Mexico population to grow at an average of 0.48% annually through 2030, while the University of New Mexico BBER Department projects a higher average annual growth rate of 1.43% through 2035.

HOT SPRINGS LAND DEVELOPMENT

Hot Springs Land Development (HSLD) acquired a 12-square mile area surrounding the Airport in April 2008. HSLD's conceptual land use plan for development around the Airport was presented in Chapter 1. The plan includes more than a dozen land uses to accommodate motorplex, commercial, industrial, educational, recreational, and residential development.

On August 19, 2008, the City approved the zoning and conceptual master plan for the proposed development. Construction is scheduled to begin in early 2009 on the proposed racetrack and offices for the company. HSLD also plans to build a modular passenger terminal at the Airport soon, pending implementation of an agreement with the City.

HSLD wants to position the Truth or Consequences area as a four-season destination, by building on the existing recreational tourism-the hot springs, Elephant Butte Lake, skiing at Ruidoso, and golfing-and by adding the Hot Springs Motorplex and tourism associated with Spaceport America. The region is not only a tourist destination, but also well suited for retirement living and services for injured and disabled persons, particularly veterans. HSLD is planning to accommodate 11,800 residential units over 30 years, along with retail development and a resort hotel and conference center. To appreciate the scope of this development, all of Sierra County has only 8,727 housing units now, according to the 2000 Census.

HSLD is discussing the initiation of passenger service with New Mexico Airlines and pursuing a variety of aviation-related businesses to locate at the Airport, such as UAV (unmanned aerial vehicle) testing and foreign commercial pilot training. Improving the facilities and services at the Truth or Consequences Municipal Airport is central to HSLD's vision. In addition to the terminal, HSLD plans to build a crosswind runway on their property and is negotiating with the City to transfer that crosswind runway to the City and develop about 130 acres of Airport property on the east side of Runway 13-31.

HSLD cites the Cedar City Regional Airport in Utah as a good example for the direction they anticipate for the City of Truth or Consequences and the Airport. Cedar City has an estimated 2007 population of nearly 27,800—a substantial increase over its published Census 2000 population of 20,565. The city, which refers to itself as Festival City USA, is located near several National Parks and is home to 17 major events each year. Further, it is the corporate headquarters to the Leavitt Insurance Group and major national manufacturing firms, and the home to Southern Utah University. Delta Air Lines' commuter affiliate, Sky West, provides scheduled passenger service to the Cedar City Regional Airport. In 2007, 6,903 passengers boarded airline flights at the Cedar City Regional Airport. The airport is home to an estimated 75 based aircraft and experiences approximately 34,000 annual operations. The FBO offers Avgas and Jet A fuel, flight instruction, charter, pilot supplies, jet-focused services such as deicing and oxygen, and on-ramp car rental. A comparison of Cedar City Regional Airport and Truth or Consequences' airport illustrates their expectations (**Table 2E**).

Characteristic	Cedar City Regional Airport	Current Truth or Consequences Municipal Airport	HSLD's Plans for Truth or Consequences
Population of Community Served	27,800	6,689	add housing for over 20,000 people
Runway Capability	Adequate length, width, and strength for medium to heavy corporate jets	Adequate length, width, and strength for light corporate jets	Adequate length, width, and strength for medium to heavy corporate jets
Crosswind Runway	Yes	No	Yes
Commercial Passenger Service	Yes, commuter airline	No	Yes, commuter airline
Terminal Building	Yes	No	Yes
Scheduled Air Cargo Service	No	No	Yes
Jet Center-type FBO	Yes	No	Yes

Table 2E. Comparison of Cedar City and Truth or Consequences

Source: www.AirNav.com, US Census Bureau, Hot Springs Land Development, www.cedarcity.org

The development HSLD plans would increase aviation activity at the Airport and should be considered in the forecasts.

TURTLEBACK MOUNTAIN RESORT

Turtleback Mountain Resort is a residential golf course community located in Elephant Butte and 4.5 miles from Interstate 25. The Resort has 1,660 home sites approved with plans to develop 100 annually. To date, 70 lots have been sold with 28 homes started or completed. This development is marketed to both permanent and vacation homebuyers, but their primary market is the seasonal resident. The Resort's website points out that the Resort is "...private jet accessible via nearby Truth or Consequences Municipal Airport." The website also describes the amenities of the Resort, "...a full-service club house with plans for a luxury spa, fitness center, swimming pool, tennis courts, nature trails & meeting/game rooms. Recreational opportunities include golf, boating, swimming, fishing, hiking, hunting, off road motorsports, natural hot springs, historical sites & more."

Like the HSLD plans, this progressing development is expected to spur growth for the community and the Airport.

ELEPHANT BUTTE LAKE RECREATIONAL VISITORS

Elephant Butte Lake State Park attracts 1.2 million visitors annually to the area since it is the largest body of water and state park in New Mexico. In 2007, a \$400,000 project to improve the historic Dam Site area was completed and there are plans for \$10 million of additional improvements to the area. Audubon New Mexico named the Park an "Important Bird Area" for its wide diversity of high quality bird habitat for nesting, migrating and wintering birds. For these reasons, this recreational area is anticipated to continue drawing substantial numbers of visitors well into the future. As amenities in the surrounding area grow, tourism is also expected to grow.

SPACEPORT AMERICA

New Mexico Spaceport America (NMSA) will be the nation's first purpose-built commercial spaceport. Spaceport is anticipated to have long-term economic benefits for New Mexico, and more so for its region. Truth or Consequences is located just 30 minutes from Spaceport America and will have the only paved road access to Spaceport initially. An economic impact study prepared by the Arrowhead Center (NMSU) suggests that Spaceport America will, in its fifth year of operation, "...sustain close to a \$1 billion in new revenues, creating approximately \$350 million in new payroll, and generating over 2,800 new jobs." Another study, Futron Corporation Report, states that the state "...could gain \$752 million in revenue and up to 5,820 new jobs by 2020." The report also stated "Spaceport construction-related impacts are anticipated to reach a maximum of approximately \$331 million of additional economic activity and 2,460 new jobs in 2007."

The draft Environmental Impact Statement (EIS) for Spaceport America, published for comment through August 18, 2008, stated that Spaceport will not be used by general aviation or regularly

scheduled commercial service. While chartered flights for crew and participants are expected to include up to five private jets daily, other visitors must drive. Therefore, the Truth or Consequences Municipal Airport would be a highly efficient destination airport for visitors driving to Spaceport. Buses could shuttle visitors between Truth or Consequences and Spaceport. In fact, the EIS refers to possible welcoming centers in surrounding communities with busing of visitors to Spaceport. The EIS provided a forecast of estimated annual horizontal and vertical launches over the next five years: 50 horizontal launches are projected for 2010 growing to 757 by 2013; 25 vertical launches are expected in 2009 growing to 125 by 2013. For the X-Prize Cup event, up to 20,000 daily visitors, for up to seven days, are expected.

According to HSLD, there are currently 66,000 reservations for future Spaceport America launches (up from 28,000 in May 2008); these reservations are from an estimated 128 countries.

The Spaceport America website summarizes the ongoing planning and development effort as follows:

Spaceport America holds great promise for New Mexico's economic future and has been working closely with leading aerospace firms such as Lockheed Martin, UP Aerospace, Virgin Galactic, Microgravity Enterprises and Payload Specialties. With planning moving along rapidly, the NMSA currently projects that licensed vertical launches to begin in the first quarter of 2009 and that the terminal and hangar facility for horizontal launches should be completed by 2010.

As of December 2008, the FAA issued an Environmental Impact Study Record of Decision and a license for vertical launches, clearing the way for construction to begin. Work toward developing horizontal launch operations continues to progress through 2009 and 2010.

For at least five years, the only paved road to Spaceport America will be from Truth or Consequences. This places Truth or Consequences in the best position in the region to benefit from Spaceport's economic spinoff, including new research, commercial, and industrial businesses and jobs.

TRUTH OR CONSEQUENCES MUNICIPAL AIRPORT FORECASTS

Typically, aviation demand forecasts are derived by reviewing a select number of forecasting models and determining which model, or variation of a model, best aligns with the subject airport. This requires a combination of analysis and professional judgment.

BASED AIRCRAFT

The models considered for the based aircraft forecasts were the trend, population, and market share models. Since there is no reliable documentation of historical based aircraft figures, an aviation trend model was not produced. However, the airport manager estimates that based aircraft and operations have increased since hangar occupancy and fuel sales have increased. Five years of historical data on instrument flight plans filed show an increasing trend, which, if continued as a trend model into the future, would equate to nearly 3% annual growth. Records of instrument flight plans indicate an increase in higher performance aircraft, which are more often flown under instrument flight rules (IFR) than other GA aircraft; however, instrument flight plans are filed for fewer than 5% of aircraft operations at the Airport.

While aviation activity appears to have increased in recent years, population has decreased in recent years. This indicates that there has not been a correlation between population and aviation activity at Truth or Consequences. However, there are population projections published for Sierra County, which could be used in a population model for aviation forecasts. While Sierra County has declined in population in recent years, the U.S. Census Bureau projects a modest 0.18% annual growth rate for Sierra County's future population. This growth rate is applied to the existing based aircraft at Truth or Consequences to produce a population model. At 0.18% annual growth, based aircraft would remain unchanged in the near-term, but increase by two for a total of 51 in 20 years.

Defining a market share model entailed identifying the current Truth or Consequences market share of total based aircraft statewide, which is 2.32% today. In other words, the 49 based aircraft at Truth or Consequences represents 2.32% of the 2,115 total based aircraft in New Mexico. The FAA TAF projects New Mexico based aircraft will grow to a total of 2,635 by 2027. Assuming Truth or Consequences maintains its market share, based aircraft would increase by 13 to a total of 62, or an average annual growth rate of 1.16% over the 20-year analysis period.

Following a review of the aviation and socioeconomic trends discussed above, growth rates from various forecasting sources/models were compared for Truth or Consequences, shown in the upper portion of **Table 2F**. For the most part, the forecasting growth rates shown in Table 2F do not take into account the current economic downturn that became rapidly evident during the fall of 2008. On the other hand, they also overlook the positive economic development efforts that have been underway in the community and region as discussed earlier. For this reason, three additional forecasting growth rates were defined to represent low-, medium- and high-growth scenarios.

Truth or Consequences Municipal Airport Action Plan

Forecasting Sources/Models	Projected Average Annual Growth	Total Truth or Consequences Based Aircraft by 2027*	
1997 Truth or Consequences Airport Development Plan	2.05 %	74	
2003 NMASP-Low Growth (projections for Truth or Consequences)	1.15 %	62	
2003 NMASP-High Growth (projections for Truth or Consequences)	5.43 %	141	
2007 TAF (projections for Truth or Consequences)	0.00~%	49	
2008 Population Model	0.18 %	51	
2008 Market Share Model	1.16 %	62	
2008 FAA National GA Aircraft Forecast	1.40 %	65	
2008 Action Plan - Scenario Forecasts Considered			
Low Growth Scenario (+5 based aircraft)	0.50%	54	
Medium Growth Scenario (+39 based aircraft)	2.96%	88	
High Growth Scenario (+102 based aircraft)	5.43%	151	

*Based aircraft projections result from applying average annual growth rates to actual based aircraft (49).

Low-Growth Scenario

The low-growth scenario forecasts an average annual growth rate of 0.50%, which results in five additional based aircraft over a 20-year forecast period. This modest growth rate is an estimated one-third of FAA's projected growth rate in GA aircraft nationwide to account for the recent economic downturn. It further assumes that past and ongoing economic development efforts in the region will deliver only minimal economic benefit to aviation in the long-term.

High-Growth Scenario

The high-growth scenario assumes the high growth rate outlined in the 2003 NMASP for Truth or Consequences, which is 5.43%. However, projected growth is accelerated in the near-term to 10% average annual growth in anticipation of the economic boosts from HSLD and Spaceport America development, which means 77 based aircraft by 2012—comparable to Cedar City Regional Airport now. Then, annual growth is anticipated to slow to 5.0% in the intermediate term, and less than 4% for the long-term. Consequently, based aircraft would total 151 by 2027.

Medium-Growth Scenario

The medium-growth scenario represents an average of the low-growth and high-growth scenarios, which results in an average annual growth rate of 2.96% over 20 years. This translates to an additional 39 aircraft over the forecast period for a total of 88 based aircraft in 2027.

Growth is projected at a higher annual rate at the beginning than at the end of the forecast period, which is typical of a maturing market. The medium-growth scenario has a higher growth rate than the majority of the growth rates compared in Table 2F, since it assumes that Spaceport America, Hot Springs Motorplex, and/or other development in the area will substantially boost the population and economy. Economic recession may delay growth, but it will not change the location, climate, amenities, and generally pro-growth attitudes in Truth or Consequences and Sierra County that attract development.

Preferred Forecast

The medium-growth scenario is the preferred forecast for the 2008 Airport Action Plan. **Table 2G** presents the projected fleet mix of the based aircraft for the medium-growth scenario. The changes in the fleet mix represent, in part, a shift in the national GA aircraft fleet mix identified earlier. Like FAA projections for fleet mix, single-engine piston aircraft growth will slow and jets will see strong growth. Helicopters will also see growth, but below the pace of jets.

Table 2G. Based Alreratt Forecast by Fleet Mix						
Based Aircraft Type	Baseline	2012	2017	2027		
Single Engine	44	49	56	73		
Multi Engine	0	0	0	1		
Jet	0	1	2	3		
Helicopter	0	1	1	2		
Other (Ultralight)	<u>5</u>	<u>6</u>	<u>7</u>	<u>9</u>		
TOTAL	49	57	66	88		

 Table 2G. Based Aircraft Forecast by Fleet Mix

Source: Airport Planning West and WHPacific, Inc.

OPERATIONS

Annual airport operations are currently estimated at 15,700, which is an average of 302 per week or 43 per day. An operation is a takeoff or a landing. With the Airport's 49 based aircraft, this translates to a ratio of operations to based aircraft (OPBA) of 320. The OPBA for airports similar to Truth or Consequences can vary substantially. A high OPBA often indicates a large number of transient operations and/or training activity such as touch-and-go operations. FAA guidance states that 250 OPBA is typical at a rural airport with few transient operations, while 450 OPBA is typical at a busy, urban GA reliever airport.

At uncontrolled airports, actual operations are unknown, so they are estimated. The airport manager estimates that the 15,700 annual operations at Truth or Consequences are divided as follows:

- GA Local 4,500 annual operations (28.7%)
- GA ltinerant 10,000 annual operations (63.7%)
- Military 1,200 annual operations (7.6%)

A description of the operations by type is presented here.

- General Aviation: GA activity at Truth or Consequences covers a broad range of airport users and activities flying a broad range of aircraft from the small Cessna 152 to corporate jets like the Citation Excel and Challenger 604. As described in Chapter 1, a large number of GA operations are attributed to corporate aircraft flown for retail companies, real estate-related operations, and other businesses. Other GA activity includes flight training, crop dusters, medical flights, and firefighting fuel stops. GA local operations primarily consist of flight training while other GA operations fall into the GA itinerant category. All based aircraft are affiliated with GA activity.
- Military: Military users fly an estimated 1,200 annual operations into Truth or Consequences. Most military operations are from the region and may stop in before or after training activity in the region's military airspace.

As with based aircraft, there is no reliable, comprehensive documentation regarding historical operations, so an operations forecast based on trend analysis is not possible. However, a small sample of historical operations is available from the FAA—IFR arrivals. IFR flight plans are most often filed for the higher performance business aircraft that use the Airport, although pilots often cancel their IFR flight plans before making visual landings. For the five years from 2003 through 2007, IFR arrivals increased from 124 to 166, which equates to an average annual growth rate of 6%. This indicates strong growth in higher performance aircraft, but the sample does not represent the majority of Airport traffic.

Following a review of the aviation and socioeconomic trends, FAA projections for future growth rates for operations versus based aircraft, and the Truth or Consequences based aircraft forecasting results, three forecasting growth rates were defined to represent a low-, medium- and high-growth scenario for Truth or Consequences annual operations. **Table 2H** summarizes the OPBA ratios, growth rates, and projected annual operations for each scenario in 20 years.

2008 Action Plan - Scenario Forecasts Considered	ОРВА	Average Annual Growth	2027
Low-Growth Scenario (20% total increase)	350	0.93%	18,900
Medium-Growth Scenario (124% total increase)	400	4.12%	35,200
High-Growth Scenario (332% total increase)	450	8.01%	67,950

Table 2H. Operations Forecasts by Scenario

Source: Airport Planning West and WHPacific, Inc.

*Projections are the result of applying average annual growth rates to the estimated 15,700 operations at the Airport in 2007/2008. OPBA=Operations per Based Aircraft

Low-Growth Scenario

The low-growth scenario forecasts an OPBA of 350, representing a low activity GA airport. Multiplying the 54 based aircraft projected in the low-growth scenario for based aircraft in 2027

by the 350 OPBA produces a total of 18,900 annual operations. This is an increase of 20% over current operations. The average annual growth rate for this forecast is 0.93% over 20 years, which is well below the FAA's 3.0% annual increase in GA hours flown. This scenario assumes that the economic downturn will keep GA activity low.

Medium-Growth Scenario

The medium-growth scenario assumes an OPBA of 400 for a moderate activity GA airport. This translates to a 124% increase in total annual operations or an average annual growth rate of 4.12%, which is well above the FAA's 3.0% annual increase in GA hours flown. This scenario envisions that the Airport will have a substantial increase in transient aircraft operations, resulting from aviation demand associated with Spaceport America, Hot Springs Motorplex, and other development in the area.

High-Growth Scenario

The high-growth scenario is based on an OPBA of 450, which is representative of a high activity GA airport. This also means that operations would more than triple in 20 years. Multiplying the 450 OPBA by the projected 151 based aircraft in the high-growth scenario produces a total of 67,950 annual operations, an 8.01% average annual growth rate. This scenario assumes that Truth or Consequences will experience a large increase in aviation demand associated with Spaceport America, Hot Springs Motorplex, and other related residential and commercial development in the area.

Preferred Forecast

Like the based aircraft forecast, the medium-growth scenario is the preferred forecast. **Table 21** provides a breakdown of this forecast by type of operations. As shown, 342 air taxi operations are projected by 2012. The air taxi operations represent unscheduled charter flights in aircraft up to 60 seats. These operations do not reflect scheduled commercial service.

Table 21. Preferred Forecast for Operations						
Based Aircraft Type	Baseline	2012	2017	2027		
GA Local	4,500	5,928	6,072	7,040		
GA Itinerant	10,000	15,330	18,468	25,552		
Air Taxi	0	342	660	1,408		
Military	1,200	1,200	1,200	1,200		
TOTAL	15,700	22,800	26,400	35,200		

Cable 2I. Preferred Forecast for Operations

Source: Airport Planning West and WHPacific, Inc.

Table 2J presents the operations by fleet mix over the 20-year forecast period. As shown, jets and helicopters are expected to increase their share of operations, which will decrease the percentage of single- and multi-engine aircraft.

Туре	Baseline Fleet Mix	2027 Fleet Mix	Baseline	2012	2017	2027
Single-engine	68%	65%	10,676	15,504	17,688	22,880
Multi-engine	20%	16%	3,140	4,332	4,752	5,632
Jet	6%	11%	942	1,596	2,112	3,872
Helicopter	<u> </u>	8%	<u>942</u>	<u>1,368</u>	<u>1,848</u>	<u>2,816</u>
TOTAL	100%	100%	15,700	22,800	26,400	35,200

Table 2J. Preferred Forecast for Operations by Aircraft Type

Source: Airport Planning West and WHPacific, Inc.

Note: 166 operations of the baseline total were IFR-filed arrival operations (1.1% of total). However, many IFR-filed flights are cancelled before arriving at the airport so the IFR operations are likely higher. IFR operations increased from 124 in 2003 to 166 operations in 2007.

PEAKING CHARACTERISTICS

Planning for airport improvements, which is the subject of the next chapter, requires that peaking characteristics of aviation activity be reviewed; this process helps identify the adequacy of existing facilities. Airports are not planned to accommodate the highest level of activity since this cannot be justified economically. Peaking characteristics provide the guidance for planning and developing an airport to accommodate a practical capacity level.

Peaking characteristics of aviation activity include peak month, design day, and design hour. Peak month refers to the calendar month when peak operations occur. Design day is the average day of the peak month and is determined by simply dividing the peak month operations by the number of days in the month. Design hour represents the peak hour of the design day.

According to the airport manager, the busiest month for Truth or Consequences Municipal Airport is September. September has an estimated at 9.5 percent of the total annual operations, which is divided by 30 to obtain the average day of the peak month, also referred to as the design day. The design hour is estimated at 13 percent of the design day. Table 2K summarizes the peak aviation activity for the Airport.

Table 2K reflects current peaking characteristics and does not account for changes in peaking characteristics that might occur when and if the Airport begins supporting large events in the region. Events such as races at the motorplex, professional golf tournaments, and the X Prize may draw large numbers of visitors in chartered or privately owned high performance aircraft in the future.

Table 2K. Teaking Characteristics for Operations						
Year	Annual Operations	Peak Month	Design Day	Design Hour		
Baseline	15,700	1,492	50	6		
2012	22,800	2,166	72	9		
2017	26,400	2,508	84	11		
2027	35,400	3,334	111	14		

 Table 2K. Peaking Characteristics for Operations

Source: WHPacific, Inc., Airport Planning West, and Airport staff.

PASSENGER AND CARGO FORECASTS

The low- and medium-growth scenarios do not anticipate scheduled passenger or all-cargo service at the Airport. However, HSLD envisions these services, so they should be considered part of the high-growth scenario for the Airport. HSLD anticipates passenger service in small aircraft in the near-term future and eventual cargo airline use of the Airport when warranted by commercial and industrial development. Insufficient information is known now to project the timing of airline services, passenger enplanements, or cargo tonnage.

Commuter airline service is an attribute of Cedar City Regional Airport, which HSLD considers a model for Truth or Consequences. Sky West, Delta Air Lines' affiliated commuter airline, receives a federal subsidy for serving Cedar City. An Essential Air Service (EAS) subsidy might also be required to bring airline service to Truth or Consequences. Only communities that had airline service prior to airline deregulation in 1978 are eligible for the EAS program. Truth or Consequences did have airline service prior to deregulation. HSLD is discussing the potential for service with New Mexico Airlines. New Mexico Airlines operates three nine-passenger single engine non-pressurized Cessna 208B Grand Caravan turboprop aircraft. Twice daily service in Grand Caravan aircraft three-fourths full would equate to approximately 5,000 annual enplaned passengers. HSLD envisions scheduled passenger service would grow to use regional jets. HSLD also envisions passenger charters and all-cargo service in narrowbody jet aircraft as large as the Boeing 737, when the airfield is improved to accommodate such aircraft. ·

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CHAPTER THREE REQUIREMENTS

Action Plan Truth or Consequences Municipal Airport

This chapter identifies the various airport improvements needed to meet aviation demand, comply with FAA design standards, and address airport issues identified by the City of Truth or Consequences, airport users, and other stakeholders.

Although the scope of this Action Plan is to address only near-term capital improvements, the facility requirements are presented as near-term (2012), intermediate-term (2017), and long-term (2027), matching the forecasts in the previous chapter. Further, factors influencing aviation demand are always changing. Therefore, activity at an airport may be higher or lower than the forecast and, consequently, the timing of facility improvements may require adjustment to respond to these demand changes. However, this chapter presents an orderly development plan regardless of the timing.

The requirements presented in this chapter are discussed under three major headings: planning criteria, airside requirements, and landside requirements. These requirements support the medium-growth scenario in the previous chapter on aviation demand forecasts. However, an overview of requirements to meet the high-growth scenario forecasts is included at the end of this chapter.

PLANNING CRITERIA

Existing and forecast aviation demand, coupled with the planning criteria described in this chapter, guide the identification and timing of facility needs for the Truth or Consequences Municipal Airport. The planning criteria are derived from various sources, but FAA's guidance is primary. Other sources of planning criteria include the Transportation Security Administration (TSA), New Mexico Department of Transportation (NMDOT) Aviation Division, and the National Business Aviation Association (NBAA). The airport sponsor, airport users, and other stakeholders also provide input to help determine facility needs.

FAA Advisory Circular (AC) 150/5300-13, *Airport Design*, is the primary source for design standards. This AC's design standards are tied to aircraft approach speed, wingspan, and tail height. The airport sponsor should apply the design standards for its design aircraft. The design aircraft is the most demanding aircraft or family of aircraft operating at an airport on a regular basis (500 or more annual itinerant operations). Further, one aircraft operating at the airport regularly may have the fastest approach speed while another has the widest wingspan. Based on FAA guidance, airports are not typically designed to serve larger and faster types of aircraft that occasionally use the Airport, since this is not cost-effective. Runway design standards are also driven by the instrument approach visibility minimum and whether a runway is used exclusively by small aircraft (12,500 pounds maximum takeoff weight).

TSA provides security guidelines for GA airports like Truth or Consequences. Much of the other TSA-published regulations, which apply to scheduled passenger service airports, do not apply to Truth or Consequences. TSA does regulate charter flights in aircraft weighing more than 12,500 pounds as well as air cargo operations in large aircraft.

The NMDOT Aviation Division also provides guidance for its public use airports. The Aviation Division conducts system planning studies that identify basic facility needs for its airports based on its role in the airport system. The latest guidance is in the 2003 New Mexico Airport System Plan (NMASP). However, as of early 2009, the Aviation Division is in the process of updating the System Plan.

NBAA provides general airport planning guidance through a list of both "optimum" and "minimum" facilities and services to better serve the needs of business aviation, specifically corporate jets.

With the growing demand for air taxi service to serve corporate aviation needs, a set of planning criteria from an air taxi provider is included.

AIRPORT ROLE

The Truth or Consequences Municipal Airport is in the FAA's National Plan of Integrated Airport Systems (NPIAS). Airports identified as important to the national air transportation system are included in the NPIAS. Approximately 65% of the 5,190 public use airports in the U.S. are in the NPIAS. The NPIAS identifies the role for each airport. These roles include the following:

- Primary public use airports receiving scheduled airline passenger service which also enplane 10,000 or more passengers per year; there are 383 in the NPIAS.
- Commercial Service public use airports which receive scheduled airline passenger service and which annually enplane 2,500 or more; there are 139 in the NPIAS.
- Reliever a GA airport in a large metropolitan area serving to relieve the congestion of congested primary and non-primary commercial service airports in the area; there are 270 relievers in the NPIAS.
- General Aviation (GA) public use airport which serves general aviation users; there are 2,564 GA airports in the NPIAS.

Truth or Consequences Municipal Airport is defined as a GA airport. An estimated 83% of all airports in the NPIAS are GA airports.

The 2003 NMASP identifies Truth or Consequences Municipal Airport as a GA Gateway Airport, which is an airport that provides access to business aircraft within 30 minutes drive of a population center.

AIRPORT REFERENCE CODE

The Airport Reference Code (ARC) is an important factor that drives airport design. Therefore, it is critical to define the ARC before determining the design and development needs of an airport. The ARC is an alphanumeric coding system of aircraft approach speed, wingspan and tail height related to operational and physical airport design standards. The alphanumeric code for the ARC contains the Aircraft Approach Category, which is a letter ranging from A to E, and the Airplane Design Group, which is a Roman numeral ranging from I to VI. **Table 3A** defines the various Aircraft Approach Categories and Airplane Design Groups (ADG). The Airplane Design Group is primarily defined by wingspan, but tail height also plays a role. For example, an aircraft with a wingspan in Group I would be defined as a Group II aircraft if the tail height is 20 feet.

The current ARC for Truth or Consequences Municipal Airport is B-II and is expected to remain as B-II in the near-term (2008-2012) and intermediate-term (2013-2017) future. The King Air airplane is the B-II design aircraft.

Approach Category	Approach Speed	Typical Aircraft		
Α	Less than 91 knots	Cessna 150, 172, 206, Beech Bonanza		
В	91 to 120 knots	King Air, Piper Navajo, Gulfstream I		
С	121 to 140 knots	Boeing 727, 737, Learjet, Challenger		
D	141 to 165 knots	Boeing 747, Gulfstream V		
irplane Design Group	Wingspan	Typical Aircraft		
I	Less than 49 feet	King Air, Cessna 150, 172, 206, Gates Learjet, Beech Bonanza		
п	49 to 78 feet	King Air, Super King Air, Cessna Citation, Dassault Falcon, Gulfstream I, Challenger		
Ш	79 to 117 feet	Boeing 727, 737, DC-3, DC-6, Gulfstream V		
Airplane Design Group n	ay be determined by tai	il height, if more demanding than wingspan:		
Airplane Design (Froup	Tail Height		

Table 3A. Airport Reference Code (ARC) Components

Airplane Design GroupTail HeightILess than 20 feetII20 to 29 feetIII30 to 44 feet

Source: FAA AC 150/5300-13, Airport Design

Note: Aircraft Approach Category E (166 knots or more) and Airplane Design Groups IV, V, and VI (118 feet or more) are not shown.

Approach Category C operations are expected to grow over time and exceed 500 annual operations in the long-term (2018-2027). As discussed in Chapter 2, Hot Springs Land Development (HSLD) anticipates local and regional development will attract ARC C-III traffic, exemplified by the Boeing 737 aircraft, to Truth or Consequences. It is prudent to protect the spacing and clearances required for ARC C-III at the Airport, while programming near-term capital improvements to meet ARC B-II.

INSTRUMENT APPROACH VISIBILITY MINIMUMS

Truth or Consequences Municipal Airport has two published instrument approaches with 1-mile visibility minimums consisting of a RNAV (GPS)-A approach and a VOR-A approach. It is important to review existing and possible future instrument approach capability since instrument approach visibility minimums can impact design standards. If lower visibility minimums were sought for Truth or Consequences Municipal Airport in the future, this could change the design standards for the Airport. Visibility minimums lower than ¾-mile would increase separations

and other airfield dimensions. If visibility minimums remain at ³/₄-mile or higher, the majority of B-ll standards would remain unchanged. However, the dimensions for the runway protection zone (RPZ), discussed in a later section, would increase in size.

The City may weigh the benefits of lower minimums for aircraft operations against the impacts on airport facilities and off-airport land, since increased separation requirements may reduce land available for development and/or require relocation of some facilities.

CORPORATE JET CRITERIA

Corporate jets represent a growing segment in the GA industry. The development proposed in Truth or Consequences includes facilities and services to support these corporate jets. The NBAA provides information regarding the minimum and optimum facilities and services to support business aviation at an airport. **Table 3B** identifies these facilities and services and compares them to what Truth or Consequences has today. The Airport meets several of these requirements.

AIR TAXI SERVICE

Air taxi is another segment of GA activity. While there are numerous FBOs and others providing air taxi service, the air taxi business model was recently changed by a new company. DayJet developed "per seat, on-demand" air taxi service in Very Light Jets (VLJ) to cater to the business community, as an option to scheduled and charter travel. DayJet operated in five southeastern states, but ceased operations in September 2008, citing the lack of critical financing—a common problem under the current state of the economy. DayJet's recommendations for airport facilities and services are worth considering in the planning of Truth or Consequences Municipal Airport. DayJet identified three types of airports they would use: DayStops, DayPorts, and DayBases. **Table 3C** describes these three types and whether Truth or Consequences meets these standards.

Airport Feature	Ор	timum	Minimum		Truth or Consequences Municipal Airport		
Runways*	Dimensions (ft.)*	Weight Capacity (lbs)	Dimensions (ft.)*	Weight Capacity (lbs)	Dimensions (ft.)*	Weight Capacity (lbs)	
Heavy Jet	11,650 x 150	95,000	9,950 x 100	75,000	7,200 x 75	30,000 Single Wheel	
Medium Jet	9,950 x 100	50,000	9,100 x 75	40,000	7,200 x 75	30,000 Single Wheel	
Light Jet / Turboprop	8,250 x 75	25,000	7,400 x 60	15,000	7,200 x 75	30,000 Single Wheel	
Airport Configuration	Taxiways for a	Taxiways for all runways		Run-up areas at all runway ends		Full parallel taxiway, Run-up area for Runway 31	
	200 x 300 ft. ramp area minimum		Adequate ramp for maneuvering / parking		Corporate Apron 200 x 400 feet; GA Apron 150 x 430		
	Meet FAA airp standards Stabilized over runway	5			Meets current standards for ARC B II, not heavy jet ARC C-III Safety area provides stabilized overruns		
ATC Tower	24 hours		None		None		
Lighting	Full approach l	ight system	Runway End Identifier Lights (REIL) or Omnidirectional Approach Lighting System (ODALS)None				
	High intensity runway lights Visual glideslope indictor on all runways		Medium intensity runway lights Visual glideslope on instrument runway Pilot controlled lights		Medium intensity runway lights Visual glideslope indictor on both runways (PAPI system) Pilot controlled lights		
Instrument Approach	Precision		Localizer (LOC) or GPS		GPS/VOR A		
Weather Reporting	Qualified Obse	гvег	AWOS-2		ASOS		
Communications		trol (ATC) tower	ATC Remote C	ontrolled Outlet	CTAF/Unicom		
Services	Full -service Fi Operator**	xed Base	Enclosed passenger waiting area		Partial-service FBO		
	Transient hanga FAR Part 107*	ar space ** type security	Fuel/tiedowns Elementary sec Telephone	urity	Fuel, tiedowns Perimeter fenci Telephone	ıg	
Maintenance	FAR Part 145 F	Repair Station	None	***************	None		
Amenities	Nearby hotel/m Nearby restaura	otel Int	Distant hotel/m Vending machi		Nearby hotel/m Vending maching		

Table 3B. National Business Aviation Association Requirements

Source for Optimum and Minimum Requirements: NBAA Airports Handbook, September 2002 Key:

Deficiency at Truth or Consequences Municipal Airport for optimum and minimum criteria.

Deficiency at Truth or Consequences Municipal Airport for optimum criterion only.

*Runway lengths from NBAA (standard 59 degrees & sea level) were adjusted for the Airport (95.8 degrees and 4853 feet elevation). Actual runway lengths needed for specific aircraft in specific circumstances will vary.

**Staffed 24/7, fuel, passenger and crew lounge, rental cars, shuttle/crew car, vending machine

***Now TSR (Transportation Security Regulation) Part 1542

DayJet Airport Type/Activity	Facilities and Services			
DayStop	 (√) Hard-surfaced Runway min. 3500' (P) Secure Perimeter (√) Runway Lighting (P) Visible Signage from Interstate to FBO 			
DayPort Projected 10 to 25 aircraft takeoffs or landings daily	 All DayStop Facilities and Services plus: (√) Sufficient Paved Ramp Space (P) Sufficient Space for Customer Welcome Desk (P) Jet A Fuel, Oxygen, Nitrogen (P) Qualified FBO Line Personnel for fueling and towing, and minimal maintenance capability (P) Fuel Truck and Power cart (28v) () Car Rental and Taxi Service for Passengers (P) Sufficient passenger seating, restrooms, and parking (√) Competitive prices for fuel, landing fees, facility rental and other services (P) Lockable closet for server hardware 			
DayBase Projected 100 aircraft takeoffs or landings daily	 All DayPort Facilities and Services plus: () Air traffic Control Tower or High Volume Operation (HVO) technology support (P) Instrument Landing Support or Wide-Area Augmentation Systems (WAAS) approaches () Approach and taxiway lighting (P) 5,000 to 7,000 feet of available leased hangar space (P) Dedicated secure WiFi Internet connectivity (P) Dedicated terminal (desired) (√) Strong community relationships 			
($$) = Airport meets standard (P) = Partially meets standard () = Does not meet standard	Source: www.DayJet.com			

Table 3C. DayJet Standards for Airport Use/Classification

Source: www.DayJet.com

PART 139 CRITERIA

Part 139 criteria apply to airports with scheduled passenger-carrying operations in aircraft designed for 10 or more seats, or unscheduled passenger-carrying operations in aircraft designed for at least 31 passenger seats. If Truth or Consequences demand requires such service, then the Airport must obtain certification from the FAA in accordance with 14 CFR Part 139, *Certification of Airports*. With the economic development ongoing in the region, it is possible that flights carrying a racing team and/or fans to the proposed motorplex may be chartered to Truth or Consequences. Further, Spaceport America visitors may also fly in since Truth or Consequences is the closest Airport to Spaceport, which does not plan to accommodate any commercial or regular GA traffic.

The City would incur additional cost to obtain and maintain a Part 139 certificate. Factors associated with this cost include: airfield inspection, record-keeping, personnel training, preparation of required plans and manuals, and aircraft rescue and firefighting (ARFF) capability (personnel, vehicles, and equipment). The airline and charter companies would be required to have security programs that might require airport improvements for passengers and bag screening, sterile waiting areas, secure identification areas, and law enforcement officer response capability.

AIRSIDE REQUIREMENTS

AIRFIELD CAPACITY

The airfield capacity of the Truth or Consequences Municipal Airport is more than adequate to accommodate the existing and forecast demand for the planning period. In fact, the single paved runway at Truth or Consequences is at 7% of its Annual Service Volume (ASV) today and projected to reach an estimated 13% of its ASV according to the guidance in FAA AC 150/5060-5, *Airport Capacity and Delay*. ASV is the capacity at which the average delay per aircraft will not exceed four minutes; the ASV for Truth or Consequences is 230,000 operations. While weather conditions may impact capacity, the Airport experiences an infrequent occurrence of instrument weather to impact the Annual Service Volume. With the low percentage of total ASV through the 20-year planning period, runway utilization based on wind conditions is not expected to cause significant delay.

Since there are plans for a crosswind runway at the Airport, it is important to note that a secondary non-intersecting runway would increase the current ASV of 230,000 operations up to 260,000 or 270,000 operations. Then, the overall capacity usage in the 20-year planning period would be as little as 11 or 12%.

RUNWAYS

Number and Orientation of Runways

Since the Airport has adequate runway capacity, wind coverage is the justification for a second paved runway. Ideally, a runway should be aligned with the prevailing wind. Throughout the year, the prevailing wind is from the west-northwest, favoring takeoffs and landings on Runway 31. However, in April and May, the wind strengthens and is more variable, often coming from the south or southwest. In April, wind speed exceeds 10 knots 36% of the time. During instrument weather, which occurs less than 1 % of the time, the wind most often comes from the north-northeast, which favors operations on Runway 31 over Runway 13.

Generally, the smaller the airplane, the more it is affected by wind, particularly crosswind components. Wind coverage is the percent of time crosswind components are below an acceptable velocity. Group I aircraft wind coverage is evaluated using a wind speed of 12 mph, Group II uses 15 mph, and Group III uses 18 mph. The desirable wind coverage for an airport is 95%, which is the FAA's threshold for a crosswind runway to be eligible for grant funding. At locations where provision of a crosswind runway is impractical due to severe terrain constraints, consideration may be given to increasing operational tolerance to crosswinds by upgrading the airport layout (runway width) to the next higher ARC.

Truth or Consequences Municipal Airport has less than 95% wind coverage for Group I and II aircraft on primary Runway 13-31, but greater than 95% for Group III. **Table 3D** summarizes the wind coverage for Truth or Consequences Municipal Airport. This data supports the need for a crosswind runway that is capable of serving Group II aircraft. However, Group II operations are less than 500 annually during crosswind conditions that reach 15 mph. Therefore, the immediate need is for a Group I crosswind runway. As shown in Table 3D, the best crosswind runway alignment is 3-21, which provides combined primary/secondary runway coverage of 98.4% at 12 mph; an alignment of 4-22 would be the next best crosswind alignment.

Table 3D. Percent Wind Coverage					
Existing Runways	Group I 12 mph (10.5 knots)	Group II 15 mph (13 knots)	Group III 18 mph (16 knots)		
Runway 13-31 (primary/paved)	89.38	93.50	96.96		
Runway 1-19 (dirt)	92.67	95.77	98.59		
Runway 7-25 (dirt)	88.15	92.82	97.31		
Runway 11-29 (dirt)	87.55	91.90	96.37		
Runway 15-33 (dirt)	91.36	94.91	97.75		
Possible Primary & Future Crosswind	Runway Combinat	ions			
Combined 13-31 & 3-21	98.40	99.55	99.89		
Combined 13-31 & 4-22	97.75	99.30	99.86		
Combined 13-31 & 5-23	96.54	98.73	99.69		
Combined 13-31 & 6-24	95.27	98.04	99.33		
Combined 13-31 & 7-25	94.25	97.26	98.91		
Combined 13-31 & 8-26	93.38	96.58	95.83		

Table 3D. Percent Wind Coverage

Source: National Climatic Data Center. Truth or Consequences wind data January 1, 1998-December 31, 2007.

Runway Length

FAA guidance regarding runway length requirements is derived from FAA AC 150/5325-4B, *Runway Length Requirements for Airport Design*. For Truth or Consequences, this includes a review of various critical design aircraft operating at or projected to operate at the Airport along with their maximum certificated takeoff weights (MTOW). However, the FAA further recommends that if the MTOW is less than 60,000 pounds, the runway length should be based on a family of aircraft with similar operating characteristics.

The existing operations at the Airport support the need for a runway to serve ARC B-II operations through the intermediate-term of the planning period, which is over the next decade. According to the airport manager, the most demanding B-II aircraft operating on a regular basis at Truth or Consequences Municipal Airport today is the King Air. Aircraft operations in the ARC C-II family are projected to grow to 500 annual operations during the long-term phase of the planning period (by 2027), so the forecasts support the need to protect and plan for ARC C-II development. HSLD is proposing the Airport plan for ARC C-III traffic, exemplified by the Boeing 737. Runway length requirements for the Boeing 737 are discussed in the High Growth Scenario section at the end of this chapter.

Table 3E outlines runway length requirements for families of aircraft.

Table 3E. FAA Computer Model Results for Runway Length at Truth or Consequences

Airport and Runway Data	· · · · · · · · · · · · · · · · · · ·
Airport elevation	
Mean daily maximum temperature of the hottest month	
Maximum difference in runway centerline elevation	
Length of haul for airplanes of more than 60,000 pounds	
Dry runways	
Runway Lengths Recommended for Airport Design	
Small airplanes with approach speeds of less than 30 knots	
Small airplanes with approach speeds of less than 50 knots	
Small airplanes with less than 10 passenger seats	
75 percent of these small airplanes 4,640 feet	
95 percent of these small airplanes 6,170 feet	
100 percent of these small airplanes	
Small airplanes with 10 or more passenger seats	
Large airplanes of 60,000 pounds or less	
75 percent of these large airplanes at 60 percent useful load	
75 percent of these large airplanes at 90 percent useful load	
100 percent of these large airplanes at 60 percent useful load	
100 percent of these large airplanes at 90 percent useful load	
Airplanes of more than 60,000 pounds	
Source: FAA Computer Model for Airport Design.	

As shown in Table 3E, a length of 7,410 would be needed to serve 75% of the fleet of large airplanes 60,000 pounds or less, operating at 60% useful load; a length of 9,190 feet would serve this same fleet at 90% useful load. The existing runway length already meets the minimum requirement for 100% of the small aircraft fleet.

Table 3F provides a list of business jets and their runway length requirements at Truth or Consequences Municipal Airport. It should be noted that these runway lengths are based on operating under 14 CFR Part 91, which is based solely on aircraft requirements. If operating

under 14 CFR Part 135, the aircraft must be capable of landing within 80% of the runway length, which could increase the runway length requirement for some aircraft. The takeoff distances compiled by the FAA were corrected from standard conditions (sea level and 59 degrees). The altitude correction was 7% per 1,000 feet; the temperature correction was 0.5% per degree above standard temperature in the hottest month. In addition, a 10-foot increase was added for every foot difference between high and low runway points. The elevation of the Airport is 4,853 feet MSL and 95.8 degrees Fahrenheit is mean maximum temperature of the hottest month. For planning purposes, a 59-foot difference between high and low runway points was applied.

With the 7,200-foot runway at Truth or Consequences Municipal Airport today, the first 14 business jets listed in Table 3F can be accommodated; this covers the majority of the B-I and B-II business jets listed. More aircraft listed in the table may be accommodated if conditions, such as cooler temperatures, permit.

Based on C-II projections for the Airport, a total primary runway length of 9,190 feet is needed in the long-term with 60,000 pounds pavement strength. Today, the Airport needs a minimum of 6,380 to serve B-II, which is derived from Table 3E's line for 100% of the small aircraft fleet. However, NBAA's minimum runway length recommendation for light jet/turboprop (from Table 3B) is 7,400 feet. This length aligns with the FAA Computer Model's runway length for 75% of large aircraft, 60,000 pounds or less at 60% useful load (Table 3E).

A runway length of 9,190 feet and strength of 60,000 pounds will accommodate the majority of business jets listed in Table 3F, up to aircraft such as the Learjet 35/36 and Falcon 900. However, business jets such as the Citation X and Falcon 2000 should be able to operate regularly at the Airport, but at less than MTOW. This proposed runway length and pavement strength would exceed NBAA's minimum criteria for medium jets, but it would not meet their optimum criteria.

		1.3x	Wing	Max.	Take-off
 Support of the company of the second sec second second sec	ne Carlos	Stall Speed	Span	Takeoff.	Distance
BUSINESS JETS	ARC	(knots)	(feet)	(lbs.)	TCS
Cessna 551 Citation II/SP	B-II	108	51.8	12,500	5,101
Cessna 501 Citation I/SP	B-I	112	46.8	10,600	5,407
Cessna 500 Citation	B-I	108	47.1	11,850	5,577
Cessna 550 Citation II	B-II	108	51.7	13,300	5,679
Cessna 525 CitationJet (CJ-1)	B-I	107	46.7	10,400	5,833
Cessna 552/T-47A	B-II	107	52.2	16,300	6,003
Cessna 560 Citation V Ultra	B-II	108	52.2	16,300	6,003
Learjet 31	C-I	124	43.1	16,500	6,394
Cessna 525A CitationJet II (CJ-2)	B-II	118	49.5	12,500	6,41
Sabreliner 60	C-I	134	44.6	20,200	6,547
Cessna 560 Citation Encore	B-II	108	52,2	16,830	6,650
Cessna 560 Citation Excel	B-II	107	55.7	20,000	6,70
Cessna 550 Citation Bravo	B-II	112	52.2	14,800	6,718
Raytheon 390 Premier	B-I	120	44	12,500	7,04
Learjet 23	C-I	124	NA	12,500	7,399
BeechJet 400A/T/ T-1A Jayhawk	C-I	121	43.5	16,100	7,68
Learjet 45	C-I	129	47.1	20,200	7,77
Mitsubishi MU-300 Diamond	B-I	109	43.5	14,630	7,909
Sabreliner 75a/80	C-II	128	50.4	24,500	8,18
Dassault Falcon 900	B-II	100	63.4	45,500	8,55
Dassault Falcon 50	B-II	113	61.9	37,480	8,610
Cessna 650 Citation VII	C-II	126	53.6	23,000	8,84
Sabreliner 40	B-I	120	44.5	18,650	8,93
Dassault Falcon 900 EX	C-II	126	63.5	48,300	9,07
Learjet 35/36	C-I	133	39.5	18,300	9,10
Cessna 750 Citation X	C-II	131	63.6	36,100	9,339
Cessna 650 Citation III/VI	C-II	131	53.3	21,000	9,35
Dassault Falcon 2000	B-II	114	63.5	35,800	9,509
Raytheon/Hawker 125-1000 Horizon	C-II	130	61.9	36,000	9,520
Astra 1125	C-II	126	52.8	23,500	9,61
Learjet 55	C-I	138	43.7	21,500	9,628
Learjet 60	D-I	149	43.9	23,500	9,713
Raytheon/Hawker 125-800	B-I	120	51.3	28,000	9,748
Gulfstream IV	D-II	149	77.8	71,780	9,861
Sabreliner 65	C-II	124	50.5	24,000	9,861
Sabreliner 75	C-I	137	44.5	23,300	9,952
Galaxy 1126	C-II	140	58.2	34,850	9,952
Bombardier CL-600/601 Challenger	C-II	125	61.8	41,250	10,292
Bombardier CL-604 Challenger	C-II	125	61.8	47,600	10,292
Gulfstream V	D-III	NA	98.6	89,000	10,786
Bombardier BD-700 Global Express	C-III	126	94	96,000	11,313

Table 3F. Business Jet Runway Length Requirements for Truth or Consequences

Note: Runway lengths derived from FAA sample of business jets modeled for standard conditions, then corrected for Truth or Consequences (TCS) conditions.

With the limited wind coverage on the airfield, the Airport should plan for construction of a crosswind in the near-term. Current levels of activity¹ justify the need for a Group 1 crosswind runway length of 4,640 feet. This length is derived from Table 3E earlier, which lists 4,640 feet for 75% of small airplanes. Group II operations on the crosswind runway are projected to exceed 500 annual operations in the long-term phase of the planning period. To meet Group II standards, the crosswind runway should be 6,380 feet long, which is adequate for 100% of the small airplanes listed in Table 3E.

Other Runway Design Requirements

Other design standards applicable to the planning and design of Truth or Consequences Municipal Airport are discussed here.

- Runway Width: Runway width currently meets standards, but the runway will require widening in the long-term. Runway width is typically a function of both ARC and visibility minimums. At Truth or Consequences Municipal Airport, the current 75-foot width of Runway 13-31 is compliant with the current B-II design standards since the instrument approach visibility minimums are 1 mile. Upgrading the Airport to C-II in the long-term will require a 100-foot wide runway, which will also serve lower visibility minimums. All dirt runways exceed the minimum runway width requirement. The width required for ARC C-III is also 100 feet.
- Runway to Parallel Taxiway: The Airport currently complies with the minimum standard for B-II aircraft, but an increase will be required as the Airport upgrades to serve larger and faster aircraft. The purpose of the runway to taxiway separation distance is to provide adequate wingtip clearance in the airfield operations area. Separation requirements are based on the Design Group and visibility minimums. The Airport's existing 250-foot separation exceeds the minimum 240-foot separation requirement for the Airport for B-II. The runway to taxiway separation for ARC C-II is 300 feet. An instrument approach with visibility minimums lower than ³/₄-mile for C-II would require a 400-foot separation, which is the same separation required for ARC C-III. For long-term usefulness, the runway to parallel taxiway separation should be 400 feet.
- Runway Safety Area (RSA): Runway 13-31 currently complies with RSA standards for ARC B-II with instrument approach visibility minimums not lower than ³/₄ miles, but ARC C-II will require a larger RSA. The purpose of the RSA is to enhance the safety of aircraft which overshoot, undershoot, or veer off the runway. The RSA also provides greater accessibility for firefighting and rescue equipment during such incidents. The RSA is a cleared and graded area centered about the runway centerline for the full length of the runway plus an extended distance off each runway end. The width and length off each runway end is a function of the type of aircraft and approach visibility minimums

¹ Of the current 15,700 annual aircraft operations, approximately 95%, or 14,915, are in Group I aircraft. Of these Group I operations, 5.62%, or 832, occur when crosswinds are strong and wind coverage is below 95%.

Truth or Consequences Municipal Airport Action Plan

associated with the runway. Runway 13-31's safety area is properly graded at 150 feet in width for the full length of the runway plus 600 feet beyond each runway end, which exceeds the Airport's current requirement for the safety area to extend 300 feet beyond each runway end. The RSA dimensions will increase with ARC C-II activity, which requires a 500-foot wide RSA that extends 1,000 feet beyond each runway end. This is also the RSA size required for ARC C-III.

- Runway Object Free Area (ROFA): The ROFA for Runway 13-31 meets ARC B-II standards, but the ROFA will increase in size when the airfield is upgraded for regular ARC C-II activity. The purpose of the ROFA is to maintain a clear area (beyond that required by the RSA) surrounding the runway. The ROFA does not have a grading requirement like the RSA, but no object can protrude above ground level within its boundary. The ROFA is an area centered about the runway centerline for the full length of the runway plus an extended distance off each runway end. The width and length off each runway end is a function of the type of aircraft and approach visibility minimums associated with the runway. The ROFA is currently 500 wide for the full length of the runway plus 300 feet beyond each runway end. With C-II activity, these dimensions will increase to a width of 800 feet for the full length of the runway plus 1,000 feet beyond each runway end; these dimensions are the same for C-III.
- Runway Protection Zone (RPZ): The RPZs for Runway 13-31 will increase in size from its current dimensions of 1,000 by 500 by 700 feet. The larger RPZ will be dependent on the instrument approach visibility minimums, which will require a minimum area of 49 acres and as much as 79 acres. The function of the RPZ is to enhance the protection of people and property on the ground. The RPZ is an area (trapezoidal in shape) centered about the extended runway centerline and beginning 200 feet from the runway end. The size of the RPZ is a function of the type of aircraft and approach visibility minimums associated with the runway end. All objects should be clear of the RPZ, but limited uses are permitted.
- Runway Visibility Zone (RVZ): The RVZ at Truth or Consequences Municipal Airport is not clear of buildings due to the numerous intersecting dirt runways. The RVZ will be reconfigured with a modified airfield once a determination is made regarding a new crosswind runway location. The RVZ is an imaginary area between intersecting runways that should remain clear of obstructions so two or more aircraft operators may clearly see each other on the airfield. The RVZ boundary is defined by connecting a set of visibility points. The visibility points are located by calculating the distance between each runway end and the intersection of the runway centerlines. If the distance between the runway end and intersection is 750 feet or less, the visibility point is at the runway end. If it is more than 750 feet but less than 1500 feet, the visibility point is 750 feet from the intersection. If the distance is greater than 1500 feet, then the visibility point is the midpoint between the intersection and the runway end.

• Runway Gradient and Line of Sight: For runways designed for Aircraft Approach Category B, the maximum longitudinal surface gradient is 2%. For Aircraft Approach Category C, it is 1.5%. Runway 13-31 meets the gradient and line-of-sight requirements for the full length of the runway. FAA design standards for a runway profile require that there be an unobstructed view between any two points five feet above the runway. If a full-length taxiway system serves the runway, the line-of-sight distance may be reduced to no less than one-half of the runway length.

LIGHT SPORT AIRCRAFT/ULTRALIGHT FACILITIES

If the four dirt runways are closed to make room for landside development, all light sport aircraft and ultralights will have to use the primary paved runway. As higher performance, faster turboprop and turbojet aircraft traffic grows in the future, safety concerns may arise regarding their mixing with slower, lighter sport aircraft and ultralights. A light sport runway should be sited at the Airport, parallel to and west of Runway 13-31. NMDOT Aviation Division has tentatively recommended a length of 1,000 feet for a sport aircraft runway. Based on Table 3E, the minimum length for small aircraft with approach speeds under 50 knots is 1,190 feet, so this is the recommended length for a light sport runway at Truth or Consequences Municipal Airport. Such a runway would only need to be visual, ARC A-I, which means a minimum runway width of 60 feet. Simultaneous visual operations are allowed on two parallel runways if they are at least 700 feet apart, measured between centerlines.

HELICOPTER FACILITIES

As helicopter operations continue to grow at Truth or Consequences Municipal Airport, a separate helipad with helicopter parking should be designated. By 2027, helicopter operations are projected to reach 2,451 annual operations, or an average of nearly seven operations per day. Therefore, helicopter facilities should be developed in the long-term phase of the planning period. Separating helicopters from fixed wing aircraft will enhance safety, reduce rotorwash impacts on fixed wing, and promote more efficient circulation. Currently, helicopters shoot an approach down the runway and then hover-taxi to the apron for parking. The low level of activity in the near-term does not support the development of separate helicopter facilities, but an area should be designated and protected for such development by 2027.

TAXIWAYS

The Airport has one full-length parallel taxiway, four connecting taxiways, and a large turnaround at Runway 31 end. A portion of the parallel taxiway, Taxiway A, is 250 feet from runway to taxiway centerline, but diverges from the runway to a maximum of 600 feet from runway to taxiway centerline. Similar to what has been proposed in the past, a parallel taxiway should be constructed to a consistent runway-to-taxiway centerline separation that is a minimum

400 feet for the ultimate build-out of the Airport. As described earlier, this separation will accommodate ARC C-II activity with visibility minimums lower than ³/₄-mile as well as ultimate C-III activity. The taxiway should be 35 feet wide to meet Group II standards. However, the ultimate build-out of the Airport beyond the planning period will require the taxiway be widened to 50 feet for Group III standards.

As part of the plan for a Group I crosswind runway in the near-term and ultimate development of a Group II crosswind runway, an area should be protected to accommodate a full-length parallel taxiway to enhance airfield circulation and minimize "back-taxi" operations. The taxiway should be 35 feet and located 240 feet from runway centerline to meet ultimate Group II separation standards. Pavement strength on taxiways should be consistent with phased plans for runway pavement strengths to accommodate larger aircraft.

Overall, taxiways should serve the airfield in a manner that promotes safe and efficient ground movement and provides proper access to various parts of the Airport. The number of runway connecting/exit taxiways should be sufficient to allow aircraft to exit the runway in a timely manner. Ultimately, by-pass taxiways should be built to reduce bottleneck problems at runway ends. To discourage runway incursions, taxiways connecting the apron to the parallel taxiway should not provide a direct route to the runway. Runway crossings should be avoided, and if unavoidable, should be located at runway ends instead of mid-runway, to discourage runway incursions.

The Airport's existing taxiway widths, safety areas, and object free areas currently comply with FAA design standards. Taxiway and taxilane dimensions and clearances must also be considered in future development plans. **Table 3G** summarizes the taxiway dimensional standards applicable to the Airport in the future.

Tuble 501 TuAlway Dimen	Sional Standar as Iol	arious mi plune D	laigh Urvupa	
Standard	Group I	Group II	Group III	
Taxiway Width	25'	35'	50'	
Taxiway Safety Area Width	49'	79'	118'	
Taxiway OFA	89'	131'	186'	
Taxilane OFA	79'	115'	162'	
Taxiway Wingtip Clearance	20'	26'	34'	
Taxilane Wingtip Clearance	15'	18'	22'	
Taxiway to Parallel Taxiway	69'	105'	152'	
Taxilane to Parallel Taxilane	64'	97'	140'	

Table 3G. Taxiway Dimensional Standards for Various Airplane Design Groups

Source: FAA Advisory Circular 150/5300-13, Airport Design

¹ 60 feet if Group III aircraft has wheelbase equal to or greater than 60 feet

APRON

The Airport has two apron areas referred to as the GA/terminal area apron and the corporate apron, but they are a part of one contiguous piece of pavement. Combined, these two apron areas total 144,500 square feet, or 16,056 square yards, and provide an estimated 13 small aircraft tiedowns and three large aircraft parking spaces with hardstands for the main gear.

To determine future apron requirements, based and transient aircraft parking demand and associated circulation is considered. All 49 aircraft based at the Airport today are stored in hangars. Therefore, future based aircraft are assumed to be stored in hangars and not on the aircraft apron. Apron area demand for transient aircraft in the near-term through the long-term is shown in **Table 3H.** The future apron requirements start with translating peak operations into aircraft on the ground. Then, the fleet mix of those aircraft on the ground simultaneously is used to determine aircraft parking area and clearance. The results of the analysis shown in Table 3H indicate that the Airport has adequate apron capacity in the near-term and intermediate term, but will reach 150% capacity by 2027. Therefore, apron expansion will be required during the planning period to accommodate additional aircraft parking and apron circulation.

	Baseline	Near-term	Mid- term	Long-term
Operations - Design Day	50	72	84	111
Itinerant Operations	35	53	64	89
Transient Aircraft on Design Day	18	27	32	45
Aircraft Simultaneously Parked	9	14	16	23
Aircraft Fleet Mix - Primarily Group I - Primarily Group II - Primarily Group III	7 2 0	11 3 0	13 3 0	17 5 1
Apron Area Needed (sq. yd.)	7,900	12,170	13,510	24,090
Existing Apron Available (sq. yd.)	16,056	16,056	16,056	16,056
Additional Apron Needed (sq. yd)	-	-	-	8,034
Demand/Capacity Ratio	49%	76%	84%	150%

Table 3H. Apron Demand

Source: Airport Planning West and WHPacific.

Note: Design Day operations and itinerant share are taken from Chapter 2 (Tables 2I and 2K). It is assumed that half of transient aircraft on design day are parked simultaneously. Assumed areas per aircraft include circulation: Group 1: 670 sq. yd.; Group II: 1,600 sq. yd.; Group III: 4,700 sq. yd.

These apron calculations reflect an apron need based on average use and do not reflect event driven demand such as Spaceport launches, races, professional golf tournaments, etc. If an event, such as the X-Prize, attracted 20,000 daily spectators and 0.5% of them flew to Truth or

Consequences in private or chartered airplanes with an average of three persons per airplane, 33 transient aircraft would need to park at the Airport. This number does not consider that some of these spectators might stay for more than one day of the seven day X-Prize event.

AIRPORT PAVEMENT CONDITION

In November 2006, a pavement evaluation conducted at Truth or Consequences as part of a statewide study reported the numerically weighted visual pavement condition index (PCI) for Runway 13-31, taxiways, and the apron area. The results, reported in Chapter 1, indicate that some pavements require pavement improvement projects in the near-term (2008-2012). These include two of the three pavement sections on the parallel taxiway that are rated poor to very poor, the apron area with a poor to very poor rating, and the taxilanes around one of the Thangars that are rated serious. All other payements are rated good to satisfactory. However, the runway PCI is based on a visual surface evaluation and, consequently, its rating is derived from the porous friction course that was applied with the recent runway extension. The actual runway condition is fair to marginal. In addition, the strength ratings of 12,500 pounds Single Wheel Gear and 30,000 pounds Dual Wheel Gear were the design criteria in 1975 when the runway was constructed, but probably overstate the pavement's strength now, due to deterioration over time. Table 3I provides a summary of pavement needs over the planning period. It is important to note that strengthening the runway will require complete reconstruction.

Τ Near-term Mid-term Long-term **Airfield Pavement** (1-5 years)(6-10 years) (11-20 years) Reconstruction / Runway 13-31 Preservation Preservation Strengthening Reconstruction / Taxiway A (except south extension) Preservation Preservation Strengthening Taxiway A (south extension) Reconstruction Preservation Corporate Apron Preservation Preservation **GA/Terminal Apron** Preservation Preservation

Ladie 31. Future Airfield Pavement Needs	I. Future Airfield Pavement No	leeds
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Note: Does not include strengthening, widening, or lengthening that may be required in future

AIRFIELD LIGHTING, SIGNAGE, AND MARKING

The Medium Intensity Runway Lighting (MIRL) system installed for Runway 13-31 in 2001 is in good operating condition and should meet demand through the planning period. NBAA's optimum criteria for serving business jets recommend a High Intensity Runway Lighting (HIRL) system to accompany a precision approach and full approach lighting system. The FAA recommends HIRL only for runways with a precision approach and runway visual range (RVR). MIRL edge lighting and a more modest approach lighting system should be adequate for the most feasible instrument approach improvement to the Airport. A nonprecision LPV (Localizer Performance with Vertical Guidance) approach, with minimums greater than ³/₄ mile horizontal visibility and 250-foot cloud ceiling, would not require the existing Building Restriction Line to move out farther from the runway.² For this LPV approach, MIRL are acceptable and an approach lighting system is recommended, not required by the FAA. The type of approach lighting systems that would be acceptable for the LPV approach would be ODALS, MALS, SSALS, and SALS.

Eventually, a Medium Intensity Taxiway Lighting (MITL) system should be installed on parallel Taxiway A. The taxiway currently has some centerline reflectors. In the near-term, the taxiway reflectors need to be completed.

All future airfield improvements should include associated airfield signage. Existing signage is in good condition and substantially complies with current FAA standards.

Airfield markings are in fair condition and in substantial compliance with 150/5340-1J, *Standards for Airport Markings*. Markings should be repainted as part of future pavement projects. In the future, instrument runway markings should be added when the Airport obtains an improved instrument approach that requires different markings.

NAVIGATIONAL AIDS AND WEATHER REPORTING

The two published instrument approaches to the Airport both have 1-mile visibility minimums. The Airport's projected growth and the increasing percentage of corporate operators support the need for an instrument approach with lower visibility minimums. Although the City's high percentage of sunshine—well above the national average—means a low occurrence of instrument weather, corporate operators require a high level of reliability. An instrument approach with low visibility minimums will increase that reliability factor. As a result, businesses can minimize any potential negative economic impact associated with flight operations. Further, an improved instrument approach will increase the attractiveness of the Airport to the large C-III corporate aircraft and Boeing 737s envisioned for the ultimate build-out of the Airport.

The rotating beacon and lighted wind cones are in good condition and do not need replacement. The Precision Approach Path Indicator (PAPI) system on both Runways 13 and 31 are also in good operating condition.

² The Building Restriction Line (BRL) is now 500 feet from the runway centerline, which is where the 7:1 transitional surface sloping up from the edge of the 500-foot wide primary surface would clear a 35-foot high structure. A precision approach or an LPV approach with minimums lower than 3⁄4 mile horizontal visibility and less than 250 feet for cloud ceiling would require a 1,000-foot wide primary surface, which would move the BRL 250 feet farther from the runway.

The Airport currently has an automated surface weather observing station (ASOS) to provide upto-date weather information to pilots. The ASOS provided the wind data used for the crosswind runway analysis. The ASOS is in good operational condition. Concern has been expressed that the ASOS is too close to the corporate aircraft apron and needs to be relocated.

AIR TRAFFIC CONTROL TOWER

For long-term planning purposes, it is recommended that a general location be designated for an air traffic control tower (ATCT). This will prepare the Airport for the time when high activity levels and the mix of small GA aircraft, business jets, Boeing 737s, and helicopters present a more challenging operational environment. The location selected should consider the stringent line-of-sight requirements between the ATCT and aircraft operating areas.

LANDSIDE REQUIREMENTS

Landside requirements include all other facilities and services not included in airside requirements such as hangars, aviation services, and support facilities.

HANGARS

Based aircraft at the Airport are projected to increase from 49 to 57 in the near-term and up to 88 by the end of the planning period. Additional T-hangars and conventional hangars will be needed to accommodate this demand. Table 3J summarizes the hangar development needs over the planning period. T-hangars are planned for increases in single-engine aircraft as well as ultralights and other light sport aircraft. Conventional hangars are planned for multi-engine, jets, and helicopters. However, private developers may prefer conventional hangars over T-hangars so the Airport should protect areas for both T-hangar and conventional hangar development for flexibility. As shown, aircraft storage will need to be increased by 39 spaces by the end of the planning period.

	Lable	эј. Hangar к	equirements		
	Existing	Near-term	Mid-term	Long-term	Total Additional Hangars
T-hangar Units	43	6	. 8	19	33
Conventional/Corporate	1	2	1	3	6
TOTAL	44	+8	+9	+22	+39

Table 3.I.	Hangar	Requirements

Note: There are two conventional hangars, but one is unoccupied and until the facility is brought up to building code standards. Therefore, it is not counted. The one conventional hangar listed is currently providing storage for four aircraft.

AVIATION SERVICES AND AIRPORT SUPPORT

General Aviation Terminal

The Airport has a small 800-square-foot terminal building. The airport manager's office and restrooms are contained inside the terminal with the remaining area open to serve as a small informal waiting area. The restrooms are unavailable when the terminal building is locked. However, a 420-square-foot public restroom building is located adjacent to the terminal and remains open at all times.

HSLD plans to build a GA terminal at the Airport in late 2009, contingent on successful negotiation of a lease agreement with the City. If this does not occur, for long-term planning purposes, the City should plan for the development of a larger, newer GA terminal than now exists. **Table 3K** identifies the GA Terminal needs for the Airport. As shown, the terminal should consist of a 2,100-square foot building with restrooms, a pilot lounge/ flight planning room, airport management and administration space, storage, and circulation.

Table 3K. GA Terminal Building Requirements				
Planning Factors	Existing	Near-term	Mid-term	Long-term
Itinerant operations	11,200	16,872	20,328	28,160
9.5 % of itinerant peak month	1,064	1,603	1,931	2,675
Average day of peak month	35	53	64	89
Aircraft (50% of operations)	18	27	32	45
Average people per aircraft	1.75	1.75	1.75	2.0
15% in terminal at peak (people)	5	7	8	13
Local operations	4,500	5,928	6,072	7,040
9.5% of itinerant peak month	428	563	577	669
Average day of peak month	14	19	19	22
Aircraft (50% of operations)	5	6	6	7
Average people per aircraft	1.25	1.25	1.25	1.25
15% in terminal at peak (people)	1	1	1	1
Total People	6	8	9	14
Terminal Area Requirement (square feet)	900	1,200	1,350	2,100

Table 3K. GA Terminal Building Requirements

Fixed Base Operator (FBO)

FBO-related services are limited to the City's fuel service at the Airport. Flight instruction, aircraft repair and maintenance, and other services are not available. The Airport should plan for

one or two full-service FBOs in the future. Therefore, one or two large hangar lots should be reserved in the terminal area for FBO facilities.

Fuel Storage

Avgas (100LL) and Jet A fuel sales figures are not available for analysis. The Airport's active fuel farm contains one 4,000-gallon Avgas tank and one 6,000-gallon Jet A tank. An inactive fuel farm that previously belonged to the U.S. Air Force contains a 10,000 gallon tank, but the City will not be able to use this fuel farm without significant improvement. The inactive fuel farm should be removed and any site contamination mitigated. Area around the existing fuel farm should be reserved for future expansion.

Emergency Services

Emergency services include law enforcement and firefighting. The City Police and State Police are serving the law enforcement needs of the Airport. The City's all-volunteer firefighters and four fire trucks in the City are serving the current needs of the Airport, but the response time ranges from 30 to 45 minutes. A fire station was constructed at the Airport approximately 10 years ago, but no firefighting equipment is stored inside. The building is currently used for general storage. The Airport should plan on meeting firefighting requirements for Aircraft Rescue & Fire Fighting (ARFF) Index A in the long-term, which will require proper training, equipment, and adequate response time.

Security

GA airports like the Truth or Consequences Municipal Airport do not have significant securityrelated issues to address now.³ The current TSA guidance for GA airports was published in May 2004 and titled *Security Guidelines for General Aviation Airports* (IP A-001). The publication includes an Airport Characteristics Measurement Tool that an airport owner may use to determine its total points as part of a security assessment. Once points are totaled, the sponsor refers to a chart to determine which one of the four point categories the Airport falls within. The Truth or Consequences Municipal Airport falls within the lowest point category (0-14 points), so minimum security enhancements are recommended. These include:

- Signs
- Documented Security Procedures
- Positive Passenger/Cargo/Baggage ID
- All Aircraft Secured
- Community Watch Program
- Contact List

³ However, in November 2008, the Transportation Security Administration (TSA) proposed a change that would impose new requirements on GA operators of aircraft having a certificated gross weight of 12,500 pounds or more. These operators would be required to implement airline-like security programs that could institute new airport needs. The proposal is under public review through February 2009.

If the Airport grows to over 50,000 annual aircraft operations, or has Part 135 or Part 125 scheduled or charter operations, flight training, aircraft rental, or maintenance/repair/overhaul facilities, it will advance to the next point category. The following additional security enhancements would be recommended:

- Access Control
- Lighting System
- LEO (Law Enforcement Officer) Support
- Security Committee
- Transient Pilot Sign In/Out Procedures

Existing apron and terminal area lighting is limited, but does enhance security by enabling airport tenants, users, and patrolling law enforcement to observe any unusual activity. With future development, additional security lighting should be considered.

The three-strand barbed wire perimeter fencing and the six-foot chain link fencing around the terminal area are adequately serving the Airport's current fencing needs. The automated electronic keypad gate at the terminal area controls airfield access. There are also three manual vehicle gates with combination locks for tenants.

Vehicular Access and Parking

Future airport improvements should include airport roadway improvements. Currently, the access road into the Airport is paved with recycled pavement millings, but other roads around the Airport are unpaved. In addition, the Airport's entrance road should be beautified with improvements in landscaping and signage.

The terminal auto parking area is an estimated 25,686 square feet that is partially paved with recycled pavement millings. Although unmarked, this area should accommodate approximately 50 vehicles. Additional parking is available in the dirt. Since most of the Airport tenants park inside their hangars, the terminal area parking lot is primarily used by the City, airport-related staff, and visitors.

Table 3L shows demand for terminal area parking over the planning period. The existing parking area is more than sufficient to accommodate demand on a regular basis. However, this demand does not take special event parking into account.

Table 3L. GA Terminal Auto Parking Requirements				
	Existing	Near-term	Mid-term	Long-term
Transient aircraft during day	18	27	32	45
Average people per transient aircraft	1.75	1.75	1.75	2.00
Local aircraft during day	5	6	6	7
Average people per local aircraft	1.25	1.25	1.25	1.25
Total people per day	38	55	64	99
Total parking spaces (25% of people)	10	14	16	25
Total auto parking area (sq. ft.)	4,500	6,300	7,200	11,250

Table 3L. GA	Terminal Aut	o Parking	Requirements	
			a the second second as the second	

Note: Parking is estimated at 450 square feet per space including circulation.

UTILITIES AND DRAINAGE

The airport's current utilities are: electrical service from the Sierra Electric CO-OP; water from an on-airport well; wastewater by on-airport septic systems; propane from commercial sources; and telephone by Windstream Communications. The current and anticipated utility needs are as follows.

Airfield Utilities

Only electrical service is required for the airfield. The current airfield electrical equipment is located in one of the former FAA Flight Service Station (FSS) buildings. The airfield electrical equipment should be relocated to a stand-alone equipment shelter to free up the site that the former FSS building occupies. The current single phase electrical service will need to be reevaluated to address the electrical demand associated with the proposed development of a second paved runway and the associated taxiways. This additional runway may also require additional electrical demand for various visual aids.

Utilities for Automated Surface Observation Station (ASOS)

The federally owned ASOS is located south of the former FAA FSS fronting on the heavy aircraft apron. The ASOS requires electrical power and communication lines for the telephone call in function and for data transmission. The existing power supply and communications lines are adequate for the ASOS in its present location.

Utilities for Airport Facilities and Development Facilities

The utility needs for the Airport-owned facilities and for tenant development are generally the same. The exact development may not require all of the utilities discussed below.

<u>Electric.</u> The Airport is within the service area of the Sierra Electric CO-OP. Currently, only single phase power is available at the airport. In general, most all development will require electrical service. As a minimum, the facility will have interior or exterior lighting.

To support the planned development three phase power and additional electrical capability are required. The Airport's needs should be included in the electrical requirements of the surrounding Hot Springs Motorplex development to allow for cost sharing of the infrastructure construction costs.

The Airport must maintain an awareness of the electric CO-OPs utility rights-of-way and development plans to ensure any new or upgraded electrical lines do not affect the airspace of the airport's runway development.

<u>Water.</u> In general, occupied buildings require sanitary facilities and water service is required. Hangars may have fire protection requirements that require water. Aircraft washing facilities require water. As the Airport develops, the fire protection requirements increase with storage and flows for building fire protection, as well as for hydrants for general fire protection.

There is a single on-airport well that does not have the capacity to serve additional demand. This well has produced about 30 gallons per day and requires treatment to be potable. There is a filtering system and small reverse-osmosis treatment unit located in the terminal building. The water system pressure tank is located in one of the old FAA outbuildings.

Currently, the well water system provides water to the terminal building, restrooms, the security trailer, hose bibs at the white and red hangars, the LaFont hangar, the Augie hangar, and a small line runs to the trap club located north of the Airport.

The City has entered into a water utilities development agreement with HSLD to provide water to their planned development near the Airport. As possible, this expansion of water service by the City should include the Airport.

<u>Wastewater.</u> In general, a domestic water service requires some form of wastewater treatment. Currently, wastewater is disposed of via separate septic systems.

The use of septic systems for wastewater disposal is limited by a permitted discharge maximum per parcel. The Airport is considered a single parcel for wastewater discharge purposes. The City has entered into a wastewater utilities development agreement with HSLD to provide sewer services to their planned near-Airport development. As possible, this expansion of sewer service by the City should include the existing and proposed Airport development areas.

If a wastewater treatment plant is being considered near the Airport for the planned development, wastewater treatment options should avoid the use of ponds or constructed wetlands as these may attract wildlife. The siting of any proposed wastewater treatment plant should consider airport vicinity compatible land uses.

<u>Propane/Natural Gas.</u> Propane or natural gas is an efficient source of fuel for building heat, hot water, and cooking as an option to electric heat and cooking. The need varies based on the

facilities use; in general, occupied buildings require heating. Currently, the individual buildings requiring propane/natural gas are served by commercial propane tanks. PNM natural gas services are available in portions of Truth or Consequences and Elephant Butte. However, PNM is in the process of selling their natural gas services.

Should the development around the Airport extend natural gas service, the Airport should take advantage of this infrastructure.

<u>Telephone/Communication.</u> In general, occupied buildings use hard wired telephone/communication lines. Hangar and other unoccupied buildings may use hard wired telephone/communications lines as part of a security system. Personal communications are changing increasingly to cellular communications. Internet communications can be via hard wired, line of sight radio data transmissions, or satellite communications. Hard wired telephone communications can be planned for utility rights-of-way, with the telephone/communications company sizing the cabling and installing their cables in the rights-of-way.

Utility Right-of-Way

As much as possible, utilities should be placed underground to not create a hazard to air navigation. As part of the Airport development planning, roads and utility right-of-ways should be created and reserved from development leases so the utilities can be orderly expanded as the Airport grows.

Drainage

A Drainage Plan should be prepared to address proposed airport development, based on existing drainage patterns to arroyos on the west and east sides of the Airport.

HIGH GROWTH SCENARIO

This section reviews the facility requirements associated with the high-growth scenario envisioned by HSLD and described in Chapter 2.

The high-growth scenario assumes the Airport will be upgraded to an ARC C-III facility and will require Part 139 certification. It assumes the deficiencies identified in Tables 3B and 3C for business aviation and air taxi service will be corrected and facilities needed for scheduled passenger and all-cargo service will be provided. It further assumes that land will be developed not only for FBO facilities and aircraft storage hangars, but also for aircraft and spacecraft production, maintenance, and repair facilities; pilot and mechanic training schools; aeronautical research centers; and many other aviation-related or aviation-compatible industrial, commercial, and educational facilities.

AIRSIDE

HSLD anticipates operations in ARC C-III aircraft such as the Boeing 737 will begin as unscheduled passenger or cargo flights, resulting from their substantial economic development plans surrounding the Airport and the other economic boosts described in Chapter 2, such as Spaceport America's growth.

According to Boeing's Airplane Characteristics for Airport Planning, a Boeing 737 needs an estimated 8,000 feet of runway length at 80% MTOW for the density altitude calculated for Truth or Consequences. Density altitude is calculated using the Airport elevation and mean maximum temperature of the hottest month. Then, the density altitude is used to derive runway length requirements from manufacturer performance charts. In contrast, an estimated length of 10,000 feet would be needed to serve the same 737 at 84% MTOW—a substantial increase in runway length required for an additional 4% in MTOW.

The 9,190-foot primary runway proposed for Truth or Consequences by 2027 for C-II operations will more than accommodate the Boeing 737 (C-III) at 80% MTOW. However, the runway pavement will need to be strengthened to 150,000 pounds once the Boeing 737 is operating regularly at the Airport.

Adding a precision instrument approach, full approach lighting system, and a HIRL system with RVR would be part of the C-III upgrade. The medium-growth scenario plans to design the Airport to C-II standards will bring the Airport into compliance with C-III standards in terms of the RSA and ROFA. The runway-to-taxiway separation for C-III is 400 feet. Adequate taxiways to promote airfield efficiency and enhanced safety will be needed. The airfield will require that a taxiway OFA of 186 feet wide be protected where Group III ground movement is expected. The trapezoidal RPZ for the precision approach would be the largest required by the FAA, 79 acres, measuring 2,500 feet long with a width tapering from 1,000 feet to 1,700 feet.

LANDSIDE

Airport facilities and services to serve C-III operations must be considered to accommodate the increased GA, passenger, and cargo traffic and more sophisticated aircraft anticipated. While it is recommended that a full-service FBO be provided at the Airport in the medium-growth scenario for C-II activity, an increased level of service along with upgraded equipment to serve C-III activity will be important. Business aviation requirements (Table 3B) will become more critical to serve the needs of the Airport users.

Table 3M highlights the key airport improvements necessary to fulfill the high-growth scenario forecast and HSLD plans. HSLD has not provided detailed information about their Airport-related plans, so some of the improvements in Table 3M are assumptions based on HSLD's reported vision and the high-growth scenario forecast. HSLD has expressed their plans for the size and location of runways, their plans to build a terminal, and their desire to lease 131 acres of

Airport land east of Runway 13-31. Insufficient information is available today to project the timing of airline service, passenger enplanements, or cargo tonnage.

Table 3M. High-Growth Scena	Existing	
		HSLD
Airport Reference Code	B-II	C-III
Part 139 Certification	no	yes
Airside:		
Primary Runway Dimensions	7,200 x 75 feet	9,200 x 100 feet
Crosswind Runway Dimensions	4,640 x 60 feet	7,200 x 75 feet
Apron (square yards)	16,056	45,240
Pavement Strength (lbs)	30,000	150,000
Approach Lighting, HIRL	No	yes
Air Traffic Control Tower	No	yes
Landside:		
Hangar Spaces (T-hangar units and/or Conventional		
Hangars)	44	+46
GA Terminal Building (square feet)	900	6,150
Add Passenger Terminal/Expansion	No	yes
Full-service FBO (Jet center)	No	yes
Cargo Facilities	No	yes

Table 3M	High-Growth	Scenario Reo	miromonte (HSI D)
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Note: Requirements based on HSLD plans and high-growth 20-year forecast scenario.

Chapter Four Action Plan ALTERNATIVES Truth or Consequences Municipal Airport

The Alternatives Chapter documents the identification and evaluation process that concluded with the selection of the preferred airfield development for the Truth or Consequences Municipal Airport.

The City can theoretically meet the facility requirements identified for the Airport in the previous chapter with one of four actions:

- No Development/No Action at the Existing Airport
- Move to Another Airport in the Area
- Develop a New Airport
- Develop/Improve the Existing Airport

Moving to another airport is not a realistic action, since there are no other public airports within Sierra County. Developing a new airport is also unwarranted, since the Airport can feasibly be expanded to meet current and future needs. Although expansion beyond its current borders is necessary, the owner of the land surrounding the Airport, Hot Springs Land Development (HSLD), is not only amenable to airport expansion, but also planning to invest in that expansion.

SITE AND AIRFIELD NEEDS ANALYSIS

Airfield development alternatives were identified after evaluating the site for opportunities and challenges to Airport development. Airport development opportunities are conditions that offer flexibility and possibility in development. Examples include undeveloped land and existing utility infrastructure. Airport challenges are limitations or constraints that may restrict or prohibit development in certain areas or must be overcome with substantial cost, mitigation, and/or complex engineering solutions.

At Truth or Consequences Municipal Airport, nearby I-25 and Highways 181 and 52 provide both opportunities and challenges. While they provide vital access to the expanded Airport, they also limit Airport growth. This not only affects the expansion of facilities, but clearances around them. Recently, the FAA has developed a policy to restrict public roadways from runway protection zones.

The ownership of the land surrounding the Airport by Hot Springs Land Development is a significant opportunity, since HSLD plans to invest in a new crosswind runway, extension of the primary runway, and a GA terminal, in return for the opportunity to develop revenue-generating, landside facilities at the Airport. A lease agreement between the two parties is being developed now and will be reviewed by the FAA. HSLD land development could be a challenge if the development the City proposes is not compatible with HSLD plans.

The major challenge to the Airport's expansion is the terrain, specifically the deep arroyos on the west side of Runway 13-31 that severely limit feasible locations and ultimate length of a crosswind runway. A lesser challenge is the restricted airspace located east of the Airport.

Chapter 3 analyzed a wide range of facility needs over a 20-year period. The most significant needs are associated with the airfield, as described below.

The only paved runway, 13-31, needs to be augmented by a crosswind runway for Airplane Design Groups I and II. Three of the four dirt runways are too short to serve as crosswind runways for these Airplane Design Groups. The fourth dirt runway, 11-29, is too close to the paved runway alignment to offer appreciable crosswind benefit. The nominal runway length required for Group I is 4,600 feet, and for Group II, it is 6,400 feet.

A crosswind runway to serve Group I is justified now. For Group II aircraft, it will take longer for the number of annual Group II aircraft operations affected by crosswinds over 15 mph to reach 500, based upon the preferred forecast in Chapter 2. HSLD proposes to finance and build a crosswind runway 7,200 to 7,400 feet long in the near-term future (within five years).

The four dirt runways should be closed when the new paved crosswind runway is operational. Mid-field intersections are undesirable from a safety standpoint and make it harder to maintain or reconstruct a runway while keeping the other runways open. In addition, the dirt runways restrict the development of land on- and off-Airport property. Moreover, the runway visibility zones between the runways are not clear of buildings, a condition that does not meet FAA standards for airport design. Runway 13-31's length, width, and strength are inadequate for its ultimate role of serving ARC C-III aircraft such as the Boeing 737 and the largest business jets. Ultimately, Runway 13-31 needs to be 9,200 feet long by 100 feet wide. For corporate aircraft, the strength needed is 60,000 pounds, but for passenger and all-cargo service in Boeing 737-type aircraft, the runway strength should be 150,000 pounds. A strength of 95,000 pounds is the National Business Aviation Association's optimum recommendation for heavy business jets. HSLD envisions the runway will need lengthening and widening in the near-term future (next five years). According to the preferred forecast in Chapter 2, the justification to lengthen, widen and strengthen Runway 13-31 according to FAA criteria will not likely occur within the next ten years.

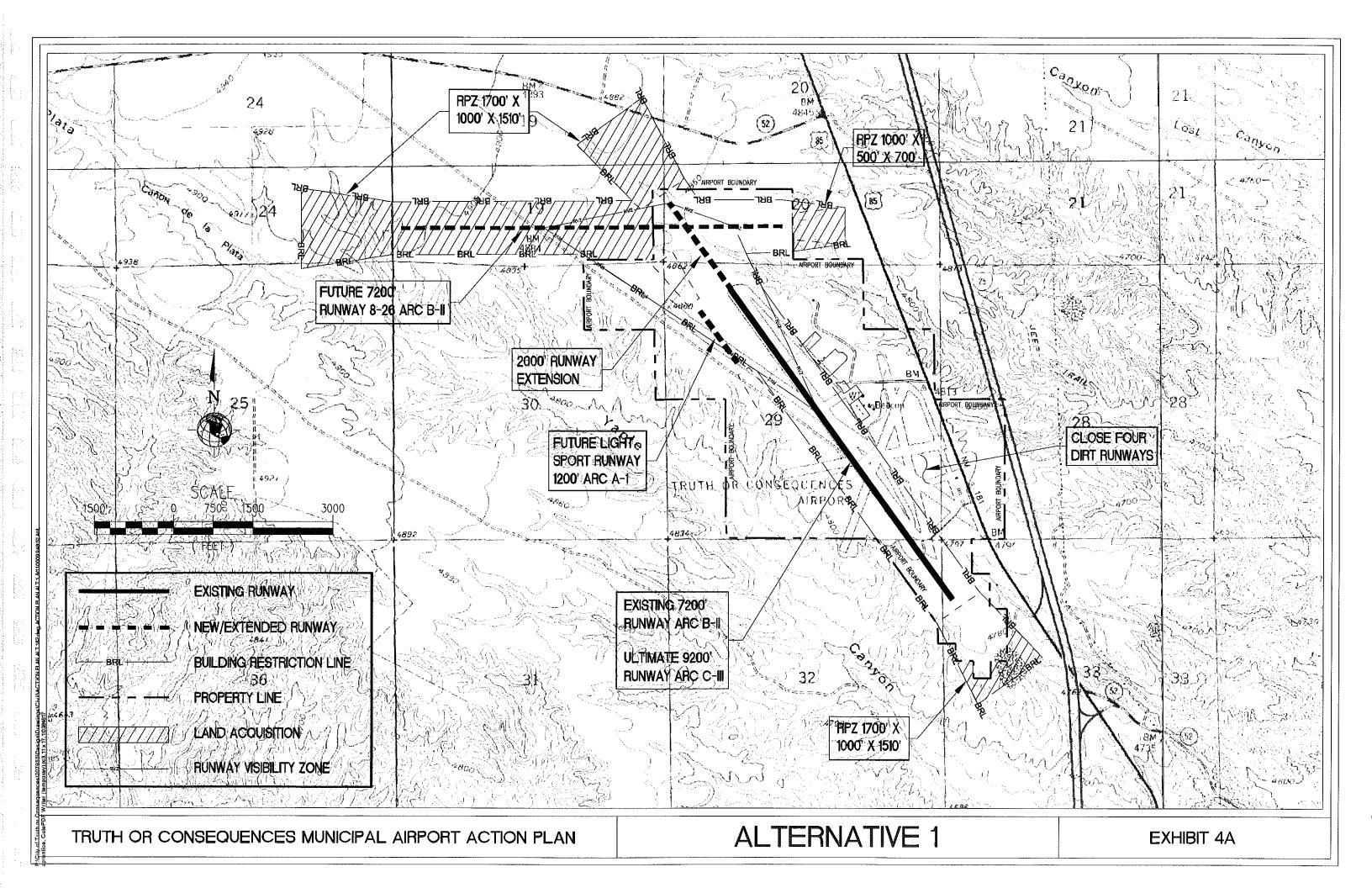
The Airport's best instrument approach capability is now 1-mile visibility minimums. The FAA is executing a nationwide program to provide LPV approaches, which rely on WAAS-assisted GPS to provide three-dimensional approach guidance. Better instrument approach capability is needed at the Airport for the business aviation, medevac, air taxi, and passenger/cargo airline traffic that is expected in the future. Consequently, the land area needed to protect for the lowest visibility minimums practical should be protected from development and ultimately controlled by the Airport. At Truth or Consequences Municipal Airport, the best approach practical would be an LPV approach with minimums not lower than ¾-mile horizontal visibility and a cloud ceiling as low as 250 feet. Such an approach is considered "nonprecision" for determining the imaginary surfaces defined in 14 CFR Part 77. The primary surface width required is 500 feet instead of 1,000 feet, which means the Building Restriction Line (BRL) stays 500 feet from the runway centerline.

IDENTIFICATION OF ALTERNATIVES

Three alternatives, which present different levels of airfield development, were identified prior to Airport Advisory Board and public meetings that occurred on December 18, 2008. At that meeting, a fourth alternative was suggested and it was later developed to the same level of detail as the previously identified alternatives. Descriptions of the four alternatives considered for the future development of Truth or Consequences Municipal Airport follow:

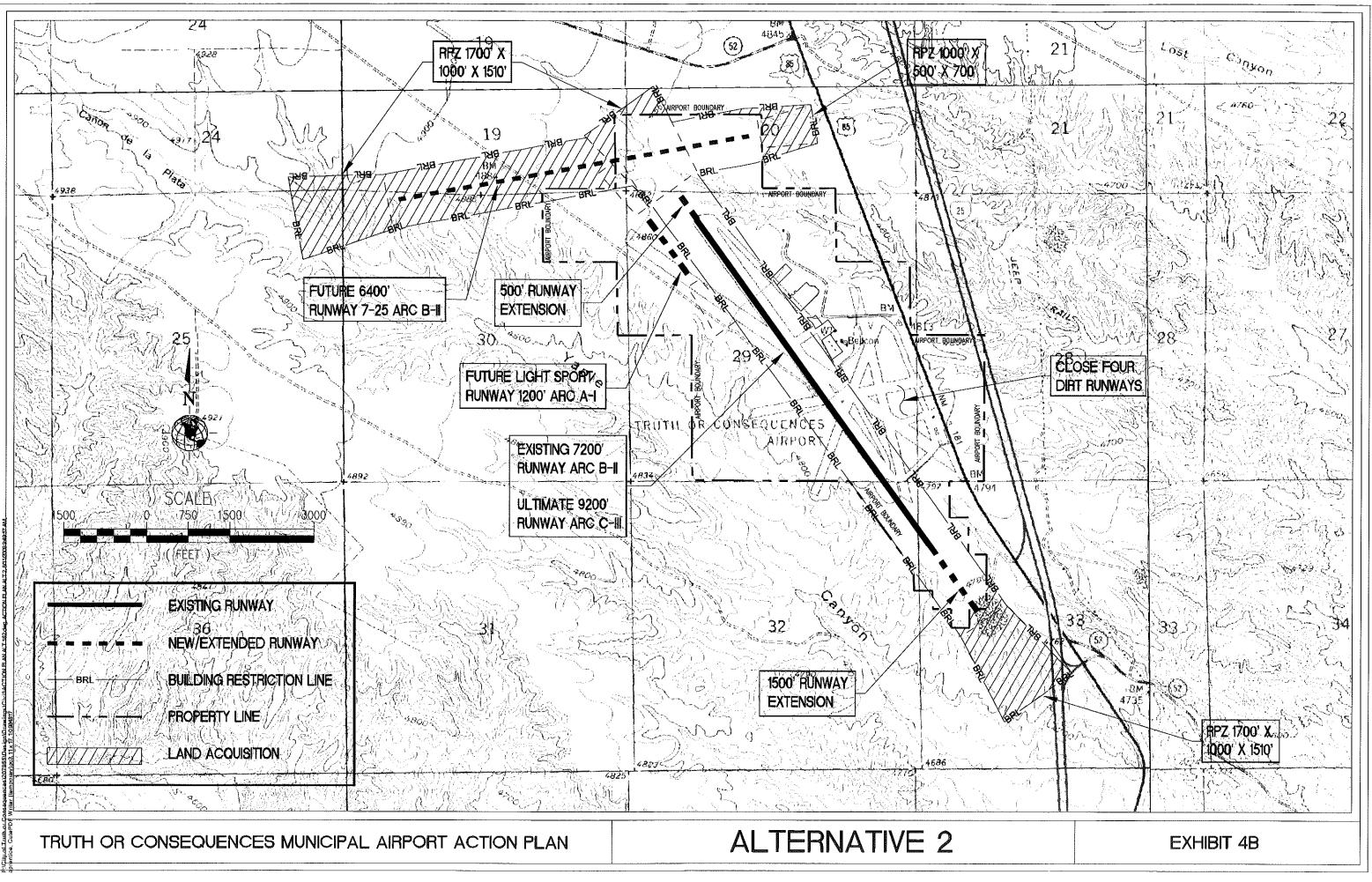
- No Action, which is illustrated by Exhibit 1B, Existing Conditions, in Chapter 1. With the No Action alternative, the existing paved Runway 13-31 would remain at its current size, strength, and instrument approach capability. The four intersecting dirt runways would remain operational.
- Alternative 1, which is illustrated by **Exhibit 4A**, would closely match HSLD's plans for the airfield. The dirt runways would be closed, Runway 13-31 would be strengthened and extended northward to 9,200 feet, and a new crosswind Runway, 8-26, would be built at the north end of the extended Runway 13-31. Runway 8-26 would be 7,200 feet long and built to ARC B-II standards. A new light sport runway, 1,200 feet by 60 feet, would be built parallel to and west of Runway 13-31.

- Alternative 2, which is illustrated in **Exhibit 4B**, would also close the four dirt runways. Runway 13-31 would ultimately be strengthened and extended to 9,200 feet, but most of the extension would be to the south so the runway would not intersect with the future crosswind runway at the north. A new crosswind runway, 7-25, would be built north of the extended Runway 13-31. A new light sport runway, 1,200 feet by 60 feet, would be built parallel to and west of Runway 13-31.
- Alternative 3, which is illustrated in **Exhibit 4C**, is a modification of Alternative 2 that resulted from input at the Airport Advisory Board and public meeting on December 18, 2008. Alternative 3 would close the four dirt runways. Runway 13-31 would be strengthened and extended to 9,200 feet, but the runway length would be split between the north (1,100 feet) and south (900 feet) ends. A new crosswind runway, 6-24, would be built north of the extended Runway 13-31 and a new light sport runway, 1,200 feet by 60 feet, would be parallel to and west of Runway 13-31.

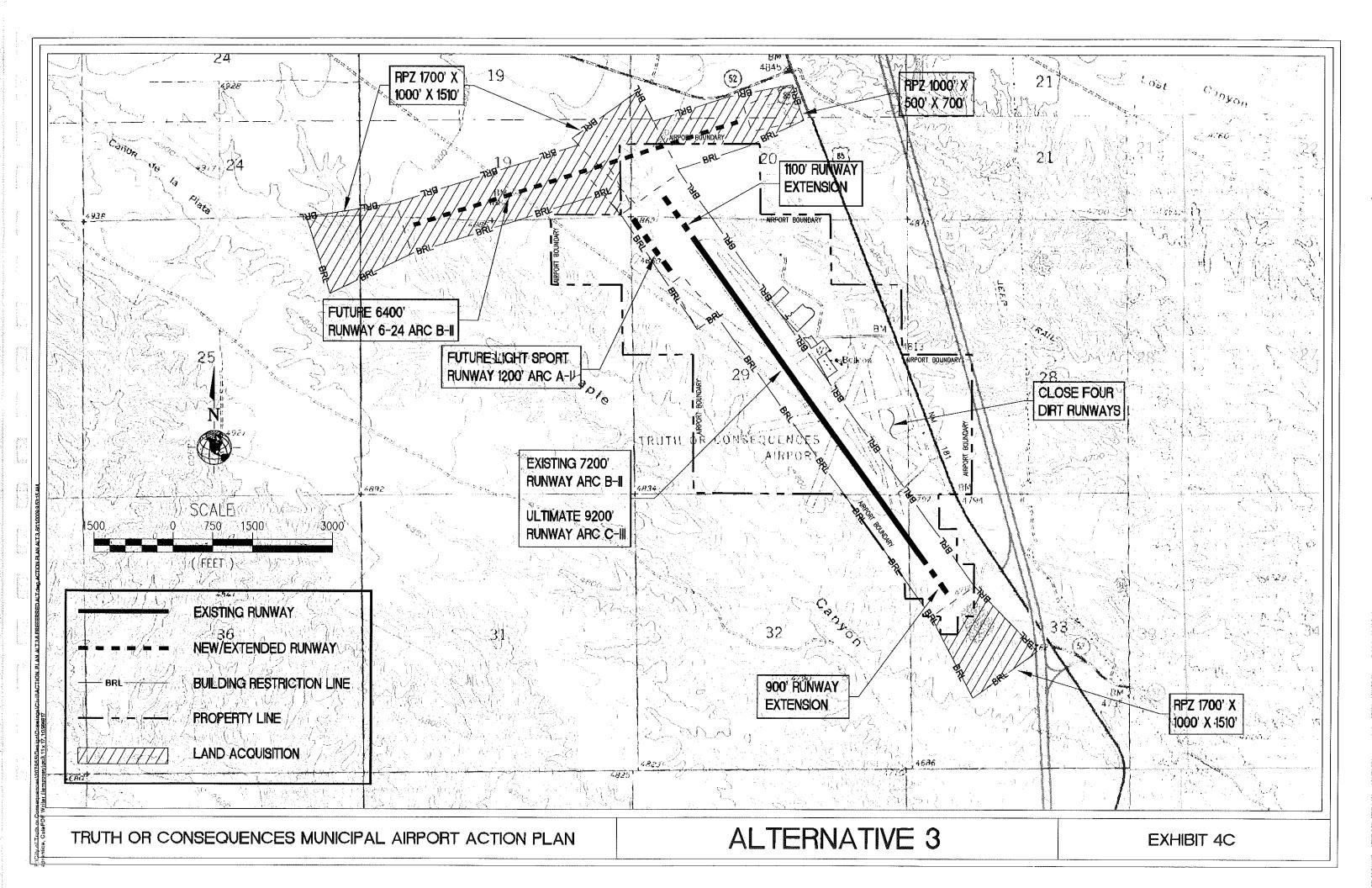


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COMPARATIVE EVALUATION

Table 4A presents a comparative evaluation of the four alternatives. The public was invited to an open house during the Airport Advisory Board meeting of December 18, 2008, and had an opportunity to review Alternatives 1 and 2. Alternative 3 was discussed as a modification of Alternative 2. Following review by the City and its Airport Board, the FAA, and NMDOT Aviation Division, and considering public input, the Airport Advisory Board recommended a preferred alternative in January 2009.

Feature	No Action	Alternative 1	Alternative 2	Alternative 3
Number of Runways	1 paved, 4 dirt	3 paved	3 paved	3 paved
Primary Paved				
Runway (ultimate)				
Length x Width	7,200 x 75 feet	9,200 x 100 feet	9,200 x 100 feet	9,200 x 100 feet
Strength	30,000 lbs.	150,000 lbs.	60,000 lbs	95,000 lbs
ARC	B-II	C-III	C-III	C-III
Secondary Paved				
Runway (ultimate)	none	7,200 x 75 feet	6,400 x 75 feet	6,400 x 75 feet
Length x Width	none	60,000 lbs.	30,000 lbs.	30,000 lbs.
Strength		B-II	B-II	B-II
ARC		B-11	B-11	D-11
Light Sport Runway	4 di r t	1 paved	1 paved	1 paved
Length x Width	varies	1,200 x 60 feet	1,200 x 60 feet	1,200 x 60 feet
ARC	A-I	A-I	A-I	A-I
	A -1	A-I	A-I	A-1
Wind Coverage (Paved				
Runways Only)				
Group I	89.38%	93,38%	94.25%	95.27%
Group II	93.50%	96.58%	97.26%	98.04%
Best instrument				
арргоасh visibility	1-mile GPS	>¾-mile LPV	>¾-mile LPV	>¾-mile LPV
minimums				
Meets FAA Standards?	not for runway	ves	ves	Yes
	visibility zone;	2	5	
	Rwy 1-29 beyond			
	property line			
Land A		959		
Land Acquisition Required*	None	252 acres	223 acres	264 acres
-				
Developable	129 acres	202 acres	204 acres	228 acres
Landside**				

Table 4A. Comparative Evaluation of Alternatives

Feature	No Action	Alternative 1	Alternative 2	Alternative 3	
Other Operational Characteristics	Midfield intersections undesirable for safety, maintenance, reconstruction. Does not accommodate more demanding design aircraft. Provides more crosswind runway choices, although not paved.	Accommodates the most demanding design aircraft of the three alternatives.	Accommodates more demanding design aircraft than No Action. The fact that primary and secondary runways do not intersect is a safety advantage compared to Alt. 1.	Accommodates more demanding design aircraft weight than No Action and Alt. 2. The fact that primary and secondary runways do not intersect is a safety advantage compared to Alt. 1.	
Land Use Compatibility?	Runway 1-29 extends off-airport. More flight patterns over proposed off- airport residential development than other alternatives	Runway 8-26 traffic pattern over proposed residential development. Public road in RPZ not desirable.	Runway 7-25 approach/departure aligned with low and high density proposed residential. Extended Runway 31 RPZ includes proposed off-airport commercial development. Public road in RPZ not desirable.	Runway 6-24 approach/departure aligned with low and high density proposed residential. Extended Runway 31 RPZ includes proposed off-airport commercial development.	

Table 4A. Comparative Evaluation of Alternatives (continue	d)
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*Includes land within Building Restriction Line (BRL), including all land within Runway Protection Zones (RPZ) that extend beyond the existing Airport property.

**Includes developed and undeveloped Airport property east of Runway 13-31 and west of Highway 181, but excludes land within BRL, RPZ, and Runway Visibility Zones (RVZ).

SELECTION OF PREFERRED ALTERNATIVE

The Airport Advisory Board, in its meeting January 7, 2009, accepted Alternative 1 as the preferred alternative for the new crosswind runway, but modified so that the runway has a 7-25 alignment. The Advisory Board's preference for Runway 13-31 extension was 1,100 feet to the north and 900 feet to the south, to prevent the runways from intersecting. The Advisory Board also voted to close dirt Runway 15-33, but keep dirt Runways 7-25, 1-19, and 11-29 open until there is a usable crosswind runway in place.

The next step in the planning process was to develop a phased Capital Improvement Program (CIP) and to document the preferred alternative in more detailed drawings called the Airport Layout Plan (ALP). The next chapter discusses both the CIP and ALP. As the preferred

alternative was developed for the ALP drawing, Runway 13-31's ultimate length was reduced by 50 feet so that the runway protection zones at the ends would not overlap public roads.

After the Airport Advisory Board meeting in January 2009, HSLD further analyzed the impact of the Runway 13-31 extension on off-airport development, and in March 2009, HSLD proposed a 7,400-foot length for future Runway 7-25. HSLD's funding of this length for the crosswind runway will certainly be acceptable to the Airport Advisory Board, as long as FAA design standards are met in its layout and construction. However, the ALP drawing in Chapter 5 shows 6,400 feet as the new Runway 7-25 length, based on what can be justified for FAA funding.

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Chapter FiveAction PlanIMPROVEMENTSTruth or Consequences Municipal Airport

This chapter presents a five-year capital improvement program (CIP) that identifies projects by priority that support the City-selected preferred alternative from Chapter 4. Preliminary project cost estimates, project descriptions, eligibility for federal and state funding, and the FAA-required Airport Layout Plan (ALP) to reflect future development are addressed.

CAPITAL IMPROVEMENT PROJECTS

Table 5A identifies the capital improvement projects at the Airport for the next five years. Total costs are listed, along with assumed distribution of the costs for the Federal (FAA Airport Improvement Program Grant), State (New Mexico Aviation Division Grant), and Local governments (City of Truth or Consequences). The FAA share is based on the Federal Airport Improvement Program formula in place in May 2009.

Not listed in Table 5A is private funding, such as Hot Springs Land Development (HSLD) might provide. While HSLD has been involved in the airport planning process and plans to fund a new crosswind runway and major improvements to the primary runway, no commitments have been formalized. Consequently, the list of capital improvement projects was formulated as if none of the improvements would be funded by HSLD. Many of the projects listed in Table 5A are marked with an asterisk (*) and might be paid for entirely or in part by HSLD, in return for the

opportunity to develop most of the airport's landside property. The total cost of such projects exceeds \$11 million, the bulk of the five-year program. Funding by an entity such as HSLD will affect not only the financial feasibility of the program, but also the scheduling. For example, HSLD has plans to install a modular GA Terminal at the Airport in 2009, five years before Table 5A programs a GA Terminal. However, at the time of this writing, there is no agreement between the City and HSLD concerning the GA Terminal, and the new building was deemed a lower priority than airfield and other improvements.

Start and the start of the star	A, Capital Improvement Program	CONTRACTOR STORES AND A CONTRACTOR AND A CO			
FY	Description	Federal	State	Local	Total Cost
2010	Acquire Land Leased for Last Runway 13-31 Extension	\$19,000	\$500	\$500	\$20,000
2010	Benefit-Cost Analysis for Runway Improvements*	\$47,500	\$1,250	\$1,250	\$50,000
2010	Complete Taxiway A Reflectors	\$142,500	\$3,750	\$3,750	\$150,000
2010	Environmental Assessment for Airfield Improvements*	\$190,000	\$5,000	\$5,000	\$200,000
2011	Acquire Land for Crosswind Runway and Primary Runway Extension*	\$285,000	\$7,500	\$7,500	\$300,000
2011	Design and Construct Taxilanes for T-Hangars*	\$475,000	\$12,500	\$12,500	\$500,000
2011	Design Taxiway A Realignment*	\$228,000	\$6,000	\$6,000	\$240,000
2012	Construct New T-Hangar Bank*			\$200,000	\$200,000
2012	Design New Crosswind Runway*	\$456,000	\$12,000	\$12,000	\$480,000
2012	Realign Taxiway A*	\$2,850,000	\$75,000	\$75,000	\$3,000,000
2012	Relocate South T-Hangar Bank			\$100,000	\$100,000
2012	Remove/Mitigate Old FAA Buildings	\$285,000	\$7,500	\$7,500	\$300,000
2013	Assess/Replace AF Fuel Storage Tank			\$300,000	\$300,000
2013	Construct Crosswind Runway Phase I*	\$3,800,000	\$100,000	\$100,000	\$4,000,000
2014	Access Road & Parking		\$100,000	\$100,000	\$200,000
2014	ASOS Relocation	\$237,500	\$6,250	\$6,250	\$250,000
2014	Construct Crosswind Runway Phase II*	\$1,900,000	\$50,000	\$50,000	\$2,000,000
2014	GA Terminal*		\$125,000	\$125,000	\$250,000
	TOTAL	\$10,915,500	\$512,250	\$1,112,250	\$12,540,000

Table 5A, Capital Improvement Program

*Indicates project costs and timing potentially affected by the Hot Springs Land Development proposal. Note: Cost estimates are in 2009 dollars.

MAJOR OVERALL DEVELOPMENT OBJECTIVE - NEW CROSSWIND RUNWAY

Several of the projects in Table 5A relate to the overall development objective to build a new, paved crosswind runway. If funded by the FAA's Airport Improvement Program (AIP), the project will require a minimum of five years to complete a benefit-cost analysis, an environmental assessment, acquire the land necessary for the runway, design the runway, and complete its construction.

Air ambulances cannot use the Airport during strong crosswinds, which hinders community health and safety. Strong crosswinds also have a negative economic impact by reducing the availability of the Airport for most airplanes. The wind coverage for Runway 13-31 is only 89.38% for Airplane Design Group I and 93.50% for Airplane Design Group II. In other words, more than 10% of the time, nearly all the airplanes based at the Airport and most of the transient airplanes that use the Airport cannot safely use the only paved runway. Strong crosswinds mostly occur in the spring, so that the percentage of time the runway is unusable is higher in the spring. For aviation safety reasons, the FAA's recommendation for wind coverage is at least 95%. New Runway 7-25, combined with existing Runway 13-31, will provide wind coverage of 94.25% for Group I and 97.26% for Group II.

Wind coverage for Group I will still be slightly below 95% with the new runway. To provide a higher degree of coverage would require the crosswind runway to be aligned more perpendicular to Runway 13-31, which would create problems with arroyo fill, land acquisition, and highway relocation, unless the crosswind runway were much shorter. However, since the crosswind runway will be built to the size needed for Airplane Design Group II, it will be wider and longer than required for Airplane Design Group I. FAA Advisory Circular 150/5300-13, Appendix 1, states that increasing the operational tolerance to crosswinds by upgrading the runway layout to the next higher Airport Reference Code (ARC) may be considered in constrained locations. In other words, the greater length and width afforded by a runway meeting ARC B-II standards will aid ARC A-I airplanes in crosswind landings and takeoffs.

The runway will be designed for ARC B-II aircraft, be 6,400 feet long by 75 feet wide, and have pavement strength of 12,500 pounds single wheel load (SWL) and 30,000 pounds dual wheel load (DWL). If funding is insufficient to construct the ultimate runway length, it could initially be 4,600 feet long, adequate to serve Airplane Design Group I. The project will include appropriate marking and signage, medium intensity runway lights (MIRL), runway end identifier lights (REIL), precision approach path indicators (PAPIs), lighted wind cones, turnaround taxiways at both runway ends (designed for ultimate incorporation in a parallel taxiway on the south side), and an access taxiway from existing Taxiway A. Eventually Runway 7 should have an omnidirectional approach lighting system (ODALS) to accommodate instrument approaches with visibility minimums greater than ³/₄ mile.

PROJECT DESCRIPTIONS

A brief description of each project listed in Table 5A follows.

Acquire Land Leased for Last Runway 13-31 Extension

Approximately 20 acres of land was leased in 2003 from the State Land Office for the construction of the last extension of Runway 13-31. Since the State Land Office intends to sell this land to HSLD, a private entity, the land should be acquired in fee for the Airport.

Benefit-Cost Analysis for Runway Improvements

The new crosswind runway will cost more than \$5 million, the threshold for requiring a benefitcost analysis if the runway is to be AIP-funded. If the runway is constructed with private or other funds, the benefit-cost analysis will not be required.

Complete Taxiway A Reflectors

Some of the reflectors for Taxiway A and connector taxiways are missing or were never installed. This project would fix the deficiency.

Environmental Assessment for Airfield Improvements

Before the new crosswind runway can be designed or constructed with AIP funds, the FAA needs to issue a FONSI (Finding of No Significant Impact) concerning the runway's environmental consequences. The scope of the Environmental Assessment supporting the FONSI should include the realignment of Taxiway A and could include the extension and strengthening of Runway 13-31, as well as the new crosswind runway. If the Runway 13-31 improvements begin more than three years after the Environmental Assessment is prepared, the Environmental Assessment will need to be reviewed and possibly amended. However, an important advantage of addressing both runways in the Environmental Assessment is that noise modeling can address the larger aircraft that the extended Runway 13-31 will handle. Preparing noise contours soon will help assure that future development around the Airport is compatible with aircraft noise.

If the runway improvements are funded by HSLD then transferred to the City to become part of the Airport, the FAA still recommends the preparation of an Environmental Assessment before construction.

Acquire Land for Crosswind Runway and Primary Runway Extension

Land acquisition of approximately 300 acres includes land within Building Restriction Lines (BRL) and within Runway Protection Zones (RPZ) that extend beyond the existing Airport property. Generally, the BRL is the setback from the runway where a building or object could be up to 35 feet higher than the runway and not be hazardous to aviation. The land to be acquired is now owned by HSLD.

Design and Construct Taxilanes for T-Hangars

New 25-foot wide taxilanes, meeting standards for Airplane Design Group I (maximum 49-foot wingspan), will be needed for the relocated south T-hangar and for a new 12-unit T-hangar. The taxilanes will connect to Taxiway A.

Design Taxiway A Realignment

Most of Taxiway A pavement is 34 years old, in poor condition, and should be reconstructed. The reconstructed taxiway should be located parallel to Runway 13-31 and separated from the runway by 400 feet, as required for ARC C-III. The taxiway strength should be 95,000 pounds to serve the aircraft ultimately using the runway. The Environmental Assessment for Airfield Improvements programmed for the previous year should include Taxiway A Realignment. An environmental finding of no significant impact or categorical exclusion for the taxiway is required before this project can begin.

Construct New T-Hangar Bank

Based on the projected increase in based aircraft, a new bank of T-hangars is needed in the nearterm future. T-hangars are ineligible for federal and state funding, so City or private funds will be required. The T-hangar bank will be located in the land use area designated for small aircraft storage. The taxilane to serve the hangar is programmed for construction in the previous year.

Design New Crosswind Runway

Design of the new paved Runway 7-25 will commence after the benefit cost analysis, environmental assessment, and land acquisition.

Realign Taxiway A

This is the construction phase of the project designed in the previous year.

Relocate South T-Hangar Bank

An existing bank of T-hangars is located near the threshold of dirt Runway 29. Since Runway 29 will be closed eventually, the T-hangar will be relocated next to existing T-hangars for better access to the runways. Further, the T-hangar is located in the land use area reserved for large aircraft and aviation-related business development. Removing the hangar will free up land for new development.

Remove/Mitigate Old FAA Buildings

Five buildings remaining from the former Flight Service Station are in poor condition and should be removed to free land for other development in the terminal area. The buildings contain asbestos, so will require demolition techniques appropriate for asbestos removal. In addition, one building contains the electrical vault and another contains the water well and treatment equipment. A replacement structure should be built for the well and a temporary electrical vault should be built, until a new vault for the expanded airfield is built.

Assess/Replace AF Fuel Storage Tank

The fuel storage tank used by the U.S. Air Force up until 1999 needs to be removed or rehabilitated since it does not meet current EPA standards. The current location of the storage tank is inside a land use area designated for large aircraft and aviation-related business development. Removal of the storage tank will allow this area to be prepared for development. If not reusable, a new jet fuel storage tank will be installed in the fuel farm, and the Air Force tank will be removed.

Construct Crosswind Runway Phase I

The first phase of new Runway 7-25 construction will be grading and drainage.

Access Road and Parking

The access road from Highway 181, Airport Road, should be improved and aligned to provide a straight-in drive to the terminal area. Two paved ancillary roads should branch off Airport Road to the northwest for access to the small aircraft storage area and to the southeast to serve the large aircraft/aviation business-related area. Terminal area auto parking should be paved and marked.

ASOS Relocation

The automated surface weather observing station (ASOS) should be relocated since it has been experiencing interference with nearby parked aircraft on the corporate apron as well as the old FAA Flight Service Station buildings. Further, the existing ASOS location is where the apron should expand in the future. A new location on the other side of the runway should protect the integrity of the weather data collection process.

Construct Crosswind Runway Phase II

The second phase of new Runway 7-25 construction will be the paving, marking, and electrical work to make it operational.

GA Terminal

The existing terminal facility is inadequate in size and condition and should be replaced. While HSLD has plans to build a modular terminal on a land lease, no lease has been executed at the time of this writing. Consequently, the cost of a GA terminal is listed in Table 5A as a local cost. For the cost, a minimum size of 1,500 square feet and modular/pre-engineered construction is assumed.

Longer Term Projects

Table 5A presents a capital improvement program only through 2014. Projects projected to be needed in the longer-term future include the following:

• Install new perimeter fencing where existing dirt runways will be closed, after new paved Runway 7-25 is built.

- Extend, widen, and strengthen Runway 13-31; install ODALS to support instrument approach improvement. Runway 13-31 was originally constructed in 1975 and has had pavement maintenance projects to keep it usable. However, the pavement needs to be reconstructed since the original pavement has exceeded its life cycle. Considering long-term cost efficiency, the runway should be strengthened to 95,000 pounds at the same time it is reconstructed to meet its ultimate proposed pavement strength. The runway should ultimately meet ARC C-III, which will require widening from 75 to 100 feet. Extensions at the north and south ends will bring the runway from 7,200 feet to an ultimate length of 9,150 feet.
- Extend water and sewer utilities to the Airport.
- Construct a heliport when the existing apron becomes too crowded with fixed wing aircraft parking. Various rotorcraft are using the Airport today with the Osprey being the largest. For planning purposes, transient helicopter parking should accommodate up to heavy helicopters. The Osprey has a width of 84 feet 7 inches and has a maximum takeoff weight of 60,500 pounds. Because a minimum separation distance of 700 feet between the heliport and runway is required to permit simultaneous operations, it is assumed helicopters will continue to operate in the fixed wing aircraft approach and departure pattern. Parking positions for at least two helicopters should be included.
- Extend the apron westward to accommodate future transient aircraft parking. Removal of the existing ASOS is needed before this can occur. An unpaved overflow parking area may suffice for peak conditions. While the existing apron serves the average peak activity levels, special events bring in a large number of people. For this reason, the Airport requires overflow parking for aircraft. Future events such as those tied to the Motorplex, Spaceport America, golf tournaments, aircraft fly-ins, and other tourist events will require overflow parking.
- Build and/or accommodate the construction of additional hangars for based and transient aircraft.
- Accommodate the construction of facilities for aircraft maintenance and repair businesses, flight schools, air cargo, and similar businesses, as demand requires.
- Make improvements required for Part 139 certification when required by scheduled commercial service in jet aircraft or other aircraft with more than 10 seats. These improvements include aircraft rescue and firefighting, expanded terminal, and more sophisticated security provisions.
- Construct a light sport runway, when the primary and secondary runways become so busy with higher performance aircraft that a separate runway is justified for safety and capacity reasons.

• Construct an air traffic control tower; annual aircraft operations will likely need to grow well past 100,000 before a tower operated by the FAA would be justified.

FUNDING SOURCES

The Airport Improvement Program was established in 1982 and has been amended several times. The most recent amendment expired September 30, 2007. Since then, the FAA has been operating on six-month extensions. Congress is considering a new bill, the FAA Reauthorization Act of 2009, which would not greatly affect the amount or method of funding capital projects at airports like Truth or Consequences. However, the bill is not yet law and may change considerably before it becomes law.

Under the current authorization, the AIP provides up to 95% federal funding for most eligible improvements at public-use airports, such as Truth or Consequences Municipal, that are in the National Plan of Integrated Airport Systems (NPIAS). Eligible projects include those that preserve or enhance the safety, security, or capacity of the national air transportation system and that reduce or mitigate aircraft noise impacts. Eligible projects must be shown on a current Airport Layout Plan (ALP).

The other 5% of improvement project funding is typically split between the local sponsor (City of Truth or Consequences) and the State, through a grant program administered by New Mexico Department of Transportation Aviation Division. The State can also issue grants for projects without federal participation, with variable matching amounts from the local sponsor, but usually 50%.

Under the current authorization, the AIP provides entitlement grants to airports like Truth or Consequences through non-primary entitlements (\$150,000 per year) and state apportionment. The FAA also provides discretionary grants, over and above entitlement funding, to airports for projects that have a high federal priority. The amount available for discretionary grants differs based on annual Congressional appropriations; some years there has been no funding for discretionary grants.

If the non-primary entitlements continue at current levels through 2014, the Airport can only be assured of \$750,000 of federal funding, far less than the nearly \$11 million of federal funding shown in Table 5A. If the Airport begins receiving scheduled commercial service in the future and has more than 10,000 annual passenger boardings, the federal entitlement would increase to at least \$1,000,000 annually. With commercial service at the Airport, the City would also be able to enact Passenger Facility Charges (PFCs). The PFC limit now is \$4.50 per passenger boarding, but may be raised in the future. In the case of relatively low numbers of passengers, the City may choose not to enact PFCs, which must be administered by the airlines and which raise the cost of airline tickets, creating a potential disincentive for successful airline service.

Other sources of funding capital improvements at airports are general obligation bonds, revenue bonds, excess airport revenue, City general funds, and special federal and state legislative appropriations.

The City has issued revenue bonds for hangar construction in the past, using the rent for the leased hangar units to pay back the debt. In the current economic recession, the City may decide to reserve its bonding capacity for other public works projects. The economic times are also not favorable for spending much from the City's general fund, nor does the balance of airport revenues vs. expenses provide a large source of money for airport improvements compared to the \$1.1 million of local funding shown in Table 5A.

Special federal appropriation may be harder to acquire than special state legislation. The State's support for selling land to HSLD is an indicator of state support for economic development around the City and Airport.

The limitation of public funding sources for the improvements planned for the Truth or Consequences Municipal Airport makes the potential of private funding by HSLD very attractive. However, the agreement with HSLD must be worked out with FAA concurrence, and must account for the restrictions that exist on Airport property and the AIP grant assurances the City has made.

Without private funding, the five-year improvement program for the Airport, particularly the construction of the crosswind runway, will likely be delayed. If private funds do not become available, the City will need to pursue AIP discretionary grants and other funding sources vigorously.

AIRPORT LAYOUT PLAN (ALP)

An Airport Layout Plan (ALP) drawing set has been prepared for the Truth or Consequences Municipal Airport. The ALP is a graphic depiction of the existing and proposed facilities at the Airport. The proposed improvements are based on the preferred development alternative. Although the timeframe for the Action Plan is only five years, projects envisioned for the ultimate airfield development are shown.

Since the Airport is included in the NPIAS, the FAA must review and approve the ALP drawing. Further, future development must be reflected on a FAA-approved ALP before the improvements are eligible for federal funding. Therefore, any future changes to development plans should be incorporated into an updated ALP drawing and submitted to the FAA.

At the end of this chapter is a reduced version of the ALP drawing set. It was prepared using guidance from FAA Advisory Circular 150/5070-6B, *Airport Master Plans*, Appendix F. At the time of final report publication, the FAA was still reviewing the ALP drawing set, particularly the 22 acres (was that the amount) that had been leased from the State of New Mexico for the last runway extension and is now the property of Hot Springs Land Development.

The Airport Layout Drawing shows a plan view of existing and future facilities. FAA-required data in support of the ALP drawing includes the Airport Data Table, Runway Data Table, and the All-Weather Wind Rose. A table listing the top elevations of structures on the Airport is also included. While some of the data in the tables is already illustrated directly on the drawing, the data tables provide a more formal and organized presentation of information that is significant to the FAA and helps streamline their review and approval process.

The Airport Data Table includes general airport information such as airport elevation, airport reference point (ARP) coordinates, the mean maximum daily temperature in the hottest month, and the airport reference code (ARC).

Runway-specific information is presented in the Runway Data Table. Examples include runway end elevations, approach categories, aircraft design groups, runway dimensions, runway surface and pavement strengths, runway instrumentation, approach aids, runway safety area dimensions, and runway protection zone dimensions.

The all-weather wind rose depicts the runway orientation on a compass and includes, by compass sector, the frequencies at which winds in a given velocity range occur. A wind coverage table accompanies the wind rose to identify the wind coverage for individual and combined runways at varying wind speeds that are important to varying sizes of aircraft.

The Airspace Drawing is prepared in accordance with 14 CFR Part 77, *Objects Affecting Navigable Airspace*, which defines a set of "imaginary surfaces" that should be protected from obstructions to air navigation, when possible. The Airspace Drawing omits the four dirt runways that will be closed after new Runway 7-25 is built. The Airspace Drawing shows the imaginary surfaces for ultimate length and instrumentation of Runway 13-31, which will become 13L-31R

when the light sport runway is built, proposed Runway 7-25, and proposed runway 13R-31L, the light sport runway. The "imaginary surfaces" depicted in the Airspace Drawing include:

- Primary Surface
- Approach Surface
- Horizontal Surface
- Transitional Surface
- Conical Surface

For paved runways, the primary surface extends 200 feet beyond each runway end. The primary surface is at the same elevation as the runway and is longitudinally centered on the runway. The primary surface width is 500 feet for Runways 13L-31R and 7-25 and 250 feet for Runway 13R-31L, which will be a visual, utility runway serving airplanes of 12,500 pounds maximum takeoff weight.

From the end of the primary surface at each runway end, the approach surface begins. The approach surface is longitudinally centered on the extended runway centerline with an inner width that matches the primary surface width. Then, it extends outward and upward from each end of the primary surface. For Runways 13R and 31L, the approach surface has a 20:1 slope and extends 5,000 feet, as required for visual approaches. The other runway approach surfaces meet nonprecision requirements, sloping upward at 34:1 and extending 10,000 feet.

The horizontal surface is a horizontal plane at 150 feet above the airport elevation. The horizontal surface is defined by a set of 10,000-foot arcs from the outer ends of the primary surfaces of Runways 13L-31R and 7-25.

The transitional surface is an inclined plane with a slope of 7:1 extending upward and outward from the sides of the primary and approach surfaces. The transitional surface ends where it intercepts the horizontal surface or any other surface where a more restrictive elevation is intercepted. The transitional surface is often used to help determine where a building restriction line should be defined and to what height buildings should be permitted. The FAA has indicated that the transitional surface can also be used as a screening tool to determine if existing or proposed buildings should be further evaluated for impacts to the airfield. For example, a building that obstructs the transitional surface may potentially remain if it still clears the more critical obstacle free zone (OFZ), which is described in Chapter 3.

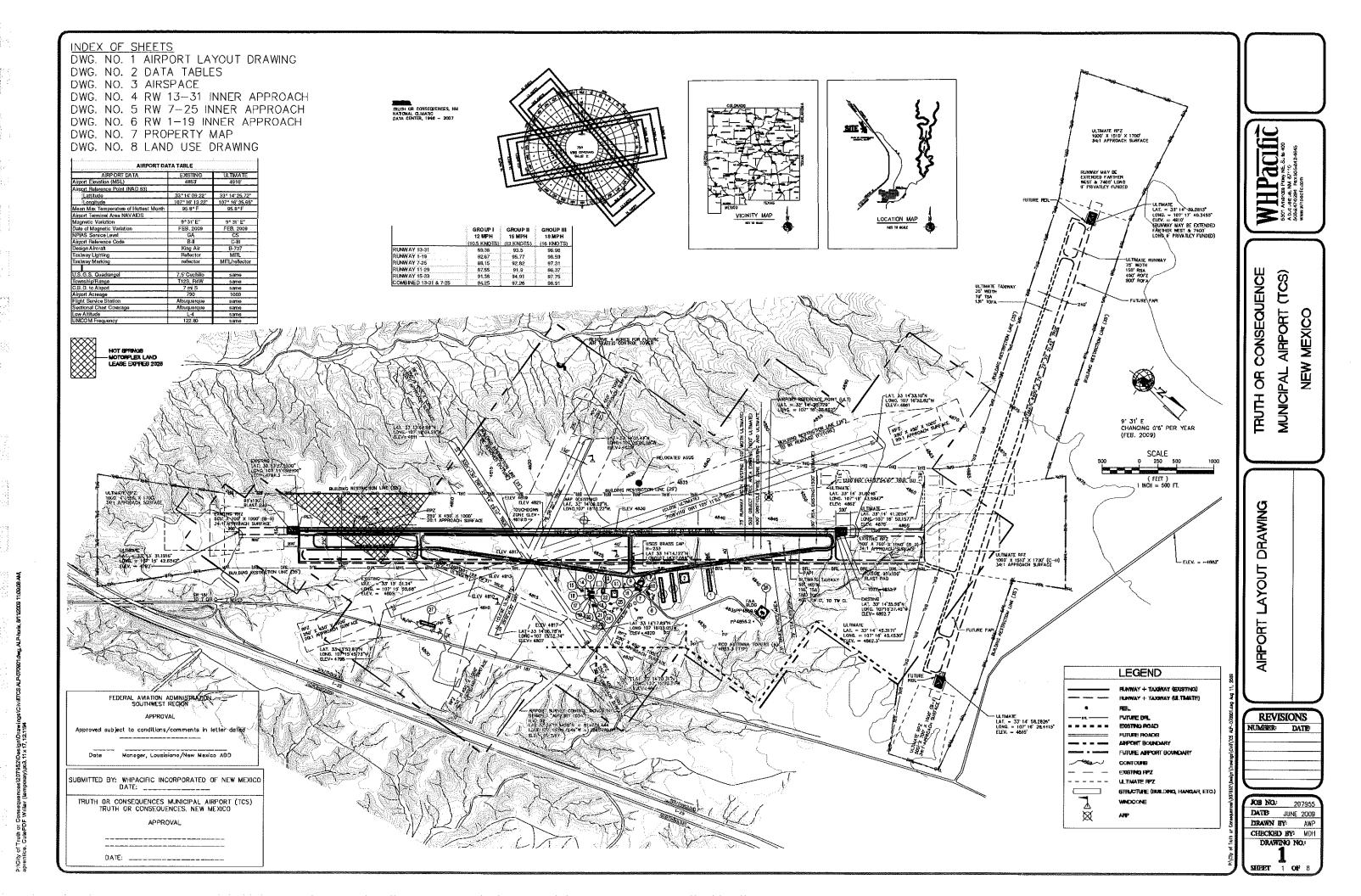
The conical surface is an inclined plane extending upward and outward from the outer boundary of the horizontal surface at a slope of 20:1 for a horizontal distance of 4,000 feet.

Inner Approach drawings present profile views of the portions of the approach surfaces that are closest to the runway ends. In addition to the Part 77 approach surfaces, the drawings show approach slopes required by Advisory Circular 150/5300-13, Appendix 2, which relate to clearances required for instrument approaches.

The Airport Property Map for Truth or Consequences Municipal Airport identifies the existing airport ownership (by the City), existing easements and leases, and proposed land acquisition.

The Land Use Drawing shows the planned ultimate uses of Airport property:

- Airfield Operations includes the land within the BRL for the three ultimate runways. It also includes a location for a future heliport, which will be accessible from the airside and the landside, but where terrain makes fixed wing hangar development difficult. Sufficient land buffer is needed around the heliport to protect fixed wing aircraft from rotorwash. The Airfield Operations Land Use also includes a site for a future air traffic control tower. Road access to the tower, planned for the west side of the airfield, should be from off-airport via a canyon road planned by HSLD. The proposed location would allow controllers to see all runway ends, approaches/departures, and taxiing aircraft, and views into the sun would be minimized. The location would also keep the tower from penetrating Part 77 imaginary surfaces and would facilitate security.
- Small Aircraft Storage includes most existing hangars. It is located near the future crosswind and light sport runways, since smaller aircraft will be the predominant users of these runways. Most of the hangars and taxilanes in this area should be designed to serve Airplane Design Group I aircraft (maximum 49-foot wingspan).
- Terminal Area includes current and future terminal, restrooms, and aprons. The Terminal Area land use provides for considerable future expansion and is the focus of the proposed new Airport entrance road.
- Large Aircraft/Aviation Related Business includes land for large corporate hangars, repair and maintenance businesses, air cargo, aircraft manufacturing, etc.
- Aviation Related Business –includes commercial and industrial facilities related to aviation, but not requiring aircraft access, since this land is across Highway 181.
- Aviation Compatible Commercial includes land for facilities such as office, hotel, restaurant, gas station, convenience store, etc., that do not require aircraft access but are associated with airport use and compatible with aviation noise. The City should develop design guideline to ensure these facilities at the airport entrance are attractive looking.



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								RUNWAY DATA TABLE						
	Runwey 13-31	Runway 13L-31R		NEW Runway 7-28		DIRT Runway 7	-25	Runway 11-21		Bunway 15-	13	Runway 1-19		NEW Runway 13R-31L
RUNWAY DATA	Existing	Ultimate	Existing	Uitimate	1.19	Existing	Ultimate 🕅	Existing	Uttimate	Existing	Ultimate	Existing	Ultimate	Ultimate
					ss i gs		CLOSE		CLOSE		CLOSE		CLOSE	
fective Gradient (%)	0.81	0,89	- <u>1</u>	0.65%		0.77		0.43	100	0.32		0.84		
ax. Elevation (MSL)	4852.7	4875	- 100			4825								
nway Length	7,200	9,150	-	6,400		2,932		7,108		2900		3301		1,200
nway Width	75	100	- 100	75		130		150		140		130		60
rface Type	PFC/Asphall	PFC/Asphalt	- 188	PFC/Asphalt		Dirt		Dirt		Dint		Dirt		Asphalt
vement Strength	1							×	85					
Single Wheel	12.5K	60K 95K	- <u>-</u>	12.5K	Const.				1					12.5K
Dual Wheel Dual Tandem	30K	95K		60K		NA		NA		NA		NA	1	
Dual landem moach Surface Slope	34:1/34:1	34: 1/34: 1												
roach Sunace Slope	34:1/34:1 1 Mile/1 Mile	34: 1/34: 1 >3/4 Mile/1 Mile	-	34:1/34:1		20:1/20:1		20:1/20:1		20:1/20:1		20:1/20:1		
	PAPI (2)/PAPI (2)	PAPI (4)/PAPI (4)	-	>3/4 Mile/1 Mile		V/V	- 	VN	K	V/V	· · · · · · · · · · ·	V/V		V/V
ual Approach Aids trument Approach Aids	PAPI(2)PAPI(2)	ODALS	-	PAPI (4)PAPI (4) ODALS		none		поле		none		none		none
rument Approach Alos	Mirl	MIRL	-	MIRL	1000				K		-			
nway Lignung	NP/NPI	NPVNPI		NPI/NPI		none		none		none		none		Reflectors
oort Reference Code (ARC)	B-II	C-III	-	B-II		none		none A-I Small Aircraft		none	· · · · · · · · · · · · · · · · · · ·	hôhe		
ical Aircraft	King Air	Boeing 737	-	B-II Citation Jet It	1000	A-I Small Aircraft		Cessna 180		A-I Small Aircraft		A-I Small Aircraft		A-1 Small Aircraft
way Object Free Area (ROFA)	Kung Au	Buenig 737	-	Citation Jet it	-	Piper Cub		Cessha 180	(iii	Cessna 180		Cessna 180		Piper Cub
Length Beyond Runway	300	1,000	-	300		240		040						
Width	500	800	-	500		240		240		240		240		240
way Safety Area (RSA)		000	-	5007		250	-	200		250		250		250
Length Prior to Landing Threshold	300	600		300		240	- I	240		240				
Length Beyond Runway End	300	1 000	-	300		240		240		240		240		240
Width	150	500	-	150		120	6000	120		240	-l··· 🔘	240		240
way Obstacle Free Zone (OFZ) Width	400	400	-	400		250		250		250		250		120
t 77 Category	C/C	C/D	-	C/C		200		A/A		230 A/A		250 A/A		250 A/A
way End Coordinates (NAD 83)			- Billion -	0,0	0124192						1 6850	AVA		AVA
Lattitude	N33° 14' 37.78"/N33° 13' 39.83"	N33" 14' 45.31'/N33" 13' 31.19'	-	N33° 14' 39.3813"/N33° 14' 58.28"	7555233	N33° 14' 03.65"/N33° 14' 09.01"		N33* 14' 35.31"/N33* 13' 55.11"		N33" 14' 17.69"/N33" 13' 51.24"		N33" 13' 49.86"/N33* 14' 20.31"		N33* 14' 41 3054"/N33" 14' 31 62"
Longitude	W107* 16' 27.87"/W107* 15' 38.57"	W107° 16'45 45"/W107° 15' 42 63"	-	W107° 17' 40,3455"/W107° 16' 28,44"		W107" 16' 16.78"/W107" 15' 43.24"	•	W107" 16' 43.33"/W107" 15' 36.22"		W107* 16' 03.055"AV107* 15' 55 6	o-	W107° 16' 04.29"/W107° 15' 50.2		W107" 16' 52: 15"/W107" 16' 43,9847"
way End Elevations (MSL)	4852.7'/4794.3'	487574801	- 100	4910/4865'		4825/4807		4961/4798	1	4820/4805		4811/4817		4865/4862
placed Threshold Elevation (MSL)			-						1 1	102211000		4010461/		400314002
Elevation (MSL)	4852.7'/4819.5'	487574793'	- 188	4910/4884'		4825/4825		4961/4930	1 8	4820/4820		4817/4817		· ·
way Protection Zone			-						1 1		-1	10000		
Length	1,000	1,700	- 18	1,700		1.000		1,000	1 🛛	1.000		1.000	<u> </u>	1,000
Inner Width	500	1,000	- 18	1000		250		250		250		250		250
Outer Width	700	1,510	- 18	1510		450		450		450		450		450
Central Portion of the RPZ			-				1 1000		2					-100
Width	500	1,000	- 18	1000	123	250		250		250		250		250
Length	1,000	1,700	- William	1,700		1,000		1,000	1	1,000		1,000		1.000
way Width	36	50	- 1	35		none		hóhe		none		hone		25
way Salety Area (TSA) Width	79	118	- 1	79		none		none		none		none		
iway Object Free Area (TOFA) Width	131	186		131		none		hohe	8	none		hone		1
ding Restriction Line (BRL)			- 10											n f ar
Height at BRL	35	35	-	35		35		35		35		35	,	35
Distance from Runway Centerline	495	495		495		370		370		370		370		370
rument Approach Procedures	RNAV(GPS)-A, VOR-A	RNAV(GPS)-13/31 /AVP-RNP	- 18	RNAV(GPS)-7/25 /AVP-RNP										
roach/Departure Surfaces (AC 150/5300-13, endix 2 Table A2-1 rows)	Rows 1-5	Rows 1-5 / Rows 4-9	-	Rows 1-5 / Rows 4-9		Rows 1-2		Rows 1-2		Rows 1-2		Rows 1-2		Rows 1-2

EXISTING AIRPORT FACILITIES DATA TABLE					1
#	FACILITY NAME	Ground Elevation	ļ	FUTURE	
1	AUGIE HANGAR	4845	#	Facility Name	Top Elevation
2	LAFONT CORPORATE HANGAR	4837		TERMINAL	
3	North "White" T-Hangar	4840		ELECTRIC VAULT	
4	SOUTH "RED" T-HANGAR	4840	С	NEW FUEL STORAGE	
	FUEL FARM				
6	MOBILE HOME	4844			
7	RESTROOMS	4838			
8	TERMINAL	4838			
9	POLE				
	PHILLIPS 66 SIGN				1
	GRAY HANGAR (PIPPEN)	4036			1
	FIRE STATION	4836			
	ELECTRICAL VAULT (OLD FAA BLDG.)	4829			
14	WEST WEATHER OBSERVATION PLATFORM	4829			
	ASOS @ TOWER	4829	1		
16	STORAGE (OLD FAA BLDG.)	4828			
17	EAST WEATHER OBSERVATION PLATFORM	4832			
18	WELL ELECTRIC (OLD FAA BLDG.)	4840			
19	WELL	4832			
	WATER METER				
	GENERATOR BLDG. (OLD FAA BLDG.)	4838	Ι		
22	WATER PRESSURE TANK (OLD FAA BLDG.)	4840			
23	ROTATING BEACON @ CENTER	4835			
24	FAA SENSORS (OUT OF COMMISSION)	4832	1		
25	FUEL TANK (OLD AIR FORCE)	4829	1		
26	FAA RCO (AUTOMATED STATION)	4651	1		
27	GRAY T-HANGAR (OLD)	4817	<u> </u>		

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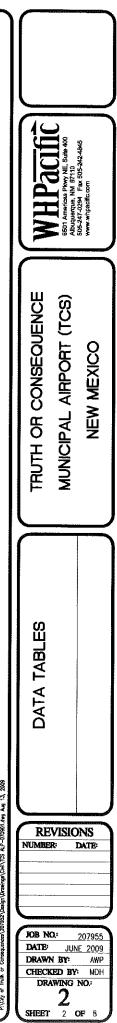
NOTE: AF FUEL STORAGE & OLD FAA BUILDINGS (TO BE REMOVED) EXCEPT WELL/TREATMENT BUILDING.

NON-STANDARD CONDITIONS

1, BUILDINGS IN RUNWAY VISIBILITY ZONE, CONDITION WILL BE MITIGATED WHEN DIRT RUNWAYS CLOSED

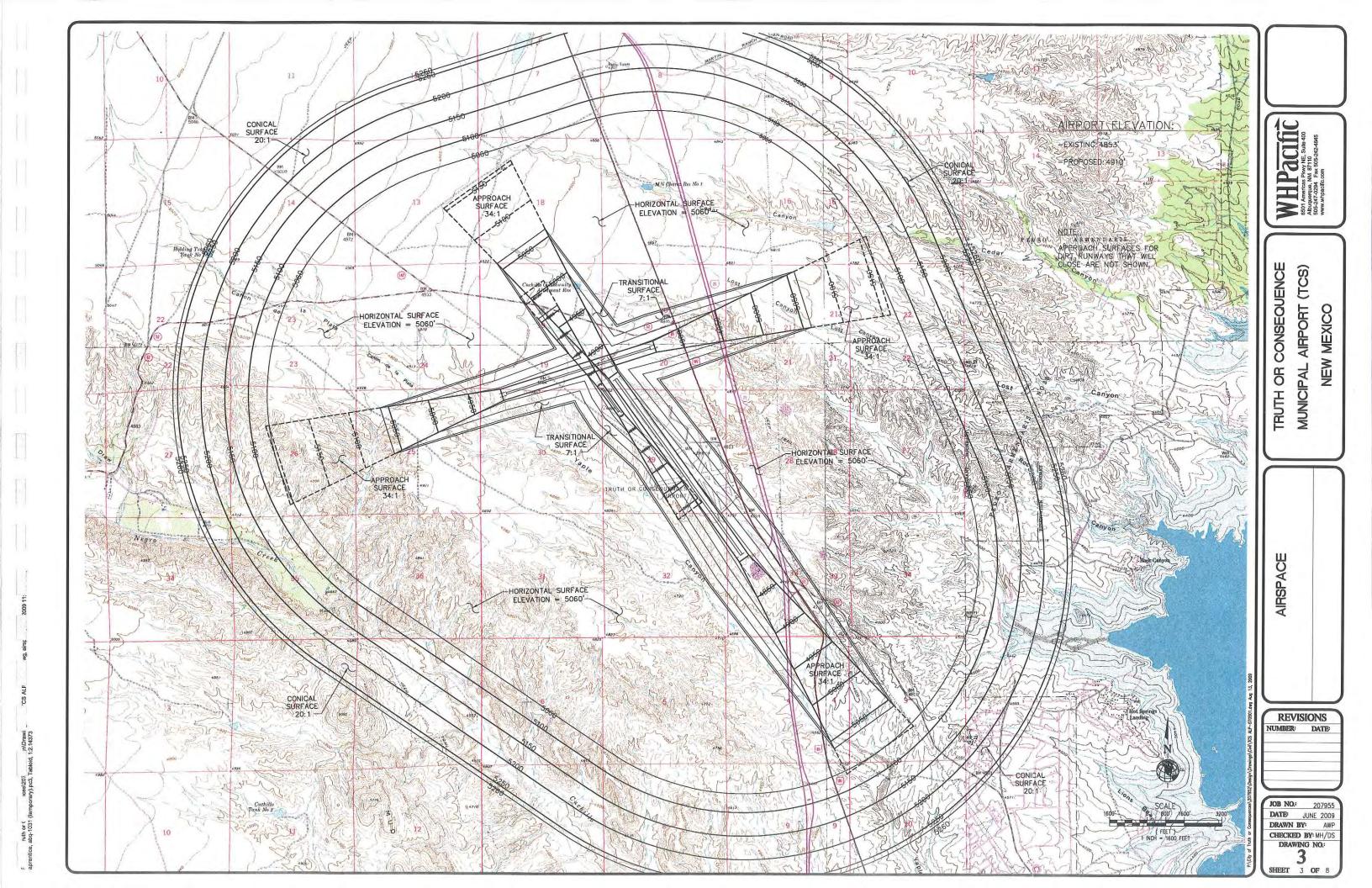
NOTES:

UNPAVED RUNWAYS NOT CLOSED UNTIL NEW PAVED 7-25 OPEN.
 NEW RUNWAY 7-25 MAY BE LONGER & STRONGER IF PRIVATELY FUNDED.

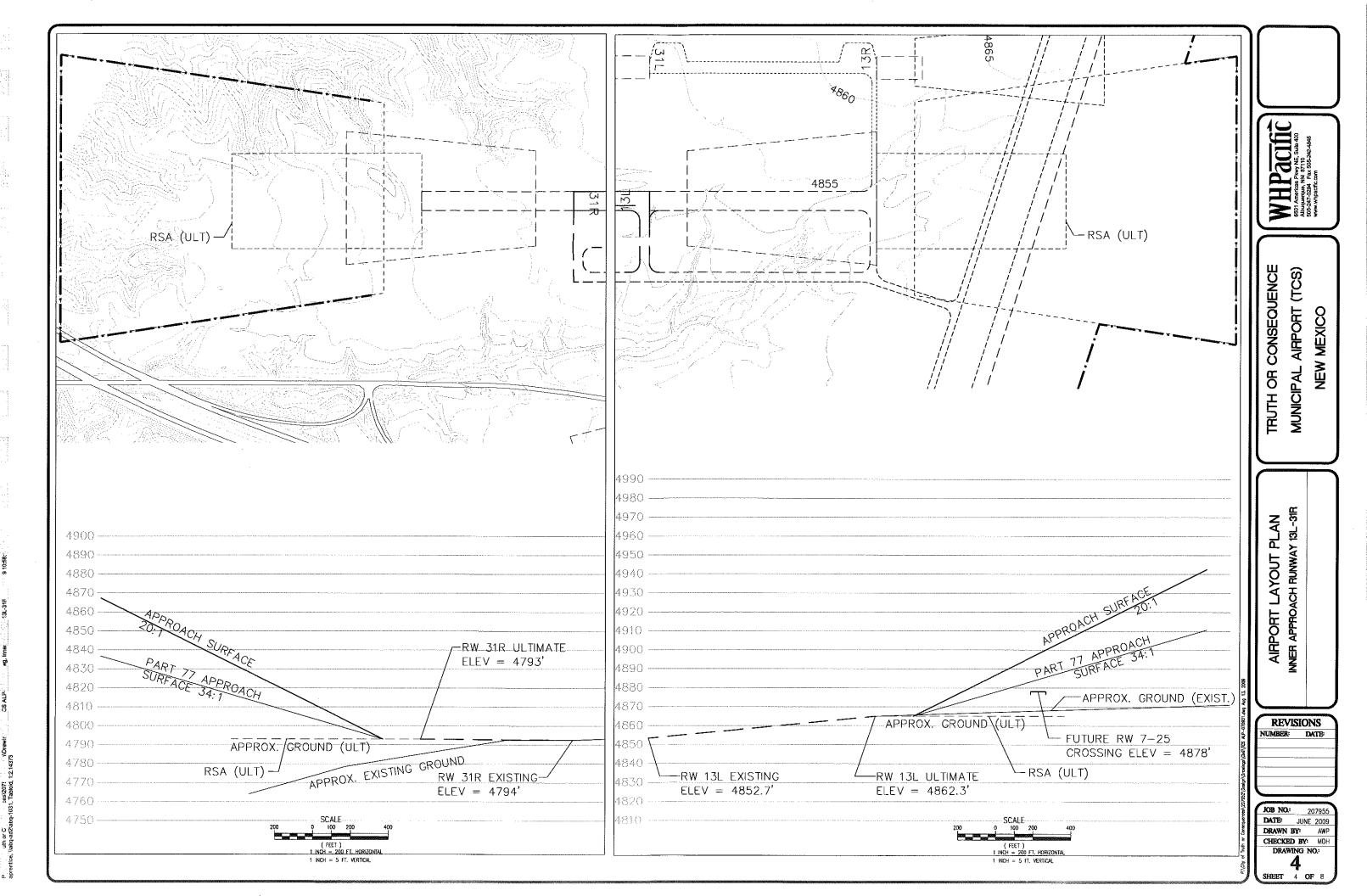


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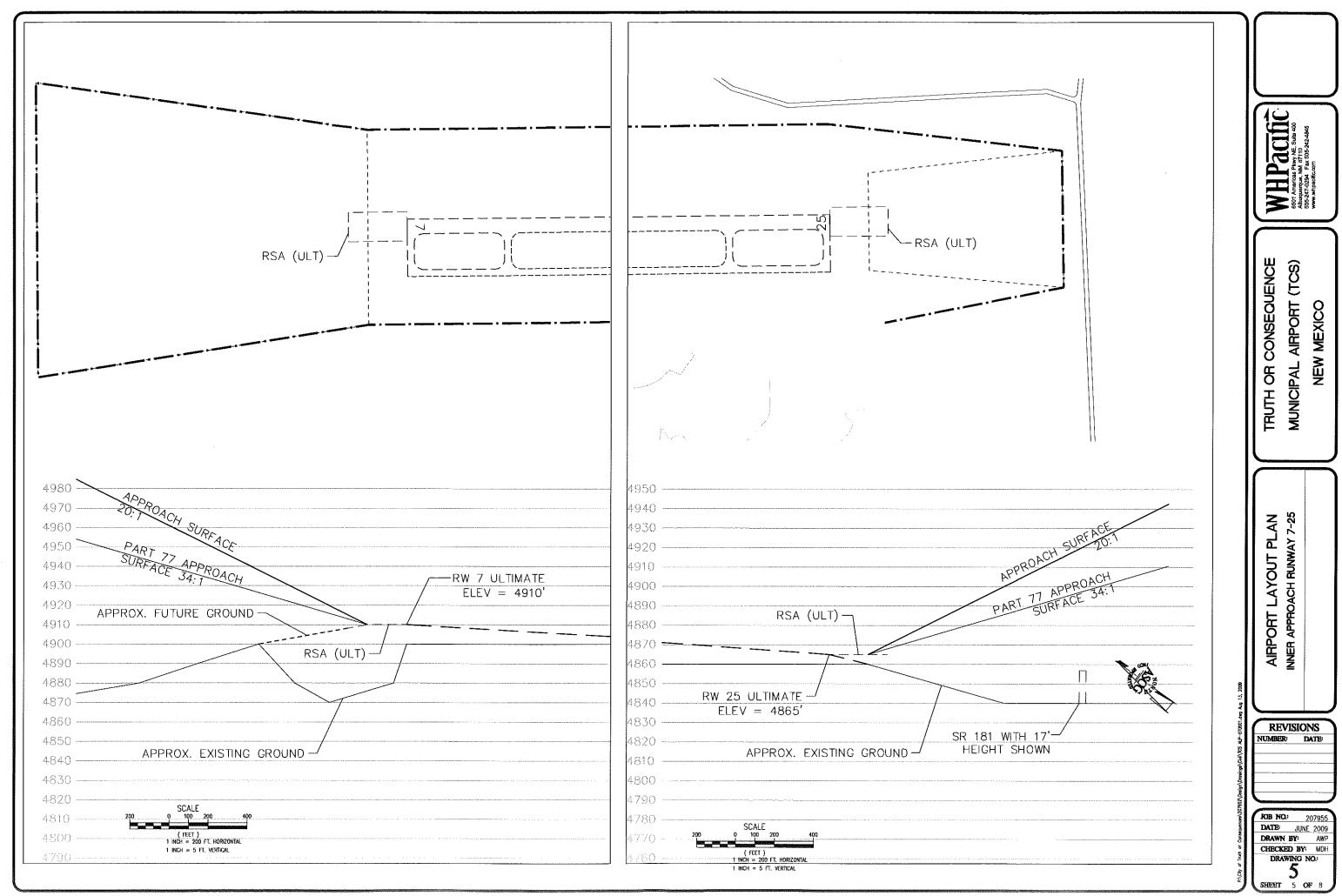
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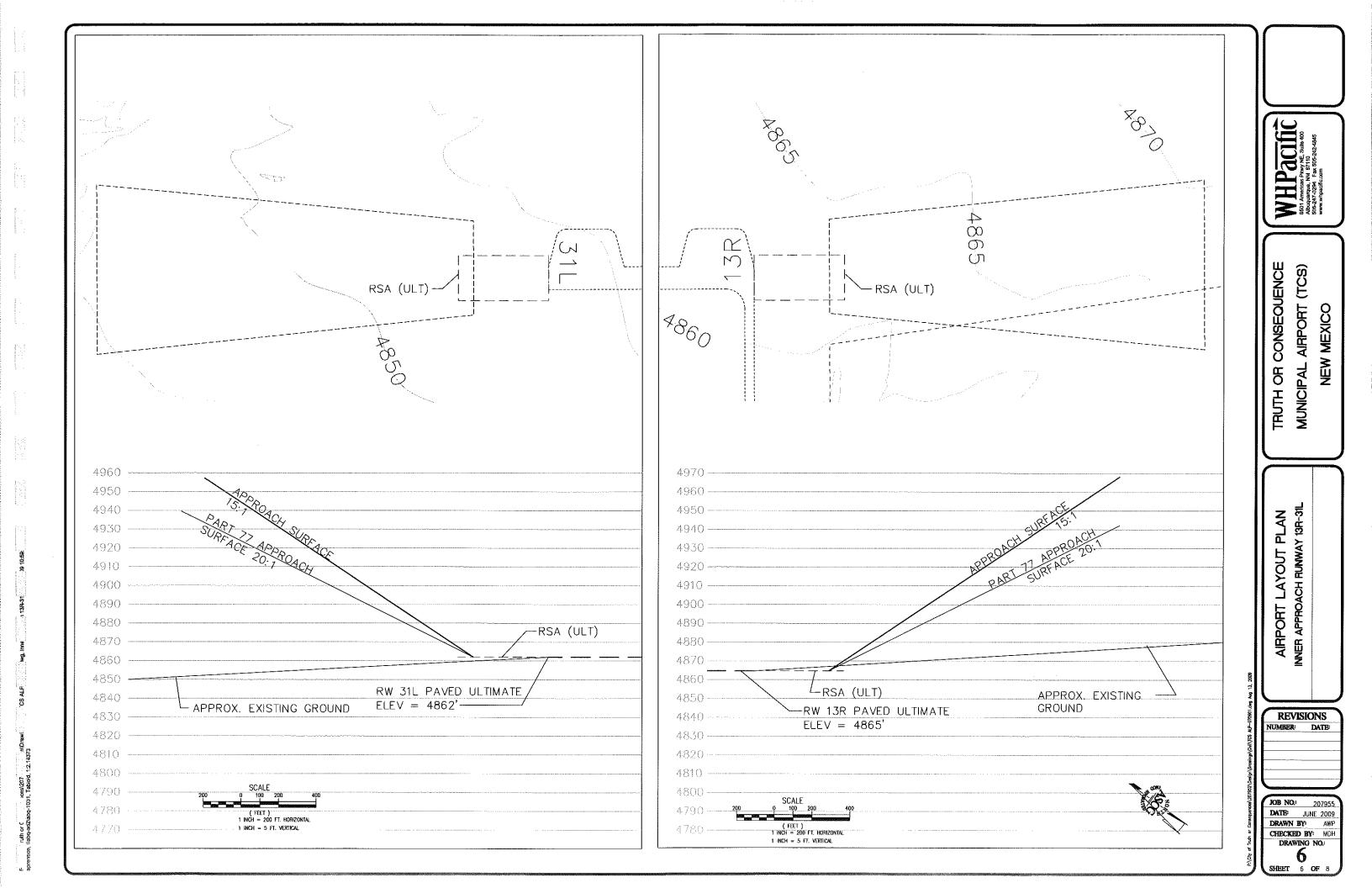


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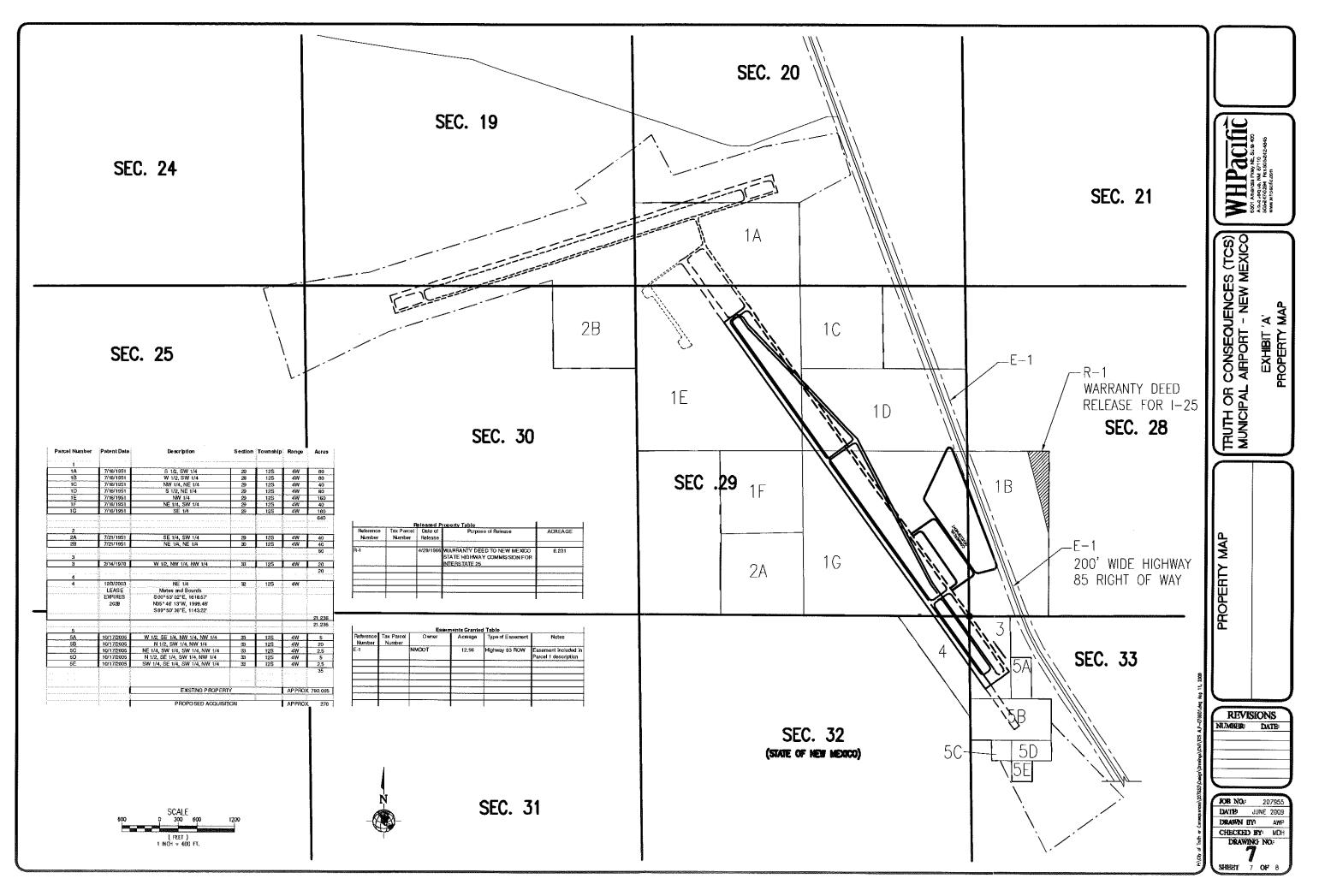
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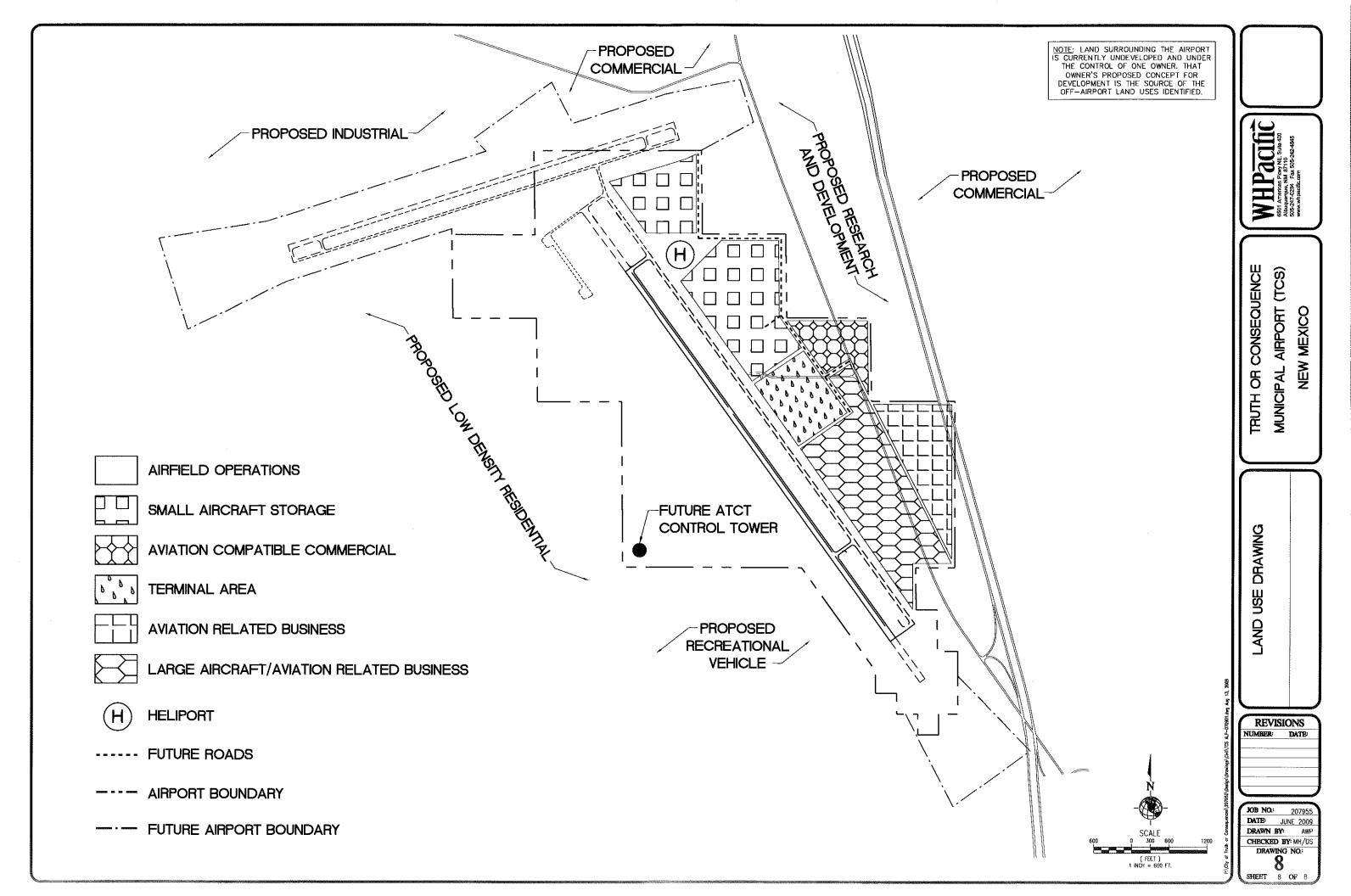


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REQUEST FOR PROPOSALS FOR PROFESSIONAL SERVICES

RFP: 21-22-009



Project Name:

Engineering Services for Truth or Consequences Airport Improvements Amendment #2 June 8, 2022

Contracting Agency:

City of Truth or Consequences 505 Sims Street Truth or Consequences, New Mexico 87901

> Telephone: [**575**] **894 - 6673** FAX: [575] 894 - 0363

Funding Type: Federal, FAA, State, & Local

NOTICE OF REQUEST FOR PROPOSALS

Competitive sealed proposals for services will be received by the Contracting Agency, the City of Truth or Consequences for **RFP: 21-22-009**

The Contracting Agency is requesting qualifications-based proposals for **Professional Engineering Services for Truth or Consequences Airport Improvements.**

Proposals will be received at the Office of the Procurement Officer, City Hall 505 Sims Street, Truth or Consequences, NM 87901 June 16, 2022 at 2:00 p.m.

Copies of the project description, scope of work, qualifications, and method of selection are available at the of the Procurement Officer, City Hall 505 Sims Street, Truth or Consequences, NM 87901 or will be mailed upon written or telephone request at **575-894-6673 ext. 309**

A Pre-Proposal Conference [X] will [] will not be held on June 03, 2022 at 10:00 am at the City of Truth or Consequences Airport located at HWY 181 North, Truth or Consequences, NM 87901.

Chief	Procurement	Officer
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Date: May 09, 2022

	[for Contracting Agency's Use Only]	
Newspaper:	Publish:	P.O. No
Newspaper:	Publish:	P.O. No
Newspaper:	Publish:	P.O. No

[Note: This Notice is issued pursuant to the requirements of §13-1-104 NMSA 1978 and must be published not less than 10 days prior to the date set for the receipt of proposals (§13-1-113) and published in a newspaper of general circulation in the area.]

THE CITY OF TRUTH OR CONSEQUENCES, NEW MEXICO REQUEST FOR PROPOSALS (RFP) PROFESSIONAL ENGINEERING SERVICES INSTRUCTIONS AND CONDITIONS TO OFFERORS

A. Project Description

The City of Truth or Consequences is soliciting qualification and experience information to be used in selecting principal consultants to provide planning and/or engineering services for the following potential projects at the Truth or Consequences Municipal Airport.

The City of Truth or Consequences plans to award a one-year contract with possibly three (3) one Year renewals for the engineering services for any and all engineering projects subject to Federal Assistance under the Airport and Airway Improvement Act of 1892 as amended. Contemplated Projects under this contract may include:

Rehabilitate Taxiway A (RS TW IM) (Preservation) Environmental Assessment for Airfield Improvements BIL – Rehabilitate Apron (RS AP IM) (Preservation) Rehabilitate Runway 13/31 (RS RW IM) (Preservation) Airfield Pavement Maintenance Runway Safety Area Grading (SA RW SF) Replace ASOS with AWOS Update ALP/Action Plan or Master Plan Environmental documentation for projects Fuel Farm Improvement Add: Moving of the entry gate to further north of the fence line

The above-contemplated projects are dependent upon federal AIP funding and State Aviation Division funding and approval of the City of Truth or Consequences, so it shall be understood that some of the services related to the above-listed projects may be deleted and that the City of Truth or Consequences reserves the right to initiate additional services not included in the initial procurement. Services, as outlined in FAA Advisory Circular 150/5100-14E Chapter One, include engineering and planning services for all phases and required incidental services for some or all of the above projects which may be multiple FAA and/or NMDOT - Aviation Division grants funded.

B. Scope of Work

The engineering firm may perform professional services as hereafter stated:

- 1. To develop project plans and specifications for the Truth or Consequences Municipal Airport.
- 2. To apply for federal and state grants for the City of Truth or Consequences to help defray the cost of the engineering services and construction.

- 3. To advertise for bids, receipt of bids, and prepare recommendation of Award to the City of Truth or Consequences.
- 4. General engineering supervision and contract administration during construction.
- 5. Periodic or full-time on-site observation during construction.
- 6. Multi Agency Compliance with rules and regulations.

C. Criteria for Evaluation of Proposals

Selection criteria will include: recent experience in airport projects, capability to perform all aspects of project, reputation, ability to meet schedules within budget, quality of previous airport projects undertaken, familiarity with the project location, understanding of the airport and proposed projects, approach to proposed projects, approach to communication with the owner, and firm personnel qualifications.

Selection criteria contained in FAA Advisory Circular 150/5100-14E Chapter Two and additional City criteria Evaluation Point Summary. The following is a summary of evaluation factors with point value assigned to each. These, along with the general requirements, will be used in the evaluation of Offeror proposals. Short listing - A maximum total of 100 points are possible in scoring each proposal for the shortlist evaluation. The Selection Committee will evaluate the proposals and may or may not conduct interviews with Offerors applying for selection. The evaluation criteria to be used by the Selection Committee for the proposal shortlist and the corresponding point values for each criterion are as follows:

1. Specialized Design and Technical Competence **25** Points Specialized design and technical competence of the business, including a joint venture or association, regarding the type of services required

2. Capacity and Capability

25 Points Capacity and capability of the business to perform the work, including any consultants, their representatives, qualifications and locations, to perform the work including any specialized services, within the time limitations.

- 3. Past Record of Performance 20 Points Past record of performance on contracts with government agencies and private industry with respect to such factors as control of costs, quality of work and ability to meet schedules.
- 4. Familiarity with City of Truth or Consequences Airport 15 Points Proximity to or familiarity with the area in which the project is located. Firm and proposed key personnel's familiarity with the City of Truth or Consequences Airport and its setting. Firm's experience in New Mexico and in dealing with state and federal funding, administrative, and regulatory agencies.
- 5. Approach to Providing the Services 10 Points Evidence of understanding of scope of work, the site, and existing conditions. Firm should describe their approach to providing and managing the anticipated services and projects.

6. The amount of design work that will be produced by a New Mexico business within this state. 5 Points

D. Contractual Terms

The following contractual terms will be included in any contract entered into by the City of Truth or Consequences and the Engineering Firm Selected.

1. Fees

A fee schedule for basic and other services will be negotiated with the engineering firm selected. Specific projects will be negotiated on a task order basis.

2. Funding

This solicitation is subject to the availability of funds to accomplish the work.

3. Termination

This contract may be terminated by either of the parties for upon written notice delivered to the other party at will.

4. Timeliness

All work shall be performed in a timely manner, as requested.

5. Communication with the City of Truth or Consequences

The Engineering Firm shall be required to continuously update the City of Truth or Consequences on the status of projects.

6. Work Stoppage

The Engineering Firm shall not assign, sublet, or transfer their interest in this agreement without the written agreement. If such an assignment is allowed, the Engineering Firm entering into this contract shall be ultimately responsible to ensure that the work is performed satisfactorily.

7. Scope of Contract

This contract incorporates all the agreements, covenants, and understanding between the parties concerning the subject matter of this contract, and all such agreements, covenants, and understandings have been merged into this written contract. No prior agreement, covenant, or understanding, oral or written, of the parties or their agents shall be valid or enforceable, unless embodied into this contract. The City shall not be bound to exclusive use of any contracted party.

8. Amendment

The contract will not be altered, changed, or amended except by written document signed by the parties.

9. Registration

All work shall be under the direction of an Engineer registered by the State of New Mexico.

10. Professional Standards

The engineering firm agrees to abide by and perform its duties in accordance with the ethics of its profession and all federal and state municipal laws, regulations, and ordinances regulation the practice of engineering.

11. Authority to Bind the City

The engineering firm shall not have the authority to enter into any contract binding upon the City or to create any obligations on the part of the City, except such as shall be specifically authorized by the City's representative, acting pursuant to authority granted by the City.

12. Notices

Any notice required to be given under this agreement shall be deemed sufficient if given in writing by mail to the Procurement Officer's office or hand delivered to City Offices.

13. Subject to Other Documents

This agreement is subject to the terms and conditions of the statutes of the State of New Mexico and Ordinances of the City of Truth or Consequences, New Mexico, as they exist at the time this agreement is signed. All of these statutes and ordinances are incorporated by reference into this agreement.

14. Insurance

The engineering firm must hold errors and omissions liability insurance of at least \$1,000,000.

15. Conflict of Interest

The engineering firm warrants that it presently has no interest and will not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of service under this contract.

16. Change Orders

The City of Truth or Consequences retains the unilateral right to order, in writing, changes in the work within the scope of projects.

A schedule of fees will be negotiated with the selected consultant for the services to be performed under the initial NMDOT - Aviation Division or FAA grant.

This contract is subject to the provisions of Executive Order 11246 (Affirmative Action to Ensure Equal Employment Opportunity) and to the provisions of Department of Transportation Regulations 49 CFR Part 26 (Disadvantaged Business Enterprise Participation).

The consultant or subcontractor, by submission of an offer and/or execution of a contract, certifies that it:

- A. is not owned or controlled by one or more citizens or nationals of a foreign country included in the list of countries that discriminate against U.S. firms published by the Office of the United States Trade Representative (USTR);
- B. has not knowingly entered into any contract or subcontract for this project with a contractor that is a citizen or national of a foreign country on said list, or is owned or controlled directly or indirectly by one or more citizens or nationals of a foreign country on said list;
- C. has not procured any product nor subcontracted for the supply of any product for use on the project that is produced in a foreign country on said list.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to a contractor (consultant) or subcontractor who is unable to certify to the above. If the contractor knowingly procures or subcontracts for the supply of any product or service of a foreign country on the said list for use on the project, the Federal Aviation Administration may direct, through the sponsor, cancellation of the contract at no cost to the government.

E. Date and Location for Receipt of Proposals

Proposals pursuant to this request for proposals must be received at;

Kristin Saavedra Chief Procurement Officer 505 Sims Street Truth or Consequences, New Mexico 87901

Five copies of statements, limited to 25 pages, shall be submitted by **2:00 P.M. June 16, 2022.** The outside envelope shall be plainly marked in the bottom left-hand corner "Airport RFP: 21-22-009".

F. Format for Engineering Services Proposals:

- 1. Maximum of twenty (25) pages, excluding title, index, divider tabs, etc., cover or letter of transmittal.
- 2. Front cover with proposal title, date, and firm's name (cannot include any other text); not included in 25-page limitation.
- 3. Back cover without any text; not included in 25-page limitation.
- 4. Bound on left hand margin.
- 5. 81/2" x 11" paper.
- 6. Printed on one side of sheet only.
- 7. Five (5) copies of proposal are required.
- 8. Transmittal letter, if any, not to be included in twenty (25) page limit.
- 9. No other material to be included.

G. Envelopes

Sealed proposal envelopes shall be clearly marked "Airport RFP 21-22-009" on outside of the envelope. This information shall be placed on the lower left-hand corner of the envelope. Failure to comply with this requirement shall result in rejection of the proposal.

H. Award of Contract

The award shall be made to the responsible offeror or offerors whose proposals are most advantageous to the City of Truth or Consequences, taking into consideration the evaluation factors set forth in this request for proposal. After initial ranking of the proposals, at the City's sole option, the City may decide to interview the top two or three ranked firms to develop final rankings or may consider the rankings based on the proposals as being final. The City will undertake negotiations with any finalist firm and make recommendation to City Commission for approval. Selected firm fee negotiations will be completed at convenience of both parties. The City at its sole option may award engineering services contracts to multiple firms and issue task orders per project to the firm of its choice.

Approval will be at the next scheduled meeting of the City Commission of Truth or Consequences following conclusion of firm negotiations.

I. Contact with City Officials or Staff Members

All correspondences regarding the RFP shall be directed solely to Kristin Saavedra, Chief Procurement Officer, 505 Sims, Truth or Consequences, New Mexico, 87901 who can be contacted at (575) 894-6673 ext. 309.

J. Bribery and Kickbacks

As required by Section 13-1-191, N.M.S.A., 1978; it should be noted that it is a third-degree felony under New Mexico law to commit the offense of bribery of a public officer or public employees (Section 30-4-1, N.M.S.A., 1978); it is a third-degree felony to commit the offense of demanding or receiving a bribe by a public officer or employee (Section 30-24-2, N.M.S.A., 1978); it is a fourth-degree felony to commit the offense of soliciting or receiving illegal kickbacks (Section 30-40-1, N.M.S.A., 1978); it is a fourth-degree felony to commit the offense of offering or paying illegal kickbacks (Section 30-40-2, N.M.S.A., 1978).

K. Responsibility of Proposer

At all times, it shall be the responsibility of the Proposer to see that their proposal is delivered to the City by the date and time set for the opening of bids or proposals. If the mail or delivery of said bid proposal is delayed beyond the deadline set for the bid or proposal opening, bids or proposals thus delayed will not be considered.

L. Costs of Preparing and Submitting Proposals

The City will not pay for any costs associated with the preparation or submission of proposals.

INSTRUCTIONS TO OFFERORS

1. DEFINITIONS AND TERMS

1.1 Addendum: a written or graphic instrument issued prior to the opening of Proposals

which clarifies, corrects, or changes the Request for Proposals. Plural: addenda.

- 1.2 **Consultant**: means the Successful Offeror awarded the Agreement/Contract.
- 1.3 **Determination**: means the written documentation of a decision of the procurement officer including findings of fact required to support a decision. A determination becomes part of the procurement file to which it pertains (§ 13-1-52 NMSA 1978).
- 1.4 **Offeror**: any person, corporation, or partnership legally licensed to provide design professional services in this state, who chooses to submit a proposal in response to this Request for Proposals.
- 1.5 **Procurement Manager**: means the person or designee authorized by the Contracting Agency to manage or administer a procurement requiring the evaluation of proposals.
- 1.6 **Request for Proposals**: or "RFP" means all documents, including those attached or incorporated by reference, used for soliciting proposals (§13-1-81 NMSA 1978).
- 1.7 **Responsible Offeror or Proposer**: means an offeror or proposer who submits a responsive proposal and who has furnished, when required, information and data to prove that his financial resources, production or service facilities, personnel, service reputation and experience are adequate to make satisfactory delivery of the services described in the proposal (§13-1-83 NMSA 1978).
- 1.8 **Responsive Offer or Proposal**: means an offer or proposal which conforms in all material respects to the requirements set forth in the request for proposals. Material respects of a request for proposals include, but are not limited to, price, quality, quantity or delivery requirements (§13-1-85 NMSA 1978)
- 1.9 The terms must, shall, will, is required, or are required, identify a mandatory item or factor. Failure to comply with a mandatory item or factor will result in the rejection of the offeror's proposal.

1.10 The terms can, may, should preferable, or prefers identify a desirable or discretionary item or factor.

2. REQUEST FOR PROSAL DOCUMENTS

2.1 COPIES OF REQUEST FOR PROPOSALS

- A. A complete set of the Request for Proposals may be obtained from the Contracting Agency (unless another issuing office is designated in the RFP).
- B. A complete set of the Request for Proposals shall be used in preparing proposals; the Contracting Agency assumes no responsibility for errors or misinterpretations resulting from the use of an incomplete set of the Request for Proposals.
- C. The Contracting Agency in making copies of Request for Proposals available on the above terms, does so only for the purpose of obtaining proposals on the Project and does not confer a license or grant for any other use.
- D. A copy of the RFP shall be made available for public inspection and shall be posted at the Administration Building of the Contracting Agency.

2.2 INTERPRETATIONS

- A. All questions about the meaning or intent of the Request for Proposals shall be submitted to the Procurement Manager or the Contracting Agency in writing. Replies will be issued by Addenda mailed or delivered to all parties recorded by the Contracting Agency as having received the Requests for Proposals. Questions received less than five days prior to the date for opening of proposals will not be answered. Only questions answered by formal written addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- B. Offerors should promptly notify the Contracting Agency of any ambiguity, inconsistency, or error which they may discover upon examination of the Request for Proposals.

2.3 ADDENDA

- A. Addenda will be mailed by certified mail with return receipt requested, by facsimile, by electronic mail, or hand delivered to all who are known by the Contracting Agency to have received a complete set of Request for Proposals.
- B. Copies of Addenda will be made available for inspection wherever Request for Proposals are on file for that purpose.
- C. No Addenda will be issued later than 5 days prior to the date for receipt of Proposals, except an Addendum withdrawing the Request for Proposals or one which includes postponement of the date for receipt of Proposals.
- D. Each Offeror shall ascertain, prior to submitting the Proposal, that the Offeror has received all Addenda issued, and shall acknowledge their receipt in the Proposal transmittal letter.

3. PROPOSAL SUBMITTAL PROCEDURES

3.1 NUMBER, FOR AND STYLE OF PROPOSALS

- A. Offerors shall provide <u>Five (5)</u> copies of their proposal to the location specified on the cover page on or before the closing date and time for receipt of proposals.
- B. All proposals must be typewritten on standard 8 ½ x 11 paper and bound on the left-hand margin. 11x17-size sheets, if used, shall count as two pages per 11x17 sheet.
- C. A maximum of <u>twenty (25) pages</u>, excluding title, index, etc., Letter of Transmittal or front and back covers.
- D. The proposal must be organized and indexed in the following format and must contain, as a minimum, all listed items in the sequence indicated:
 - 1) Letter of Transmittal, if any;
 - Response to Background of Proponent Firm(s);
 - 3) Response to Qualifications and Assignments of Key Personnel
 - 4) Response to Project History

- 5) Response to Evidence of Financial Stability
- E. Any proposal that does not adhere to this format, and which does not address each specification and requirement within the RFP may be deemed non-responsive and rejected on that basis.
- F. Offerors may request in writing nondisclosure of confidential data. Such data should accompany the proposal and should be readily separable from the proposal in order to facilitate eventual public inspection of the nonconfidential portion of the proposal. A request that states that the entire proposal be kept confidential will not be acceptable. Only matters which clearly are of a confidential nature will be considered.
- G. Any cost incurred by the Offeror in preparation, transmittal, presentation of any proposal or material submitted in response to this RFP shall be borne solely by the Offeror.

3.2 SUBCONSULTANTS

- A. The Offeror shall list and state the qualifications for each Subconsultant the Offeror proposes to use for all subcontracted Work.
- B. The Offeror is specifically advised that any person or other party to whom it is proposed to award a subcontract under this proposal, must be acceptable to the Contracting Agency after verification by the Contracting Agency of the current eligibility status, including but not limited to suspension or debarment by the Contracting Agency.

3.3 PREQUALIFICATION PROCESS

A business may be prequalified by the Purchasing Agent as an Offeror for particular types of service. Mailing lists of potential Offerors shall include but shall not be limited to such prequalified businesses (§13-1-134 NMSA 1978). For purposes of this RFP, if prequalification is utilized, special instructions will be attached as an exhibit to this RFP.

3.4 DEBARRED OR SUSPENDED CONTRACTORS

A business (contractor, subcontractor, or supplier) that has either been debarred or suspended pursuant to the requirements of §13-1-177 through §13-1-180, and §13-4-11 through §13-4-17 NMSA 1978 as amended, shall not be permitted to do business with the Contracting Agency and shall not be considered for award of the contract during the period for which it is debarred or suspended with the Contracting Agency.

3.5 SUBMITTAL OF PROPOSALS

- A. Proposals shall be submitted at the time and place indicated in the Notice of Request for Proposals and shall be included in an opaque sealed envelope marked with the Project title and name and address of the Offeror and accompanied by the documents listed in the Request for Proposals.
- B. The envelope shall be addressed to the Purchasing Agent/Procurement Officer of the Contracting Agency. The following information shall be provided on the front lower left corner of the Bid envelope: Project Title, Project No., Request for Proposals number, date of opening, and time of opening. If the proposal is sent by mail, the sealed envelope shall have the notation "SEALED PROPOSAL ENCLOSED" on the face thereof.
- C. Proposals received after the date and time for receipt of Proposals will be returned unopened.
- D. The Offeror shall assume full responsibility for timely delivery of proposals at the Purchasing Agent's office, including those proposals submitted by mail. Handdelivered proposals shall be submitted to the

Purchasing Agent or his designee and will be clocked in/time stamped at the time received, which must be prior to the time specified.

- E. After the date established for receipt of proposals, a register of proposals will be prepared which includes the name of each Offeror, a description sufficient to identify the service, the names and addresses of the required witnesses, and such other information as may be specified by the Purchasing Agent.
- F. Oral, telephonic, or telegraphic proposals are invalid and will not receive consideration.

3.6 CORRECTION OR WITHDRAWAL OF PROPOSALS

- A. A Proposal containing a mistake discovered before proposal opening may be modified or withdrawn by an Offeror prior to the time set for proposal opening by delivering written or telegraphic notice to the location designated in the Request for Proposals as the place where Proposals are to be received.
- B. Withdrawn Proposals may be resubmitted up to the time and date designated for the receipt of Proposals, provided they are then fully in conformance with the Requests for Proposals.

3.7 NOTICE OF CONTRACT REQUIREMENTS BINDING ON OFFEROR

- A. In submitting this proposal, the Offeror represents that the Offeror has familiarized himself with the nature and extent of the Request for Proposals dealing with federal, state, and local requirements which are a part of these Request for Proposals.
- B. Laws and Regulations: The Offeror's attention is directed to all applicable federal and state laws, local ordinances and regulations and the rules and regulations of all authorities having jurisdiction over the services of the Project.

3.8 REJECTION OR CONCELLATION OF PROPOSALS

This Request for Proposals may be canceled, or any or all proposals may be rejected in whole or in part, when it is in the best interest of the Contracting Agency. A determination containing the reasons therefore shall be made part of the project file (§13-1-131 NMSA 1978).

4. CONSIDERATION OF PROPOSALS

4.1 RECEIPT, OPENING AND RECORDING

- A. Proposals received on time will be opened publicly or in the presence of one or more witnesses and the name of the Offeror and address will be read aloud.
- B. The names of all businesses submitting proposals and the names of all businesses, if any, selected for interview shall be public information. After an award has been made, final ranking and evaluation scores for all proposals shall become public information (§13-1-120 NMSA 1978). The contents of any proposal shall not be disclosed so as to be available to competing Offerors during the negotiation process (§13-1-116 NMSA 1978).

4.2 PROPOSAL EVALUATION

- A. Proposals shall be evaluated on the basis of demonstrated competence and qualification for the type of service required, and shall be based on the evaluation factors set forth in this RFP. For the purpose of conducting discussions, proposals may initially be classified as:
 - 1) acceptable
 - 2) potentially acceptable, that is, reasonably assured of being made acceptable, or
 - unacceptable (Offerors whose proposals are unacceptable shall be notified promptly).
- B. The Contracting Agency shall have the right to waive technical irregularities in the form of the Proposal of the Offeror which do not alter the quality or quantity of the services (§13-1-132 NMSA 1978).

- C. If on Offeror who otherwise would have been awarded a contract is found not to be a responsible Offeror, a determination that the Offeror is not a responsible Offeror, setting forth the basis of the funding, shall be prepared bv the Purchasing Agent/Procurement Manager. The unreasonable failure of the Offeror to promptly supply information in connection with an inquiry with respect to responsibility is grounds for a determination that the Offeror is not a responsible Offeror (§13-133 NMSA 1978). Businesses which have not been selected shall be so notified in writing within twenty-one days after an award is made (§13-1-120 NMSA 1978).
- D. Selection Process: (§13-1-120 NMSA 1978).
 - 1) The evaluation of proposals will be performed by an evaluation committee composed of representatives selected by Contracting Agency. the The committee shall evaluate statements of qualifications and performance data submitted by at least three businesses in regard to the particular project and may conduct interviews with and may require public presentation by all applying for selection businesses regarding their qualifications, their approach to the project and their ability to furnish the required services.
 - 2) If fewer than three businesses have submitted a statement of qualifications for a particular project, the committee may:
 - a) rank in order of qualifications and submit to the local governing body for award those businesses which have submitted a statement of qualifications; or
 - b) recommend termination of the selection process and sending out of new notices of the proposed procurement pursuant to §13-1-104 NMSA 1978.

4.3 NEGOTIATIONS (§13-1-122 NMSA 1978)

A. The Contracting Agency's designee shall negotiate a contract with the highest qualified business for the services contemplated under this RFP at compensation determined in writing to be fair and reasonable. In making this decision, the designee shall take into account the estimated value of the services to be rendered and the scope, complexity and professional nature of the services.

- B. Should the designee be unable to negotiate a satisfactory contract with the business considered to be the most qualified at a price determined to be fair and reasonable, negotiations with that business shall be formally terminated. The designee shall undertake negotiations with the second most qualified business. Failing accord with the second most qualified business, the designee shall formally terminate negotiations with that business with that business.
- C. The designee shall then undertake negotiations with the third most qualified business.
- D. Should the designee be unable to negotiate a contract with any of the businesses selected by the committee, additional businesses shall be ranked in order of their qualifications and the designee shall continue negotiations in accordance with this section until a contract is signed with a qualified business or the procurement process is terminated and a new request for proposals is initiated.
- E. The Contracting Agency shall publicly announce the business selected for award.

4.4 NOTICE OF AWARD

After award by the local governing body, a written notice of award shall be issued by the Contracting Agency after review and approval of the Proposal and related documents by the Contracting Agency with reasonable promptness (§13-1-100 and §13-1-108 NMSA 1978)

5. POST-PROPOSAL INFORMATION

5.1 PROTESTS

A. Any Offeror who is aggrieved in connection with a solicitation or award of a Agreement may protest to the Contracting Agency's Purchasing Agent and the Chief Administrator/Clerk in accordance with the requirements of the Contracting Agency's Procurement Regulations and the State Procurement Code. The protest should be made in writing within 24 hours after the facts or occurrences giving rise thereto, but in no case later than 15 calendar days after the facts or occurrences giving rise thereto (§13-1-172 NMSA 1978).

- B. In the event of a timely protest under this section, the Purchasing Agent and the Contracting Agency shall not proceed further with the procurement unless the Purchasing Agent makes a determination that the award of Agreement is necessary to protect substantial interests of the Contracting Agency (§13-1-173 NMSA 1978).
- C. The Purchasing Agent or his designee shall have the authority to take any action reasonably necessary to resolve a protest of an aggrieved Offeror concerning a procurement. This authority shall be exercised in accordance with adopted regulations, but shall not include the authority to award money damages or attorney's fees (§13-1-174 NMSA 1978).
- D. The Purchasing Agent or his designee shall promptly issue a determination relating to the protest. The determination shall:
 - 1) state the reasons for the action taken; and
 - inform the protestant of the right to judicial review of the determination pursuant to \$13-1-183 NMSA 1978.
- E. A copy of the determination issued under §13-1-175 NMSA 1978 shall immediately be mailed to the protestant and other Offerors involved in the procurement (§13-1-176 NMSA 1978).

5.2 EXECUTION AND APPROVAL OF AGREEMENT

The Agreement shall be signed by the Successful Offeror and returned within an agreed upon time frame after the date of the Notice of Award. No Agreement shall be effective until it has been fully executed by all of the parties thereto.

5.3 NOTICE TO PROCEED

The Contracting Agency will issue a written Notice to Proceed to the Consultant.

5.4 OFFEROR'S QUALIFICATION STATEMENT

Offeror to whom award of a Agreement is under consideration shall submit, upon request, information and data to prove that their financial resources, production or service facilities, personnel, and service reputation and experience are adequate to make satisfactory delivery of the services described in the Request for Proposals (§13-1-82 NMSA 1978).

6. **OTHER INSTRUCTIONS TO OFFERORS**: NONE

GENERAL TERMS AND CONDITIONS

1. GOVERNING LAW

The Agreement shall be governed exclusively by the laws of the State of New Mexico as the same from time to time exists.

2. INDEPENDENT CONTRACTORS

The Consultant (design professionals) and his agents and employees are independent Contractors and are not employees of the Contracting Agency. The Consultant and his agents and employees shall not accrue leave, retirement, insurance, bonding, use of Contracting Agency vehicles, or any other benefits afforded to employees of the Contracting Agency as a result of the Agreement.

3. BRIBES, GRATUTIES AND KICK-BACKS

Pursuant to §13-1-191 NMSA 1978, reference is hereby made to the criminal laws of New Mexico (including §30-14-1, §30-24-2, and §30-41-1 through §30-41-3 NMSA 1978) which prohibit bribes, kickbacks, and gratuities, violation of which constitutes a felony. Further, the Procurement Code (§13-1-28 through §13-1-199 NMSA 1978) imposes civil and criminal penalties for its violation.

4. STANDARD FORM OF AGREEMENT BETWEEN CONTRACTING AGENCY AND CONSULTANT (Design Professional)

The form of agreement required by the funding agency or issued by the Contracting Agency will be used for this project. Copies are available and may be reviewed upon request.

5. FEES

A lump sum fixed fee for Basic Service will be negotiated with the Offeror selected. Construction Observation will be calculated on a Payroll Cost times a multiplier³. Additional Services will be calculated on a Payroll Cost times a multiplier³.

[Note: ³ Or as appropriate to agreed upon.]

6. FUNDING

This solicitation is subject to the availability of funds to accomplish the work.

7. DESIGN PROFESSIONAL REGISTRATION

All work shall be under the direction of the applicable design professional legally licensed and registered by the state.

8. PROFESSIONAL LIABILITY INSURANCE

The Offeror **[X]** will [] will not be required to carry professional liability (errors and omissions) insurance. If required to carry such insurance, the amount of coverage will be [\$1,000,000]

CAMPAIGN CONTRIBUTION DISCLOSURE FORM

Pursuant to the Procurement Code, Sections 13-1-28, et seq., NMSA 1978 and NMSA 1978, § 13-1-191.1 (2006), as amended by Laws of 2007, Chapter 234, any prospective contractor seeking to enter into a contract with any state agency or local public body **for professional services**, a design and build project delivery **system**, or the design and installation of measures the primary purpose of which is to conserve natural resources must file this form with that state agency or local public body. This form must be filed even if the contract qualifies as a small purchase or a sole source contract. The prospective contractor must disclose whether they, a family member or a representative of the prospective contractor has made a campaign contribution to an applicable public official of the state or a local public body during the two years prior to the date the contractor signs the contract, if the aggregate total of contributions given by the prospective contractor, a family member or a representative of the prospective contractor to the public official exceeds two hundred and fifty dollars (\$250) over the two-year period.

Furthermore, the state agency or local public body may cancel a solicitation or proposed award for a proposed contract pursuant to Section 13-1-181 NMSA 1978 or a contract that is executed may be ratified or terminated pursuant to Section 13-1-182 NMSA 1978 of the Procurement Code if: 1) a prospective contractor, a family member of the prospective contractor, or a representative of the prospective contractor gives a campaign contribution or other thing of value to an applicable public official or the applicable public official's employees during the pendency of the procurement process or 2) a prospective contractor fails to submit a fully completed disclosure statement pursuant to the law.

The state agency or local public body that procures the services or items of tangible personal property shall indicate on the form the name or names of every applicable public official, if any, for which disclosure is required by a prospective contractor.

THIS FORM MUST BE FILED BY ANY PROSPECTIVE CONTRACTOR WHETHER OR NOT THEY, THEIR FAMILY MEMBER, OR THEIR REPRESENTATIVE HAS MADE ANY CONTRIBUTIONS SUBJECT TO DISCLOSURE.

The following definitions apply:

"**Applicable public official**" means a person elected to an office or a person appointed to complete a term of an elected office, who has the authority to award or influence the award of the contract for which the prospective contractor is submitting a competitive sealed proposal or who has the authority to negotiate a sole source or small purchase contract that may be awarded without submission of a sealed competitive proposal.

"**Campaign Contribution**" means a gift, subscription, loan, advance or deposit of money or other thing of value, including the estimated value of an in-kind contribution, that is made to or received by an applicable public official or any person authorized to raise, collect or expend contributions on that official's behalf for the purpose of electing the official to either statewide or local office. "Campaign Contribution" includes the payment of a debt incurred in an election campaign, but does not include the value of services provided without compensation or unreimbursed travel or other personal expenses of individuals who volunteer a portion or all of their time on behalf of a candidate or political committee, nor does it include the administrative or solicitation expenses of a political committee that are paid by an organization that sponsors the committee.

"Contract" means any agreement for the procurement of items of tangible personal property, services, professional services, or construction.

"Family member" means spouse, father, mother, child, father-in-law, mother-in-law, daughter-in-law or son-inlaw. "**Pendency of the procurement process**" means the time period commencing with the public notice of the request for proposals and ending with the award of the contract or the cancellation of the request for proposals.

"Person" means any corporation, partnership, individual, joint venture, association or any other private legal entity.

"**Prospective contractor**" means a person who is subject to the competitive sealed proposal process set forth in the Procurement Code or is not required to submit a competitive sealed proposal because that person qualifies for a sole source or a small purchase contract.

"**Representative of a prospective contractor**" means an officer or director of a corporation, a member or manager of a limited liability corporation, a partner of a partnership or a trustee of a trust of the prospective contractor.

Name(s) of Applicable Public Official(s) if any:

DISCLOSURE OF CONTRIBUTIONS:

Date

Title (position)

--OR—

NO CONTRIBUTIONS IN THE AGGREGATE TOTAL OVER TWO HUNDRED FIFTY DOLLARS (\$250) WERE MADE to an applicable public official by me, a family member or representative.

Signature

Date

Title (Position)

Veterans Preference Certification

_____ (Name of Business) hereby certifies the following in regard to application of the resident veteran preference to this formal request for proposals process:

Please check one box only:

I declare under penalty of perjury that my business prior year revenue starting January 1 ending December 31 is less than \$3M allowing me the 10% preference discount on this bid or proposal. I understand that knowingly giving false or misleading information about this fact constitutes a crime.

"I agree to submit a report, or reports, to the State Purchasing Division of the General Services Department declaring under penalty of perjury that during the last calendar year starting January 1 ending December 31, the following to be true and accurate:

"In conjunction with this procurement and the requirements of this business' application for a Resident Veteran Business Preference/Resident Veteran Contractor Preference under Sections 13-1-21 or 13-1-22 NMSA 1978, when awarded a contract which was on the basis of having such Veteran's Preference, I agree to report to the State Purchasing Division of the General Services Department the awarded amount involved. I will indicate in the report the award amount as a purchase from a public body or as a public works contract from a public body as the case may be."

"I declare under penalty of perjury that this statement is true to the best of my knowledge. I understand that giving false or misleading statements about material fact regarding this matter constitutes a crime."

(signature of Business Representative) *

(Date)

*Must be an authorized signatory for the Business.

The representation made in checking the boxes constitutes a material representation by the business that is subject to protest and may result in denial of an award or unaward of the procurement involved if the statements are proven incorrect.